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CITY COUNCIL AGENDA
WEDNESDAY, FEBRUARY 20, 2019
250 NORTH 5TH STREET
5:15 PM – PRE-MEETING – ADMINISTRATION CONFERENCE ROOM
6:00 PM – REGULAR MEETING – CITY HALL AUDITORIUM

To become the most livable community west of the Rockies by 2025

Call to Order, Pledge of Allegiance, Moment of Silence

Proclamations

Proclaiming February 23, 2019 as National TRiO Day in the City of Grand Junction

Proclaiming February 24 - March 2, 2019 as Peace Corps Week in the City of Grand Junction

Proclaiming The City of Grand Junction an Inclusive City

Appointments

To the Planning Commission/Zoning Board of Appeals

Citizen Comments

Individuals may comment regarding items scheduled on the Consent Agenda and items not specifically scheduled on the agenda. This time may be used to address City Council about items that were discussed at a previous City Council Workshop.

City Manager Report

Council Reports

CONSENT AGENDA

The Consent Agenda includes items that are considered routine and will be approved by a single motion. Items on the Consent Agenda will not be discussed by City Council, unless an item is removed for individual consideration.

1. Approval of Minutes

a. Summary of the February 4, 2019 Workshop

b. Minutes of the February 6, 2019 Executive Session

c. Minutes of the February 6, 2019 Regular Meeting

2. Set Public Hearings

All ordinances require two readings. The first reading is the introduction of an ordinance and generally not discussed by City Council. Those are listed in Section 2 of the agenda. The second reading of the ordinance is a Public Hearing where public comment is taken. Those are listed below.

a. Quasi-judicial

i. A Resolution Referring a Petition to the City Council for the Annexation of Lands to the City of Grand Junction, Colorado, Setting a Hearing on Such Annexation, Exercising Land Use Control, and Introducing Proposed Annexation Ordinance for the Hosanna Annexation of 5.722 Acres, Located at 743 24 ¾ Road and Set a Public Hearing for April 3, 2019

ii. Introduction of an Ordinance Amending Ordinance No. 4508 for the Planned Residential Development - North 7th Street to Disallow the Use of Vinyl Fencing on Properties Within the District and Set a Public Hearing for March 20, 2019

iii. Introduction of an Ordinance Zoning the South Twenty Annexation R-4 (Residential - 4 du/ac) and R-8 (Residential - 8 du/ac), Located at 2335 H Road and Set a Public Hearing for March 6, 2019

iv. Introduction of an Ordinance Vacating a Portion of the Dos Rios Drive and C 3/4 Road Right-of-Way Within the Jarvis Subdivision Plat, Located at 2595 Riverside Parkway, and Set a Public Hearing for March 6, 2019

v. Introduction of an Ordinance Establishing an Institutional and Civic Master Plan for the Grand Junction Regional Airport, Amending Ordinance No. 3679 for Planned Development and Outline Development Plan and Vacating a Portion of the 27 1/4 Road Right-of-Way Adjacent to Airport Property, and Set a Public Hearing for March 6, 2019

vi. Introduction of a Proposed Ordinance Rezoning Two Properties from M-U (Mixed Use) to C-2 (General Commercial) Located at 746 23 ½ Road and Set a Public Hearing for March 6, 2019

vii. Introduction of an Ordinance Vacating a Portion of the Kimball Avenue Right-of-Way and a Portion of a Multi-Purpose Easement, along Properties Located at 1015 and 1101 Kimball Avenue and Set a Public Hearing for March 6, 2019

viii. Introduction of a Proposed Ordinance Rezoning Two Properties from R-16 (Residential 12-16 du/ac) to R-24 (Residential 24+ du/ac) Located at 1213 North 15th Street and 1420 Glenwood Avenue and Set a Public Hearing for March 6, 2019

ix. A Resolution Referring a Petition to the City Council for the Annexation of Lands to the City of Grand Junction, Colorado, Setting a Hearing on Such Annexation, Exercising Land Use Control, and Introducing Annexation Ordinance for the Arlington Annexation, which is a Serial Annexation Consisting of Arlington Annexation No. 1 and Arlington Annexation No. 2, Totaling 1.41 acres, Located at 265 Arlington Drive and Set a Public Hearing for April 3, 2019

3. Continue Public Hearings

a. Quasi-judicial

i. Continue the South Twenty Annexation request until the March 6, 2019 City Council Meeting

4. Contracts

a. Contract to Provide Dump Trucks and Drivers for Spring Cleanup 2019

5. Resolutions

a. A Resolution Vacating a Public Utility Easement on Property Located at 2626 Cottonwood Drive

6. Other Action Items

a. Consider a Request by GJ Ute LLC, to Accept the Dedication of 8.79-acres of Open Space in the Proposed Emerald Ridge Estates, Filing 1 Subdivision

REGULAR AGENDA

If any item is removed from the Consent Agenda by City Council, it will be considered here.

7. Resolutions

a. Agreement with Powderhorn Ski Company, LLC. to Lease Water for Snowmaking

8. Public Hearings

a. Legislative

i. An Ordinance Amending the Municipal Code Regarding Possession or Consumption of Alcohol in Parks and Riverfront Trails, Changing the Hours of Prohibited Park Use, and Including Vaping and the Use of Vape Devices as Prohibited in Workplaces, Public Places, and for Use by Minors

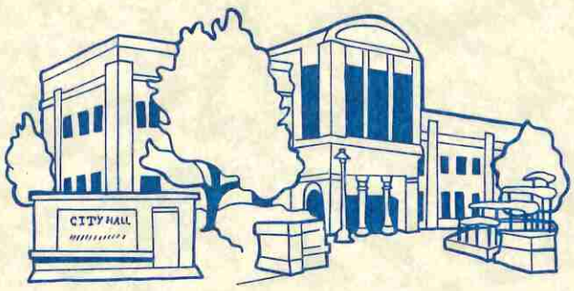
ii. An Ordinance to Amend Chapters 12.04 and 12.08 of the Grand Junction Municipal Code and Section 21.06.010 of the Zoning and Development Code Regarding Camping on Public Property/Public Places

9. Non-Scheduled Citizens & Visitors

This is the opportunity for individuals to speak to City Council about items on tonight's agenda and time may be used to address City Council about items that were discussed at a previous City Council Workshop.

10. Other Business

11. Adjournment



City of Grand Junction, State of Colorado

Proclamation

Whereas, TRiO, a collection of federally funded programs designated to prepare low-income and first-generation students (students from families whose parents do not have a four-year college degree) for college success, was founded in 1964; and

Whereas, TRiO refers to the first three programs of this nature that fell under the Higher Education Amendments of 1968, Upward Bound, Talent Search, and a program now known as Student Support Services; and

Whereas, the TRiO program, with the help of students, staff, and community members, has grown to eight programs that help students seek higher education; and

Whereas, the TRiO programs provide opportunities and access to services that assist students in their academic journey; and

Whereas, the TRiO Student Support Services Program at Colorado Mesa University served more than 150 students during the 2017-2018 school year with 86% returning to continue their education; and

Whereas, 94% of Colorado Mesa University TRiO students maintain good academic standing; and

Whereas, National TRiO Day is a day to celebrate its positive impact on local communities and the nation, to reflect on the importance of education, and a time to act to protect further access to higher education

NOW, THEREFORE, I, Barbara Traylor Smith, by the power vested in me as Mayor of the City of Grand Junction, do hereby proclaim February 23, 2019 as

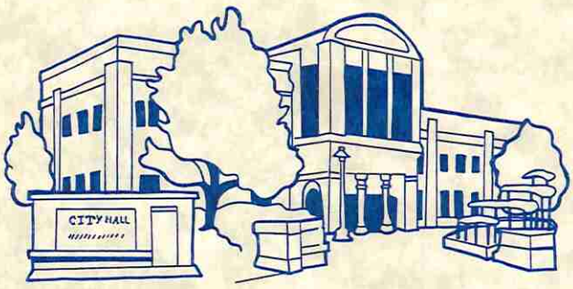
"National TRiO Day"

in the City of Grand Junction and urge all the citizens of the City to turn its attention to and increase awareness of the needs of disadvantaged young people and adults aspiring to improve their lives.

IN WITNESS WHEREOF, I have hereunto set my hand and caused to be affixed the official Seal of the City of Grand Junction this 20th day of February, 2019.

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Mayor



City of Grand Junction, State of Colorado

Proclamation

Whereas, the Peace Corps has become an enduring symbol of our nation's commitment to encourage progress, create opportunity, and expand development at the grass roots level in the developing world; and

Whereas, over 225,000 Americans have served as Peace Corps Volunteers and trainees in 140 host counties since 1961; and

Whereas, in 2016, 24,000 individuals volunteered for the Peace Corps and 3,800 were deployed; and

Whereas, Peace Corps Volunteers have made significant and lasting contributions around the world in agriculture, food security, business and civil society development, information technology, education, health and HIV/AIDS care and prevention, youth and community development, and the environment and have improved the lives of individuals and communities around the world; and

Whereas, Peace Corps Volunteers have strengthened the ties of friendship between the people of the United States and those of other countries, and they have been enriched by their experiences overseas, have brought their communities throughout the United States a deeper understanding of other cultures and traditions, thereby bringing a domestic dividend to our nation; and

Whereas, returning Peace Corps Volunteers nationwide are celebrating Peace Corps Week honoring the agency's anniversary.

NOW, THEREFORE, I, Barbara Traylor Smith, by the power vested in me as Mayor of the City of Grand Junction, do hereby proclaim February 24 – March 2, 2019 as Peace Corps Week

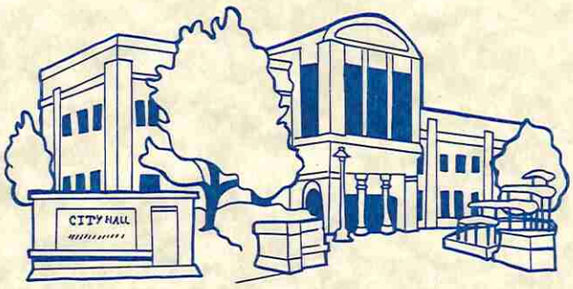
"National Peace Corps Week"

in the City of Grand Junction and urge all the citizens of the City to turn its attention to Commemorating President John F. Kennedy's establishment of the agency on March 1, 1961, and celebrating all the ways that Peace Corps makes a difference at home and abroad.

IN WITNESS WHEREOF, I have hereunto set my hand and caused to be affixed the official Seal of the City of Grand Junction this 20th day of February, 2019.

_____

Mayor



City of Grand Junction, State of Colorado

Proclamation

Whereas, Grand Junction, CO is a city that welcomes and celebrates people of all races, ethnicities, religions, sexual orientations, genders, economic status and physical and mental circumstances. The City of Grand Junction cherishes our diversity and believes it enhances the quality of life in our community; and

Whereas, Grand Junction respects diversity and desires to ensure that the human rights of all citizens are protected and to that end the City implores all citizens to make known that we do not tolerate discrimination in any form and recognize that marginalized individuals experience increased instances of bias, hate speech, bigotry and violence through no fault of their own; and

Whereas, the residents of Grand Junction are urged to work together to engage in dialogue and move forward to ensure all Grand Junction residents feel their voices are heard, and to ensure that our community will foster equality, social justice and freedom from fear of persecution based on race, religious belief, country of origin, sexual orientation, gender, income, disability, age or family status; and

Whereas, the residents of Grand Junction are urged to expand community outreach, engagement and authentic collaboration that will empower each Grand Junction resident with the ability and desire to help create a society that condemns racism, misogyny, intolerance, discrimination or oppression toward any person.

NOW, THEREFORE, the Grand Junction City Council commits to support, participate in and help expand inclusivity conversations in support of a community that is free of oppression, persecution and hate. **FURTHERMORE**, the City of Grand Junction hereby intends to annually recognize the importance of inclusion of all residents of all beliefs and to consider, respect and value the uniqueness and importance of diversity in our community.

"The City of Grand Junction an Inclusive City"



IN WITNESS WHEREOF, I have hereunto set my hand and caused to be affixed the official Seal of the City of Grand Junction this 20th day of February, 2019.

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Mayor

Grand Junction City Council

Regular Session

Item #

Meeting Date: February 20, 2019

Presented By: Wanda Winkelmann, City Clerk

Department: City Clerk

Submitted By: Wanda Winkelmann

Information

SUBJECT:

To the Planning Commission/Zoning Board of Appeals

RECOMMENDATION:

Appoint members to the Planning Commission/Zoning Board of Appeals.

EXECUTIVE SUMMARY:

There are three vacancies on the Planning Commission/Zoning Board of Appeals.

BACKGROUND OR DETAILED INFORMATION:

Vacancies are due to a terms expiring and resignations.

FISCAL IMPACT:

N/A

SUGGESTED MOTION:

I move to (appoint/not appoint) the interview committee's recommendations to the Planning Commission/Zoning Board of Appeals.

Attachments

None

CITY COUNCIL MEETING
CITIZEN PRESENTATION

Date	FEB 20 2019	
Citizen's Name	Bruce Schmeller	
Subject	Camping	
Phone Number (optional)		*Including your phone number is helpful if we would like to contact you in response to your questions, comments, or concerns. Thank you!*

CITY COUNCIL MEETING
CITIZEN PRESENTATION

Date		
Citizen's Name	KEIRA HAVENS	
Subject	FUTURE WORK ON INCLUSIVITY & DIVERSITY IN GJ	
Phone Number (optional)		*Including your phone number is helpful if we would like to contact you in response to your questions, comments, or concerns. Thank you!*

CITY COUNCIL MEETING
CITIZEN PRESENTATION

Date	2-20-19	
Citizen's Name	Patty Vernon	
Subject	Historic District	
Phone Number (optional)		*Including your phone number is helpful if we would like to contact you in response to your questions, comments, or concerns. Thank you!*

GRAND JUNCTION CITY COUNCIL WORKSHOP SUMMARY
February 4, 2019

Meeting Convened: 5:30 p.m. in the City Hall Auditorium

Meeting Adjourned: 6:46 p.m.

City Councilmembers present: Councilmembers Duncan McArthur, Phyllis Norris, Rick Taggart, and Duke Wortmann.

Staff present: City Manager Greg Caton, City Attorney John Shaver, Public Works Director Trent Prall, Community Development Director Tamra Allen, Principal Planner Dave Thornton, Community Services Manager Kathy Portner, Development Engineer Jarrod Whelan, Assistant to the City Manager Greg LeBlanc, and City Clerk Wanda Winkelmann.

Agenda Topic 1. Discussion Topics

a. Selection of members for the 2020 Comprehensive Plan Advisory Committee (CPAC)

Mr. Thornton introduced the topic. The City will be conducting the 2020 Comprehensive Plan update over the next 18 months. The Comprehensive Plan (last updated in 2010) is a long-range plan that looks at where and how the city will grow over the next 20 years. As a part of this effort, the consultant for the Comprehensive Plan, Houseal Lavigne, recommended appointing a committee of 12 to 15 members to serve as a sounding board, meet at key points during the project to discuss overall planning direction, review project deliverables, vet ideas and help promote community involvement.

Staff solicited letters of interest from the community to serve on the Comprehensive Plan Advisory Committee (CPAC); 44 letters of interest were received. After Council reviews the letters of interest, formal appointment of the CPAC has been scheduled for the February 6th Council Meeting.

Discussion ensued regarding the applications and the following individuals were recommended appointees to the CPAC: Cindy Enos-Martinez, Diane Schwenke, Doug Sorter, Merritt Sixbey, Mike Foster, Robin Brown, Vara Kusal, Ivan Geer, Sister Karen Bland, Bethany Meyer, Gary Schroen, Ted Ciavonne, and Ben Herman. It was also recommended that a member of the Grand Junction Planning Commission (Keith Ehlers) and Mesa County Planning Commission be added to the Committee.

There will be additional opportunities for involvement in this process over the next 18 months.

b. Update on the Downtown Development Authority Plan of Development (POD)

Allison Bourquin with Community Builders and Brandon Stam, Director of the Downtown Development Authority introduced the topic.

The Downtown Development Authority (DDA) Plan of Development (POD) adopted in 1981 is 38 years old and needs to be updated in order to guide development that is reflective of both the current market or the vision of the community for the greater downtown area. In this time of growth, the DDA should have a governing document that is reflective of the community's wants and needs in downtown and provides guidance about developing important partnerships for making a positive impact to the downtown. This project will develop an action-oriented plan for the DDA that identifies strategies and specific projects to achieve the community's priority goals for downtown Grand Junction.

Ms. Bourquin reviewed the results of an online survey and comments received at community events, comment boxes, and focus groups. Ms. Bourquin reviewed the retail potential of downtown and noted 82% of survey respondents go downtown at least once a week. Most respondents would like to see more shopping and dining downtown. Economic, housing, identity, connectivity, and comfort related themes emerged from the survey.

Discussion ensued about the experiential element of dining and shopping downtown, the possibility of DDA creating partnerships with others for pedestrian connections, and façade and ADA improvements in downtown.

The next steps include strategic goals workshops and learning events on February 26-27. A Phase 1 and 2 Summary Report will be forthcoming.

Agenda Topic 2. Next Workshop Topics

The February 18 workshop is canceled due to the Presidents Day holiday.

3. Other Business

There was none.

Adjournment

The Workshop adjourned at 6:46 p.m.

GRAND JUNCTION CITY COUNCIL

SPECIAL SESSION MINUTES

February 6, 2019

The City Council of the City of Grand Junction, Colorado met in Special Session on Wednesday, February 6, 2019 at 5:00 p.m. in the Administration Conference Room, 2nd Floor, City Hall, 250 North 5th Street. Those present were Councilmembers Chris Kennedy, Duncan McArthur, Phyllis Norris, Duke Wortmann, and Mayor Barbara Traylor Smith via phone.

Staff present for the Executive Session were City Manager Greg Caton, City Attorney John Shaver, Utilities Director Randi Kim, and Public Works Director Trent Prall.

Councilmember Kennedy moved to go into Executive Session to discuss matters that may be subject to negotiations, developing strategy for negotiations, and/or instructing negotiators pursuant to Sections 24-6-402 (4)(e) and 24-6-402 (4)(a) of Colorado's Open Meetings Law relative to an interest(s) in real property and/or purchase or acquisition of rights for construction and maintenance of a portion of the 23 Road Trunkline Sewer and we will not be returning to open session. Councilmember Norris seconded the motion. Motion carried unanimously.

The City Council convened into Executive Session at 5:06 p.m.

Councilmember Wortmann moved to adjourn. Councilmember McArthur seconded. Motion carried unanimously.

The meeting adjourned at 5:30 p.m.

Wanda Winkelmann
City Clerk

GRAND JUNCTION CITY COUNCIL
MINUTES OF THE REGULAR MEETING

February 6, 2019

The City Council of the City of Grand Junction convened into regular session on the 6th day of February, 2019 at 6:00 p.m. Those present were Councilmembers Chris Kennedy, Duncan McArthur, Phyllis Norris, Duke Wortmann, and Council President Barbara Traylor Smith (via phone). Councilmembers Bennett Boeschenstein and Rick Taggart were absent. Also present were City Manager Greg Caton, City Attorney John Shaver, City Clerk Wanda Winkelmann and Deputy City Clerk Janet Harrell.

Council President Traylor Smith called the meeting to order. Councilmember McArthur led the Pledge of Allegiance which was followed by an invocation by Landmark Baptist Church Pastor Tom Barlament.

1. Resolutions

a. Resolution Authorizing a City Council Acting President Pro Tem

The Mayor and the Mayor Pro Tem will both be absent from the City at the same time and the City Council determined the appointment of an acting Mayor Pro Tem is necessary.

Councilmember Kennedy moved to adopt Resolution No. 10-19, a resolution appointing an acting President Pro Tempore of the City Council as Councilmember Phyllis Norris. Councilmember Wortmann seconded the motion. Motion carried unanimously by roll call vote.

Appointments

Appointment of Members to the 2020 Comprehensive Plan Advisory Committee

The City will be conducting the 2020 Comprehensive Plan update over the next 18 months. As a part of this effort, a Comprehensive Plan Advisory Committee (CPAC) will be established to provide input on the Plan. City Council will appoint 12 to 15 people from a list of applicants that were discussed by Council at the Monday, February 4th Council Workshop. Council recommended the following applicants to the CPAC: Cindy Enos- Martinez, Diane Schwenke, Doug Sorter, Merritt Sixbey, Mike Foster, Robin Brown, Vara Kusal, Ivan Geer, Karen Bland, Bethany Meyer, Gary Schroen, Ted Ciavonne, Ben Herman, Keith Ehlers (City of Grand Junction Planning Commissioner) and Mesa County Planning Commissioner to be determined.

Councilmember Wortmann moved to appoint the Council's list of recommended committee members to the Comprehensive Plan Advisory Committee. Councilmember McArthur seconded the motion. Motion carried unanimously by voice vote.

Certificates of Appointment

To the Urban Trails Committee

Stephen Meyer accepted his Certificate of Appointment.

Citizen Comments

Judi DeRusha, President of Amalgamated Transit Union #1776 and who works for TransDev Transportation (operates Grand Valley Transit), spoke about local wages.

Chris Riley, President of Grand Mesa Little League, spoke about the trash and debris that is often left at the park.

City Manager Report

City Manager Caton invited everyone to the Lincoln Park Golf Pro Shop Open House on February 22nd.

Council Reports

Councilmember Kennedy requested Chris Riley's concerns regarding Grand Mesa Little League Park be addressed by staff.

CONSENT AGENDA

Acting Council President Pro Tem Norris announced Consent Agenda item 4.c. will be continued to the February 20, 2019 regular City Council meeting.

Councilmember Kennedy moved to adopt Consent Agenda items #2 through #4.b., #4.d. and #5. Councilmember Wortmann seconded the motion. Motion carried unanimously by roll call vote.

2. Approval of Minutes

a. Summary of the January 14, 2019 Workshop

b. Minutes of the January 16, 2019 Regular Meeting

c. Minutes of the January 28, 2019 Special Meeting

3. Set Public Hearings

a. Quasi-judicial

i. Introduction of an Ordinance Zoning the South Twenty Annexation R-4 (Residential - 4 du/ac) and R-8 (Residential - 8 du/ac), Located at 2335 H Road, and Setting a Hearing for February 20, 2019

4. Contracts

a. Purchase of a Medium-Duty Ambulance

b. Purchase of Type 3 Wildland Fire Engine

c. Purchase of Two (2) Fire Pumper Trucks – *continued to February 20, 2019*

d. Authorize a Contract with Houseal Lavigne Associates for Development of the Comprehensive Plan

5. Resolutions

a. Resolution Approving the Notice of Election for the Regular Municipal Election April 2, 2019

REGULAR AGENDA

6. Public Hearings

a. Legislative

i. An Ordinance Amending Parts of the Zoning and Development Code Regarding Performance Standards of Zoning Districts, Accessory Dwelling Units, Flag Lots, Architectural Standards Relating to Garage Doors so as to Eliminate Unnecessary Regulation and Resolve Inconsistencies

This request is to amend various sections of the Zoning and Development Code to eliminate requirements that have been proven, over time, to be impractical, difficult or impossible to apply or enforce, and for which there are other safeguards in the Code furthering the intent of the provisions, inconsistencies within the Code, unnecessary regulations or duplicate information.

Community Services Manager Kathy Portner reviewed the request.

Discussion included setbacks for side entry garages, side street monument signs and flag lots.

The public hearing opened at 6:27 p.m.

There were no public comments.

The public hearing closed at 6:28 p.m.

Councilmember Kennedy moved to adopt Ordinance No. 4831, an ordinance amending parts of the Zoning and Development Code regarding performance standards of Zoning Districts, accessory dwelling units, flag lots, architectural standards relating to garage doors so as to eliminate unnecessary regulation and resolve inconsistencies on final passage and ordered final publication in pamphlet form. Councilmember Wortmann seconded the motion. Motion carried unanimously by roll call vote.

7. Non-Scheduled Citizens & Visitors

Dana Martinez said Grand Valley Transit employees have gotten awards and strive to be perfect.

8. Other Business

There was none.

9. Adjournment

The meeting adjourned at 6:31 p.m.

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Wanda Winkelmann, MMC
City Clerk

Grand Junction City Council

Regular Session

Item #2.a.i.

Meeting Date: February 20, 2019

Presented By: David Thornton, Principal Planner

Department: Community Development

Submitted By: David Thornton, AICP
Principal Planner

Information

SUBJECT:

A Resolution Referring a Petition to the City Council for the Annexation of Lands to the City of Grand Junction, Colorado, Setting a Hearing on Such Annexation, Exercising Land Use Control, and Introducing Proposed Annexation Ordinance for the Hosanna Annexation of 5.722 Acres, Located at 743 24 ¾ Road and Set a Public Hearing for April 3, 2019

RECOMMENDATION:

Staff recommends adoption of a resolution referring the petition for the Hosanna Annexation, introducing the proposed Ordinance and setting a hearing for April 3, 2019.

EXECUTIVE SUMMARY:

The Applicant, Bonny J. Collins Trust, has requested annexation of their 5.72 acres located at 743 24 ¾ Road. The proposed annexation includes no Right-of-Way and currently has a single family residential home on it. The owner is requesting annexation for future residential subdivision development of the property, which is anticipated to constitute "annexable development" and as such is required to annex in accordance with the Persigo Agreement. Consideration for zoning of this annexation will be heard in a future action.

BACKGROUND OR DETAILED INFORMATION:

The Hosanna annexation consists of one 5.72-acre parcel of land located at 743 24 ¾ Road, located at the north end of Monument View Drive. The property currently has

one single family residence. The Applicant plans to subdivide the property into 30 residential lots with the existing residence on one of those lots and is requesting annexation at this time in anticipation of this development. The Applicant is requesting a R-8 (residential with a maximum of 8 units per acre) zone district. The property is located at the north end of Monument View Drive which stubs into this property. Zoning will be considered in a future action and requires review and recommendation by the Planning Commission.

The property is adjacent to existing city limits, within the Persigo 201 boundary and is annexable development as defined in the Persigo Agreement. Under the 1998 Persigo Agreement with Mesa County, all proposed development within the Persigo Wastewater Treatment Facility boundary requires annexation by the City. The property owner has signed a petition for annexation of the property. There is no Right-of-Way being annexed as part of this annexation.

Staff has found, based on review of the petition and knowledge of applicable state law, including the Municipal Annexation Act Pursuant to C.R.S. 31-12-104, that the Hosanna Annexation is eligible to be annexed because of compliance with the following:

a) A proper petition has been signed by more than 50% of the owners and more than 50% of the property described;

b) Not less than one-sixth of the perimeter of the area to be annexed is contiguous with the existing City limits;

c) A community of interest exists between the area to be annexed and the City. This is so in part because the Central Grand Valley is essentially a single demographic and economic unit and occupants of the area can be expected to, and regularly do, use City streets, parks, and other urban facilities;

d) The area is or will be urbanized in the near future;

e) The area is capable of being integrated with the City;

f) No land held in identical ownership is being divided by the proposed annexation;

g) No land held in identical ownership comprising 20 contiguous acres or more with an assessed valuation of $200,000 or more for tax purposes is included without the owner’s consent.

The proposed annexation and zoning schedule with a summary is attached.

FISCAL IMPACT:

The provision of municipal services will be consistent with adjacent properties already in the City. Property tax levies and municipal sales/use tax will be collected, as applicable, upon annexation. More specific impacts to various service providers of the City include the following.

Police Department:
Upon review of 2017 and 2018 calls for service within the surrounding area which is similar in residential density, data revealed that there were 111 calls for service in 2017 and 100 calls for service in 2018. Based on that information it is anticipate that calls for service by GJPD for this location will equal to 12.5% of an officer. At this point, it does not warrant the need for an increase in personnel or equipment in order to provide law enforcement services to this proposed annexation. However, this annexation along with any future annexations/developments will no doubt have an eventual cumulative impact that will require an increase in law enforcement personnel and equipment in order to provide adequate services.

Public Works:
There are no external streets being annexed, therefore there are no financial impacts from the annexation. Transportation Capacity Payment (TCP) fees will be collected at the time of subdivision of the property.

Fire:
The provision of municipal services will be consistent with adjacent properties already in the City. Property tax levies and municipal sales/use tax will be collected, as applicable, upon annexation. Based on the current assessed values of the annexation area, the City property tax revenue is estimated to be $203 annually. If the property develops at an estimated 31 units, including 17 single family detached, three single family attached and two eight unit 4-plex units for an estimated value of $6.8 million, the estimated annual property tax revenue (at the current residential assessment rate) would be approximately $3,900 per year. Sales and use tax revenues will be dependent on construction activity and consumer spending on City taxable items for residential and commercial uses.

Currently the property is in the Grand Junction Rural Fire Protection District (Rural District) which is served by the Grand Junction Fire Department through a contract with the Rural District. The Rural District collects a 5.938 mill levy that generates $150.94 per year in property taxes that are passed on to the City of Grand Junction per the contract. If annexed, the Rural District mill levy will be removed and the City's 8 mills that will generate $203 per year (prior to development) and $3,900 per year after estimated planned development which will need to pay for not only fire and emergency medical services, but also other City services provided to the area. City services as

discussed below are supported by a combination of property taxes and sales/use taxes.

The fire department has only responded once to this location in the last 10 years and with an estimated build out of 31 units the increase in incident volume will be minimal. The area is served by Fire Station #3 however response times are longer than other areas due to the distance from the fire station. Response time is estimated to be 6-8 minutes from time of dispatch for an emergent call for service, which is longer than National Fire Protection Association response time standards. The City has been working to address the current and future fire and EMS coverage demands of this area and is planning for a new Fire Station at 23 and H Road.

Parks:
There are no financial impacts to Parks with this annexation. Parks and Recreation fees and Open Space fees will be collected with the future subdivision of this property.

Utilites:
Water and sewer services are available to this property. This property is within the Ute Water District service area. The property is currently within the Persigo 201 Sewer Service Area. However, the property does not currently have a sewer connection. The property would be assessed the current plant investment fee (PIF) of $4,776 per equivalent unit (2019 rate) or $396,408. This fee is intended to pay the equivalent share of the payments due on bonds for the existing wastewater treatment plant and infrastructure. Monthly sewer service rates for single family units are $22.40.

SUGGESTED MOTION:

I move adopt Resolution No. 11-19, a resolution referring a petition to the City Council for the annexation of lands to the City of Grand Junction, Colorado, setting a hearing on such annexation, and exercising Land Use Control, Hosanna Annexation, approximately 5.722 acres, located at 743 24 ¾ Road, and introduce an ordinance annexing territory to the City of Grand Junction, Colorado, Hosanna Annexation, approximately 5.722 acres, located at 743 24 3/4 Road and Set a Hearing for April 3, 2019.

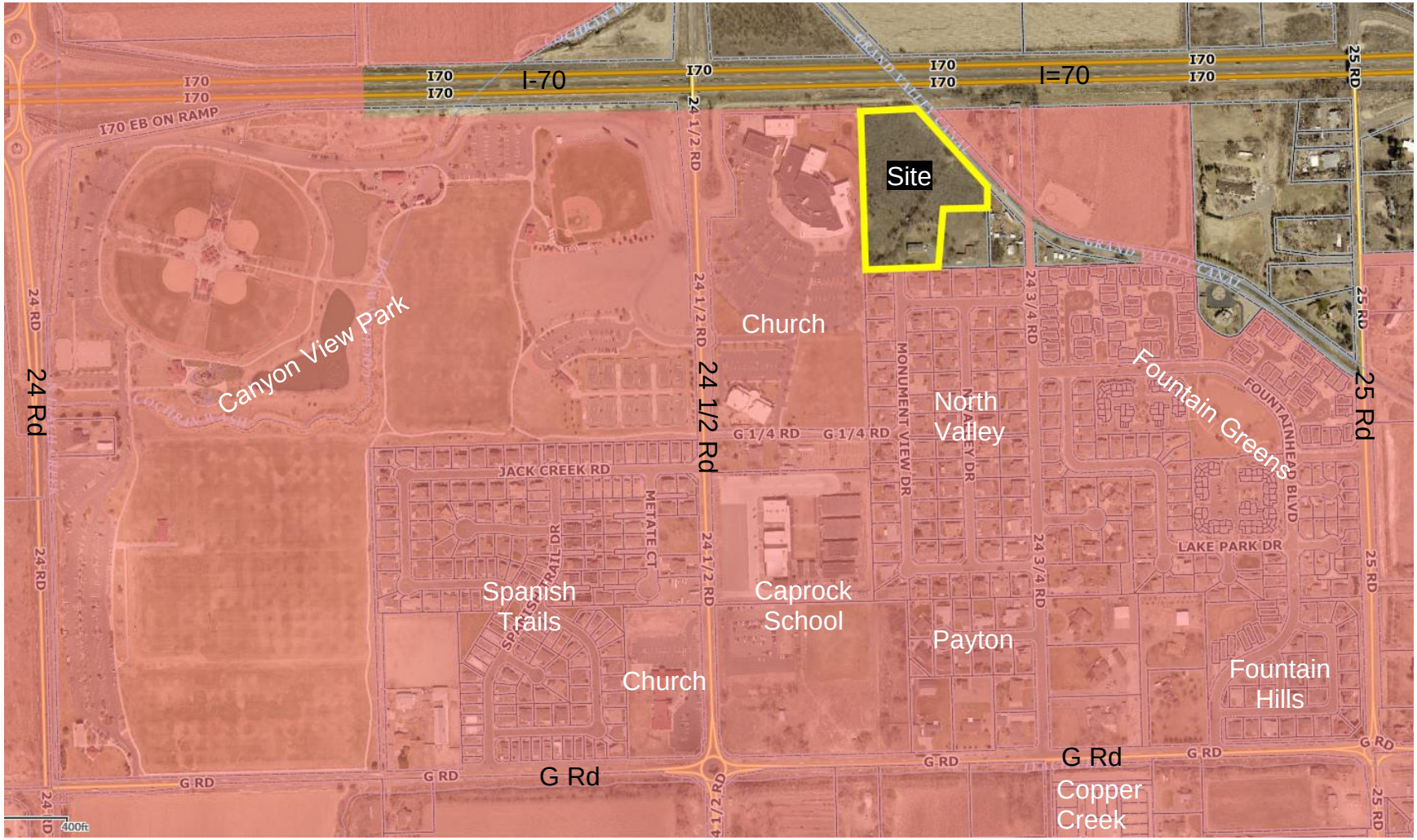
Attachments

1. Annexation Background Information Schedule and Summary - Hosanna Annexation
2. Maps and Photos - Hosanna Annexation
3. Resolution Referring Petition - Hosanna Annexation
4. Ordinance Annexating Hosanna Annexation

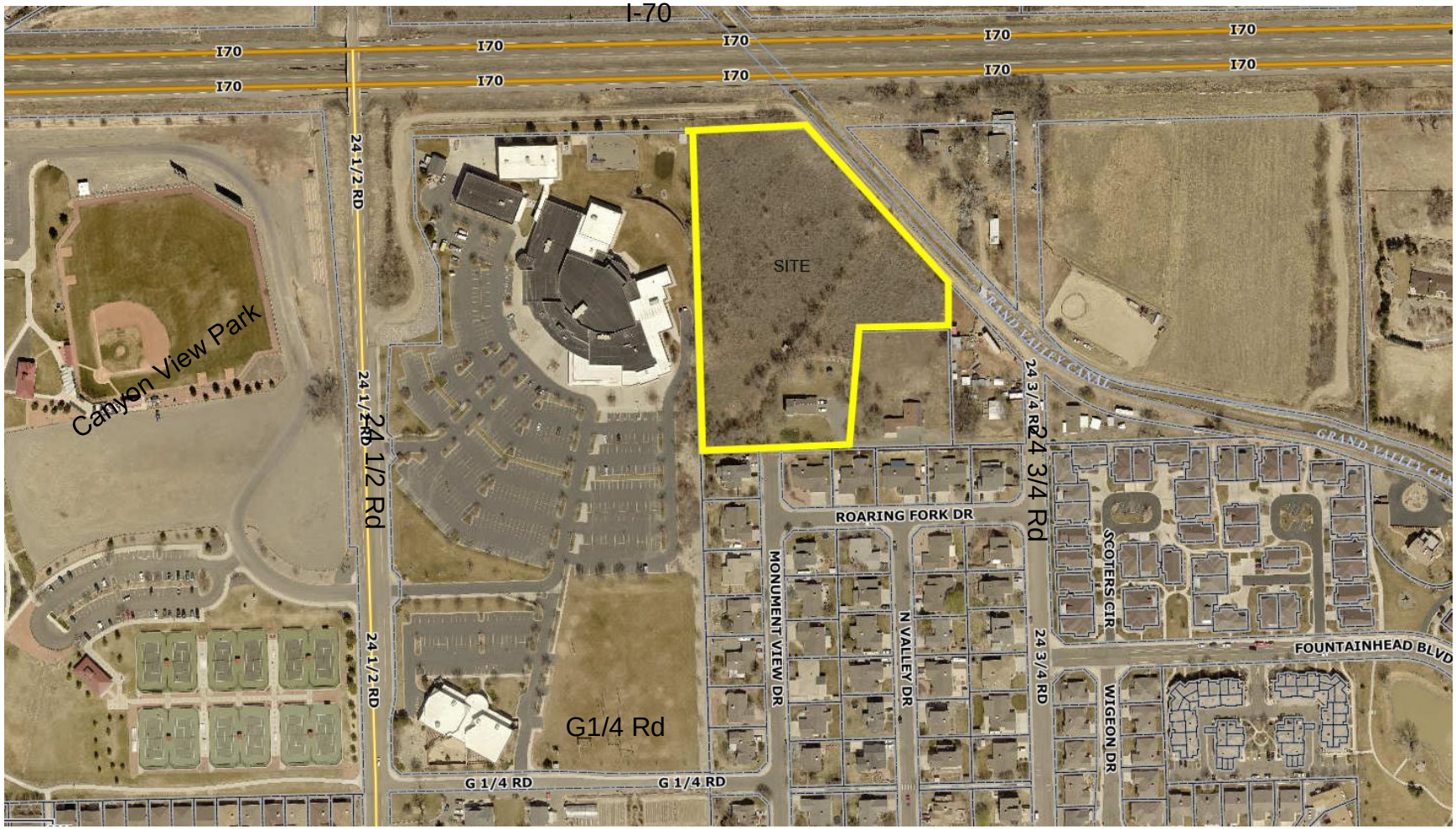
HOSANNA ANNEXATION SCHEDULE	
February 20, 2019	Referral of Petition (30 Day Notice), Introduction of a Proposed Ordinance, Exercising Land Use
February 26, 2019	Planning Commission considers Zone of Annexation
March 20, 2019	Introduction of a Proposed Ordinance on Zoning by City Council
April 3, 2019	Acceptance of Petition and Public Hearing on Annexation and Zoning by City Council
May 5, 2019	Effective date of Annexation

ANNEXATION SUMMARY		
File Number:		ANX-2018-781
Location:		743 24 ¾ Road
Tax ID Numbers:		2701-334-43-001
# of Parcels:		1
Existing Population:		2
# of Parcels (owner occupied):		1
# of Dwelling Units:		1
Acres land annexed:		5.722 acres
Developable Acres Remaining:		5 acres
Right-of-way in Annexation:		0.155 acres in G ½ Road ROW, part of I-70
Previous County Zoning:		RSF-R (Residential Single Family Rural – 1 du/ 5 ac)
Proposed City Zoning:		R-8 (Residential – 8 du/ac)
Current Land Use:		Residential
Future Land Use:		Residential Medium High (8-16 du/ac)
Values:	**Assessed:**	$25,420
	Actual:	$352,980
Address Ranges:		743 24 ¾ Road
Special Districts:	**Water:**	Ute Water Conservancy District
	Sewer:	City of Grand Junction
	Fire:	GJ Rural Fire District/Redlands
	Irrigation/Drainage:	GVIC/GVDD
	School:	Fruita Monument HS / Fruita 8&9 / Fruita Middle / Appleton Elementary
	Pest:	Grand River Mosquito Control District

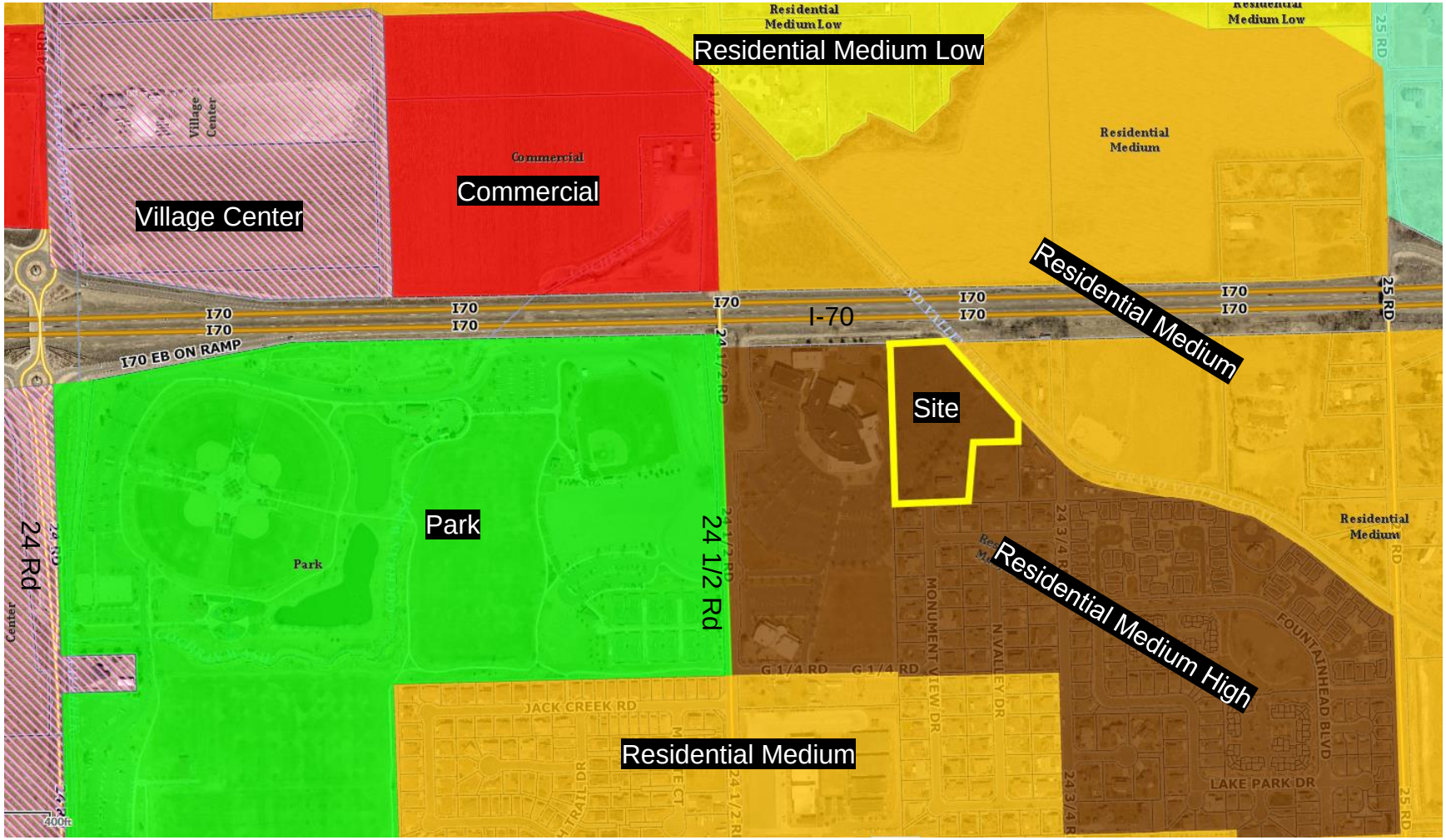
HOSANNA ANNEXATION - Expanded City Limits Location Map



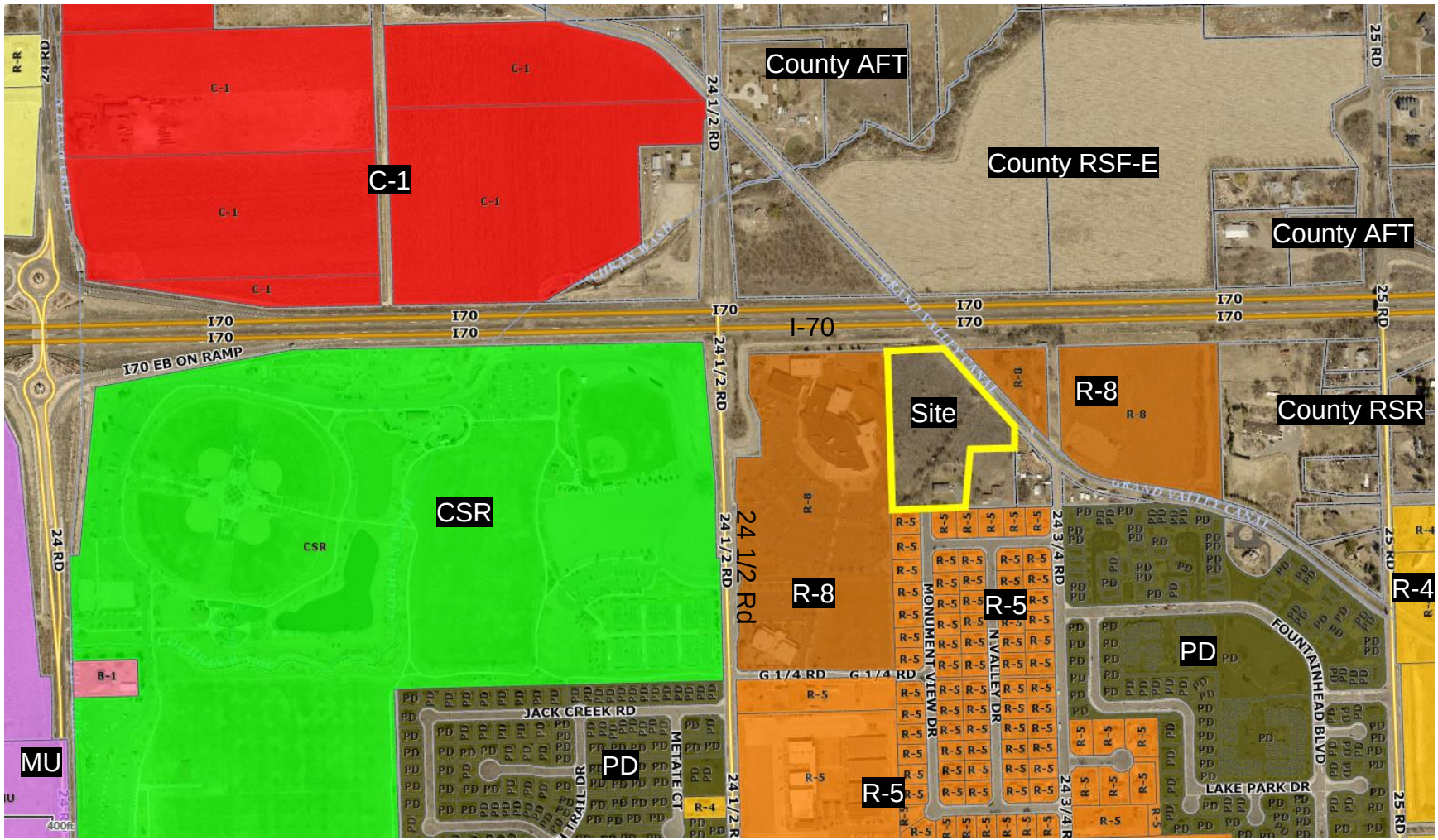
HOSANNA ANNEXATION



HOSANNA ANNEXATION – Future Land Use Map

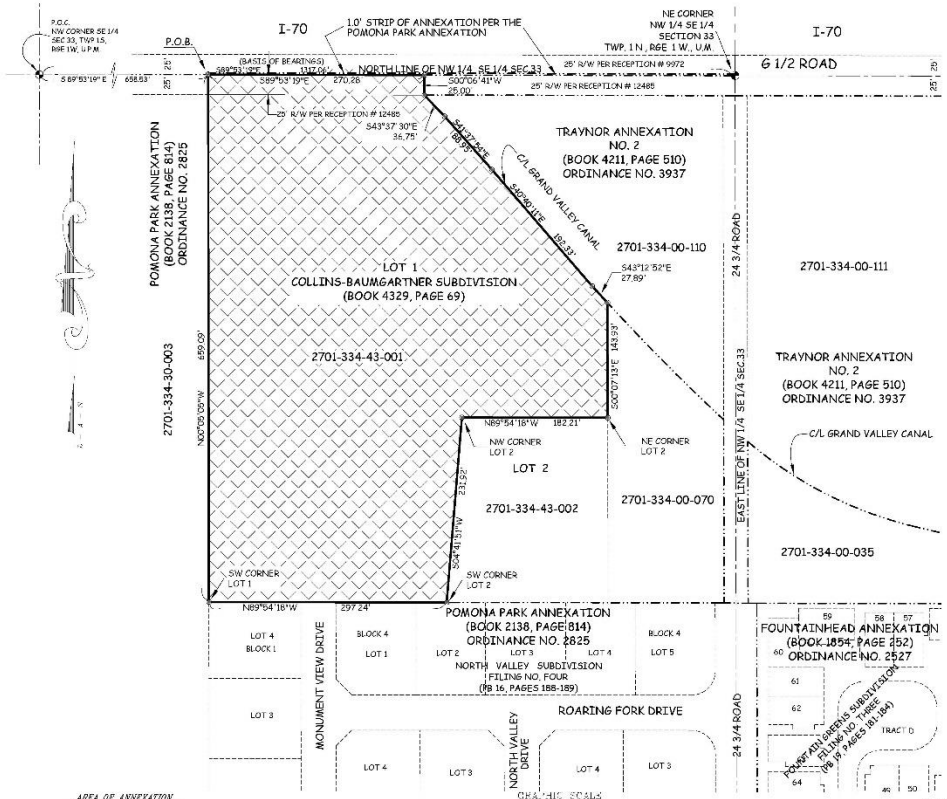


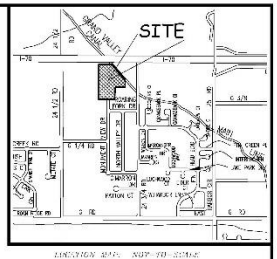
HOSANNA ANNEXATION – Zoning Map



HOSANNA ANNEXATION

LYING IN THE NW 1/4 SE 1/4 OF SECTION 33 , TOWNSHIP 1 NORTH, RANGE 1 WEST
UTE PRINCIPAL MERIDIAN
COUNTY OF MESA, STATE OF COLORADO





DESCRIPTION

A certain parcel of land lying in the Northwest Quarter of the Southeast Quarter (NW 1/4 SE 1/4) of Section 33, Township 1 South, Range 1 West of the Ute Principal Meridian, County of Mesa, State of Colorado and being more particularly described as follows:

COMMENCING at the Northwest corner of the Southeast Quarter (SE 1/4) of said Section 33 and assuming the North line of the NW 1/4 SE 1/4 of said Section 33 bears S 89°53'19" E with all other bearings contained herein being relative thereto; thence from said Point of Commencement, S 89°53'19" E, along the North line of the NW 1/4 SE 1/4 of said Section 33 a distance of 658.53 feet to the POINT OF BEGINNING; thence from said Point of Beginning, continue N 89°53'19" E, along said North line, a distance of 270.28 feet; thence S 00°06'41" W, a distance of 25.00 feet to a point on the centerline of the existing Grand Valley Canal; thence Southeasterly along the centerline of the Grand Valley Canal the following four (4) courses:

1. S 43°37'30" E, a distance of 36.75 feet,
2. S 41°37'54" E, a distance of 88.95 feet,
3. S 40°40'11" E, a distance of 192.33 feet,
4. S 43°12'52" E, a distance of 27.89 feet, more or less, to a point on the East line of Lot 1, Collins-Baumgartner Subdivision, as same is recorded in Book 4329, Page 69, Public Records of Mesa County, Colorado projected Northerly; thence,

S 00°07'13" E, along the East line of said Lot 1, a distance of 143.93 feet, more or less, to a point being the Northeast corner of Lot 2 of said Collins-Baumgartner Subdivision; thence N 89°54'18" W, along the North line of said Lot 2, a distance of 182.21 feet, more or less, to a point being the Northwest corner of said Lot 2; thence S 04°41'51" W, along the West line of said Lot 2, a distance of 231.92 feet, more or less, to a point on the North line of North Valley Subdivision Filing No. Four, as same is recorded in Plat Book 16, Pages 188 and 189, Public Records of Mesa County, Colorado; thence N 89°54'18" W, along the North line of said North Valley Subdivision Filing No. Four and the South line of said Lot 1, Collins-Baumgartner Subdivision, a distance of 297.24 feet, more or less, to a point being the Southwest corner of said Lot 1; thence N 00°05'09" W, along the West line, and Northerly projection of said Lot 1, a distance of 659.09 feet, more or less, to the Point of Beginning.

NOTE

The Collins-Baumgartner Subvision, as recorded in Book 4329, Page 69, Public Records of Mesa County, Colorado, incorrectly depicted the ownership of the lands to an "apparent Southwesterly right of way line for the Grand Valley Canal". The ownership should have been depicted extending to the centerline of said Grand Valley Canal.

ABBREVIATIONS

POC	POINT OF COMMENCING
POB	POINT OF BEGINNING
ROW	RIGHT OF WAY
SEC	SECTION
TWP	TOWNSHIP
RGE	RANGE
UPM	UTE PRINCIPAL MERIDIAN
NO	NUMBER
SQ. FT.	SQUARE FEET
Δ	CENTRAL ANGLE
RAD	RADIUS
R	RADIAL LINE(R)
CHL	CHORD LENGTH
CHB	CHORD BEARING
BK#	BOOK
PG	PLAT BOOK
BK	BOOK
PG	PAGE

The Search and Description contained herein have been derived from subdivision plats and deed descriptions as they appear in the office of the Mesa County Clerk and Recorder. This plat does not constitute a land survey, and is not intended to be used as a means for establishing or verifying property boundary lines.

PRELIMINARY

AREA OF ANNEXATION

LEGEND

GRAPHIC SCALE

1" = 60'

LINEAL UNITS USED HEREIN = U.S. SURVEY FOOT, AS ESTABLISHED

ORDINANCE NO. ????

EFFECTIVE DATE ????

THIS IS NOT A BOUNDARY SURVEY

NOTICE: According to Colorado law you must commence any legal action based upon any defect in this survey within three years after you first discover such defect. In no event may any action based upon any defect in this survey be commenced more than ten years from the date of the certification shown hereon.

DRAWN BY	P.T.K.	DATE	01-03-2019
DESIGNED BY		DATE	
CHECKED BY	P.T.K.	DATE	
APPROVED BY		DATE	

SCALE 1" = 60'

CITY OF Grand Junction COLORADO

PUBLIC WORKS ENGINEERING DIVISION SURVEY DEPARTMENT

HOSANNA ANNEXATION

1 OF 1

HOSANNA ANNEXATION – PHOTOS



View of property from Monument View Drive looking north



View of property from I-70 looking south

NOTICE OF HEARING
ON PROPOSED ANNEXATION OF LANDS
TO THE CITY OF GRAND JUNCTION, COLORADO

NOTICE IS HEREBY GIVEN that at a regular meeting of the City Council of the City of Grand Junction, Colorado, held on the 20th day of February 2019, the following Resolution was adopted:

CITY OF GRAND JUNCTION, COLORADO

RESOLUTION NO. ____

A RESOLUTION
REFERRING A PETITION TO THE CITY COUNCIL
FOR THE ANNEXATION OF LANDS
TO THE CITY OF GRAND JUNCTION, COLORADO,
SETTING A HEARING ON SUCH ANNEXATION,
AND EXERCISING LAND USE CONTROL

HOSANNA ANNEXATION

APPROXIMATELY 5.722 ACRES LOCATED AT 743 24 ¾ ROAD

WHEREAS, on the 20th day of February 2019, a petition was referred to the City Council of the City of Grand Junction, Colorado, for annexation to said City of the following property situate in Mesa County, Colorado, and described as follows:

HOSANNA ANNEXATION

A certain parcel of land lying in the Northwest Quarter of the Southeast Quarter (NW 1/4 SE 1/4) of Section 33, Township 1 South, Range 1 West of the Ute Principal Meridian, County of Mesa, State of Colorado and being more particularly described as follows:

COMMENCING at the Northwest corner of the Southeast Quarter (SE 1/4) of said Section 33 and assuming the North line of the NW 1/4 SE 1/4 of said Section 33 bears S 89º53'19" E with all other bearings contained herein being relative thereto; thence from said Point of Commencement, S 89º53'19" E, along the North line of the NW 1/4 SE 1/4 of said Section 33 a distance of 658.53 feet to the POINT OF BEGINNING; thence from said Point of Beginning, continue N 89º53'19" E, along said North line, a distance of 270.28 feet; thence S 00º06'41" W, a distance of 25.00 feet to a point on the centerline of the existing Grand Valley Canal; thence Southeasterly along the centerline of the Grand Valley Canal the following four (4) courses:

1. S 43º37'30" E, a distance of 36.75 feet,
2. S 41º37'54" E, a distance of 88.95 feet,
3. S 40º40'11" E, a distance of 192.33 feet,
4. S 43º12'52" E, a distance of 27.89 feet, more or less, to a point on the East line of Lot 1, Collins-Baumgartner Subdivision, as same is recorded in Book 4329, Page 69, Public Records of Mesa County, Colorado projected Northerly; thence…

S 00º07'13" E, along the East line of said Lot 1, a distance of 143.93 feet, more or less, to a point being the Northeast corner of Lot 2 of said Collins-Baumgartner Subdivision; thence N 89º54'18 W, along the North line of said Lot 2, a distance of 182.21 feet, more or less, to a point being the Northwest corner of said Lot 2; thence S 04º41'51" W, along the West line of said Lot 2, a distance of 231.92 feet, more or less, to a point on the North line of North Valley Subdivision Filing No. Four, as same is recorded in Plat Book

16, Pages 188 and 189, Public Records of Mesa County, Colorado; thence N 89º54'18" W, along the North line of said North Valley Subdivision Filing No. Four and the South line of said Lot 1, Collins-Baumgartner Subdivision, a distance of 297.24 feet, more or less, to a point being the Southwest corner of said Lot 1; thence N 00º05'05" W, along the West line, and Northerly projection of said Lot 1, a distance of 659.09 feet, more or less, to the Point of Beginning.

CONTAINING 249,266 Square Feet or 5.722 Acres, more or less, as described.

WHEREAS, the Council has found and determined that the petition complies substantially with the provisions of the Municipal Annexation Act and a hearing should be held to determine whether or not the lands should be annexed to the City by Ordinance;

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF GRAND JUNCTION:

1. That a hearing will be held on the 3rd day of April, 2019, in the City Hall auditorium, located at 250 North 5th Street, City of Grand Junction, Colorado, at 6:00 PM to determine whether one-sixth of the perimeter of the area proposed to be annexed is contiguous with the City; whether a community of interest exists between the territory and the city; whether the territory proposed to be annexed is urban or will be urbanized in the near future; whether the territory is integrated or is capable of being integrated with said City; whether any land in single ownership has been divided by the proposed annexation without the consent of the landowner; whether any land held in identical ownership comprising more than twenty acres which, together with the buildings and improvements thereon, has an assessed valuation in excess of two hundred thousand dollars is included without the landowner's consent; whether any of the land is now subject to other annexation proceedings; and whether an election is required under the Municipal Annexation Act of 1965.

2. Pursuant to the State's Annexation Act, the City Council determines that the City may now, and hereby does, exercise jurisdiction over land use issues in the said territory. Requests for building permits, subdivision approvals and zoning approvals shall, as of this date, be submitted to the Community Development Department of the City.

ADOPTED the _____ day of _____, 2019.

_____
President of the Council

Attest:

_____
City Clerk

NOTICE IS FURTHER GIVEN that a hearing will be held in accordance with the Resolution on the date and at the time and place set forth in the Resolution.

_____
City Clerk

DATES PUBLISHED
February 22, 2019
March 1, 2019
March 8, 2019
March 15, 2019

CITY OF GRAND JUNCTION, COLORADO

ORDINANCE NO.

AN ORDINANCE ANNEXING TERRITORY TO THE CITY OF GRAND JUNCTION, COLORADO

HOSANNA ANNEXATION

APPROXIMATELY 5.722 ACRES LOCATED AT 743 24 ¾ ROAD

WHEREAS, on the 20th day of February 2019, the City Council of the City of Grand Junction considered a petition for the annexation of the following described territory to the City of Grand Junction; and

WHEREAS, a hearing on the petition was duly held after proper notice on the 3rd day of April 2019; and

WHEREAS, the City Council determined that said territory was eligible for annexation and that no election was necessary to determine whether such territory should be annexed;

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF GRAND JUNCTION, COLORADO:

That the property situate in Mesa County, Colorado, and described to wit:

HOSANNA ANNEXATION

A certain parcel of land lying in the Northwest Quarter of the Southeast Quarter (NW 1/4 SE 1/4) of Section 33, Township 1 South, Range 1 West of the Ute Principal Meridian, County of Mesa, State of Colorado and being more particularly described as follows:

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3. S 40º40'11" E, a distance of 192.33 feet,

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S 00º07’13” E, along the East line of said Lot 1, a distance of 143.93 feet, more or less, to a point being the Northeast corner of Lot 2 of said Collins-Baumgartner Subdivision; thence N 89º54’18 W, along the North line of said Lot 2, a distance of 182.21 feet, more or less, to a point being the Northwest corner of said Lot 2; thence S 04º41’51” W, along the West line of said Lot 2, a distance of 231.92 feet, more or less, to a point on the North line of North Valley Subdivision Filing No. Four, as same is recorded in Plat Book 16, Pages 188 and 189, Public Records of Mesa County, Colorado; thence N 89º54’18” W, along the North line of said North Valley Subdivision Filing No. Four and the South line of said Lot 1, Collins-Baumgartner Subdivision, a distance of 297.24 feet, more or less, to a point being the Southwest corner of said Lot 1; thence N 00º05’05” W, along the West line, and Northerly projection of said Lot 1, a distance of 659.09 feet, more or less, to the Point of Beginning.

CONTAINING 249,266 Square Feet or 5.722 Acres, more or less, as described.

be and is hereby annexed to the City of Grand Junction, Colorado.

INTRODUCED on first reading on the 20th day of February 2019 and ordered published in pamphlet form.

ADOPTED on second reading the _____ day of _____, 2019 and ordered published in pamphlet form.

_____
President of the Council

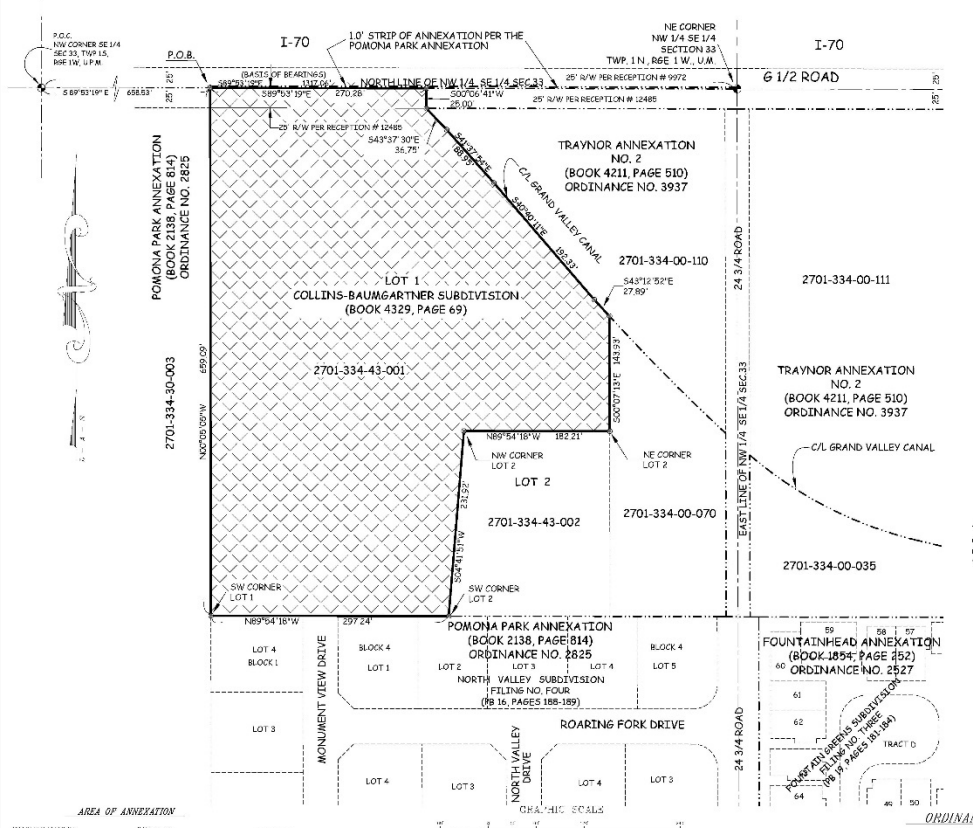
Attest:

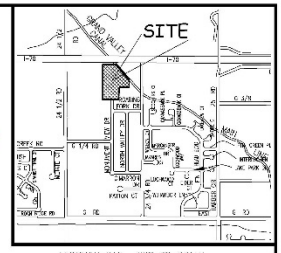
_____
City Clerk

Exhibit A

HOSANNA ANNEXATION

LYING IN THE NW 1/4 SE 1/4 OF SECTION 33 , TOWNSHIP 1 NORTH, RANGE 1 WEST
UTE PRINCIPAL MERIDIAN
COUNTY OF MESA, STATE OF COLORADO





VICINITY MAP - NOT TO SCALE

DESCRIPTION

A certain parcel of land lying in the Northwest Quarter of the Southeast Quarter (NW 1/4 SE 1/4) of Section 33, Township 1 South, Range 1 West of the Ute Principal Meridian, County of Mesa, State of Colorado and being more particularly described as follows:

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NOTE

The Collins-Baumgartner Subvision, as recorded in Book 4329, Page 69, Public Records of Mesa County, Colorado, incorrectly depicted the ownership of the lands to an "apparent Southwesterly right of way line for the Grand Valley Canal". The ownership should have been depicted extending to the centerline of said Grand Valley Canal.

ABBREVIATIONS

P.O.C.	POINT OF COMMENCING
P.O.B.	POINT OF BEGINNING
R.O.W.	RIGHT OF WAY
SEC.	SECTION
TWP.	TOWNSHIP
RGE.	RANGE
U.P.M.	UTE PRINCIPAL MERIDIAN
NO.	NUMBER
SQ. FT.	SQUARE FEET
∆	CURVES ANGLE
RAD.	RADIUS
L	ARC LENGTH
CH.	CHORD LENGTH
CHB	CHORD BEARING
BLK.	BLOCK
PB	PLAT BOOK
BK.	BOOK
PG.	PAGE

The Search and Description contained herein have been derived from subdivision plats and deed descriptions as they appear in the office of the Mesa County Clerk and Recorder. This plat does not constitute a land survey, and is not intended to be used as a means for establishing or verifying property boundary lines.

PRELIMINARY

Michael K. Grove, PLS No. 37824
Professional Land Surveyor for the
City of Grand Junction

DATE: _____

AREA OF ANNEXATION

LEGEND

GRAPHIC SCALE

1" = 60'

LINEAL UNITS USED HEREIN = U.S. SURVEY FOOT, AS ESTABLISHED

ORDINANCE NO.
????

EFFECTIVE DATE
????

THIS IS NOT A BOUNDARY SURVEY

DRAWN BY P.T.K. DATE 01-03-2019 DESIGNED BY _____ DATE _____ CHECKED BY P.T.K. DATE _____ APPROVED BY _____ DATE _____	SCALE 1" = 60'	CITY OF Grand Junction COLORADO	PUBLIC WORKS ENGINEERING DIVISION SURVEY DEPARTMENT	HOSANNA ANNEXATION	1 OF 1

Grand Junction Planning Commission

Regular Session

Item #2.a.ii.

Meeting Date: February 20, 2019

Presented By: Kristen Ashbeck, Senior Planner/ CDBG Admin

Department: Community Development

Submitted By: Kristen Ashbeck, Senior Planner

Information

SUBJECT:

Introduction of an Ordinance Amending Ordinance No. 4508 for the Planned Residential Development - North 7th Street to Disallow the Use of Vinyl Fencing on Properties Within the District and Set a Public Hearing for March 20, 2019

RECOMMENDATION:

The Historic Preservation Board recommended approval of the amendment at its December 4, 2018 meeting. The Planning Commission heard this item at its February 12, 2019 meeting and unanimously recommended approval.

EXECUTIVE SUMMARY:

Initiated by the Historic Preservation Board in conjunction with input from property owners within the North Seventh Street Historic Residential District, this request is to amend Planned Development Ordinance 4508 which established the Guidelines and Standards for the North Seventh Street District. The proposed amendment will clarify language in the Guidelines and Standards, expressly disallowing the use of vinyl fencing on properties within the District.

BACKGROUND OR DETAILED INFORMATION:

By adoption of Ordinance 4508 in March 2012, the North Seventh Street Historic Residential District Guidelines and Standards became effective. The Guidelines and Standards dictate that the Historic Preservation Board shall hear and decide applications for alteration/construction on properties within the District.

In mid-2018, the Board heard a proposal from a property owner to replace an existing

6-foot privacy wooden fence with a 6-foot vinyl privacy fence in areas of the yard that are visible from North 7th Street. This proposal brought to light the fencing section of the Guidelines and Standards that is somewhat vague as to the allowance of vinyl fencing within the District. There is no outright prohibition regarding vinyl fencing but a statement in the guidelines (not standards) that vinyl is "not an appropriate fencing material."

The Guidelines and Standards currently state:

26.20.090 Fencing.
(a) ***Guideline****. Fencing materials and styles should complement the character of the District. Fence styles, particularly in front yards, should be similar to those from the restoration era of the buildings on site. Modern or artificial materials, such as plastic and vinyl, are not appropriate fencing materials. In addition to the regulations for fences applicable to the R-8 zone, fences in the District shall adhere to the requirements of this section.*

The Historic Preservation Board approved the application for vinyl fencing in a side yard, but discussed the desire to have further clarity in the regulations regarding vinyl fencing as many board members felt that vinyl fencing should not be permitted. In late 2018, the Historic Preservation Board sought input from property owners within the District as to whether vinyl should be strictly disallowed or whether it is an appropriate material acceptable to property owners. The survey letter and the results of the poll are included in the attachments. In summary, 65 percent of the surveys were returned. Of those, 50 percent preferred the option of not allowing the use of vinyl fencing in the District at all, and 23 percent preferred the option of only allowing vinyl fencing in portions of the yard that could not be seen from 7th Street or any of the side streets. The Board interpreted these results as the majority of property owners preferred that vinyl fencing not be allowed within the District. As such, the Historic Preservation Board recommended the following revision to the Guidelines and Standards as follows:

26.20.090 Fencing. – Delete the sentence with strikethrough below
(a) Guideline. *Fencing materials and styles should complement the character of the District. Fence styles, particularly in front yards, should be similar to those from the restoration era of the buildings on site. ~~Modern or artificial materials, such as plastic and vinyl, are not appropriate fencing materials.~~ In addition to the regulations for fences applicable to the R-8 zone, fences in the District shall adhere to the requirements of this section.*

Add the standard listed below:

(b) Standard. *Vinyl or plastic fencing is not appropriate on any part of a property*

within the North Seventh Street Historic Residential District and use of such fencing is not allowed.

NOTIFICATION REQUIREMENTS

The property owners within the North Seventh Street Historic Residential District were notified of the proposed changed via letters that summarized the results of their input as well as the proposed language. The letter was sent to property owners twice – once in December 2018 and again in January 2019. The second letter included the proposed dates, times and locations of the public hearings for both Planning Commission and City Council.

ANALYSIS

In accordance with Section 21.02.150(e), a proposed amendment to an approved Final Development Plan for a PD zone district shall address the same process and criteria used for outline development plan review and approval as listed below. However, many of these criteria are not relevant to a change such as that proposed for the North Seventh Street Historic Residential District Guidelines and Standards regarding the use of vinyl fencing on properties within the District. The change is generally inconsequential to adopted plans and policies since it is only applicable to the properties within the District. The change will improve the aesthetics of the historic character of the neighborhood.

(i) The Comprehensive Plan, Grand Junction Circulation Plan and other adopted plans and policies;

The proposed amendment will reinforce Goal 6 of the Comprehensive Plan which states: Land use decisions will encourage preservation of existing buildings and their appropriate reuse. Staff finds this criterion has been met.

(ii) The rezoning criteria provided in GJMC 21.02.140(a) as stated below;

(1) Subsequent events have invalidated the original premises and findings; and/or
(2) The character and/or condition of the area has changed such that the amendment is consistent with the Plan; and/or
(3) Public and community facilities are adequate to serve the type and scope of land use proposed; and/or
(4) An inadequate supply of suitably designated land is available in the community, as defined by the presiding body, to accommodate the proposed land use; and/or
(5) The community or area, as defined by the presiding body, will derive benefits from the proposed amendment.

The proposed amendment to the PD zone district is not relevant to the rezone criteria with the exception of (3) and (5) above. The existing neighborhood is certainly served

by adequate public and community facilities that will not be impacted by the proposed change. The neighborhood and the community in general will derive benefit from the amendment as it will reinforce and enhance the character of the historic district. Staff finds this criterion has been met.

(iii) The planned development requirements of Chapter 21.05 GJMC listed below;

21.05.020 Default standards.
The use, bulk, development, improvement and other standards for each planned development shall be derived from the underlying zoning, as defined in Chapter 21.03 GJMC.

21.05.030 Establishment of uses.
(a) Uses Allowed. At the time of zoning a parcel to PD, the City Council shall determine the allowed uses. Only uses consistent in type and density with the Comprehensive Plan may be allowed within a PD. The type and density of allowed uses should generally be limited to uses allowed in the default zoning.
(b) Adoption and Modification of Authorized Uses. The City Council, at the time of establishing a PD zone, shall list uses that are authorized by right or by conditional use permit. All uses, whether by right or conditional use permit, shall be subject to all applicable permit and approval processes established in this code.

21.05.040 Development standards.
(a) Generally. Planned development shall minimally comply with the development standards of the default zone and all other applicable code provisions, except when the City Council specifically finds that a standard or standards should not be applied. Planned development shall comply with GJMC 21.02.150.

(b) Residential Density. Dwelling unit densities in planned development shall comply with the maximum and minimum densities of the Comprehensive Plan or default zone.

(c) Nonresidential Intensity. A maximum floor area shall be established at the time of planned development approval. In determining the maximum floor area, the Planning Commission and City Council shall consider:

(1) The intensity of adjacent development;
(2) The demand for and/or mix of residential and nonresidential development in the proposed PD and in the vicinity of the proposed PD;
(3) The availability of transportation facilities, including streets, parking, transit facilities and bicycle/pedestrian facilities;
(4) The adequacy of utilities and public services.

(d) Mixed Use Intensity.

(1) In mixed use developments in areas designated for residential development in the Comprehensive Plan, no more than 10 percent of the land area may be dedicated to nonresidential uses.
(2) The maximum residential densities within mixed use developments designated for nonresidential development in the Comprehensive Plan shall not exceed 24 dwelling units per acre. In such developments, residential uses shall not constitute more than 75 percent of total floor area.

(e) Minimum District Size. A minimum of five acres is recommended for a planned development unless the Planning Commission recommends and the City Council finds that a smaller site is appropriate for the development or redevelopment as a PD.

(f) Development Standards. Planned development shall meet the development standards of the default zone or the following, whichever is more restrictive. Exceptions may be allowed only in accordance with this section.

(1) Setback Standards. Principal structure setbacks shall not be less than the minimum setbacks for the default zone unless the applicant can demonstrate that:

(i) Buildings can be safely designed and that the design is compatible with lesser setbacks. Compatibility shall be evaluated under the International Fire Code and any other applicable life, health or safety codes;
(ii) Reduced setbacks are offset by increased screening or primary recreation facilities in private or common open space;
(iii) Reduction of setbacks is required for protection of steep hillsides, wetlands or other environmentally sensitive natural features.

(2) Open Space. All residential planned developments shall comply with the minimum open space standards established in the open space requirements of the default zone.

(3) Fencing/Screening. Fencing shall comply with GJMC 21.04.040(i).

(4) Landscaping. Landscaping shall meet or exceed the requirements of GJMC 21.06.040.

(5) Parking. Off-street parking shall be provided in accordance with GJMC 21.06.050.

(6) Street Development Standards. Streets, alleys and easements shall be designed and constructed in accordance with TEDS (GJMC Title 29) and applicable portions of GJMC 21.06.060.

(g) Deviation from Development Default Standards. The Planning Commission may

recommend that the City Council deviate from the default district standards subject to the provision of any of the community amenities listed below.

(1) Transportation amenities including, but not limited to, trails other than required by the multimodal plan, bike or pedestrian amenities or transit oriented improvements, including school and transit bus shelters;
(2) Open space, agricultural land reservation or land dedication of 20 percent or greater;
(3) Community facilities for provision of public services beyond those required for development within the PD;
(4) The provision of affordable housing for moderate, low and very low income households pursuant to HUD definitions for no less than 20 years; and
(5) Other amenities, in excess of minimum standards required by this code, that the Council specifically finds provide sufficient community benefit to offset the proposed deviation.

The proposed amendment does not impact the Planned Development (PD) zone district and plan as it was originally established via Ordinance 4508 except for the clarification of the use of vinyl fencing on properties within the district. The existing Guidelines and Standards that form the PD Plan already include some deviations from the underlying zone district of R-8. This revision to the standards is another deviation from what would typically be allowed by the Code but it is intended to be more restrictive in order to clarify the standards and contribute to the preservation of the character of the historic district. Staff finds this criterion has been met.

(iv) The applicable corridor guidelines and other overlay districts in GJMC Titles 23, 24 and 25;

There are no other corridor or other overlay districts that apply to the North Seventh Street Historic Residential District thus, this criterion does not apply to this proposed change.

(v) Adequate public services and facilities shall be provided concurrent with the projected impacts of the development;

The proposed amendment is not relevant to this criterion.

(vi) Adequate circulation and access shall be provided to serve all development pods/areas to be developed;

The proposed amendment is not relevant to this criterion.

(vii) Appropriate screening and buffering of adjacent property and uses shall be

provided;

The proposed amendment is not relevant to this criterion.

(viii) An appropriate range of density for the entire property or for each development pod/area to be developed;

The proposed amendment is not relevant to this criterion.

(ix) An appropriate set of "default" or minimum standards for the entire property or for each development pod/area to be developed; and

The proposed amendment is not relevant to this criterion.

(x) An appropriate phasing or development schedule for the entire property or for each development pod/area to be developed.

The proposed amendment is not relevant to this criterion.

STAFF RECOMMENDATION AND FINDINGS OF FACT

Staff finds that the proposed amendment to the Planned Development zone district for the North Seventh Street Historic Residential District is an appropriate revision to clarify the Standards and Guidelines regarding the use of vinyl fencing on properties in the District and thus, meets the criteria of Section 21.02.150(e) of the Zoning and Development Code.

SUGGESTED MOTION:

I move to introduce an ordinance amending Ordinance No. 4508 for the Planned Residential Development - North 7th Street consisting of Guidelines and standards by which new construction or alterations within the Zone are determined to disallow the use of vinyl fencing on properties within the District and set a hearing for March 20, 2019.

Attachments

1. Attachment 1 - Original Poll Letter Sent to Property Owners
2. Attachment 2 - Summary of Poll Results
3. Attachment 3 - Letters Notifying Property Owners of Proposed Change
4. Attachment 4 - Proposed Ordinance to Amend the PD District

CITY OF Grand Junction COLORADO

COMMUNITY DEVELOPMENT

September 17, 2018

Dear North Seventh Street Historic District Property Owners:

As you are aware, the Grand Junction Historic Preservation Board reviews and approves Certificate of Appropriateness applications within the North Seventh Street Historic Residential District according to the adopted Guidelines and Standards for the District.

Recent reviews by the Board of fencing proposals have brought to light the fencing section of the Guidelines and Standards that is somewhat vague as to the allowance of vinyl fencing within the District. There is no clear direction as to whether vinyl is allowed or disallowed, just a statement that vinyl is not an appropriate fencing material. The Guidelines and Standards currently state:

26.20.090 Fencing.

(a) ***Guideline.*** *Fencing materials and styles should complement the character of the District. Fence styles, particularly in front yards, should be similar to those from the restoration era of the buildings on site. Modern or artificial materials, such as plastic and vinyl, are not appropriate fencing materials. In addition to the regulations for fences applicable to the R-8 zone, fences in the District shall adhere to the requirements of this section.*

The Historic Preservation Board is seeking input from property owners as to whether vinyl should be strictly disallowed or whether it is an appropriate material acceptable to property owners. Please take a moment to review the poll on the back of this letter, provide your input and return this letter in the self-addressed stamped envelope provided by October 12, 2018.

Thank you for your time and attention to this matter.

Sincerely,



Chris Endreson, Chair

Grand Junction Historic Preservation Board

CITY OF Grand Junction COLORADO

COMMUNITY DEVELOPMENT

North Seventh Street Guidelines and Standards
Property Owner Poll – Vinyl Fencing

1 – Do nothing, leave the Guidelines and Standards as is – vinyl may be allowed as elsewhere in residential areas in the city.

2 – Vinyl is not an appropriate fencing material - revise the Guidelines and Standards so that vinyl fencing is expressly disallowed within the North Seventh Street Historic Residential District.

3 – Revise the Guidelines and Standards to allow vinyl fencing but it should be neutral in color.

4 – Revise the Guidelines and Standards to allow vinyl fencing in a neutral color and the top 1 foot shall be partially open (e.g. lattice).

5 – Revise the Guidelines and Standards to allow vinyl fencing in a neutral color only in areas of a yard that are not visible from the 7th Street right-of-way or from the side street rights-of-way within the District.

NAME(S) OF PROPERTY OWNER (S) _____

_____

FIRST CHOICE OF OPTIONS ABOVE (circle one): 1 2 3 4 5

CITY OF Grand Junction COLORADO

COMMUNITY DEVELOPMENT

North Seventh Street Guidelines and Standards
Property Owner Poll – Vinyl Fencing

22 of 35 letters returned
% based on 22 returned

1 – Do nothing, leave the Guidelines and Standards as is – vinyl may be allowed as elsewhere in residential areas in the city. 3 votes – 14%

2 – Vinyl is not an appropriate fencing material - revise the Guidelines and Standards so that vinyl fencing is expressly disallowed within the North Seventh Street Historic Residential District. 11 votes – 50%

3 – Revise the Guidelines and Standards to allow vinyl fencing but it should be neutral in color. 2 votes – 9%

4 – Revise the Guidelines and Standards to allow vinyl fencing in a neutral color and the top 1 foot shall be partially open (e.g. lattice). 1 vote – 4%

5 – Revise the Guidelines and Standards to allow vinyl fencing in a neutral color only in areas of a yard that are not visible from the 7th Street right-of-way or from the side street rights-of-way within the District. 5 votes – 23%

NAME(S) OF PROPERTY OWNER (S) _____

_____

FIRST CHOICE OF OPTIONS ABOVE (circle one): 1 2 3 4 5

CITY OF Grand Junction COLORADO

COMMUNITY DEVELOPMENT

December 12, 2018

FIRST NOTICE

Dear North Seventh Street Historic District Property Owners:

The Historic Preservation Board appreciates the timely and informative feedback received on its last correspondence to you regarding the use of vinyl fencing within the North Seventh Street Historic Residential District. A good majority of you (65%) responded to the survey. Of the responses received, 50% favored revising the Guidelines and Standards such that vinyl fencing would be expressly disallowed in the District. Another 23% of respondents favored use of vinyl fencing only in areas of the yard that cannot be viewed from adjacent streets. The Board felt that, since the yard area not seen from the street is a very limited area on most properties in the District, this response effectively suggests not allowing use of vinyl in the District.

Therefore, unless there is further opposition, the Board will recommend to the City Planning Commission and City Council an amendment to Section 26.20.090 of the Guidelines and Standards that will expressly disallow the use of vinyl fencing in the District. The proposed language will be as stated below.

26.20.090 Fencing. – Delete the sentence with strikethrough below

(a) ***Guideline.*** *Fencing materials and styles should complement the character of the District. Fence styles, particularly in front yards, should be similar to those from the restoration era of the buildings on site. ~~Modern or artificial materials, such as plastic and vinyl, are not appropriate fencing materials.~~ In addition to the regulations for fences applicable to the R-8 zone, fences in the District shall adhere to the requirements of this section.*

Add the standard listed below

(b) ***Standard.*** *Vinyl or plastic fencing is not appropriate on any part of a property within the North Seventh Street Historic Residential District and use of such fencing is not allowed.*

Please contact City staff to the Historic Preservation Board, Kristen Ashbeck at 970-244-1491 or kristena@gjcity.org if you have questions or concerns with this proposal. Otherwise, the Board intends to move forward on this revision to the Guidelines and Standards in the near future. As property owners within the North Seventh Street

Historic Residential District, you will be notified of the public hearings on the item and are welcome to attend those meetings.

CITY OF Grand Junction COLORADO

COMMUNITY DEVELOPMENT

Thank you again for your responses thus far and time and attention to this matter.

Sincerely,



Chris Endreson, Chair
Grand Junction Historic Preservation Board

CITY OF Grand Junction COLORADO

COMMUNITY DEVELOPMENT

January 11, 2019

FINAL NOTICE

Dear North Seventh Street Historic District Property Owners:

In the event the December first mailing of this letter was not received during the holidays, the Historic Preservation Board is providing this information to you again. The Board appreciates the timely and informative feedback received on its last correspondence to you regarding the use of vinyl fencing within the North Seventh Street Historic Residential District. A good majority of you (65%) responded to the survey. Of the responses received, 50% favored revising the Guidelines and Standards such that vinyl fencing would be expressly disallowed in the District. Another 23% of respondents favored use of vinyl fencing only in areas of the yard that cannot be viewed from adjacent streets. The Board felt that, since the yard area not seen from the street is a very limited area on most properties in the District, this response effectively suggests not allowing use of vinyl in the District.

Therefore, unless there is further opposition, the Board will recommend to the City Planning Commission and City Council an amendment to Section 26.20.090 of the Guidelines and Standards that will expressly disallow the use of vinyl fencing in the District. The proposed language will be as stated below.

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Add the standard listed below

(b) ***Standard.*** *Vinyl or plastic fencing is not appropriate on any part of a property within the North Seventh Street Historic Residential District and use of such fencing is not allowed.*

Please contact City staff to the Historic Preservation Board, Kristen Ashbeck at 970-244-1491 or kristena@gjcity.org if you have questions or concerns with this proposal. Otherwise, the Board intends to move forward on this revision to the Guidelines and Standards at the following upcoming meetings:

City Planning Commission – February 12, 2019
City Council Public Hearing – March 6, 2019

Thank you again for your responses and time and attention to this matter.

Sincerely,

Grand Junction Historic Preservation Board

CITY OF GRAND JUNCTION, COLORADO

ORDINANCE NO. _____

AN ORDINANCE AMENDING ORDINANCE No. 4508 FOR THE PLANNED RESIDENTIAL DEVELOPMENT – NORTH 7TH STREET CONSISTING OF GUIDELINES AND STANDARDS BY WHICH NEW CONSTRUCTION OR ALTERATIONS WITHIN THE ZONE ARE DETERMINED TO DISALLOW THE USE OF VINYL FENCING ON PROPERTIES WITHIN THE DISTRICT

Recitals:

In March 2012, the City Council of the City of Grand Junction found that it was in the interest of the public to adopt the *North Seventh Street Historic Residential District Guidelines and Standards* as the new Plan for the *Planned Residential Development-North 7th Street* zone district.

Furthermore, the City Council has determined that the Plan achieves long-term community benefits by establishing a process and guidelines and standards for review of development in a unique, nationally recognized historic neighborhood in the City.

The bulk, development, improvement, architectural and design standards are derived from the *North Seventh Street Historic Residential District Guidelines and Standards.* The City Council finds that the proposed amendment regarding the use of vinyl fencing on properties within the District clarifies this concern and will contribute to maintaining the overall historic character of the North Seventh Street Historic Residential District.

After public notice and public hearing as required by the Grand Junction Zoning and Development Code, the Grand Junction Planning Commission recommended approval of the proposed amendment to the North Seventh Street Historic Residential District Guidelines and Standards.

NOW THEREFORE BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF GRAND JUNCTION THAT:

The North Seventh Street Historic Residential Guidelines and Standards are amended as follows (additions underlined, deletions struck through):

26.20.090 Fencing.

(a) ***Guideline.*** *Fencing materials and styles should complement the character of the District. Fence styles, particularly in front yards, should be similar to those from the restoration era of the buildings on site.* ~~*Modern or artificial materials, such as plastic and vinyl, are not appropriate fencing materials.*~~ *In addition to the regulations for fences applicable to the R-8 zone, fences in the District shall adhere to the requirements of this section.*

(b) ***Standard.*** *Vinyl or plastic fencing is not appropriate on any part of a property within the North Seventh Street Historic Residential District and use of such fencing is not allowed.*

Introduced on first reading this 20th day of February 2019 and ordered published in pamphlet form.

Adopted on second reading this _____ day of _____, 2019 and ordered published in pamphlet form.

ATTEST:

_____ _____

City Clerk Mayor

Grand Junction City Council

Regular Session

Item #2.a.iii.

Meeting Date: February 20, 2019

Presented By: Scott D. Peterson, Senior Planner

Department: Community Development

Submitted By: Scott D. Peterson, Senior Planner

Information

SUBJECT:

Introduction of an Ordinance Zoning the South Twenty Annexation R-4 (Residential - 4 du/ac) and R-8 (Residential - 8 du/ac), Located at 2335 H Road and Set a Public Hearing for March 6, 2019

RECOMMENDATION:

The Planning Commission heard this item at their February 12, 2019 meeting and recommended approval (5 to 0).

EXECUTIVE SUMMARY:

The Applicant, South Twenty LLC, is requesting a split zone of annexation to R-4 (Residential – 4 du/ac) and R-8 (Residential – 8 du/ac) for the South Twenty Annexation. The approximately 20.18-acre parcel is located on the south side of H Road and has split Comprehensive Plan Future Land Use Map designations of Residential Medium (4 – 8 du/ac) and Residential High Mixed Use (16 – 24 du/ac). The property is currently vacant.

The proposed split zoning designations of R-4 and R-8 meets with the intent of achieving the desired overall density for the property as a compromise between the two land use categories. Section 21.02.130 (d) of the Zoning and Development Code allows for the consideration of zoning without a plan amendment when the property is adjacent to the land use designation that would support the requested zone district. In this case, the applicant is proposing zone districts at the low and high end of the Residential Medium land use designation. The Applicant is requesting annexation into the City limits per the Persigo Agreement between Mesa County and the City of Grand Junction in order to develop a residential subdivision in the near future, in conformance

with the requested R-4 and R-8 zone districts. The request for annexation will be considered separately by the City Council.

BACKGROUND OR DETAILED INFORMATION:

The Applicant, South Twenty LLC, has requested annexation of land into the City limits, located at 2335 H Road, in anticipation of future residential development. The property is approximately 20.18-acres in size, which includes 0.441-acres of the adjacent H Road right-of-way. The Applicant is requesting a zone of annexation to R-4 (Residential – 4 du/ac) and R-8 (Residential – 8 du/ac).

The property is currently in the County and retains a County zoning of RSF-R (Residential Single Family - Rural) and surrounding properties are also zoned RSF-R in the County, ranging in size from 4.66 acres to 26.9 acres. The subject property has split Future Land Use designations of Residential Medium (4 – 8 du/ac) and Residential High Mixed Use (16 – 24 du/ac). The Applicant's proposed split zoning designations of R-4 and R-8 meets with the intent of achieving the desired overall density for the property as a compromise between these two land use categories in order for a portion of the property to be developed at the high end of the Residential Medium category.

As reference, the existing Future Land Use Map categories that divide the property are not legal descriptions, but rather serve as guidance in determining the proper zone district. When a Future Land Use designation splits a property, either or both land use categories can be used to determine the appropriate zoning district. Section 21.02.130(d) (v) of the Zoning and Development Code allows for consideration of zoning without a Plan amendment when the property is adjacent to the land use designation that would support the requested zone district.

The surrounding area is largely undeveloped, rural in nature and zoned RSF-R in Mesa County. Properties that have been annexed into the City include Apple Glen Subdivision (2366 H Road) which is zoned R-4 (Residential – 4 du/ac) and the Mosaic property located at the intersection of H Road and 23 Road which is zoned Planned Development with an overall average residential density between 7 to 9 dwelling units an acre.

The Applicant is requesting the R-4 zone district for the south 14.3 acres and the R-8 zone district for the north 5.46 acres adjacent to H Road. See attached map exhibits for additional information.

NOTIFICATION REQUIREMENTS

Neighborhood Meeting:

A Neighborhood Meeting regarding the proposed Annexation and Zoning was held on June 28, 2018 in accordance with Section 21.02.080 (e) of the Zoning and

Development Code. The Applicant's and City staff were in attendance along with nine (9) citizens. Comments and concerns expressed by the attendees centered on the proposed higher density and the desire to see larger acreage lots of at least a-half acre or more. Concerns were also expressed about the increase in traffic in the area. The application for annexation and zoning was submitted on October 11, 2018.

Notice was completed consistent with the provisions in Section 21.02.080 (g) of the City's Zoning and Development Code. The subject property was posted with an application sign on October 29, 2018. Mailed notice of the public hearings before Planning Commission and City Council in the form of notification cards was sent to surrounding property owners within 500 feet of the subject property on January 11, 2019 & February 1,2019.

ANALYSIS

The criteria for review is set forth in Section 21.02.140 (a) and includes that the City may rezone property if the proposed changes are consistent with the vision, goals and policies of the Comprehensive Plan and must meet one or more of the following rezone criteria as identified:

(1) Subsequent events have invalidated the original premises and findings; and/or

The property owners have petitioned for annexation into the City limits with a requested zoning district of R-4 and R-8 which is compatible with the existing Comprehensive Plan Future Land Use Map designation of Residential Medium (4 – 8 du/ac), in accordance with Section 21.02.130 (d) (1) (iii) & (v) of the Zoning & Development Code. Since the property is currently in the County, the annexation of the property is a subsequent event that has invalidated the original premise. The requested annexation and zoning is also in accordance with the Persigo Agreement between Mesa County and the City of Grand Junction, which states that all new development shall be annexed into the City limits. Therefore, Staff has found this criterion has been met.

(2) The character and/or condition of the area has changed such that the amendment is consistent with the Plan; and/or

The adoption of the Comprehensive Plan in 2010, designated this property as split Future Land Use designations of Residential Medium (4 – 8 du/ac) and Residential High Mixed Use (16 – 24 du/ac). The character and/or condition of the area has not changed in recent years as the adjacent residential properties are currently large acreage and have not yet fully developed with the exception of the new Apple Glen development. Nearby, the Mosaic development has received project entitlements but has not yet begun construction. The subject property is underutilized in terms of the residential development potential anticipated by the Comprehensive Plan designation

of Residential Medium (4 -8 du/ac) that would allow for densities up to 8 units per acre. The Applicant is requesting a split zone of R-4 and R-8 which furthers the goals and policies of the Comprehensive Plan by providing for density in the mid-range of the Residential Medium (4 – 8 du/ac) land use classification. Because there has been no apparent change of character and/or condition and the area has not significantly changed, Staff finds that this criterion has not been met.

(3) Public and community facilities are adequate to serve the type and scope of land use proposed; and/or

Adequate public and community facilities and services are available to the property and are sufficient to serve land uses associated with the R-4 and R-8 zone districts. Ute Water is presently available within the H Road right-of-way and the applicant has represented they have an easement across adjacent properties to the south to connect into City sanitary sewer that is available in the I-70 Frontage Road. Property can also be served by Xcel Energy natural gas and both Xcel Energy and Grand Valley Power electric. A short distance away is Appleton Elementary School and further to the southeast along 24 Road is Canyon View Park. Further to the south along Patterson Road are commercial retail centers that includes Mesa Mall, offices, convenience stores and gas islands, restaurants, commercial businesses and a grocery store. Community Hospital is also nearby on G Road.

Grand Junction Fire Department finds the public and community facilities regarding fire and emergency medical services are adequate to serve the type and scope of the residential land use proposed. Primary response is from Fire Station 3 located at 582 25 ½ Road and response time are longer than other areas due to the distance from existing fire stations. Evaluating the last two years of fire and EMS incident data, shows an average response time to this area of H Road as being 12 minutes and 33 seconds, which is significantly longer than National Fire Protection Association response time standards. This response time is also approximately 8 minutes and 5 seconds longer than for the core area of the City. However, the City has been working to address the current and future fire and EMS coverage demands of this area and is planning for a new Fire Station immediately adjacent to this property on the west side of 23 and H Road with the Mosaic development.

The public and community facilities are adequate to serve the type and scope of the residential land use proposed, therefore, staff finds this criterion has been met.

(4) An inadequate supply of suitably designated land is available in the community, as defined by the presiding body, to accommodate the proposed land use; and/or

The property and surrounding area has split Comprehensive Plan Future Land Use Map designations of Residential Medium (4 – 8 du/ac) and Residential High Mixed Use

(16 – 24 du/ac). The property is currently vacant. The proposed split zoning designations of R-4 and R-8 meets with the intent of achieving the desired overall density for the property as a compromise between the two categories in order for a portion of the property to be developed at the high end of the Residential Medium category. This area of the community currently has no R-8 zoning. The lack of supply for this zone type impedes the ability to provide a diverse supply of housing types; a key principle in the Comprehensive Plan. Staff finds that there is an inadequate supply of the requested zoning designations in the area and, therefore, has found this criterion to have been met.

(5) The community or area, as defined by the presiding body, will derive benefits from the proposed amendment.

The community and area will benefit from this proposed request. Annexation and zoning of the property will create consistent land use jurisdiction within the City consistent with an Intergovernmental Agreement with the County. The requested zones will also provide an opportunity for a variety of housing within a range of densities that are consistent with the Comprehensive plan in this area to meet the needs of the growing community. This principle is supported and encouraged by the Comprehensive Plan and furthers the plan's goal of promoting a diverse supply of housing types; a key principle in the Comprehensive Plan. Therefore, Staff finds that this criterion has been met.

Section 21.02.160 (f) of the Grand Junction Zoning and Development Code provides that the zoning of an annexation area shall be consistent with the adopted Comprehensive Plan and the criteria set forth. Generally, future development should be at a density equal to or greater than the allowed density of the applicable County zoning district. Though other zone districts could also be considered, these zone districts comport with the recommendations of the Plan's Future Land Use Map.

Further, the zoning request is consistent with the following goals and policies of the Comprehensive Plan:

Goal 1 / Policy A: Land use decisions will be consistent with Future Land Use Map.

Goal 3: The Comprehensive Plan will create ordered and balanced growth and spread future growth throughout the community.

Goal 5: To Provide a broader mix of housing types in the community to meet the needs of a variety of incomes, family types and life stages.

FISCAL IMPACT:

The provision of municipal services will be consistent with adjacent properties already

in the City. Property tax levies and municipal sales/use tax will be collected, as applicable, upon annexation. Based on the current assessed values of the annexation area, the City property tax revenue is estimated to be $55.76 annually. If the property develops at an estimated 96 units for $250,000 each, the estimated annual property tax revenue (at the current residential assessment rate) would be $13,824 per year. Sales and use tax revenues will be dependent on construction activity and consumer spending on City taxable items for residential and commercial uses.

Currently the property is in the Grand Junction Rural Fire Protection District (Rural District) which is served by the Grand Junction Fire Department through a contract with the Rural District. The Rural District collects a 5.938 mill levy that generates $41.39 per year in property taxes that are passed on to the City of Grand Junction per the contract. If annexed, the Rural District mill levy will be removed and the City's 8 mills that will generate $55.76 per year will need to pay for not only fire and emergency medical services but also other City services provided to the area. City services as discussed below are supported by a combination of property taxes and sales/use taxes.

The fire department has only responded to this location twice in the last 11 years and with an estimated build of 96 units would predict a slight annual increase of 10-15 fire or EMS incidents as a result of this development. The area is served by Fire Station #3 located at 582 25 ½ Road and response times are longer than other areas due to the distance from existing fire stations. Evaluating the last two years of fire and EMS incident data, shows an average response time to this area of 12 minutes and 33 seconds, which is significantly longer than National Fire Protection Association response time standards. This response time is also approximately 8 minutes and 5 seconds longer than for the core area of the City. The City has been working to address the current and future fire and EMS coverage demands of this area and is planning for a new Fire Station immediately adjacent to this property on the west side of 23 and H Road.

Annual Maintenance costs for the 443 linear feet of pavement on H Road Rd is estimated at approximately $45/year to sweep, remove snow, stripe and sign. Future chipseal costs for this road is estimated at $1,490 and is planned as part of this area's normal chip seal cycle in the next five years. Estimated cost of the maintenance of borrow ditches is approximately $75/year on average.

The cost to improve the road frontage to accommodate the left turn into the development is estimated at $140,000. Under current Transportation Capacity Payment policies, this work is the responsibility of the City.

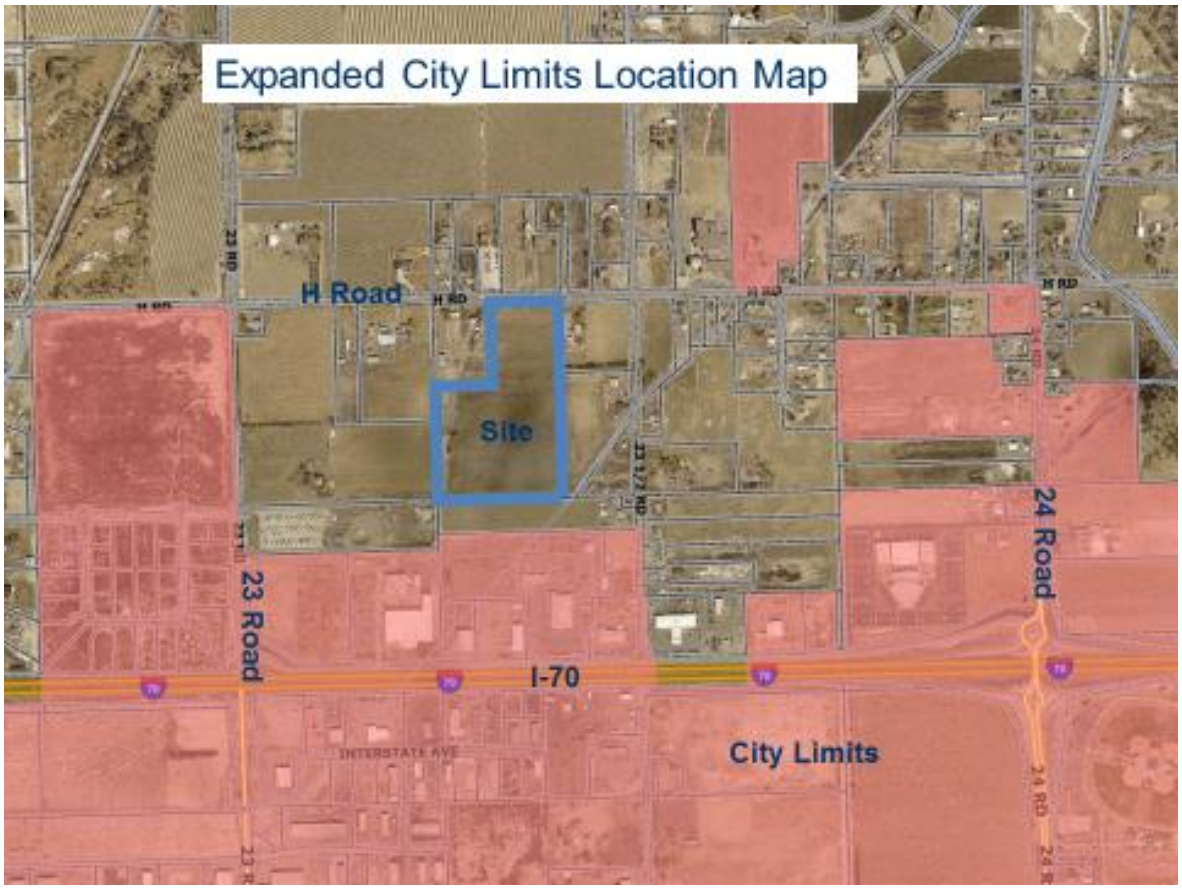
SUGGESTED MOTION:

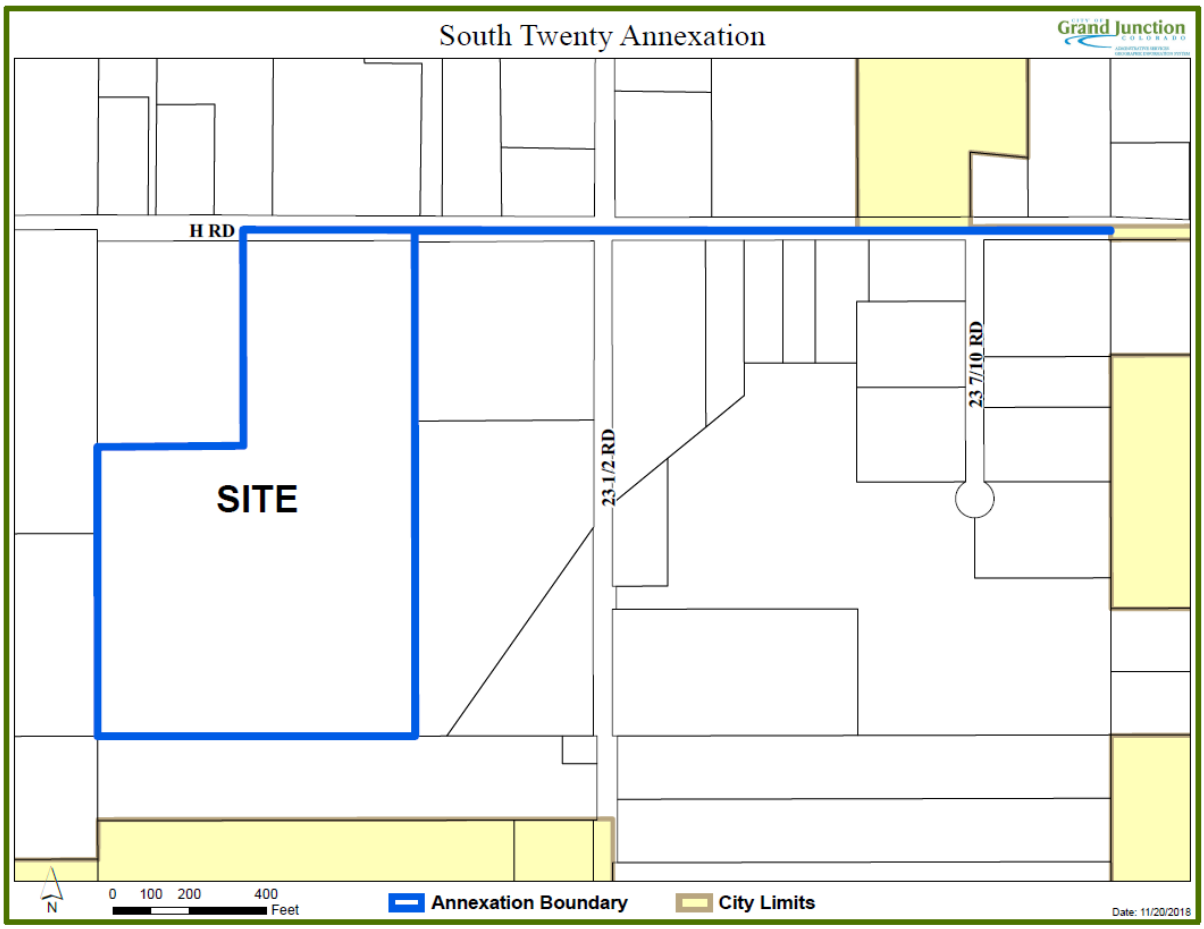
I move to introduce an ordinance zoning the South Twenty Annexation to R-4

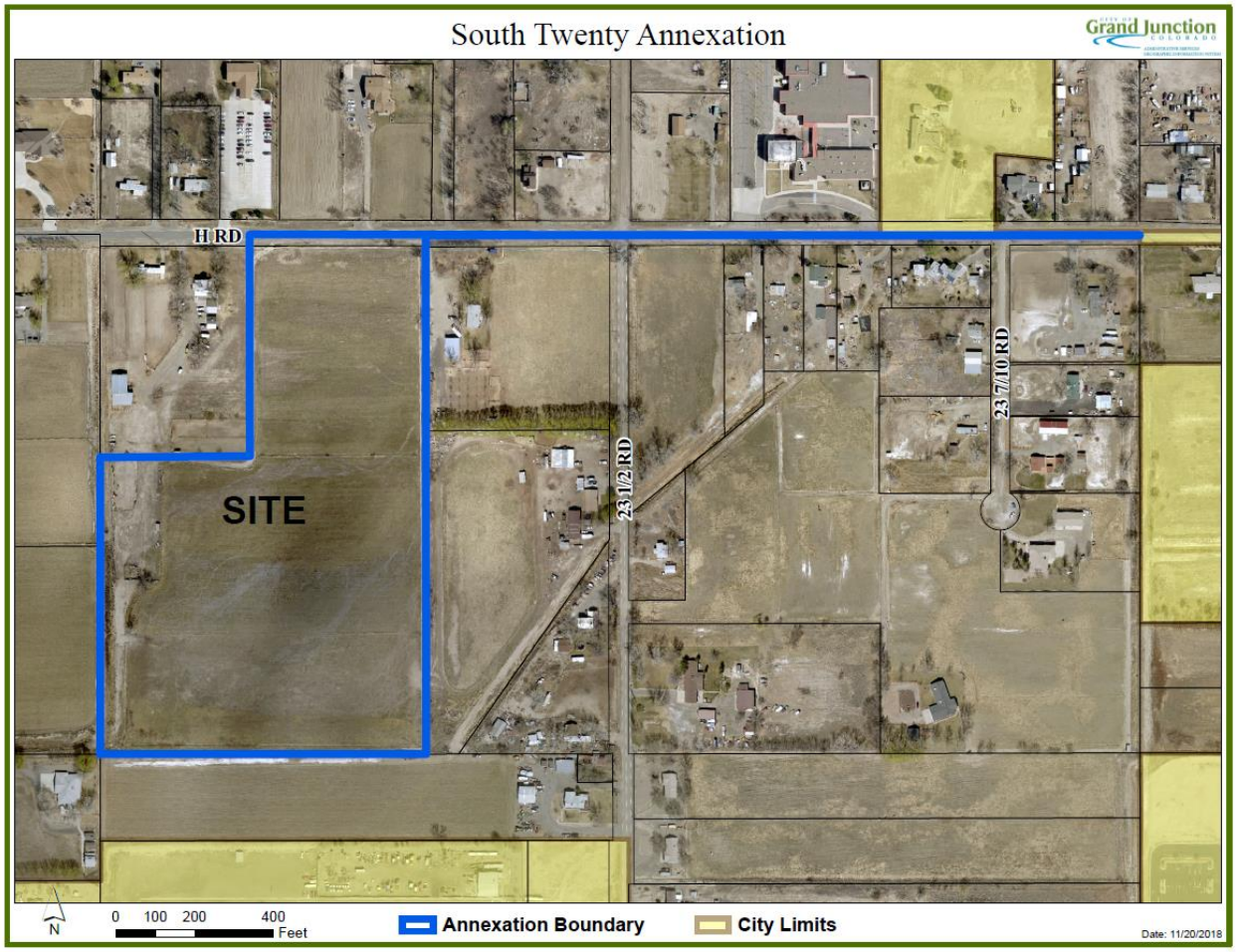
(Residential – 4 du/ac) and R-8 (Residential – 8 du/ac), located at 2335 H Road and set a public hearing for March 6, 2019.

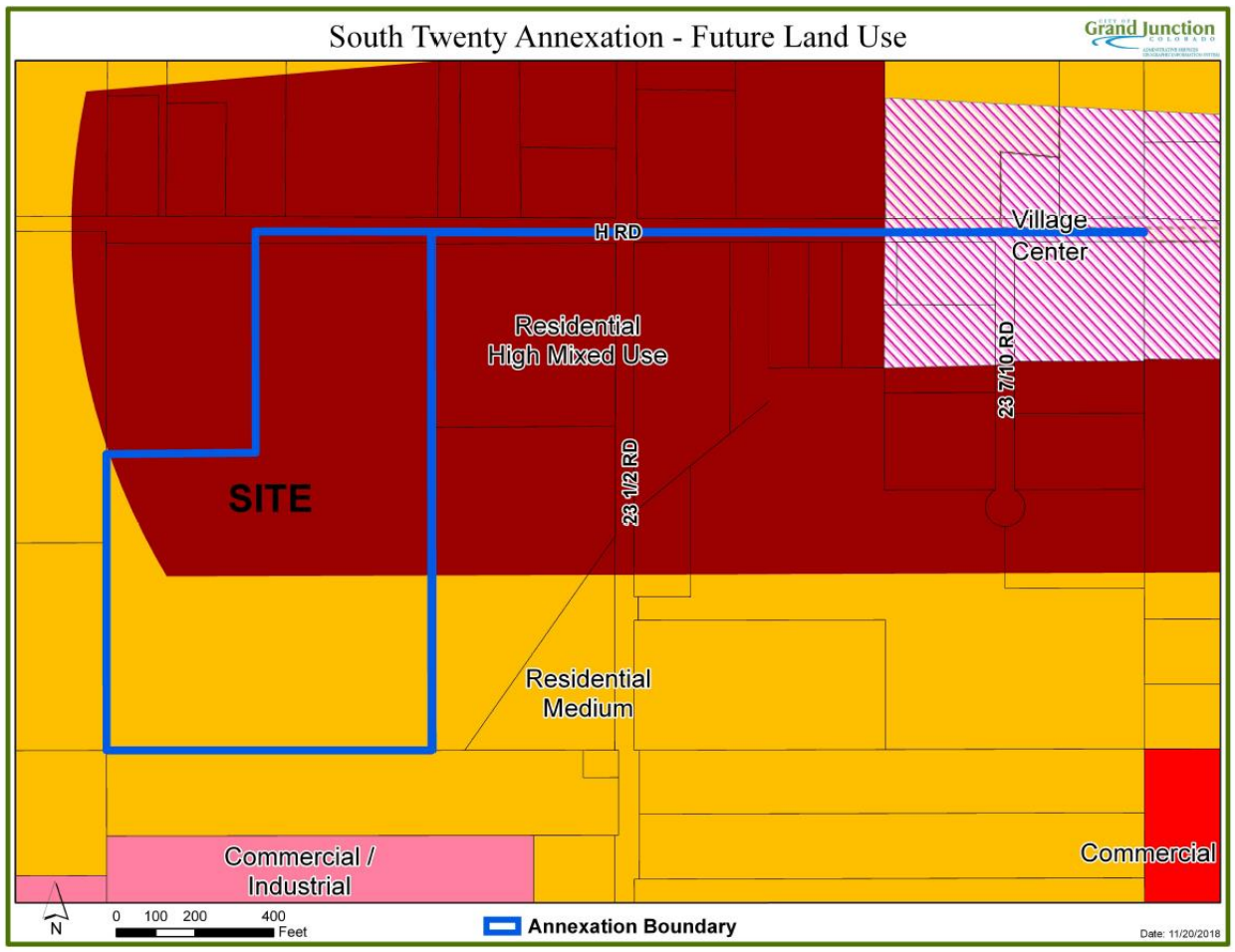
Attachments

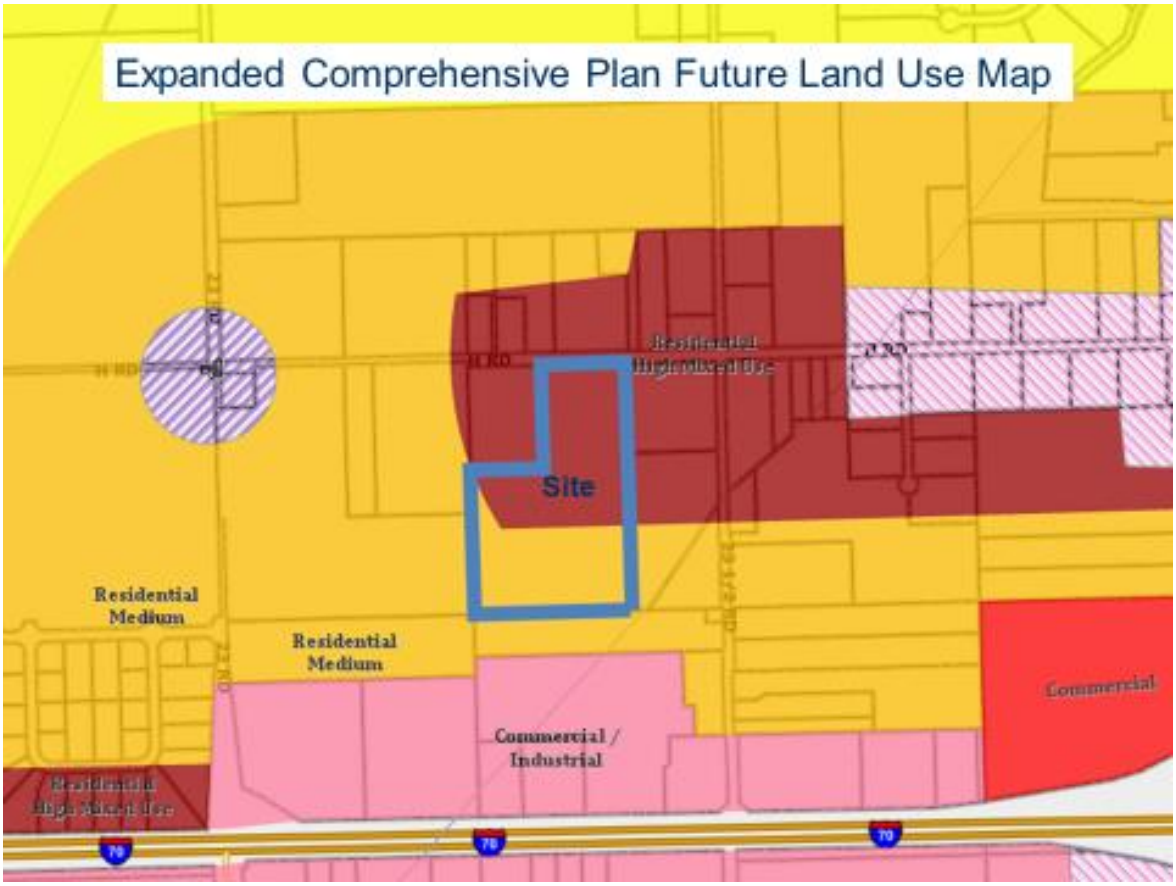
1. Maps
2. Zoning Ordinance
3. Draft February 12 2019 Meeting Minutes

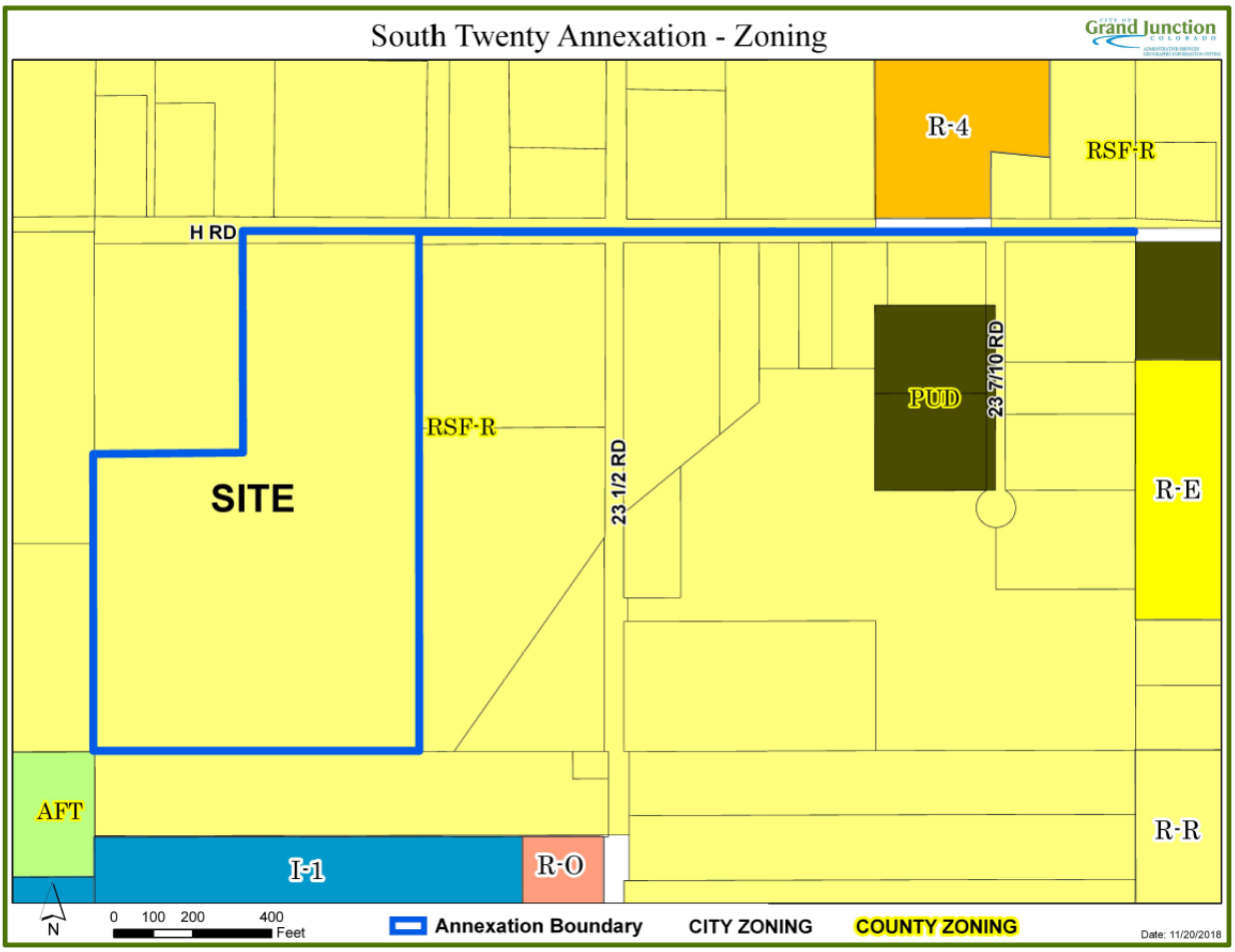

Expanded City Limits Location Map
H Road
Site
23 Road
24 Road
I-70
City Limits

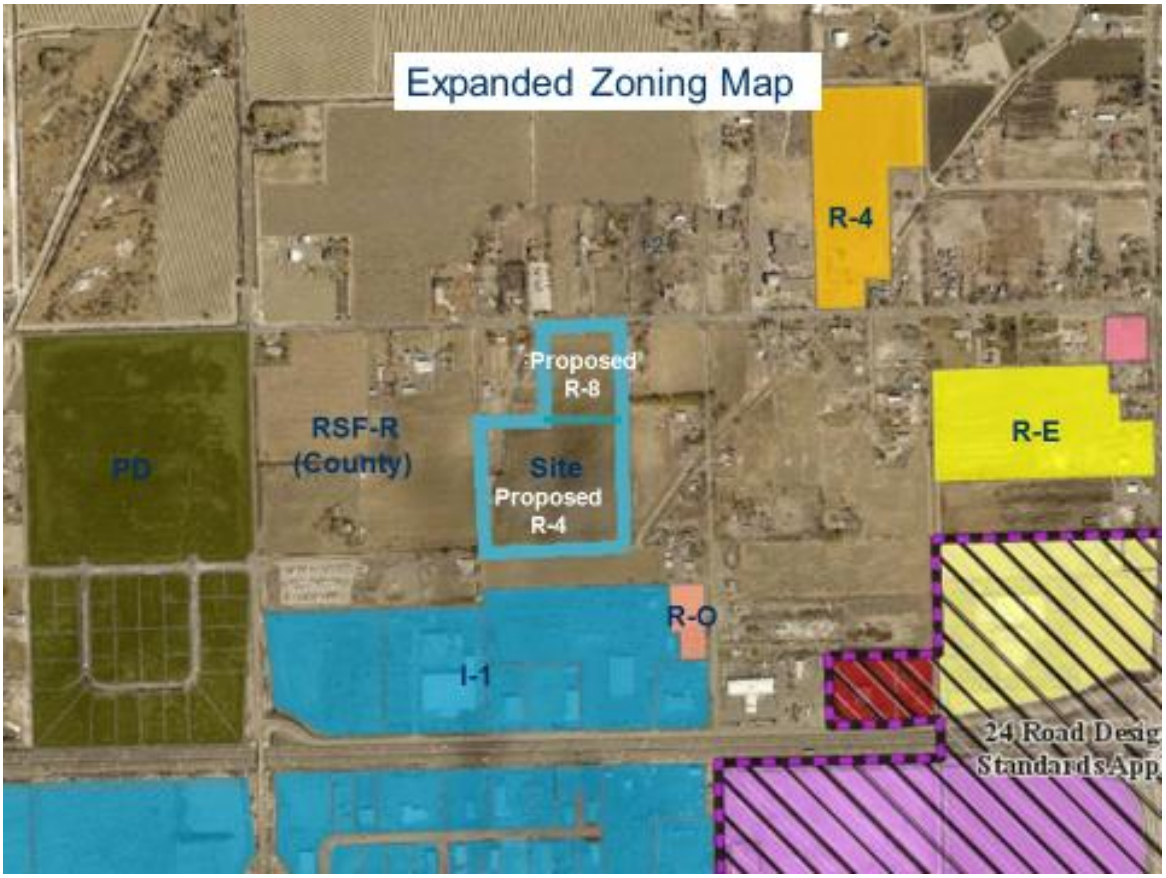

South Twenty Annexation
Grand Junction
COLORADO
H RD
SITE
23 1/2 RD
23 7/10 RD
N
0 100 200 400
Feet
Annexation Boundary
City Limits
Date: 11/20/2018


South Twenty Annexation
Grand Junction
COLORADO
H RD
SITE
23 1/2 RD
23 7/10 RD
N
0 100 200 400
Feet
Annexation Boundary
City Limits
Date: 11/20/2018


South Twenty Annexation - Future Land Use
Grand Junction
COLORADO
H RD
Village
Center
Residential
High Mixed Use
23 7/10 RD
23 1/2 RD
SITE
Residential
Medium
Commercial /
Industrial
Commercial
N
0 100 200 400
Feet
Annexation Boundary
Date: 11/20/2018


Expanded Comprehensive Plan Future Land Use Map
Site
Residential Medium
Residential Medium
Commercial / Industrial
Commercial
70
70
70


South Twenty Annexation - Zoning
Grand Junction
COLORADO
R-4
RSF-R
H RD
SITE
RSF-R
23 1/2 RD
PUD
23 7/10 RD
R-E
AFT
I-1
R-O
R-R
N
0 100 200 400
Feet
Annexation Boundary
CITY ZONING
COUNTY ZONING
Date: 11/20/2018


Expanded Zoning Map
R-4
Proposed
R-8
RSF-R
(County)
PD
Site
Proposed
R-4
R-E
R-O
I-1
24 Road Desig
Standards App



View of property from H Road

CITY OF GRAND JUNCTION, COLORADO

ORDINANCE NO. _____

AN ORDINANCE ZONING THE SOUTH TWENTY ANNEXATION TO R-4 (RESIDENTIAL – 4 DU/AC) & R-8 (RESIDENTIAL – 8 DU/AC)

LOCATED AT 2335 H ROAD

Recitals

The property owners have requested annexation of the 19.76-acre property into the City limits in anticipation of future residential subdivision development

After public notice and public hearing as required by the Grand Junction Zoning & Development Code, the Grand Junction Planning Commission recommended approval of zoning the South Twenty Annexation to the R-4 (Residential – 4 du/ac) and R-8 (Residential – 8 du/ac) zone district respectfully, finding that it conforms with the split designation of Residential Medium (4 – 8 du/ac) and Residential High Mixed Use (16 - 24 du/ac) as shown on the Future Land Use Map of the Comprehensive Plan and the Comprehensive Plan's goals and policies and is generally compatible with land uses located in the surrounding area.

After public notice and public hearing, the Grand Junction City Council finds that the R-4 (Residential – 4 du/ac) and R-8 (Residential – 8 du/ac) zone districts are in conformance with at least one of the stated criteria of Section 21.02.140 of the Grand Junction Zoning & Development Code.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF GRAND JUNCTION THAT:

SOUTH TWENTY ANNEXATION

The following portion of the property be zoned R-4 (Residential – 4 du/ac). See Exhibit A.

A tract of land situated in the Northeast Quarter of Northwest Quarter of Section 32, Township 1 North, Range 1 West of the Ute Meridian and being a part Parcel 1 Muller Simple Land Division as recorded at Reception Number 1933582 of the Mesa County Records, County of Mesa, State of Colorado and being more particularly described as follows:

Commencing at the Northeast corner of said Parcel 1 thence S0°02'51"E along the East line of said Parcel 1a distance of 535.79 feet to the Point of Beginning; thence S0°02'51"E along the East line of said Parcel 1a distance of 754.98 feet to the Southeast corner of said Parcel 1; thence N89°58'25"W along the South line of said

Parcel 1 a distance of 826.14 feet to the Southwest corner of said parcel 1 and the Northwest Sixteenth Corner of said Section 32; thence N0°04'55"E along the West line of said Parcel 1 a distance of 755.07 to an angle point on the West line of said Parcel 1; thence S89°58'03"E a distance of 379.71 feet to an angle point on the West line of said Parcel 1; thence S89°58'01'E a distance of 444.72 feet to the Point of Beginning.

Said tract of land contains 14.30 acres as described.

The following portion of the property be zoned R-8 (Residential – 8 du/ac). See Exhibit B.

A tract of land situated in the Northeast Quarter of Northwest Quarter of Section 32, Township 1 North, Range 1 West of the Ute Meridian and being a part Parcel 1 Muller Simple Land Division as recorded at Reception Number 1933582 of the Mesa County Records, County of Mesa, State of Colorado and being more particularly described as follows:

Beginning at the Northeast corner of said Parcel 1 thence S0°02'51"E along the East line of said Parcel 1a distance of 535.79 feet; thence N89°58'01"W a distance of 444.72 feet to an angle point on the West line of said Parcel 1; thence N0°05'02"E along the West line of said Parcel 1 a distance of 535.79 feet to the Northwest corner of said Parcel 1; thence S89°58'01'E along the North line of said Parcel 1 a distance of 443.49 feet to the Point of Beginning.

Said tract of land contains 5.46 acres as described.

INTRODUCED on first reading this ___ day of ___, 2019 and ordered published in pamphlet form.

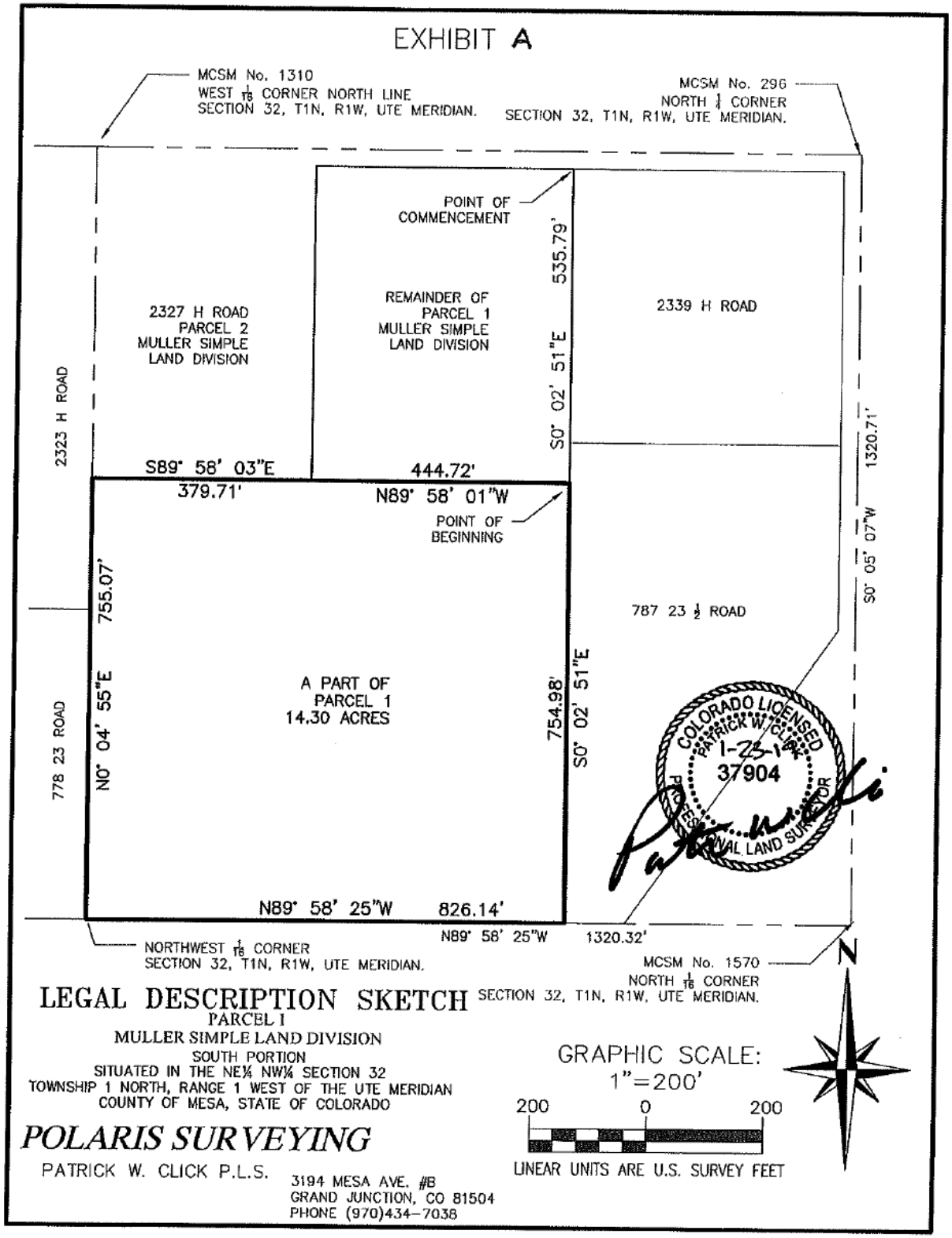
ADOPTED on second reading this _____ day of _____, 2019 and ordered published in pamphlet form.

ATTEST:

_____
President of the Council

_____
City Clerk

EXHIBIT A



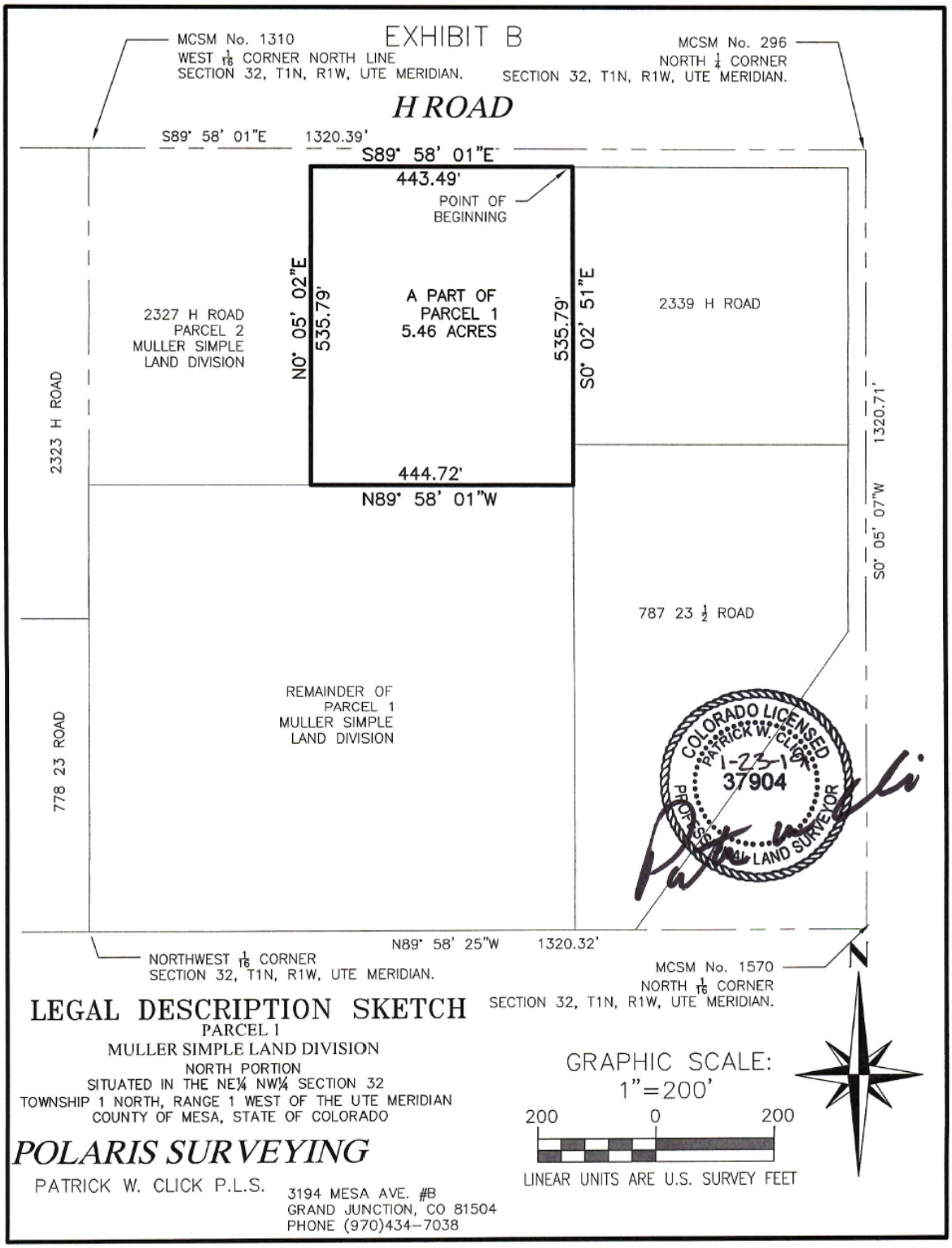
LEGAL DESCRIPTION SKETCH

PARCEL 1
MULLER SIMPLE LAND DIVISION
SOUTH PORTION
SITUATED IN THE NE¼ NW¼ SECTION 32
TOWNSHIP 1 NORTH, RANGE 1 WEST OF THE UTE MERIDIAN
COUNTY OF MESA, STATE OF COLORADO

POLARIS SURVEYING

PATRICK W. CLICK P.L.S.

3194 MESA AVE. #B
GRAND JUNCTION, CO 81504
PHONE (970)434-7038



LEGAL DESCRIPTION SKETCH

PARCEL 1
MULLER SIMPLE LAND DIVISION
NORTH PORTION
SITUATED IN THE NE¼ NW¼ SECTION 32
TOWNSHIP 1 NORTH, RANGE 1 WEST OF THE UTE MERIDIAN
COUNTY OF MESA, STATE OF COLORADO

POLARIS SURVEYING

PATRICK W. CLICK P.L.S.

3194 MESA AVE. #B
GRAND JUNCTION, CO 81504
PHONE (970)434-7038

GRAND JUNCTION PLANNING COMMISSION
February 12, 2019 MINUTES
6:00 p.m.

The meeting of the Planning Commission was called to order at 6:00 p.m. by Vice Chairman Wade.

Those present were Planning Commissioners; Bill Wade, George Gatseos, and Kathy Deppe, Keith Ehlers and Steve Tolle.

Also present were Community Development Department, Tamra Allen, Tom Dixon (Senior Planner), Andrew Gingerich (Associate Planner), Kristen Ashbeck (Senior Planner), and Scott Peterson (Senior Planner).

Deputy City Attorney Jamie Beard and Secretary Lydia Reynolds.

There were approximately 5 citizens in attendance during the meeting.

1. Minutes of Previous Meetings

The Planning Commission reviewed the meeting minutes from the January 22, 2019 meeting.

Vice Chairman Wade asked for a motion to approve the minutes. Commissioner Gatseos noted Commissioner Keith Ehlers needed to be added to those in attendance. Commissioner Gatseos moved to approve the minutes as corrected. Commissioner Tolle seconded the motion.

The motion passed unanimously by a vote of 5-0.

2. Sugar Beet Building ROW/Easement Vacation FILE # VAC-2018-704

Consider a request to 1) vacate a four-foot portion of the public right-of-way, 2) vacate the existing 14-foot wide multi-purpose easement (MPE), and 3) dedicate a new multi-purpose easement with a minimum width of eight feet on the south side of the new right-of-way for properties at 1015 and 1101 Kimball Avenue.

Commissioners accepted two new exhibits, one from CenturyLink and the other the application form.

Staff Presentation

Senior Planner Tom Dixon presented the staff report showing pictures of the site and recommending approval based on the criteria within the Code.

Commissioner Ehlers asked a question regarding the cross section of a Local Road as well as the location of the multi purpose easement along Riverside Parkway.

Applicant Presentation
The Applicant's representative Lisa Cox with Vortex Engineering was present and did a brief presentation highlighting the request to vacating what they call surplus right-of-way.

Public Comment
No public comment was received.

Questions for Staff
No addition questions were asked of staff.

Commissioner Discussion
Commissioner Ehlers noted the atypical width was deferred to and decided by the Alternative Streets Committee. No further discussion was had.

Motion and Vote
Commissioner Gatseos made the following motion: Mister Vice Chairman, on the request to 1) vacate a four-foot portion of the public right-of-way, 2) vacate the 14-foot multi-purpose easement, and 3) create a new multi-purpose with a minimum width of eight feet on the south side of the new edge of right of way for Kimball Avenue starting from the easterly edge of the South 12th Street alignment and extending 1,177 feet to its westerly terminus point, as reviewed under case file VAC-2018-704, I move that the Planning Commission forward a recommendation of approval with the findings of fact in the staff report and the following condition: The existing 14-foot wide multi-purpose easement shall be eliminated and a new multi-purpose easement shall be dedicated from the new edge of Kimball Avenue southward for 8 feet. Commissioner Ehlers seconded the motion.

The motion passed by a vote of 5-0.

3. Amend 7th St Guidelines/Standards FILE# PLD-2019-14
Consider a request for an amendment to a Planning Development (PD) zone district concerning the North Seventh Street Historic Residential District Guidelines and Standards pertaining to vinyl fencing within the District

Staff Presentation
Senior Planner Kristen Ashbeck presented the request to prohibit vinyl fencing in the historic district, a PD. Ms. Ashbeck also represented the Historic Preservation Board who initiated the request on behalf of the Board and the City. She noted that a survey was sent originally to gauge property owner's support as well as public notice was mailed twice to all property owners within the PD, providing significantly more notice than is required by Code. Staff recommended approval of the request.

Questions for Staff
Commissioner Ehlers asked why it wasn't allowed for vinyl fencing in areas that were not visible. Ms. Ashbeck responded.

Public Comment
No public comment was received.

Commissioner Discussion
Commissioner Deppe stated support to not allow vinyl fencing because it was not a historical material. Commissioner Ehlers stated he supported this but was weary of stifling property rights. Commissioner Gatseos stated he thought the HPB included sufficient outreach to the neighborhood.

Motion and Vote
Commissioner Deppe made the following motion: Mister Vice Chairman, on the proposed amendment to the Planned Development (PD) ordinance for the North Seventh Street Historic Residential District regarding the use of vinyl fencing on properties within the District (PLD-2019-14), I move to recommend approval of the amended ordinance to City Council. Commissioner Tolle seconded the motion.

The motion passed unanimously by a vote of 5-0.

4. 746 23 1/2 Road RV Resort Rezone FILE# RZN-2018-785
Consider a request by Western Slope Properties, LLC to Rezone two properties, 746 23 ½ Road and a contiguous unaddressed property to the north, totaling 20.2 acres, from M-U (Mixed Use) to C-2 (General Commercial).

Staff Presentation
Associate Planner Andrew Gingerich read the list of exhibits and made a presentation recommending approval of the rezone request.

Applicant Presentation
Lisa Cox from Vortex Engineering representing the Applicant presented on the request. Ms. Cox noted they concurred with Staff's recommendation and findings.

Questions to Staff
Commissioner Ehlers asked if the split diamond configuration that CDOT previously proposed at 24 Road would impact this site. Staff noted they could research this and provide information on this topic as part of the City Council staff report if the double diamond was still proposed.

Public Comment
No public comment was received.

Commissioner Discussion
No additional discussion was had.

DRAFT

Motion and Vote
Commissioner Deppe made the following motion, Mister Vice Chairman on the Rezone request RZN-2018-785, I move that the Planning Commission forward a recommendation of approval for the Rezone of the 20.2-acre properties located at 746 23 ½ Road and the unaddressed contiguous parcel to the north from the M-U (Mixed Use) zone district the C-2 (General Commercial) zone district, with the findings of fact listed in the staff report. Commissioner Gatseos seconded the motion.

The motion passed unanimously by a vote of 5-0.

5. Rehearing South Twenty Zone of Annexation FILE# ANX-2018-659
A rehearing to consider a request to zone approximately 19.76-acres from County RSF-R (Residential Single Family – Rural) to a City R-4 (Residential – 4 du/ac) and R-8 (Residential – 8 du/ac) for the South Twenty Annexation, located at 2335 H Road.

Staff Presentation
Senior Planner Scott Peterson presented this request, noting that this was a rehearing of this item that was remanded back to the Planning Commission by the City Council at their February 6th meeting.

Questions for Staff
Commissioner Deppe asked what the other surrounding properties would be zoned if they were annexed. Commissioner Ehlers asked what zone designation could be applied when a property is split by a future land use designation. Staff noted, the property owner has a choice and can choose either designation and be compatible with the Comprehensive Plan.

Applicant Presentation
Mandy Rush, part owner of the property and representing the Applicant noted that they worked with the neighboring property owners to try to find a balance between existing character of neighborhood and the Comprehensive Plan's higher density.

Public Comment
Kathy Tomkins property owner directly adjacent to the west of the subject property. She indicated the neighborhoods' preference for R-4 due to traffic, rural character and school enrollment.

Commissioner Discussion
Commissioner Ehlers stated he had previously misunderstood the ability for the Applicant to seek a zone category consistent with the land use designation that was not only on the property but also a designation that was adjacent to the property. He apologized for the delays to the project and his previous vote to not approve the rezone.

Commissioner Gatseos noted he has visited the site and observed that the area was changing and therefore was supportive of the rezone request.

Commissioner Deppe noted she thought the Applicant had worked well with the City to meet the intent of the Comprehensive Plan and find a compromise between the R-4 and higher density R-8 designation.

Commissioner Tolle thanked Ms. Rush for working with her neighbors and thought the zoning request was consistent with the Plan.

Commissioner Wade noted he was also in support of the request and concurred with the other Commissioner's comments.

Motion and Vote

Commissioner Ehlers made the following motion: Mister Vice Chairman, on the Zone of Annexation for the South Twenty Annexation to R-4 (Residential – 4 du/ac) & R-8 (Residential – 8 du/ac) zone district, file number ANX-2018-659, I move that the Planning Commission forward a recommendation of approval to City Council with the findings of fact listed in the staff report. Commissioner Deppe seconded the motion.

The motion passed unanimously by a vote of 5-0.

Other Business

Adjournment

The meeting was adjourned at 7:50.

DRAFT

Grand Junction City Council

Regular Session

Item #2.a.iv.

Meeting Date: February 20, 2019

Presented By: Kathy Portner, Community Services Manager

Department: Community Development

Submitted By: Kathy Portner

Information

SUBJECT:

Introduction of an Ordinance Vacating a Portion of the Dos Rios Drive and C 3/4 Road Right-of-Way Within the Jarvis Subdivision Plat, Located at 2595 Riverside Parkway, and Set a Public Hearing for March 6, 2019

RECOMMENDATION:

Planning Commission will make a recommendation at their February 26, 2019 meeting.

EXECUTIVE SUMMARY:

The City-owned 60-acre site, located between Highway 50 and the Riverside neighborhood along the Colorado River, was recently platted to accommodate future redevelopment. Dos Rios Drive was dedicated on the original plat to provide access from Riverside Parkway to the pre-existing C ¾ Road right-of-way. Refinements to the Dos Rios development plan necessitate the slight realignment of Dos Rios Drive and C ¾ Road to accommodate the redevelopment.

BACKGROUND OR DETAILED INFORMATION:

The City acquired the 60-acre Dos Rios site (formerly known as the Jarvis property) in the 1990s. The property is located on the north bank of the Colorado River between the Highway 50/railroad bridge and the Riverside neighborhood. Since that time, the property has been cleared, the Riverfront Trail was extended, and a backwater pond for endangered fish was created between the trail and River. The remaining acreage was intended for redevelopment.

The property was recently platted to serve future redevelopment. Dos Rios Drive was

dedicated on the original plat to provide access from Riverside Parkway to the pre-existing C ¾ Road right-of-way. Refinements to the Dos Rios development plan necessitate the slight realignment of Dos Rios Drive and C ¾ Road to accommodate planned future redevelopment. The small areas to be vacated include 679 square feet of Dos Rios Drive and 1,024 square feet of C ¾ Road. The Riverfront at Dos Rios Filing Two replat will incorporate the vacated right-of-way into Lot 7. The Public Service Easement, per Book 1699, Page 739, will remain on the vacated C ¾ Road right-of-way. There are no utilities located within the right-of-way proposed to be vacated.

NOTIFICATION REQUIREMENTS

As required by Section 21.02.080(e) of the Zoning and Development Code, a Neighborhood Meeting was held on November 15, 2018 for the proposed Outline Development Plan/Planned Development that included the road realignment. Twenty-eight people attended the meeting along with City Staff. There were no objections noted to the Dos Rios development plans.

Notice was completed consistent to the provisions in Section 21.02.080 (g) of the City's Zoning and Development Code. Mailed notice of the application submittal in the form of notification cards was sent to surrounding property owners within 500 feet of the subject property and the subject property was posted with an application sign on February 15, 2019. The notice of this public hearing was published February 19, 2019 in the Grand Junction Daily Sentinel.

ANALYSIS
Pursuant to Section 21.02.100 of the Zoning and Development Code, the vacation of the right-of-way shall conform to the following:

a. The Comprehensive Plan, Grand Valley Circulation Plan, and other adopted plans and policies of the City.

The proposed right-of-way vacation is addressed by the following Goal of the Comprehensive Plan.

Goal 9: Develop a well-balanced transportation system that supports automobile, local transit, pedestrian, bicycle, air, and freight movement while protecting air, water and natural resources.

Policy C: The Regional Transportation Plan will be used as a basis for development review and to help prioritize capital improvement programming. The City and County will maintain Capital Improvement Plans (CIPs) which prioritize road and alley improvements based on needs for traffic flow, safety enhancements, maintenance and linkages.

Goal 11: Public facilities and services for our citizens will be a priority in planning for growth.

Vacation of the right-of-way will have no impact on public facilities or services provided to the general public and will enhance the redevelopment efforts. Staff therefore finds this request conforms with this criterion.

b. No parcel shall be landlocked as a result of the vacation.

The request to vacate portions of the right-of-way will not render any parcel landlocked. Therefore, staff finds the vacation request meets with this criterion.

c. Access to any parcel shall not be restricted to the point where access is unreasonable, economically prohibitive or reduces or devalues any property affected by the proposed vacation.

No access to any parcel will be restricted by the right-of-way vacation. Staff finds this criterion has been met.

d. There shall be no adverse impacts on the health, safety, and/or welfare of the general community and the quality of public facilities and services provided to any parcel of land shall not be reduced (e.g. police/fire protection and utility services).

The right-of-way vacation will allow for better alignment of the public street that will serve the Dos Rios development and the existing Public Service easement will be retained; therefore, there will be no adverse impacts to the community and no impacts on the public facilities and services that serve this or any adjacent parcel of land.

Staff therefore has found this request conforms with this criterion.

e. The provision of adequate public facilities and services shall not be inhibited to any property as required in Chapter 21.06 of the Grand Junction Municipal Code.

Adequate public facilities and services exist for these properties, or will be extended with the development of the property and as such provision of services shall not be inhibited to any property. Staff has therefore found this request to conform with this criterion.

f. The proposal shall provide benefits to the City such as reduced maintenance requirements, improved traffic circulation, etc.

Vacation of this right-of-way will provide benefit to the City by allowing for the

realignment of the access into this portion of the site; thereby enhancing the redevelopment opportunities. Staff finds this request conforms with this criterion.

STAFF RECOMMENDATION AND FINDINGS OF FACT

After reviewing VAC-2019-41, a request to vacate a portion of the public right-of-way for Dos Rios Drive and C ¾ Road to realign the street, the following findings of fact were made:

1. The request conforms with Section 21.02.100 (c) of the Grand Junction Zoning and Development Code;

Therefore, staff recommends approval of the request to vacate the right-of-way.

FISCAL IMPACT:

This land use action does not have any direct fiscal impact.

SUGGESTED MOTION:

I move to introduce an ordinance vacating a portion of the Dos Rios Drive and C 3/4 Road right-of-way within the Jarvis Subdivision Plat, located at 2595 Riverside Parkway and set a public hearing for March 6, 2019.

Attachments

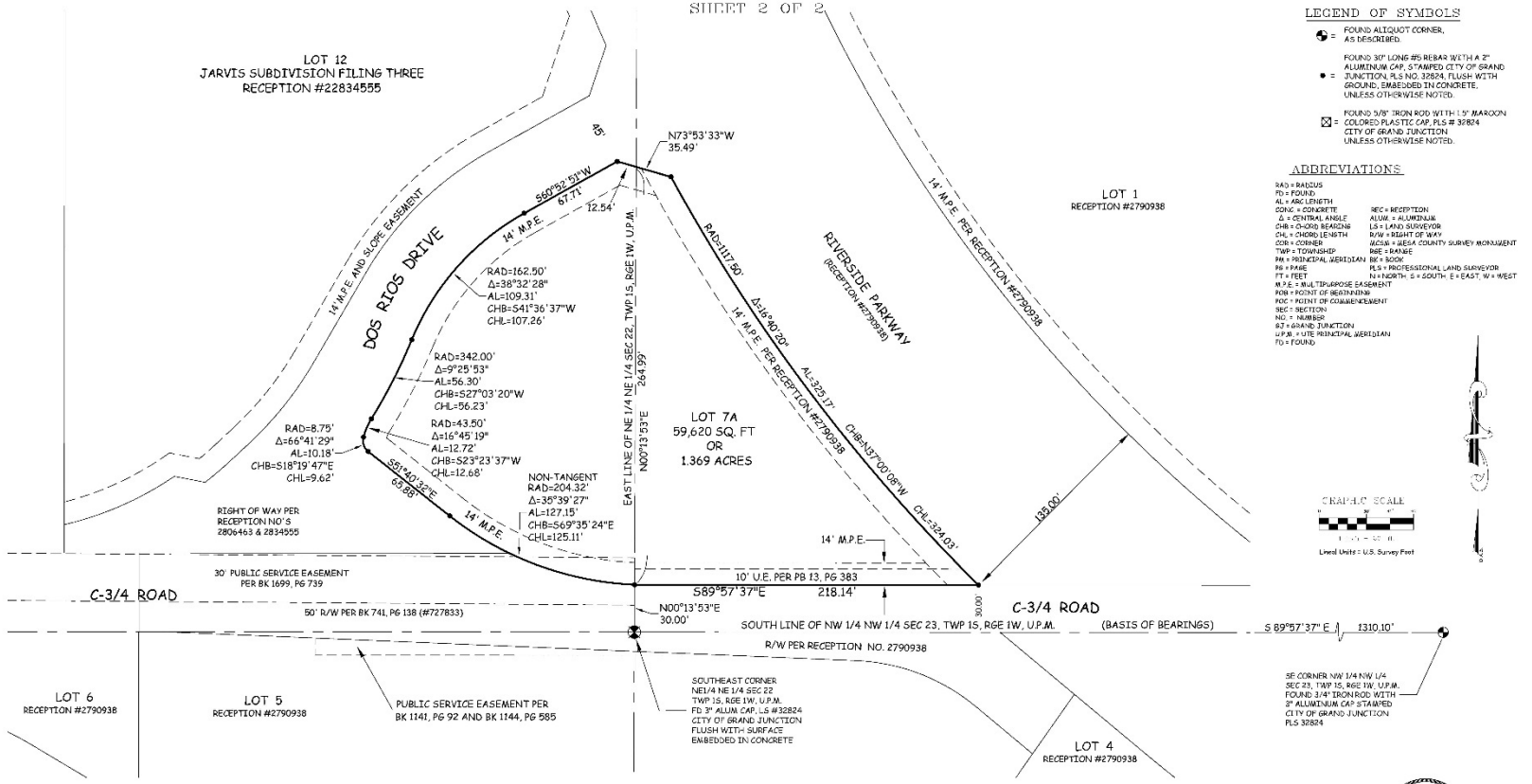
1. Vicinity Map
2. Riverfront at Dos Rios Filing Two Replat
3. Ordinance


RIVERSIDE PKWY
JARVIS WAY
ROSEVALE RD
4TH AVE
RIVERSIDE PKWY
4TH AVE
S 5TH ST
S 7TH ST
S 8TH ST
4TH AVE
S 5TH ST
RIVERSIDE PKWY
S 7TH ST
WINTERS A
NOLAND A
50
4TH AVE
S 7TH ST
RIVERSIDE
STRUTHERS AVE
Sections of ROW to be vacated

RIVERFRONT AT DOS RIOS FILING TWO

LYING WITHIN THE NE 1/4 OF NE 1/4 OF SEC 22 AND NW 1/4 OF NW 1/4 OF SEC 23, TWP 1S, RGE 1W, U.P.M.
BEING A REPLAT OF LOT 7 JARVIS SUBDIVISION FILING ONE, RECEPTION NO. 2790938
AND VACATED RIGHTS OF WAY PER RECEPTION NO. ????????? (ORDINANCE NO. ????)
AND ADDITIONAL RIGHT OF WAY PER RECEPTION NO. ?????????
CITY OF GRAND JUNCTION, COUNTY OF MESA, STATE OF COLORADO

SHEET 2 OF 2



LEGEND OF SYMBOLS

- ◆ = FOUND ALIQUOT CORNER, AS DESCRIBED.
- ● = FOUND 30" LONG #5 REBAR WITH A 2" ALUMINUM CAP, STAMPED CITY OF GRAND JUNCTION, PLS NO. 32824, FLUSH WITH GROUND, EMBEDDED IN CONCRETE, UNLESS OTHERWISE NOTED.
- ⊠ = FOUND 5/8" IRON ROD WITH 1.5" MAROON COLORED PLASTIC CAP, PLS # 32824 CITY OF GRAND JUNCTION UNLESS OTHERWISE NOTED.

ABBREVIATIONS

RAD = RADIUS
FD = FOUND
AL = ARC LENGTH
CONC = CONCRETE
Δ = CENTRAL ANGLE
CHB = CHORD BEARING
CHL = CHORD LENGTH
COR = CORNER
TWP = TOWNSHIP
PM = PRINCIPAL MERIDIAN
PG = PAGE
FT = FEET
M.P.E. = MULTIPURPOSE EASEMENT
POB = POINT OF BEGINNING
POC = POINT OF COMMENCEMENT
SEC = SECTION
NO. = NUMBER
GJ = GRAND JUNCTION
U.P.M. = UTE PRINCIPAL MERIDIAN
FD = FOUND
REC = RECEPTION
ALUM. = ALUMINUM
LS = LAND SURVEYOR
R/W = RIGHT OF WAY
MCSM = MESA COUNTY SURVEY MONUMENT
RGE = RANGE
BOC = BOOK
PLS = PROFESSIONAL LAND SURVEYOR
N = NORTH; S = SOUTH; E = EAST, W = WEST

GRAPHIC SCALE

Lineal Units = U.S. Survey Feet

PRELIMINARY FOR REVIEW PURPOSES

SEE SHEET 1 FOR CERTIFICATION

NOTICE: According to Colorado law you must commence any legal action based upon any defect in this survey within three years after you first discover such defect. In no event may any action based upon any defect in this survey be commenced more than ten years from the date of the certification shown hereon.

DRAWN BY FTE DATE: 01-24-2019
CHECKED BY J.B. DATE
APPROVED BY DATE

SCALE
1" = 30'

CITY OF Grand Junction COLORADO

PUBLIC WORKS
ENGINEERING DIVISION
SURVEY DEPARTMENT

RIVERFRONT AT DOS RIOS FILING TWO
NE 1/4 NE 1/4 SEC 22 & NW 1/4 NW 1/4 SEC 23
TWP 1S, RGE 1W, U.P.M.

SHEET NO. 2
OF 2

N:\SURVEY\PETER\SURVEYS BY FTE\RIVERFRONT AT DOS RIOS FILING TWO

CITY OF GRAND JUNCTION, COLORADO

ORDINANCE NO. _____

AN ORDINANCE VACATING A PORTION OF THE DOS RIOS DRIVE AND C ¾ ROAD RIGHT-OF-WAY WITHIN THE JARVIS SUBDIVISION PLAT, LOCATED AT 2595 RIVERSIDE PARKWAY

Recitals:

The City acquired the 60-acre Dos Rios site in the 1990s. The property is located on the north bank of the Colorado River between the Highway 50/railroad bridge and the Riverside neighborhood. Since that time, the property has been cleared, the Riverfront Trail was extended, and a backwater pond for endangered fish was created between the trail and River. The remaining acreage was intended for redevelopment.

The property was recently platted to serve future redevelopment. Dos Rios Drive was dedicated on the original plat to provide access from Riverside Parkway to the pre-existing C ¾ Road right-of-way. Refinements to the Dos Rios development plan necessitate the slight realignment of Dos Rios Drive and C ¾ Road to accommodate the redevelopment. The small areas to be vacated include 679 s.f. of Dos Rios Drive and 1,024 s.f. of C ¾ Road. The Riverfront at Dos Rios Filing Two replat will incorporate the vacated right-of-way into Lot 7. The Public Service Easement, per Book 1699, Page 739, will remain on the vacated C ¾ Road right-of-way. There are no utilities in the right-of-way to be vacated.

After public notice and public hearing as required by the Grand Junction Zoning and Development Code, and upon recommendation of approval by the Planning Commission, the Grand Junction City Council finds that the request to vacate certain right-of-way within the Jarvis Subdivision plat is consistent with the Comprehensive Plan, the Grand Valley Circulation Plan and Section 21.02.100 of the Grand Junction Municipal Code.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF GRAND JUNCTION THAT THE FOLLOWING DESCRIBED DEDICATED RIGHT-OF-WAY IS HEREBY VACATED:

A certain parcel of land lying in the Northeast Quarter of the Northeast Quarter (NE 1/4 NE 1/4) of Section 22, Township 1 South, Range 1 West of the Ute Principal Meridian and lying entirely within Lot 7, Jarvis Subdivision Filing One, as same is recorded with Reception No. 2790938, Public Records of Mesa County, Colorado and being more particularly described as follows:

BEGINNING at the Southwest corner of said Lot 7 and assuming the South line of said Lot 7 bears N 89°57’26” W with all other bearings contained herein are relative thereto; thence from said Point of Beginning, N 00°02’34” E, along the West line of said Lot 7, a distance of 52.22 feet; thence S

51°40’32” E, a distance of 46.28 feet to a point being the beginning of a 204.32 foot radius curve, concave Northeast, whose long chord bears S 58°00’47” E with a long chord length of 44.50 feet; thence Southeasterly along the arc of said curve, thru a central angle of 12°30’11”, an arc length of 44.59 feet, more or less, to a point on the South line of said Lot 7; thence N 89°57’26” W, along said South line, a distance of 74.09 feet, more or less, to the Point of Beginning.

See Exhibit A.

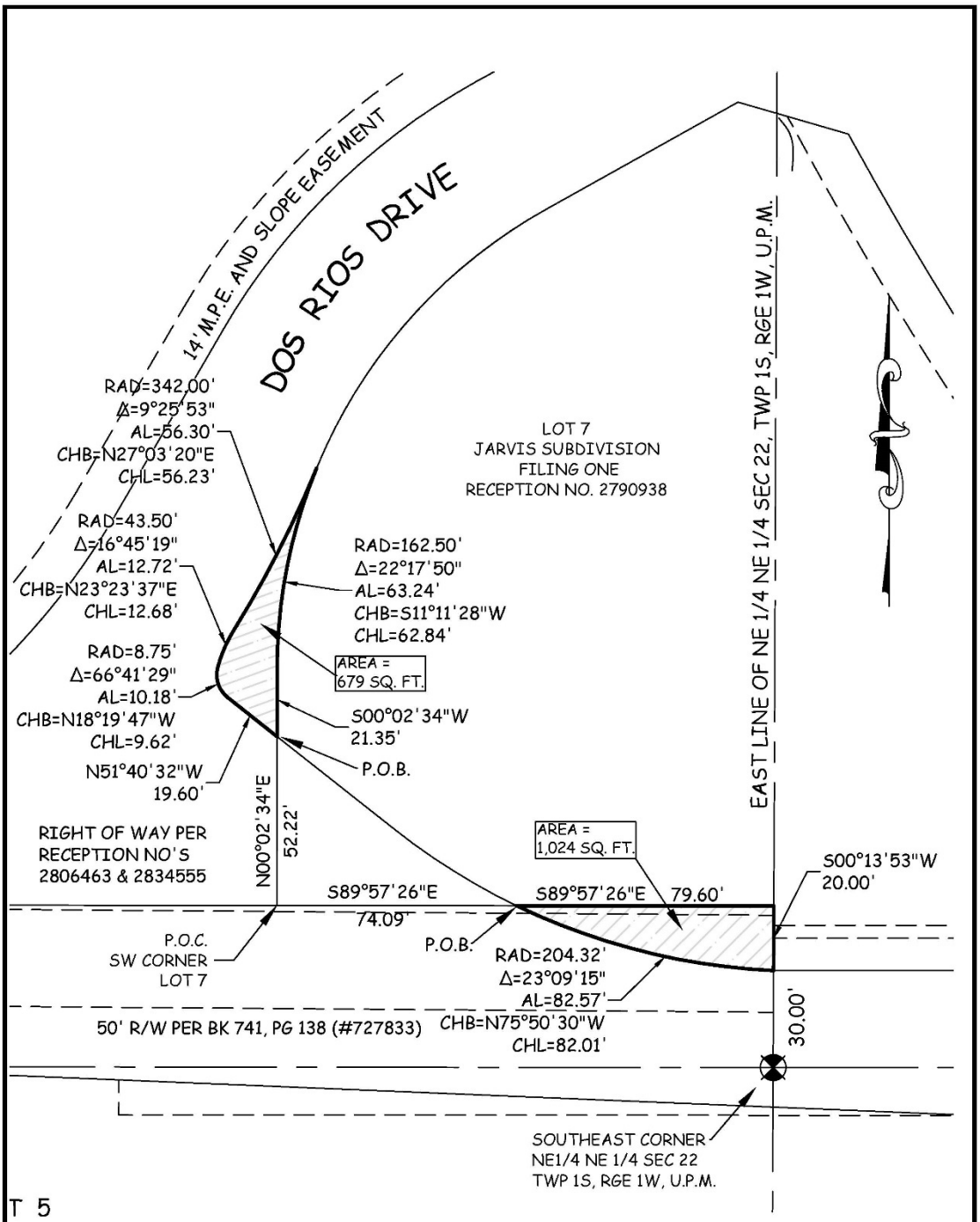
Introduced on first reading this _____day of _____, 2019 and ordered published in pamphlet form.

Adopted on second reading this _____ day of _____, 2019 and ordered published in pamphlet form.

ATTEST:

_____ _____

City Clerk Mayor



0 20' 40'

1 inch = 40 ft.
Lineal Units = U.S. Survey Foot

The sketch and description shown hereon has been derived from subdivision plats and deed descriptions as they appear in the office of the Mesa County Clerk and Recorder. This sketch does not constitute a legal survey, and is not intended to be used as a means for establishing or verifying property boundary lines.

COLORADO REGISTERED PROFESSIONAL LAND SURVEYOR
PETER T. KRICK
No. 32824
PRELIMINARY

DRAWN BY: P.T.K.
DATE: 01-25-2019
SCALE: 1" = 40'
APPR. BY: PTK

R/W VACATIONS
WITHIN THE NE 1/4 OF THE NE 1/4
SEC 22, TWP 1S, RGE 1W, U.M.

CITY OF Grand Junction COLORADO

Grand Junction City Council

Regular Session

Item #2.a.v.

Meeting Date: February 20, 2019

Presented By: Kathy Portner, Community Services Manager

Department: Community Development

Submitted By: Kathy Portner

Information

SUBJECT:

Introduction of an Ordinance Establishing an Institutional and Civic Master Plan for the Grand Junction Regional Airport, Amending Ordinance No. 3679 for Planned Development and Outline Development Plan and Vacating a Portion of the 27 1/4 Road Right-of-Way Adjacent to Airport Property, and Set a Public Hearing for March 6, 2019

RECOMMENDATION:

Planning Commission will make a recommendation at their February 26, 2019 meeting.

EXECUTIVE SUMMARY:

The proposed Institutional and Civic Master Plan for the Grand Junction Regional Airport includes two components: the 2009 Airport Master Plan Update and the 2011 Terminal Area Plan and 2017 Amendment. The update addresses forecasting of future aviation activity, which serves as the basis for the facility improvements necessary to meet the needs. The Terminal Plan includes both the long term needs for the replacement of the terminal building, as well as the near-term improvements needed to maintain safe and efficient operation of the existing building until funding is available for its replacement.

Ordinance No. 3679, adopted in 2004, established standards for the Planned Development (PD) zone district for the Airport property based on three zones, 1. Aeronautical, 2. Aeronautical/Commercial and 3. Non-aeronautical. Modifications proposed for the ordinance include placing the partially constructed Administration Building in the Non-aeronautical/Commercial zone and modifying the review process to be consistent with the current Zoning and Development Code which allows for administrative review of future development.

The Plan also includes the relocation of a section of 27 ¼ Road around the west end of the new runway protection zone for the proposed runway 11/29. Approximately 1 mile of the existing 27 ¼ Road will be realigned to swing to the west around the runway zone. The proposed ordinance to vacate the existing section of 27 ¼ Road that is being realigned is conditioned on the acceptance of the realigned improvements, completion of the land patent transfer of property to the Airport and the dedication of right-of-way for the new alignment.

BACKGROUND OR DETAILED INFORMATION:

Institutional and Civic Master Plan
The Grand Junction Regional Airport Authority (GJRAA) updated the Airport Master Plan in early 2009 and submitted it to the City for review pursuant to the Institutional and Civic Master Plan provisions of the Zoning and Development Code Section 21.02.190 in September of 2010. During the review process, the GJRAA initiated a study of the existing passenger terminal facilities and alternatives for improvements to the terminal building and adjacent facilities and determined it would be best to delay consideration of the Institutional and Civic Master Plan until the completion of the Terminal Area Plan so that it could be integrated into the Master Plan. The revised Institutional and Civic Master Plan was submitted to the City in April of 2012, which was reviewed by the Planning Commission in November of 2012 with a recommendation of approval. However, before it could be reviewed by the City Council, the application was withdrawn by GJRAA due to the Airport contemplating further refinements to the plan, including drainage for the runway realignment project, design and realignment of 27 ¼ Road and the changed status of the unfinished Administration Building.

The proposed Institutional and Civic Master Plan includes two components: the 2009 Airport Master Plan Update and the 2011 Terminal Area Plan and 2017 Amendment. The update addresses forecasting of future aviation activity, which serves as the basis for the facility improvements necessary to meet the needs. A key element to forecasts is passenger enplanements (the number of passengers that board an aircraft and depart from the Airport), which is used to determine the future capacity of facilities such as the passenger terminal, public parking, rental car, and other facilities that serve commercial passengers. Passenger enplanements are estimated to increase from 170,836 to approximately 371,423 over the 20-year planning period.

The Terminal Plan includes both the long term needs for the replacement of the terminal building, as well as the near-term improvements needed to maintain safe and efficient operation of the existing building until funding is available for its replacement. The primary purpose of the Airport Master Plan Update is to reserve space for future airport facilities. The improvements listed in the plan would be constructed on a phased basis in accordance with demonstrated need and available funding. Key improvements recommended are as follows:

Key Improvements Recommended in the Airport Master Plan Update
• Relocate runway 11/29 and the associated taxiway system laterally 600 feet to the northeast and longitudinally 1,000 feet to the northwest;
• Potential expansion of general aviation hangar facilities and related apron space;
• Potential new Air Traffic Control Tower;
• Relocate 27 ¼ Road around the west end of the new runway protection zone for the relocated runway 11/29;
• Continue to reserve space for a second parallel 11/29 runway (not expected to be constructed with the 20-year planning period).

Key Improvements Recommended in the Terminal Area Plan (long-term)
• Construct the Terminal Building Expansion, Phase I, located southeast of the existing terminal building;
• Construct Terminal Building Phase II (replace existing passenger terminal building) with a new facility also to the southeast of the existing terminal building;
• Potential construction of a 3-story parking structure just to the northwest of the existing passenger terminal building. The parking structure could contain up to 900 additional parking spaces;
• Improve unpaved overflow parking area to provide 160 additional surface parking spaces similar to the existing public parking lot;
• Expansion of the de-ice pad to the southeast of the existing de-icing pad.

Key Improvements Recommended in the Terminal Area Plan Amendment (near-term)
• Total redesign and replacement of the mechanical heating, ventilation, and air conditioning or HVAC system serving the main building entrance area and atrium;
• Identify and eliminate water penetration under the Terminal Building and consider other measures to stabilize the structure;
• Install smoke evacuation system for the atrium, fire alarm upgrades and emergency and egress lighting;
• Roof repairs and replacement of the escalators in the main lobby;
• Consider installing passenger corridors leading to boarding bridges for both Gates 1 and 2 and a passenger boarding tunnel at Gate 1 to bridge the distance from the lower departure lounge to the aircraft.

The partially constructed Administration Building is also addressed in the Plan. As stated in the Plan, the building is located in the Aeronautical zone and, in its current state, is occupying valuable space, degrading the visual character of the terminal area and creating liability issues for the Airport. The GJRAA is exploring solutions to complete the building and put it to beneficial use through a potential public/private partnership to finish the building for a mix of uses, including airport functions, general office and restaurant. To be considered for those types of uses, the building and surrounding area must be removed from the Aeronautical zone and placed in the Non-

aeronautical/Commercial zone. In addition, the Plan also anticipates non-aviation development of the area between H Road and the airport parking lot.

Amending Ordinance No. 3679, Planned Development
Ordinance No. 3679, adopted in 2004, established standards for the Planned Development (PD) zone district for the Airport property based on three zones, 1. Aeronautical, 2. Aeronautical/Commercial and 3. Non-aeronautical. Modifications proposed for the ordinance include placing the partially constructed Administration Building in the Non-aeronautical/Commercial zone and modifying the review process to be consistent with the current Zoning and Development Code which allows for administrative review of future development.

Zone 1 is considered the “air side” of airport operations and includes the bulk of the airport property, including the runways, terminal, as well as hangars and facilities with direct access to the ramp. Zone 2 includes the public parking lot and car rental area. All of the improvements recommended in the Airport Master Plan Update, Terminal Area Plan and Terminal Area Plan Amendment are located within the Aeronautical and Aeronautical/Commercial zones. Development in Zones 1 and 2 are specific to the internal functions of the Airport and, as such, subject to standards established and administered by the GJRAA. City review will be limited to access, drainage and stormwater management, provision of services and utilities, and adherence to the Fire and Building Code. Signage must meet City standards for any signs proposed along City public right-of-way.

Zone 3 is the non-aeronautical area located along H Road, proposed for a variety of commercial/industrial uses compatible and complimentary to the Airport uses. Allowed uses, standards and review shall be in conformance with the C-1 zone district.

Vacation of Right-of-Way
The Plan also includes the relocation of a section of 27 ¼ Road around the west end of the new runway protection zone for the proposed runway 11/29. Approximately 1 mile of the existing 27 ¼ Road will be realigned to swing to the west around the runway zone. A portion of the new roadway crosses BLM property and is subject to a land patent that is currently under review and should be finalized by summer of 2019. Pending approval of the land patent for the transfer of the property, the BLM has issued the Airport a ROW grant for the portion of the 27 ¼ Road that is on BLM property. The environmental review and Finding of No Significant Impact has already been completed for the land transfer.

Construction of the newly aligned 27 ¼ Road is nearing completion. The proposed ordinance to vacate the existing section of 27 ¼ Road that is being realigned is conditioned on the acceptance of the realigned improvements, completion of the land patent transfer of property to the Airport and the dedication of right-of-way for the new

alignment.

NOTIFICATION REQUIREMENTS
As required by § 21.02.080 (e) of the Zoning and Development Code a Neighborhood Meeting was held on May 3, 2018. Eight people attended the meeting along with City Staff. Airport staff was available to discuss future plans for the airport. There were no specific issues or concerns identified by those who attended.

Notice was provided in accordance with §21.02.080 (g) of the Zoning and Development Code. On February 1, 2019 notice of the application was mailed to property owners within 500 feet of the subject property. An application sign was posted on the property on or before February 1, 2019 and notice of the public hearing was published February 5, 2019 in the Daily Sentinel.

ANALYSIS – Institutional and Civic Master Plan
Section 21.02.190 (c) of the Grand Junction Zoning and Development Code:

In reviewing a Master Plan, the decision-making body shall consider the following:

(1) Conformance with the Comprehensive Plan and other area, corridor or neighborhood plans;

The Airport is located within the Urban Development Boundary and the property and some adjacent areas are designated as “Airport” on the Future Land Use Map. In addition, the improvements identified in the Airport Master Plan are designed to accommodate the level of growth anticipated in the Comprehensive Plan. The Airport Master Plan is consistent with the following Goals and Policies of the Comprehensive Plan.

Goal 7: New development adjacent to existing development (of a different density/unit type/land use type) should transition itself by incorporating appropriate buffering.
Policy A: In making land use and development decisions, the City and County will balance the needs of the community.

The Airport’s location at the north edge of the City with surrounding BLM land is ideal for minimizing impacts to the community. In addition, the runway system is oriented to minimize over-flight of residential areas as much as possible and the additional airport land southwest of the commercial runway (11/29) provides a buffer to the residents in the Grand Vista, Garfield Estates, Summer Hill and Paradise Hills neighborhoods. The recommended runway relocation will move runway 11/29 six-hundred feet further from these neighborhoods.

Goal 8: Create attractive public spaces and enhance the visual appeal of the

community through quality development.
Policy A: Design streets and walkways as attractive public spaces.

Improvements contemplated in the Airport Master Plan will continue to improve and enhance the aesthetic appeal of the public spaces, including the internal street system, entries, parking areas and the redevelopment of the main terminal building. In addition, the GJRAA has developed a set of design guidelines to ensure quality development, which include the following goals:
• Reinforce a positive and memorable experience for visitors;
• Convey an image of quality development for the Airport, its passengers, visitors, tenants, and the community;
• Maintain a consistent campus appearance through complimentary design of site, signage, landscape, and building development;
• Allow and encourage development with creative and compatible design solutions;
• Encourage a “regional contemporary” architectural style;
• Provide for development and construction which allows for minimal impact to airport operations.

Goal 9: Develop a well-balanced transportation system that supports automobile, local transit, pedestrian, bicycle, air, and freight movement while protecting air, water and natural resources.

The Grand Junction Regional Airport is a vital component of the transportation system and a valuable asset to the City and surrounding region and the improvements contemplated in the Master Plan will meet the community’s air transportation and air freight needs. The recommended improvements have been evaluated for impacts to a wide range of environmental factors and some improvements, such as the runway relocation, will also be subject to further environmental review in accordance with NEPA regulations.

Goal 12: Being a regional provider of goods and services the City and County will sustain, develop and enhance a healthy, diverse economy.

The Grand Junction Regional Airport provides airline passenger and air freight service to the City and surrounding region. The annual economic benefits of the Airport on the local and regional economy were estimated at nearly $400,000,000 in the 2013 Colorado Airports Economic Impact Study.

Therefore, this criterion has been met.

(2) Conformance with the Grand Valley Circulation Plan and general transportation planning requirements;

The Grand Junction Circulation Plan identifies streets surrounding the Airport as follows: Horizon Drive as a minor arterial, H Road as a principal arterial, and 12th Street and 27 Road southwest of the airport as a major collector. The Grand Junction Circulation Plan also identifies future roads and connections, including a new interchange with Interstate 70 at 29 Road, a Principal Arterial connecting the 29 Road Interchange with the existing Clifton Interchange, and a proposed Major Collector between the 29 Road Interchange and H Road adjacent to I-70, skirting the perimeter of the airport property around Runway 4/22. The Major Collector shown through the Airport property presents some issues for the Airport since the use of airport property for non-aeronautical purposes requires approval from the FAA. As a result, the Airport Master Plan does not show the road alignment at this time. However, the GJRAA continues to be willing to work with the City and other entities on the planning studies for the 29 Road interchange and the connection to H Road to the west.

Therefore, the criterion has been met.

(3) Adequate parking, adequate stormwater and drainage improvements, minimization of water, air or noise pollution, limited nighttime lighting and adequate screening and buffering potential;

Parking: The Plan includes the provision of additional parking to meet the needs of the forecasted increase in enplanements, including improvements to the overflow public parking lot and a future parking structure. Parking improvements would be phased based on need and funding availability.

Stormwater and drainage improvements: A Master Drainage Report is a part of the Master Plan which addresses hydrology and drainage for the ultimate build-out of the Airport. Also included is the Conceptual Drainage Report for the Runway 11/29 Relocation Program that focuses on the drainage design for the project. Final drainage reports will be required with each specific project and stormwater permits through the State of Colorado and 521 Drainage Authority must be obtained in accordance with City standards.

Minimization of water, air or noise pollution: These environmental issues have been addressed in the reports submitted for review. The proposed terminal area projects are not anticipated to have an unusual impact on the drainage systems in the area. Any construction requiring earthwork will require stormwater detention and erosion control, which the City and/or drainage authority will review as required. The proposed airport expansions are not expected to have a significant impact on the long-term quality of the air in the vicinity of the Airport. These are discussed in Chapter E of the GJRAA Airport Master Plan update and in Chapter F (Environmental Review) of the 2011 Terminal Area Plan.

Lighting, screening and buffering: Airfield lighting and rotating beacons are the main sources of light emissions emanating from an airport. Proposed future development is not expected to significantly change the visual impact of the airport facility lighting. Lighting and visual impacts are addressed in Chapter E of the Airport Master Plan Update and Chapter F of the Terminal Area Plan.

Therefore, this criterion has been met.

(4) Adequacy of public facilities and services; and

All major utilities are available to the airport property and provided to the airport facilities. Water service is provided by the Ute Water Conservancy District, sanitary sewer service is provided by the City of Grand Junction and Xcel Energy provides gas and electric. Public facilities and services are sufficient for the proposed expansions of the airport facilities and are addressed in the Master Utility Report included as an appendix of the Master Plan. The Airport is equipped to handle firefighting needs within the airport property and provides security services for both airside and landside facilities. General public safety and emergency medical services are provided by the City. The need for these services is infrequent and is not expected to increase significantly with the proposed improvements contemplated for the 20-year planning horizon.

Therefore, this criterion has been met.

(5) Community benefits from the proposal.

The Airport, along with the aviation-related businesses and facilities, represents a vital and significant regional economic asset by providing commercial passenger service, general aviation facilities, air cargo, and a small amount of military activity. In addition, the Airport also provides benefits to the local businesses and industries, promotes tourism, and encourages additional business development and expansion throughout Grand Junction and the surrounding region. The 2013 Colorado Airports Economic Impact Study quantified the total impact of the Grand Junction Regional Airport at 2,871 jobs, with a total payroll of $130,775,972 and a total economic output of $380,039,796.

The Master Plan accommodates aircraft operations and the traveling public with great reliability and safety and makes the most efficient use of the available land for aviation related activities and supporting uses by defining improvements necessary to meet future needs.

Therefore, this criterion has been met.

ANALYSIS—Amending Ordinance 3679, Planned Airport Development
Ordinance No. 3679, adopted in 2004, established standards for the Planned Development (PD) zone district for the Airport property based on three zones, 1. Aeronautical, 2. Aeronautical/Commercial and 3. Non-aeronautical. Modifications proposed for the ordinance include placing the partially constructed Administration Building in the Non-aeronautical/Commercial zone and modifying the review process to be consistent with the current Zoning and Development Code which allows for administrative review of future development.

Pursuant to Section 21.02.150 (b) (2) of the Grand Junction Zoning and Development Code, requests for an Outline Development Plan (ODP) shall demonstrate conformance with all of the following:

a) The Comprehensive Plan, Grand Valley Circulation Plan and other adopted plans and policies;

See analysis for Institutional and Civic Master Plan above. Staff finds that this criterion has been met.

b) The rezoning criteria provided in Section 21.02.140 (a) of the Grand Junction Zoning and Development Code.

(1) Subsequent events have invalidated the original premises and findings; and/or
Since the original Planned Development ordinance was approved in 2004, a new Zoning and Development Code was adopted in 2010 that eliminated the requirement for final plan review to be considered by the Planning Commission. In addition, the Administration Building was constructed in the Aeronautical zone and it's now been determined that the intended use is not feasible; therefore, the request is to include it in the Non-aeronautical/Commercial zone to provide additional options for future use. These subsequent events have invalidated the original premises and findings and, therefore, Staff finds that this criterion has been met.
(2) The character and/or condition of the area has changed such that the amendment is consistent with the Plan; and/or
The proposed Institutional and Civic Master Plan includes two components: the 2009 Airport Master Plan Update and the 2011 Terminal Area Plan and 2017 Amendment. The update addresses forecasting of future aviation activity, which serves as the basis for the facility improvements necessary to meet the needs. A key element to forecasts is passenger enplanements (the number of passengers that board an aircraft and depart from the Airport), which is used to determine the future capacity of facilities such as the passenger terminal, public parking, rental car, and other facilities that serve commercial passengers. Passenger enplanements are estimated to increase from 170,836 to approximately 371,423 over the 20-year planning period.

Staff finds that the proposed Master Plan is responding to changing condition and needs of the Airport and that the amended PD ordinance is consistent with the Institutional and Civic Master Plan. Therefore, this criterion has been met.

(3) Public and community facilities are adequate to serve the type and scope of land use proposed; and/or

See analysis for Institutional and Civic Master Plan. Staff finds that this criterion has been met.

(4) An inadequate supply of suitably designated land is available in the community, as defined by the presiding body, to accommodate the proposed land use; and/or

Not applicable to this request.

(5) The community or area, as defined by the presiding body, will derive benefits from the proposed amendment.

See analysis for Institutional and Civic Master Plan. Staff finds that this criterion has been met.

c) The planned development requirements of Section 21.05.040 (f) of the Zoning and Development Code;

(1) Setback Standards. Principal structure setbacks shall not be less than the minimum setbacks for the default zone.

No changes to setbacks established with Ordinance 3679 are proposed. Setbacks in Zone 1 are 0' and setbacks in Zones 2 and 3 are those established with the C-1 zone district standards.

(2) Open Space. All residential planned developments shall comply with the minimum open space standards established in the open space requirements of the default zone.

This standard is not applicable to non-residential development.

(3) Fencing/Screening. Fencing shall comply with GJMC 21.04.040(i).

No changes are proposed to standards established with Ordinance 3679. Fencing and screening in Zone 1 will be determined by the GJRAA. Fencing and screening in Zones 2 and 3 will be as per Code.

(4) Landscaping. Landscaping shall meet or exceed the requirements of GJMC

21.06.040.

No changes are proposed to standards established with Ordinance 3679. Landscaping is not required in Zone 1. Landscaping requirements in Zones 2 and 3 will be as per Code.

(5) Parking. Off-street parking shall be provided in accordance with GJMC 21.06.050.

No changes are proposed to standards established with Ordinance 3679. Parking requirements in Zone 1 will be established and enforced by the GJRAA. Parking requirements in Zones 2 and 3 will be as per Code.

(6) Street Development Standards. Streets, alleys and easements shall be designed and constructed in accordance with TEDS (GJMC Title 29) and applicable portions of GJMC 21.06.060.
All streets located on GJRAA property are owned and maintained by the Authority. Additional streets and improvements will be determined by the Authority and FAA and will meet minimum access standards.
d) The applicable corridor guidelines and other overlay districts.
Section 21.07.030 of the Zoning and Development Code establishes the Airport Environs Overlay Zoning District that applies additional standards and requirements to properties located in close proximity to the Airport and its facilities. The purpose of the Overlay District is to protect public health, safety and welfare by regulating development and land use within noise sensitive areas and airport hazard areas, to ensure compatibility between the Airport and surrounding land uses, and to protect the Airport from incompatible encroachment.

The Overlay includes four subdistricts: Subdistrict A, Airport Area of Influence; Subdistrict B, Noise Zones; Subdistrict C, Critical Zone and Subdistrict D, Clear Zone. The Area of Influence is the area surrounding the Airport impacted or influenced by proximity of the Airport either by aircraft overflight, noise and/or vibrations. The Noise Zone includes the area within the 65 Ldn to 70 Ldn noise-exposure area. The Critical Zone is a rectangular-shaped zone located directly off the end of each runway's primary surface (or 200 feet from the end of pavement) which is critical to aircraft operations (i.e. more apt to have accidents within it because of the takeoff and landing mode in that particular area). The Clear Zone is a trapezoidal-shaped zone also beginning 200 feet from the end of the pavement, which is to remain clear of all above-ground obstructions or construction. The Clear Zone dimensions match the dimension of the Runway Protection Zone (RPZ) as shown on the Airport Layout Plan (ALP) and is fully accommodated on Airport property. The Overlay includes a land use compatibility standards matrix that identifies appropriate uses in each of the subdistricts.

Subdistricts B (Noise Zone), C (Critical Zone) and D (Clear Zone) will be altered as a result of the proposed runway relocation. Subdistrict A (Area of Influence) will not need to be altered since it is a large area and the runway is being relocated a comparatively small distance within this subdistrict. With the amended boundaries of the subdistricts, the proposed ODP meets this criterion.

e) Adequate public services and facilities shall be provided concurrent with the projected impacts of the development.

See analysis for Institutional and Civic Master Plan. Staff finds that this criterion has been met.

f) Adequate circulation and access shall be provided to serve all development pods/areas to be developed.

See analysis for Institutional and Civic Master Plan. Staff finds that this criterion has been met.

g) Appropriate screening and buffering of adjacent property and uses shall be provided;

See analysis for Institutional and Civic Master Plan. Staff finds that this criterion has been met.

h) An appropriate range of density for the entire property or for each development pod/area to be developed;

This standard is not applicable for this application as the proposed amendment is not modifying density.

i) An appropriate set of “default” or minimum standards for the entire property or for each development pod/area to be developed.

Zones 2 and 3 are subject to standards of the C-1 zone district.

j) An appropriate phasing or development schedule for the entire property or for each development pod/area to be developed.

A preliminary development program and phasing schedule have been provided in both the Airport Master Plan Update and the Terminal Area Plan. Chapter G in the Airport Master Plan Update contains the development program with a project list broken into short-term (0 to 5 years) and long term (6 to 20 years) categories. Chapter H of the Airport Master Plan Update also provides a Financial Implementation Plan. Chapter H of the Terminal Area Plan contains an implementation plan broken into four phases.

Implementation of the Plan is dependent on future funding.

ANALYSIS—Right-of-Way Vacation
Pursuant to Section 21.02.100 of the Zoning and Development Code, the vacation of public right-of-way or easement shall conform to the following:

a. The Comprehensive Plan, Grand Valley Circulation Plan, and other adopted plans and policies of the City.

The proposed right-of-way vacation is addressed by the following Goal of the Comprehensive Plan.

Goal 11: Public facilities and services for our citizens will be a priority in planning for growth.

Vacation of this right-of-way will have no impact on public facilities or services provided to the general public and supports the Airport runway relocation and extension. Staff therefore finds this request conforms with this criterion.

b. No parcel shall be landlocked as a result of the vacation.

The request to vacate the right-of-way will not render any parcel landlocked. Therefore, staff finds the vacation request meets with this criterion.

c. Access to any parcel shall not be restricted to the point where access is unreasonable, economically prohibitive or reduces or devalues any property affected by the proposed vacation.

No access to any parcel will be restricted by the vacation of this right-of-way. Staff finds this criterion has been met.

d. There shall be no adverse impacts on the health, safety, and/or welfare of the general community and the quality of public facilities and services provided to any parcel of land shall not be reduced (e.g. police/fire protection and utility services).

The right-of-way to be vacated will be replaced with right-of-way for the new alignment for 27 ¼ Road. Staff finds there will be no adverse impacts to the community or service providers; therefore, this criterion has been met.

e. The provision of adequate public facilities and services shall not be inhibited to any property as required in Chapter 21.06 of the Grand Junction Municipal Code.

The newly aligned section of 27 ¼ Road will provide adequate public facilities and

services to this area. Staff has therefore found this request to conform with this criterion.

f. The proposal shall provide benefits to the City such as reduced maintenance requirements, improved traffic circulation, etc.

The newly aligned 27 ¼ Road will be built to current City standards, thereby reducing maintenance costs in the near-term and will provide the same opportunity for access to this part of the community. Staff finds this request conforms with this criterion.

STAFF RECOMMENDATION AND FINDINGS OF FACT
After reviewing the request for approval of an Institutional and Civic Master Plan for the Grand Junction Regional Airport, amendment to Ordinance 3679, Planned Development, and vacation of a portion of the 27 ¼ Road right-of-way adjacent to Airport property, (FMP-2018-405), the following findings of fact have been made:

1. The requested Institutional and Civic Master Plan meets the requirements of Section 21.02.190 (c) of the Grand Junction Zoning and Development Code.

2. The Outline Development Plan conforms with the requirements of Section 21.02.150 (b) (2) of the Grand Junction Zoning and Development Code and meets more than one of the rezoning criteria provided in Section 21.02.140 of the Grand Junction Zoning and Development Code.

3. The request to vacate the 27 ¼ Road right-of-way conforms with the approval criteria of Section 21.02.100 (c) of the Grand Junction Zoning and Development Code. The proposed ordinance is conditioned on the acceptance of the realigned improvements, completion of the land patent transfer of property to the Airport and the dedication of right-of-way for the new alignment.

Therefore, Staff recommends approval.

FISCAL IMPACT:

This land use action does not have any direct fiscal impact.

SUGGESTED MOTION:

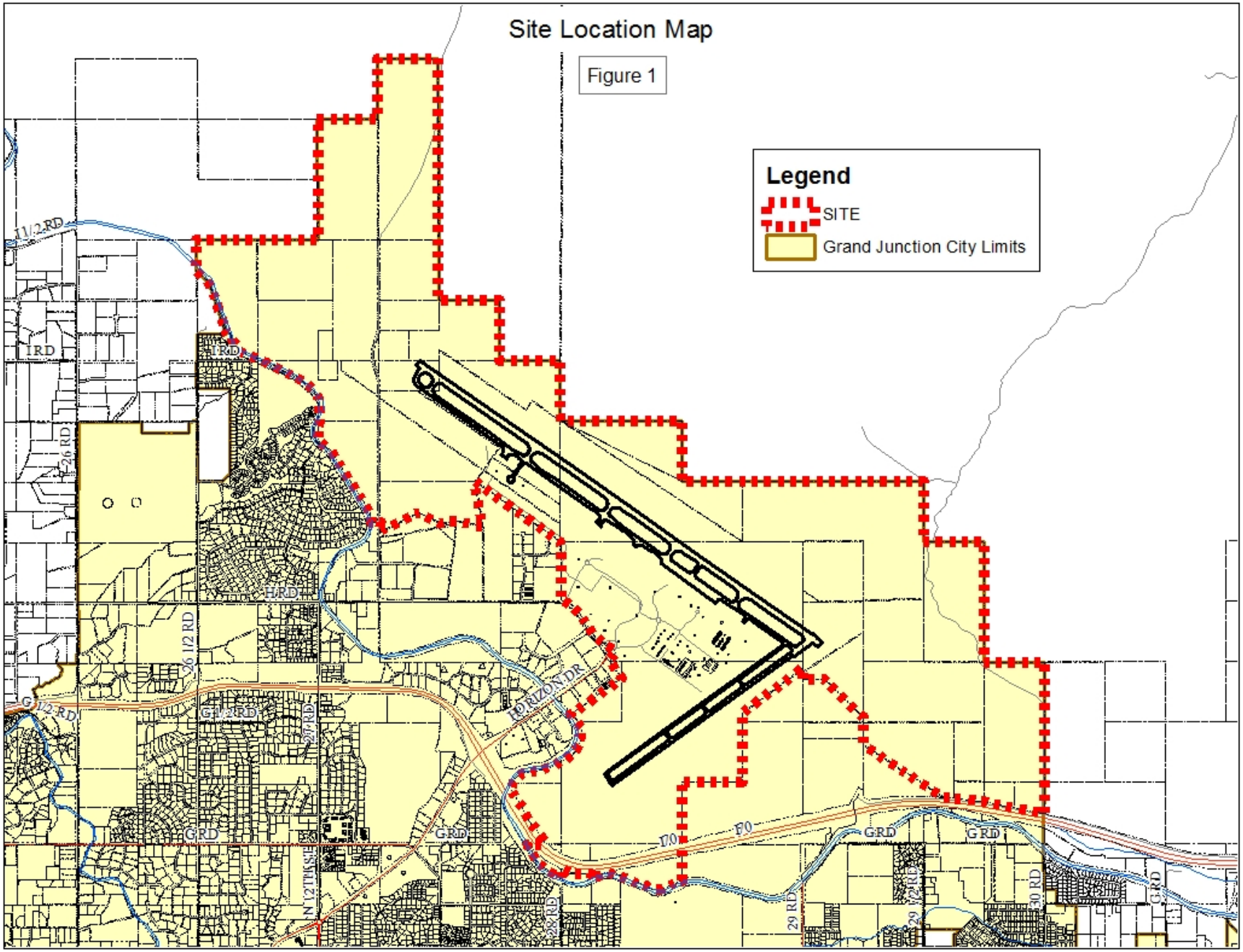
I move to introduce an ordinance approving the Grand Junction Regional Airport Institutional and Civic Master Plan and amending Ordinance No. 3679, Planned Development for the airport property and an ordinance vacating a portion of the 27 1/2 Road right-of-way adjacent to airport property and set a public hearing for March 6, 2019.

Attachments

1. Exhibit 1 Site Maps
2. Exhibit 2 General Project Report 7.12.18
3. Exhibit 3 Appendix A - Master Plan Update Complete reduced
4. Exhibit 4 Appendix C - GJ TAP Amendment FINAL
5. Exhibit 5 Ord 3679
6. Exhibit 6 2018 Aiport Concept Plan
7. Exhibit 7 Updated AE Zones Map
8. Exhibit 8 2018 Proposed PD Zones Map
9. Exhibit 9 Ordinance.doc
10. Exhibit 10 ROW Vac ordinance

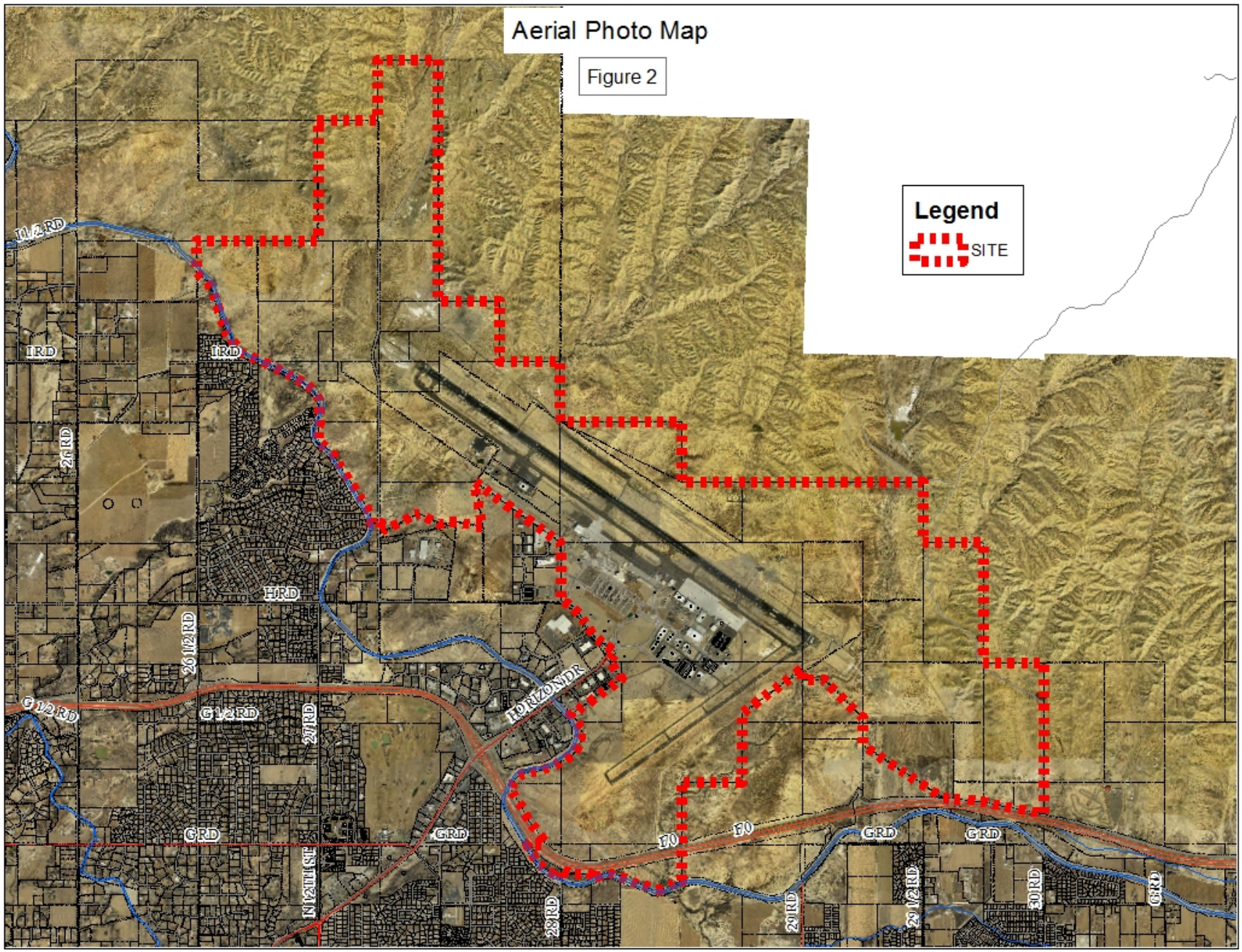
Site Location Map

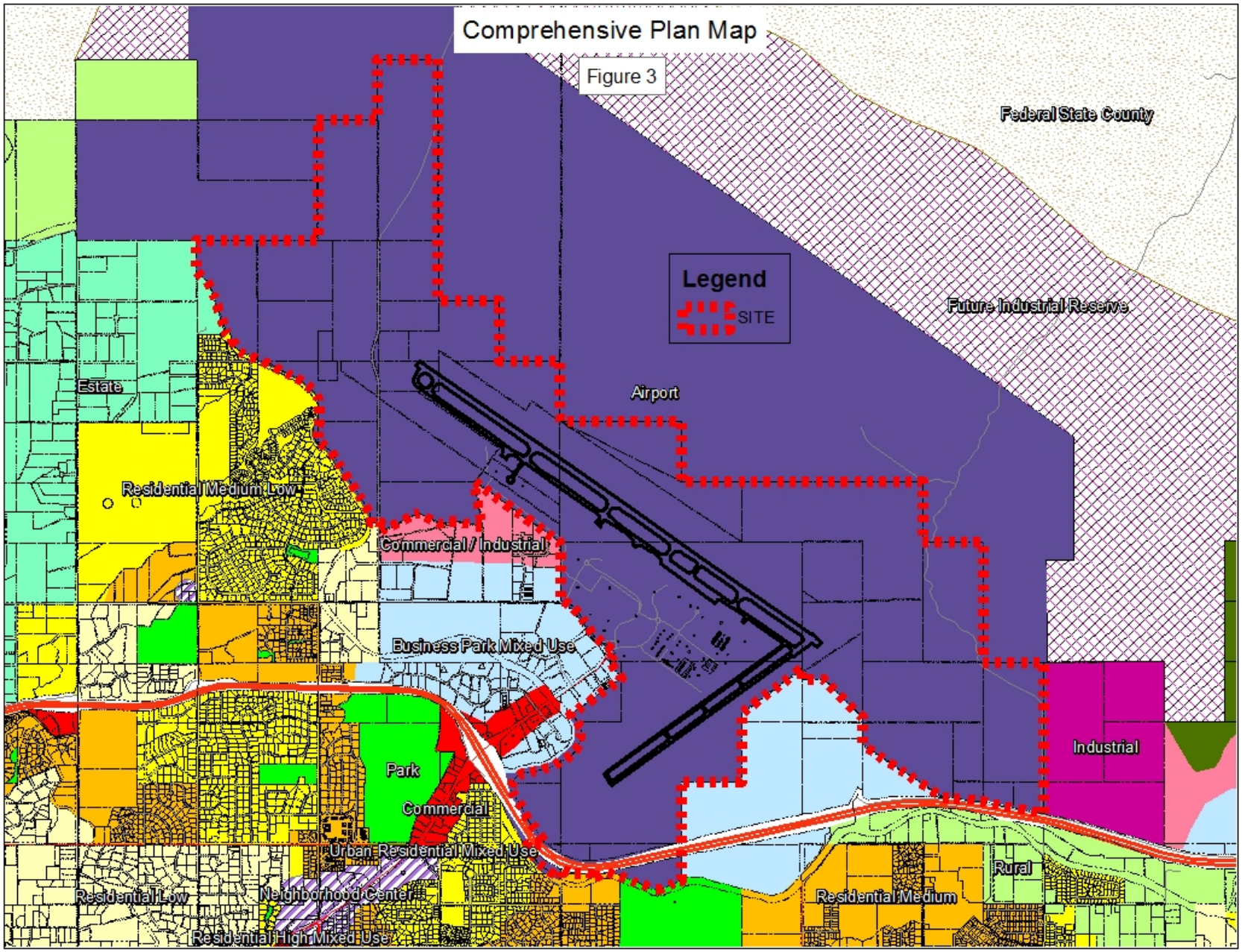
Figure 1



Aerial Photo Map

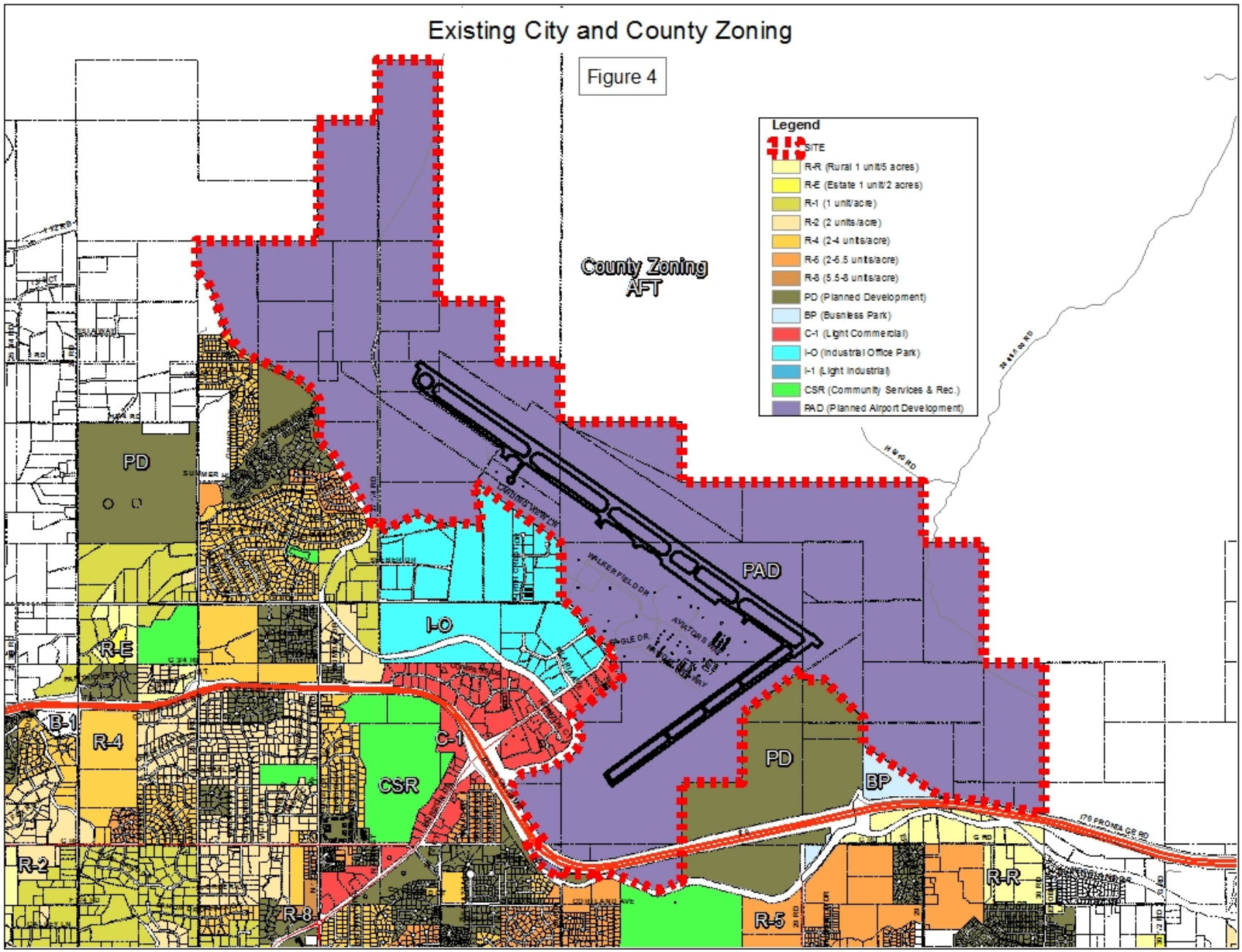
Figure 2




Comprehensive Plan Map
Figure 3
Federal State County
Legend
SITE
Future Industrial Reserve
Airport
Estate
Residential Medium Low
Commercial / Industrial
Business Park Mixed Use
Industrial
Park
Commercial
Urban Residential Mixed Use
Residential Low
Neighborhood Center
Residential High Mixed Use
Residential Medium
Rural

Existing City and County Zoning

Figure 4



GRAND JUNCTION
REGIONAL AIRPORT

Airport Master Plan Update & Terminal Area Plan



7/12/2018

City of Grand Junction Institutional and Civic Facility Master Plan Review Application

Submitted by the Grand Junction Regional Airport Authority

Prepared by: TG Malloy Consulting, LLC and Mead & Hunt

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6 | Airport Employee Survey
7 | Rick Dorris Letter Re: 29 Road Alignment Study
8 | Mark Lovato Response to Staff Questions
9 | 6/8/2012 Lovato Letter/Addressing Staff Comments Re: Drainage
10 | 2012 Colorado Discharge Permit System (CDPS) Permit

11 | Public Notice Letter (5/3/2018 Neighborhood Meeting)
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E | Preliminary Geotechnical Subsurface Exploration Program
F | Design Intent Guidelines
G | 2012 Master Drainage Report
H | Conceptual Drainage Report – Runway 11/29 Relocation Program
I | 27 ¼ Road Realignment Bid Plans

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GENERAL PROJECT REPORT

Introduction

The Grand Junction Regional Airport Authority (GJRAA) updated the Airport Master Plan in early 2009. The GJRAA submitted the Master Plan Update to the City of Grand Junction for review pursuant to the Institutional and Civic Facility Master Plan provisions of the Grand Junction Municipal Code (§21.02.190) in September of 2010. After reviewing the Civic Master Plan application, the City Staff issued an Application Review Comments form requesting additional information from the GJRAA to satisfy various requirements of the Municipal Code. Shortly after receiving the staff comments and request for additional information, the GJRAA initiated a study to examine the existing passenger terminal facilities and look at alternatives for improvements to the terminal building and adjacent facilities. This study was among the recommendations of the Airport Master Plan Update. The GJRAA felt that a terminal area study might generate information pertinent to the issues raised by Staff in regard to the Airport Master Plan Update. As a result, the GJRAA requested an extension to the deadline for responding to the request for additional information in January 2011 in order to allow completion of the Terminal Area Plan. A second extension was obtained for this purpose in May 2011, since the Terminal Area Plan had still not been completed. With time running out, and no further extensions available, the GJRAA withdrew the pending Civic Master Plan application in August 2011 to allow the Airport Master Plan Update and Terminal Area Plan to be considered together. The airport administration felt it would be more productive and less confusing to combine the Airport Master Plan and Terminal Area Plan into a single application with the City.

In April of 2012 the GJRAA submitted a combined Institutional and Civic Facility Master Plan application to the City which included both the 2009 Airport Master Plan Update and the 2011 Terminal Area Plan. The application was reviewed by the Planning Commission in November of 2012 and received a recommendation of approval. However, before it could be reviewed by the Grand Junction City Council, the application was withdrawn due to the Airport contemplating further refinements to the planned improvements. Since that time, refinements were made to the drainage plans for the runway realignment project and the design for the realignment of 27 ¼ Road around the west end of the Airport has been completed. In addition, the Airport Administration Building, which was a recommended improvement in the 2009 Master Plan and 2011 Terminal Area Plan, was partially constructed before complications resulted in the funds for the project being returned to the Federal Aviation Administration (FAA). As a result, the building remains unfinished and its future use has yet to be finalized.

The most significant change since 2012 is that the GJRAA commissioned an amendment to the 2011 Terminal Area Plan in order to address a number of evolving conditions affecting the planned replacement of the Terminal Building. These conditions include changes to the

timing/schedule of both the Terminal Building replacement and the runway relocation project, shifting the implementation of both projects back several years or more. This shift required an analysis for extending the useful life of the Terminal Building as well as a reevaluation of phasing and capital improvement plans for the Airport. Despite delays in the implementation schedule, the Airport is proceeding with the design phase of the runway relocation project in order to be better prepared to act when funding is available. The Airport also has a number of other capital improvement projects in progress or scheduled in the near future. Given these conditions, the Airport recognized that the existing Terminal Building will likely need to remain for a longer period of time than was envisioned in the 2011 Terminal Area Plan. Consequently, the Airport prepared an amendment to the Terminal Area Plan, the focus of which was on making the existing Terminal Building safe, efficient and as functional as possible for the next several years, while minimizing investment in the building. The Terminal Area Plan Amendment was completed in October of 2017.

This application is requesting review of the Airport Master Plan Update and the Terminal Area Plan, as amended, pursuant to the requirements of §21.02.190 of Grand Junction Municipal Code. The 2009 Airport Master Plan Update, 2011 Terminal Area Plan and 2017 Terminal Area Plan Amendment have been provided in their entirety in the appendix of this application. The Airport Master Plan Update is included as Appendix A and the Terminal Area Plan is Appendix B. The Terminal Area Plan Amendment is Appendix C.

This application includes a description of the changes that have been made to the design for the 27 ¼ Road projects and drainage plans for the Runway Relocation project, as well as a discussion of the Administration Building, including a request for a change to the PD Zoning to accommodate greater flexibility for the uses that can be accommodated in the building. A revised Conceptual Drainage Report for the Runway Relocation project is included as Appendix H. A similar drainage analysis was provided in 2012, in response to a request from the City's Development Engineer. The current drainage report was completed in January 2108 and was updated to reflect changes to the drainage approach for the runway relocation project.

The changes to the drainage design for the Runaway Relocation project and the revisions to the 27 ¼ Road Realignment project did not require any revisions to the findings and recommendations contained in the attached Airport Master Plan Update. As a result, the version of this document included with this application is identical to the one provided in the 2012 application. Given that there have been significant changes to the recommendations related to the short-term improvements for the Terminal Building, a summary of new recommendations is provided in the Project Description section below. This application has also been revised to reflect changes to appropriate dates and to incorporate the public notice letter, mailing list and sign-in sheet from the Neighborhood Meeting which was conducted on the evening of May 3, 2018 in the 3rd floor conference room of the Airport Terminal building (Exhibits 11, 12 and 13).

In the following paragraphs, we have addressed the appropriate provisions of §21.02.190 of the Grand Junction Municipal Code as they relate to the Airport Master Plan Update and Terminal Area Plans as modified and described in this application. The structure of this portion of the application closely follows the City's "Report Checklist and Outline" for the general project report. Comments and additional information requested by the City Staff in connection with the original civic master plan application for the Airport Master Plan Update are also addressed. The amended Terminal Area Plan will be treated as a component of the overall Airport Master Plan for the purpose of addressing compliance with the applicable provisions of the Municipal Code in the application.

A | Project Description

Key Recommendations

For the purpose of the City's review of the Airport Master Plan Update and the Terminal Area Plan, it's important to identify the major recommendations contained in these documents and the projections upon which the recommended improvements are based. Chapter B of the Airport Master Plan Update addresses forecasting of future aviation activity, which will serve as the basis for the facility improvements necessary to meet estimated needs. Table B14 on page B.22 in the Airport Master Plan Update provides a summary of the aviation activity forecasts from 2007 to 2027. A key element of the forecasts is passenger enplanements. Passenger enplanements represents the number of passengers that board an aircraft and depart from the Airport, and is a number used to determine the future capacity of such facilities as the passenger terminal, public parking, rental car, and other facilities that serve commercial passengers. Table B14 shows that passenger enplanements are estimated to increase from 170,836 to approximately 371,423 over the 20-year planning period.

The following is a list of recommended improvements contained in the Airport Master Plan Update and the 2011 Terminal Area Plan. More detailed descriptions of the recommended improvements can be found in Chapter F of the Airport Master Plan Update and in Chapter E of the Terminal Area Plan. The recommendations contained in the 2011 Terminal Area Plan remain pertinent for the long-term future. The 2017 Terminal Area Plan Amendment provides recommendations and a revised implementation plan for the near-term improvements needed to main safe and efficient operation of the Terminal Building until funding is available for replacement of the Terminal Building as described in the 2011 Terminal Area Plan. The near-term improvements for the Terminal Building are described in Chapter C of the Terminal Area Plan Amendment. Chapter D contains the implementation strategy for achieving the near-term improvements. It's important to remember that the primary purpose of the Airport Master Plan Update is to reserve space for future airport facilities. The improvements listed below would be constructed on a phased basis in accordance with demonstrated need and available funds.

Key Improvements Recommended in the Airport Master Plan Update (see Figure F2)

- Relocate runway 11/29 and the associated taxiway system laterally 600 feet to the northeast and longitudinally 1,000 feet to northwest;
- Potential expansion of general aviation hangar facilities and related apron space;
- Potential new Air Traffic Control Tower;
- Relocate 27¼ Road around the west end of the new runway protection zone for the relocated runway 11/29;
- Continue to reserve space for a second parallel 11/29 runway (not expected to be constructed within the 20-year planning period).

Key Improvements Recommended in the Terminal Area Plan (see Figures E1, E3 & E4)

- Construct the Terminal Building Expansion, Phase I, located southeast of the existing terminal building.
- Construct Terminal Building Phase II (replace existing passenger terminal building) with a new facility also to the southeast of the existing terminal building;
- Potential construction of a 3-story parking structure just to the northwest of the existing passenger terminal building. The parking structure could contain up to 900 additional parking spaces;
- Improve unpaved overflow parking area to provide 160 additional surface parking spaces similar to the exiting pubic parking lot;
- Expansion of the de-ice pad to the southeast of the existing de-icing pad.

Key Improvements Recommended in the Terminal Area Plan Amendment

- Total redesign and replacement of the mechanical heating, ventilation, and air conditioning or HVAC system serving the main building entrance area and atrium;
- Identify and eliminate water penetration under the Terminal Building and consider other measures stabilize the structure;
- Install smoke evacuation system for the atrium, fire alarm upgrades and emergency and egress lighting;
- Roof repairs and replacement of the escalators in the main lobby;
- Consider installing passenger corridors leading to boarding bridges for both Gates 1 and 2 and a passenger boarding tunnel at Gate 1 to bridge the distance from the lower departure lounge to the aircraft.

The improvements described in the Terminal Area Plan Amendment, and the analysis that supports them, are described on pages 33 through 39. The recommended passenger corridors and board tunnel are also depicted on Figure 11 in the Terminal Area Plan Amendment. Figure 13 in the Terminal Area Plan Amendment is a Revised Conceptual Development Plan for the terminal area and it shows improvements divided into four phases. The improvements identified in the Terminal Area Plan Amendment, and listed above, represent Phase I. The other

three phases reflect the long-term improvements described in the 2011 Terminal Area Plan. It should be noted that the Terminal Area Plan Amendment shows the partially-constructed Admin Building and being demolished. As discussed below, the current thinking regarding this building is to seek one or more private entity partners to reconfigure and complete the building and as opposed to pursuing demolition.

The 2011 Terminal Area Plan also includes a discussion of potential non-aviation development which begins on page E.12 of the document. There are three potential development areas that fill the vacant land between the existing on-airport road system, the public parking lot, and H Road. Figure E4 is an illustrative site plan, which is intended to provide an example of how these areas could be developed for a variety of commercial and commercial/industrial facilities. Development of these areas would be subject to the requirements of the City's C-1 zone district pursuant to Ordinance No. 3679, since they are shown as being located mostly within the "non-aeronautical" area on the map that accompanies Ordinance No. 3679. All of the other improvements recommended in the Airport Master Plan Update, Terminal Area Plan and Terminal Area Plan Amendment are located within the areas shown as "Aeronautical" and "Aeronautical/Commercial" on the map attached to the Ordinance. As a result, these improvements would be governed by the standards and requirements contained in Ordinance No. 3679, a copy of which is included as Exhibit 1 of this application.

As mentioned previously, the partially constructed Admin Building is currently located within the Aeronautical zone. In its current state, the Admin Building is consuming valuable space, degrading the visual character of the terminal area and creating liability issues for the Airport. The GJRAA is currently exploring solutions to complete the building and put it to beneficial use. The building was originally configured to be used entirely for Airport purposes. However, after careful evaluation, the Airport has determined that they no longer need the entire building and are considering seeking a private entity with which to partner to reconfigure the building for a mix of uses. The Airport is considering uses such as restaurant and office among the potential cotenants of the building. Since neither the Aeronautical nor the Aeronautical/Commercial zone permit commercial office uses, the GJRAA is proposing the expand the Non-aeronautical/Commercial zone to include the Admin Building. The proposed reconfiguration of the Non-aeronautical Commercial zone is depicted on the Proposed PD Districts Map (Exhibit 14). The proposed configuration incorporates the Admin Building and the area around it, which was intended for parking and vehicle circulation, as well as the entry area north of Aviator's Way that includes the historic military aircraft display. Exhibit 17 is a concept sketch showing the layout that was intended for the Admin Building before it was abandoned.

The Non-aeronautic/Commercial zone also permits other uses allowed in the C-1 zone district. While some of these uses might not be appropriate for the Admin Building, the GJRAA is the landowner and has control over the uses that would ultimately be allowed. In addition, concurrence from the Federal Aviation Administration (FAA) is required for any proposed uses

within the building. The City also retains the ability to review any proposed uses since all projects within the Non-aeronautical/Commercial zone require review and approval by the Grand Junction Planning Commission pursuant to Ordinance No. 3679. These overlapping jurisdictional controls should ensure that the future use of the building is consistent with both Airport and Community interests.

Location

The subject property is the Grand Junction Regional Airport, the location of which is approximately 3.5 mile northeast of downtown Grand Junction. Figures A1 and A2 in the Airport Master Plan Update (Appendix A) show the airport's location within the region and in relation to the City of Grand Junction. Figure A3 in the enclosed Terminal Area Plan (Appendix B) shows the area which is the focus of the Terminal Area Plan. The study generally surrounds the existing terminal building and main parking lot, and incorporates much of the undeveloped land surrounding the terminal parking lot.

Acreage

The Grand Junction Airport contains 2,357 acres. Detailed information regarding the existing conditions and facilities at the Airport are provided in Chapter A of the Airport Master Plan Update document. The airport's terminal area, as defined in the Terminal Area Plan, encompasses approximately 120 acres. Chapter A of the Terminal Area Plan includes background information and an inventory of existing facilities and uses.

Proposed Use

The airport is a complicated facility that contains a variety of uses in support of the airport's primary purpose of providing public and private aviation services. The Airport Master Plan Update document includes a description of the existing facilities and uses at the Airport, as well as description of the recommended use of all lands within the airport property and its' vicinity. This discussion begins on page F.26 in Appendix A and encompasses Figures F19 through F23. Figures F19, F20 and F21 focus on the terminal area, while Figure F22 provides a graphic depiction of both off-airport and on-airport uses. This figure also shows several of the key airport protection zones including the Runway Protection Zone and the Noise Zone which represents the area within the projected 65 DNL noise contour. Figure F22 provides thorough understanding of the airport's relationship to the surrounding neighborhoods. Figure F23 is the Airport Property Map. This document provides detailed information regarding the various parcels that make up the airport property including the size of the parcel, when it was acquired, and the Federal grant via which the property was acquired. Note that these exhibits were prepared prior to the construction of the Administration Building.

One of the key changes planned for the Airport is the relocation of the existing primary runway (Runway 11/29) and the related taxiway system. This runway will be moved to an alignment that

parallels the existing runway, but will be shifted approximately 600 feet to the northeast and laterally approximately 1,000 feet to the northwest. The existing runway will then be used as the parallel taxiway. This relocation is recommended in order to correct non-standard conditions associated with the existing runway and its connecting taxiways. The drawings listed in the previous paragraph reflect the necessary improvements associated with the relocated runway and taxiways.

The Terminal Area Plan Amendment includes a summary of the revised development concept for redevelopment of the Grand Junction Regional Airport's "terminal area." This summary occurs on Page 44 and is depicted in Figure 13 of the Terminal Area Plan Amendment. The phasing depicted on Figure 13 supersedes the phasing discussion contained in Chapter E of the 2011 Terminal Area Plan. Basically, the recommended improvements described in the Chapter E of the 2011 Terminal Area Plan remain the same, with the exception of those related to the Admin Building, but the phasing has been revised to address the need to keep the existing Terminal Building operational until construction of the replacement terminal becomes financially feasible. The revised phasing also necessitated revisions to the financial implementation plan for the terminal area improvements. Terminal Area Plan Amendment includes a revised Implementation Plan (Section D), which substitutes for the implementation plan found in Chapter H of the original Terminal Area Plan.

Although replacement of the Terminal Building has been pushed back some progress has been on the design of the building. Subsequent to the completion of the 2011 Terminal Area Plan, preliminary architectural design and associated renderings where completed for the replacement terminal. The Terminal Area Plan Amendment report includes a rendering of the resulting terminal design (Figure 2). While this is a conceptual drawing, it does provide a sense of the aesthetic direction being contemplated for the replacement terminal.

The Admin Building has been partially constructed since the Terminal Area Plan was completed and the current location and configuration of the building is depicted on Exhibit 5 of the 2017 Terminal Area Plan Amendment. This exhibit also shows the access drive and parking facilities that were planned for the Admin Building at the time it was constructed. As noted in the project description section of this application, the Airport is seeking to partner with one or more private entities to renovate the building to accommodate a mix of uses. The exact use mix has not yet been determined.

B | Public Benefit

The Grand Junction Regional Airport is a public facility that provides commercial passenger service, along with general aviation facilities, air cargo, and a small amount of military activity. The Airport, along with the aviation-related businesses and facilities, represents a vital and significant regional economic asset. In addition to the many aviation-related assets, the Airport

also provides benefits to the local businesses and industries, promotes tourism, and encourages additional business development and expansion throughout Grand Junction, Mesa County, and the surrounding region. The 2013 Colorado Airports Economic Impact Study quantified the total impact of the Grand Junction Regional Airport at 2,871 jobs, with a total payroll of $130,775,972 and a total economic output of $380,039,796.

One of the GJRAA's main objectives in developing the Airport Master Plan Update and Terminal Area Plan was to accommodate aircraft operations and the travelling public with great reliability and safety, and to make the most efficient use of the available land for aviation related activities and supporting uses. Both the Master Plan Update and the Terminal Area Plan, as amended, were developed to define improvements at the Airport that will enable it to accommodate the future needs and requirements of the City of Grand Junction, Mesa County and the larger surrounding service area. The process of developing the Airport Master Plan Update included gathering community input to establish a set of assumptions to guide the airport planning process. The assumptions include ensuring that the Airport is developed in a manner consistent with local ordinances and codes, as well as federal and state statutes, federal grant assurances and Federal Aviation Administration (FAA) regulations. The purpose of the Airport Master Plan Update and Terminal Area Plan is to ensure that the Airport can continue to benefit the public in a manner consistent with the community's vision for the future as well as applicable laws, policies and regulations.

C | Neighborhood Meeting

A neighborhood meeting was conducted at 6 p.m. on October 17, 2011 to share information related to the findings and development recommendations contained in both the Airport Master Plan Update and the Terminal Area Plan. The meeting included discussion of the potential replacement of the terminal building and relocation of the primary runway (Runway 11/29). The meeting was held at the Marriot Residence Inn at 767 Horizon Drive in Grand Junction. All attendees had the opportunity to ask questions and submit comments. Following the Neighborhood meeting, the Airport accepted comments for a period of 15 days beginning on October 17 and ending on October 31, 2011. A copy of the approved notice for the meeting was mailed to every property owner and known group within 1,000 feet of the exterior property boundary of the Airport. Copies of the notice and the mailing list used for noticing purposes are included as Exhibits 2 and 3.

An additional Neighborhood Meeting was conducted at 5:50 p.m. on May 3, 2018 in the 3rd Floor Conference Room of the Airport Passenger Terminal. Copies of the notice and mailing list for this meeting are include as Exhibits 11 and 12. Attendees had an opportunity to ask questions and submit comments. Following the meeting, the Airport accepted comments for a period of seven days beginning on May 3 and ending on May 10, 2018.

During both meetings, representatives of GJRAA presented plans and information regarding the recommended improvements contained in the Airport Master Plan and the Terminal Area Plan, as amended, and answered questions from members of the public. The 2011 neighborhood meeting had 26 attendees from the public; seven written comments were received within the comment period. Copies of the written comments from the 2011 meeting are included in Exhibit 4 of this application. Only eight members of the public attend the meeting on May 3, 2018 and no written comments were received either during the meeting or during the seven-day comment period. A copy of the sign-in sheet from the meeting is provided as Exhibit 13.

D | Project Compliance, Compatibility and Impact

1. Conformance with the Comprehensive Plan

Response: Conformance with the applicable comprehensive plans and policies is addressed in the response to item 12, below. Conformance with the Grand Junction Comprehensive Plan (2009) and the Grand Valley Circulation Plan are among the review criteria required for approval of an Institutional and Civic Facility Master Plan under section 21.02.190 of the Grand Junction Municipal Code.

2. Land Use in the Surrounding Area

Response: An inventory of the land use and zoning in the areas surrounding the Airport can be found beginning on page A.15 in the Airport Master Plan Update document. Figure A5 in the Airport Master Plan Update is a map showing the existing zoning surrounding the Airport. The Grand Junction Regional Airport is well located in terms of limiting impacts on surrounding land uses. Areas to the north and east of the Airport are owned by the BLM and are used primarily for recreation activities including motorized vehicle recreation. There are residential neighborhoods to the west of the airport property and to the south of I-70. The entrance to the Airport is comprised of business and commercial uses on both sides of Horizon Drive from I-70 to the airport property. To the east of the Airport is an area of vacant land associated with Indian Wash. Beyond Indian Wash is vacant land which is part of a planned development owned by Horizon View Holdings, LLC.

3. Site Access and Traffic Patterns

Response: Vehicular access and parking for the Airport are described on pages A.9 and A.10 in the Airport Master Plan Update document (Appendix A). Access to the Airport utilizes Horizon Drive and H Road. Figure A3 in Appendix A shows the existing airport layout and how the internal road system connects to Horizon Drive and H Road. No significant changes are contemplated to the airport's internal road system in association with either the overall Airport Master Plan Update or the Terminal Area Plan.

Since the Airport Master Plan was completed, design work on the 27 ¼ Road realignment project has been completed and the project is currently out to bid. The current alignment for 27 ¼ Road around the west end of the Airport is depicted on Exhibit 18. Current conceptual plans for the Airport show an extension of Landing View Lane to the west connecting to the realigned 27 ¼ Road, as shown on Exhibit 18.

4. Availability of Utilities

Response: An infrastructure inventory and assessment, and an assessment of future system potentials, was prepared as part of the Airport Master Plan Update. This inventory includes the major components of water, sanitary sewer, electrical, natural gas, and telecommunication systems on the Airport and in the vicinity of the Airport. The complete Master Utility Report is included as Appendix Two of the Airport Master Plan Update. All major utilities are available at the Airport. The Airport currently has existing service for all major utilities. Water service is provided by the Ute Water Conservancy District. Sanitary sewer service is provided by the City of Grand Junction and the Airport is located within the 201 Sewer District. Century Link provides the Airport's telecommunications service.

5. Special or Unusual Demands on Utilities

Response: While the Airport is a large industrial facility, it does not place many special or unusual demands on utilities. Perhaps the most unusual demand is the amount stormwater runoff from the large paved surfaces and the handling of aircraft fuel, de-icing fluid, and other chemicals required for the normal operation of aircraft. The State of Colorado classifies the Grand Junction Regional Airport as a heavy industrial site based upon the volume of fuel sales and the use of de-icing agent. As a result, the Airport is required to obtain a discharge permit under the Colorado Discharge Permit System (CDPS). The CDPS requires the preparation and maintenance of a stormwater management plan (SWMP). The SWMP for the Grand Junction Regional Airport includes numerous provisions to monitor and control the use of chemicals and to minimize the potential for pollutants to be carried offsite via stormwater runoff. A copy of the airport's current SWMP, which addresses this issue in detail, is included as Appendix D. The Airport is currently planning to update the SWMP for the proposed Runway Relocation project. The revised SWMP will be completed as the Runway Relocation project proceeds to the construction planning phase. A copy of the SWMP will be provided to the City as part of the permitting for the runway relocation project.

De-icing activity at the Airport is limited to aircraft only; there is no de-icing of runway or taxiway surfaces. All de-icing of commercial aircraft takes place at the dedicated de-icing facility. Generally, the system is activated during de-icing events in order to capture and recover glycol mixes. Therefore, the majority of glycol contaminated storm water is captured at the time of the de-icing event. The Airport contracts with Goodwin S/T Service to pump the de-icing fluid recovery tank and transport it to a facility for handling. To a much more limited extent, de-

icing occurs on the general aviation ramp by small aircraft operators. At these times, glycol is applied to the aircraft wings. Glycol usage during small aircraft de-icing is on the order of one gallon and does not occur frequently. For these reasons, and the fact that the Airport has been proactive by designing and implementing a glycol recovery system, storm water contamination by aircraft de-icing activities is not a significant risk.

6. Effects on Public Facilities

Response: Public facilities are addressed in the response to item 12, below, which covers compliance with the review criteria for Section 21.02.190 of the Grand Junction Municipal Code.

7. Site Soils and Geology

Response: The Master Drainage Report prepared by Jviation includes NRCS web soil survey data for much of the airport property (see Appendix One of the Airport Master Plan – Appendix A). An additional NRCS web soil survey has been provided which provides basic soils information for the entire airport property (see Exhibit 5). Furthermore, the Airport completed an Environmental Assessment for the runway relocation and commissioned a geotechnical report as part of that project. A copy of the Preliminary Geotechnical Subsurface Exploration Program (Geotechnical Report), prepared by Ground Engineering Consultants, Inc., is included as Appendix E. The focus of the geotechnical analysis is limited to the area that encompasses the existing and proposed 11/29 runways. However, similar subsurface exploration and geotechnical reports have been prepared for other projects on the airport property, including the Rental Car Services Facility (2009), Commercial Ramp Reconstruction (2009), and the ARFF/SRE Pier Evaluation (2010). The study area was evaluated for a variety of geologic hazards, but seems to be prone to only two such hazards; expansive soils, and low to moderate collapsible soils.

8. Impacts of Project on Site Geology and Geologic Hazards

Response: The Geotechnical Report (Appendix E), provides a section which discusses the potential impacts associated with the runway relocation. Most of the other improvements described in the Airport Master Plan Update and Terminal Area Plans are located in areas that are already developed and no additional impacts related to site geology are anticipated in these areas.

9. Hours of Operation

Response: The Airport is open 24 hours per day. The Air Traffic Control Tower is open from 6 a.m. to 10 p.m. The passenger terminal opens an hour before the first commercial flight departs in the morning and closes an hour after the last flight arrives in the evening.

10. Number of Employees

Response: The Airport conducted a survey of all employees who work on the airport property as part of the 2008 Colorado Airports Economic Impact Study. The results of the survey are provided in Exhibit 6. While this data is 10 years old, it's the most recent airport-wide information available. A summary of total employees is provided below:

Employee Count (Airport Property)

- Full-time Employees: 611
- Part-time Employees: 197
- Total Employees: 808

11. Signage Plans

The Airport Master Plan Update and Terminal Area Plans do not include any recommendations for changes or additions to existing signage at the Airport. However, when the Admin Building is completed, some additional wayfinding signage may be needed to direct people to this facility, depending on how the building is ultimately used. Signage is addressed in Ordinance No. 3679, which requires compliance with the City of Grand Junction Municipal Code.

12. Review Criteria - §21.02.190(C)(1 through 5)

The Grand Junction Regional Airport is a major civic facility and subject to review pursuant to the provisions of Section 21.02.190 of the Grand Junction Municipal Code, which specifies the review process and criteria for institutional and civic facility master plans. There are five criteria that must be considered in the review of such master plans. Conformance with these criteria is addressed in the following paragraphs.

(a) Conformance with the Comprehensive Plan and other area, corridor or neighborhood plans**.**

Response: The Grand Junction Comprehensive Plan of 2009 (Comp Plan) was adopted February 2010 and is the applicable comprehensive plan for the Grand Junction Regional Airport. It's worth pointing out that the Airport Master Plan Update had already been completed when the Comp Plan was adopted. As a result, the policies in the Comp Plan contemplate expansion of airport facilities and, in one instance, even reference the Airport Master Plan Update document. The growth projections contained in the Comp Plan indicate that growth in the area has been occurring at an annual rate of approximately 2.6% over the past 36 years. The Comp Plan also states that population is expected to double by the year 2035. This growth data is generally consistent with the information used for the forecasting contained in Chapter B of both the Airport Master Plan and the Terminal Area Plans. The contemplated improvements in the Airport Master Plan and Terminal Area Plans are designed to accommodate the level of growth anticipated in the Comp Plan. The Airport is

located within the Urban Development Boundary (UDB), which is the area designated in the Comp Plan as intended for "urban intensity development."

The Comp Plan breaks the City into a number of geographic areas referred to as "planning areas." The airport is located within the Horizon Planning Area. The area to the west is referred to as the Appleton Planning Area, while the Garfield Planning Area is to the east of the Airport. The Garfield Planning Area was relatively new when the Comp Plan was prepared and has been identified for long-term development of industrial and commercial land uses, particularly along the I-70 corridor. At present, much of the Garfield Planning Area is vacant land. The Appleton Planning Area is an established and developing area, comprised predominantly of low-density residential uses.

The Future Land Use Map in the Comp Plan designates a large area that includes the Airport and some additional surrounding lands as "Airport." This designation is identified as appropriate for Planned Airport Development (PAD) zoning. This is the district within which the Airport is located and which was created via Ordinance No. 3679.

There are several policies in the Comp Plan that provide guidance regarding recommended improvements in the Airport Master Plan Update and the Terminal Area Plan. These policies are addressed in the following paragraphs. The text in bold italics represents excerpts from the Comp Plan.

> ***Goal 7:* New development adjacent to existing development (of a different density/unit type/land use type) should transition itself by incorporating appropriate buffering.**
>
> ***Policy:***
> ***A. In making land use and development decisions, the City and County will balance the needs of the community.***
>
> **Conformance:** The Grand Junction Regional Airport is located at the north edge of the City. Much of the surrounding land is owned and managed by the Bureau of Land Management (BLM). In addition, the airport property contains 2,357 acres and the runway system has been oriented to minimize over-flight of residential areas and other sensitive uses as much as possible. Even with these factors, the Airport recognizes the need to remain constantly vigilant in efforts to minimize the impacts of aircraft operations and other activities on the community. The airport property includes vacant land in the area southwest of the primary commercial runway (11/29). This land currently serves as somewhat of a buffer for residents in the Grand Vista, Garfield Estates, Summer Hill and Paradise Hills neighborhoods. The recommended runway relocation will move runway 11/29 600 feet further from these neighborhoods.

***Goal 8:* Create attractive public spaces and enhance the visual appeal of the community through quality development.**

Policies:
A. Design streets and walkways as attractive public spaces.

Conformance: In 2007, the Airport made significant improvements to the internal street system and parking areas. The improvements contemplated in the Airport Master Plan Update and Terminal Area Plans would continue to enhance the aesthetic appeal of the Airport. The Terminal Area Plans recommend that future parking improvements be similar in character to the existing public parking lot. The potential redevelopment of the Main Terminal Building represents an exciting opportunity to update the visual and functional character of the Airport.

Shortly after the Airport Master Plan Update was completed, the GJRAA commissioned the preparation of a set of design guidelines to ensure quality development at the Airport. A copy of the Design Intent Guidelines is included as Appendix F. The Design Intent Guidelines include a list of goals to be achieved in the development of the future improvements at the Airport. The goals are listed as follows:

- *Reinforce a positive and memorable experience for visitors;*
- *Convey an image of quality development for the Airport, its passengers, visitors, tenants, and the community;*
- *Maintain a consistent campus appearance through complimentary design of site, signage, landscape, and building development;*
- *Allow and encourage development with creative and compatible design solutions;*
- *Encourage a "regional contemporary" architectural style;*
- *Provide for development and construction which allows for minimal impact to airport operations.*

***Goal 9:* Develop a well-balanced transportation system that supports automobile, local transit, pedestrian, bicycle, air, and freight movement while protecting air, water and natural resources.**

Conformance: The Airport is recognized as a vital component of the transportation system and a valuable asset to the City of Grand Junction and surrounding region. The improvements contemplated in the Airport Master Plan and Terminal Area Plan, as amended, will allow the Airport to continue to meet the community's air transportation and air freight needs. The recommended improvements have been evaluated for impacts to a wide range of environmental factors and the results of this analysis are provided in Chapters E in the Airport Master Plan Update and F in the 2011 Terminal Area Plan. The changes to the improvements described in the 2017 Terminal Area Plan Amendment do not significantly alter the findings contained in Chapter F of the original Terminal Area Plan. Some of the recommended improvements, such as the runway

relocation, will also be subject to further environmental review in accordance with NEPA regulations.

Goal 12: ***Being a regional provider of goods and services the City and County will sustain, develop and enhance a healthy, diverse economy.***

Conformance: The Grand Junction Regional Airport provides national airline passenger and air freight service to the City of Grand Junction, Mesa County, and the surrounding region. The annual economic benefits of the Airport on the local and regional economy were estimated at nearly $400,000,000 in the 2013 Colorado Airports Economic Impact Study.

(b) Conformance with the Grand Valley Circulation Plan and general transportation planning requirements.

Response: Conformance with the Grand Valley Circulation Plan (GVCP) is addressed on page A.20 and in Figure A8 in the 2011 Terminal Area Plan. The primary issue is that the GVCP shows 29 Road running through the Airport and connecting to H Road and Horizon Drive at the airport entrance roundabout. The use of airport land for non-aeronautical purposes presents some issues related to limitations associated with federal grant funds that were used to purchase the airport property. As a result, the Airport Layout Plan, which is a drawing in the Airport Master Plan Update that requires FAA approval, does not show the 29 Road alignment through the Airport. This issue was raised as part of the staff comments when the Airport Master Plan Update was originally submitted for review in 2010. Since that time, representatives of the Airport met with members of the City of Grand Junction and Mesa County staff to discuss the process for evaluating alignment alternatives for the extension of 29 Road. As a result of those meetings, Rick Doris, City of Grand Junction Development Engineer, sent a letter to Rex Tippets, then Director of Aviation for the Airport, outlining the process for evaluating a new interchange between 29 Road and Interstate 70. The letter indicates that the H Road to 29 Road connection would be evaluated at the same time, using a similar process. At that time the Airport agreed to participate in the study for the extension of 29 Road. A copy of the 2011 letter from Mr. Dorris is included as Exhibit 7.

The City continues to work with the Airport to evaluate other alignments for the extension of 29 Road. The current thinking is to run 29 Road around the south end of the general aviation runway (Runway 4/22). The Airport continues to be willing to participate in the planning studies for the 29 Road extension. However, any alignment through Airport property will also require approval form the FAA.

(c) Adequate parking, adequate stormwater and drainage improvements, minimization of water, air or noise pollution, limited nighttime lighting and adequate screening and buffering potential.

Response: Responses for each of the subject areas is provided below.

Parking: Existing parking and forecast parking needs are addressed in Chapters C and D of the 2011 Terminal Area Plan. The analysis shows the need for additional parking spaces to handle the forecast increase in enplanements. The refined development concept in Chapter D includes recommendations to improve the unpaved overflow public parking lot and develop a parking structure to provide the additional parking spaces. These improvements would be phased based on need and funding availability. No changes to the forecast parking need or the recommendations to improve the unpaved overflow parking lot or develop a parking structure were identified in the 2017 Terminal Area Plan Amendment.

Stormwater and drainage improvements: The Airport Master Plan Update includes a Master Drainage Report that was prepared in May 2009 (see Airport Master Plan Appendix). This report was updated in 2012. A copy of the revised report is included as Appendix G. In addition to providing more current and detailed drainage design than the 2009 report, the revised drainage report addresses several questions that were raised by the City staff during the original review of the Airport Master Plan Update. Also included with this application is the Conceptual Drainage Report for the Runway 11/29 Relocation Program (Appendix H). This report focuses more on the drainage design for the runway relocation project while the Master Drainage Report addresses hydrology and drainage for the ultimate build-out of the Airport.

Minimization of water, air or noise pollution: These and other environmental issues are addressed in Chapter E of the Airport Master Plan Update and Chapter F of the 2011 Terminal Area Plan.

Lighting, screening and buffering: Light emissions and visual impacts are addressed in Chapter E of the Airport Master Plan Update and Chapter F of the 2011 Terminal Area Plan.

(d) Adequacy of public facilities and services.

Response: Adequacy of existing utilities is addressed in the Master Utility Report which is included in the appendix of the Airport Master Plan Update document. Other community services such as police and firefighting are not directly addressed in the Airport Master Plan since the Airport Master Plan is only intended to reserve space at the Airport for needed facilities. With respect to fire, the Airport is equipped to handle the firefighting needs within the airport property. Emergency medical service needs are handled by outside providers. The need for these services is infrequent and is not expected to increase significantly if the proposed improvements are constructed over the 20-year planning period. Similarly, the Airport provides its own security services for both the airside and landside facilities.

Should the commercial buildings in the area surrounding the public parking lot be developed (see Chapter E of the Terminal Area Plan), they would be subject to further land

use review under the applicable provisions of the Grand Junction Municipal Code. Issues related to the adequacy of public facilities and services would be addressed at that time.

(e) Community benefits from the proposal.

Response: This criterion is addressed in the Public Benefit section of this report.

E | Development Schedule and Phasing

A preliminary development program and phasing schedule have been provided in both the Airport Master Plan Update and the Terminal Area Plan. Chapter G in the Airport Master Plan Update contains the development program with a project list that includes estimated costs. These costs are intended for planning purposes. This list is broken into short-term (0 to 5 years) and long-term (6 to 20 years) categories. Chapter H of the Airport Master Plan Update also provides a Financial Implementation Plan.

The Terminal Area Plan also contains an implementation plan with cost estimates and a phasing schedule for the terminal area improvements (see Chapter H). The potential improvements necessary to accommodate the future terminal area needs of Grand Junction Regional Airport have been placed into four phases. These four phases are shown on Figure E1 in Chapter E of the Airport Terminal Area Plan. The phasing schedule and financial implementation plan for the recommended terminal area improvements were revised in the 2017 Terminal Area Plan Amendment and are contained in Sections C and D of Appendix C.

F | Relationship to City Planning Process

Development at the Grand Junction Regional Airport is primarily governed by Ordinance No. 3679, which includes a map dividing the Airport into three zones; 1) Aeronautical, 2) Aeronautical/Commercial, and 3) Non-aeronautical. These zones are depicted on a map attached to the ordinance, which is included as Exhibit 1 to this application. Development within Zones 1 and 2 is governed by the standards in Ordinance No. 3679. It's the Airport's understanding that compliance with these standards would be addressed during the building permit process or other required permits for projects not involving structures, for each project and that no further planning reviews would be required. However, development within Zone 3 is subject to all requirements of the City's C-1 (Light Commercial) zone district and would be subject to the applicable review process in the Grand Junction Municipal Code. According to Ordinance No. 3679, all development in Zone 3 would require review and approval by the Planning Commission prior to the building permit review process. All of the improvements recommended in the Airport Master Plan Update are located in Zones 1 and 2. The only development discussed in the Terminal Area Plan that would be located within Zone 3 is the potential commercial and commercial/industrial buildings shown surrounding the public parking lot in Figure E3 of the 2011 Terminal Area Plan.

As mentioned previously, the Airport is proposing to expand Zone 3 to incorporate the Admin Building and the surrounding land planned for parking and vehicular circulation. More information related to this proposal can be found in the Project Description section of this application. The Airport understands that any redevelopment of the Admin Building would be subject to the requirements of the C-1 zone district and would require review and approval by the Grand Junction Planning Commission.

APPENDIX A
Airport Master Plan Update

Grand Junction Regional Airport | Master Plan Update
Institutional and Civic Facility Master Plan Review Application



GRAND JUNCTION
REGIONAL AIRPORT

Barnard Dunkelberg Company



MASTER PLAN UPDATE
GRAND JUNCTION
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MASTER PLAN UPDATE
GRAND JUNCTION
REGIONAL AIRPORT

Barnard Dunkelberg Company

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Inventory

A. Inventory of Existing Conditions

MASTER PLAN UPDATE

GRAND JUNCTION

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A. Inventory of Existing Conditions

The City of Grand Junction, with a picturesque backdrop of mountains and monuments in Western Colorado, offers year-round amenities to both visitors and local residents. Grand Junction Regional Airport is located approximately 3.5 miles northeast of downtown Grand Junction. The Airport provides a safe operating environment for all classes of aircraft, including small general aviation aircraft, corporate business jets, and commercial service passenger aircraft. The airport's relative location within the region is illustrated in the following figure, AIRPORT LOCATION MAP.

The Airport, along with the aviation-related businesses and facilities, represents a vital and significant regional economic asset. In addition to the many aviation-related assets, the Airport also provides benefits to local businesses and industries, promotes tourism, as well as encourages additional business development and expansion throughout Mesa County, the surrounding communities, and adjacent counties. The 2008 Colorado Airports Economic Impact Study quantified the total impact of the Grand Junction Regional Airport at 6,125 jobs with a total payroll of $189,204,000 and a total economic output of $623,693,600.

The last Airport Master Plan for Grand Junction Regional Airport was completed in 1997. The Airport Layout Plan has been kept current since 1997 with significant updates in 2002 and 2007. During the years since completion of the 1997 Master Plan, changes have transpired within the aviation industry on a local, regional, and national level that impact the aviation facilities and services provided at the Airport. These changes necessitate a re-evaluation of the Airport's Master Plan as a means of analyzing current and forecast operational characteristics and facilities, as well as updating the program for airport development. The population growth and economic expansion that is occurring within the region have necessitated a long-range analysis and plan for the future needs of the Airport to accommodate aviation demand.

The focus of this document will be on the total aviation facility and its environs, with the overall planning goal being the development of an aviation facility that can accommodate future demand and that is not significantly constrained by its environs. This initial *Inventory of Existing Conditions* chapter examines three basic elements involved with the existing and future development of Grand Junction Regional Airport. These elements are: the airport facilities (runways, taxiways, aircraft parking aprons, hangars, maintenance facilities, ground access, etc.);

the relationship to the airport/airspace system; and, the airport environs. Subsequent chapters detail the Airport's forecasts of aviation activity, the ability of airport facilities to safely and efficiently meet the needs associated with the projected aviation activity, the compatibility of the Airport with surrounding land uses, and recommended future development within and around airport property.

As illustrated in the following figures, *AIRPORT LOCATION MAP* and *AIRPORT VICINITY MAP*, the City of Grand Junction, with a population of approximately 46,898, is the county seat for Mesa County, which has a population of 134,189. Grand Junction is perhaps best known for its proximity to year-round outdoor recreation areas, such as ski resorts, hiking trails, fishing, golf courses, horseback riding trails, mountain bike trails, camping facilities, etc. However, other nearby attractions include: the Colorado National Monument, the McInnis Canyons National Conservation Area, the Grand Mesa National Forest and the Uncompahgre National Forest, as well as many local vineyards and wineries in what is known as Colorado Wine Country.

Airport Role

Grand Junction Regional Airport is owned and operated by the Grand Junction Regional Airport Authority Board. The Board is comprised of seven appointed members; three from Mesa County, three from the City of Grand Junction, and one at-large member. The majority of the land owned by the Grand Junction Regional Airport Authority was purchased/deeded from the City of Grand Junction and Mesa County. The Airport Manager is responsible for the day-to-day operation of the Airport and reports to the Board.

The Airport encompasses 2,357 acres and is 4,858 feet above mean sea level. The Federal Aviation Administration (FAA) categorizes the Airport as a non-hub, commercial service airport (FAA Site number 02624). The Airport Reference Point (ARP) is Latitude 39° 07' 20.6850"N and Longitude 108° 31' 36.2450"W. The mean, maximum temperature of the hottest month (July) at the Airport is 97.7 degrees Fahrenheit.

Currently, the Airport is served by five airlines on a yearly basis, SkyWest Airlines/United Express with daily service to Denver; SkyWest Airlines/Delta Connection with daily service to Salt Lake City; Great Lakes Aviation with daily service to Denver; US Airways with daily service to Phoenix; and Allegiant Air with service to Las Vegas. New air carrier service started in Spring 2008 from American Airlines/American Eagle with daily service to Dallas, and Frontier Airlines/Lynx Aviation with daily service to Denver. Great Lakes Aviation also announced that it ceased service to Grand Junction in 2008.

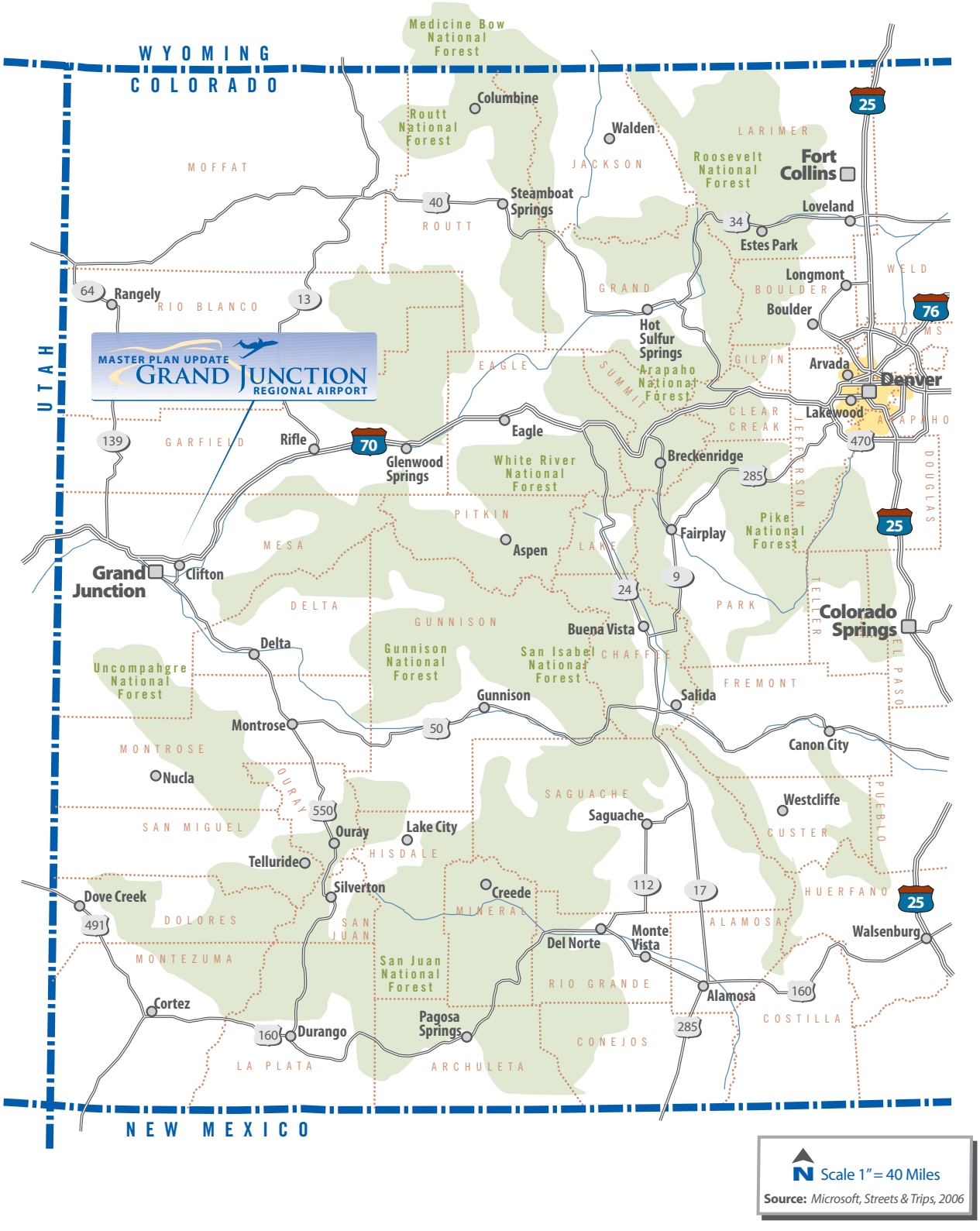


Figure A1 **Airport Location Map**

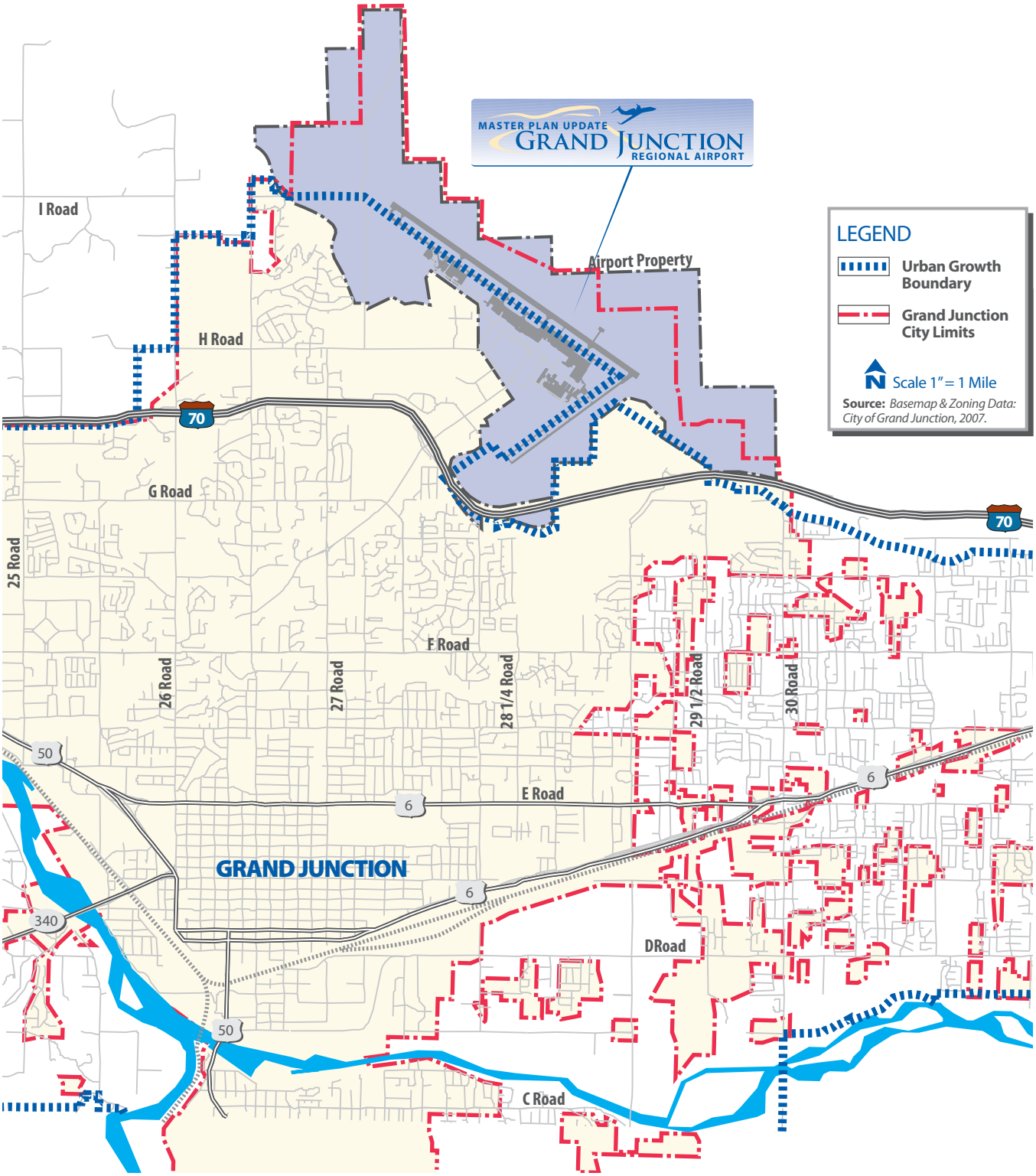


Figure A2 **Airport Vicinity Map**

Airport Facilities Inventory

Airside Facilities

Grand Junction Regional Airport is operated with two runways, along with parallel and connecting taxiways, which serve the runways and provide aircraft access to the terminal and other facilities on the Airport. The following illustration, entitled *EXISTING AIRPORT LAYOUT*, provides a graphic presentation of the existing airport facilities.

Runways. The primary runway at the Airport has a designation of 11/29. It is 10,501 feet in length and 150 feet in width. The runway is constructed of asphalt pavement with a porous friction course surface overlay and has a gross weight bearing capacity of 110,000 pounds single wheel, 180,000 pounds dual wheel, and 260,000 pounds dual tandem wheel main landing gear configuration. The runway is equipped with High Intensity Runway Lights (HIRL), a four light Precision Approach Path Indicator (PAPI) on the left side of Runway 11, a four light Visual Approach Slope Indicator (VASI) on the left side of Runway 29. Runway 11/29 is marked with precision approach runway markings. The Runway 11 end is served by an Instrument Landing System (ILS) approved for Category 1 ILS approaches and is composed of a localizer, a glide slope, and a Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights (MALSR). In addition, Runway 29 has Runway End Identifier Lights (REILs).

The crosswind runway, Runway 4/22, has a length of 5501 feet and width of 75 feet. It is constructed of grooved asphalt and has a gross weight bearing capacity of 20,000 pounds single wheel, 30,000 pounds dual wheel main landing gear configuration. The runway is equipped with Medium Intensity Runway Lights (MIRL), a four light Precision Approach Path Indicator (PAPI) on the left side of Runway 4, and visual approach runway markings to both runway ends. Both runway ends are also equipped with Runway End Identifier Lights (REILs). Runway 4/22 is closed from 2200 (10 p.m.) to 0600 (6 a.m.) which coincides with the time the Airport Traffic Control Tower is closed.

Taxiways. In addition to the runways, the airside facilities at Grand Junction Regional Airport consist of several taxiways that provide access to the terminal area and other aviation facilities. A 75-foot wide full-length parallel taxiway, Taxiway A, serves Runway 11/29 with seven exit/connector taxiways, and is located on the southwest side of the runway. Runway 4/22 is served by a 40-foot wide full-length parallel taxiway, Taxiway C located on to the northwest side of the runway. Taxiway C has four exit connector taxiways. Taxiway A and its associated exit taxiway are illuminated by High Intensity Taxiway Lights (HITL) and signage. Taxiway B and its associated exit taxiways are illuminated by Medium Intensity Taxiway Lights (MITL) and signage.

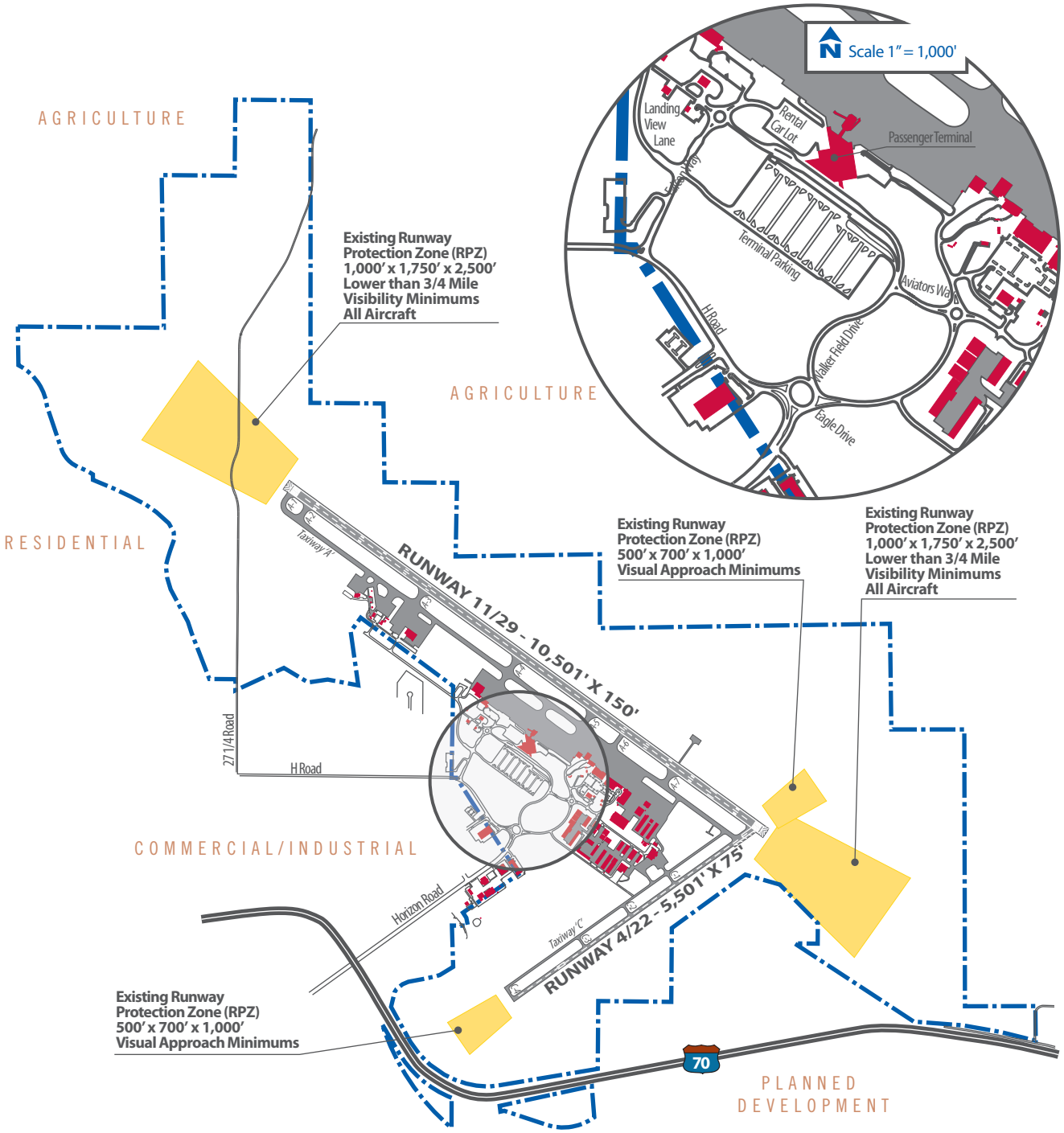


Figure A3 **Existing Airport Layout**

Landside Facilities

Landside development at the Airport includes commercial passenger terminal facilities, aircraft parking aprons, Fixed Base Operator (FBO) facilities, general aviation facilities, fuel storage facilities, and access roadways.

Passenger Terminal Facilities. The passenger terminal building at Grand Junction Regional Airport was opened in 1982 and originally consisted of approximately 70,000 square feet of space. The terminal is located on the south side of Runway 11/29 at approximately the midpoint of the runway. The three-level facility consists of airline ticketing counters, a baggage claim/handling area, passenger-waiting areas, rental car counters, a restaurant, a gift shop, airline and Transportation Security Administration (TSA) administrative offices, and Airport Authority offices. Arriving and departing passengers enter and exit the terminal building on the ground level and airline ticket counters, rental car counters and baggage claim are also located on the ground level. The second level consists of security screening, passenger waiting areas and boarding gates and the restaurant and gift shop. The third level consists primarily of the Airport Authority offices and TSA offices. There is an automobile parking facility located south of the terminal, support equipment parking east of the terminal and rental car parking west of the terminal.

Aprons. The commercial service aircraft parking apron at Grand Junction Regional Airport is located adjacent to the passenger terminal building, south of Runway 11/29. The primary general aviation apron is located east of the commercial service apron adjacent to the various FBO owned facilities. The west half of the general aviation apron is primarily reserved for larger corporate jet and turboprop aircraft parking and rotorcraft parking. The east half of the general aviation apron contain aircraft tiedowns for smaller aircraft.

There are also several other secondary apron areas located along both runways serving various airport tenants including general aviation and corporate aviation aircraft storage and maintenance, air cargo, air taxi and charter operators, and BLM firefighting operators. Additional apron areas at the Airport are devoted to various types of aircraft operational activities including aircraft maintenance engine run-ups and airline de-icing. There is a small run-up area located on the opposite side of Runway 11/29 from the general aviation apron.

A $3.5 million expansion and reconstruction project was completed for the commercial service and air cargo aprons in 2006. The project reconstructed a portion of the commercial service and cargo aprons and expanded the commercial service apron to the northeast to improve airline circulation and access to the terminal parking areas and gates. However, additional portions of the commercial service apron and the concrete general aviation aircraft parking apron adjacent

to the FBO facilities are both exhibiting signs of severe Alkali-Silica Reaction (ASR). ASR is a significant durability problem that results in premature deterioration of various types of concrete structures.

Fixed Base Operator (FBO) Facilities. West Star Aviation is the FBO located on airport property. The FBO facilities consist of several large aircraft storage and maintenance hangars. The FBO also maintains 74 aircraft tie-down spaces on the apron. Available services include fuel sales, aircraft maintenance, and aircraft modification. Additional aviation service providers at the Airport offer flight instruction, aircraft charter operations and aircraft maintenance from various hangar locations.

Hangar Facilities. The general aviation aircraft storage hangar area at the Airport is located south and east of the FBO facilities. There are three T-hangar facilities located southeast of the FBO facilities containing 38 aircraft parking spaces. Most of the hangars (with the exception of the T-hangars) are accessed via Taxilane C1-A which extends west from Taxiway C. In general, the hangar area has good landside access via Aviators Way and Navigators Way which extend east off of Eagle Drive. There are currently approximately 36 privately owned hangars on the airfield consisting of a mix of box hangars, clear span, shade-type hangars and T-hangars. There is also ample space to expand taxilanes and hangar facilities south of Navigators Way.

Fuel Storage Facility. Fuel is currently stored in above ground storage tanks located west of the Mesa Airlines Maintenance Hangar. The 100,000 gallon capacity facilities include storage for 68,000 gallons of Jet-A fuel and 32,000 gallons of 100LL AVGAS. The aircraft fueling service is currently provided by West Star Aviation via mobile refueling trucks. There is also a pilot self-serve fuel system located northeast of the Aero GJT T-Hangars. This service provides only 100LL AVGAS and is operated by Aero-Fuel.

Aircraft Rescue and Fire Fighting (ARFF) Facility. The ARFF facility is located east of the terminal building, adjacent to the Airport Authority owned hangar which is leased to FedEx. In accordance with 14 CFR Part 139, *Certification of Airports*, the Airport currently maintains an Index B ARFF capability, which is required by airports that accommodate five daily departures by commercial-use aircraft less than 126 feet in length (e.g., CRJ-700, B-737-700). The ARFF facility is staffed with ARFF certified airport personnel, who also perform airport maintenance duties such as snow removal, and mowing. This facility houses two ARFF vehicles that comply with 14 CFR Part 139 requirements, as well as snow removal equipment.

Airport Traffic Control Tower (ATCT). The ATCT at the Airport is located immediately east of the ARFF/SRE facility south of Taxiway A between connector taxiways A5 and A6. The ATCT

operates daily from 0600 (6 a.m.) to 2200 (10 p.m.) and is operated under the FAA's Contract Tower Program. Access to the ATCT is controlled through a security gate with prior telephone clearance.

Bureau of Land Management (BLM). The BLM Western Slope Fire Base facilities are located south of Taxiway A west of connector Taxiway A3. These facilities include an administration building, a helicopter office, a smoke jumper operations building, loading docks, two helipads, a bunkhouse, and a fire retardant storage area. The aircraft parking apron was recently reconstructed and expanded and consists of two air tanker loading pads with catchment basins. The three fire retardant storage tanks are all above-ground tanks and have a 32,000-gallon storage capacity.

National Weather Service. A National Weather Service weather station is located south of the ATCT and provides weather information for the area.

Automated Surface Observation System (ASOS). An Automated Surface Observation System (ASOS) is co-located with the glide slope antenna northeast of the approach end of Runway 11. This system is designed to provide 24-hour, minute-by-minute observations and performs the basic observing functions necessary to generate an aviation routine weather report and other aviation weather information. Information can be transmitted over a discrete VHF radio frequency or the voice portion of a local NAVAID. The Automated Terminal Information System (ATIS) is a looped recording that plays continuously over the radio. The ATIS represents the official current weather at the Airport; however, pilots can obtain up-to-the-minute weather information from either automated system.

Vehicular Access and Parking. As can be seen in the previous illustration entitled *EXISTING AIRPORT LAYOUT*, Grand Junction Regional Airport is accessed via Horizon Drive from the south or H Road from the west. Both roads connect to Walker Field Drive, which is a terminal access loop roadway. Horizon Drive becomes Walker Field Drive at the airport boundary and continues in a one-way counterclockwise flow between the terminal and airport parking before continuing south and reconnecting with H Road.

The entrance portion of Walker Field Drive extends north from the large round-a-bout at the airport entrance and is operated as a two lane road, while the portion of Walker Field Drive in front of the terminal building widens to four lanes. The inside lane adjacent to the terminal curb is designated for passenger loading/unloading. There is also a designated shuttle bus parking area off Walker Filed Drive immediately northwest of the terminal building. Walker Field Drive continues past the terminal building where it merges with Falcon Way with a four-

way round-a-bout at the intersection of the two roads. Rental car facilities are accessed via Falcon Way with rental car maintenance facilities located northwest of the round-a-bout and rental car pickup and return parking located northeast of the round-a-bout.

Additional commercial and general aviation facilities located northwest of the terminal area are accessed either by way of Falcon Way or Landing View Lane, which extends west from Falcon Way. The majority of general aviation and air cargo facilities is located southeast of the terminal area and is accessed via Eagle Drive, which extends east from the round-a-bout at the intersection of Horizon Drive, Walker Field Drive and H Road. Additional access roads in the general aviation and air cargo areas include Blue Angel Lane, Aviators Way, Heritage Way, and Navigators Way.
The entire airport access road and vehicle parking system was reconstructed in 2007 with some road realignments to improve access and traffic flow. Roads that were realigned or reconstructed include Walker Field Drive, Falcon Way, Eagle Drive and Aviators Way.

The vehicle parking area serving the passenger terminal was also reconstructed in 2007 and is located immediately south of the terminal. The redesigned parking area provides for 552 standard parking spaces, 30 handicap parking spaces, 12 motorcycle parking spaces and 38 recreational vehicle spaces. The parking areas are accessed by a dual entrance road system from the northbound section of Walker Field Drive. The exit from the parking area connects with the Falcon Way.

Airspace System and NAVAIDS

Grand Junction Regional Airport, as with all airports, functions within the local, regional, and national system of airports and airspace. The following illustration, entitled *AIRSPACE/NAVAIDS SUMMARY*, and narrative provide a brief description of Grand Junction Regional Airport's role as an element within these systems.

Air Traffic Service Areas and Aviation Communications

FAA air traffic controllers, stationed in Air Route Traffic Control Centers (ARTCC), provide positive air traffic control within defined geographic jurisdictions. There are some twenty-two geographic ARTCC jurisdictions established within the continental United States. Grand Junction Regional Airport is contained within the Denver ARTCC jurisdiction. The Denver ARTCC includes the airspace in all of Colorado and portions of Kansas, Nebraska, Wyoming, Utah, Arizona, and New Mexico.

Aviation communication facilities associated with the Airport include the Grand Junction Airport Traffic Control Tower (frequencies: 118.1 CTAF and Ground, 121.7 Tower) and the Aeronautical Advisory Station (UNICOM) on frequency 122.95. In addition, the Airport has an Automated Terminal Information System (ATIS) that can be accessed on frequency 118.55. Denver Center ARTCC is accessed on frequency 119.7 and the Automated Surface Observing System (ASOS) can be accessed by phone.

Airspace

Grand Junction Regional Airport is a controlled airport with an ATCT open from 6:00 a.m. to 10:00 p.m. The immediate area surrounding the Airport is classified as Class D airspace (Class D airspace is that airspace from the surface to 2,500 feet above the airport elevation surrounding those airports that have an operational ATCT).

The Class D airspace extends from the airport elevation (4,858 feet MSL) to approximately 7,400 feet MSL. The airspace is circular in shape and extends five nautical miles from the center of the Airport. There is also a portion of Class E airspace associated with the Airport. The configuration of each Class E airspace area is tailored to individual airports. Generally, Class E airspace consists of the immediate controlled airspace and is intended to provide a transition area for instrument approaches. Radio communications and transponders are not required to operate under VFR conditions; however, IFR flights must be capable of communicating with ATC, currently Denver Center, and be Mode C Transponder equipped (capable of reporting altitude). The floor of the Class E airspace at Grand Junction Regional Airport is established at 700 feet above ground level (AGL).

Navigational Aids

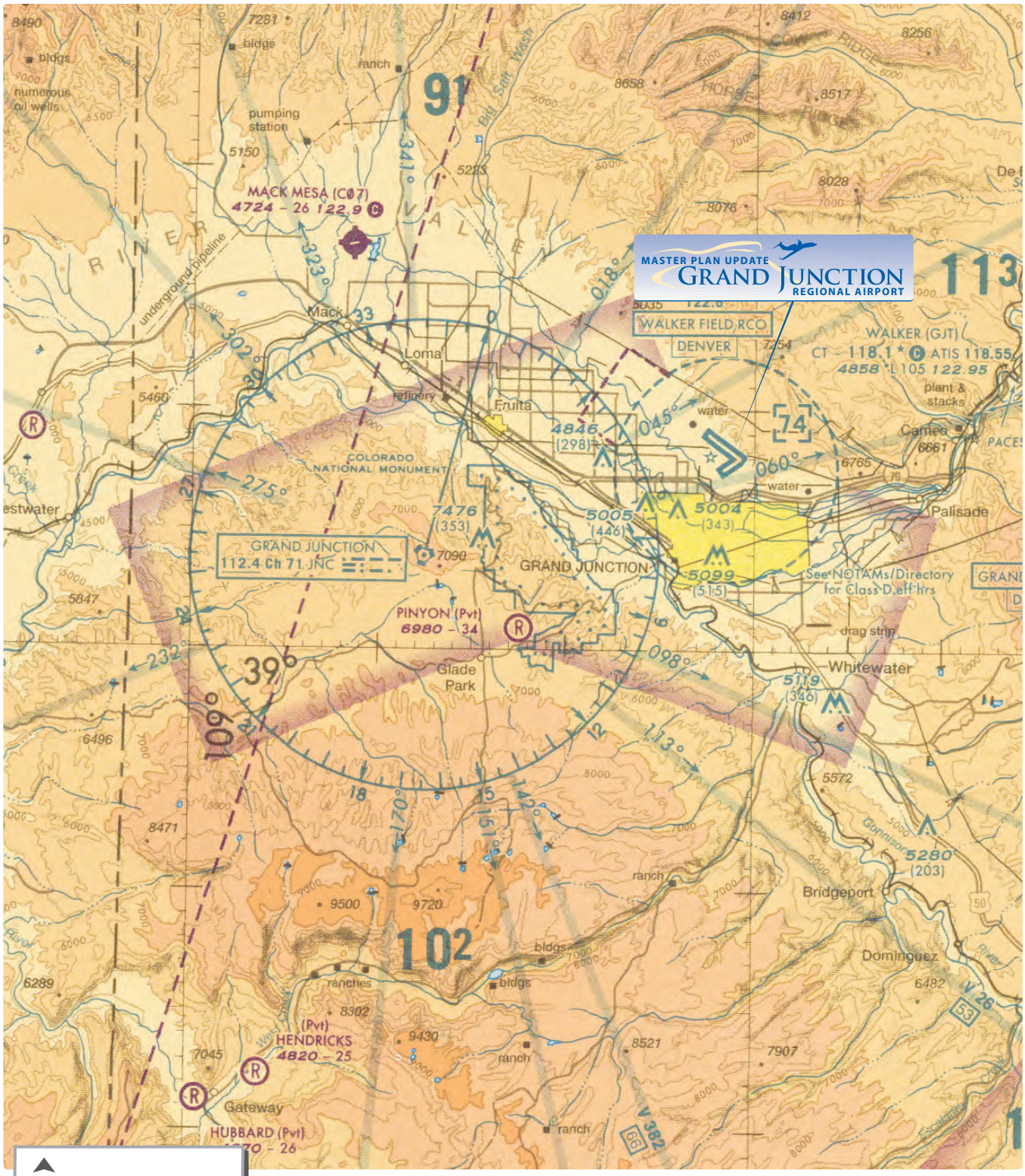
A variety of navigational facilities are currently available to pilots in the vicinity of Grand Junction Regional Airport, whether located at the field or at other locations in the region. Many of these navigational aids are available to en-route air traffic, as well. In addition, there is a complement of navigational aids (NAVAIDS) that allow a variety of instrument approaches to the Airport.

The navigational aids (NAVAIDS) available for use by pilots in the vicinity of the Airport are Non-Directional radio Beacon (NDB) facilities, VHF Omnidirectional Range/Tactical Air Navigation (VORTAC) facilities, and VHF Omnidirectional Range/Distance Measuring Equipment (VOR/DME) facilities. NDBs are general purpose low- or medium-frequency radio beacons that an aircraft equipped with a loop antenna can home in on or determine its bearing relative to the sending facility. VORTAC and VOR/DME systems are Very High Frequency Omnidirectional Range Station with Distance Measuring Equipment transmitting very high

frequency signals, 360 degrees in azimuth oriented from magnetic north. The DME equipment is used to measure, in nautical miles, the slant range distance of an aircraft from the navigation aid. While both systems provide virtually the same types of information, the main difference between the VORTAC and VOR/DME is a VORTAC has co-located military tactical air navigation (TACAN) equipment with the VOR. TACAN, developed by the military, is a pulse system operating in the UHF band of frequencies

The Grand Junction VORTAC (112.4 JNC) is located approximately 13 nautical miles west of the Airport. Additional navigational aids within the vicinity of Grand Junction Regional Airport include the Rifle (RIL 110.6) VOR/DME, located 43 nautical miles (NM) to the northeast and the Montrose (MTJ 114.9) VOR/DME located 48 NM southeast of the Airport and the Hopkins (HPL 375) NDB is located approximately 54 NM south of the Airport.

Presently, there are six published straight-in instrument approach procedures published for Grand Junction Regional Airport. These are listed in the following table, entitled *INSTRUMENT APPROACH PROCEDURES*.



Source: *Sectional Aeronautical Charts, Denver North) Volume 0706, June 2007.*

Figure A4 **Airspace/NAVAIDS Map**

Table A1
INSTRUMENT APPROACH PROCEDURES

Approach	Designated Runway(s)	Ceiling Minimums (AGL)	Visibility Minimums
ILS	Runway 11	200′ AGL	2,400 Feet[1]
LOC	Runway 11	367′ AGL	2,400 Feet[2, 3], 4,000 Feet[4]
RNAV (GPS)	Runway 11	427′ AGL	½ mile[2], ¾ mile[3], 1 mile[4]
RNAV (GPS)	Runway 29	482′ AGL	1 mile[2], 1¼ mile[3], 1½ mile[4]
LDA/DME	Runway 29	542′ AGL	1 mile[2], 1½ mile[3], 1¾ mile[4]
ILS[5]	Runway 11	200′ AGL	1,800 Feet[1]

Source: *U.S. Terminal Procedures, Southwest (SW), Vol. 1 of 4, February 14, 2008*
1. Authorized for use by Category A, B, C and D aircraft.
2. Authorized for use by Category A and B aircraft.
3. Authorized for use by Category C aircraft.
4. Authorized for use by Category D aircraft.
5. Special Aircraft Certification Required.

In addition, several existing visual navigational aids are located on the Airport and are available to pilots. These include a rotating beacon located on top of the ATCT and a lighted wind cone with segmented circle, which is located near the intersection of Runways 29 and 22. A network of low-altitude published airways (victor airways), in the vicinity of Grand Junction Regional Airport, also traverse the area, which spans between the regional ground based VOR equipment. Victor airways include the airspace within parallel lines located four NM on either side of the airway and extend 1,200 feet above the terrain to, but not including, 18,000 feet AMSL.

Airport Drainage System Planning

Building on drainage planning work that has previously been prepared for the Grand Junction Regional Airport and the surrounding area, a master drainage report for development of an appropriate storm water drainage and detention system has been prepared during this planning process and is included herein as Appendix One.

Airport Infrastructure Planning

An infrastructure inventory and assessment of future system potentials was also prepared. The inventory includes the major components of the water, sanitary sewer, electrical, natural gas, and telecommunication systems on the Airport and in the vicinity of the Airport that would be potentially available to accommodate future on-airport facilities. The complete Master Utility Report is included herein as Appendix Two.

Airport Environs

An inventory of the land uses, zoning patterns, and the various land use planning and control documents used to guide development of property surrounding the Airport is an important element in the airport planning process. Land use compatibility with airport development is made through knowledge of what land uses are proposed and what, if any, changes need to be made.

Grand Junction Regional Airport is located four miles northeast of downtown Grand Junction. The following paragraphs provide a generalized description of the existing zoning and future land use patterns for the areas surrounding the Airport.

Existing Zoning

The City of Grand Junction and Mesa County both have zoning and development codes that help guide development. The City's zoning and development code pertains to the area within its corporate limits and is intended to enable the City to uniformly and consistently evaluate, improve and approve, as appropriate, development, changes to existing uses, future uses and activities and to promote the health, safety and general welfare of the citizens and residents of the City. The County's land development code pertains to the unincorporated area surrounding the Airport and is intended to preserve and improve the public health, safety and general welfare of the citizens and businesses of Mesa County.

Airport property in the City's zoning and development code is zoned Public Airport District (PAD) which is a nonresidential zoning district. Areas to the south and west of the Airport consist of various zoning districts including both Residential and Nonresidential zoning districts. Some of these districts include Residential Single Family (RSF-4), Residential Multifamily (RMF-5), Light Commercial (C-1), Industrial/Office Park (I-O), and Planned Development (PD). Chapter 7 of the City's zoning and development codes includes a special regulation entitled Airport Environs Overlay Zoning District (AE) intended to protect public health, safety and welfare by regulating development and land use within noise sensitive areas and airport hazard areas. The AE district is also intended to ensure compatibility between the Airport and surrounding land uses and protect the Airport from incompatible encroachment. The AE district includes four subdistricts labeled Subdistrict A (Airport Area of Influence), Subdistrict B (Airport Noise Zone), Subdistrict C (Airport Critical Zone), and Subdistrict D (Airport Clear Zone). The AE district also includes a land use compatibility matrix and height limitations based on 14 CFR Part 77, *Objects Affecting Navigable Airspace*.

Areas to the north and east of the Airport are outside of the existing corporate city limit boundary and are subject to the provisions on the Mesa County land development code. The majority of the land north and east of the Airport is owned by the BLM and is zoned by Mesa County as Agricultural, Forestry, Transitional district (AFT). The AFT district is primarily intended to accommodate agricultural operations and very low-density single-family residential development. The Mesa County land development code also includes an Airport Overlay Zoning district (AE) with the identical purpose and subdistrict zones as the City's AE. Existing zoning is depicted in Figure A5, entitled *GENERALIZED EXISTING ZONING*.

Future Land Use

The City of Grand Junction adopted a plan in 1996 known as the "Growth Plan." The Growth Plan is a statement of the community's vision for its future and a road map providing direction to achieve that vision. The Plan was designed, though an intergovernmental agreement, to be applicable to both Mesa County and the City of Grand Junction.

The Growth Plan includes a Future Land Use Map showing recommended land uses surrounding the Airport. Recommended land uses south and west of the Airport include primarily commercial and commercial industrial with some medium density residential land uses adjacent to airport property. Recommended land uses north and east of the Airport include agricultural and rural.

Included in the Growth Plan are goals and policies for future development. Goal 8 is "to support the long-term viability of existing centers of community activity as shown in Exhibit V.5, *Existing Centers of Activity Map*." Grand Junction Regional Airport lies within one of five centers of activity identified by the City, and known as "Airport Environs/Horizon Drive."

Two specific policies are identified in the Growth Plan related to the Airport Environs/Horizon Drive center of activity. These policies are listed below:

- Policy 8.4: The City and County will encourage the development of uses that are compatible with the airport and the image of this area as a gateway into Grand Junction, particularly: office/warehousing; and light industrial/indoor manufacturing near the airport; and highway-oriented commercial development serving tourists and visitors (*e.g.*, lodging, recreation and restaurants) along Horizon Drive between Crossroads Blvd. and G Road.
- Policy 8.5: The City and County will prohibit inappropriate development within the airport's noise and approach zones.

The Implementation Strategies section of the Growth Plan includes action items which were last updated in 2003. The action item related to the Airport is listed as follows:

> 2. Area Plans, Corridor Plans and Neighborhood Programs
>
> a. Participate in public hearings on the Airport Master Plan and ensure it is consistent with the Growth Plan. Adjust Horizon Drive area commercial zoning to promote the development of Horizon Drive lodging and other tourist oriented services. Commercial development in the vicinity of the airport should be limited to airport related businesses and high quality business park uses designed to project an attractive entry into the community for airport passengers.

The future land use plan for the City of Grand Junction and Mesa County is shown in Figure A6, entitled *GENERALIZED FUTURE LAND USE*. The Urban Growth Boundary shown in Figure A6 indicates the urban areas for the purposes of land use analysis for the City and County.

Existing Land Use

Typically, existing land use patterns follow closely to what is portrayed on the local zoning map. When viewing the aerial photograph for Grand Junction Regional Airport, land use patterns do indeed resemble what is illustrated in the existing zoning map for the City of Grand Junction.

Airport Environs Overlay Zoning District

As stated previously, the City of Grand Junction has established an Airport Environs Overlay Zoning District that includes Subdistrict A Airport Area of Influence, Subdistrict B Noise Zone, Subdistrict C Critical Zone and Subdistrict D Clear Zone. The Area of Influence is described as an area surrounding the Airport impacted or influenced by proximity of the Airport either by aircraft overflight, noise and/or vibrations. The Noise Zone includes the area within the 65 Ldn to 70 Ldn noise-exposure area as shown in the Grand Junction Regional Airport Master Plan (the noise zone is currently shown on the Mesa County zoning map, but not the City of Grand Junction zoning map). The Critical Zone is a rectangular-shaped zone located directly off the end of each runway's primary surface (or 200 feet from the end of pavement) which is critical to aircraft operations (i.e. more apt to have accidents within it because of the takeoff and landing mode in that particular area). The Clear Zone is a trapezoidal-shaped zone also beginning 200 feet from the end of the pavement, which is to remain clear of all above-ground obstructions or construction. The Clear Zone dimensions match the dimension of the Runway Protection Zone (RPZ) as shown on the Airport Layout Plan (ALP).

The boundaries of the Airport Environs Overlay Zoning District and its subdistricts shall be

reviewed whenever the Grand Junction Regional Airport Authority updates and/or amends the noise contour maps and/or master plan. The Grand Junction Regional Airport Authority shall notify the City of any such update and/or amendment and provide a copy of it to the City. These zones are shown on Figure A7, entitled *AIRPORT ENVIRONS OVERLAY ZONING DISTRICT*.

Summary

The goal of this chapter is to provide general background information pertaining to Grand Junction Regional Airport, its aviation-operating environment, and its physical surroundings. The *Inventory* chapter is vital from the standpoint that it will be used as a reference in the analysis and design process, which is required to prepare the airport's future development plan.

The next step in the planning process is to formulate forecasts for the quantity and type of future aviation activity expected to occur at the Airport during the forthcoming twenty years.

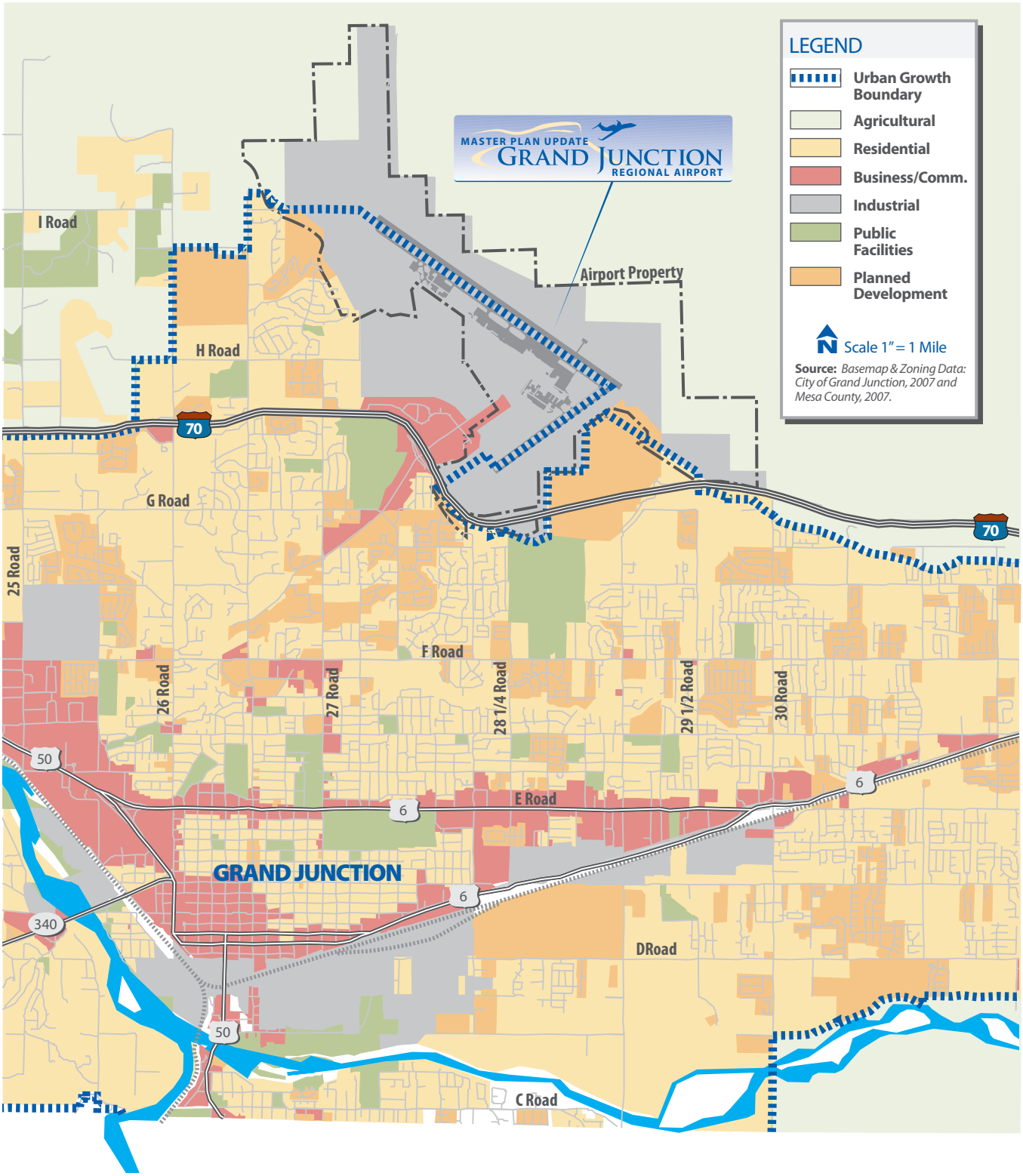


Figure A5 **Generalized Existing Zoning**

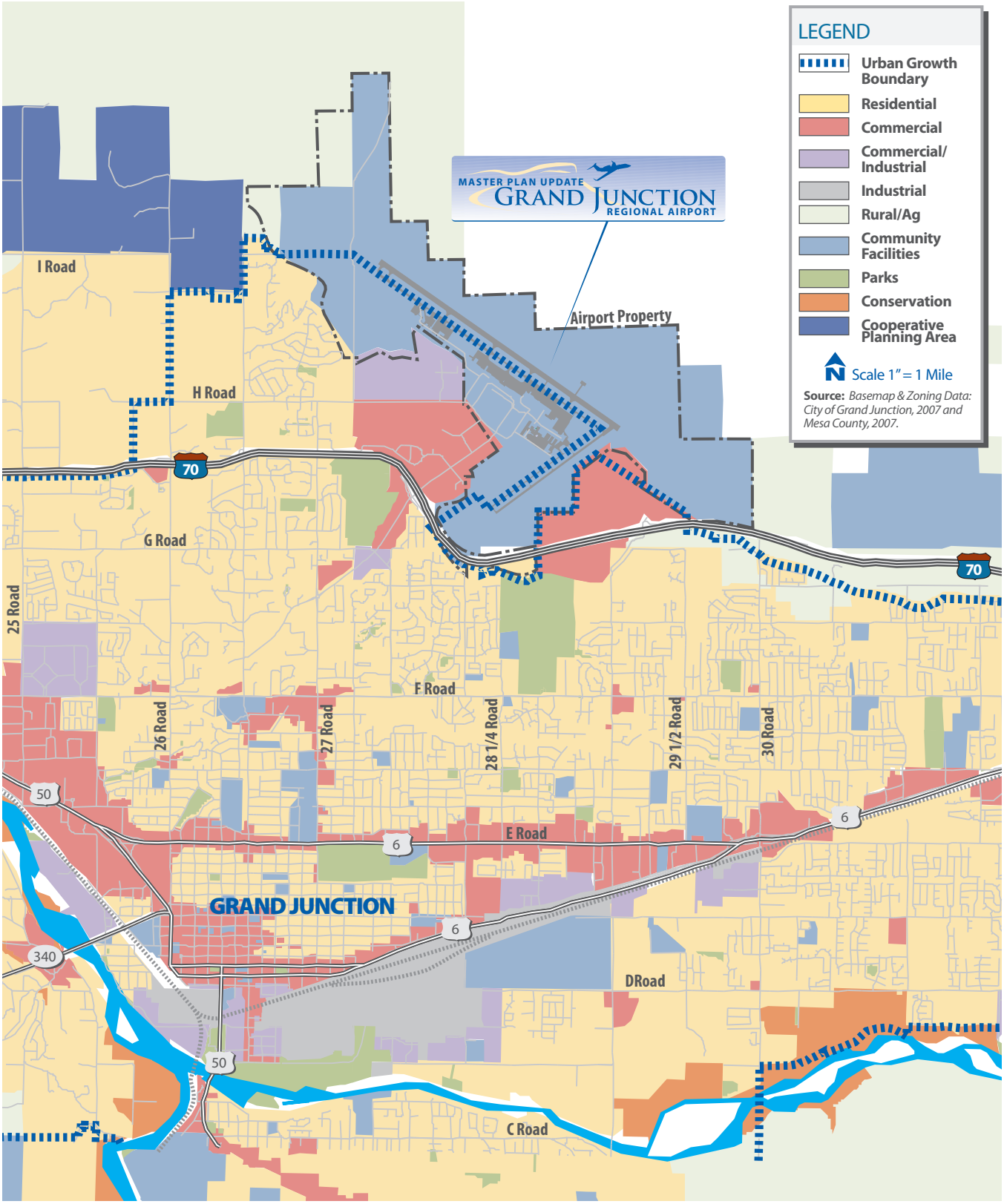


Figure A6 **Generalized Future Land Use**

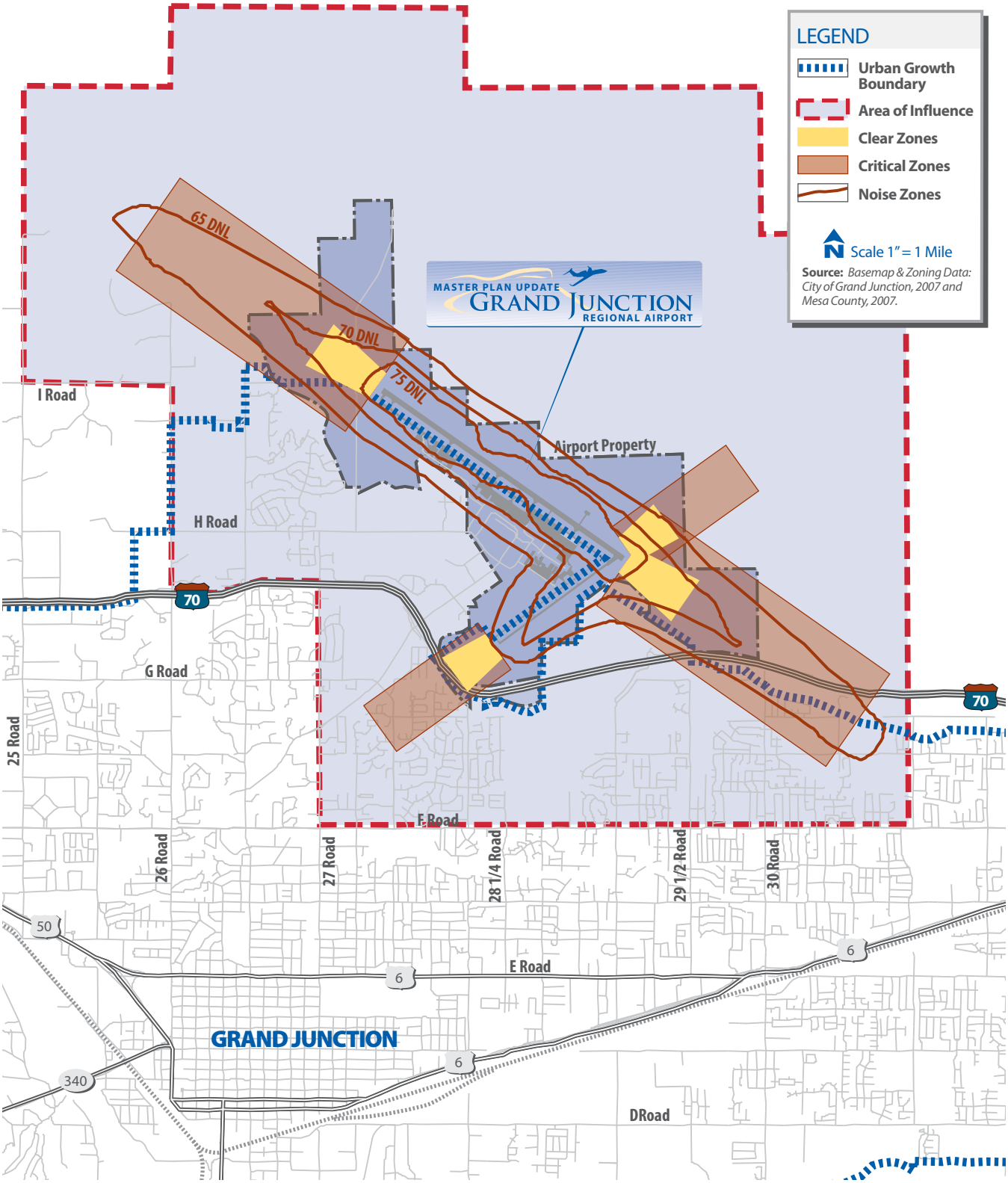


Figure A7 **Airport Environs Overlay Zoning District**

Forecasts

B. Forecasts of Aviation Activity

MASTER PLAN UPDATE

GRAND JUNCTION

REGIONAL AIRPORT

B. Forecasts of Aviation Activity

Forecasting is a key element in the master planning process. The forecasts are essential for analyzing existing airport facilities and identifying future needs and requirements of the facilities. Forecasting, by its very nature, is not exact, but it does establish some general parameters for development and provides a defined rationale for various development activities as demands increase. The amount and kind of aviation activity occurring at an airport are dependent upon many factors, but are usually reflective of the services available to aircraft operators, the local/regional demand for commercial passenger services, the meteorological conditions under which the airport operates (daily and seasonally), the businesses located on the airport or within the community the airport serves, and the general economic conditions prevalent within the surrounding area.

Aviation activity forecasting generally commences by utilizing the present time as an initial point, supplemented with historical trends obtained from previous years' activity and recorded information. This data has evolved from a comprehensive examination of historical airport records provided by airport personnel, *Colorado Aviation System Plan, 2005*, FAA Form 5010-1 data, *FAA Terminal Area Forecasts*, and the *FAA Aerospace Forecasts Fiscal Years 2008-2025*. These documents were assembled in different years, making the base year data quite variable, and emphasizing the need for establishing a well-defined and well-documented set of historical information from which to project future aviation activity trends.

Prior to an examination of current and future activity levels at the Airport, there are several conditions and assumptions that should be noted, which form the basis or foundation for the development of the forecasts contained herein. These statements cover a wide variety of physical, operational, and socioeconomic considerations and, although not necessarily in order of importance or priority, include:

- **Weather Conditions.** Existing weather data (i.e., visibility, ceiling, and wind conditions) for Grand Junction Regional Airport were available for analysis from the National Oceanic and Atmospheric Administration (NOAA). With the

exception of very few days annually, the Airport is not adversely affected by poor weather conditions. Visual Flight Rules (VFR) meteorological conditions are experienced approximately 94.8% of the time annually; therefore, aircraft can operate at the Airport on a regular basis throughout the year, with limited interruption due to weather. The potential negative impact of poor weather conditions on the operational capability of the Airport is documented in the next chapter of this document. This information will be analyzed and evaluated in later chapters regarding the identification of potential instrument approach facility enhancements and the preparation of development alternatives for their implementation.

- **Airport/Community Location, Proximity, and Role.** Grand Junction Regional Airport is uniquely situated geographically in west-central Colorado. The airport service area for passenger and air cargo includes much of western Colorado and eastern Utah. A significant amount of the deplaned air cargo at the Airport is loaded on trucks for delivery to destinations outside of Grand Junction.

- **Regional Socioeconomic Conditions.** The existing socioeconomic condition of a particular region has historically impacted aviation activity within that area. The two primary socioeconomic indicators, which are often analyzed in the forecasts of aviation activity, are population and employment statistics.

  According to the latest population data prepared by the U.S. Census Bureau, the estimated Mesa County population in 2007 totaled 139,082 residents. This service area population group has increased at approximately 2.8 percent annually since 2000. The year 2025 population projections for the Grand Junction Metropolitan Statistical Areas (MSA) are expected to reach a total of 199,866, reflecting an average annual growth rate of 2.6 percent. This compares to a projected statewide average annual growth rate of approximately 2.2 percent for the same period. According to the Colorado Demography Office, employment for Mesa County in 2005 was 70,917. Employment for Mesa County through the year 2025 is projected to increase to 102,046. This equates to an average annual growth rate of 2.2 percent for the years 2005 through 2025.

- **Additional Growth Indicators.** According to the Grand Junction Economic Partnership, the Gross Metropolitan Product (GMP) increased at an average annual growth rate of over 8 percent from $5.8 billion in 2005 to $6.3 billion in 2006. The median home price in Grand Junction has significantly increased in

recent years. According to the Colorado Association of Realtors, the 2000 Median Home Price of $120,100 had increased to $209,783 by March of 2007, an almost 75 percent increase. Finally, the City of Grand Junction Financial Operations Department reported a surge in sales tax receipts from $4.91 million in January of 2007 to approximately $5.29 million in January of 2008.

- **Community Support.** Grand Junction Regional Airport benefits from the support of the surrounding cities and county governments, as well as local industry and residents. The Airport is recognized as a vital asset to both the City of Grand Junction and Mesa County, which contributes to the stability and the future of the area's economy. The overall position of the area is one of continued growth and development, with special focus on the impetus that the Airport provides to maintain and attract additional economic and aviation-related development to the region.

  Additionally, many of the surrounding county communities and much of the west-central Colorado region benefit from the close proximity of a regional commercial service aviation facility and, in turn, provide an economic base that can attract additional based aircraft, as well as industrial/business development to the Airport. This impact is realized by a study, *The Economic Impact of Airports in Colorado, 2003*, completed by the Colorado Aeronautics Division, for all Colorado airports. According to the 2003 Study (an update is planned for 2008), Grand Junction Regional Airport generated $276.9 million in economic activity, $108.5 in annual wages, and 3,667 jobs in 2002. Economic activity was defined as the "economic contribution" of the Airport to the region and state economy in terms of total jobs, wages, and economic activity (business receipts).

- **Facilities Potential.** Grand Junction Regional Airport currently serves a vital commercial passenger service role to the economy of west-central Colorado. From a runway length standpoint (10,501 and 5,501 feet), it is one of only a few airports within the regional service area that can accommodate the operation of air carrier jet aircraft. In addition, the Airport can accommodate the operation of large business jet aircraft that may be restricted from operating at the region's other general aviation airports.

- **Negative or Neutral Factors.** As a general comment, the Airport has very few negative factors and is in an enviable position, due to its many positive features and conditions. However, there are some broad factors that can have a negative

or neutralizing impact on the Airport, and the aviation industry, and these are considered in the planning process.

From a national perspective, one negative factor is the current state of the national economy including record high oil prices, contributing to higher air fares. The economic condition of many of the hub-and-spoke "legacy" airlines is also of concern. This is being offset to a great degree by the positive economic conditions being experienced by the low-cost carriers.

The overall condition of the general aviation industry in the United States has been a negative factor for several years. Beginning in 1978, many sectors of the general aviation industry have been in recession. The FAA has identified several factors that precipitated this downturn, including economic recessions, fuel crises, the termination of the GI Bill, and the repeal of the Investment Tax Credit. Factors including the rising expense of owning and operating an aircraft (i.e., costs of insurance, fuel, and maintenance), increases in airspace restrictions affecting fair-weather flying, reductions in personal leisure time, and shifts in personal preference as to how leisure time is spent have tended to restrict the single engine light aircraft segment of the industry, in particular.

There are also a number of bright spots having a positive impact in certain segments of the general aviation industry. They include the passage of the General Aviation Revitalization Act (GARA) of 1994 and the more recent FAA Sport Pilot and Light Sport Aircraft Rules. The GARA legislation has caused renewed interest and optimism among U.S. aircraft manufacturers, who are either re-entering the single engine aircraft market after several years' absence, or are increasing future production schedules to meet expected renewed demand. Response to the Sport Pilot and Light Sport Aircraft rule, the growth in the amateur-built aircraft market, and the strength of the used aircraft market, all indicate that demand for inexpensive personal aircraft is still relatively strong.

Historical Airport Activity Summary

A tabulation of Grand Junction Regional Airport's historical aviation activity since 1997 is presented in Table B1, entitled *HISTORICAL AVIATION ACTIVITY, 1997-2007*. This table presents a summary of historic aviation activity at the Airport, which includes both local and itinerant operations, total operations and total enplanements.

Table B1

HISTORICAL AVIATION ACTIVITY, 1997-2007

Year	Enplane-ments	Itinerant Air Taxi/Air Carrier Ops	Itinerant GA Ops	Itinerant Military Ops	Total Itinerant Ops	Local GA Ops	Local Military Ops	Total Local Ops	Total Ops
1997	140,370	21,501	37,879	1,649	61,029	23,032	1,592	24,624	85,653
1998	140,435	24,250	44,162	2,144	70,555	27,163	2,812	29,975	100,530
1999	139,532	25,061	44,317	2,839	72,216	31,294	3,981	35,275	107,491
2000	136,611	24,445	44,946	3,080	72,471	30,487	3,688	34,175	106,649
2001	120,057	21,116	40,857	2,803	64,776	35,032	4,008	39,040	103,816
2002	125,441	21,381	43,910	2,004	67,295	34,484	3,121	37,605	104,899
2003	127,584	21,219	38,495	1,683	61,397	31,503	2,952	34,455	95,852
2004	144,027	22,997	36,981	1,775	61,753	28,128	3,049	31,177	92,930
2005	159,715	23,698	33,692	2,455	59,846	23,066	4,000	27,066	86,911
2006	160,307	21,886	31,701	2,113	55,700	20,165	2,402	22,568	78,267
2007	170,836	22,150	30,012	2,122	57,284	21,760	3,702	25,462	82,745

Source: *Grand Junction Regional Airport Authority.*

As can be seen, the number of annual total aircraft operations (an operation is defined as either a takeoff or a landing) at Grand Junction Regional Airport has fluctuated to some degree through the last ten years. Annual counts have ranged from a low of 78,267 operations in 2006 to a high of approximately 107,491 operations in 1999.

- **Passenger Enplanements.** Enplanements have increased significantly since the 2001 low of 120,057. This upward trend is likely to continue as additional airlines initiate service and provide an increased level of competition.

- **Air Carrier/Air Taxi Aircraft Operations**. The Airport Traffic Control Tower (ATCT) located on the field records aircraft operations during its operating hours. Nighttime aircraft operations when the tower is closed (10:00 p.m. to 6:00 a.m.) are estimated to be approximately 10 percent of daytime operations totals. Additionally, the majority of commercial service operations are conducted by air taxi/commuter carriers with a small number of commercial service operations (approximately 1,361 in 2007). Air taxi/commuter operations are defined air those conducted by aircraft with less than 60 seats, while air carrier operations are those conducted by aircraft with more than 60 seats.

- **General Aviation Operations.** General aviation operations are typically more directly tied to economic conditions than commercial passenger operations, and this trend is often reflected in the historical operations data for a particular airport. The amount of general aviation activity at many airports around the country has remained flat or declined since the early 1980s. The data available for Grand Junction Regional Airport illustrates fluctuations in general aviation activity since 1997. As economic conditions in the region change in the future, fluctuations in the number of general aviation operations at the Airport will likely continue; although, the increasing trend from 2006 to 2007 is expected to continue over the short-term.

- **Military Operations.** Historically, military aircraft have utilized Grand Junction Regional Airport for training and/or refueling purposes. The majority of these operations are typically associated with either single engine piston trainer aircraft or either A-6A Prowler or F-18 Hornet jet aircraft. The Airport also accommodates occasional operations by large military taker/refueler type aircraft such as the KC-135 and the C-130. Military operations during 2007 were approximately 5,824 and are expected to remain roughly the same throughout the planning period.

Historical Based Aircraft Summary

The number of aircraft that can be expected to base at any airport is dependent upon many factors, such as aircraft maintenance facilities, airport communication practices, services provided at the airport, airport proximity and access, and similar factors.

A historical summary of the annual number of reported based aircraft is provided in the following table entitled *HISTORICAL BASED AIRCRAFT, 2003-2007*. The data was compiled from FAA records and a recent based aircraft count conducted by airport personnel. There is an estimated 166 aircraft currently based at the Airport, of which 130 are single engine piston, 15 multi-engine pistons, 6 single engine turbo prop, 11 multi-engine turbo prop, 3 jets, and 1 helicopter.

Table B2

HISTORICAL BASED AIRCRAFT, 2003-2007

Year	Total
2003[1]	162
2004[1]	158
2005[1]	146
2006[1]	147
2007[2]	166[3]

[1] *Data obtained from FAA Terminal Area Forecast, December 2008.*

[2] *Grand Junction Regional Airport Authority personnel.*

[3] *Following the publication of the Draft Airport Master Plan in May 2009, the Airport conducted a thorough based aircraft count. The 2009 number of aircraft based at the Airport is 104. This is significantly lower than the 2007 estimate of 166 based aircraft; however, the implications for the recommended improvements included in this Master Plan Update are minimal. Storage facilities for additional based aircraft will not be constructed until there is sufficient demand for such facilities.*

Passenger Enplanements Forecast

It is important to note that two airlines initiated new commercial passenger service at the Airport in Spring 2008, and one airline has ceased service to the Airport. American Eagle started service on April 7, 2008 with 2 daily flights from Dallas on 50 seat Embraer 145 regional jet aircraft. Lynx Aviation, a subsidiary of Frontier Airlines, started service on May 15, 2008 with 4 daily flights from Denver on 74 seat Bombardier Q400 turbo-prop aircraft. Finally, Great Lakes Aviation ceased service with 19-seat Beech 1900 aircraft. Currently, the aircraft types associated with the scheduled commercial passenger operations at the Airport are regional/commuter aircraft (under 60 passengers) with the exception of Allegiant Air which serves the Grand Junction market with two weekly departures to Las Vegas utilizing McDonnell Douglas MD-83 aircraft (150 passengers).

Two historical trends and three forecast scenarios have been developed for the passenger enplanement forecast:

- **Scenario One (Low).** This scenario projects enplanements to increase at an average annual growth rate of 2.6 percent which is equal to the projected growth rate of the Grand Junction Metropolitan Statistical Area (MSA) through 2025.

- **Scenario Two (High).** In this projection, enplanements are expected to significantly increase in 2008 based on the increase of departure seats available in the spring of 2008 (an approximate 70% increase from 3,400 departure seats per week in 2007 to over 5,800 departure seats per week in 2008). In Scenario Two, enplanements are forecast to increase by 17 percent for the first year and then increase at an average annual growth rate of 3.8 percent, which is equal to the national enplanement growth rate from the FAA's Terminal Area Forecast (TAF), for the remainder of the planning period.

- **Scenario Three.** This scenario indicates that enplanements will increase at 10 percent per year for the first two years, based primarily on the new service initiated in early 2008, and then increase at the projected population growth rate of 2.6 percent through the rest of the planning period. The new service will likely result in a spike in passenger enplanements in 2008 and 2009 as reflected in Scenario Three.

- **Scenario Four (Selected).** This projection was also developed as a result of the increase in departure seats available. Scenario Five is based on the first 6 months of actual 2008 enplanement data and assumes that the approximate level of

19,500 enplanements per month (as realized in May and June of 2008) will continue throughout the second half of 2008 and through 2009 resulting in 212,887 enplanements in 2008 and 234,000 enplanements in 2009. Enplanements are then forecast to increase at the 2.6% population growth rate for the remainder of the planning period. Scenario Four is consistent with the historical trend in enplanements at the Airport since 2001.

The passenger enplanement scenarios are compared in the following table entitled *PASSENGER ENPLANEMENT FORECAST, 2007-2027*.

Table B3

PASSENGER ENPLANEMENTS FORECAST, 2007-2027

Year	FAA TAF	Trend Projection[2]	Trend Projection[3]	Scenario One (Low)	Scenario Two[5] (High)	Scenario Three	Scenario Four (Selected)
2007	168,771	170,836[1]	170,836[1]	170,836[1]	170,836[1]	170,836[1]	170,836[1]
2008	167,339	157,342	180,310	175,278	199,878	187,920	212,887
2009	169,936	159,719	189,388	179,835	207,473	206,712	234,000
2010	172,566	162,097	198,467	184,511	215,357	212,086	240,084
2011	175,250	164,474	207,545	189,308	223,541	217,600	246,326
2012	177,970	166,851	216,624	194,230	232,036	223,258	252,731
2017	192,243	178,738	262,017	220,827	279,603	253,830	287,339
2022	207,652	190,625	307,410	251,067	336,921	288,589	326,687
2027	221,682[4]	202,512	352,802	285,448	405,990	328,108	371,423

Source: *BARNARD DUNKELBERG & COMPANY.*

[1] *Actual.*

[2] *Trend based on actual enplanements from 1995 to 2007.*

[3] *Trend based on actual enplanements from 2001 to 2007.*

[4] *2027 FAA TAF figure based on trend projection.*

Use of Various Forecasts

The recommended/selected forecast is the *Scenario Four (Base Case) Enplanement Forecast.* This base case projection will be submitted for FAA approval, and once approved, will be used through the Master Plan Update as the basis for facility needs documentation. However, both the Scenario One (low-range) and the Scenario Two (high-range) forecasts also have significant value that is recognized. The high and low forecast numbers can be utilized to help test Master

Plan recommendations for feasibility and flexibility. For example, the low-end forecast is often utilized to test for financial feasibility. The question, "If activity is lower than anticipated, can the development plan be funded?" can only be answered if low-end forecast numbers are known. The high forecast numbers are also required to answer the question, "Will programmed facilities be adequate in capacity if aviation activity grows at the maximum reasonable anticipated rate?"

Commercial Service Operations Forecast

Commercial service aircraft operations at Grand Junction Regional Airport are currently represented by a combination of turbo-prop, regional jet and narrow-body jet aircraft that are operated by six airlines. The following tables, entitled *2007 AND 2008 COMMERCIAL SERVICE CARRIERS*, provide the 2007 list of air carriers that provided service at the Airport and the 2008 list of air carriers at the Airport. As mentioned previously, recent service changes (Spring 2008) include the addition of both American Eagle and Lynx Aviation and the suspension of service by Great Lakes Aviation.

Table B4
2007 COMMERCIAL SERVICE CARRIERS

Airline	Aircraft Type	Seating Capacity	City/ Destination	Stage Length (NM)
SkyWest (United Express)	EMB 120, CRJ-200 & 700	30 to 66 seats	Denver, CO	184 NM
SkyWest (Delta Connection)	CRJ-200ER	50 seats	Salt Lake City, UT	188 NM
Mesa Airlines (United Express)	Dash 8-100 & 200, CRJ-200	37 to 50 seats	Denver, CO	184 NM
Mesa Airlines (US Airways)	Dash 8-100	37 seats	Phoenix, AZ	381 NM
Allegiant Air	MD-80	150 seats	Las Vegas, NV	364 NM
Great Lakes Aviation (United and Frontier)	Beech 1900	19 seats	Denver, CO	184 NM

Source: *Airline Flight Schedules.*

Table B5

2008 COMMERCIAL SERVICE CARRIERS

Airline	Aircraft Type	Seating Capacity	City/ Destination	Stage Length(NM)
SkyWest (United Express)	EMB 120, CRJ-200 & 700	30 to 66 seats	Denver, CO	184 NM
SkyWest (Delta Connection)	CRJ-200ER	50 seats	Salt Lake City, UT	188 NM
Mesa Airlines (United Express)	Dash 8-100 and 200, CRJ-200	37 to 50 seats	Denver, CO	184 NM
Mesa Airlines (US Airways)	Dash 8-100	37 seats	Phoenix, AZ	381 NM
Allegiant Air	MD-80	150 seats	Las Vegas, NV	364 NM
American Eagle (American Airlines)	Embraer 145	50 seats	Dallas, TX	670 NM
Lynx Aviation (Frontier Airlines)	Dash 8-Q400	74 seats	Denver, CO	184 NM

Source: *Airline Flight Schedules.*

The establishment of projected passenger enplanements, in addition to identifying fleet mix, is required to properly project commercial service aircraft operations. The Boarding Load Factor (BLF) of the airlines serving an airport is one method of determining the forecast of commercial service operations. The BLF is the ratio of seats available for passenger boarding on a particular aircraft compared to the number of passengers actually boarding (for example, if an aircraft has fifty seats available and twenty-five passengers board, the BLF is 50 percent). According to recent FAA estimates included in the *FAA Aerospace Forecasts Fiscal Years 2008-2025*, average load factors of approximately 79.8 percent were anticipated to be achieved by the air carrier industry in 2008 and it is expected to increase to 81.6 by 2025. The BLF for the Grand Junction Regional Airport in 2007 was approximately 73 percent and is expected to increase only slightly by the end of the planning period.

The following table presents the commercial service operational forecasts, as well as enplanements, average seats per departure and the projected BLFs. As can be seen in the table, the average seats per departure figure is anticipated to significantly increase in the first five years due to the change in the commercial aircraft fleet including the addition of both the 50-seat Embraer 145 (American Eagle) and the 74-seat Bombardier Dash 8, Q400 (Lynx Aviation) and the subtraction of the 19-seat Beech 1900 (Great Lakes Aviation). It is anticipated that the passenger demand can be accommodated with increases in the number of flights by the same airline equipment over the 20-year planning period. While no changes are anticipated in the

commercial airline fleet mix, it is likely that the 70- to 90-seat regional jets will be more frequently utilized to serve the Airport in accordance with the aircraft capacity forecasts included in the *FAA Aerospace Forecasts Fiscal Years 2008-2025*. Thus, the number of seats per departure at the Airport is expected to increase slightly.

Table B6

COMMERCIAL SERVICE OPERATIONS FORECAST, 2007-2027

	Seats	2007	2012	2017	2022	2027
Narrow Body Jets	150	214[1]	300	333	366	407
Regional Jets	50-66	4,376[1]	6,050	6,716	7,455	8,274
Turbo Props	19-74	7,022[1]	7,300	8,103	8,995	9,984
Total Operations		**11,622**[1]	**13,650**	**15,152**	**16,816**	**18,665**
Average Seats Per Departure		40.35	54.37	54.37	54.35	54.35
Enplanements		170,836[2]	252,731	287,339	326,687	371,423
Boarding Load Factor (BLF)		72.9%	68.1%	69.8%	71.5%	73.2%

Source: *BARNARD DUNKELBERG & COMPANY.*

[1] *Actual. U.S. Department of Transportation, Bureau of Transportation Statistics.*

[2] *Actual. Grand Junction Regional Airport.*

General Aviation Operations Forecast

The general aviation market at the Grand Junction Regional Airport has undergone significant changes in past couple of years that have likely contributed to the first annual increase in total aircraft operations at the Airport since 2002. These changes include the addition of a self-service fueling facility and a change in ownership in the local FBO. The new FBO ownership has made significant efforts toward fostering aviation growth at the Airport. In fact, the FBO has expended over $10 million since 2005 in capital and facility improvements, including participation in the 2007 access roadway redevelopment project. The stated goal of these improvements by the FBO is to win more aircraft maintenance business, which in turn, will increase both local and itinerant aircraft operations (aircraft are shuttled to and from the Airport for maintenance and test flown following maintenance events).

Several forecast scenarios were developed to appropriately reflect current general aviation operational activity and provide realistic projections for the 20-year planning period. The

forecast scenarios generated for this Airport Master Plan Update assume, for the most part, straight-line growth. While it is recognized that straight-line (consistent) growth never occurs year after year for many years, average annual growth methodologies often serve to illustrate intermediate and long-range planning. It should be noted that it is not the actual numbers that are most important, but the reasoning, assumptions, and trends that the numbers represent.

The following scenarios were considered in the development of the general aviation operations forecast:

- **FAA TAF.** Data from the December 2008 FAA Terminal Area Forecast (TAF) is shown (0.65 percent)

- **Scenario One.** As indicated in this projection and according to the *FAA Aerospace Forecasts for Fiscal Years 2008-2025*, general aviation operations at towered airports nationwide are expected to increase at an average rate of 1.3 percent annually. In other words, in this scenario, the Airport would continue to maintain its national market share of general aviation operations at towered airports.

- **Scenario Two.** As previously mentioned, the socioeconomic conditions of a particular area can affect aviation activity. Typically, population, employment, and income are analyzed and used as a forecast scenario. Scenario Two utilizes the forecast average annual population growth for the Grand Junction Metropolitan Statistical Area (MSA) of 2.6 percent as a projection basis.

- **Scenario Three.** This scenario projects an average growth rate of 3.0 percent which is equal to the national forecast for general aviation hours flown from the *FAA Aerospace Forecasts for Fiscal Years 2008-2025*. Much of the projected increase reflects increased flying by business and corporate aircraft as well as a steady, if relatively small annual percentage increases in utilization rates for piston aircraft.

A comparison of these scenarios is presented in the following table entitled *GENERAL AVIATION AIRCRAFT OPERATIONS FORECAST SCENARIOS, 2007-2027*. Scenario One (maintain national market share) is the selected forecast for this planning effort. This scenario assumes that the Airport will maintain its national market share of towered airport, general aviation aircraft operations. This reflects the fact that the Airport is expected to

remain center for business aviation and aircraft maintenance with a significant number of operations conducted by turbine powered general aviation aircraft.

Table B7

GENERAL AVIATION AIRCRAFT OPERATIONS FORECAST SCENARIOS, 2007-2027

Year	FAA TAF	FAA TAF GA Ops at Towered Airports	Scenario One (1.3%)[1, 4]	Scenario One National Market Share %[5]	Scenario Two (2.6%)[1]	Scenario Three (3.0%)[1]
2007	48,832	33,616,484	65,300[2]	0.2%	65,300[2]	65,300[2]
2008	46,801	31,266,783	66,149	0.2%	66,998	67,259
2009	47,056	31,345,730	67,009	0.2%	68,740	69,277
2010	47,314	31,442,324	67,880	0.2%	70,527	71,355
2011	47,697	31,825,388	68,762	0.2%	72,361	73,496
2012	48,084	32,215,257	69,565	0.2%	74,242	75,701
2017	50,456	34,379,704	74,303	0.2%	84,409	87,758
2022	53,225	36,808,876	79,260	0.2%	95,967	101,735
2027	55,245[3]	38,524,456[3]	84,548	0.2%	109,109	117,939

Source: *BARNARD DUNKELBERG & COMPANY.*

[1] *Includes non-scheduled air taxi operations.*

[2] *Actual.*

[3] *2027 extrapolated based on trend projection.*

[4] *Selected Forecast.*

[5] *The Market Share percentage is based on the selected forecast (Scenario One) and is the GJT existing and forecast percentage share of national general aviation operations at Towered Airports.*

Military Operations Forecast

As a percentage of total annual aircraft operations, the number of military operations at the Airport has historically been relatively low. No factors have been identified that would significantly increase the number of military operations in the future; therefore, the number of military aircraft operations is projected to remain at historic levels throughout the planning period.

Table B8

MILITARY OPERATIONS FORECAST, 2007-2027

Year	Military Operations
2007[1]	5,824
2012	5,824
2017	5,824
2022	5,824
2027	5,824

[1] *Actual.*

Operations Forecast by Aircraft Type

As indicated in the following table entitled *SUMMARY OF OPERATIONS BY AIRCRAFT TYPE, 2007-2027*, total annual operations are anticipated to increase by 31 percent (1.6 percent per year) through the planning period. Overall, operations are expected to increase from the current level of 82,745 to approximately 109,037 by the end of the planning period. General aviation aircraft operations are projected to continue to represent the majority percentage of airport activity through the planning period.

Table B9

SUMMARY OF OPERATIONS BY AIRCRAFT TYPE, 2007-2027

Operations By Type	2007 [1]	2012	2017	2022	2027
Commercial Service	*11,622*	*13,650*	*15,152*	*16,816*	*18,665*
Narrow-body	214	300	333	366	407
Regional Jet	4,376	6,050	6,716	7,455	8,274
Turbo-Prop	7,022	7,300	8,103	8,995	9,984
General Aviation[2]	*65,300*	*69,656*	*74,303*	*79,260*	*84,548*
Single Engine Piston	39,180	40,749	42,353	43,989	45,656
Multi-Engine Piston	3,265	3,483	3,715	3,963	4,227
Turbo-Prop	5,224	5,573	5,944	6,341	6,764
Business Jet	16,325	18,111	20,062	22,193	24,519
Helicopter	1,306	1,741	2,229	2,774	3,382
Military	*5,824*	*5,824*	*5,824*	*5,824*	*5,824*
Total Operations	**82,745**	**89,130**	**95,279**	**101,900**	**109,037**

Source: *BARNARD DUNKELBERG & COMPANY.*

[1] *Actual.*

[2] *Includes non-scheduled air taxi operations.*

On an overall percentage basis, the Airport currently experiences a large number of commercial regional jet and turbo-prop operations (approximately 98 percent) when compared with commercial narrow body aircraft operations (approximately 2 percent). This is a result of the primary equipment utilized by the regional and commuter airlines that serve the Airport.

Currently, operations conducted by single engine aircraft represent approximately 60 percent of the general aviation activity, while approximately 5 percent are multi-engine piston operations, 8 percent are turbo-prop operations, 25 percent are business jet operations, and 2 percent are

helicopter operations. It is estimated that through the planning period, the distribution percentage of operations for single engine piston aircraft will decrease slightly, while the distribution percentage of business jet aircraft will increase.

Local and Itinerant Operations Forecast

The *Air Traffic Control Handbook* defines a local operation as any operation performed by an aircraft operating in the local traffic pattern or within sight of the tower, or aircraft known to be departing or arriving from flight in local practice areas, or aircraft executing practice instrument approaches at an airport. According to Grand Junction Regional Airport Authority records, itinerant operations constituted approximately 69 percent of the total operations at the Airport. This existing percentage of itinerant activity can be attributed to the fact that, with respect to general aviation, the Airport accommodates a significant number of business- and tourist-related aircraft operations and currently experiences a limited amount of general aviation flight training activity.

It is forecast that the level of itinerant aviation activity will likely remain high. As can be seen in the following table, entitled *SUMMARY OF LOCAL AND ITINERANT OPERATIONS, 2007-2027*, the role of the Grand Junction Regional Airport will remain the same. The Airport will continue to serve as a center for business and maintenance-related general aviation operations, with the forecast percentage of itinerant operational activity remaining relatively constant throughout the planning period.

Table B10

SUMMARY OF LOCAL AND ITINERANT OPERATIONS, 2007-2027

Year	Local Operations	Itinerant Operations	Total Operations
2007[1]	25,775	56,970	82,745
2012	27,764	61,366	89,130
2017	29,679	65,600	95,279
2022	31,742	70,158	101,900
2027	33,965	75,072	109,037

Source: *BARNARD DUNKELBERG & COMPANY.*

[1] *Grand Junction Regional Airport Authority.*

Peak Period Forecast

An additional element of assessing airport usage, and determining various requirements necessitated by capacity and demand considerations, is the determination of peak period activities. Historical operational data for Grand Junction Regional Airport was utilized to determine peaking characteristics. Peak months have historically been during the summer with aircraft operations exceeding 8,000 for the month. The peak period operation projections are depicted in the following table, entitled *PEAK PERIOD AIRCRAFT OPERATIONS, 2007-2027*.

Table B11

PEAK PERIOD AIRCRAFT OPERATIONS, 2007-2027

Year	Annual	Peak Month	Average Day of Peak Month	Peak Hour/ Average Day Ratio	Average Peak Hour
2007	82,745	8,275	267	10%	27
2012	89,130	8,913	288	11%	32
2017	95,279	9,528	307	12%	37
2022	101,900	10,190	329	13%	43
2027	109,037	10,904	352	14%	49

Source: *BARNARD DUNKELBERG & COMPANY.*
Operation counts were tabulated based on methodology from FAA AC 150/5070-6B Airport Master Plans and FAA AC 150/5060-5 Airport Capacity and Delay.

General Aviation Based Aircraft Forecast

The determination of the number and type of aircraft anticipated to be based at an airport is also a vital component in developing a plan for future facilities. Generally, there is a relationship between aviation activity and based aircraft, stated in terms of operations per based aircraft (OPBA). Sometimes, a trend can be established from historical information on aircraft operations and based aircraft. The national trend has been changing with more aircraft being used for business purposes and less for pleasure flying. This impacts the OPBA in that business aircraft are usually flown more often than recreational or pleasure aircraft. It is expected that the number of operations per based aircraft will increase at the Airport as more based aircraft are used for business purposes.

The based aircraft forecast scenarios are presented in the following table. Scenario One is based on the average annual growth rate of 1.3 percent for general aviation activity from the *FAA Aerospace Forecasts for Fiscal Years 2008-2025*. Scenario Two assumes that the Airport will maintain its current level of 393 general aviation OPBA. This scenario is also consistent with FAA

Order 5090.3C *National Plan of Integrated Airport Systems* which state that "a general guideline is 350 operations per based aircraft for busier general aviation airports with more itinerant traffic, and 450 operations per based aircraft for busy reliever airports." As can be seen in the table, both scenarios result in 215 based aircraft at the Airport by 2027.

Table B12

GENERAL AVIATION BASED AIRCRAFT FORECAST SCENARIOS, 2007-2027

Year	Col. State System Plan	FAA TAF	Scenario One (1.3%)	Scenario Two (393 OPBA)[3]
2007	-	204	166	166
2008	-	206	168	168
2009	-	210	170	171
2010	156	212	173	173
2011	-	215	175	175
2012	-	219	177	177
2017	167[1]	233	189	189
2022	-	248	201	202
2027	192[2]	263	215	215

Source: *BARNARD DUNKELBERG & COMPANY.*

[1] *2015 Actual Forecast Year.*

[2] *2025 Actual Forecast Year.*

[3] *Selected Forecast.*

The mix of based aircraft for incremental periods throughout the planning period is shown in the following table, entitled *GENERAL AVIATION BASED AIRCRAFT FLEET MIX, 2007-2027*. With an existing high percentage of single engine aircraft based at the Airport, the percentage of turbo prop and business jet aircraft is expected to increase as a part of the total based aircraft population. This is in line, first of all, with overall trends in general aviation, but even more importantly, parallels the economic development and growth expectations and projections characteristic of the region. By the end of the planning period, single engine aircraft are anticipated to comprise 77% of the total based aircraft at the Airport, with approximately 9% being multi-engine piston aircraft, 10% turbo-props, 3% business jets and 1% being helicopters.

Table B13

GENERAL AVIATION BASED AIRCRAFT FLEET MIX, 2007-2027

Aircraft Type	2007	2012	2017	2022	2027
Single Engine Piston	130 *(78.4%)*	138 *(78.0%)*	147 *(77.6%)*	156 *(77.2%)*	165 *(76.8%)*
Multi-Engine Piston	15 *(9.0%)*	16 *(9.0%)*	17 *(9.0%)*	18 *(9.0%)*	19 *(9.0%)*
Turbo Prop	17 *(10.2%)*	18 *(10.4%)*	19 *(10.4%)*	21 *(10.4%)*	22 *(10.4%)*
Business Jet	3 (1.8%)	4 (2.0%)	5 (2.4%)	6 (2.8%)	8 (3.2%)
Helicopter	1 *(0.6%)*	1 *(0.6%)*	1 *(0.6%)*	1 *(0.6%)*	1 *(0.6%)*
Total	**166[1]** ***(100%)***	**177** ***(100%)***	**189** ***(100%)***	**202** ***(100%)***	**215** ***(100%)***

Source: *BARNARD DUNKELBERG & COMPANY.*

[1] *Following the publication of the Draft Airport Master Plan in May 2009, the Airport conducted a thorough based aircraft count. The 2009 number of aircraft based at the Airport is 104. This is significantly lower than the 2007 estimate of 166 based aircraft; however, the implications for the recommended improvements included in this Master Plan Update are minimal. Storage facilities for additional based aircraft will not be constructed until there is sufficient demand for such facilities.*

Airport Reference Code (ARC) Analysis

The types of aircraft presently utilizing an airport and those projected to utilize the facility in the future are important considerations for planning airport facilities. An airport should be designed in accordance with the Airport Reference Code (ARC) standards that are described in AC 150/5300-13 *Airport Design*. The ARC is a coding system used to relate and compare airport design criteria to the operational and physical characteristics of the aircraft intended to operate at the airport. The ARC has two components that relate to the airport's "Design Aircraft". The first component, depicted by a letter (i.e., A, B, C, D or E), is the aircraft approach category and relates to aircraft approach speed based upon operational characteristics. The second component, depicted by a roman numeral (i.e., I, II, III, IV, V or VI), is the aircraft design group and relates to aircraft wingspan (physical characteristic). Generally speaking, aircraft approach speed applies to runways and runway-related facilities, while aircraft wingspan is primarily related to separation criteria associated with taxiways and taxilanes.

Based on an examination of the current and future operational information and existing airport plans, it has been determined that for Runway 11/29, it is appropriate to maintain an ARC of D-III [approach speeds associated with the commercial regional jet aircraft (e.g., the CRJ-200) and wingspans associated with aircraft as large as B-727-200 size aircraft]. According to DOT Bureau of Transportation Statistics data there were approximately 4,620 commercial operations conducted by CRJ-200 aircraft and 638 commercial operations conducted by the B-727-200 aircraft at the Airport in 2007.

Based on an examination of operational information for Runway 4/22 and discussions with airport personnel, a continuation of the existing ARC of B-II (small, private jet and turbo prop aircraft, e.g., Cessna Citation 550/560 size aircraft) is most appropriate. According to the FAA Airport Situation Display to Industry (ASDI) database, there were approximately 579 private operations by Citation 550/560 aircraft at the Grand Junction Regional Airport in 2007. Additional information and analysis related to the future ARC designation for Runway 4/22 is provided in the next two chapters.

Summary

The following tables summarize the forecasts of aviation activity that have been presented in this chapter. This information will be utilized in the next chapter to document and analyze both airside and landside facility requirements. Therefore, the forecasts of aviation activity are an important part of the information base which will be used to develop future plans for the Airport and formulate implementation decisions relating to airport development.

Table B14

SUMMARY OF AVIATION ACTIVITY FORECASTS, 2007-2027

Operations	2007[1]	2012	2017	2022	2027
Commercial Service	*11,621*	*13,650*	*15,152*	*16,816*	*18,665*
Narrow Body	214	300	336	366	407
Regional Jet	4,376	6,050	6,716	7,455	8,274
Turbo Prop	7,022	7,300	8,103	8,995	9,984
General Aviation	*65,300*	*69,656*	*74,303*	*79,260*	*84,548*
Single Engine Piston	39,180	40,749	42,353	43,989	45,656
Multi-Engine Piston	3,265	3,483	3,715	3,936	4,227
Turbo Prop	5,224	5,573	5,944	6,341	6,764
Business Jet	16,325	18,111	20,062	22,193	24,519
Helicopter	1,306	1,741	2,229	2,774	3,382
Military	*5,824*	*5,824*	*5,824*	*5,824*	*5,824*
Total Operations	**82,745**	**89,130**	**95,279**	**101,900**	**109,037**
Local Operations	25,775	27,764	29,679	31,742	33,965
Itinerant Operations	56,970	61,366	65,600	70,158	75,072
Passenger Enplanements	**170,836**	**252,731**	**287,339**	**326,687**	**371,423**
Based Aircraft By Type					
Single Engine Piston	130	138	147	156	165
Multi-Engine Piston	15	16	17	18	19
Turbo Prop	17	18	19	21	22
Business Jet	3	4	5	6	8
Helicopter	1	1	1	1	1
TOTAL	**166[2]**	**177**	**189**	**202**	**215**

Source: *BARNARD DUNKELBERG & COMPANY.*

[1] *Actual.*

[2] Following the publication of the Draft Airport Master Plan in May 2009, the Airport conducted a thorough based aircraft count. The 2009 number of aircraft based at the Airport is 104. This is significantly lower than the 2007 estimate of 166 based aircraft; however, the implications for the recommended improvements included in this Master Plan Update are minimal. Storage facilities for additional based aircraft will not be constructed until there is sufficient demand for such facilities.

Table B15

COMPARISON OF AVIATION ACTIVITY FORECASTS AND TAF FORECASTS 2007-2022 (FAA FORMAT)

Operations	Airport Forecasts	TAF	AF/TAF % Difference
PASSENGER ENPLANEMENTS			
Base Year (2007)	170,836[1]	168,771	1.2%
2012	252,731	177,970	42.0%
2017	287,339	192,243	49.5%
2022	326,687	207,652	57.3%
COMMERCIAL OPERATIONS			
Base Year (2007)	11,621[1]	20,369	-42.9%
2012	13,650	20,609	-33.8%
2017	15,152	21,688	-30.1%
2022	16,816	22,828	-26.3%
TOTAL OPERATIONS			
Base Year (2007)	82,745[1]	74,007	11.8%
2012	89,130	73,719	20.9%
2017	95,279	77,170	23.5%
2022	101,900	81,079	25.7%

Source: *BARNARD DUNKELBERG & COMPANY.*

[1] *Actual.*

[2] *Non-scheduled Air Taxi operations are included in the general aviation operations forecast not the commercial operations forecast.*

[3] *2007 Commercial operations Source: DOT Bureau of Transportation Statistics.*

Table B16

SUMMARY OF AIRPORT PLANNING FORECASTS, 2007-2022 (FAA FORMAT)

						Average Annual Compound Growth Rate			
	2007[1]	Construction Plus 1	2012	2017	2022	Construction Plus 1	2012	2017	2022
Passenger Enplanements									
Air Carrier and Commuter	170,836	212,887	252,731	287,339	326,687	24.6%	8.1%	5.3%	4.4%
Operations – Itinerant									
Air Carrier	335	2,500	4,150	4,607	5,111	646.3%	65.4%	30.0%	19.9%
Commuter/Air Taxi	11,286	9,696	9,500	10,545	11,705	-14.1%	-3.4%	-0.7%	0.2%
TOTAL COMMERCIAL OPERATIONS	***11,621***	***12,196***	***13,650***	***15,152***	***16,816***	***4.9%***	***3.3%***	***2.7%***	***2.5%***
General Aviation	44,959	45,544	47,958	51,158	54,571	1.3%	1.3%	1.3%	1.3%
Military	2,122	2,122	2,122	2,122	2,122	0.0%	0.0%	0.0%	0.0%
Operations – Local									
General Aviation	20,341	20,605	21,698	23,145	24,689	1.3%	1.3%	1.3%	1.3%
Military	3,702	3,702	3,702	3,702	3,702	0.0%	0.0%	0.0%	0.0%
TOTAL OPERATIONS	***82,745***	***84,169***	***89,130***	***95,279***	***101,900***	***1.7%***	***1.5%***	***1.4%***	***1.4%***
Instrument Operations	*26,966*	*27,247*	*28,407*	*29,813*	*31,211*	*1.0%*	*1.0%*	*1.0%*	*1.0%*
Peak Hour Operations	*27*	*28*	*32*	*37*	*43*	*1.9%*	*3.5%*	*3.2%*	*3.2%*
Cargo/Mail (tons)	*7,559*	*8,057*	*9,159*	*10,537*	*11,915*	*6.6%*	*3.9%*	*3.4%*	*3.1%*
Based Aircraft									
Single Engine (Non-Jet)	147	149	156	166	177	1.4%	1.2%	1.2%	1.2%
Multi-Engine (Non-Jet)	15	15	16	17	18	0.0%	1.3%	1.3%	1.2%
Jet Engine	3	3	4	5	6	0.0%	5.9%	5.2%	4.7%
Helicopter	1	1	1	1	1	0.0%	0.0%	0.0%	0.0%
TOTAL BASED AC	***166***	***168***	***177***	***189***	***202***	***1.2%***	***1.3%***	***1.3%***	***1.3%***

Source: *BARNARD DUNKELBERG & COMPANY.*

[1] *Actual.*

Capacity

C. Capacity Analysis and Facility Requirements

MASTER PLAN UPDATE

GRAND JUNCTION

REGIONAL AIRPORT

C. Capacity Analysis and Facility Requirements

The capacity of an airfield is primarily a function of the major aircraft operating surfaces that compose the facility and the configuration of those surfaces (runways and taxiways). However, it is also related to and considered in conjunction with wind coverage, airspace utilization, and the availability and type of navigational aids. Capacity refers to the number of aircraft operations that a facility can accommodate on either an hourly or yearly basis. It does not refer to the size or weight of aircraft. Facility requirements are used to determine the facilities needed to meet the forecast demand related to the existing and forecast aircraft fleet. The following evaluation analyzes runway length, dimensional criteria, aprons, hangars, and vehicular access.

Airfield Capacity Methodology

The evaluation method used to determine the capability of the airside facilities to accommodate aviation operational demand is described in the following narrative. Evaluation of this capability is expressed in terms of potential excesses and deficiencies in capacity. The methodology used for the measurement of airfield capacity in this study is described in Federal Aviation Administration (FAA) Advisory Circular 150/5060-5, *Airport Capacity and Delay*. From this methodology, airfield capacity is defined in the following terms:

- *Hourly Capacity of Runways*: The maximum number of aircraft that can be accommodated under conditions of continuous demand during a one-hour period.

- *Annual Service Volume*: A reasonable estimate of an airport's annual capacity (i.e., level of annual aircraft operations that will result in an average annual aircraft delay of approximately one to four minutes).

The capacity of an airport's airside facilities is a function of several factors. These factors include the layout of the airfield, local environmental conditions, specific characteristics of local aviation

demand, and air traffic control requirements. The relationship of these factors and their cumulative impact on airfield capacity are examined in the following paragraphs.

Airfield Layout

The arrangement and interaction of airfield components (runways, taxiways, and ramp entrances) refers to the layout or "design" of the airfield. As previously described, Grand Junction Regional Airport is served by two intersecting runways: Runway 11/29 and Runway 4/22. The primary runway, Runway 11/29, is served by a full-length parallel taxiway with seven connector taxiways, while the secondary crosswind runway, Runway 4/22, is served with a full-length parallel taxiway with five connector taxiways.

The majority of the Airport's existing landside facilities is located on the southwest side of Runway 11/29, and includes the passenger terminal facility, airport administration, operations and maintenance offices, FBO facilities, T-hangars/executive hangar facilities, apron areas, the Airport Traffic Control Tower (ATCT), and the Aircraft Rescue and Fire Fighting (ARFF) facility. These facilities are well situated to take advantage of the existing taxiway system.

Environmental Conditions

Climatological conditions specific to the location of an airport not only influence the layout of the airfield, but also affect the use of the runway system. Surface wind conditions have a direct effect on the operation of an airport; runways not oriented to take the fullest advantage of prevailing winds will restrict the capacity of an airport to varying degrees. When landing and taking off, aircraft are able to operate properly on a runway as long as the wind component perpendicular to the direction of travel (defined as a crosswind) is not excessive.

Ceiling and Visibility. FAA Advisory Circular 150/5060-5, *Airport Capacity and Delay*, describes three categories of ceiling and visibility minimums for use in both capacity and delay calculations. Visual Flight Rules (VFR) conditions occur whenever the cloud ceiling is at least 1,000 feet above ground level and the visibility is at least three statute miles. Instrument Flight Rules (IFR) conditions occur when the reported cloud ceiling is at least 500 feet, but less than 1,000 feet and/or visibility is at least one statute mile, but less than three statute miles. Poor Visibility and Ceiling (PVC) conditions exist whenever the cloud ceiling is less than 500 feet and/or the visibility is less than one statute mile.

Meteorological data from the National Climatic Data Center has been used to tabulate information at Grand Junction Regional Airport in more specific terms:

- VFR conditions - ceiling equal to or greater than 1,000 feet above ground level and visibility is equal to or greater than three statute miles. These conditions occur at the Airport approximately 94.8% of the time annually.

- VFR minimums to Grand Junction Category I ILS minimums - ceiling less than 1,000 feet and/or visibility less than three statute miles, but ceiling equal to or greater than 200 feet and visibility equal to or greater than ½-statute mile. These conditions occur at the Airport approximately 4.1% of the time annually.

- Below Category I ILS minimums - ceiling less than 200 feet and/or visibility less than ½-statute mile. These conditions occur at the Airport approximately 1.1% of the time annually.

Wind Coverage. Surface wind conditions (i.e., direction and speed) generally determine the desired alignment and configuration of the runway system. Runways, which are not oriented to take advantage of prevailing winds, will restrict the capacity of an airport. Wind conditions affect all airplanes in varying degrees; however, the ability to land and takeoff in crosswind conditions varies according to pilot proficiency and aircraft type. Generally, the smaller the aircraft, the more it is affected by crosswinds.

To determine wind velocity and direction at Grand Junction Regional Airport, wind data to construct the all weather wind rose was obtained for the years 1997-2006 from observations taken at the Airport. There were approximately 79,395 observations available for analysis during this ten-year period. The allowable crosswind component is dependent upon the Airport Reference Code (ARC) for the type of aircraft that utilize the Airport on a regular basis. As identified in the previous chapter, the current Airport Reference Code (ARC) for Runway 11/29 is ARC D-III; and for Runway 4/22, the current ARC is B-II.

In consideration of the ARC D-III classification for Runway 11/29, these standards specify that the 20-knot crosswind component be utilized for analysis. Runway 4/22 has an ARC of B-II and a 13-knot crosswind is considered maximum. In addition, it is known that the Airport will continue to serve small single and twin-engine aircraft for which the 10.5-knot and 13-knot crosswind components are considered maximum; therefore, depending on runway designation, 20-knot or 16-knot components, along with the 13-knot and 10.5-knot crosswind components,

are analyzed for Grand Junction Regional Airport. The following illustration, entitled *ALL WEATHER WIND ROSE*, illustrates the all weather wind coverage provided at Grand Junction Regional Airport. The desirable wind coverage for an airport's runway system is 95 percent. This means that the runway orientation and configuration should be developed so that the maximum crosswind component is not exceeded more than five percent of the time annually. The following table, entitled *ALL WEATHER WIND COVERAGE SUMMARY*, quantifies the wind coverage offered by the Airport's existing runway system, including the coverage for each runway end. Based on the all weather wind analysis for Grand Junction Regional Airport, utilizing the FAA Airport Design Software supplied with FAA Advisory Circular 150/5300-13, the existing runway configuration provides the following wind coverage: 99.88 percent for the 20-knot crosswind component, 99.73 percent for the 16-knot crosswind component, 99.57 percent for the 13-knot crosswind component, and 98.87 percent for the 10.5-knot crosswind component. Therefore, no additional runways are required from a *wind coverage* standpoint.

The Airport is served by an ILS precision approach to Runway 11, along with straight-in LOC, and RNAV GPS approaches to Runway 11 and LDA/DME and RNAV GPS approaches to Runway 29. To evaluate the effectiveness of these approaches, and analyze the potential benefits of implementing lower approach visibility minimums, an Instrument Flight Rules (IFR) wind rose has been constructed. The following table and illustration quantify the wind coverage offered by each runway end in consideration of typical Category I precision approach minimums [ceiling less than 1,000 feet and/or visibility less than three statute miles, but ceiling equal to or greater than 200 feet and visibility equal to or greater than ½ statute mile].

From this IFR wind coverage summary, it can be determined that Runway 29 provides the best IFR wind coverage for each crosswind component. However, from a relative perspective, each of the other three runway ends also provides good IFR coverage. The information provided by this analysis has been incorporated into the formulation of various future airside development alternatives and the ultimate development recommendations for the Airport.

Table C1

All WEATHER WIND COVERAGE SUMMARY

	Wind Coverage Provided Under All Weather Conditions			
	10.5-Knot	13-Knot	16-Knot	20-Knot
Runway 11/29	96.10%	97.70%	99.00%	99.63%
Runway 11	80.35%	81.37%	82.35%	82.83%
Runway 29	65.04%	66.16%	67.15%	67.58%
Runway 4/22	88.32%	93.85%	---	---
Runway 4	79.28%	83.78%	---	---
Runway 22	72.11%	75.15%	---	---
Combined Runways	98.87%	99.57%	99.73%	99.88%

***Source**: National Oceanic and Atmospheric Administration, National Climatic Data Center. Station 72576. Grand Junction, Colorado, Period of Record 1997-2006, and tailwind component of 5-knots.*
***Notes:** Wind analysis tabulation provided by Barnard Dunkelberg & Company utilizing the FAA Airport Design Software supplied with FAA AC 150/5300-13.*
--- Not applicable

Figure C1

ALL WEATHER WIND ROSE: 10.5-, 13-, 16-, AND 20-KNOT CROSSWIND COMPONENTS

***Source**: National Oceanic and Atmospheric Administration, National Climatic Data Center. Station 72576 Grand Junction, Colorado, Period of Record 1997-2006.*

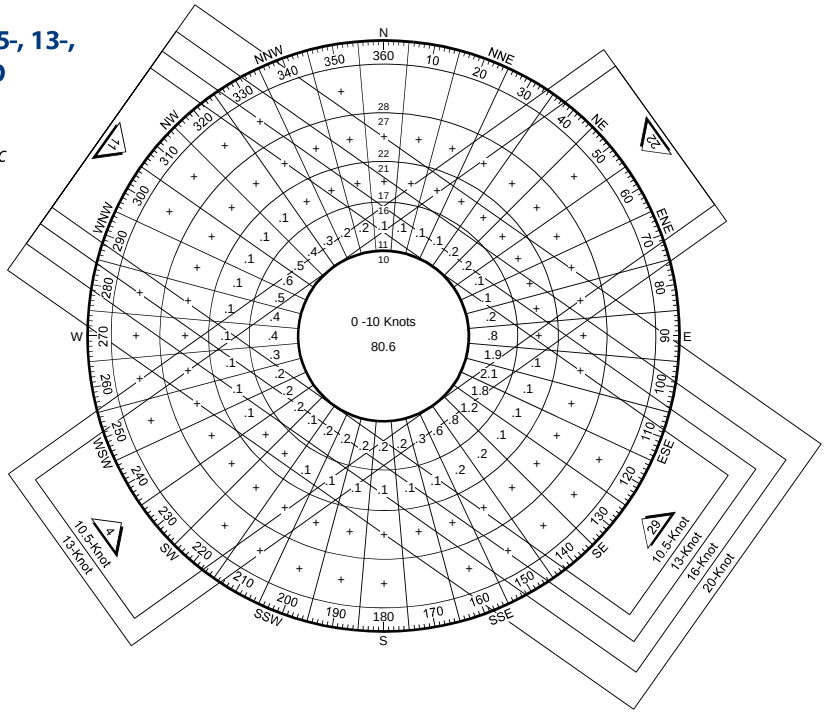


Table C2

IFR WIND COVERAGE SUMMARY

	Wind Coverage Provided Under IFR Weather Conditions			
	10.5-Knot	13-Knot	16-Knot	20-knot
Runway 11/29	98.01%	99.02%	99.46%	99.90%
Runway 11	67.95%	68.15%	68.37%	68.82%
Runway 29	93.78%	94.69%	95.06%	95.29%
Runway 4/22	92.12%	85.97%	---	---
Runway 4	83.72%	85.97%	---	---
Runway 22	87.72%	90.55%	---	---
Combined Runways	99.15%	99.75%	99.80%	99.99%

***Source**: National Oceanic and Atmospheric Administration, National Climatic Data Center. Station 72576. Grand Junction, Colorado, Period of Record 1997-2006, and tailwind component of 5-knots.*

***Notes:** Wind analysis tabulation provided by Barnard Dunkelberg & Company utilizing the FAA Airport Design Software supplied with FAA AC 150/5300-13.*

Ceiling of less than 1,000 feet, but equal to or greater than 200 feet and/or visibility less than 3 miles, but equal to or greater than 1/2 mile, and tailwind component of 5-knots.

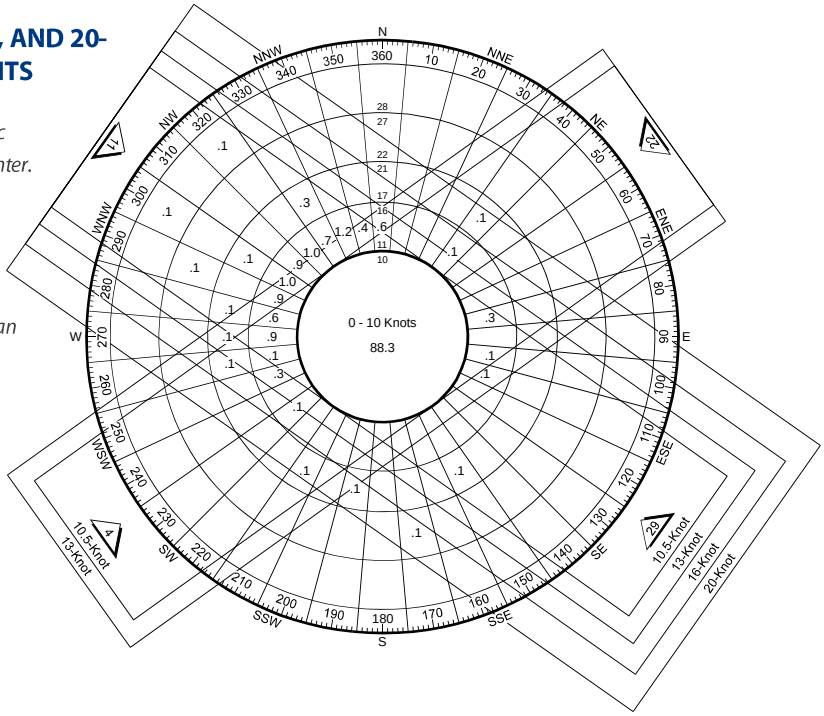
--- Not applicable

Figure C2

IFR[1] WIND ROSE: 10.5-, 13-, 16-, AND 20-KNOT CROSSWIND COMPONENTS

***Source**: National Oceanic and Atmospheric Administration, National Climatic Data Center. Station 72576 Grand Junction, Colorado, Period of Record 1997-2006.*

[1] Ceiling of less than 1,000 feet, but equal to or greater than 200 feet and/or visibility less than 3 miles, but equal to or greater than 1/2 mile.



Characteristics of Demand

Certain site-specific characteristics related to aviation use and aircraft fleet mix impact the capacity of the airfield. These characteristics include aircraft mix, runway use, percent arrivals, touch-and-go operations, exit taxiways, and air traffic control rules.

Aircraft Mix. The capacity of a runway is dependent upon the type and size of the aircraft that use the facility. FAA Advisory Circular 150/5060-5, *Airport Capacity and Delay*, categorized aircraft into four classes based on maximum certificated takeoff weight. This differs from the Airport Reference Code defined previously, which classifies aircraft based on aircraft approach speed and wingspan (A-E). For aircraft weight class mix, aircraft Classes A and B consist of small single engine and twin-engine aircraft (both prop and jet), weighing 12,500 pounds or less, which are representative of the general aviation fleet. Classes C and D aircraft are larger jet and propeller aircraft typical of the business jet fleet, along with those aircraft used by the airline industry and the military. In consideration of the forecasts presented in the previous chapter, an aircraft mix has been estimated. Aircraft mix is defined as the relative percentage of operations conducted by each of these four classes of aircraft. The aircraft mix for Grand Junction Regional Airport is depicted in the following table, entitled *AIRCRAFT CLASS MIX FORECAST, 2007-2027.*

Table C3
AIRCRAFT CLASS MIX FORECAST, 2007-2027

Year	VFR Conditions Class A & B	VFR Conditions Class C	VFR Conditions Class D	IFR Conditions Class A & B	IFR Conditions Class C	IFR Conditions Class D
2007[1]	53%	47%	---	28%	72%	---
2012	54%	46%	---	28%	72%	---
2017	55%	45%	---	28%	72%	---
2022	56%	44%	---	28%	72%	---
2027	57%	43%	---	28%	72%	---

***Source**: BARNARD DUNKELBERG & COMPANY.*

Class A - Small Single Engine, < 12,500 pounds. *Class B – Small Twin-Engine, < 12,500 pounds.*
Class C - 12,500 - 300,000 pounds. *Class D - > 300,000 pounds.*
[1] Existing percentage breakdown was estimated by Barnard Dunkelberg & Company

Runway Use. The use configuration of the runway system is defined by the number, location, and orientation of the active runway(s) and relates to the distribution and frequency of aircraft operations to those facilities. Both the prevailing winds in the region and the existing runway complex at Grand Junction Regional Airport combine to dictate the utilization of the existing runway system. Runway 29 is the most utilized runway end, with an estimated 48 percent of

operations using this end. The runway use percentage of the Runway 11 end is estimated at approximately 32 percent, the Runway 22 end at approximately 14 percent, and the Runway 4 end at approximately 6 percent of total runway use.

Percent Arrivals. Runway capacity is also significantly influenced by the percentage of all operations that are arrivals. Because aircraft on final approach are typically given absolute priority over departures, higher percentages of arrivals during peak periods of operations reduce the Annual Service Volume (ASV). The operations mix occurring on the runway system at Grand Junction Regional Airport reflects a general balance of arrivals to departures. Therefore, it was assumed in the capacity calculations that arrivals equal departures during the peak period.

Touch-and-Go Operations. A touch-and-go operation refers to an aircraft maneuver in which the aircraft performs a normal landing touchdown followed by an immediate takeoff without stopping or taxiing clear of the runway. These operations are normally associated with flight training and are included in local operations figures. Touch-and-go (local) operations comprise approximately 30 percent of the general aviation operations at Grand Junction Regional Airport (according to estimates by airport personnel). This level of local touch-and-go operations is expected to remain relatively constant throughout the planning period.

Exit Taxiways. The capacity of a runway is greatly influenced by the ability of an aircraft to exit the runway as quickly and safely as possible. Therefore, the quantity and design of the exit taxiways can directly influence aircraft runway occupancy time and the capacity of the runway system. The number of exit taxiways at Grand Junction Regional Airport appears adequate for existing operations as both runways are served by at least three exit taxiways in addition to the exits at each runway end. The demand and potential for future taxiway locations will be examined as the Airport Development Plan is formulated. Airport Master Plan Study Committee members have expressed interest in holding bays and/or bypass connector taxiways at each runway end to allow aircraft to perform engine run-ups without blocking access to the runway for other aircraft.

Air Traffic Control Rules

The FAA specifies separation criteria and operational procedures for aircraft near an airport contingent upon aircraft size, availability of radar, and sequencing of operations and noise abatement procedures, both advisory and/or regulatory, which may be in effect at the airport. Typically, the impact of air traffic control on runway capacity is most influenced by aircraft separation requirements dictated by the mix of aircraft utilizing the airport. Due to the mountainous terrain in the region, which prohibits continuous radar coverage by the Denver Air Route Traffic Control Center ARTCC, the hourly capacity of the existing runway system under

IFR operating conditions is restricted. It should be noted that the FAA and the State Division of Aeronautics are investigating potential strategies to implement an improved regional radar system.

It should also be noted that the Airport has published, voluntary noise compatibility procedures (VFR only) that are designed to minimize exposure of residential areas to aircraft noise. These noise abatement procedures do not significantly impact the operational capacity of the Airport, and are used at the discretion of air traffic control and pilots in consideration of safety.

Airfield Capacity Analysis

As previously described, the determination of capacity for Grand Junction Regional Airport uses the methodology described in the FAA Advisory Circular 150/5060-5, *Airport Capacity and Delay*, along with the Airport Design Software computer program that accompanies FAA Advisory Circular 150/5300-13, *Airport Design*. Several assumptions are incorporated in these capacity calculations: arrivals equal departures, the percent of touch-and-go operations is between zero and 50 percent of total operations, there is a full-length parallel taxiway to the primary runway with ample exits and no taxiway crossing problems, there are no airspace limitations, the Airport has at least one runway equipped with an ILS and the necessary air traffic control facilities to carry out operations in a radar environment, IFR weather conditions occur roughly 5 percent of the time, and approximately 80 percent of the time the Airport is operated with the runway use configuration that produces the greatest hourly capacity.

Applying information generated from the analysis described, the optimized capacity for the Airport's runway system can be formulated in terms of the following results:

- Annual Service Volume (ASV)
- Hourly Capacity of Runways (VFR and IFR)

Based on the methodology to determine the capacity at Grand Junction Regional Airport for long-range planning purposes, the theoretical ASV has been determined to be approximately 200,000 operations, with a theoretical VFR capacity of roughly 77 operations per hour and a theoretical IFR capacity of approximately 57 operations per hour. As can be seen, the Airport's Annual Service Volume is significantly greater than the number of annual operations forecast for the end of the planning period, which is 109,037. These capacity computations provide assistance in evaluating the ability of airport facilities to accommodate forecast demand.

Ground Access Capacity

The capacity of the landside access system is a function of the maximum number of vehicles that can be accommodated by a particular ground access facility. At Grand Junction Regional Airport, this relates primarily to the access roadway system capacity, the number of vehicles that can utilize a certain roadway section in a given time period, and the passenger terminal curb capacity, which is equal to the linear length of curb required to adequately accommodate peak period passenger use.

Airport Access Roadways

The capacity of roadways providing access to the Airport is based on the *Highway Capacity Manual*, published by the Transportation Research Board, Special Report 209, 1985. It is normally preferred that a roadway operate below capacity to provide reasonable flow and minimize delay to the vehicles using it. The *Highway Capacity Manual* defines different operating conditions, known as levels-of-service. The levels-of-service are functions of the volume and composition of the traffic and the speeds attained. Six levels-of-service have been established, designated by the letters A-F, providing for best to worst service in terms of driver satisfaction. Level-of-service F defines a road operating beyond its maximum capacity; traffic is typically almost at a standstill, causing major delays to road users. Level-of-service A is defined as a road with free flow operational characteristics at average travel speeds. Vehicles on a level-of-service A roadway are completely unimpeded in their ability to maneuver within the traffic stream. A level-of-service C, represented by stable traffic flow and minimal delays, is generally the preferred level of service on a road system such as in the vicinity of Grand Junction Regional Airport. Average hourly volumes of airport service roadways of typical facilities at levels-of-service C and D are summarized in the following table, entitled *GROUND ACCESS FACILITY VOLUME*.

Table C4
GROUND ACCESS FACILITY VOLUME

Facility Type	Average Hourly Volume[1] (Vehicle/Hour/Lane)[2]
Main-access and feeder freeways (controlled access, no signalization)	1,000-1,600
Ramp to and from main-access freeways, single lane	900-1,200
Principal arterial (some cross streets, two-way traffic)	900-1,600
Main-access road (signalized intersections)	700-1,000

Source: *Highway Capacity Manual, Transportation Research Board, Special Report 209, 1994*

[1] Highway Level-of-Services C and D. [2] Passenger-Car Equivalents.

The breadth of ranges given in the previous table makes their use in defining roadway capacity analysis useful, primarily in initial testing for problems. The focus of the access roadway capacity assessment for an airport is on the service provided between the terminal curb or parking area and the interchange linking the Airport with the regional transportation system. Thus, the analysis for Grand Junction Regional Airport is focused on the terminal loop roadway system consisting of Walter Walker Boulevard, Falcon Way and H Road.

The information presented in the previous table would indicate that the existing terminal roadway system has a capacity in the neighborhood of 1,200-2,400 vehicles per hour, at a level-of-service in the C to D range. It appears that the recently reconstructed airport access road system has adequate capacity to accommodate forecasted passenger traffic through the planning period. However, this analysis does not take into consideration the arrangement of other facilities along the roadway (i.e., rental car storage, etc.). It also does not take into consideration landside access to other aviation development areas on the Airport. The development plan prepared with the Airport Master Plan Update will focus on providing a comprehensive program for the airport's access roadway system, including the passenger terminal and the general aviation development areas. However, the proposal will be more influenced by "qualitative" issues related to efficiency and security, rather than by a "quantitative" analysis that focuses on the number of automobiles that can be accommodated.

Capacity Summary

This section has analyzed the capacity of existing facilities at Grand Junction Regional Airport. Both adequate airfield and ground access facilities are critical components in the ability of the Airport, as a whole, to efficiently serve the public. Capacity deficiencies, which cause delays associated within one area, will often be reflected in the ability or inability of the entire facility to function properly.

The following facility requirements section will delineate the various facilities required to accommodate future demand properly. The facility requirements information, in addition to the capacity analysis, will provide the basis for formulating the alternative development scenarios for the Airport, ensuring that the new recommended development plan can adequately accommodate the long-term aviation development requirements of the region.

Airfield Facility Requirements

In order to identify future demand at the Airport, for those facilities required to serve future needs adequately, it is necessary to translate the forecast aviation activity into specific types and quantities. This section addresses the actual physical facilities and/or improvements to existing facilities needed to safely and efficiently accommodate the projected demand that will be placed on the Airport. This section consists of two separate analyses: those requirements dealing with *airfield* facilities, and those dealing with *landside* facilities. The analysis of airfield requirements focuses on the determination of needed facilities and spatial considerations related to the actual operation of aircraft on the Airport. This evaluation includes the delineation of airfield dimensional criteria, the establishment of design parameters for the runway and taxiway system, and an identification of airfield instrumentation and lighting needs.

Dimensional Criteria

The types of aircraft that currently operate at Grand Junction Regional Airport, and those that are projected to utilize the facility in the future, have an impact on the planning and design of airport facilities. This knowledge assists in the selection of FAA specified design standards for the Airport, which include runway/taxiway dimensional requirements; runway length; and, runway, taxiway, and apron strength. These standards are based on the "Design Aircraft" that currently utilize the Airport, or that are projected to utilize the Airport in the future. According to FAA Advisory Circular 150/5300-13, *Airport Design*, the first step in defining an airport's design geometry is to determine its Airport Reference Code (ARC).

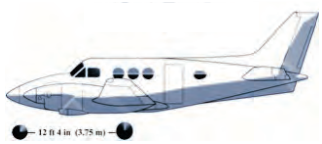
Runway 11/29 – Primary Runway. Runway 11/29 accommodates much of the small aircraft traffic at the Airport, and almost all of the large aircraft (aircraft weighing more than 12,500 pounds) traffic. As identified in the previous chapter, the ARC for Runway 11/29 is D-III based on the combination of the Bombardier CRJ-200 and the Boeing 727-200. The future "Design Aircraft" identified in previous planning documents for the Airport (Boeing 757) is recommended as the future "Design Aircraft" for this purpose of the Airport Master Plan Update. This aircraft is heavily utilized by air cargo operators who may consider initiating service into Grand Junction, based on the air cargo forecasts included in the previous chapter; and, this designation will allow both the airlines and the air cargo operators flexibility with what equipment will best serve the Grand Junction market. Grand Junction Regional Airport also serves as a diversion destination for airlines and protecting for ARC D-IV airport design standards will allow the Airport to continue to serve that role. As stated previously, the ARC designation for the Boeing 757 is D-IV. Furthermore, Runway 11/29 is also utilized by the US Military for training operations with aircraft having approach speeds of 141 knots or more (Approach Category D) and wingspans of more than 118 feet (Design Group IV).

Runway 4/22 – Crosswind Runway. This runway is used primarily by smaller general aviation aircraft. As identified in the previous chapter, the existing ARC for Runway 4/22 is B-II based on the Cessna Citation 550/560. The future "Design Aircraft" identified in previous planning documents is a combination of the CRJ-700 (Approach Category C) and the Bombardier Dash-8 (Design Group III). This combination of commercial service aircraft has been previously recommended as the future "Design Aircraft" for Runway 4/22 to allow the runway to serve the air carriers at the Airport during an extended closure of Runway 11/29 for reconstruction.

In the analysis of development alternatives, consideration will be given to upgrading the ARC for Runway 4/22 to C-III. The dimensional criteria illustrated in the following tables, entitled *ARC D-III AND D-IV DIMENSIONAL STANDARDS FOR RUNWAY 11/29 (in feet)* and *ARC B-II AND C-III DIMENSIONAL STANDARDS FOR RUNWAY 4/22 (in feet)*, are those required for the specified ARC for each runway, in conjunction with specified approach visibility minimums, and include the existing dimension for the corresponding facility. As indicated in the tables, Runway 11/29 meets or exceeds most identified requirements. There are some design standard criteria that Runway 11/29 does not meet related to longitudinal and transverse gradients and the Runway Visibility Zone (RVZ). These non-standard conditions are described further in following sections. Runway 4/22 meets or exceeds all identified existing requirements, but will require substantial improvements to upgrade the runway to ARC C-III in the future.



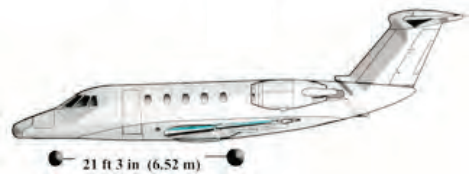
ARC A-I
Single-Engine Aircraft - 2 to 6 Seats
Beech Bonanza
deHaviland DHC-2 Beaver
Cessna-150



ARC B-I
Twin-Piston Aircraft - 4 to 10 Seats
Beech King Air B100
Piper 31-310 Navajo
Beech Baron 58



ARC B-I
Very Light Jet/Small Cabin 4-6 Seats
Eclipse 500
Citation Mustang
Adam Aircraft A700



ARC B-II
Twin-Turboprop/Business Jet/Small Cabin Aircraft
6 to 12 Seats - *Includes most commercial turboprop aircraft.*
Cessna Citation II/III/VII
Dassault Falcon 50
Dassault Falcon 900



ARC C/D-II
Commercial/Business Jet - 6 to 70 Seats
Bombardier CRJ-700
Bombardier CL-600 Challenger
Embraer ERJ-145



ARC C/D-III
Large Commercial/Business Jet - 14 to 110 Seats
Boeing 727-200
Bombardier BD-700 Global Express
Boeing 757 (C-IV)
McDonnell Douglas (MD-83)

Source: Aircraft Ground Service Guide, 2002 and Aircraft Manufacturer.
Note: Representative Aircraft not to scale.

Figure C3 **Representative Aircraft by Airport Reference Code (ARC) Designation**

Table C5

ARC D-III AND D-IV RUNWAY DIMENSIONAL STANDARDS, RUNWAY 11/29 (in feet)

Item	Existing Dimension	ARC D-III with < ¾ Mile Visibility Minimums [1]	ARC D-IV with < ¾ Mile Visibility Minimums
Runway 11/29			
Runway Width	150	100 [3]	150
Runway Centerline to Parallel Taxiway Centerline (Taxiway "A")	400	400	400
Runway Centerline to A/C Parking	525	500	500
Runway Centerline to Holdline	300	250	298 [5]
Runway Safety Area Width	500	500	500
Runway Safety Area Length Beyond Runway End			
Runway 11	1,000	1,000	1,000
Runway 29	1,000	1,000	1,000
Runway Safety Area Length Prior to Landing Threshold			
Runway 11	600	600	600
Runway 29	600	600	600
Runway Object Free Area Width	800	800	800
Runway Object Free Area Length Beyond RW End			
Runway 11	1,000	1,000	1,000
Runway 29	1,000	1,000	1,000
Runway Obstacle Free Zone Width [2]	400	400	400
Runway Obstacle Free Zone Length Beyond Runway End	200	200	200
Threshold Siting Surface Criteria			
Runway 11 [4]	---	Criteria Met	Criteria Met
Runway 29 [4]	---	Criteria Met	Criteria Met
Taxiway A Width	75	50	75
Taxiway Safety Area Width	N.D.	118	171
Taxiway Object Free Area Width	N.D.	186	259
Taxilane Object Free Area Width	N.D.	162	225

Source: *AC 150/5300-13, Federal Aviation Administration.*

Existing dimensions delineated in ***bold*** *text reflect potential non-standard criteria. N.D. = Not Determined*

[1] *Existing runway approach visibility minimums = ½ Mile*

[2] *Inner-approach OFZ, Inner-transitional OFZ and Precision OFZ standards verified on Inner Approach Drawings in Chapter E.*

[3] *150 feet for Design Group III runways serving aircraft with maximum certificated takeoffs weight greater than 150,000 pounds.*

[4] *Applies existing runway type 9 criteria for Appendix 2, AC 150/5300-13 Change 13.*

[5] *The standard 250 foot separation is increased 1 foot for each 100 feet above sea level.*

Table C6

ARC B-II AND C-III RUNWAY DIMENSIONAL STANDARDS, RUNWAY 4/22 (in feet)

Item	Existing Dimension	ARC B-II Visual and ≥ ¾ Mile Visibility Minimums [1]	ARC C-III ≥ ¾ Mile Visibility Minimums
Runway 4/22			
Runway Width	75	75	100
Runway Centerline to Parallel Taxiway Centerline (Taxiway "C")	250	240	400
Runway Centerline to A/C Parking	400	250	500
Runway Centerline to Holdline	200	200	250
Runway Safety Area Width	150	150	500
Runway Safety Area Length Beyond Runway End			
Runway 4	300	300	1,000
Runway 22	300	300	1,000
Runway Safety Area Length Prior to Landing Threshold			
Runway 4	300	300	600
Runway 22	300	300	600
Runway Object Free Area Width	500	500	800
Runway Object Free Area Length Beyond RW End			
Runway 4	300	300	1,000
Runway 22	300	300	1,000
Runway Obstacle Free Zone Width	400	400	400
Runway Obstacle Free Zone Length Beyond Runway End	200	200	200
Threshold Siting Surface Criteria			
Runway 4 [2]	---	Criteria Met	Criteria Met
Runway 22 [2]	---	Criteria Met	Criteria Met
Taxiway Width	35	35	50
Taxiway Safety Area Width	N.D.	79	118
Taxiway Object Free Area Width	N.D.	131	186
Taxilane Object Free Area Width	N.D.	115	162

Source: *AC 150/5300-13, Federal Aviation Administration.*
Existing dimensions delineated in ***bold*** *text reflect potential non-standard criteria.*
[1] *Existing visual runway.*
[2] *Applies existing runway type 3 criteria for Appendix 2, AC 150/5300-13 Change 13.*

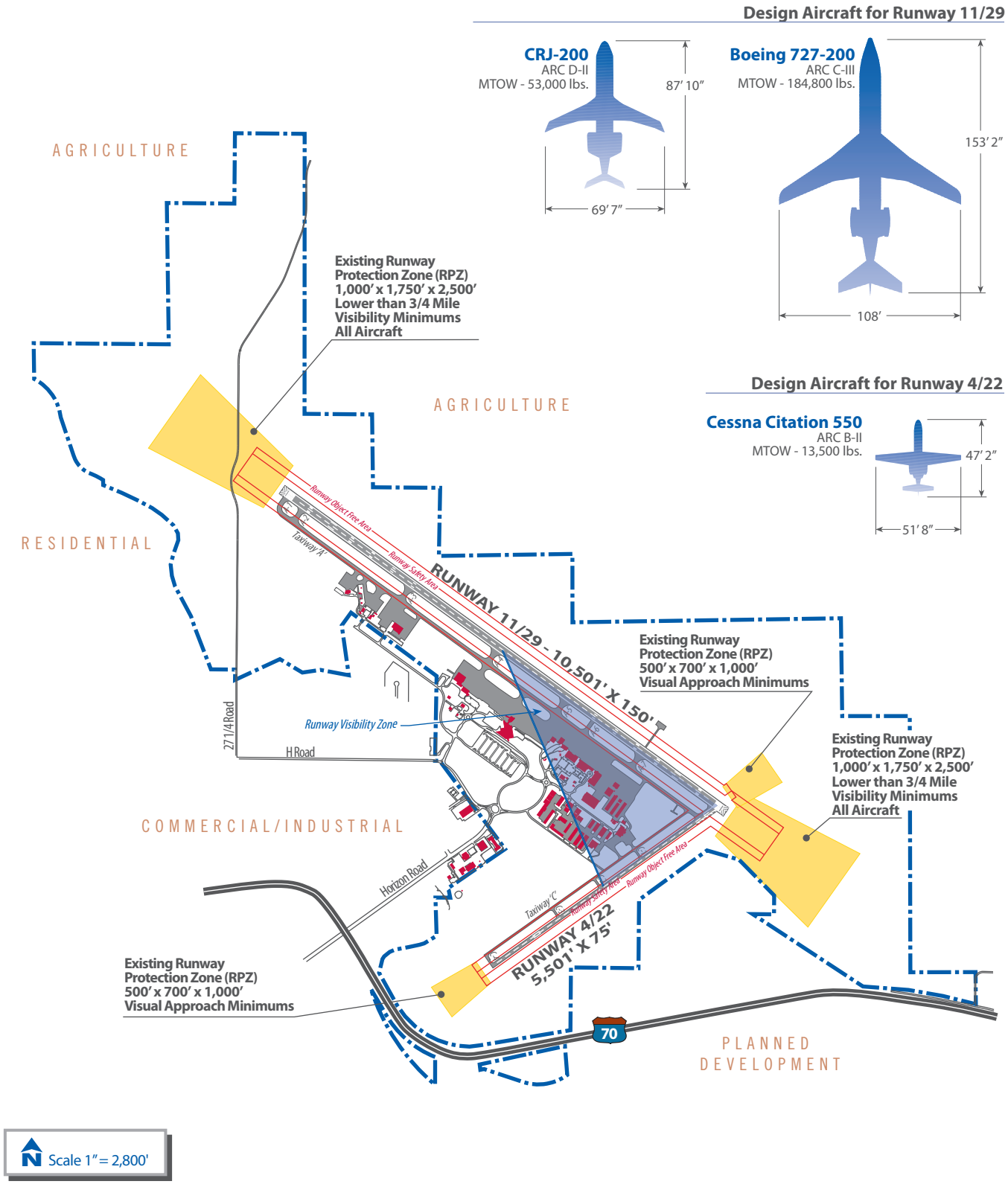


Figure C4 **Existing ARC D-III & B-II Dimensional Criteria**

Modifications to Standards

The Airport has a number of FAA approved Modifications to Standards as shown in the following table entitled *MODIFICATIONS TO STANDARDS*. By approving the modifications, the FAA has determined that an acceptable level of safety is provided, however, these modifications were intended to be temporary and options to correct these non-standard conditions will be presented in the alternatives analysis in the following chapter.

Table C7
MODIFICATIONS TO STANDARDS

Description	ARC	Existing Conditions	FAA Approval Date	FAA Airspace Case Number
Runway 11/29 Transverse Gradient	D-III	Transverse Gradient Exceeds Recommended Design Standard of 1.5%	June, 23, 2008	08-ANM-289-NRA
Runway 11/29 Longitudinal Gradient	D-III	Longitudinal Gradient Exceeds Recommended Design Standard of 1.5%	March 22, 1995	94-DEN-161-NRA
Runway 11/29 Connecting Taxiway Longitudinal Gradient	D-III	Connecting Taxiway Longitudinal Gradient Exceeds Recommended Design Standard of 0.8%	March 22, 1995	94-DEN-161-NRA
Runway 11/29 and Runway 4/22 Runway Visibility Zone (RVZ)	D-III	Many Structures obstruct Line of Sight. Runway 04/22 will be closed after ATCT normal hours of operation	March 2002	02-DEN-044-NRA

Source: *Federal Aviation Administration, Denver Airports District Office*

Runways

In consideration of the forecasts of future aviation activity, the adequacy of the runway system must be analyzed from several perspectives. These include runway orientation and airfield capacity, which were analyzed in the previous section, as well as runway length, pavement strength and runway line-of-sight, which will be evaluated in the following text. The analysis of these various aspects pertaining to the runway system will provide a basis for recommendations of future improvements.

Runway Line-of-Sight and Runway Visibility Zone (RVZ). The runway line-of-sight criteria for runways with full length parallel taxiways are met for both runways, however, the Runway Visibility Zone (RVZ) criteria are not met.

Runway Pavement Strength. The runway pavement strength for Runway 11/29 is adequate for the 20-year planning period, assuming routine pavement maintenance is performed. Consideration should be given to increasing the pavement strength of Runway 4/22 in accordance with the maximum takeoff weight future "Design Aircraft" for this runway if changed from the existing.

Runway Length. The determination of runway length requirements for Grand Junction Regional Airport is based on several factors. These factors include:

- Airport elevation;
- Mean maximum daily temperature of the hottest month;
- Runway gradient;
- Design aircraft type expected to use the Airport; and,
- Stage length of the longest nonstop trip destination.

The runway length requirements at the Airport are provided in the following table entitled *RUNWAY LENGTH REQUIREMENTS*. The data indicates that Runway 11/29 can accommodate 100 percent of the small aircraft fleet weighing less than 60,000 pounds and can also accommodate the majority of the commercial passenger fleet (over 60,000 pounds) on stage lengths of up to 1,500 miles. Previous planning documents have developed runway length requirements for the Airport specific to the Boeing 727-200 operated by FedEx. Because FedEx typically operates in the early morning and evening hours, the average daily temperature used in the analysis was 78.9 degrees Fahrenheit. The runway length requirement for this aircraft was determined to be 10,400 feet.

Table C8
RUNWAY LENGTH REQUIREMENTS

Runway Requirement	Runway Takeoff Length (Feet)
Existing Conditions	
Runway 11/29	*10,501*
Runway 4/22	*5,501*
Airplanes less than 12,500 lbs. with less than 10 seats	
75% of Small Aircraft Fleet	4,570
95% of Small Aircraft Fleet	6,080
100% of Small Aircraft Fleet	6,290
Airplanes less than 12,500 lbs. with 10 or more seats	6,290
Airplanes greater than 12,500 lbs. and less than 60,000 pounds	
75% of fleet at 60% useful load	6,950
75% of fleet at 90% useful load	8,880
100% of fleet at 60% useful load	11,250
100% of fleet at 90% useful load	11,280
Airplanes greater than 60,000 pounds	
500/1,000/1,500 NM stage lengths	6,720/7,970/9,130

***Source**: FAA Advisory Circular 150/5300-13, Airport Design.*
Lengths based on 4,858' AMSL, 92.1° F NMT, length of haul 500 miles, and a maximum difference in runway centerline elevation of 28'.
***Note:** Wet and Dry runway takeoff lengths are the same.*

Based on the runway length data presented, it was determined that the existing runway length of 10,501 feet is adequate to accommodate the projected aircraft operational requirements at the Airport and should be preserved. Mesa Airlines and SkyWest Airlines both include Runway 4/22 in there operational specifications on file with the Airport as a crosswind runway for turboprop and regional jet aircraft operations. Based on this occasional use by the airlines as well as the potential for airline use of this runway during an extended closure of Runway 11/29, consideration should be given to extending Runway 4/22 to a length that accommodates at least 75 percent of this aircraft fleet at 60 percent useful load, i.e. an extension to 7,000 feet.

Taxiways. Taxiways are constructed primarily to enable the movement of aircraft between the various functional areas on the Airport and the runway system. Some taxiways are necessary

simply to provide access between aircraft parking aprons and runways, whereas other taxiways become necessary to provide more efficient and safer use of the airfield.

Runway 11/29 is served by a full parallel taxiway, Taxiway A, located on the southwest side of the runway, and has eight exit/connector taxiways (Runway 4/22 also serves as a connector taxiway to this runway). Runway 4/22 is also served by a full parallel taxiway, Taxiway C, which is located on the northwest side of the runway, and has six exit/connector taxiways (Runway 11/29 and Taxiway A also serves as a connector taxiway to this runway). Both taxiways provide access to aircraft parking and various general aviation and commercial facilities on the Airport. Access to the general aviation hangar area is also provided by Taxiway C1A. As the development plan is formulated, consideration should be given to the provision of holding bays and/or bypass connector taxiways at each runway end to allow aircraft to perform engine run-ups without blocking access to the runway.

Aircraft Maintenance Run-Up Apron. The existing aircraft maintenance run-up apron is not sized properly for the aircraft need to use this apron and consideration should be given to expanding or relocating the run-up apron.

Electronic Landing Aids. Electronic landing aids, including instrument approach capabilities and associated equipment, airport lighting, and weather/airspace services, were detailed in the *Inventory* chapter of this study. The Airport is currently equipped with an ILS instrument approach to Runway 11 and has published GPS instrument approaches to Runways 11 and 29. There is also a published LOC/DME approach to Runway 11 and a LDA/DME approach to Runway 29.

Visual Landing Aids (lights). Presently, the primary runway, Runway 11/29, has a High Intensity Runway Lighting system (HIRL) and Taxiway A is equipped with a High Intensity Taxiway Lighting system (HITL). The approach end of Runway 11 is equipped with a Medium intensity Approach Lighting System with Runway alignment indicator lights (MALSR). The crosswind runway, Runway 4/22, has a Medium Intensity Runway Lighting system (MIRL) and Taxiway C is equipped with a Medium Intensity Taxiway Lighting system (MITL). Runway ends 11, 29, and 4 are all equipped with 4-Light Precision Approach Path Indicators (PAPI). Runway ends 29, 4, and 22 are equipped with Runway End Identifier Lights (REIL). In conjunction with the examination of improved instrument approaches, improved airport lighting will also need to be evaluated. The type of airport lighting will be dependent on the type of instrument approach capabilities and is examined in the next chapter of this report.

Runway Protection Zones (RPZs). The function of the RPZ is to enhance the protection of people and property on the ground beyond the runway ends. This is usually achieved through airport

control of the RPZ areas. The RPZ is trapezoidal in shape and centered about the extended runway centerline. It begins 200 feet beyond the end of the area usable for takeoff or landing. The RPZ dimensions are functions of the type of aircraft operating at the Airport and the approach visibility minimums associated with each runway end.

In consideration of the existing instrument approach minimums and the type of aircraft each runway is designed to accommodate, the following table, entitled *REQUIRED RUNWAY PROTECTION ZONE DIMENSIONS*, lists existing RPZ dimensional requirements, along with the requirements for improved approach capabilities.

Table C9
REQUIRED RUNWAY PROTECTION ZONE DIMENSIONS

Item	Width at Runway End (feet)	Length (feet)	Width at Outer End (feet)	Airport Controls Entire RPZ
Existing RPZ Dimensional Requirements:				
Runway 11	1,000	1,750	2,500	yes
Runway 29	1,000	1,750	2.500	yes
Runway 4	500	700	1,000	yes
Runway 22	500	700	1,000	yes
Required RPZ Dimensions for Various Visibility Minimums:				
Visual and not lower than 1-mile, Small Aircraft Only	250	450	1,000	---
Visual and not lower than 1-mile, Approach Categories A & B	500	700	1,000	---
Visual and not lower than 1-mile, Approach Categories C & D	500	1,010	1,700	---
Not lower than 3/4-mile, all aircraft	1,000	1,510	1,700	---
Lower than 3/4-mile, all aircraft	1,000	1,750	2,500	---

Source: *FAA Advisory Circular 150/5300-13, Airport Design.*
--- Not applicable.

Landside Facility Requirements

Landside facilities are those facilities, which support the airside facilities, but are not actually a part of the aircraft operating surfaces. These consist of such facilities as terminal buildings, hangars, aprons, access roads and support facilities. Following a detailed analysis of these

facilities, current deficiencies can be noted in terms of accommodating both existing and future aviation needs at the Airport.

Passenger Terminal Area Requirements

Components of the passenger terminal complex include the terminal building, gate/parking positions, apron area, vehicular access, and auto parking. The 70,000- square foot terminal building was constructed in 1982 and includes airline ticketing facilities, as well as passenger and baggage screening facilities. With the implementation of increased security screening facility requirements and staff, the terminal building has lost some functionality; however, modifications have been made to accommodate new security requirements. The terminal building also includes rental car counters and offices, a restaurant, a gift shop, TSA offices and airport administration offices. A satellite expansion of the terminal building was recently competed adding two jet bridges to the four second level gates serving commercial aircraft.

Passenger terminal space requirements for areas including airline counter and ticket office, ticket lobby, waiting lobby, baggage claim, departure lounge, rental car counter and office, food/beverage, concessionaires, and restrooms were quantified in previous planning studies for the Grand Junction Regional Airport. The existing available space for these areas is estimated at approximately 40,000 square feet. The previous planning studies indicated that this gross terminal area would be adequate up to approximately 350,000 annual enplanements. FAA AC 150/5360-13 Planning and Design Guidelines for Airport Terminal Facilities includes a "rule-of-thumb" methodology for estimating gross terminal building area requirement. The rule-of-thumb states that 0.08 to 0.12 square feet per annual enplanement is adequate at airports with over 250,000 enplanements. The forecasts in the previous chapter indicated that enplanements at the Airport are anticipated to exceed 370,000 by the end of the planning period.

Furthermore, based on the anticipated 2008 level of enplanements, the Airport will likely exceed 60 percent of terminal capacity for the previously mentioned areas. It is recommended that these terminal space requirements along with increased security space requirements be analyzed by area in greater detail to determine the specific areas with potential space deficiencies.

General Aviation Requirements

Aircraft based at Grand Junction Regional Airport are stored in various hangar and apron areas; however, the primary aircraft storage area is located north of Runway 4/22 along Taxilane C1A. Currently, an estimated 166 aircraft are based at the Airport; 135 stored in hangars and 31 stored on tiedowns at various apron areas. Over the course of the 20-year planning period, the number of based aircraft is forecast to increase to 215, indicating that an increase in storage facilities to accommodate approximately 49 new aircraft will be required. It is assumed that

future storage spaces will reflect some of the characteristics of current storage patterns, with the majority of the based aircraft fleet being stored in hangars.

Tiedown Storage Requirements/Based Aircraft. Aircraft tiedowns are provided for those aircraft that do not require, or do not desire, to pay the cost for hangar storage. Space calculations for these areas are based on 360 square yards of apron for each aircraft to be tied down. This amount of space allows for aircraft parking and circulation between the rows of parked aircraft. Past trends indicate that as more aircraft are based at the Airport, hangar storage capacity is surpassed before additional hangars are supplied. This indicates that increased tiedown space for based aircraft should be included in the development plan.

Tiedown Storage Requirements/Itinerant Aircraft. In addition to the needs of the based aircraft tiedown areas addressed in the preceding section, transient aircraft also require apron parking areas at Grand Junction Regional Airport. This storage is provided in the form of transient aircraft tiedown space. In calculating the area requirements for these tiedowns, typically, an area of 400 square yards per aircraft is used. The development plan for the Airport will designate adequate areas for apron development to satisfy this demand. Also, it is important to note that the itinerant aircraft apron is currently sized properly; however, the pavement strength is not adequate for the large business jet aircraft using the apron. Consideration should be given to increasing the pavement strength to accommodate these aircraft. Consideration should also be given to a rehabilitation project for those areas of the aircraft parking apron with severe Alkali-Silica Reaction (ASR) pavement cracking.

The accompanying table shows the type of facilities and the number of units or square yards needed for that facility in order to meet the forecast demand for each development phase. It is expected that most of the owners of aircraft that will be newly based at the Airport will desire some type of indoor storage facility. The actual type of hangar storage facility to accommodate based aircraft has been identified as T-hangars and larger corporate and/or executive type hangars; although, the actual number, size, and location of these hangars will depend on user needs and financial feasibility.

Access and perimeter roadway locations, auto parking requirements, and land requirements are not included in this tabulation because the amount of land necessary for these facilities will be a function of the location of other facilities, as well as the most effective routing of roadways. The following table, entitled *GENERAL AVIATION FACILITY REQUIREMENTS, 2007-2027,* depicts the quantity of storage facilities required for general aviation landside facilities during all stages of development. This will assist in the development of detailed facility staging discussed later. Again, it is assumed that the majority of aircraft owners will desire indoor storage. This

assumption leads to the conclusion illustrated in the following table that increased area for the construction of hangars will be critical and that the demand for additional aircraft parking apron will increase, but will not likely exceed the amount that is presently in place.

Table C10
GENERAL AVIATION FACILITY REQUIREMENTS, 2007-2027

		Total Number Required			
Facility	**2007 [1]**	**2012**	**2017**	**2022**	**2027**
Itinerant/GA Apron (square yards)	--	23,282	24,833	26,479	28,228
Based Aircraft GA Apron (square yards)	--	9,900	9,900	10,200	10,200
Total Apron (square yards) [2]	55,600	33,182	34,733	36,679	38,428
Itinerant Aircraft Tie Downs	--	64	68	73	78
Based Aircraft Tie Downs	--	33	33	34	34
Total Aircraft Tie Downs [2]	125	97	101	107	112
Hangar Space					
Number of Aircraft in T-Hangars	117	125	135	144	153
Number of Aircraft in Exec./Corp. Hangars	18	20	23	25	28
Total Aircraft in Hangars	135	145	158	169	181

Source: *Barnard Dunkelberg & Company, projections based on FAA AC 150/5300-13, Airport Design.*
[1] *Actual.*
[2] *Does not differentiate between based and/or itinerant apron.*

Support Facilities Requirements

In addition to the aviation and airport access facilities described previously, there are several airport support facilities, which have quantifiable requirements and which are vital to the efficient and safe operation of the Airport. The support facilities at Grand Junction Regional Airport that require further evaluation include the aircraft rescue and firefighting facility, the fuel storage facility, and the Airport Traffic Control Tower (ATCT).

Aircraft Rescue and Firefighting Facility (ARFF). As identified in the *Inventory* chapter of this document, Index B ARFF facilities and equipment are provided at the Airport as required to serve the existing type and number of air carrier and commuter aircraft operations. The specified FAR Part 139 certification ARFF equipment and staff requirements are based on the length of the largest air carrier or commuter aircraft that serves the Airport with an average of five or more daily departures. The following table, entitled *REPRESENTATIVE AIR CARRIER/COMMUTER AIRCRAFT LENGTHS & ARFF INDEX*, presents the existing commercial aircraft fleet that currently

serve the Airport, along with their respective lengths and ARFF Index. In consideration of the commercial service operations forecast, the Airport will likely be classified as an ARFF Index B throughout the planning period.

Table C11
REPRESENTATIVE AIR CARRIER/COMMUTER AIRCRAFT LENGTHS AND ARFF INDEX

Jet Aircraft	Length (in Feet)	ARFF Index
MD-80	147.8	C
B727-200	153.2	C
CRJ-700	106.7	B
CRJ-200	87.8	A
ERJ 145	98.0	B
Turbo Prop Aircraft	**Length (in Feet)**	**ARFF Index**
Dash 8-200	80.7	A
Dash 8-Q400	107.6	B
EMB 120 Brasilia	64.8	A

Sources: FAR Part 139 *Certification and Operations: Land Airports Serving CAB-Certificated Scheduled Air Carriers Operating Large Aircraft (Other Than Helicopters).*
FAA AC 150/5300-13 *Airport Design.*

Fuel Storage Facility. Fuel storage and sales at Grand Junction Regional Airport are conducted by West Star Aviation. Available aircraft fuel storage includes 68,000 gallons of Jet-A and 32,000 gallons of 100LL AVGAS. There is also a self-serve fuel system located northeast of the Aero GJT T-Hangars. This self-service facility provides only 100LL AVGAS and is operated by Aero-Fuel. The fuel storage requirements of the Airport are variable based upon individual supplier and distributor policies, as well as military refueling contracts. For this reason, future fuel storage requirements will be dependent upon the individual distributors and space should be reserved for the expansion of existing fuel storage facilities as required.

Airport Traffic Control Tower Location Analysis. At a towered airport, the ATCT is the facility that supervises, directs, and monitors the arrival and departure traffic including the immediate airspace surrounding the airport (i.e., within approximately five miles). The tower at Grand Junction Regional Airport is currently located southeast of the terminal building and is accessed via Eagle Drive. The cab height of the tower is approximately 4,910 feet MSL at the window sill and controllers report poor line of sight into the hangar development area accessed by Taxiway

C1A. Past discussions have indicated the need to raise the cab height or relocate the ATCT to better accommodate the line of sight requirements.

A location analysis will be included in the development alternatives portion of this Airport Master Plan Update based on an analysis of TERPS criteria, FAR Part 77 criteria, sight distances and shadowing effects, and physical considerations such as infrastructure development, access, topography and general location factors, and facility construction costs (using information obtained from FAA ANM-510 or other FAA sources). It should be noted that an FAA study will be required before the location, height, and size of the ATCT can be accurately established.

Summary

The information provided in this chapter provides the basis for understanding what facility improvements at the Airport might help in the effort to accommodate future demands in an efficient and safe manner. Following are the major development issues and improvement considerations that are indicated in the *Capacity Analysis and Facility Requirements* chapter:

- Maintenance and rehabilitation of Runway 11/29.
- Correction of non-standard longitudinal and transverse gradients on Runway 11/29 and its associated connector taxiways.
- Correction of the non-standard Runway Visibility Zone (RVZ).
- The potential extension, parallel taxiway relocation, ARC upgrade and instrument approach improvements for Runway 4/22 to accommodate air carrier operations during the anticipated closure and reconstruction of Runway 11/29.
- The continuation of efforts to acquire additional land north and east of the Airport for potential future aviation use.
- Future relocation and siting of the Airport Traffic Control Tower.
- Vehicular access to various airport development area, including areas northeast of Runway 11/29 and southeast of Runway 4/22.
- Areas programmed for future general aviation development in consideration of existing structures.
- Areas programmed for future air cargo development in consideration of the projected increase in air cargo activity at the Airport.
- Areas programmed for future non-aviation related development.

- Instrument approach capabilities of both runways.
- Off-airport land use compatibility and zoning.

It is important to note that the recommendations in this Master Plan Update are provided to best understand what facilities improvements might be needed at the Airport, and where those facilities might be best placed. In other words, the Master Plan Update provides recommendations on how various parcels of the Airport might be best developed, in consideration of potential demand and community/environmental influences. One of the basic assumptions, typically included in a master plan for a complex facility like an airport, is that if a future improvement is identified on the recommended development plan; it will only be built if there is actual demand, if the project is financially feasible, and if environment impacts are insignificant or can be adequately mitigated.

Table C12

FACILITY REQUIREMENTS SUMMARY, 2007-2027

Facility	2007[1]	2012	2017	2022	2027
Dimensional Standards					
Runway 11/29	D-III	D-III	D-III	D-IV	D-IV
Runway 4/22[2]	B-II	C-III[4]	C-III[4]	C-III[4]	C-III[4]
Runway Length/Width					
Runway 11/29	10,501′ x 150′	10,501′ x 150′	10,501′ x 150′	10,501′ x 150′	10,501′ x 150′
Runway 4/22[2]	5,501′ x 75′	7,000′ x 100′	7,000′ x 100′	7,000′ x 100′	7,000′ x 100′
Instrument Approach Enhancement					
Runway 11/29	<½ Mile/1 Mile	<½ Mile/½ Mile	<½ Mile/½ Mile	<½ Mile/½ Mile	<½ Mile/½ Mile
Runway 4/22[3]	Visual/Visual	¾ Mile/¾ Mile	¾ Mile/¾ Mile	¾ Mile/¾ Mile	¾ Mile/¾ Mile
General Aviation Apron and Hangar Requirements					
Total Apron (square yards)	55,600	33,182	34,733	36,679	38,428
Total Aircraft Tie Downs	125	97	101	107	112
T-Hangar Spaces	117	125	135	144	153
Exec./Corp. Hangar Spaces	18	20	23	25	28

Source: *BARNARD DUNKELBERG & COMPANY.*
[1] Actual.
[2] Future ARC designation to be reviewed and confirmed in the following alternatives analysis.
[3] For Localizer Performance with Vertical Guidance (LPV) based minima of ¾ mile, approach lights are recommended, but not required.
[4] To be determined.

Alternatives

D. Development Concepts and Alternatives Analysis

MASTER PLAN UPDATE

GRAND JUNCTION

REGIONAL AIRPORT

D. Development Concepts and Alternatives Analysis

The purpose of this chapter is to present development alternatives and development recommendations for Grand Junction Regional Airport in terms of concepts and reasoning. This chapter provides a description of the various factors and influences, which will form the basis for the Airport's long-term development program.

In concert with the role of the Airport, and community input received in the planning process, several basic assumptions have been established that are intended to direct the development of the Airport in the future.

Assumption One. The Airport will be developed and operated in a manner that is consistent with local ordinances and codes, federal and state statutes, federal grant assurances, and Federal Aviation Administration (FAA) regulations.

Assumption Two. This assumption recognizes the role of the Airport. The Airport will continue to serve as a facility that accommodates commercial passenger service activity, along with general aviation activity and a small amount of military activity.

Assumption Three. This assumption relates to the size and type of aircraft that utilize the Airport and the resulting setback and safety criteria used as the basis for the layout of associated airport facilities.

Runway 11/29. As it has been in previous planning studies, the "Design Aircraft" for this runway is a combination of aircraft, specifically the Bombardier CRJ-200 and the Boeing 727-200. The CRJ-200 has an approach speed of 142 knots and the B-727/200 has a wingspan of 108 feet. This indicates that the Airport Reference Code (ARC) for Runway 11/29 is D-III. In accordance with future plans of air cargo carriers serving the Airport, the future "Design Aircraft" for this runway has been identified as the Boeing 757-300 with an approach speed of 143 knots and a wingspan of 124.8 feet. This indicates that the future ARC for Runway 11/29 is D-IV.

Runway 4/22. Past planning studies have identified this runway as one that mostly accommodates small- to medium-size general aviation aircraft (up to and including many of the business jets), along with the smaller turbo-prop commercial passenger service aircraft. The historic "Design Aircraft" fleet for this runway has been made up of turbo-props such as the Beech Super King Air 200, the Cessna Citation, the Beech 1900, etc. This indicates that this runway should be designed using ARC B-II dimensional criteria. Should Runway 4/22 be required to serve as the "air carrier" runway during maintenance and rehabilitation of Runway 11/29, an ARC upgrade may be required.

Assumption Four. The fourth assumption relates to the need for the Airport to accommodate aircraft operations with great reliability and safety. This indicates that the Airport's runway system should be developed with instrument approach guidance capabilities, to accommodate the forecast operations as safely as possible under most weather conditions.

Assumption Five. Because the amount of landside development area at any airport is at a premium, the fifth assumption is that the plan for future airport development should strive to make most efficient use of the available area for aviation-related activities, including general aviation facilities and passenger terminal facilities. Aviation use areas should be developed to be compatible with surrounding land uses.

Assumption Six. The sixth assumption focuses on the relationship of the Airport to off-airport land uses and the compatible and complementary development of each. To the maximum extent possible, future facilities will be designed to enhance the compatibility of the operation of the Airport with the environs.

Assumption Seven. This assumption recognizes the on-going discussion concerning the location and operation of the ATCT. Alternative sites should be identified for future ATCT facilities in consideration of the airside and landside development recommendations.

Goals and Objectives for Development

Accompanying these assumptions are several goals and objectives, which have been established for purposes of directing the plan and establishing continuity in the future development of the Airport. These goals and objectives take into account several categorical considerations relating to the needs of the Airport, both in the short-term and the long-term, including safety, noise, capital improvements, land use compatibility, financial and economic conditions, public interest and investment, and community recognition and awareness. While all are project-oriented,

some obviously represent more tangible activities than others; however, all are deemed important and appropriate to the future of the Airport.

The following goals and objectives are intended to guide the preparation of this Airport Master Plan Update and direct the future expansion of Grand Junction Regional Airport:

- Provide effective direction for the future development of Grand Junction Regional Airport through the preparation of a rational, reasonable, and implementable plan.
- Prepare a plan that allows the Airport to fulfill its mission to facilitate and enhance regional aviation services.
- Accommodate the forecast aviation activity levels in a safe and efficient manner by providing the necessary airport facilities and services.
- Ensure that the future development of the Airport will accommodate a variety of general aviation activities, ranging from small general aviation users to corporate aviation operators.
- Plan and develop the Airport to be capable of accommodating the future needs and requirements of the City of Grand Junction, Mesa County, and the larger surrounding service area and supporting regional economic development activity.
- Plan for potential property acquisition for approach protection and land use compatibility purposes.
- Encourage and protect the public and private investment in land and facilities.

Airside Development Concepts and Alternatives

Introduction

Because all other airport functions relate to and revolve around the basic runway/taxiway layout, airside development alternatives must first be carefully examined and evaluated. It is essential that the initial development recommendations for the Airport be commensurate with the anticipated needs and requirements of airport users; however, the long-term expansion of the facility must also be considered and planned for to ensure the capability to accommodate potential activity levels. The main objective of the planning recommendations presented herein is to identify future development that will result in a runway/taxiway system capable of accommodating the forecast aviation activity. The recommendations are described in the following text and in the illustration at the end of this chapter, entitled *CONCEPTUAL DEVELOPMENT PLAN*.

Following a review of these airside development alternatives, the purpose of which is to fulfill *major* facility requirements (basic runway configuration), recommendations for landside development are presented. For purposes of this study, landside facilities consist of aircraft parking aprons, hangar development areas, terminal area development, and airport access. Following review of the alternatives by the Study Committee, airport staff, other interested parties and the FAA, a conclusion for this chapter will be formulated that includes a generalized conceptual airport development plan, recommendations for runway and taxiway improvements, along with an on-airport land use plan.

Airside Alternative One

As explained in the previous chapter, the runway length requirements of those aircraft using the Airport on a regular basis are met with the existing length of Runway 11/29 and it is recommended that this runway length be maintained. The primary purpose of Alternative One is to correct the existing non-standard conditions associated with the excessive longitudinal and transverse gradients on Runway 11/29 and to resolve the non-standard condition associated with the crossing runways and the resulting Runway Visibility Zone (RVZ) penetrations.

Shift Runway 11/29

- The Airport's main runway (Runway 11/29) will be shifted approximately 1,800 feet to the northwest (1,800 feet of additional pavement is added to the approach end of Runway 11 and 1,800 feet of pavement is removed/decommissioned at the approach end of Runway 29).
- Runway 11/29 is completely reconstructed and all longitudinal and transverse gradients are corrected to meet FAA design standards (estimated construction time frame is eight to ten months).
- Runway 4/22 is upgraded to ARC C-III standards including a widening of the runway to 150 feet, an extension of the runway to 7,000 feet, and a flattening of the runway to meet Category C gradient standards (allows the runway to be utilized by the air carriers during reconstruction/shifting of Runway 11/29).
- Runway 11/29 instrument approach visibility minimums will be programmed to remain at less than ¾-mile.
- Runway 4/22 instrument approach visibility minimums will be programmed for as low as ¾-mile.
- Parallel Taxiway "A" will be extended in accordance with the 1,800-foot shift of Runway 11/29.

- Parallel Taxiway "C" will be relocated to a C-III runway/taxiway separation of 400 feet.
- Additional parallel taxiways on opposite sides of each runway are protected for.
- A future parallel runway (Runway11L/29R), as shown on historical plans for the Airport, is protected for at a standard runway/runway separation (4,300 feet) to allow for the potential of simultaneous IFR approaches.
- A north side airport access road, connecting the future 29 Road interchange with I-70 and both I Road, and 27 ¼ Road is planned to provide vehicular access to potential north side aviation-related development including the potential relocated ATCT.

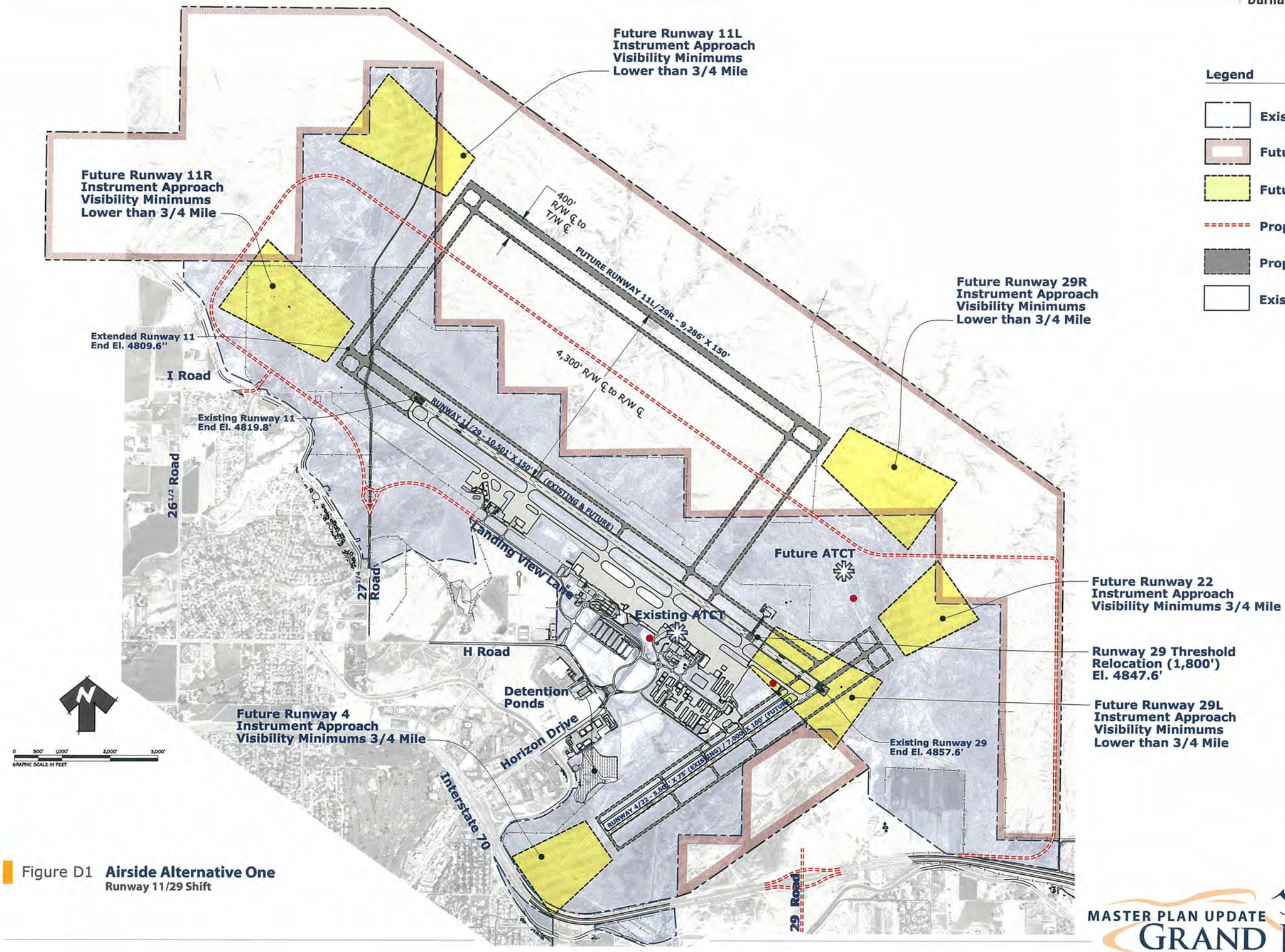
Positive Qualities of Alternative One

- Increases safety by correcting the RVZ without having to relocate the landside facilities that penetrate the RVZ. Correction of the RVZ will also increase the utility of the Airport by allowing Runway 4/22 to remain open during evening hours when the ATCT is closed.
- Increases safety by correcting the non-standard longitudinal and transverse gradients associated with Runway 11/29.
- In consideration of other alternatives, Alternative One will minimize new construction and capital improvement costs.
- Maintains the operational capability of the Airport to serve the air carriers and cargo carriers during reconstruction of Runway 11/29.
- Allows for the expansion of the existing aircraft maintenance run-up area northeast of Taxiway "A7".

Negative Qualities of Alternative One

- This alternative would correct all of the existing non-standard conditions with the notable exception of the longitudinal gradient on the connector taxiways between Runway 11/29 and Taxiway "A".
- Requires a significant amount of embankment off the approach end of Runway 11 to accommodate the runway shift.

- Requires the relocation of 27 ¼ Road around the shifted RPZ to the approach end of Runway 11.
- Requires a significant investment to upgrade and extend Runway 4/22. It is likely that the cost/benefit of this investment is very low as the upgraded runway will serve large turbo-prop and regional jet aircraft for only an eight- to ten-month period during reconstruction of Runway 11/29.
- The extension of the approach end of Runway 22 will require excavation of rising terrain and may require additional excavation to the northeast to meet Threshold Siting Surface (TSS) requirements. This rising terrain may also prevent the implementation of approach visibility minimums as low as ¾-mile to this runway end.
- Requiring air carrier and cargo aircraft to depart via Runway 22 would add additional air traffic and noise over residential areas off the departure end of Runway 22. These same aircraft would also overfly noise sensitive land uses on approach to Runway 4.



Legend

- Existing Airport Property
- Future Airport Property
- Future Runway Protection Zone
- Proposed Road
- Proposed Airfield Pavement
- Existing Building on Airport Property

Figure D1 **Airside Alternative One**
Runway 11/29 Shift

Airside Alternative Two

As in Alternative One, the primary purpose of Alternative Two is to correct the existing non-standard conditions associated with the excessive longitudinal and transverse gradients on Runway 11/29 and the penetrations of the Runway Visibility Zone (RVZ) between the two runways. The secondary purpose of Alternative Two is to also correct the non-standard taxiway longitudinal gradients associated with a number of the connector taxiways between Runway 11/29 and parallel Taxiway "A" and also correct the positioning of the runway "crown" or the lateral runway high point, which is currently located 25 feet from the northeasterly edge of the runway. While technically not a non-standard condition, it is generally accepted engineering practice to design a runway with the "crown" centered in the middle of the runway. The non-centered runway "crown" is likely the result of multiple runway widening projects that placed the additional runway pavement on only one side of the runway, rather than an equal placement of additional pavement on both sides of the runway.

New Runway 11/29 (Minimum Separation)

- The Airport's main runway (Runway 11/29) will be laterally relocated 650 feet to the northeast and longitudinally relocated 1,000 feet to the northwest.
- The new Runway 11/29 will be designed and constructed to meet all FAA design standards in accordance with the current and planned ARC for this runway.
- Runway 4/22 will be maintained to its existing B-II design standards; however, an extension of the approach end of Runway 22 providing a total length of 6,300 feet will be protected for. This is considered the ultimate runway length requirement for this runway, assuming it is not needed to serve the air carriers, and, this extension will accommodate 100 percent of the small aircraft fleet (aircraft less than 12,500 pounds). In this alternative, Runway 4/22 will ***not*** need to be upgraded to ARC C-III standards.
- Aircraft run-up areas/holding bays are programmed for all four runway ends and bypass taxiways are programmed for each end of Runway 11/29.
- Runway 11/29 instrument approach visibility minimums will be programmed at less than ¾-mile.
- Runway 4/22 instrument approach visibility minimums will be programmed for as low as ¾-mile.
- Parallel Taxiway "A" will be relocated to the "crown" of the existing Runway 11/29 (600-foot separation from the new Runway 11/29).

- Parallel Taxiway "C" will be maintained in its current location.
- Additional parallel taxiways on opposite sides of each runway are protected for.
- A future parallel runway (Runway11L/29R), as shown on historical plans for the Airport, is protected for at a standard runway/runway separation (4,300 feet) to allow for the potential of simultaneous IFR approaches.
- A north side airport access road, connecting the future 29 Road interchange with I-70 and both I Road and 27 ¼ Road, is planned to provide vehicular access to potential north side aviation-related development including the potential relocated ATCT.

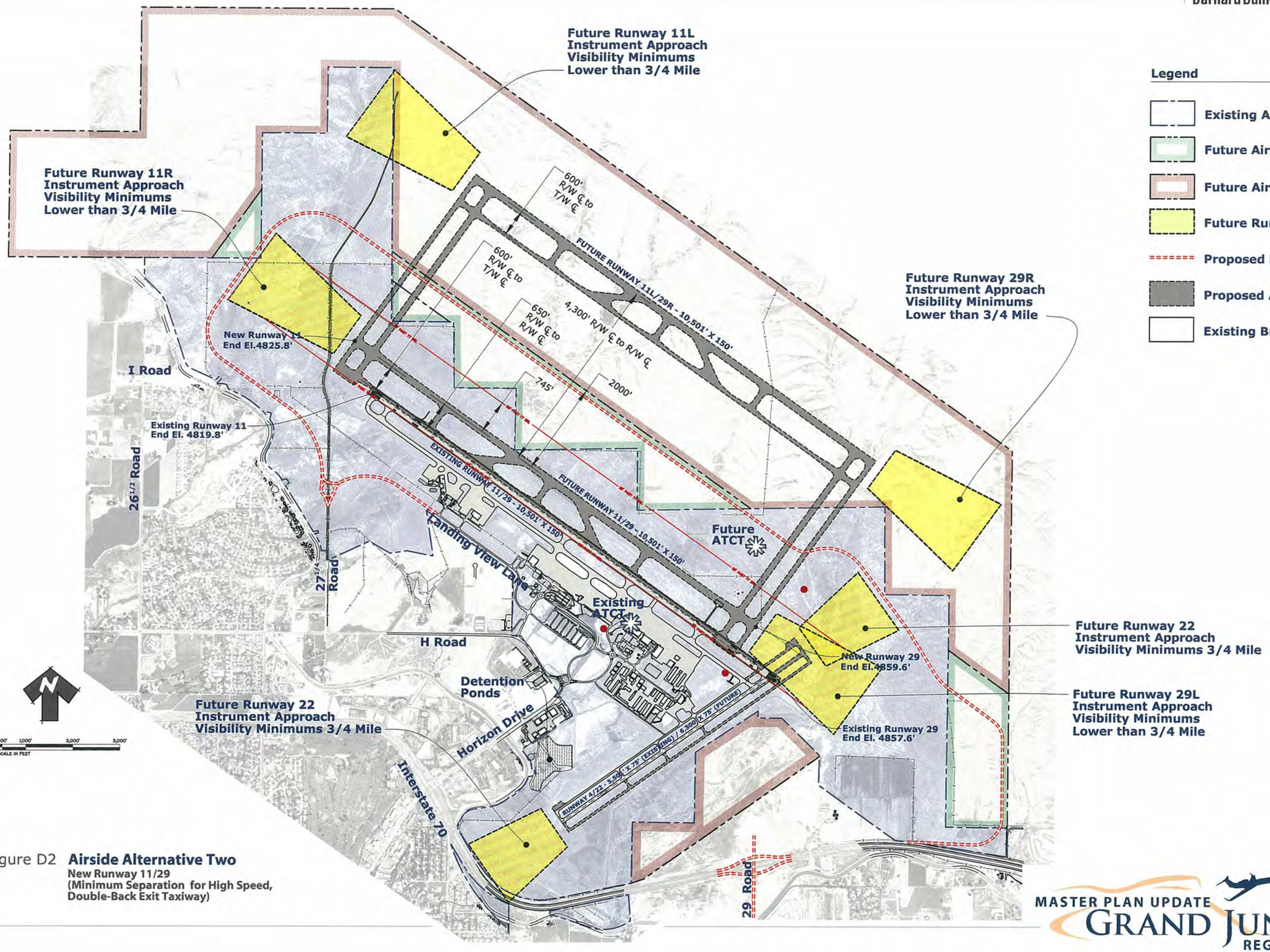
Positive Qualities of Alternative Two

- The existing Runway 11/29 will remain operational during construction of the new Runway 11/29, and, the operational capability of the Airport to fully serve the air carriers and cargo carriers will not be diminished.
- Does not require an ARC upgrade of Runway 4/22.
- Increases safety by correcting the RVZ without having to relocate the landside facilities that penetrate the RVZ. Correction of the RVZ will also increase the utility of the Airport by allowing Runway 4/22 to remain open during evening hours when the ATCT is closed.
- Increases safety by correcting the non-standard longitudinal and transverse gradients associated with Runway 11/29.
- Allows for the correction of the non-standard longitudinal gradients on the connector taxiways between Runway 11/29 and the relocated Taxiway "A".
- Increases safety by correcting the non-centered runway "crown".
- Increases the hourly capacity of the runway system by allowing for the construction of high speed exit taxiways with reverse double-back curves.

Negative Qualities of Alternative Two

- Does not minimize construction and capital improvement costs.
- Requires the relocation of 27 ¼ Road around the shifted RPZ to the approach end of Runway 11.

- The extension of the approach end of Runway 22 will require excavation of rising terrain and may require additional excavation to the northeast to meeting Threshold Siting Surface (TSS) requirements. This rising terrain may also prevent the implementation of approach visibility minimums as low as ¾-mile to this runway end.
- Requires the relocation of the existing aircraft maintenance run-up area northeast of Taxiway "A7".
- Would result in FAR Part 77 imaginary surface penetrations during construction of the new Runway 11/29, and will require construction and phasing solutions to maintain the operational capability of existing Runway 11/29 during construction of the new runway.



Legend

- Existing Airport Property
- Future Airport Property - Phase I
- Future Airport Property - Phase II
- Future Runway Protection Zone
- Proposed Road
- Proposed Airfield Pavement
- Existing Building on Airport Property

Figure D2 **Airside Alternative Two**
New Runway 11/29
(Minimum Separation for High Speed, Double-Back Exit Taxiway)

Airside Alternative Three

As in Alternative Two, the primary purpose of Alternative Three is to correct the existing non-standard conditions associated with the excessive longitudinal and transverse gradients on Runway 11/29 and the penetrations of the Runway Visibility Zone (RVZ) between the two runways. The secondary purpose of Alternative Three is to also correct the non-standard taxiway gradients associated with a number of the connector taxiways between Runway 11/29 and parallel Taxiway "A" and also correct the positioning of the runway "crown". One further objective of Alternative Three is to allow construction equipment associated with the new Runway 11/29 to entirely avoid penetrating the FAR Part 77 imaginary surfaces associated with existing Runway 11/29 during the phased construction period.

New Runway 11/29 (Maximum Separation)

- The Airport's main runway (Runway 11/29) will be laterally relocated 938 feet to the northeast and longitudinally relocated 500 feet to the northwest. The purpose of the 938-foot relocation is to allow for construction equipment (up to 20 feet tall) to operate within the entire runway safety area (RSA) surrounding the new Runway 11/29 without penetrating the FAR Part 77 transitional surface of the existing Runway 11/29.
- The new Runway 11/29 will be designed and constructed to meet all FAA design standards in accordance with the current and planned ARC for this runway.
- Runway 4/22 will be maintained at its existing length and width and will ***not*** need to be upgraded to ARC C-III standards.
- Aircraft run-up areas/holding bays are programmed for all four runway ends and bypass taxiways are programmed for each end of Runway 11/29.
- Runway 11/29 instrument approach visibility minimums will be programmed at less than ¾-mile.
- Runway 4/22 instrument approach visibility minimums will be programmed for as low as ¾-mile.
- Parallel Taxiway "A" will be relocated to the "crown" of the existing Runway 11/29 (888-foot separation from the new Runway 11/29).
- Parallel Taxiway "C" will be maintained in its current location.
- Additional parallel taxiways on opposite sides of each runway are protected for.

- A future parallel runway (Runway11L/29R), as shown on historical plans for the Airport, is protected for at a standard runway/runway separation (4,300 feet) to allow for the potential of simultaneous IFR approaches.
- A north side airport access road, connecting the future 29 Road interchange with I-70 and both I Road and 27 ¼ Road, is planned to provide vehicular access to potential north side aviation-related development, including the potential relocated ATCT.

Positive Qualities of Alternative Three

- The existing Runway 11/29 will remain operational during construction of the new Runway 11/29, and, the operational capability of the Airport to fully serve the air carriers and cargo carriers will not be diminished.
- Allows for construction of the new Runway 11/29 without FAR Part 77 transitional surface penetrations by construction equipment.
- Increases safety by correcting the RVZ without having to relocate the landside facilities that penetrate the RVZ. Correction of the RVZ will also increase the utility of the Airport by allowing Runway 4/22 to remain open during evening hours when the ATCT is closed.
- Increases safety by correcting the non-standard longitudinal and transverse gradients associated with Runway 11/29.
- Allows for the correction of the non-standard longitudinal gradients on the connector taxiways between Runway 11/29 and the relocated Taxiway "A".
- Increases safety by correcting the non-centered runway "crown".
- Increases the hourly capacity of the runway system by allowing for the construction of high speed exit taxiways with reverse double-back curves.
- Does not require any BLM land for the RPZ to the approach end of the relocated Runway 11.

Negative Qualities of Alternative Three

- Alternative Three has the highest construction costs of the three alternatives, primarily due to the amount of excavation required to construct the new runway 938 feet from the existing runway.
- The siting of the new Runway 11/29 in Alternative Three would likely restrict any future extension of the approach end of Runway 22.

- Requires the relocation of 27 ¼ Road around the shifted RPZ to the approach end of Runway 11.
- Requires the relocation of the existing aircraft maintenance run-up area northeast of Taxiway "A7".
- Would significantly increase the runway/taxiway separation of the primary runway system. Aircraft would be required to taxi greater distances to access landside facilities, resulting in an increase in ground taxi fuel burns and aircraft emissions.

Conclusions and Recommended Alternative

Several conclusions can be reached with regard to the future airfield components that should be recommended as part of this Airport Master Plan Update. The conclusions that appear to be appropriate at this preliminary stage include:

- The Airport's main runway (Runway 11/29) should be relocated at the minimum allowable separation (Airside Alternative Two) for construction phasing in order to correct all non-standard conditions associated with this runway and its connector taxiways. Additional benefits of this new runway include the correction of the non-standard RVZ, the correction of the non-centered runway "crown", and the elimination of the need to upgrade the crosswind runway (Runway 4/22).
- A two-phase land acquisition of BLM land can be programmed with the first phase required for the relocated Runway 11/29, the future ATCT, and the future north side access road. The second phase BLM land transfer could include the land required for the ultimate parallel runway (Runway 11L/29R).
- Aircraft engine run-up areas/holding bays should be provided at each runway end possibly combined with a maintenance related engine run-up area.
- A potential extension of the approach end of Runway 22 should be protected for in the siting of the new Runway 11/29.
- Future instrument approach minimums lower than ¾-mile for Runway 11/29 and as low as ¾-mile for Runway 4/22 should be protected for to the greatest extent practicable.

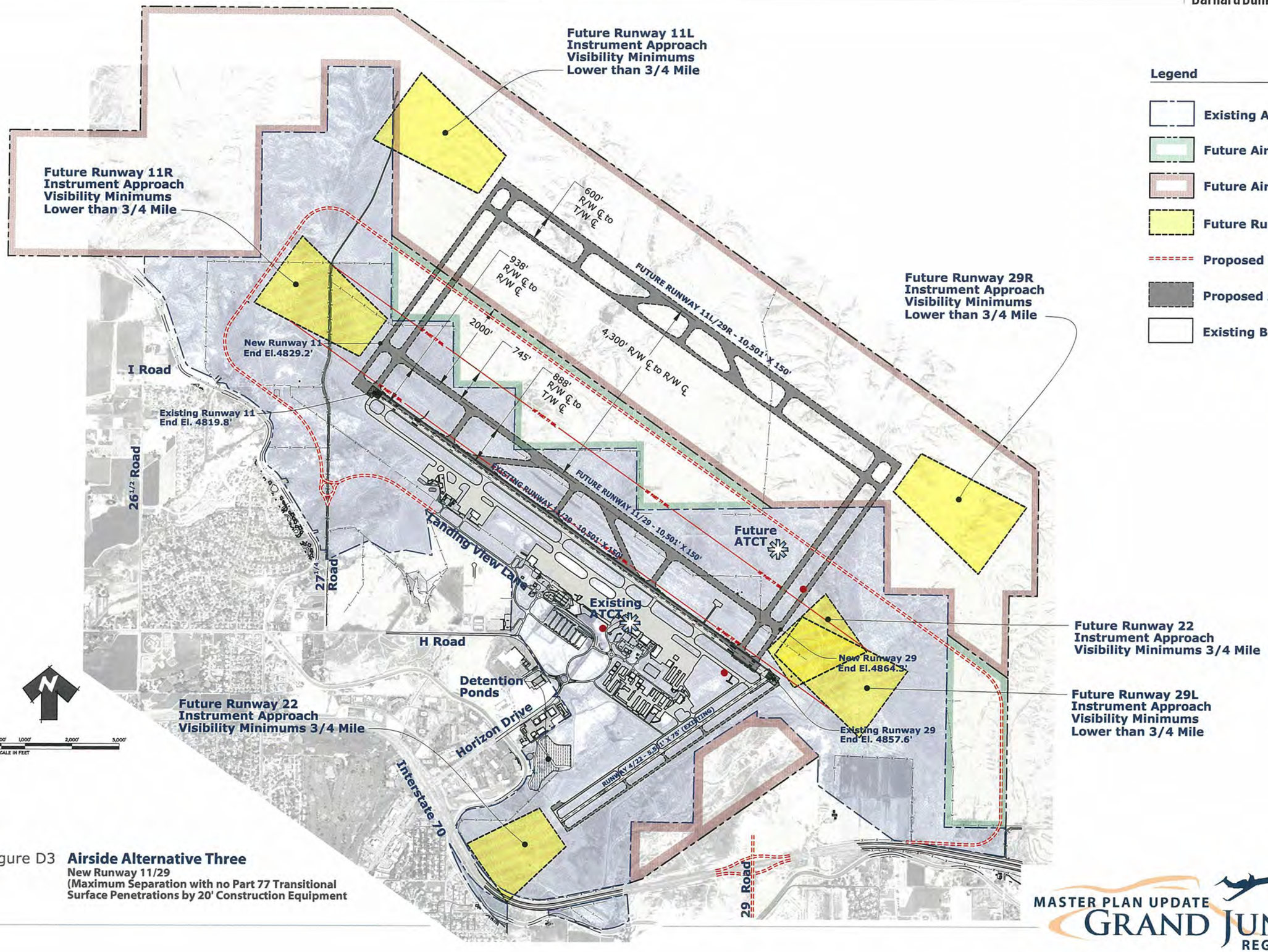


Figure D3 **Airside Alternative Three**
New Runway 11/29
(Maximum Separation with no Part 77 Transitional Surface Penetrations by 20' Construction Equipment

Landside Development Concepts

Introduction

With the basic framework of the Airport's ultimate airside development identified, the placement of landside facilities can now be analyzed. In general, landside facilities consist of terminal area development, aircraft parking aprons, support facility development, hangar development areas, and airport access. The overall objective of landside development planning at the Airport is the provision of facilities that are conveniently located and accessible to the community, and that accommodate the specific requirements of airport users.

The current landside development area at Grand Junction Regional Airport is located south of Runway 11/29 and west of Runway 4/22. This area is very close to full build out, with only three locations left for development including the area adjacent to connector Taxiways A1 and A2, the "infill" area between connector Taxiways A3 and A4, and the area south of Navigators Way. The preferred airside alternative (Alternative Two) shifts Runway 11/29 approximately 650 feet to the north and east, which will create additional landside developable area for both aircraft parking apron and aviation facilities expansion. This is a significant benefit to the Airport because, once the previously mentioned landside areas are developed, the Airport will likely need to look at concepts for landside development north and east of Runway 11/29. The area north and east of Runway 11/29 currently has almost no landside access or infrastructure necessary for development and the extensions to properly serve the area will be very costly.

Illustrations of the landside area created by Airside Alternative Two have been prepared to graphically depict the potential acreage available for both aviation-related development and apron/tie down expansion. Also, in consideration of the forecasts of enplanements and air carrier operations, as well as the evolving security requirements and airline business practices, passenger terminal facilities at the Airport will require significant modification, renovation, and expansion. An envelope for potential passenger terminal redevelopment has also been identified.

Following input from stakeholders, airport staff, the FAA, and the public on major landside elements, more detailed factors will be addressed. The detailed factors include such items as roadway access, automobile parking, fuel storage facilities, conceptual layout of future hangars, fencing and gates, aircraft parking aprons, utilities, etc. The following illustrations, entitled *LANDSIDE FACILITIES CONCEPTUAL LAYOUT WEST* and *LANDSIDE FACILITIES CONCEPTUAL LAYOUT EAST*, provide an idea of the areas that can be reserved for landside facilities in consideration of the preferred airside alternative.

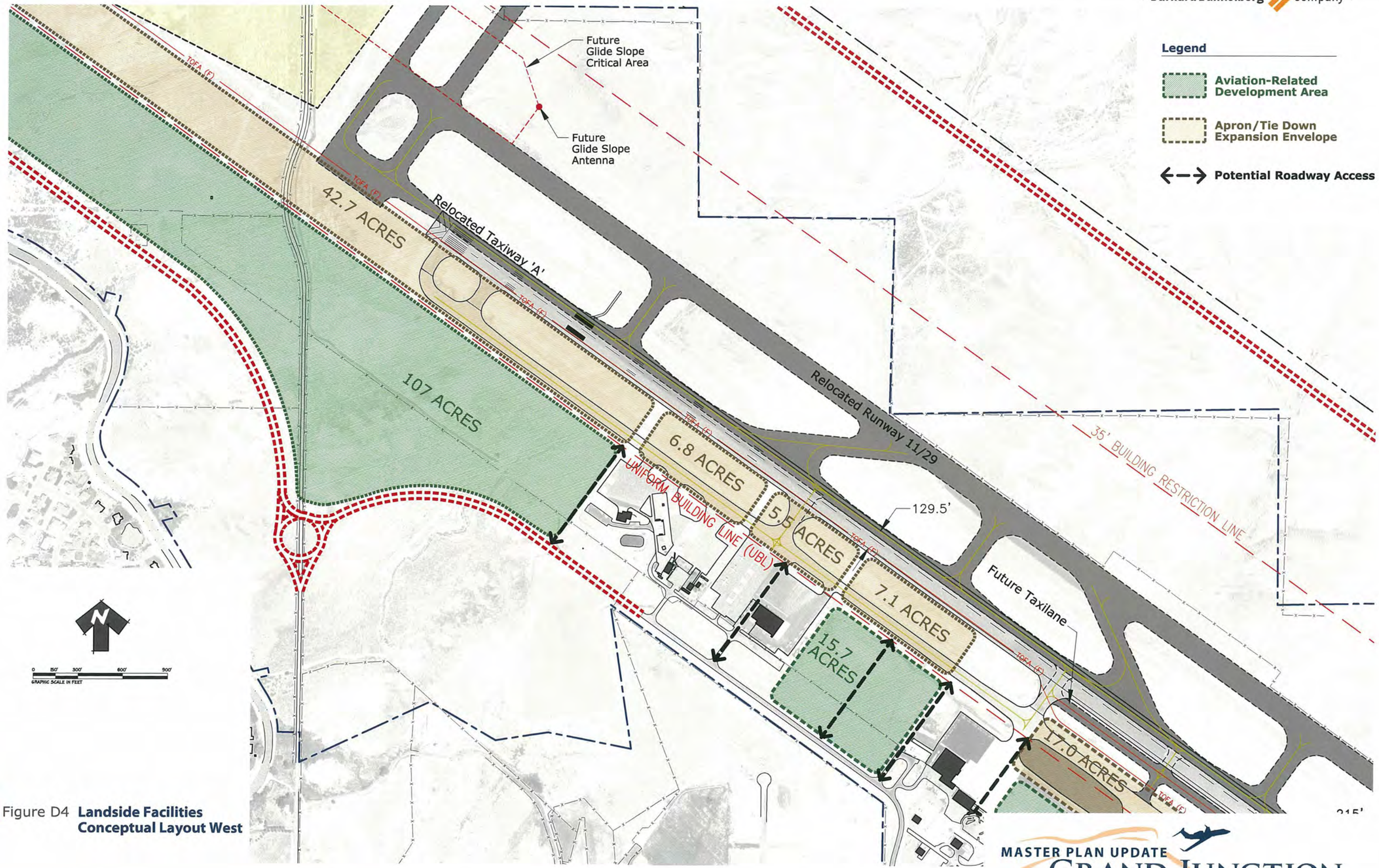


Figure D4 **Landside Facilities Conceptual Layout West**

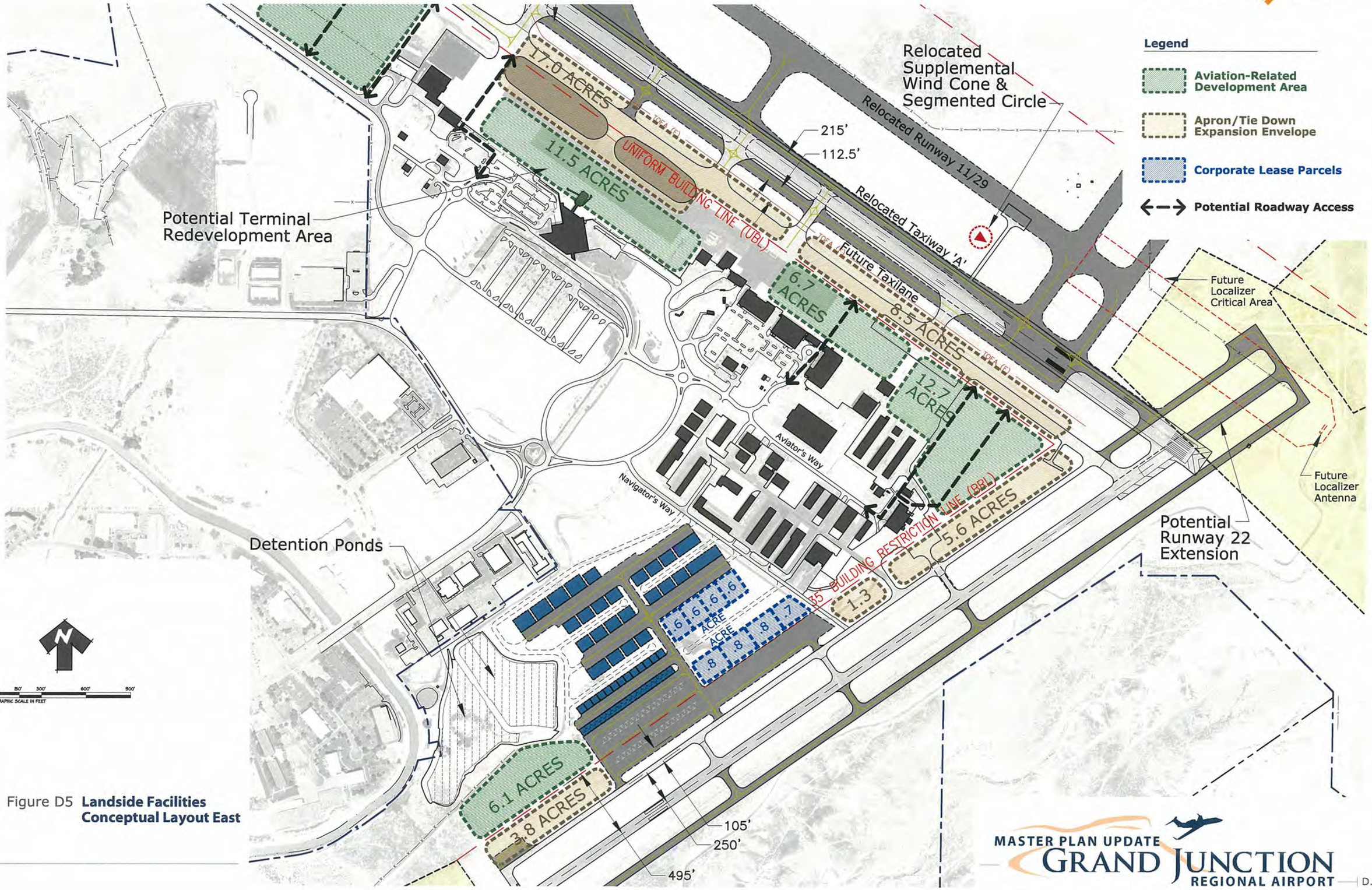


Figure D5 **Landside Facilities Conceptual Layout East**

Passenger Terminal Facilities

As identified in the previous chapter, the existing passenger terminal building is approaching capacity in various areas and consideration should be given to the space requirements to accommodate the forecast passenger demand at the Airport. Previous planning documents have introduced the potential alternative of relocating the passenger terminal and related facilities to the northwest side of Runway 11/29. However, as stated previously, this area has almost no landside access or infrastructure necessary for development and the extensions to properly serve the area would be very costly. Furthermore, the preferred alternative (Airside Alternative Two) would create an additional development envelope for terminal expansion that will better utilize the significant investment the Airport has made in both vehicle parking and landside access improvements in recent years. Additional space for both Transportation Security Administration (TSA) and airport administration/operations requirements should be programmed.

A potential passenger terminal redevelopment area and terminal apron expansion area are shown on the previous illustration entitled *LANDSIDE FACILITIES CONCEPTUAL LAYOUT EAST.* More detailed information related to this terminal redevelopment will be provided in later chapters of this Airport Master Plan Update.

General Aviation Aircraft Storage Facilities

The other significant current landside development issue that has been identified is development area for general aviation storage facilities (hangars) and for commercial aviation activity.

General aviation aircraft storage facilities can range from T-hangars, which house aircraft in individual walled-in units that are contained in a larger structure (in most cases, units are intended to accommodate one aircraft), to small conventional hangars (executive hangars, which can house one or two small- to medium-sized general aviation aircraft), to corporate hangars capable of housing one or more business jet aircraft. There are also large "gang storage" hangars that can house a number of aircraft under one roof without the separating partitions that characterize a T-hanger structure. This Airport Master Plan Update will provide a detailed "concept" layout of facilities to provide space for these various hangar types, but will also strive to provide flexibility so that the type of hangar built can be in response to actual demand. The primary area that has historically been reserved for general aviation facility expansion is located southwest of Navigators Way. The layout of these facilities, shown on the following illustration entitled *CONCEPTUAL GENERAL AVIATION FACILITIES LAYOUT*, has been revised to accommodate several large "corporate lease" parcels. These parcels could be leased to aviation-related businesses or businesses and institutions with corporate flight departments desiring to construct aircraft storage facilities with convenient access to the runway/taxiway system.

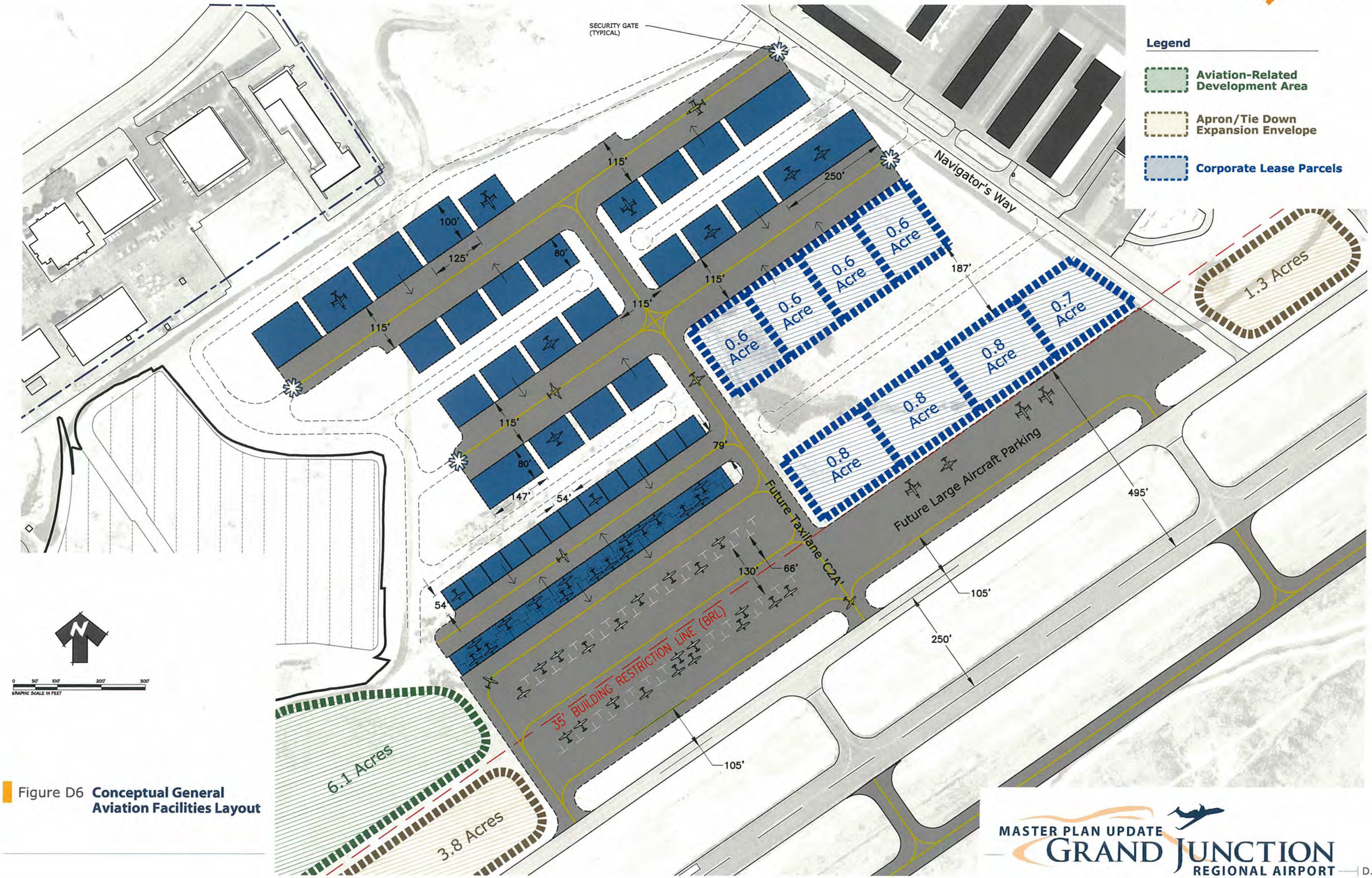


Figure D6 **Conceptual General Aviation Facilities Layout**

Land Acquisition Considerations

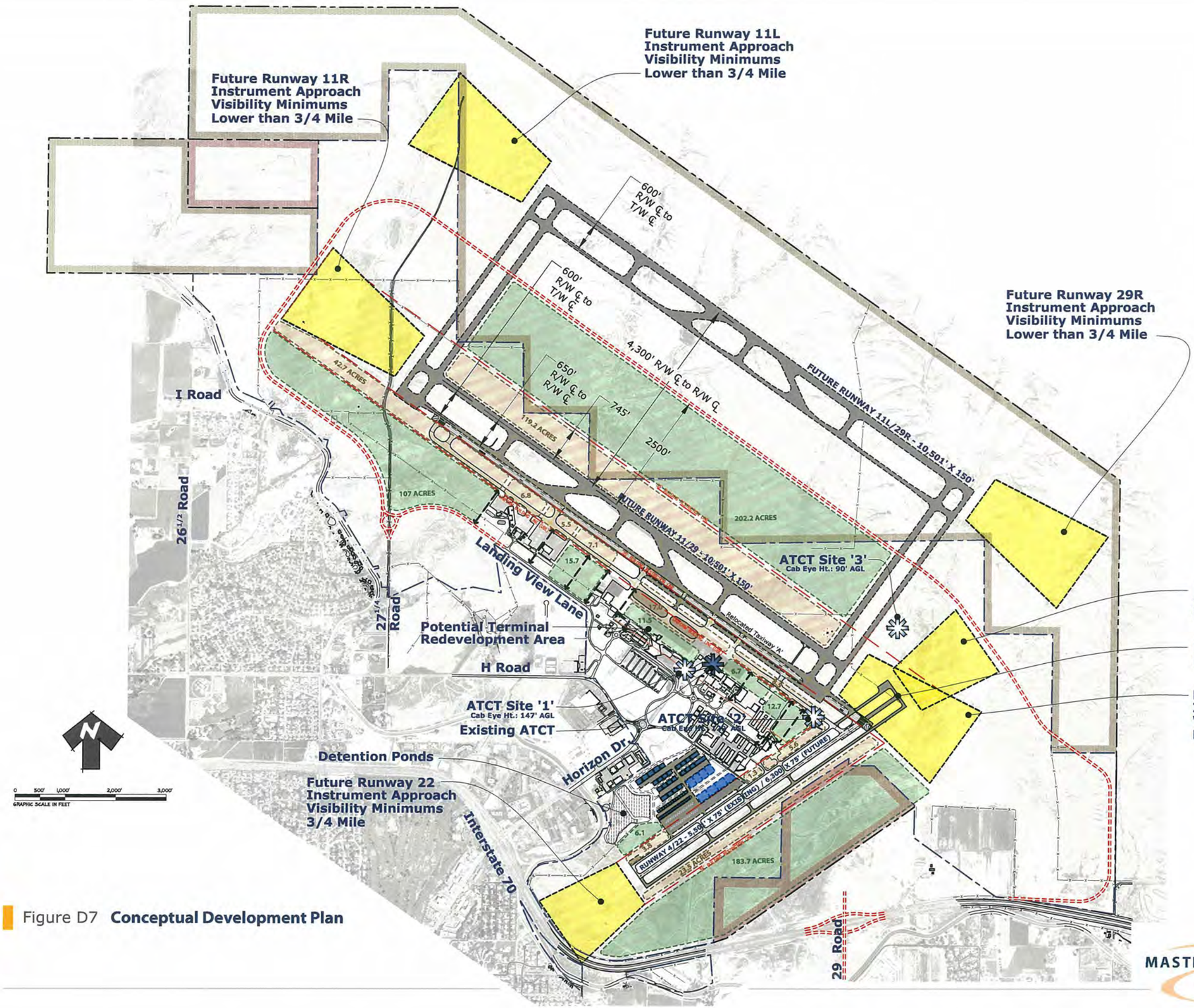
As can be noted on the previous illustrations, the Airport's facilities are located on a limited amount of property. To help ensure land use compatibility, approach protection, and to provide additional development area for aviation/airport support facilities, several parcels adjacent to airport property are being considered for acquisition. The parcels being considered for acquisition include Federal BLM land and private land. The BLM land north and west of the Airport is the highest priority for acquisition and a portion of this property is needed in order to implement Airside Alternative Two. Several parcels of state-owned land were recently acquired along the eastern airport property line. The purpose of this state land is both for approach protection as well as the potential for an ultimate north side airport access road. Finally, a parcel of private land southeast of Runway 4/22 is being considered for acquisition. Acquisition of this parcel would protect the Airport from potentially incompatible development within the Building Restriction Line (BRL) of Runway 4/22 and this parcel could potentially accommodate future aviation-related development. These parcels are shown in the previous airside alternative illustrations.

Conceptual Airport Development Plan

Following discussions and input from the Study Committee, airport stakeholders, airport staff, the public, and the Federal Aviation Administration, a conceptual development plan for Grand Junction Regional Airport was finalized. The *CONCEPTUAL DEVELOPMENT PLAN* for the Airport is illustrated in the following figure. Following the acceptance of this Conceptual Development Plan by the Airport Authority Board, the plan was utilized as the basis for the Environmental Review, the development of detailed Airport Plans, and the production of a long-term Capital Improvement Program for the Airport.

Airport Traffic Control Tower Location Analysis

Based on the Conceptual Development Plan, an ATCT location analysis was conducted in accordance with FAA Order 6480.4A, *Airport Traffic Control Tower Siting Process.* Siting considerations included TERPS criteria, FAR Part 77 criteria, sight distances and shadowing effects, and physical considerations such as infrastructure development, access, topography and general location factors, and facility construction costs. Three primary ATCT relocation sites were considered. The location of these sites, as well as the required cab eye height at each site, is shown on the following illustration entitled *CONCEPTUAL DEVELOPMENT PLAN.* The recommended preferred site is Site number 3, with a cab eye height of 90 feet above ground level (AGL). Selection of the final relocation site will be at the discretion of the FAA.



Legend

- Existing Airport Property
- Future Airport Property - BLM
- Future Airport Property - Private
- Future Runway Protection Zone
- Proposed Road
- Proposed Airfield Pavement
- Existing Building on Airport Property
- Proposed Building on Airport Property
- Aviation-Related Development Area
- Apron/Tie Down Expansion Envelope
- Corporate Lease Parcels
- Potential Roadway Access

Figure D7 **Conceptual Development Plan**

Environmental

E. Environmental Review

MASTER PLAN UPDATE

GRAND JUNCTION

REGIONAL AIRPORT

E. Environmental Review

The following narrative presents an analysis and inventory of environmental information gathered through research and data collection. The purpose of this analysis and inventory is to provide preliminary information concerning environmental resources in an effort to define and identify critical resources that would need to be addressed in the preparation of environmental documentation for the proposed airport development.

Alternatives involving the future configuration of the Airport have been reviewed in previous chapters. The primary changes proposed in the airport layout include the acquisition of BLM land north and east of the Airport, the acquisition of private land south of Runway 4/22, the relocation of Runway 11/29 approximately 650 feet to the north and east, the conversion of the current Runway 11/29 to a parallel taxiway, and the expansion of apron and landside development areas associated with the relocation of Runway 11/29.

Existing Conditions

Mesa County is located within the temperate steppe mountain ecoregion of west-central Colorado. The Airport is located on sloping terrain and the Colorado River and the Gunnison River are the predominant water features in the vicinity of the Airport. Both rivers join approximately four miles southwest of the Airport. The climate of Mesa County is characterized as mild, with an average annual rainfall of approximately 8.6 inches and an average annual snowfall of approximately 25.1 inches. Average annual maximum temperature is 65° F, and the average annual minimum temperature is 40° F.

The City of Grand Junction and Mesa County both have zoning and development codes that help guide development. Areas to the south and west of the Airport consist of various zoning districts including both residential and non-residential zoning districts. Existing zoning within airport environs south and west of the Airport is predominantly residential and industrial with some business/commercial, public facilities, and planned development. The majority of the land north and east of the Airport is owned by the Bureau of Land Management (BLM) and is zoned by Mesa County as Agricultural, Forestry, Transitional district (AFT). The AFT district is primarily intended to accommodate agricultural operations and very low-density single-family residential development.

Mesa County had an estimated population of approximately 139,082 in 2007. Through the Grand Junction Regional Communication Center, the City of Grand Junction Police Department provides crime protection for the Airport, with airport fire protection being provided by the Airport's Index B Aircraft Rescue and Fire Fighting Facility (ARFF) facility and the Grand Junction Fire Department. The nearest landfill (Mesa County Landfill) is located approximately five miles southeast of the City of Grand Junction (eight miles south of the Airport).

Surface transportation access to the Airport is provided via Horizon Drive and H Road. Horizon Drive connects with Interstate 70 less than one mile southwest of the airport entrance.

Future Conditions

The following future conditions discussion is based on the assumption that all the projects included in the proposed 20-year capital funding plan are implemented. An analysis of the potential environmental impacts of implementing these projects allows for the identification of any potentially significant environmental concerns and also allows for the identification of the level of documentation required to receive environmental clearance for each project. It is anticipated that at least two reasonably foreseeable projects will require the preparation of Environmental Assessments (EAs), including the relocation of Runway 11/29 and its associated land acquisition and the relocation of the Airport Traffic Control Tower (ATCT). It is also possible that the reconstruction or relocation of the passenger terminal will require the preparation of an EA.

Noise

Noise is generally defined as unwanted sound and, as such, the determination of acceptable levels is subjective. The day-night sound level (DNL) methodology is used to determine both the noise levels resulting from existing conditions and the potential noise levels that could be expected to occur with the proposed project. The basic unit in the computation of DNL is the Sound Exposure Level (SEL). An SEL is computed by adding the "A" weighted decibel level [dB(A)] level for each second of a noise event above a certain threshold ("A" weighted refers to the sound scale pertaining to the human ear). For example, a noise monitor located in a quiet residential area [40 dB(A)] receives the sound impulses of an approaching aircraft and records the highest dB(A) reading for each second of the event as the aircraft approaches and departs the site. Each of these one-second readings is then added logarithmically to compute the SEL.

The computation of DNL involves the addition, weighting, and averaging of each SEL to achieve the DNL level in a particular location. The SEL of any single noise event occurring between the hours of 10:00 p.m. and 7:00 a.m. is automatically weighted by adding 10 dB(A) to the SEL to account for the assumed additional irritation perceived during that time period. All SELs are then averaged over a given time period (day, week, year) to achieve a level characteristic of the total noise environment. Very simply, a DNL level for a specified area over a given time is approximately equal to the average dB(A) level that has the same sound level as the intermittent noise events. Thus, a DNL 65 level describes an area as having a constant noise level of 65 dB(A), which is the approximate average of single noise events even though the area would experience noise events much higher than 65 dB(A) and periods of quiet.

The main advantage of DNL is that it provides a common measure for a variety of differing noise environments. The same DNL level can describe both an area with very few high level noise events and an area with many low level events. DNL is thus constructed because it has been found that the total noise energy in an area predicts community response.

DNL levels are usually depicted as grid cells or contours. Grid cells are squares of land of a specific size that are entirely characterized by a noise level. Contours are interpolations of noise levels based on the centroid of a grid cell and drawn to connect all points of similar level. Contours appear similar to topographical contours and form concentric "footprints" about a noise source. These footprints of DNL contours drawn about an airport are used to predict community response to the noise from aircraft using that airport.

Computer Modeling. The DNL noise contours were generated using the Integrated Noise Model (INM) Version 7.0a, specifically developed by the Federal Aviation Administration (FAA) for modeling the noise environment at airports. The program is provided with standard aircraft noise and performance data, which can be tailored to the characteristics of individual airports. The INM program requires the input of the physical and operational characteristics of the airport. Physical characteristics include runway end coordinates, displaced thresholds, airport elevation, and temperature. Operational characteristics include aircraft mix, flight tracks, and runway utilization. Optional data that can be incorporated in the model includes approach and departure profiles, approach and departure procedures, and aircraft noise curves.

Using the existing and forecast aircraft operations presented earlier, two sets of noise contours have been generated, an existing (2007) set and a future (2027) set. Illustrations and descriptions of the potential impacts to the surrounding land uses for each set of noise contours follow.

2007 Noise Impacts. The existing noise contours and the anticipated effect on the surrounding land uses are presented in the following figure entitled *BASELINE (2007) NOISE CONTOURS W/GENERALIZED FUTURE LAND USE*. The 65 DNL noise contour encompasses roughly 2,360 acres, and the 60 DNL noise contour contains about 4,903 acres. As can be seen, the 65 DNL noise contours extend beyond the airport boundary off both ends of Runway 11/29. Noise sensitive land uses consisting of residential development exist off the departure end of Runway 11. A planned residential land use exists off the departure end of Runway 29.

2027 Noise Impacts. The future 2027 noise contours and the anticipated effect on the surrounding land uses are illustrated in the figure entitled *FUTURE (2027) NOISE CONTOURS W/GENERALIZED FUTURE LAND USE*. In comparison, the 2027 noise contours are only slightly larger than the 2007 contours and shifted north and east due to the proposed Runway 11/29 relocation. The 65 DNL noise contour encompasses about 2,365 acres, and the 60 DNL noise contour includes approximately 4,928 acres. The incompatible residential land uses off the departure end of Runway 11 are almost completely removed from the 65 DNL contour by the proposed runway relocation. However, the planned residential land use off the departure end of the relocated Runway 29 is still located within the future 65 DNL contour. It is recommended that the Airport work with the City of Grand Junction to plan a more compatible land use on this parcel.

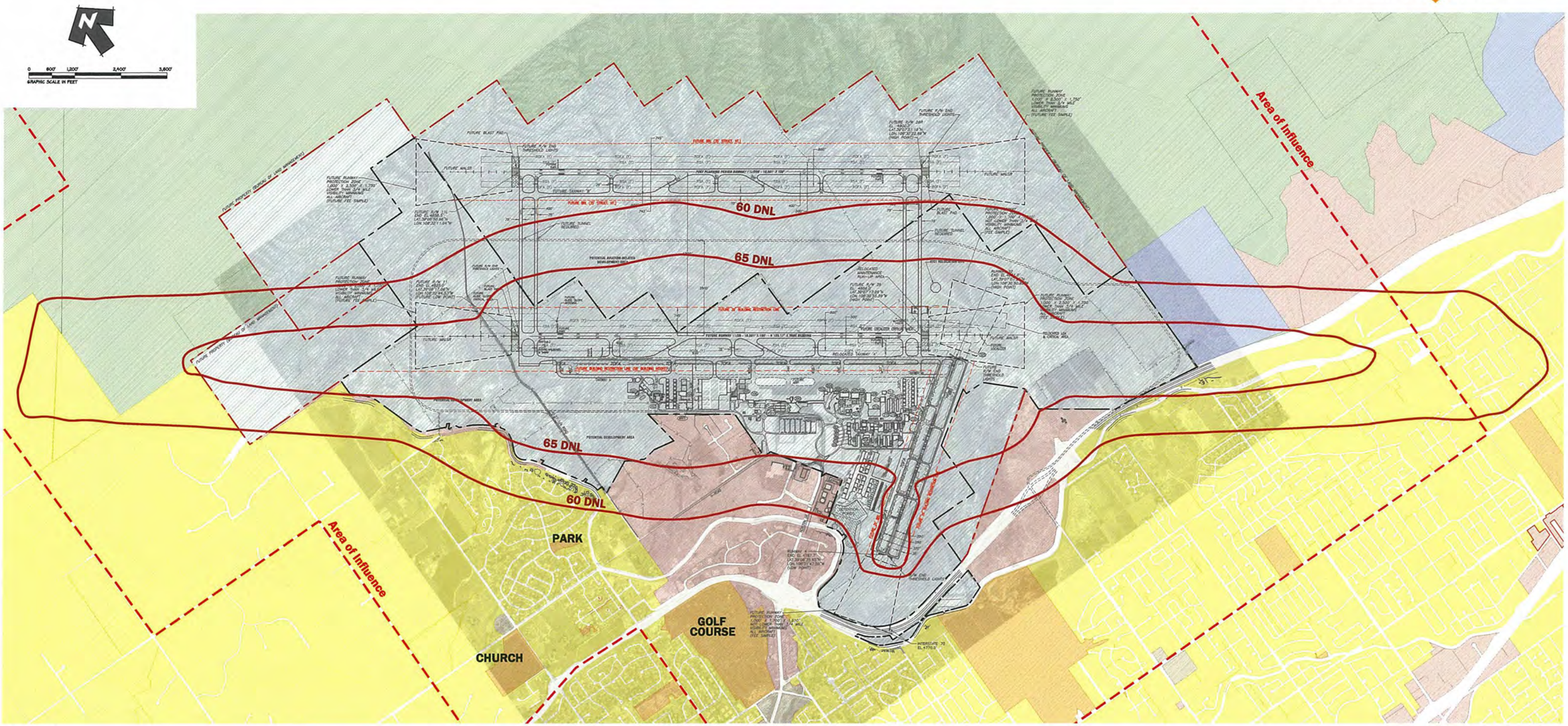


Figure E1 **Baseline (2007) Noise Contours w/Generalized Future Land Use**

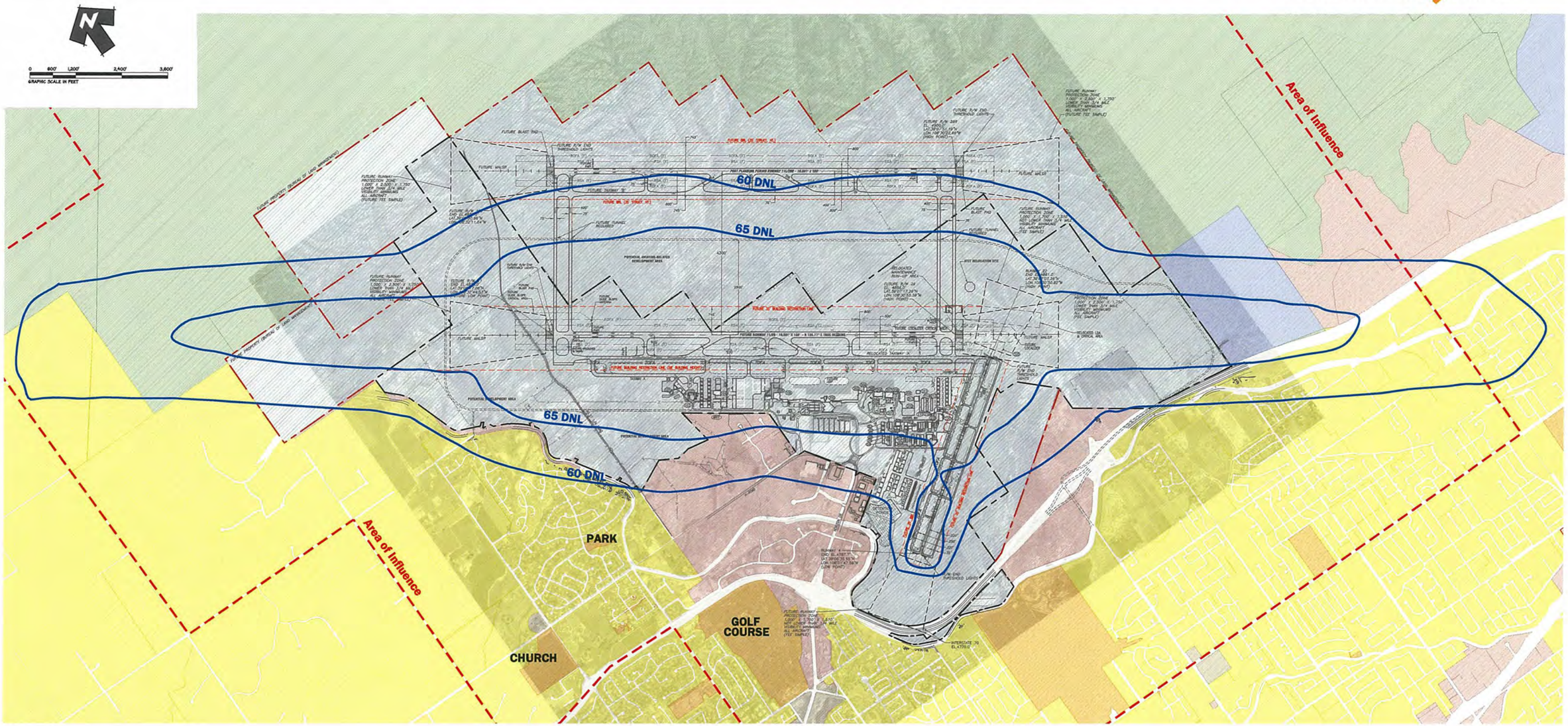


Figure E2 **Future (2027) Noise Contours w/Generalized Future Land Use**

Compatible Land Use

Establishing land use compatibility within airport environs is the responsibility of local authorities, but should be based on a recognized standard. Federal Aviation Regulation (FAR) Part 150 *Land Use Compatibility Guidelines* are the acknowledged standard by the federal government regarding aircraft noise at airports. The following illustration, entitled *LAND USE COMPATIBILITY MATRIX*, indicates those land uses that are compatible within certain DNL noise contours. It identifies land uses as being compatible, incompatible, or compatible if sound attenuated.

The guidelines can act as a guide to the city and county for establishing sensible land use planning and control practices, and as a tool for comparing relative land use impacts resulting from the proposed airport development. It must be remembered that the DNL noise contours do not delineate areas that are either free from excessive noise or areas that will be subjected to excessive noise. In other words, it cannot be expected that a person living on one side of a DNL noise contour will have a markedly different reaction than a person living nearby, but on the other side. What can be expected is that the general aggregate community response to noise within the DNL 65 noise contour, for example, will be less than the public response from the DNL 75 noise contour.

The area between the 60 and 65 DNL noise contours is an area within which most land uses are compatible, but is also an area where single event noise complaints are often received. It is strongly recommended that the Airport consider adopting the 60 DNL noise contour as the official land use compatibility planning contour following the construction of the new Runway 11/29.

The area between the 65 and 70 DNL noise contours is an area of significant noise exposure, where many types of land uses are normally unacceptable and where land use compatibility controls are recommended. Finally, the area inside the 70 and 75 DNL noise contour identifies land uses that are subjected to a significant level of noise, and the sensitivity of various uses to noise is increased.

LAND USE	BELOW 65	YEARLY DAY-NIGHT NOISE LEVEL (DNL) IN DECIBELS 65-70	70-75	75-80	80-85	OVER 85
RESIDENTIAL						
Residential, other than mobile homes and transient lodgings	Y	N(1)	N(1)	N	N	N
Mobile home parks	Y	N	N	N	N	N
Transient lodgings	Y	N(1)	N(1)	N(1)	N	N
PUBLIC USE						
Schools	Y	N(1)	N(1)	N	N	N
Hospitals and nursing homes	Y	25	30	N	N	N
Churches, auditoriums and concert halls	Y	25	30	N	N	N
Governmental services	Y	Y	25	30	N	N
Transportation	Y	Y	Y(2)	Y(3)	Y(4)	Y(4)
Parking	Y	Y	Y(2)	Y(3)	Y(4)	N
COMMERCIAL USE						
Offices, business and professional	Y	Y	25	30	N	N
Wholesale and retail-building materials, hardware and farm equipment	Y	Y	Y(2)	Y(3)	Y(4)	N
Retail trade-general	Y	Y	25	30	N	N
Utilities	Y	Y	Y(2)	Y(3)	Y(4)	N
Communication	Y	Y	25	30	N	N
MANUFACTURING AND PRODUCTION						
Manufacturing, general	Y	Y	Y(2)	Y(3)	Y(4)	N
Photographic and optical	Y	Y	25	30	N	N
Agriculture (except livestock) and forestry	Y	Y(6)	Y(7)	Y(8)	Y(8)	Y(8)
Livestock farming and breeding	Y	Y(6)	Y(7)	N	N	N
Mining and fishing resource production and extraction	Y	Y	Y	Y	Y	Y
RECREATIONAL						
Outdoor sports arenas and spectator sports	Y	Y(5)	Y(5)	N	N	N
Outdoor music shells, amphitheaters	Y	N	N	N	N	N
Nature exhibits and zoos	Y	Y	N	N	N	N
Amusements, parks, resorts and camps	Y	Y	Y	N	N	N
Golf courses, riding stables and water recreation	Y	Y	25	30	N	N

Numbers in parentheses refer to NOTES.

The designations contained in this table do not constitute a Federal determination that any use of land covered by the program is acceptable or unacceptable under Federal, State or local law. The responsibility for determining the acceptable and permissible land uses and the relationship between specific properties and specific noise contours rests with the local authorities. FAA determinations under Part 150 are not intended to substitute federally determined land uses for those determined to be appropriate by local authorities in response to locally determined needs and values in achieving noise compatible land uses.

TABLE KEY

SLUCM	Standard Land Use Coding Manual.
Y(Yes)	Land Use and related structures compatible without restrictions.
N(No)	Land Use and related structures are not compatible and should be prohibited.
NLR	Noise Level Reduction (outdoor to indoor) to be achieved through incorporation of noise attenuation into the design and construction of the structure.
25, 30 or 35	Land Use and related structures generally compatible; measures to achieve NLR of 25, 30 or 35 dB must be incorporated into design and construction of structure.

NOTES

(1) Where the community determines that residential or school uses must be allowed, measures to achieve outdoor to indoor Noise Level Reduction (NLR) of at least 25 dB to 30 dB should be incorporated into building codes and be considered in individual approvals. Normal residential construction can be expected to provide a NLR of 20 dB, thus, the reduction requirements are often stated as 5, 10 or 15 dB over standard construction and normally assume mechanical ventilation and closed windows year round. However, the use of NLR criteria will not eliminate outdoor noise problems.

(2) Measures to achieve NLR of 25 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low.

(3) Measures to achieve NLR of 30 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low.

(4) Measures to achieve NLR of 35 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low.

(5) Land use compatible provided that special sound reinforcement systems are installed.

(6) Residential buildings require an NLR of 25.

(7) Residential buildings require an NLR of 30.

(8) Residential buildings not permitted.

Figure E3 **Land Use Compatibility Matrix**

Air Quality

The proposed development outlined in this Master Plan Update is not expected to have a significant impact on the long-term quality of the air in the vicinity of the Airport. According to the U.S. Environmental Protection Agency (EPA), Mesa County is in attainment area with federal health-based air quality standards known as the National Ambient Air Quality Standards (NAAQS). A non-attainment area is defined as a locality where air pollution levels persistently exceed the NAAQS. The EPA normally makes this designation only after air quality standards have been exceeded for several consecutive years. The forecast 2027 annual general aviation operations (i.e., 84,548) and passengers (i.e., 371,423) are well below the threshold (180,000 general aviation operations and 1.3 million passengers, according to the *Air Quality Procedures for Civilian Airports and Air Force Based Handbook*) required to do a NAAQS assessment. Furthermore, a conformity analysis conducted to ensure actions included in a non-attainment or maintenance area "conforms" to any relevant State Implementation Plan (SIP) will not be required because Mesa County is not considered a non-attainment or maintenance area.

Short-term air quality impacts may be expected from heavy equipment pollutant emissions, fugitive dusts resulting from cut and fill activities, and the operation of portable concrete batch plants. Compliance with all applicable local, state, and federal air quality regulations and permitting requirements will be the responsibility of all contractors.

Water Quality

The most significant hydrological features in the area include the Colorado River, located south of the Airport, and the Gunnison River, located southwest of the Airport. Both of these rivers join just south of the Grand Junction Central Business District, approximately four miles southwest of the Airport. Additionally, the Indian Wash Creek is located along the eastern border of airport property, and Leach Creek is located to the west of the Airport. Both creeks intersect with the Government Highline Canal that is located west and south of the Airport. Proposed airport development including the relocation of Runway 11/29 may impact these drainages and should be further studied in the Runway 11/29 Environmental Assessment. Discussion of the potential impacts of airport development is included in Appendix One, Master Drainage Report.

Any construction projects requiring earthwork will result in some erosion and sedimentation. However, the contractors would be required to follow guidelines outlined in the Federal Aviation Administration's Advisory Circular 150/5370-10A, *Standards for Specifying Construction of Airports*, which is the FAA's guidance to airport sponsors concerning protection of the environment during construction. Final plans and specifications for any project will incorporate

the provisions of AC 150/5370-10A to ensure minimal impact due to erosion, air pollution, sanitary waste, and the use of chemicals.

Historical, Architectural, Archaeological, and Cultural Resources

Section 106 of the National Historic Preservation Act requires federal agencies, or their designated representatives, to take into account the effects of their undertakings on historic properties, which include archaeological sites, buildings, structures, objects, or districts. The National Register of Historic Places indicates while there are several historic sites within Grand Junction, there are no known historic properties on or near the Airport that would be affected by the proposed airport improvement projects. However, a Class III Cultural Resource Survey should be conducted during the Runway 11/29 Environmental Assessment to meet BLM and FAA requirements. The results of this survey should be coordinated with the Colorado Historical Society and any potential tribal interests.

Should any construction activity expose buried archaeological material, work will stop in that area and the FAA and the Colorado Historical Society will be contacted.

Fish, Wildlife, and Plants

The *Endangered Species Act*, as Amended, requires each federal agency to insure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of habitat of such species. According to the U.S. Department of the Interior Fish and Wildlife Service, Ecological Services, there are eight threatened, endangered, and candidate species located within Mesa County, Colorado (as of February 2008). The following table, entitled *MESA COUNTY THREATENED, ENDANGERED, AND CANDIDATE SPECIES*, lists the threatened, endangered, and candidate species for the County. Before any projects could be undertaken, the Airport would need to determine if these threatened and endangered species are located on airport property, within the proposed project area.

Table E1
MESA COUNTY THREATENED, ENDANGERED, AND CANDIDATE SPECIES

Common Name	Scientific Name	Status
Bonytail[1]	*Gila elegans*	Endangered
Canada lynx	*Lynx canadensis*	Threatened
Colorado pikeminnow[1]	*Ptychocheilus lucius*	Endangered
De Beque phacelia	*Phacelia submutica*	Candidate
Humpback chub[1]	*Gila cypha*	Endangered
Razorback sucker[1]	*Xyrauchen texanus*	Endangered
Uinta Basin hookless cactus	*Sclerocactus glaucus*	Threatened
Yellow-billed cuckoo	*Coccyzus americanus*	Candidate

Sources: *U.S. Department of the Interior- Fish and Wildlife Service, Ecological Services- Colorado Field Offices, February 2008. U.S. Fish & Wildlife Service, Threatened & Endangered Species System.*
[1] Designated critical habitat for the species are within the county.

Floodplains and Wetlands

As stated previously, the Airport is located on gently sloping terrain and all drainages in the vicinity of the Airport eventually flow to the Colorado River. Floodplain and drainage impacts are a concern with any project constructed at the Airport and should be designed in accordance with the Airport's Master Drainage Report (see Appendix One).

Wetlands are basically defined as areas inundated by surface or groundwater, with a frequency sufficient to support vegetation or aquatic life requiring saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, sloughs, river overflows, mud flats, and natural ponds. Wetlands also include estuarine areas, tidal overflows, shallow lakes and ponds with emergent vegetation, and wetland ecosystems, including those areas that affect, or are affected by, the wetland itself (e.g., adjacent uplands or regions upstream and downstream).

According to the National Wetlands Inventory maintained by the US Fish and Wildlife Service, there are several other freshwater wetlands in the vicinity of Grand Junction Regional Airport. Some of these wetlands may be impacted by one or more of the projects proposed for airside development improvements. Because of this potential for impact, a wetlands delineation should be completed and coordinated with the Army Corps of Engineers (the Corps) during the Runway 11/29 EA. The proposed project may be subject to regulation pursuant to Section 404 of the Clean Water Act and either an individual or nationwide permit may be required.

Wild and Scenic Rivers

According to a listing of Wild and Scenic Rivers compiled and managed by the Army Corps of Engineers, the Bureau of Land Management, the National Park Service, the U.S. Forest Service, and the U.S. Fish and Wildlife Service, there are no wild and scenic rivers located within the vicinity of Grand Junction Regional Airport. Therefore, there will not be any impacts to a nationally significant river resource as a result of the proposed airport development.

Section 4(f) Property

Section 4(f) of the Department of Transportation Act (recodified at 49 USC, Subtitle I, Section 303) provides that no publicly owned park, recreation area, wildlife or waterfowl refuge, or land of a historic site that is of national, state, or local significance will be used, acquired, or affected by programs or projects requiring federal assistance for implementation. Paradise Hills Park, located approximately one mile west of the Airport, is the closest park used for recreation. It is not anticipated that any of the proposed land acquisition included in the Airport Master Plan Update will result in a Section 4(f) impact.

Any proposed park or recreation improvements in the vicinity of the Airport should be coordinated with airport staff and the Federal Aviation Administration, and will be developed in a manner that is compatible with the Airport.

Hazardous Materials, Pollution Prevention, and Solid Waste

No hazardous substances and/or wastes will be generated from any development proposed in this Airport Master Plan Update. However, construction activities can generate hazardous wastes, and some construction materials constitute hazardous substances. These include fuel, oil, lubricants, paints, solvents, concrete-curing compounds, fertilizers, herbicides, and pesticides. Proper practices can be implemented, to prevent or minimize the potential for these hazardous substances to be released into the environment, and are included below.

Chemicals, petroleum-based products, and waste materials, including solid and liquid waste, should be stored in areas specifically designed to prevent discharge into storm water runoff. Areas used for storage of toxic materials should be designed with full enclosure in mind, such as the establishment of a dike around the perimeter of the storage area. Construction equipment maintenance should be performed in a designated area and, control measures, such as drip pans to contain petroleum products, should be implemented. Spills should be cleaned up immediately and disposed of properly.

Farmland

According to the *National Cooperative Soil Survey* from the Natural Resources Conservation Service (NRCS), the soils on and in the vicinity of existing airport property vary widely. The two most abundant soils located within airport property are Killpack-Badlands-Persayo complex, 3-25% slopes, saline; and Uffens fine sandy loam, 1-6% slopes. Neither of these soil types are designated prime or unique farmland. However, there are small segments of designated prime farmland of irrigated soils in pockets of land surrounded by non-prime farmland soils. Consultation with the NRCS should be conducted during the Runway 11/29 EA. If the NRCS determines that prime farmland does exist within the project area, the completion of a Farmland Impact Rating Form (Form AD-1006) will be required.

Wildlife Management

According to a document, entitled *WILDLIFE HAZARD MANAGEMENT AT AIRPORTS*, jointly prepared by the Federal Aviation Administration (FAA) and the U.S. Department of Agriculture Wildlife Services (USDA), all FAR Part 139 certificated airports are required to conduct an Ecological Study, also referred to as a Wildlife Hazard Assessment (WHA), when specific wildlife events occur at, or in the vicinity of, the Airport. These events include:

- An air carrier aircraft experiences multiple bird strikes or engine ingestion.
- An air carrier aircraft experiences a damaging collision with wildlife other than birds.
- Wildlife of a size, or in numbers capable of causing either of the previous events, is observed to have access to any airport flight pattern or aircraft movement area.

A Wildlife Hazard Assessment (WHA) was completed at Grand Junction Regional Airport in May 2008. The WHA identified hazardous wildlife and their movements, seasonal distributions, abundance, land use practices, and manmade and natural wildlife attractants in order to provide baseline data and information on potential wildlife hazards to aircraft/human safety. The WHA is the foundation of the Airport's Wildlife Hazard Management Plan (WHMP).

The purpose of the WHMP is to enhance safe aircraft operations by "recognizing the potential hazards that wildlife pose to aircraft and human lives". The WHMP addresses the Wildlife Management components required according to Code of Federal Regulations (CFR) Title 14, FAR Part §139.337 (e)(f). The WHMP involves careful examination of all aspects of arriving and departing aircraft within the airport vicinity, including potential wildlife hazards. Grand

Junction Regional Airport has intended to execute and maintain the WHMP in order to address the potential wildlife hazards on and around the Airport, as well as habitat monitoring, modification, and addressing and responding to general and potential wildlife hazards. Should any new or changing circumstances occur, CFR Title 14 FAR Part §139.337 allows the Airport to promptly update and modify the WHMP to appropriately respond to those situations.

Light Emissions and Visual Impacts

Airfield lighting and rotating beacons are the main sources of light emissions emanating from an airport. Proposed development included in this Master Plan Update is not anticipated to change the lighting or visual environment at Grand Junction Regional Airport.

Summary

On a project-specific basis, each improvement specified in this Master Plan Update, which receives federal funding or requires a change to the Airport Layout Plan, requires environmental clearance prior to implementation. The environmental documentation required to receive the clearance differs with the complexity of the project and the anticipated level of environmental impacts. This documentation can range from a Categorical Exclusion for simple projects to a full Environmental Impact Statement for projects with potentially significant impacts. The purpose of this Environmental Review chapter in the Master Plan Update is to attempt to uncover any potentially significant environmental concerns that might greatly influence the ability to implement one or more of the recommended improvement projects and determine the level of environmental documentation required.

As stated previously, the project with the greatest potential for environmental impacts is the construction of the relocated Runway 11/29, the primary runway at the Airport. However, no significant environmental concerns, which cannot be addressed or mitigated below significant thresholds, have been identified during this planning process. Environmental Assessments for both the relocated runway and relocated ATCT have been included in the capital funding plan provided in a later chapter of this study.

Plans

F. Airport Plans

MASTER PLAN UPDATE

GRAND JUNCTION

REGIONAL AIRPORT

F. Airport Plans

The plan for the future development of Grand Junction Regional Airport has evolved from an analysis of many considerations. Among these are: aviation demand forecasts and facility requirements; aircraft operational characteristics; construction phasing; environmental considerations; and, as characterized in the previously noted statement of goals, the general direction of airport development prescribed by airport management. Forecasts are utilized as a basis for planning; however, facilities are only to be constructed to meet actual demand.

Previous chapters have established and quantified the future development needs of the Airport. In this chapter, the various elements of the plan are categorically reviewed and detailed in summary and graphic format. A brief written description of the individual elements, represented in the set of Airport Plans for Grand Junction Regional Airport, is accompanied by a graphic description presented in the form of the *Airport Layout Plan*, the *Airport Airspace Drawings*, the *Inner Portion of the Approach Surface Drawings*, the *Departure Surface Drawings*, the *Terminal Area Plans*, *the Land Use Drawing*, and the *Airport Property Map*.

Airport Layout Plan

The Airport Layout Plan (ALP) is a graphic depiction of existing and ultimate airport facilities that will be required to enable the Airport to properly accommodate the forecast future demand. In addition, the ALP also provides detailed information on both airport and runway design criteria, which is necessary to define relationships with applicable standards. The following illustrations, entitled *AIRPORT LAYOUT PLAN EXISTING* and *AIRPORT LAYOUT PLAN FUTURE*, and the following paragraphs describe the major components of the future Airport Development Plan.

Runway System

The Airport's runway configuration will remain structured around two runways throughout the 20-year planning period. Runway 11/29 will remain the Airport's primary runway, but will be relocated in order to correct all non-standard conditions associated with this runway and its connector taxiways. The relocation will also separate the runways and reduce the potential for runway incursions by eliminating the Runway Visibility Zone (RVZ). The relocation of the

runway will allow construction to be phased over a number of years and allow the Airport to continue to accommodate commercial service aircraft operations during construction. The primary runway will retain its existing length and width (10,501' x 150'). The crosswind runway (Runway 4/22) will also remain at its existing length and width (5,501' x 75'), but a potential extension of the approach end of Runway 22 should continue to be protected for. An ultimate parallel commercial service runway (Runway11L/29R), as shown on historical plans for the Airport, is protected for at a standard runway/runway separation (4,300 feet) to allow for the potential of simultaneous IFR approaches. However, based on aviation activity forecasts, the implementation of this project is not anticipated during the 20-year planning period.

Another important consideration related to runway development at Grand Junction Regional Airport is the existing and planned instrument approach system.

- As recommended in previous planning studies, the approach visibility minimum to both ends of the future Runway 11/29 should be protected for ½-mile visibility minimums. This will require the installation of a Medium Intensity Approach Lighting System with Runway Alignment Indicator Light (MALSR) system on both runway ends.
- Both ends of Runway 4/22 are programmed for future non-precision GPS approach capabilities with not-lower-than ¾-mile visibility minimums.
- Both ends of the future Runway 11L/29R should be protected for ½-mile visibility minimums. This will require the installation of a MALSR system for both runway ends.

Runway Lighting and Landing Aids. The High Intensity Runway Lights (HIRLs) (edge lighting) serving Runway 11/29, and the Medium Intensity Runway Lights (MIRLs) serving Runway 4/22 should be maintained. The Precision Approach Path Indicator (PAPI) lights serving both ends of Runway 11/29 and Runway 4 should be maintained, while the Visual Approach Slope Indicator (VASI) lights serving Runway 22 should be upgraded to PAPIs. The future Runway 11L/29R is planned to be equipped with HIRLs and PAPIs. Relocation of the Instrument Landing System (ILS) components for Runway 11, including the localizer and glide slope antennas, will be required during the Runway 11/29 relocation project.

Taxiway System

Recommended taxiway system improvements include:

- Parallel Taxiway "A" will be relocated to the "crown" of the existing Runway 11/29 (600-foot separation from the new Runway 11/29).
- At least two high-speed (acute-angled) exit taxiways should be constructed to maximize the capacity of the relocated Runway 11/29.
- A taxilane running parallel to Taxiway "A" is protected for that could ultimately be extended for the entire length of Runway 11/29, providing a full dual-taxiway system.
- Relocation of parallel Taxiway "C" will be protected for; however, this is considered a low priority project.
- Additional parallel taxiways on opposite sides of each runway are protected for.
- A taxilane to serve the future general aviation development area south of Navigator's Way is protected for.

NON-STANDARD CONDITIONS

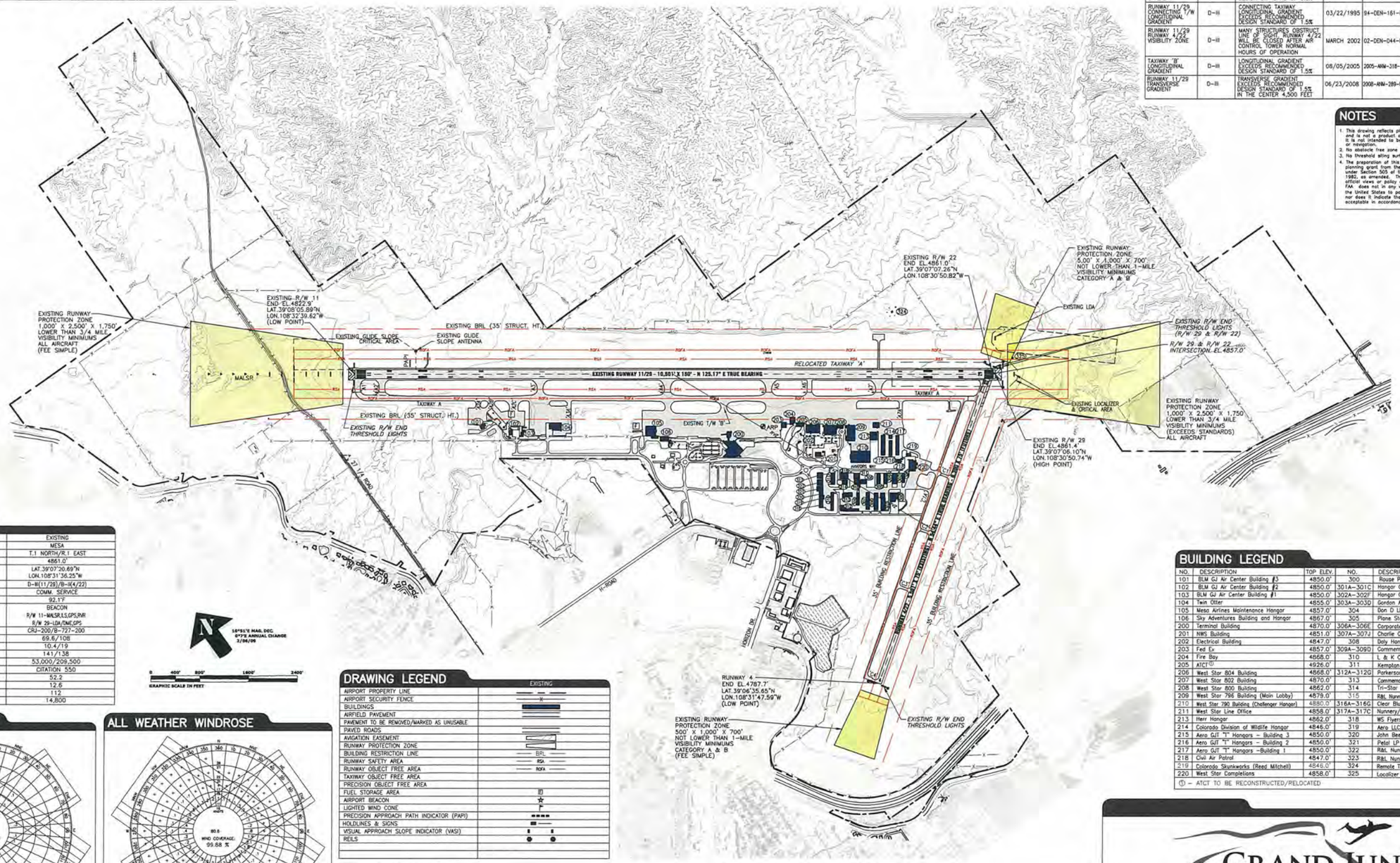
ITEM	AIRPORT REFERENCE CODE		STANDARD		NON-STANDARD	
	EXISTING	*ULTIMATE*	EXISTING	*ULTIMATE*	EXISTING	*ESTIMATED DATE OF CORRECTION*
BLAST PADS RUNWAY 11/29	(11/29)C-III	(11/29)C-IV	BLAST PAD DESIGN CRITERIA EQUALS 200 FEET WIDE BY 200 FEET LONG.	*SAME*	R/W END 11-190 FEET WIDE BY 99 FEET LONG. RUNWAY 29-190 FEET WIDE BY 100 FEET LONG	*TO BE CORRECTED WITH CONSTRUCTION OF NEW RUNWAY 11/29*

MODIFICATION OF STANDARDS

DESCRIPTION	AIRPORT REFERENCE CODE	EXISTING CONDITIONS	FAA APPROVAL DATE	FAA AIRSPACE CASE #	PROPOSED CORRECTION
RUNWAY 11/29 TRANSVERSE GRADIENT	D-III	TRANSVERSE GRADIENT EXCEEDS RECOMMENDED DESIGN STANDARD OF 1.5%	03/22/1995	94-DEN-161-NRA	CONSTRUCT NEW RUNWAY 11/29
RUNWAY 11/29 LONGITUDINAL GRADIENT	D-III	LONGITUDINAL GRADIENT EXCEEDS RECOMMENDED DESIGN STANDARD OF 0.8%	03/22/1995	94-DEN-161-NRA	CONSTRUCT NEW RUNWAY 11/29
RUNWAY 11/29 CONNECTING T/W LONGITUDINAL GRADIENT	D-III	CONNECTING TAXIWAY LONGITUDINAL GRADIENT EXCEEDS RECOMMENDED DESIGN STANDARD OF 1.5%	03/22/1995	94-DEN-161-NRA	CONSTRUCT NEW RUNWAY 11/29
RUNWAY 11/29 RUNWAY 4/22 VISIBILITY ZONE	D-III	MANY STRUCTURES OBSTRUCT LINE OF SIGHT. RUNWAY 4/22 WILL BE CLOSED AFTER AIR CONTROL TOWER NORMAL HOURS OF OPERATION	MARCH 2002	02-DEN-044-NRA	CONSTRUCT NEW RUNWAY 11/29
TAXIWAY 'B' LONGITUDINAL GRADIENT	D-III	LONGITUDINAL GRADIENT EXCEEDS RECOMMENDED DESIGN STANDARD OF 1.5%	08/05/2005	2005-ANM-318-NRA	EXPAND AND RECONSTRUCT AIR CARRIER APRON INCLUDING TAXIWAY 'B'
RUNWAY 11/29 TRANSVERSE GRADIENT	D-III	TRANSVERSE GRADIENT EXCEEDS RECOMMENDED DESIGN STANDARD OF 1.5% IN THE CENTER 4,500 FEET	06/23/2008	2008-ANM-289-NRA	CONSTRUCT NEW RUNWAY 11/29

NOTES

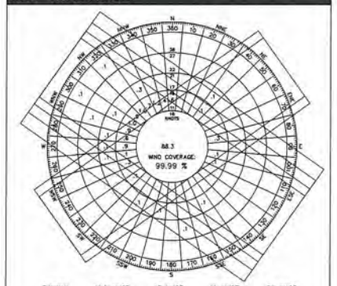
1. This drawing reflects planning standards specific to this airport, and is not a product of detailed engineering design analysis. It is not intended to be used for construction documentation or navigation.
2. No obstacle free zone (OFZ) penetrations.
3. No threshold siting surface (TSS) penetrations.
4. The preparation of this plan was financed in part through a planning grant from the Federal Aviation Administration as provided under Section 505 of the Airport and Airway Improvement Act of 1982, as amended. The contents do not necessarily reflect the official views or policy of the FAA. Acceptance of this plan by the FAA does not in any way constitute a commitment on the part of the United States to participate in any development depicted therein nor does it indicate that the proposed development is environmentally acceptable in accordance with appropriate public laws.



AIRPORT DATA

	EXISTING
LOCATION - COUNTY	MESA
- TOWNSHIP/RANGE	T.1 NORTH/R.1 EAST
AIRPORT ELEVATION (AMSL) NAVD 88	4861.0'
AIRPORT REFERENCE POINT (ARP) NAD 83	LAT.39°07'20.69"N LON.108°31'36.25"W
AIRPORT REFERENCE CODE	D-III(11/29)/B-II(4/22)
NPIAS SERVICE LEVEL/ROLE	COMM. SERVICE
MEAN MAX. TEMPERATURE (HOTTEST MONTH)	92.1°F
AIRPORT & TERMINAL NAVAIDS	BEACON R/W 11-MALSR,ILS,GPS,RNR R/W 29-LDA/DME,GPS
CRITICAL AIRCRAFT (11/29)	CRJ-200/B-727-200
WINGSPAN (FEET)	69.6/108
UNDERCARRIAGE WIDTH (FEET)	10.4/19
APPROACH SPEED	141/138
MAXIMUM TAKE-OFF WEIGHT (LBS.)	53,000/209,500
CRITICAL AIRCRAFT (4/22)	CITATION 550
WINGSPAN (FEET)	52.2
UNDERCARRIAGE WIDTH (FEET)	12.6
APPROACH SPEED	112
MAXIMUM TAKE-OFF WEIGHT (LBS.)	14,800

IFR WINDROSE

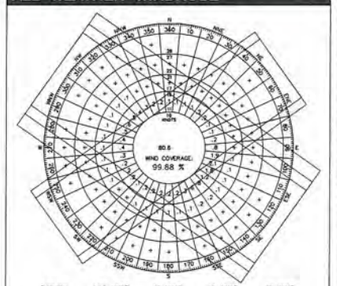


RUNWAY	10.5-KNOT	13-KNOT	16-KNOT	20-KNOT
11/29	98.01%	99.02%	99.46%	99.90%
11	87.95%	88.15%	88.37%	88.82%
29	93.78%	94.69%	95.06%	95.29%
4/22	92.12%	85.97%	N/A	N/A
4	83.72%	85.97%	N/A	N/A
22	87.72%	90.55%	N/A	N/A
Combined	99.15%	99.75%	99.80%	99.99%

SOURCE: National Oceanic and Atmospheric Administration, National Climatic Data Center, Station 72576, Grand Junction, Colorado. Period of Record 1951-2006, and tailwind component of 5-knots.

NOTES: Wind analysis tabulation provided by Barnard Dunkelberg & Company utilizing the FAA Airport Design Software supplied with FAA AC 150/5300-13, Airport Design. Visibility is less than 3 miles, but equal to or greater than 1/2 mile, and tailwind component of 5-knots, than 3 miles, but equal to or greater than 1/2 mile, and tailwind component of 5-knots.

ALL WEATHER WINDROSE



RUNWAY	10.5-KNOT	13-KNOT	16-KNOT	20-KNOT
11/29	96.10%	97.70%	99.00%	99.63%
11	80.35%	81.37%	82.35%	82.83%
29	65.04%	66.16%	67.15%	67.58%
4/22	88.32%	93.85%	N/A	N/A
4	79.28%	83.78%	N/A	N/A
22	72.11%	75.15%	N/A	N/A
Combined	98.87%	99.57%	99.73%	99.88%

SOURCE: National Oceanic and Atmospheric Administration, National Climatic Data Center, Station 72576, Grand Junction, Colorado. Period of Record 1951-2006, and tailwind component of 5-knots.

NOTES: Wind analysis tabulation provided by Barnard Dunkelberg & Company utilizing the FAA Airport Design Software supplied with FAA AC 150/5300-13, Airport Design.

DRAWING LEGEND

	EXISTING
AIRPORT PROPERTY LINE	
AIRPORT SECURITY FENCE	X
BUILDINGS	
AIRFIELD PAVEMENT	
PAVEMENT TO BE REMOVED/MARKED AS UNUSABLE	
PAVED ROADS	
AVIGATION EASEMENT	
RUNWAY PROTECTION ZONE	
BUILDING RESTRICTION LINE	BRL
RUNWAY SAFETY AREA	RSA
RUNWAY OBJECT FREE AREA	ROFA
TAXIWAY OBJECT FREE AREA	
PRECISION OBJECT FREE AREA	
FUEL STORAGE AREA	F
AIRPORT BEACON	
LIGHTED WIND CONE	
PRECISION APPROACH PATH INDICATOR (PAPI)	
HOLDLINES & SIGNS	
VISUAL APPROACH SLOPE INDICATOR (VASI)	
REILS	

BUILDING LEGEND

NO.	DESCRIPTION	TOP ELEV.	NO.	DESCRIPTION	TOP ELEV.
101	BLM GJ Air Center Building #3	4850.0'	300	Rouse Parcel	4845.0'
102	BLM GJ Air Center Building #2	4850.0'	301A-301C	Hangar One Building 2	4842.0'
103	BLM GJ Air Center Building #1	4850.0'	302A-302F	Hangar One Building 1	4841.0'
104	Twin Otter	4855.0'	303A-303D	Gordon Aviry Hangar	4845.0'
105	Mesa Airlines Maintenance Hangar	4857.0'	304	Don D LLC	4844.0'
106	Sky Adventures Building and Hangar	4867.0'	305	Plane Storage Tie Downs	4844.0'
200	Terminal Building	4870.0'	306A-306E	Corporate Hangars	4841.0'
201	NWS Building	4851.0'	307A-307J	Charlie One Alpha Hangar	4841.0'
202	Electrical Building	4847.0'	308	Daly Hangar	4844.0'
203	Fed Ex	4857.0'	309A-309D	Commemorative Air Force hangars	4837.0'
204	Fire Boy	4868.0'	310	L & K Consulting	4844.0'
205	ATCT①	4926.0'	311	Kempton Hangar	4853.0'
206	West Star 804 Building	4868.0'	312A-312G	Parkerson Brothers Hangar	4845.0'
207	West Star 802 Building	4870.0'	313	Commemorative Air Force Main hangar	4844.0'
208	West Star 800 Building	4862.0'	314	Tri-Star (Bottom Hangar)	4844.0'
209	West Star 796 Building (Main Lobby)	4879.0'	315	R&L Nunnery	4847.0'
210	West Star 790 Building (Challenger Hangar)	4880.0'	316A-316G	Clear Blue Sky, LLC	4848.0'
211	West Star Line Office	4858.0'	317A-317C	Nunnery/Bottom Hangars	4850.0'
213	Herr Hangar	4862.0'	318	WS Flyers	4845.0'
214	Colorado Division of Wildlife Hangar	4846.0'	319	Aero LLC (Phil Smith)	4846.0'
215	Aero GJT "I" Hangars - Building 3	4850.0'	320	John Beeson	4847.0'
216	Aero GJT "I" Hangars - Building 2	4850.0'	321	Petal LP	4848.0'
217	Aero GJT "I" Hangars -Building 1	4850.0'	322	R&L Nunnery 2	4849.0'
218	Civil Air Patrol	4847.0'	323	R&L Nunnery 1	4850.0'
219	Colorado Skunkworks (Reed Mitchell)	4846.0'	324	Remote Transmitter (to be relocated)	4905.0'
220	West Star Completions	4858.0'	325	Localizer Equipment Building	4872.0'

① - ATCT TO BE RECONSTRUCTED/RELOCATED

REVISIONS

	DATE
ALP UPDATE (2007 - ANM - 725 - NRA)	04/29/08

SPONSOR APPROVAL

SIGNATURE TITLE DATE

COMMENTS:

GRAND JUNCTION REGIONAL AIRPORT
GRAND JUNCTION, COLORADO

Figure F1 **AIRPORT LAYOUT PLAN EXISTING**

Barnard Dunkelberg & Company

TULSA
1616 East 15th Street
Tulsa, Oklahoma 74120
918.585.8844

DENVER
1743 Wazee Street, Suite 400
Denver, Colorado 80202
303.825.8844

DATE Nov 2009

SCALE 1" = 800'

SHEET NO. F.4

NOTES

1. This drawing reflects planning standards specific to this airport, and is not a product of detailed engineering design analysis. It is not intended to be used for construction documentation or navigation.
2. No obstacle free zone (OFZ) penetrations.
3. No threshold siting surface (TSS) penetrations.
4. The preparation of this plan was financed in part through a planning grant from the Federal Aviation Administration as provided under Section 505 of the Airport and Airway Improvement Act of 1982, as amended. The contents do not necessarily reflect the official views or policy of the FAA. Acceptance of this plan by the FAA does not in any way constitute a commitment on the part of the United States to participate in any development depicted therein nor does it indicate that the proposed development is environmentally acceptable in accordance with appropriate public laws.
5. The existing fence line is based on Mapping Survey Data from Carter/Burgess Aviation Services, dated 10/16/2006. Future perimeter fencing improvements are planned in 2009 and 2011.

18°51'E MAG. DEC.
6°7'E ANNUAL CHANGE
2/06/08

0 400' 800' 1600' 2400'
GRAPHIC SCALE IN FEET

BUILDING LEGEND

NO.	DESCRIPTION	TOP ELEV.	NO.	DESCRIPTION	TOP ELEV.
101	BLM GJ Air Center Building #3	4850.0'	300	Rouse Parcel	4845.0'
102	BLM GJ Air Center Building #2	4850.0'	301A–301C	Hangar One Building 2	4842.0'
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218	Civil Air Patrol	4847.0'	323	R&L Nunnery 1	4850.0'
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220	West Star Completions	4858.0'	325	Localizer Equipment Building	4872.0'

① – ATCT TO BE RECONSTRUCTED/RELOCATED

DRAWING LEGEND

	EXISTING	FUTURE
AIRPORT PROPERTY LINE		
AIRPORT SECURITY FENCE		
BUILDINGS		
AIRFIELD PAVEMENT		
PAVED ROADS		
RUNWAY PROTECTION ZONE		
BUILDING RESTRICTION LINE		(BRL)
RUNWAY SAFETY AREA		RSA (F)
RUNWAY OBJECT FREE AREA		ROFA (F)
TAXIWAY OBJECT FREE AREA		TOFA
PRECISION OBJECT FREE AREA		
FUEL STORAGE AREA		
AIRPORT BEACON		
LIGHTED WIND CONE		
PRECISION APPROACH PATH INDICATOR (PAPI)		
HOLDLINES & SIGNS		
VISUAL APPROACH SLOPE INDICATOR (VASI)		
REILS		

RUNWAY DATA

ITEM	RUNWAY 11/29		RUNWAY 04/22		POST PLANNING PERIOD RUNWAY 11L/29R	
	EXISTING	FUTURE	EXISTING	FUTURE	EXISTING	FUTURE
APPROACH VISIBILITY MINIMUMS	1/2 MILE/1 MILE	1/2 MILE/1/2 MILE	VISUAL	3/4 MILE/3/4 MILE	N/A	1/2 MILE/1/2 MILE
PART 77 APPROACH TYPE	PRECISION/NON-PRECISION	PRECISION/PRECISION	VISUAL/VISUAL	NON-PRECISION/NON-PRECISION	N/A	PRECISION/PRECISION
PART 77 APPROACH SLOPES	50:1/50:1	SAME	20:1/20:1	34:1/34:1	N/A	50:1/50:1
RUNWAY LENGTH & WIDTH	10,501' x 150'	SAME	5,501' x 75'	SAME	N/A	10,501' x 150'
PAVEMENT TYPE	ASPHALT	SAME	ASPHALT	SAME	N/A	ASPHALT
PAVEMENT STRENGTH (X 1,000 LBS.)	110 SW/180 DW/260 DT	SAME	26 SW/ 26 DW	SAME	N/A	110 SW/180 DW/260 DT
RUNWAY LIGHTING	HIRL	SAME	MIRL	SAME	N/A	HIRL
RUNWAY MARKING	PRECISION	SAME	VISUAL	NON-PRECISION	N/A	PRECISION
NAVIGATIONAL AIDS (ELECTRONIC)	CAT 1 ILS/LDA,GPS	CAT 1 ILS/WAAS LPV	N/A	GPS	N/A	CAT 1 ILS, GPS
VISUAL AIDS (LIGHTING)	PAPI, RVR, MALSR/VASI, REIL	SAME/MALSR	PAPI, REIL/REIL	PAPI,REIL/PAPI,REIL	N/A	MALSR/RVR/MALSR/RVR
AIRPORT REFERENCE CODE	D–IV	D–IV	B–II	SAME	N/A	D–IV
EFFECTIVE GRADIENT % (PER AVIATION DATA SHEET)	0.36%	0.29%	1.3%	SAME	N/A	0.40%
MAXIMUM GRADIENT	1.13%	0.29%	1.37%	SAME	N/A	0.40%
LINE OF SIGHT	CRITERIA MET	SAME	CRITERIA MET	SAME	N/A	CRITERIA MET
RUNWAY END COORDINATES (NAD 83)	LAT.39°08'05.86"N / LAT.39°07'06.10"N LON.108°32'39.62"W / LON.108°30'50.74"W	LAT.39°08'17.06"N / LAT.39°07'17.29"N LON.108°32'44.53"W / LON.108°30'55.59"W	LAT.39°06'35.65"N / LAT.39°07'07.26"N LON.108°31'47.59"W / LON.108°30'50.83"W	SAME	N/A	LAT.39°08'50.86"N / LAT.39°07'51.19"N LON.108°32'11.84"W / LON.108°30'22.69"W
RUNWAY END ELEVATION (NAVD 88)	4822.9'/4861.4'	4825.0'/4856.0'	4787.7'/4861.0'	SAME	N/A	4858.5'/4900.0'
RUNWAY HIGH/LOW POINT ELEVATION	4861.4'/4822.9'	4854.0'/4825.0'	4861.0'/4787.7'	SAME	N/A	4900.0'/4858.5'
TOUCHDOWN ZONE ELEVATION (TDZE)	4833.0'/4861.4'	4833.9' /4856.0'	4825.0'/4861.0'	SAME	N/A	TBD /4900.0'
RWY SAFETY AREA WIDTH	500'	SAME	150'	SAME	N/A	500'
RWY SAFETY AREA BEYOND R/W END	1000'/1000'	SAME	300'/300'	SAME	N/A	1000'/1000'

AIRPORT DATA

	EXISTING	FUTURE
LOCATION – COUNTY	MESA	SAME
– TOWNSHIP/RANGE	T.1 NORTH/R.1 EAST	SAME
AIRPORT ELEVATION (AMSL) NAVD 88	4861.0'	4900.0'
AIRPORT REFERENCE POINT (ARP) NAD 83	LAT.39°07'20.69"N LON.108°31'36.25"W	LAT.39°07'28.13"N LON.108°31'58.75"W
AIRPORT REFERENCE CODE	D–III(11/29)/B–II(4/22)	D–IV/SAME
NPIAS SERVICE LEVEL/ROLE	COMM. SERVICE	SAME
MEAN MAX. TEMPERATURE (HOTTEST MONTH)	92.1°F	SAME
AIRPORT & TERMINAL NAVAIDS	BEACON R/W 11–MALSR,ILS,GPS,RVR R/W 29–LDA/DME,GPS	ALL EXISTING PLUS R/W 11/29R – ILS,MALSR,GPS RWY 29 – ILS,GPS,MALSR RWY 11 – RNAV,GPS
CRITICAL AIRCRAFT (11/29)	CRJ–200/B–727–200	B–757
WINGSPAN (FEET)	69.6/108	124.8
UNDERCARRIAGE WIDTH (FEET)	10.4/19	24
APPROACH SPEED	141/138	135
MAXIMUM TAKE–OFF WEIGHT (LBS.)	53,000/209,500	255,000
CRITICAL AIRCRAFT (4/22)	CITATION 550	SAME
WINGSPAN (FEET)	52.2	SAME
UNDERCARRIAGE WIDTH (FEET)	12.6	SAME
APPROACH SPEED	112	SAME
MAXIMUM TAKE–OFF WEIGHT (LBS.)	14,800	SAME

REVISIONS

	DATE
ALP UPDATE (2007 – ANM – 725 – NRA)	04/29/08

SPONSOR APPROVAL

SIGNATURE TITLE DATE

COMMENTS:

GRAND JUNCTION REGIONAL AIRPORT
GRAND JUNCTION, COLORADO

Figure F2 | **AIRPORT LAYOUT PLAN FUTURE**

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NOV 2009

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1" = 800'

SHEET NO.
F.5

Landside Development

As discussed in the previous chapters, the ALP also allocates various development areas for landside facilities. Landside facilities include terminal facilities, aircraft parking aprons, hangars, aircraft maintenance facilities, automobile access and parking, support facilities, etc. Detailed illustrations of these landside development areas are provided in the *Terminal Area Plans* section of this chapter.

The area south and west of the runway complex at Grand Junction Regional Airport is very close to full build out with only three locations left for development including the area adjacent to connector Taxiways A1 and A2, the "infill" area between connector Taxiways A3 and A4, and the area south of Navigators Way. Shifting Runway 11/29 approximately 650 feet to the north and east will create additional landside developable area for both aircraft parking apron and aviation facilities expansion.

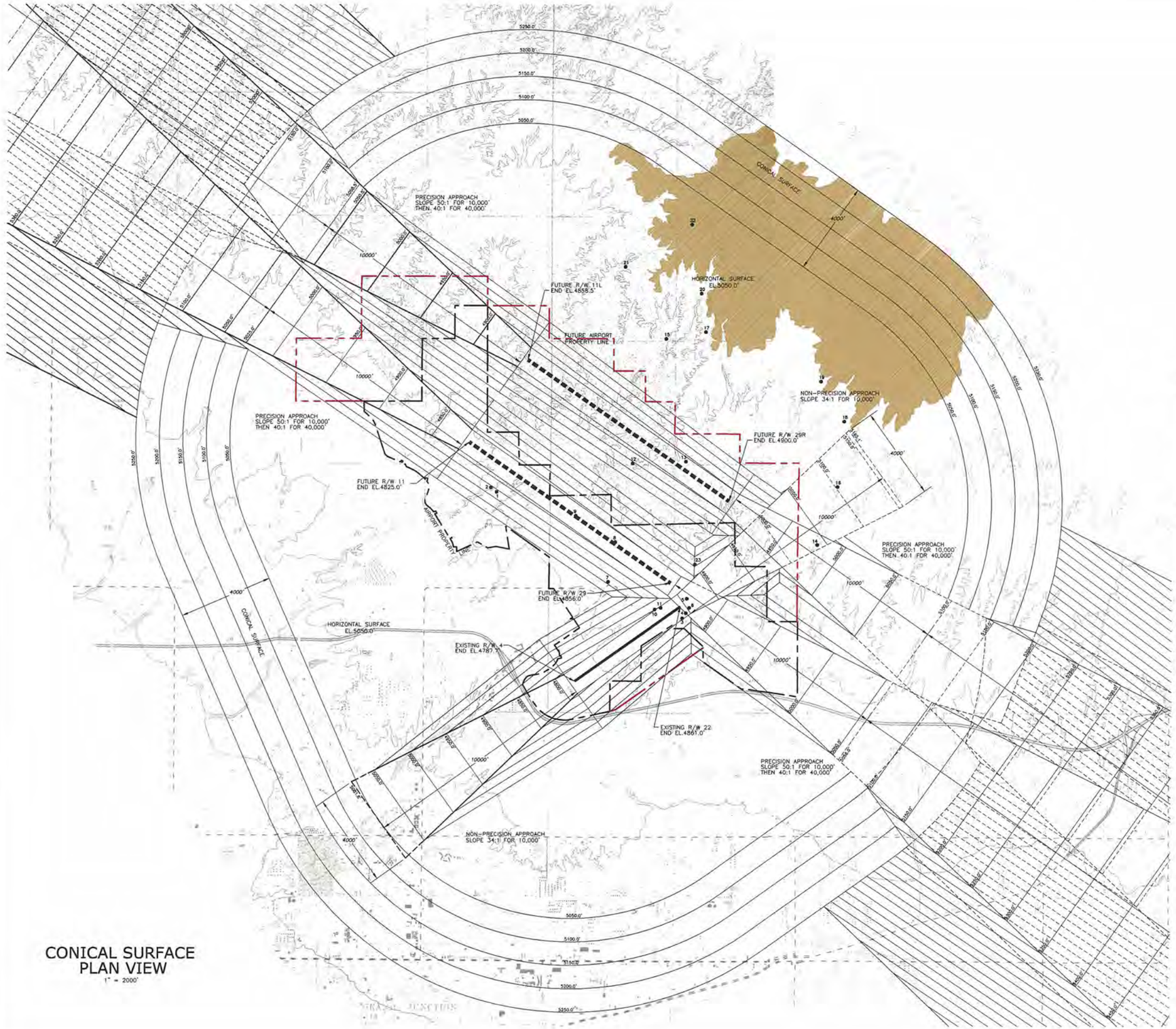
Passenger Terminal Area. The existing passenger terminal building is approaching capacity in various areas and consideration should be given to the space requirements to accommodate the forecast passenger demand at the Airport. Previous planning documents have introduced the potential alternative of relocating the passenger terminal and related facilities to the northwest side of Runway 11/29. However, relocating Runway 11/29 by 650 feet to the north and east would create an additional development envelope for terminal expansion. This will allow for better utilization of the significant investment the Airport has made in both vehicle parking and landside access improvements in recent years. Due to the anticipated additional space requirements of both the Transportation Security Administration (TSA) and airport administration/operations, a separate administrative office building has been included in the capital funding plan.

Airspace Plan

The Airport Airspace Drawing is based upon Federal Aviation Regulation (FAR) Part 77, *Objects Affecting Navigable Airspace*. In order to protect the Airport's airspace and approaches from hazards that could affect the safe and efficient operation of aircraft, federal criteria contained in the FAR Part 77 document have been established to provide guidance in controlling the height of objects in the vicinity of airports. FAR Part 77 criteria specify a set of imaginary surfaces, which, when penetrated, identify an object as being an obstruction.

The *AIRPORT AIRSPACE DRAWINGS*, which are illustrated in the following figures, provide plan and profile views depicting these criteria as they specifically relate to Grand Junction Regional

Airport. The plan is based on the ultimate planned runway lengths, along with the ultimate planned approaches to each runway end. For Runways 11/29 and 11L/29R, it is based on larger-than-utility criteria with a precision approach to each end of the runway. For Runway 4/22, it is based on larger-than-utility criteria with a non-precision approach to both runway ends.



CONICAL SURFACE
PLAN VIEW
1" = 2000'



Terrain Penetration

Existing Property Line

Future Property Line

Localizer Equipment Bulding 4872.0'

REVISIONS

	DATE

OBSTRUCTIONS

NO.	OBJECT DESCRIPTION	TOP ELEVATION	PENETRATION	SURFACE PENETRATED	PROPOSED DISPOSITION
1	ANTENNA ON COLUMN	4845.0'	NONE	TRANSITIONAL SURFACE	NONE
2	ROD ON GL GS	4863.0'	NONE	TRANSITIONAL SURFACE	NONE – EXISTING OB LIGHT
3	GL ON DME	4880.0'	20.0'	PRIMARY SURFACE	NONE – EXISTING OB LIGHT
4	GL ON LOC	4860.0'	NONE	PRIMARY SURFACE	NONE – EXISTING OB LIGHT
5	FENCE	4875.0'	7.4'	RUNWAY 22 APPROACH	RELOCATE
6	LOCALIZER EQUIPMENT BLDG	4872.0'	8.6'	RUNWAY 22 APPROACH	RELOCATE
7	ANT AND APBN ON ATCT	4942.0'	NONE	TRANSITIONAL SURFACE	RELOCATE ATCT
8	FENCE	4886.0'	40.1'	PRIMARY SURFACE	RELOCATE
9	FENCE	4872.0'	32.2'	PRIMARY SURFACE	RELOCATE
10	GL AMOM	4877.0'	27.0'	TRANSITIONAL SURFACE	NONE – EXISTING OB LIGHT
11	GL ON WSK	4870.0'	18.5'	PRIMARY SURFACE	NONE – EXISTING OB LIGHT
12	POLE	5057.0'	96.6'	TRANSITIONAL SURFACE	RELOCATE
13	POLE	5028.0'	137.7'	TRANSITIONAL SURFACE	RELOCATE
14	GROUND	5021.0'	42.1'	RUNWAY 29R APPROACH	RE-GRADE
15	GROUND	5118.0'	68.0'	HORIZONTAL SURFACE	NONE
16	POLE	5070.0'	20.0'	HORIZONTAL SURFACE	OB LIGHT
17	GROUND	5137.0'	87.0'	HORIZONTAL SURFACE	NONE
18	GROUND	5090.0'	40.0'	HORIZONTAL SURFACE	NONE
19	GROUND	5084.0'	34.0'	HORIZONTAL SURFACE	NONE
20	GROUND	5200.0'	150.0'	HORIZONTAL SURFACE	NONE
21	GROUND	5080.0'	30.0'	HORIZONTAL SURFACE	NONE
22	GROUND	5222.0'	172.0'	HORIZONTAL SURFACE	NONE
23	RELOCATED ATCT	4995.0'	35.8' 32.5'	RW 22 TRANSITIONAL SURFACE RW 29 TRANSITIONAL SURFACE	NONE

NOTES

1. This drawing reflects planning standards specific to this airport, and is not a product of detailed engineering design analysis. It is not intended to be used for construction documentation or navigation.
2. Topographic information taken from USGS 7.5 Minute Survey Maps, "Ruby Lee Reservoir, Colorado",1968, "Fruita, Colorado",1973, "Corcoran Point, Colorado",1973, "Grand Junction, Colorado",1982, "Round Mountain, Colorado",1982, "Clifton, Colorado",1973, and "Palisade, Colorado",1968.
3. Obstructions taken from Airport Obstruction Data Sheet (005 #634) for Grand Junction, Colorado. Surveyed, June, 1993.
4. Refer to the Inner Portion of the Approach Surface Drawing for close in obstructions.

GRAND JUNCTION
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GRAND JUNCTION, COLORADO

Figure F3 | **AIRPORT AIRSPACE PLAN**
Conical Surface

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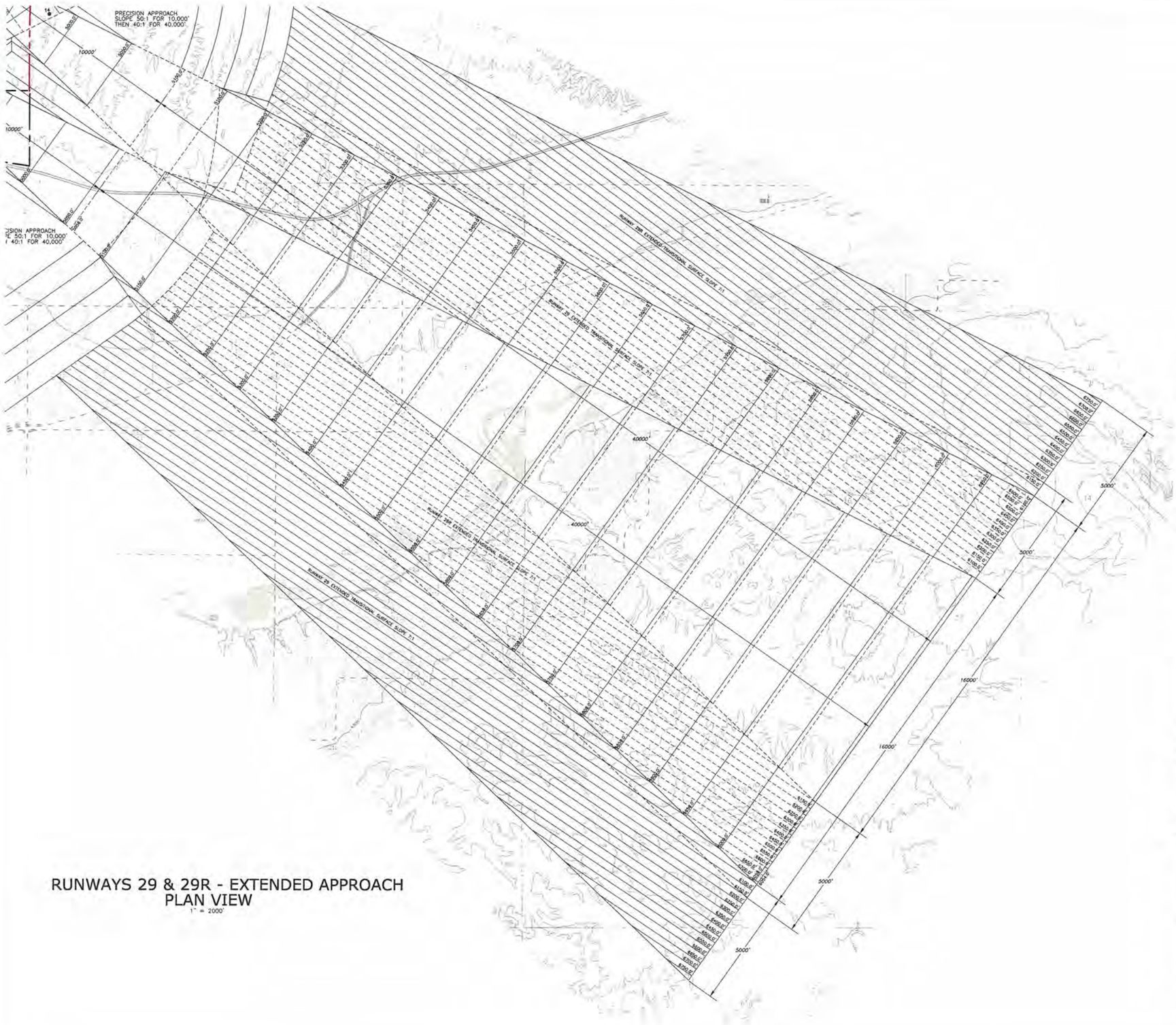
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RUNWAYS 29 & 29R - EXTENDED APPROACH
PLAN VIEW
1" = 2000'



Existing Property Line

Future Property Line

REVISIONS

	DATE

OBSTRUCTIONS

NO.	OBJECT DESCRIPTION	TOP ELEVATION	PENETRATION	SURFACE PENETRATED	PROPOSED DISPOSITION
14	GROUND	5021.0'	42.1'	RUNWAY 29R APPROACH	RE-GRADE

NOTES

1. This drawing reflects planning standards specific to this airport, and is not a product of detailed engineering design analysis. It is not intended to be used for construction documentation or navigation.
2. Topographic information taken from USGS 7.5 Minute Survey Maps, "Ruby Lee Reservoir, Colorado",1958, "Fruita, Colorado",1973, "Converse Point, Colorado",1973, "Grand Junction, Colorado",1982, "Round Mountain, Colorado",1982, "Clifton, Colorado",1973, and "Palisade, Colorado",1968.
3. Obstructions taken from Airport Obstruction Data Sheet (ODS #634) for Grand Junction, Colorado. Surveyed, June, 1993.
4. Refer to the Inner Portion of the Approach Surface Drawing for close in obstructions.

GRAND JUNCTION
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GRAND JUNCTION, COLORADO

Figure F4 | **AIRPORT AIRSPACE PLAN**
Southeast Extended Approach

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Nov 2009

SCALE
1" = 2000'

SHEET NO.
F.9



RUNWAYS 11 & 11L - EXTENDED APPROACH
PLAN VIEW
1" = 2000'



Existing Property Line

Future Property Line

REVISIONS

	DATE

OBSTRUCTIONS

NO.	OBJECT DESCRIPTION	TOP ELEVATION	PENETRATION	SURFACE PENETRATED	PROPOSED DISPOSITION

THERE ARE NO PUBLISHED OBSTRUCTIONS IN THIS VIEW.

NOTES

1. This drawing reflects planning standards specific to this airport, and is not a product of detailed engineering design analysis. It is not intended to be used for construction documentation or navigation.
2. Topographic information taken from USGS 7.5 Minute Survey Maps, "Ruby Lee Reservoir, Colorado",1968, "Fruita, Colorado",1973, "Corcoran Point, Colorado",1973, "Grand Junction, Colorado",1982, "Round Mountain, Colorado",1982, "Clifton, Colorado",1973, and "Palisade, Colorado",1968.
3. Obstructions taken from Airport Obstruction Data Sheet (ODS #634) for Grand Junction, Colorado. Surveyed, June, 1982.
4. Refer to the Inner Portion of the Approach Surface Drawing for close in obstructions.

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Figure F5 | **AIRPORT AIRSPACE PLAN**
Northwest Extended Approach

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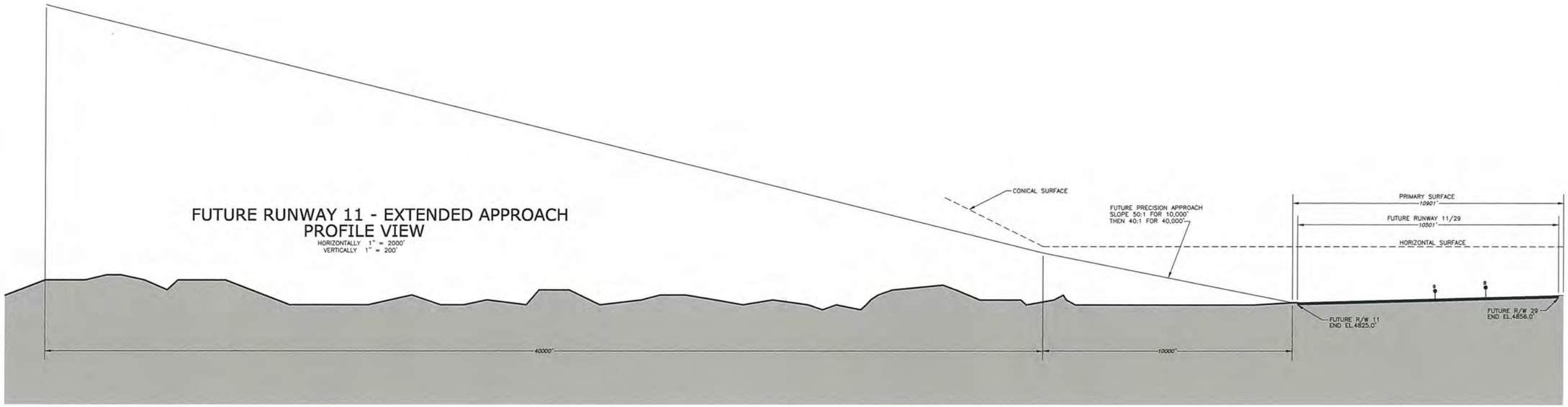
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SCALE
1" = 2000'

SHEET NO.
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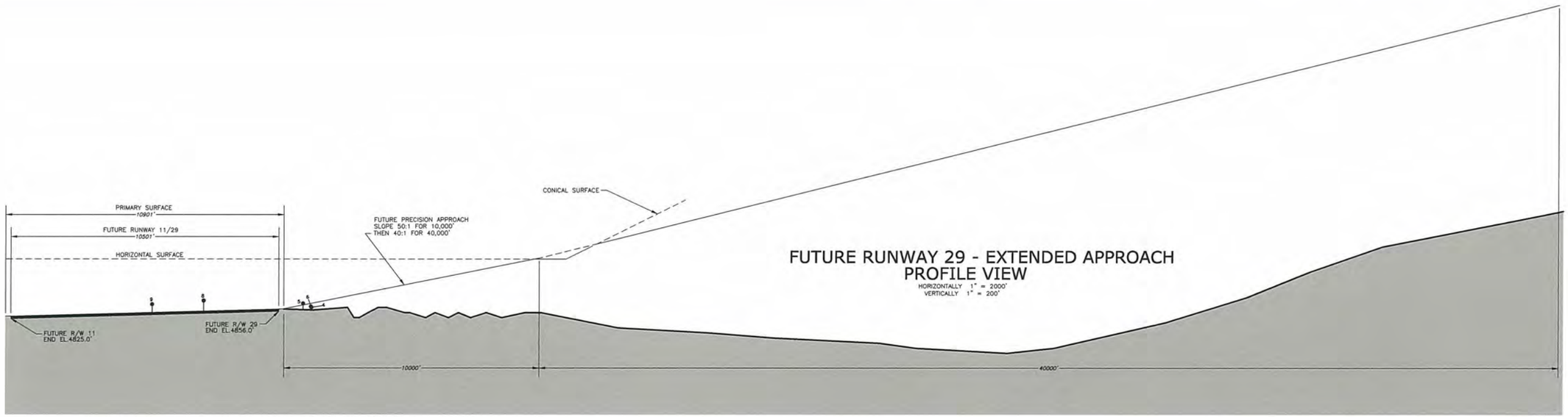
FUTURE RUNWAY 11 - EXTENDED APPROACH PROFILE VIEW

HORIZONTALLY 1" = 2000'
VERTICALLY 1" = 200'



FUTURE RUNWAY 29 - EXTENDED APPROACH PROFILE VIEW

HORIZONTALLY 1" = 2000'
VERTICALLY 1" = 200'



NOTES

1. This drawing reflects planning standards specific to this airport, and is not a product of detailed engineering design analysis. It is not intended to be used for construction documentation or navigation.
2. Topographic information taken from USGS 7.5 Minute Survey Maps, "Ruby Lee Reservoir, Colorado",1968, "Fruita, Colorado",1973, "Corcoran Point, Colorado",1973, "Grand Junction, Colorado",1982, "Round Mountain, Colorado",1982, "Clifton, Colorado",1973, and "Palisade, Colorado",1968.
3. Obstructions taken from Airport Obstruction Data Sheet (ODS #634) for Grand Junction, Colorado. Surveyed, June, 1993.
4. Terrain profile determined from the highest point along the length and across the width of the extended approach surface.
5. Refer to the Inner Portion of the Approach Surface Drawing for close in obstructions.

OBSTRUCTIONS

NO.	OBJECT DESCRIPTION	TOP ELEVATION	PENETRATION	SURFACE PENETRATED	PROPOSED DISPOSITION
4	OL ON LOC	4860.0'	NONE	PRIMARY SURFACE	NONE – EXISTING OB LIGHT
5	FENCE	4875.0'	7.4'	RUNWAY 22 APPROACH	RELOCATE
6	LOCALIZER EQUIPMENT BLDG	4872.0'	8.6'	RUNWAY 22 APPROACH	RELOCATE
8	FENCE	4886.0'	40.1'	PRIMARY SURFACE	RELOCATE
9	FENCE	4872.0'	32.2'	PRIMARY SURFACE	RELOCATE

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GRAND JUNCTION
REGIONAL AIRPORT
GRAND JUNCTION, COLORADO

Figure F6 | **AIRPORT AIRSPACE PLAN**
Future R/W 11/29 Extended Approach Profiles

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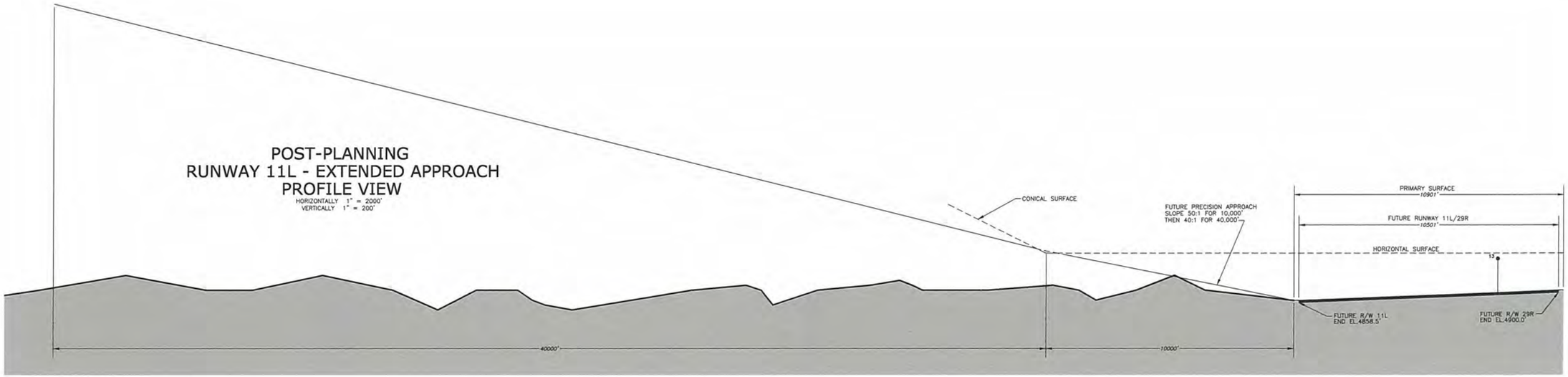
DATE
Nov 2009

SCALE
as noted

SHEET NO.
F.11

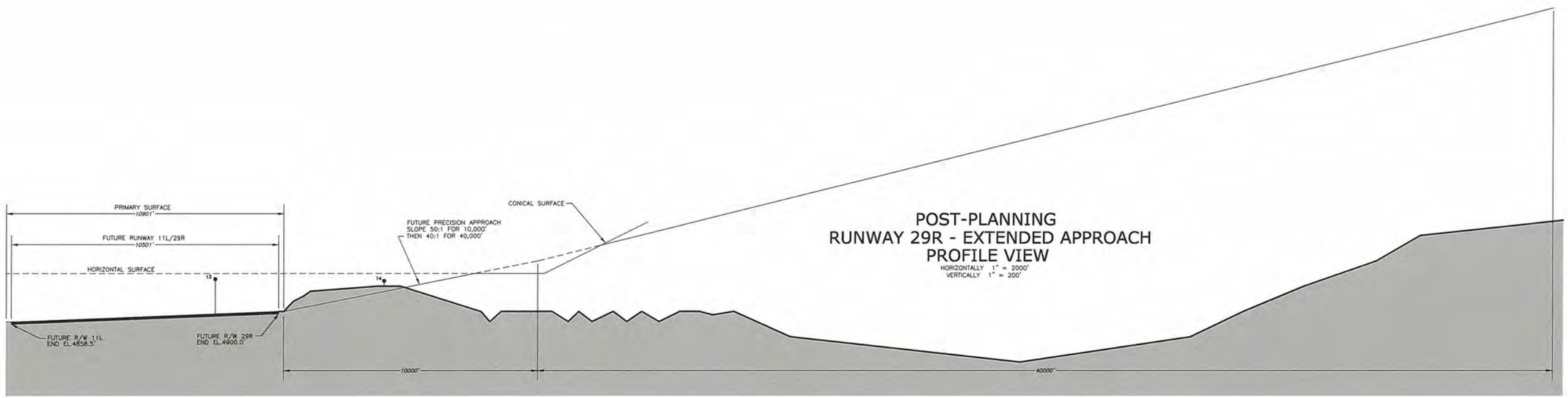
POST-PLANNING
RUNWAY 11L - EXTENDED APPROACH
PROFILE VIEW

HORIZONTALLY 1" = 2000'
VERTICALLY 1" = 200'



POST-PLANNING
RUNWAY 29R - EXTENDED APPROACH
PROFILE VIEW

HORIZONTALLY 1" = 2000'
VERTICALLY 1" = 200'



NOTES

1. This drawing reflects planning standards specific to this airport, and is not a product of detailed engineering design analysis. It is not intended to be used for construction documentation or navigation.
2. Topographic information taken from USGS 7.5 Minute Survey Maps, "Ruby Lee Reservoir, Colorado",1968, "Fruita, Colorado",1973, "Carcaron Point, Colorado",1973, "Grand Junction, Colorado",1982, "Round Mountain, Colorado",1982, "Clifton, Colorado",1973, and "Palisade, Colorado",1968.
3. Obstructions taken from Airport Obstruction Data Sheet (005 #634) for Grand Junction, Colorado. Surveyed, June, 1993.
4. Terrain profile determined from the highest point along the length and across the width of the extended approach surface.
5. Refer to the inner Portion of the Approach Surface Drawing for close in obstructions.

OBSTRUCTIONS

NO.	OBJECT DESCRIPTION	TOP ELEVATION	PENETRATION	SURFACE PENETRATED	PROPOSED DISPOSITION
12	POLE	5057.0'	96.6'	TRANSITIONAL SURFACE	RELOCATE
13	POLE	5028.0'	137.7'	TRANSITIONAL SURFACE	RELOCATE
14	GROUND	5021.0'	42.1'	RUNWAY 29R APPROACH	RE-GRADE

REVISIONS

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GRAND JUNCTION
REGIONAL AIRPORT
GRAND JUNCTION, COLORADO

Figure F7 | **AIRPORT AIRSPACE PLAN**
Post-Planning R/W 11L/29R Extended Approach Profiles

Barnard Dunkelberg & Company

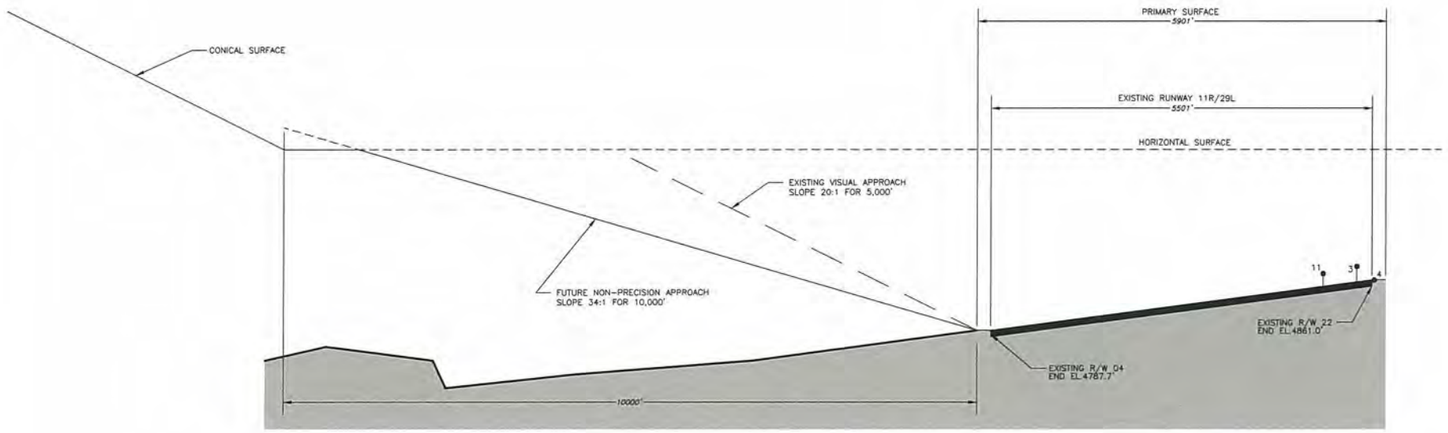
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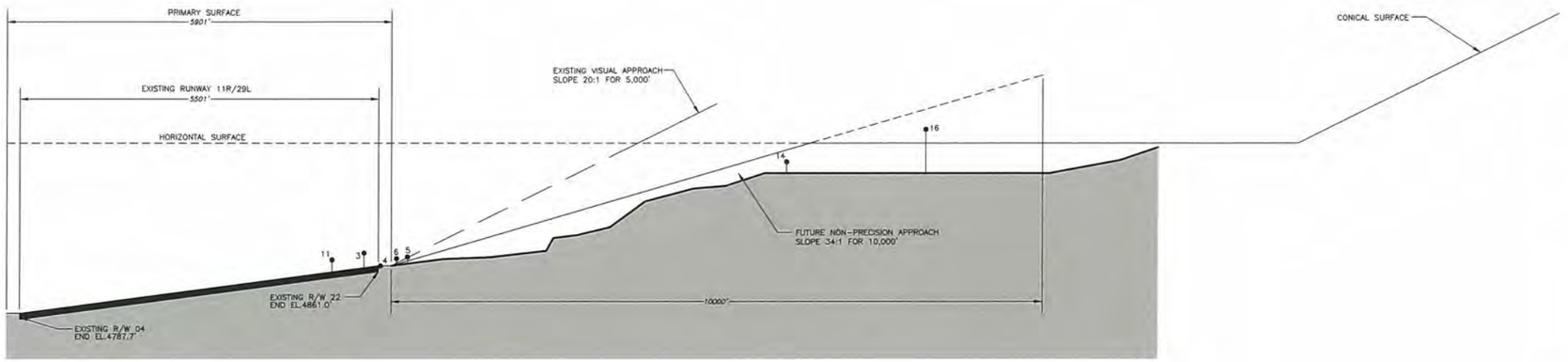
SCALE
as noted

SHEET NO.
F.12



RUNWAY 04 - EXTENDED APPROACH PROFILE VIEW

HORIZONTALLY 1" = 1000'
VERTICALLY 1" = 100'



RUNWAY 22 - EXTENDED APPROACH PROFILE VIEW

HORIZONTALLY 1" = 1000'
VERTICALLY 1" = 100'

REVISIONS

	DATE

OBSTRUCTIONS

NO.	OBJECT DESCRIPTION	TOP ELEVATION	PENETRATION	SURFACE PENETRATED	PROPOSED DISPOSITION
3	OL ON DME	4880.0'	20.0'	PRIMARY SURFACE	NONE – EXISTING OB LIGHT
4	OL ON LOC	4860.0'	NONE	PRIMARY SURFACE	NONE – EXISTING OB LIGHT
5	FENCE	4875.0'	7.4'	RUNWAY 22 APPROACH	RELOCATE
6	LOCALIZER EQUIPMENT BLDG	4872.0'	8.6'	RUNWAY 22 APPROACH	RELOCATE
11	OL ON WSK	4870.0'	18.5'	PRIMARY SURFACE	NONE – EXISTING OB LIGHT
14	GROUND	5021.0'	NONE	RUNWAY 22 APPROACH	RE-GRADE
16	POLE	5070.0'	20.0'	HORIZONTAL SURFACE	OB LIGHT

NOTES

1. This drawing reflects planning standards specific to this airport, and is not a product of detailed engineering design analysis. It is not intended to be used for construction documentation or navigation.
2. Topographic information taken from USGS 7.5 Minute Survey Maps, "Ruby Lee Resavoir, Colorado",1968, "Fruita, Colorado",1973, "Corcoran Point, Colorado",1973, "Grand Junction, Colorado",1982, "Round Mountain, Colorado",1982, "Clifton, Colorado",1973, and "Palisade, Colorado",1968.
3. Obstructions taken from Airport Obstruction Data Sheet (ODS #634) for Grand Junction, Colorado. Surveyed, June, 1993.
4. Terrain profile determined from the highest point along the length and across the width of the extended approach surface.
5. Refer to the Inner Portion of the Approach Surface Drawing for close in obstructions.

GRAND JUNCTION
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Figure F.8 | **AIRPORT AIRSPACE PLAN**
Existing & Future R/W 04/22 Extended Approach Profiles

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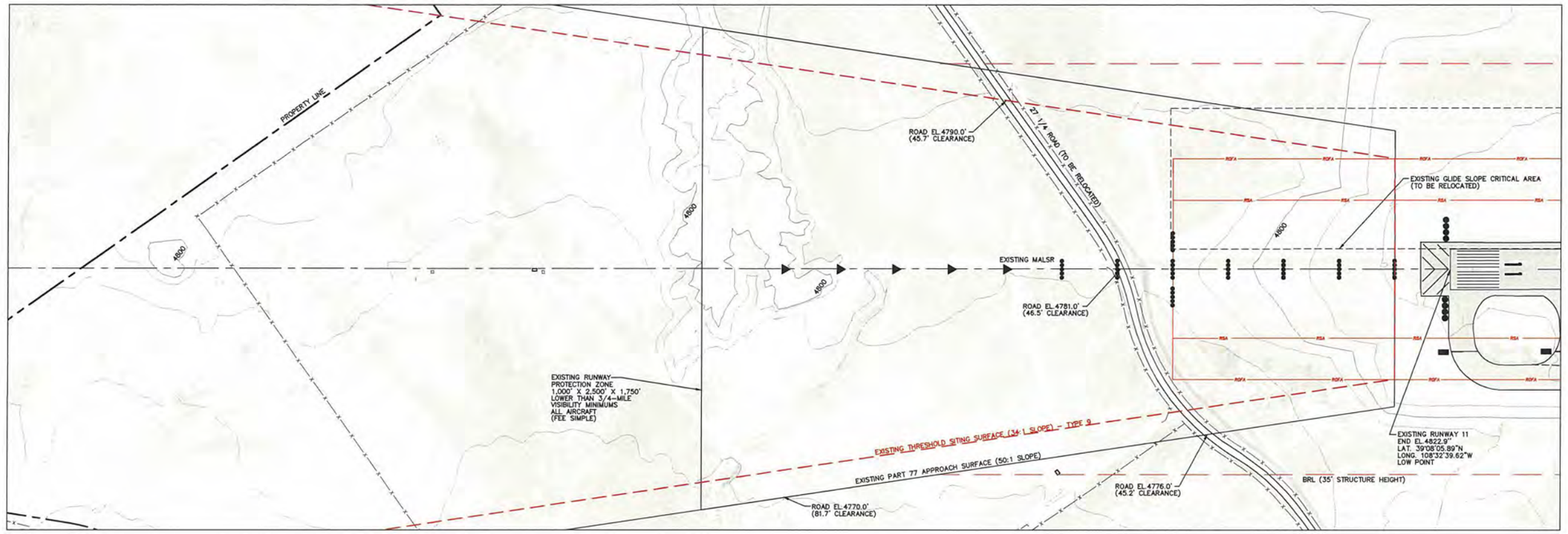
Inner Portion of the Approach Surface Drawings

To provide a more detailed view of the inner portions of the Part 77 imaginary approach surfaces [the Threshold Siting Surfaces (TSS) and the Runway Protection Zone (RPZ) areas], the following drawings are provided. An RPZ is trapezoidal in shape, centered about the extended runway centerline and typically begins 200 feet beyond the end of the runway. The RPZs are safety areas within which it is desirable to clear all objects (although some uses are normally acceptable). The size of the RPZ is a function of the design aircraft and the visibility minimums associated with the runway's instrument approach capabilities.

The *INNER PORTION OF THE APPROACH SURFACE DRAWINGS*, which are depicted in the following illustrations, provide large-scale drawings with both plan and profile delineations. They are intended to facilitate identification of the roadways, utility lines, railroads, structures, and other possible obstructions that may lie within the confines of the inner approach surface area associated with each runway end. As with the *AIRPORT AIRSPACE PLANS*, the *INNER PORTION OF THE APPROACH SURFACE DRAWINGS* are based upon the ultimate planned runway length, along with the ultimate planned approaches to each runway.

Mitigation measures for identified obstructions to the Part 77 surfaces can range from obstruction lighting and marking to removal. When a penetration to a Threshold Siting Surface exists, one or more of the following actions is required:

- The object is removed or lowered to preclude penetration of applicable threshold siting surfaces;
- The threshold is displaced to preclude object penetration of applicable threshold siting surfaces, with a resulting shorter landing distance;
- The Glide Path Angle (GPA) and/or Threshold Crossing Height (TCH) is/are modified, or a combination of threshold displacement and GPA/TCH increases;
- Visibility minimums are raised; or,
- Night operations are prohibited unless the obstruction is lighted or an approved Visual Glide Slope Indicator (VGSI) is used.

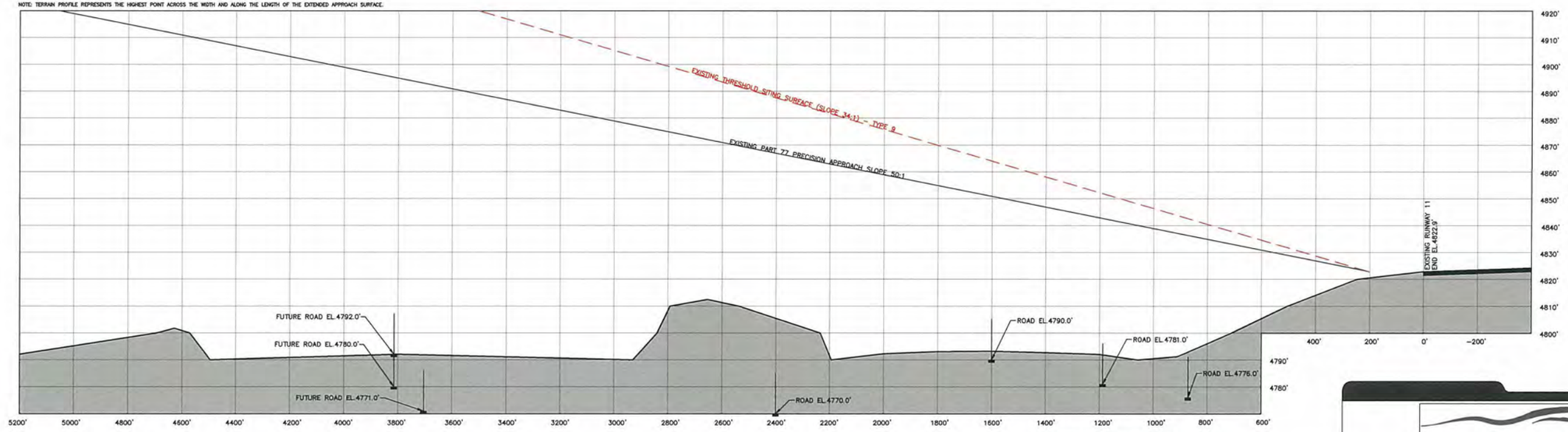


Existing Runway 11
Plan View

1" = 200'



NOTE: TERRAIN PROFILE REPRESENTS THE HIGHEST POINT ACROSS THE WIDTH AND ALONG THE LENGTH OF THE EXTENDED APPROACH SURFACE.



Existing Runway 11
Profile View

1" = 200' HORIZONTALLY
1" = 20' VERTICALLY

REVISIONS

	DATE

NOTES

1. This drawing reflects planning standards specific to this airport, and is not a product of detailed engineering design analysis. It is not intended to be used for construction documentation or navigation.
2. (N) – For public, non-interstate roadways, fifteen feet (15') is added to surface elevation to determine clearance, per FAR Part 77 Criteria.

OBSTRUCTIONS

NO.	OBJECT DESCRIPTION	TOP ELEVATION	PENETRATION	SURFACE PENETRATED	PROPOSED DISPOSITION

– There are no published obstructions in this view.
– FAA AC 150/5300-13, Appendix 2, Paragraph 4.(1)(a) states that "No object should penetrate a surface beginning at the elevation of the runway at the Departure End of Runway (DER) or end of clearway, and slopes at 40:1. Penetrations by existing obstacles of 35 feet or less would not require Takeoff Distance Available (TODA) reduction or other mitigations found in paragraph 4; however, they may affect new or existing departure procedures."

DRAWING LEGEND

	EXISTING
AIRPORT PROPERTY LINE	
AIRPORT SECURITY FENCE	
BUILDINGS	
AIRFIELD PAVEMENT	
PAVED ROADS	
RUNWAY PROTECTION ZONE	
BUILDING RESTRICTION LINE	BRL
RUNWAY SAFETY AREA	RSA
RUNWAY OBJECT FREE AREA	ROFA
TAXIWAY OBJECT FREE AREA	
PRECISION OBJECT FREE AREA	
FUEL STORAGE AREA	
AIRPORT BEACON	
LIGHTED WIND CONE	
PRECISION APPROACH PATH INDICATOR (PAPI)	
HOLDLINES & SIGNS	
VISUAL APPROACH SLOPE INDICATOR (VASI)	
REILS	

GRAND JUNCTION
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GRAND JUNCTION, COLORADO

Figure F9 | **INNER PORTION OF THE APPROACH SURFACE**
Existing Runway 11 (Plan & Profile Views)

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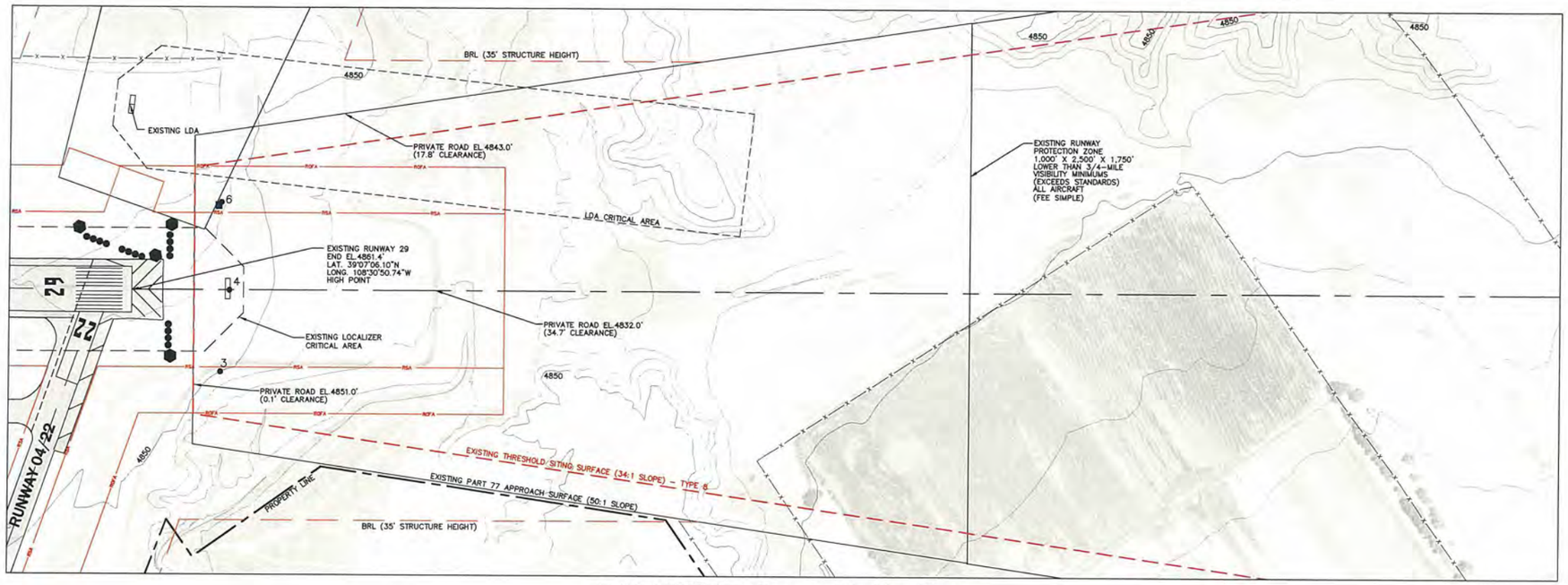
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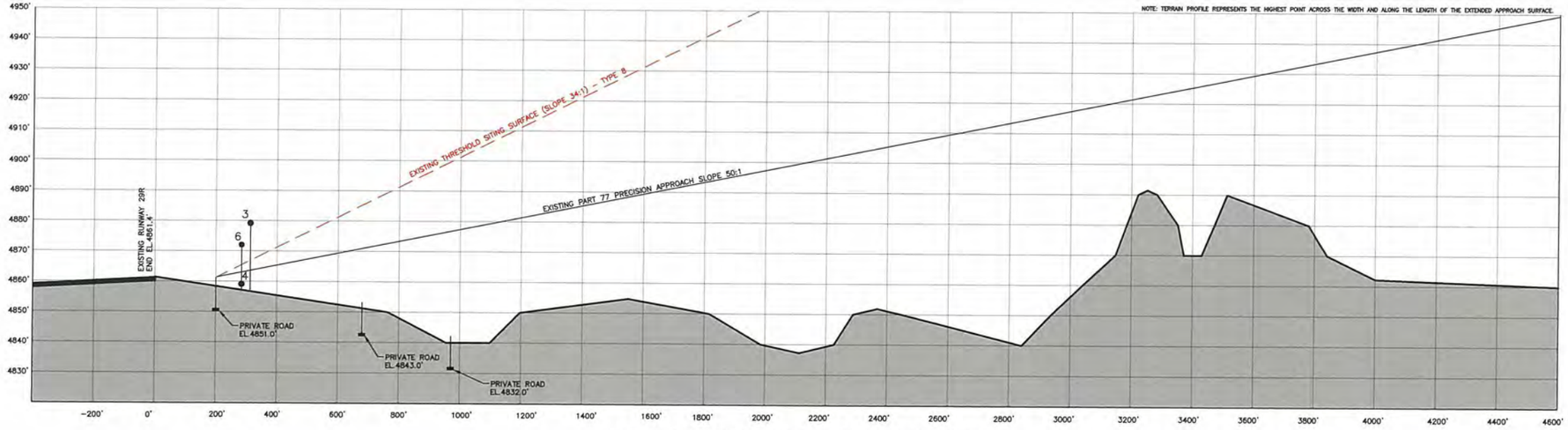


Existing & Future Runway 29 - Plan View

1" = 200'

Existing Runway 29 Plan View

1" = 200'



Existing & Future Runway 29 - Profile View

1" = 200' HORIZONTALLY
1" = 20' VERTICALLY

Existing Runway 29 Profile View

1" = 200' HORIZONTALLY
1" = 20' VERTICALLY

10°51'E MAG. DEC.
0°7'E ANNUAL CHANGE
1/09/09

REVISIONS

	DATE

NOTES

1. This drawing reflects planning standards specific to this airport, and is not a product of detailed engineering design analysis. It is not intended to be used for construction documentation or navigation.
2. (N) – For public, non-interstate roadways, fifteen feet (15') and for private roadways, ten feet (10') is added to surface elevation to determine clearance, per FAR Part 77 Criteria.

OBSTRUCTIONS

NO.	OBJECT DESCRIPTION	TOP ELEVATION	PENETRATION	SURFACE PENETRATED	PROPOSED DISPOSITION
3	OL ON DME	4880.0'	24.0'	PRIMARY SURFACE	NONE – EXISTING OB LIGHTED
4	OL ON LOC	4860.0'	NONE	PRIMARY SURFACE	NONE – EXISTING OB LIGHT
6	LOCALIZER EQUIPMENT BLDG	4872.0'	NONE	PRIMARY SURFACE	RELOCATE

DRAWING LEGEND

	EXISTING
AIRPORT PROPERTY LINE	
AIRPORT SECURITY FENCE	
BUILDINGS	
AIRFIELD PAVEMENT	
PAVED ROADS	
RUNWAY PROTECTION ZONE	
BUILDING RESTRICTION LINE	BRL
RUNWAY SAFETY AREA	RSA
RUNWAY OBJECT FREE AREA	ROFA
TAXIWAY OBJECT FREE AREA	
PRECISION OBJECT FREE AREA	
FUEL STORAGE AREA	
AIRPORT BEACON	
LIGHTED WIND CONE	
PRECISION APPROACH PATH INDICATOR (PAPI)	
HOLDLINES & SIGNS	
VISUAL APPROACH SLOPE INDICATOR (VASI)	
REILS	

GRAND JUNCTION
REGIONAL AIRPORT
GRAND JUNCTION, COLORADO

Figure F10 | **INNER PORTION OF THE APPROACH SURFACE**
Existing Runway 29 (Plan & Profile Views)

Barnard Dunkelberg & Company

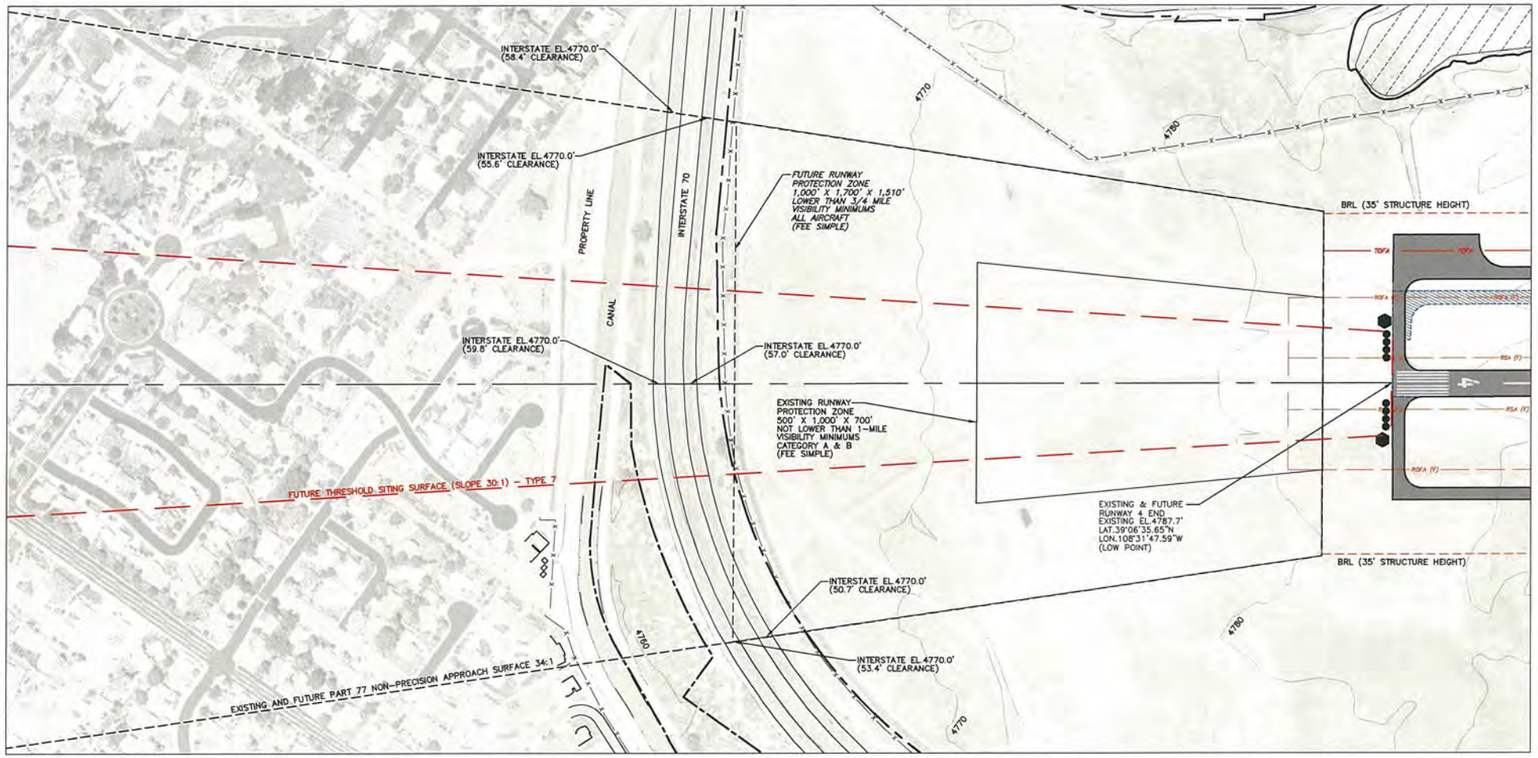
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Denver, Colorado 80202
303.825.8844

DATE
July 2009

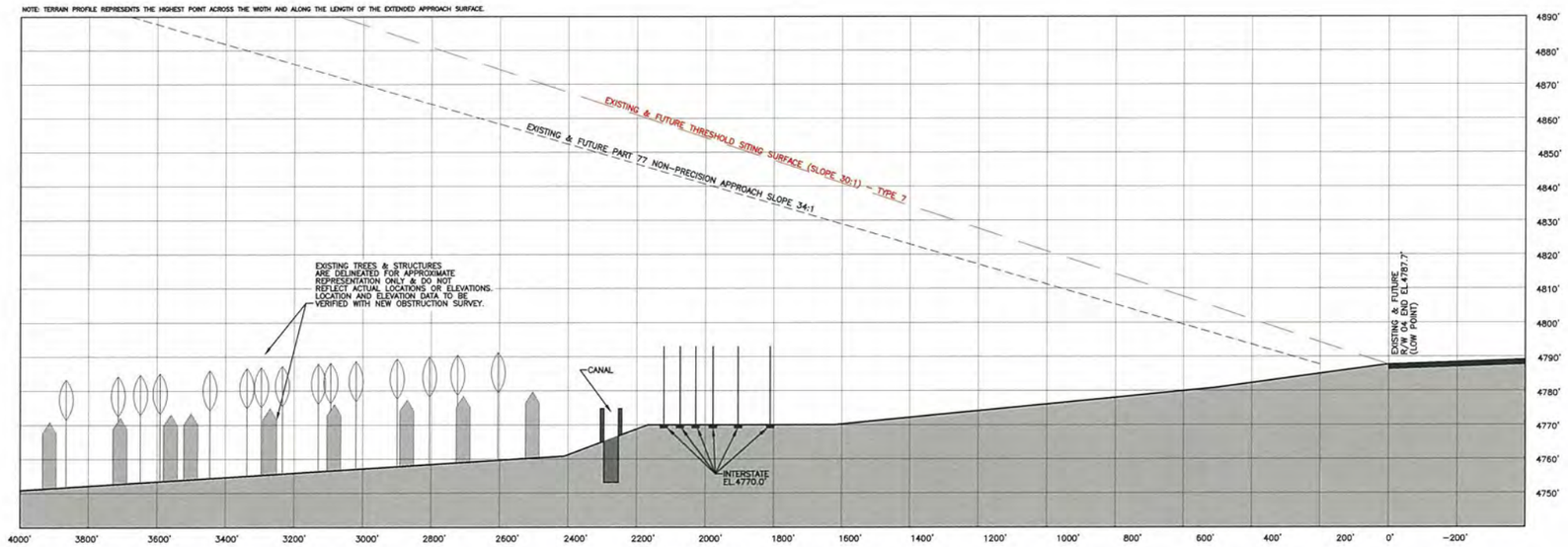
SCALE
as noted

SHEET NO.
F.16



Existing & Future Runway 04 - Plan View

1" = 200'



Existing & Future Runway 04 - Profile View

1" = 200' HORIZONTALLY
1" = 20' VERTICALLY

10°51'E MAG. DEC.
0°7'E ANNUAL CHANGE
1/08/09

REVISIONS

	DATE

OBSTRUCTIONS

NO.	OBJECT DESCRIPTION	TOP ELEVATION	PENETRATION	SURFACE PENETRATED	PROPOSED DISPOSITION
	THERE ARE NO PUBLISHED OBSTRUCTIONS IN THIS VIEW.				

DRAWING LEGEND

	EXISTING	FUTURE
AIRPORT PROPERTY LINE		
AIRPORT SECURITY FENCE	X	X
BUILDINGS		
AIRFIELD PAVEMENT		
PAVED ROADS		
RUNWAY PROTECTION ZONE		
BUILDING RESTRICTION LINE		BRL
RUNWAY SAFETY AREA		RSA (F)
RUNWAY OBJECT FREE AREA		ROFA (F)
TAXIWAY OBJECT FREE AREA		TOFA
PRECISION OBJECT FREE AREA		
FUEL STORAGE AREA		
AIRPORT BEACON		
LIGHTED WIND CONE		
PRECISION APPROACH PATH INDICATOR (PAPI)		
HOLDLINES & SIGNS		
VISUAL APPROACH SLOPE INDICATOR (VASI)		
REILS		

NOTES

1. This drawing reflects planning standards specific to this airport, and is not a product of detailed engineering design analysis. It is not intended to be used for construction documentation or navigation.
2. (N) = For public, interstate roadways, seventeen feet (17') is added to surface elevation to determine clearance, per FAR Part 77 Criteria.

GRAND JUNCTION
REGIONAL AIRPORT
GRAND JUNCTION, COLORADO

Figure F11 | **INNER PORTION OF THE APPROACH SURFACE DRAWING**
Existing & Future Runway 04 (Plan & Profile Views)

Barnard Dunkelberg & Company

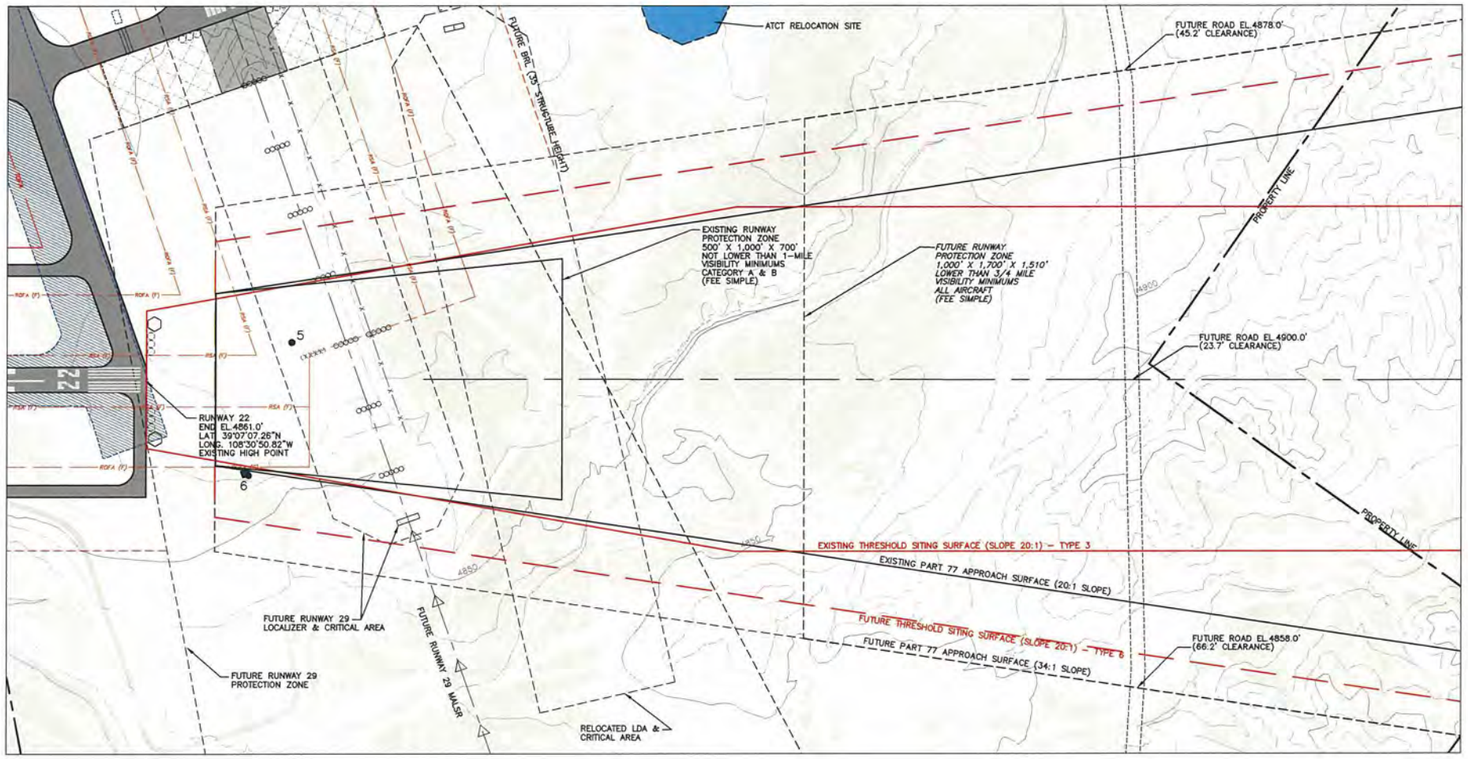
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Nov 2009

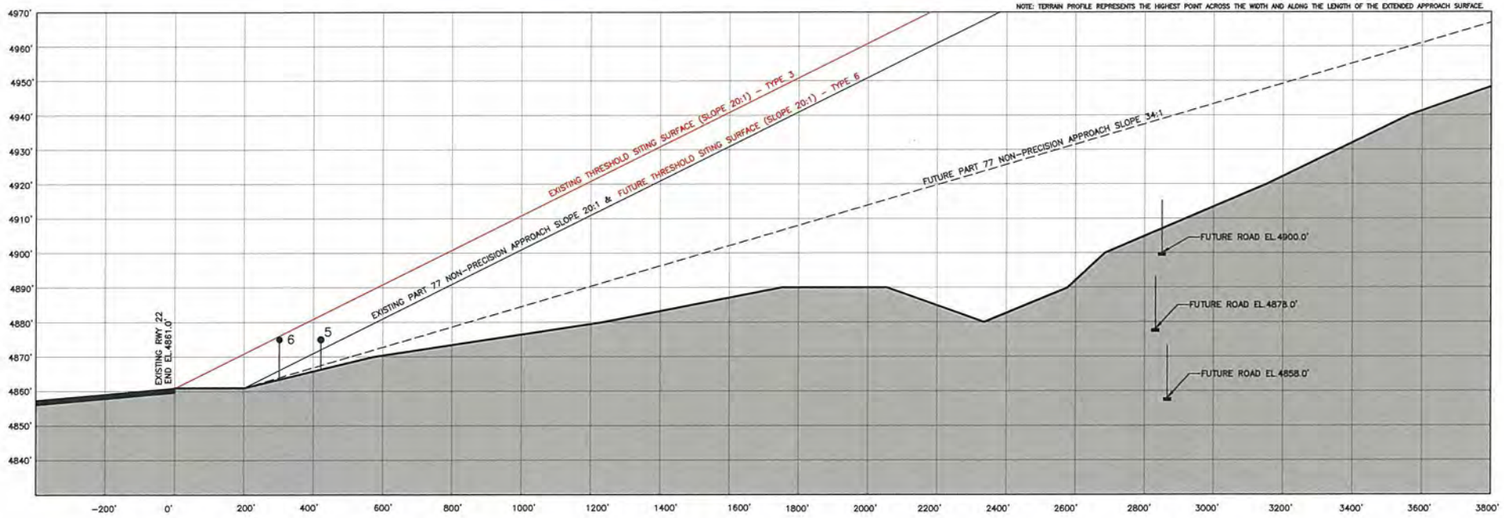
SCALE
as noted

SHEET NO.
F.17



Existing & Future Runway 22 - Plan View

1" = 200'



Existing & Future Runway 22 - Profile View

1" = 200' HORIZONTALLY
1" = 20' VERTICALLY

10°51'E MAG. DEC.
0°7'E ANNUAL CHANGE
2/06/09

REVISIONS

	DATE

DRAWING LEGEND

	EXISTING	FUTURE
AIRPORT PROPERTY LINE		
AIRPORT SECURITY FENCE	X	X
BUILDINGS		
AIRFIELD PAVEMENT		
PAVED ROADS		
AVIOATION EASEMENT		
RUNWAY PROTECTION ZONE		
BUILDING RESTRICTION LINE		BRL
RUNWAY SAFETY AREA		RSA (F)
RUNWAY OBJECT FREE AREA		ROFA (F)
TAXIWAY OBJECT FREE AREA		TOFA
PRECISION OBJECT FREE AREA		
FUEL STORAGE AREA		
AIRPORT BEACON		
LIGHTED WIND CONE		
PRECISION APPROACH PATH INDICATOR (PAPI)		
HOLDLINES & SIGNS		
VISUAL APPROACH SLOPE INDICATOR (VASI)		
REILS		

OBSTRUCTIONS

NO.	OBJECT DESCRIPTION	TOP ELEVATION	PENETRATION	SURFACE PENETRATED	PROPOSED DISPOSITION
5	FENCE	4875.0'	7.4'	RUNWAY 22 APPROACH	RELOCATE
6	LOCALIZER EQUIPMENT BLDG	4872.0'	8.6'	RUNWAY 22 APPROACH	RELOCATE

NOTES

1. This drawing reflects planning standards specific to this airport, and is not a product of detailed engineering design analysis. It is not intended to be used for construction documentation or navigation.
2. (N) – For public, non-interstate roadways, fifteen feet (15') is added to surface elevation to determine clearance, per FAR Part 77 Criteria.
2. Implementation of a published approach procedure to the extended Runway 22 would likely require an obstruction survey to determine if the terrain penetrations are hazards to air navigation.

GRAND JUNCTION
REGIONAL AIRPORT
GRAND JUNCTION, COLORADO

Figure F12 | **INNER PORTION OF THE APPROACH SURFACE DRAWING**
Existing & Future Runway 22 (Plan & Profile Views)

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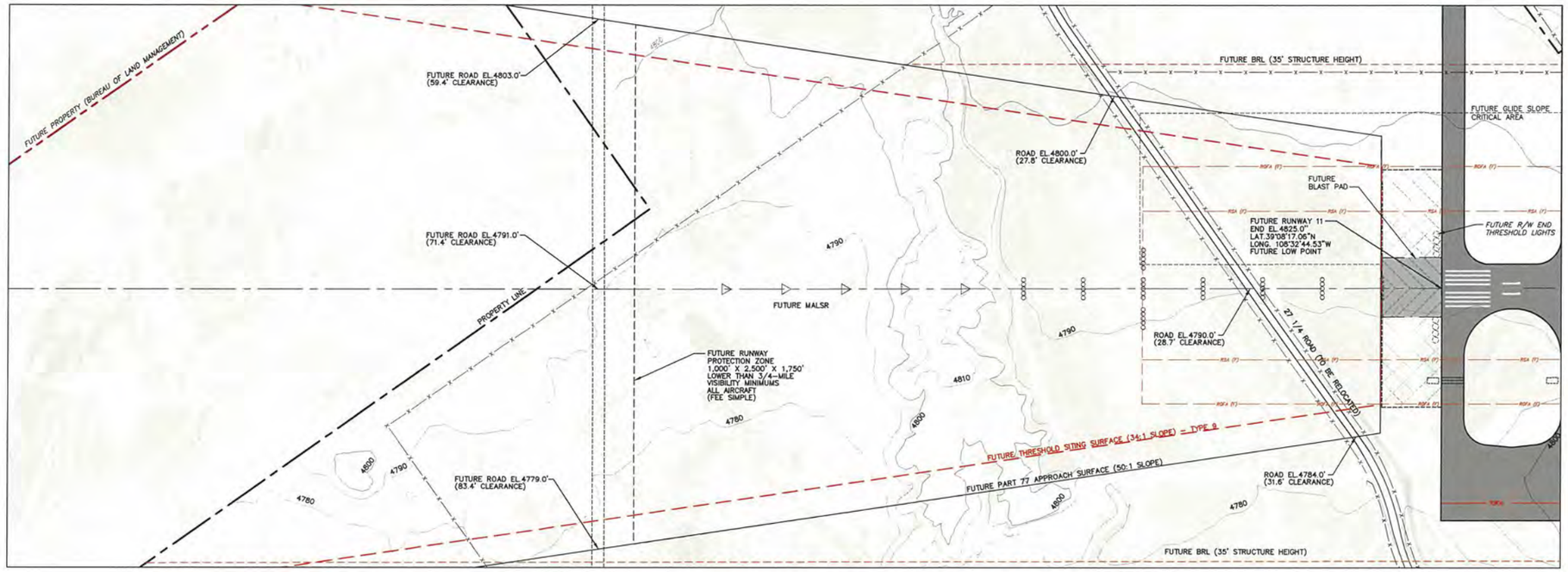
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Tulsa, Oklahoma 74120
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Denver, Colorado 80202
303.825.8844

DATE
Nov 2009

SCALE
as noted

SHEET NO.
F.18

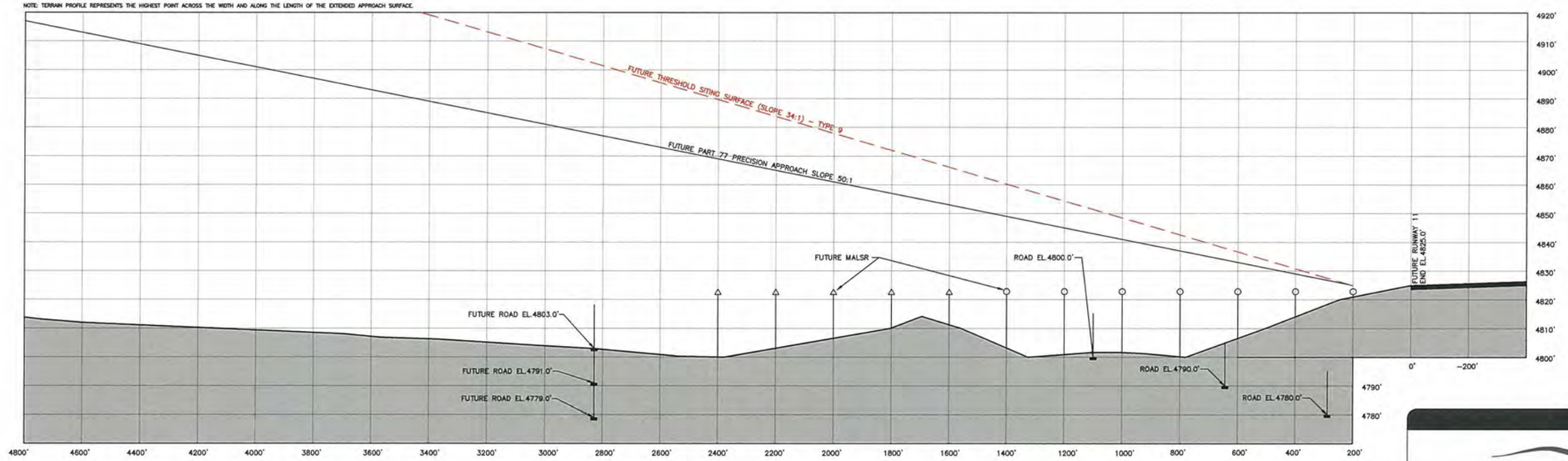


Future Runway 11
Plan View

1" = 200'

10°51'E MAG. DEC.
0°7'E ANNUAL CHANGE
2/06/08

NOTE: TERRAIN PROFILE REPRESENTS THE HIGHEST POINT ACROSS THE WIDTH AND ALONG THE LENGTH OF THE EXTENDED APPROACH SURFACE.



Future Runway 11
Profile View

1" = 200' HORIZONTALLY
1" = 20' VERTICALLY

NOTES

1. This drawing reflects planning standards specific to this airport, and is not a product of detailed engineering design analysis. It is not intended to be used for construction documentation or navigation.
2. (N) = For public, non-interstate roadways, fifteen feet (15') is added to surface elevation to determine clearance, per FAR Part 77 Criteria.
3. Future Runway 11/29 and Post Planning Runway 11L/29R will require RSA and FAR Part 77 grading.

OBSTRUCTIONS

NO.	OBJECT DESCRIPTION	TOP ELEVATION	PENETRATION	SURFACE PENETRATED	PROPOSED DISPOSITION

- There are no published obstructions in this view.
- FAA AC 150/5300-13, Appendix 2, Paragraph 4.(1)(a) states that "No object should penetrate a surface beginning at the elevation of the runway at the Departure End of Runway (DER) or end of clearway, and slopes at 40:1. Penetrations by existing obstacles of 35 feet or less would not require Takeoff Distance Available (TODA) reduction or other mitigations found in paragraph 4; however, they may affect new or existing departure procedures."

REVISIONS

	DATE

DRAWING LEGEND

	EXISTING	FUTURE
AIRPORT PROPERTY LINE		
AIRPORT SECURITY FENCE		
BUILDINGS		
AIRFIELD PAVEMENT		
PAVED ROADS		
RUNWAY PROTECTION ZONE		
BUILDING RESTRICTION LINE		(BRL)
RUNWAY SAFETY AREA		RSA (F)
RUNWAY OBJECT FREE AREA		ROFA (F)
TAXIWAY OBJECT FREE AREA		TOFA
PRECISION OBJECT FREE AREA		
FUEL STORAGE AREA		
AIRPORT BEACON		
LIGHTED WIND CONE		
PRECISION APPROACH PATH INDICATOR (PAPI)		
HOLDLINES & SIGNS		
VISUAL APPROACH SLOPE INDICATOR (VASI)		
REILS		

GRAND JUNCTION
REGIONAL AIRPORT
GRAND JUNCTION, COLORADO

Figure F13 | **INNER PORTION OF THE APPROACH SURFACE DRAWING**
Future Runway 11 (Plan & Profile Views)

Barnard Dunkelberg & Company

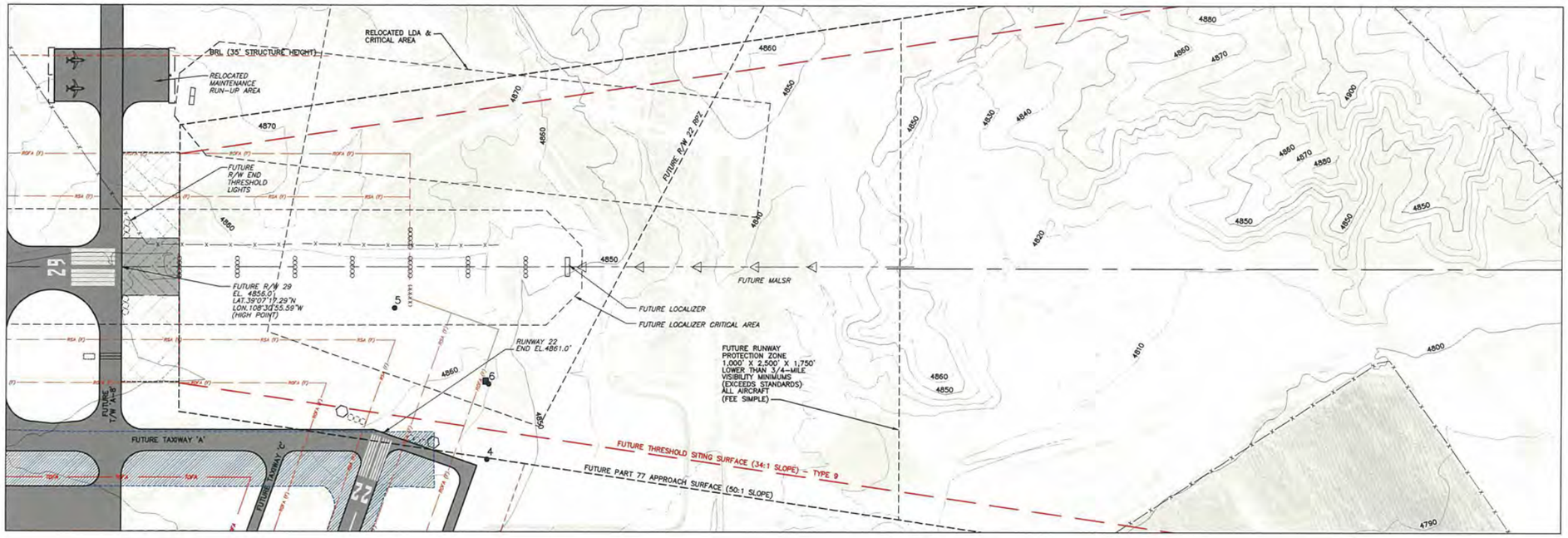
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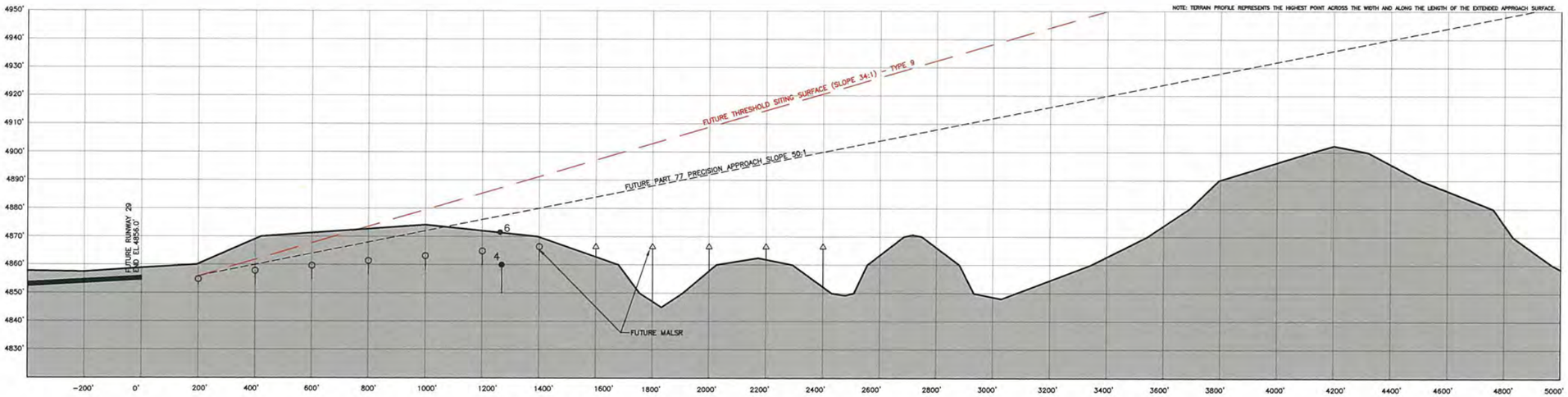
SHEET NO.
F.19



Future Runway 29 Plan View

1" = 200'

10°51'E MAG. DEC. 0°7'E ANNUAL CHANGE 2/06/09



Future Runway 29 Profile View

1" = 200' HORIZONTALLY
1" = 20' VERTICALLY

REVISIONS

	DATE

NOTES

1. This drawing reflects planning standards specific to this airport, and is not a product of detailed engineering design analysis. It is not intended to be used for construction documentation or navigation.
2. (N) = For public, non-interstate roadways, fifteen feet (15') is added to surface elevation to determine clearance, per FAR Part 77 Criteria.
3. Future Runway 11/29 and Post Planning Runway 11L/29R will require RSA and FAR Part 77 grading.

OBSTRUCTIONS

NO.	OBJECT DESCRIPTION	TOP ELEVATION	PENETRATION	SURFACE PENETRATED	PROPOSED DISPOSITION
4	OL ON LOC	4860.0'	NONE	PRIMARY SURFACE	NONE - EXISTING OB LIGHT
5	FENCE	4875.0'	5.0'	FUTURE RW 29 APPROACH SURFACE	RELOCATE
6	LOCALIZER EQUIPMENT BLDG	4872.0'	8.6'	RUNWAY 22 APPROACH	RELOCATE

DRAWING LEGEND

	EXISTING	FUTURE
AIRPORT PROPERTY LINE		
AIRPORT SECURITY FENCE		
BUILDINGS		
AIRFIELD PAVEMENT		
PAVED ROADS		
RUNWAY PROTECTION ZONE		
BUILDING RESTRICTION LINE		BRL
RUNWAY SAFETY AREA		RSA (F)
RUNWAY OBJECT FREE AREA		ROFA (F)
TAXIWAY OBJECT FREE AREA		TOFA
PRECISION OBJECT FREE AREA		
FUEL STORAGE AREA		
AIRPORT BEACON		
LIGHTED WIND CONE		
PRECISION APPROACH PATH INDICATOR (PAPI)		
HOLDLINES & SIGNS		
VISUAL APPROACH SLOPE INDICATOR (VASI)		
REILS		

GRAND JUNCTION REGIONAL AIRPORT
GRAND JUNCTION, COLORADO

Figure F14 | **INNER PORTION OF THE APPROACH SURFACE DRAWING**
Future Runway 29 (Plan & Profile Views)

Barnard Dunkelberg & Company

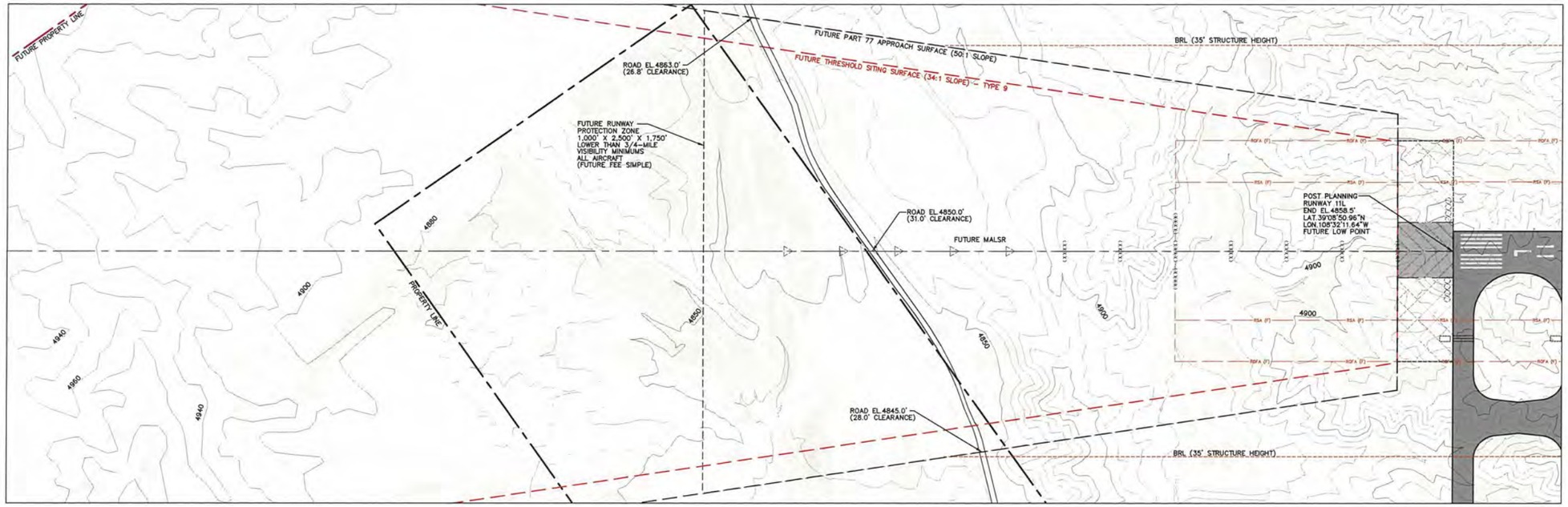
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DATE Nov 2009

SCALE as noted

SHEET NO. F.20

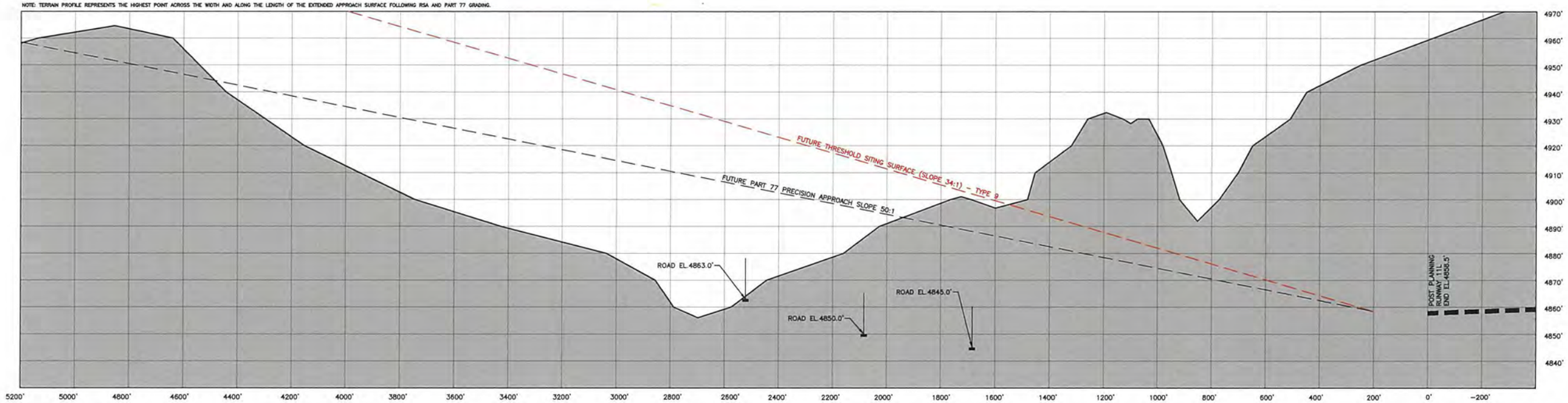


Post-Planning Runway 11L Plan View

1" = 200'

16°51'E MAG. DEC.
8°7'E ANNUAL CHANGE
1/06/09

NOTE: TERRAIN PROFILE REPRESENTS THE HIGHEST POINT ACROSS THE WIDTH AND ALONG THE LENGTH OF THE EXTENDED APPROACH SURFACE FOLLOWING RSA AND PART 77 GRADING.



Post-Planning Runway 11L Profile View

1" = 200' HORIZONTALLY
1" = 20' VERTICALLY

REVISIONS

	DATE

NOTES

1. This drawing reflects planning standards specific to this airport, and is not a product of detailed engineering design analysis. It is not intended to be used for construction documentation or navigation.
2. (N) – For public, non-interstate roadways, fifteen feet (15') is added to surface elevation to determine clearance, per FAR Part 77 Criteria.
3. Future Runway 11/29 and Post Planning Runway 11L/29R will require RSA and FAR Part 77 grading.

OBSTRUCTIONS

NO.	OBJECT DESCRIPTION	TOP ELEVATION	PENETRATION	SURFACE PENETRATED	PROPOSED DISPOSITION

THERE ARE NO PUBLISHED OBSTRUCTIONS IN THIS VIEW.

DRAWING LEGEND

	EXISTING	FUTURE
AIRPORT PROPERTY LINE		
AIRPORT SECURITY FENCE	X	X
BUILDINGS		
AIRFIELD PAVEMENT		
PAVED ROADS		
RUNWAY PROTECTION ZONE		
BUILDING RESTRICTION LINE		(BRL)
RUNWAY SAFETY AREA		RSA (F)
RUNWAY OBJECT FREE AREA		ROFA (F)
TAXIWAY OBJECT FREE AREA		TOFA
PRECISION OBJECT FREE AREA		
FUEL STORAGE AREA		
AIRPORT BEACON		
LIGHTED WIND CONE		
PRECISION APPROACH PATH INDICATOR (PAPI)		
HOLDLINES & SIGNS		
VISUAL APPROACH SLOPE INDICATOR (VASI)		
REILS		

GRAND JUNCTION
REGIONAL AIRPORT
GRAND JUNCTION, COLORADO

Figure F15 | **INNER PORTION OF THE APPROACH SURFACE DRAWING**
Post Planning Runway 11L (Plan & Profile Views)

Barnard Dunkelberg & Company

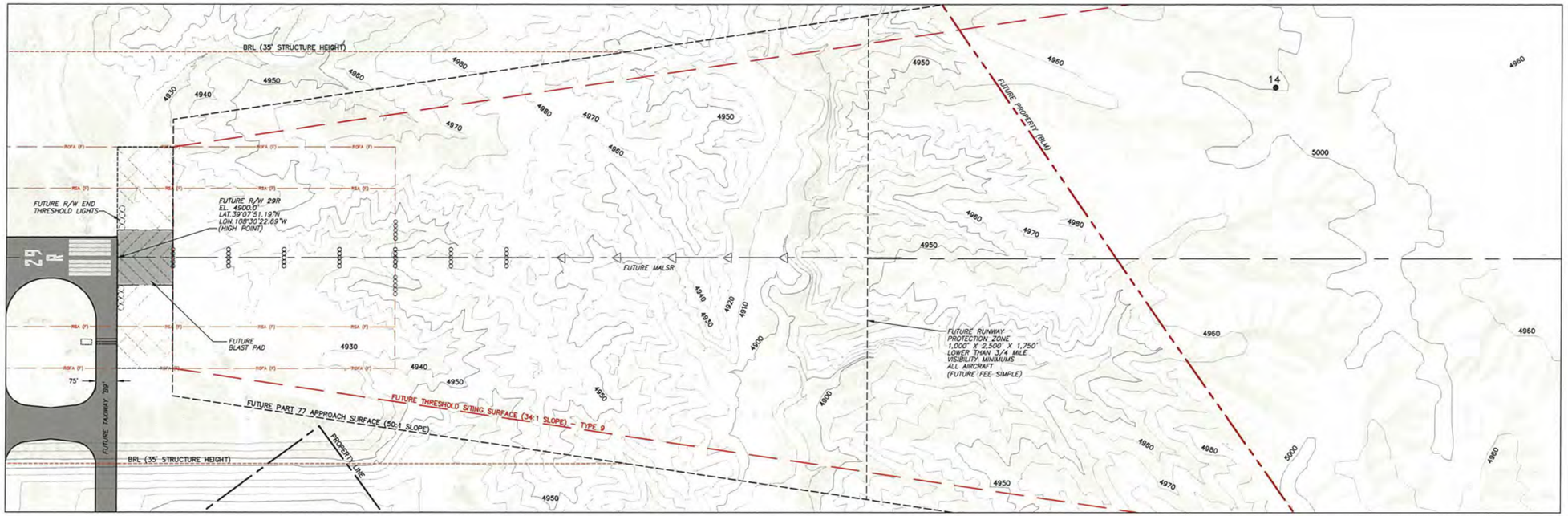
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DATE
Nov 2009

SCALE
as noted

SHEET NO.
F.21

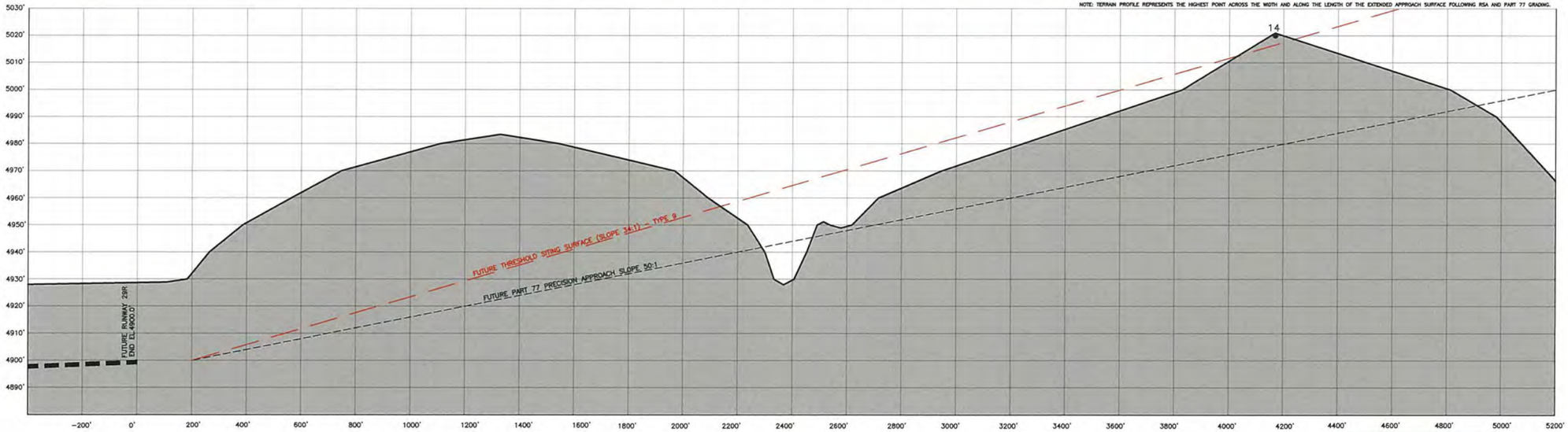


Post-Planning Runway 29R Plan View

1" = 200'

10°51'E MAG. DEC.
0°7'E ANNUAL CHANGE
2/08/09

NOTE: TERRAIN PROFILE REPRESENTS THE HIGHEST POINT ACROSS THE WIDTH AND ALONG THE LENGTH OF THE EXTENDED APPROACH SURFACE FOLLOWING RSA AND PART 77 GRADING.



Post-Planning Runway 29R Profile View

1" = 200' HORIZONTALLY
1" = 20' VERTICALLY

REVISIONS

	DATE

NOTES

1. This drawing reflects planning standards specific to this airport, and is not a product of detailed engineering design analysis. It is not intended to be used for construction documentation or navigation.
2. (N) – For public, non-interstate roadways, fifteen feet (15') is added to surface elevation to determine clearance, per FAR Part 77 Criteria.
3. Future Runway 11/29 and Post Planning Runway 11L/29R will require RSA and FAR Part 77 grading.

OBSTRUCTIONS

NO.	OBJECT DESCRIPTION	TOP ELEVATION	PENETRATION	SURFACE PENETRATED	PROPOSED DISPOSITION
14	GROUND	5021.0'	42.1'	RUNWAY 29R APPROACH	RE-GRADE

DRAWING LEGEND

	EXISTING	FUTURE
AIRPORT PROPERTY LINE		
AIRPORT SECURITY FENCE		
BUILDINGS		
AIRFIELD PAVEMENT		
PAVED ROADS		
RUNWAY PROTECTION ZONE		
BUILDING RESTRICTION LINE		
RUNWAY SAFETY AREA		RSA (F)
RUNWAY OBJECT FREE AREA		ROFA (F)
TAXIWAY OBJECT FREE AREA		RSA
PRECISION OBJECT FREE AREA		
FUEL STORAGE AREA		
AIRPORT BEACON		
LIGHTED WIND CONE		
PRECISION APPROACH PATH INDICATOR (PAPI)		
HOLDLINES & SIGNS		
VISUAL APPROACH SLOPE INDICATOR (VASI)		
REILS		

GRAND JUNCTION REGIONAL AIRPORT
GRAND JUNCTION, COLORADO

Figure F16 | **INNER PORTION OF THE APPROACH SURFACE DRAWING Post Planning Runway 29R (Plan & Profile Views)**

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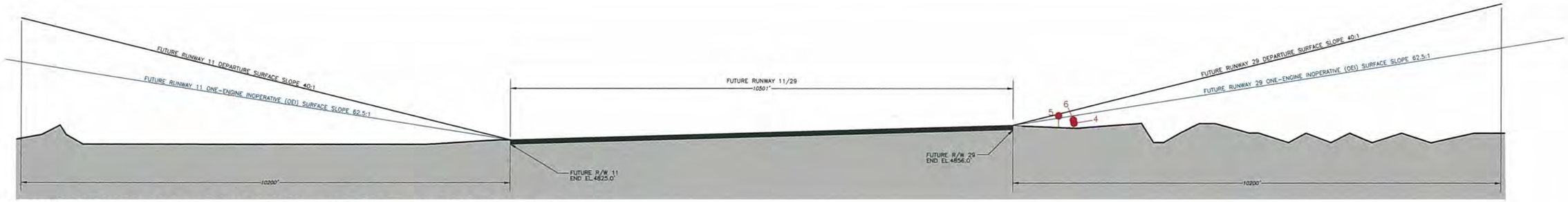
SCALE as noted

SHEET NO. F.22

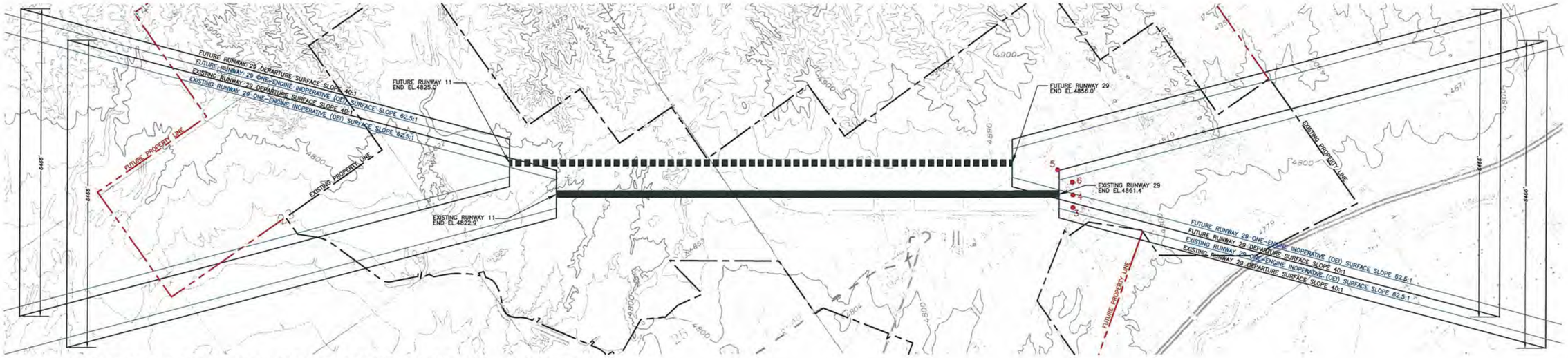
Departure Surface Drawings

The following illustrations, entitled *DEPARTURE SURFACE DRAWING EXISTING AND FUTURE RUNWAY 11/29*, and *DEPARTURE SURFACE DRAWING POST-PLANNING RUNWAY 11L/29R*, present detailed views of departure ends of these runways. The applicability of the departure surface is dependent on the designation of primary runway(s) for departure. Grand Junction Regional Airport has published departure procedures for both Runway Ends 11 and 29. Mitigation measures for identified obstructions are similar to those required for penetrations to the Threshold Siting Surfaces.

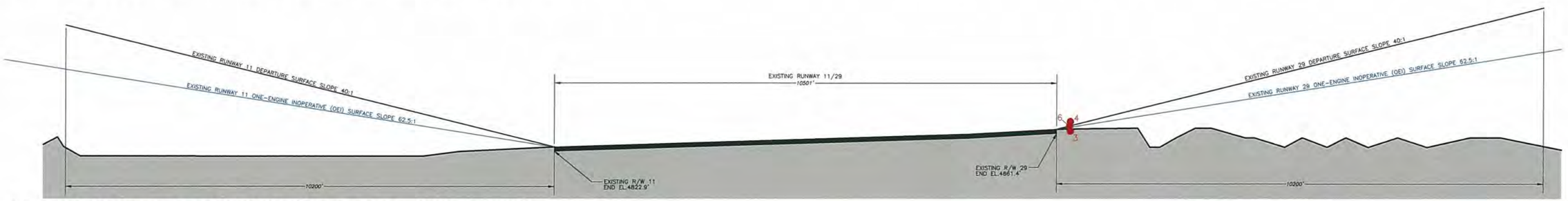
Also shown on the following illustrations is the one-engine inoperative (OEI) obstacle identification surface (OIS). According to FAA AC 150/5300-13, *Airport Design*, this surface is provided for information only and does not take effect until January 1, 2010.



FUTURE RUNWAY 11/29 DEPARTURE SURFACE - PROFILE VIEW HORIZONTALLY 1" = 1,000'
VERTICALLY 1" = 100'



EXISTING & FUTURE RUNWAY 11/29 DEPARTURE SURFACE - PLAN VIEW 1" = 1000'



EXISTING RUNWAY 11/29 DEPARTURE SURFACE - PROFILE VIEW HORIZONTALLY 1" = 1,000'
VERTICALLY 1" = 100'

10°51'E MAG. DEC.
0°7'S ANNUAL CHANGE
2/06/09

Existing Property Line

Future Property Line

FUTURE R/W 11/29 DEPARTURE OBSTRUCTIONS

NO.	OBJECT DESCRIPTION	TOP ELEVATION	PENETRATION	SURFACE PENETRATED	PROPOSED DISPOSITION
3	OL ON DME	4880.0'	NONE	EX. R/W 29 DEPARTURE SURF.	NONE – EXISTING OB LIGHT
4	OL ON LOC	4860.0'	NONE	EX. R/W 29 DEPARTURE SURF.	NONE – EXISTING OB LIGHT
5	FENCE	4875.0'	NONE	FUT. R/W 29 DEPARTURE SURF.	RELOCATE
6	LOCALIZER EQUIPMENT BLDG	4872.0'	NONE	FUT. R/W 29 DEPARTURE SURF.	RELOCATE

EXISTING R/W 11/29 DEPARTURE OBSTRUCTIONS

NO.	OBJECT DESCRIPTION	TOP ELEVATION	PENETRATION	SURFACE PENETRATED	PROPOSED DISPOSITION
3	OL ON DME	4880.0'	NONE	EX. R/W 29 DEPARTURE SURF.	NONE – EXISTING OB LIGHT
4	OL ON LOC	4860.0'	8.9	EX. R/W 29 DEPARTURE SURF.	NONE – EXISTING OB LIGHT
6	LOCALIZER EQUIPMENT BLDG	4872.0'	NONE	EX. R/W 29 DEPARTURE SURF.	RELOCATE

REVISIONS

	DATE

NOTES

1. This drawing reflects planning standards specific to this airport, and is not a product of detailed engineering design analysis. It is not intended to be used for construction documentation or navigation.
2. Topographic information taken from USGS 7.5 Minute Survey Maps. "Ruby Lee Reservoir, Colorado",1968, "Fruita, Colorado",1973, "Corcoran Point, Colorado",1973, "Grand Junction, Colorado",1982, "Round Mountain, Colorado",1982, "Clifton, Colorado",1973, and "Palisade, Colorado",1968.
3. Obstructions taken from Airport Obstruction Data Sheet (ODS #634) for Grand Junction, Colorado. Surveyed, June, 1983.
4. Refer to the Inner Portion of the Approach Surface Drawing for close in obstructions.

GRAND JUNCTION
REGIONAL AIRPORT
GRAND JUNCTION, COLORADO

Figure F17 | **DEPARTURE SURFACE DRAWING**
Existing & Future Runway 11/29

Barnard Dunkelberg & Company

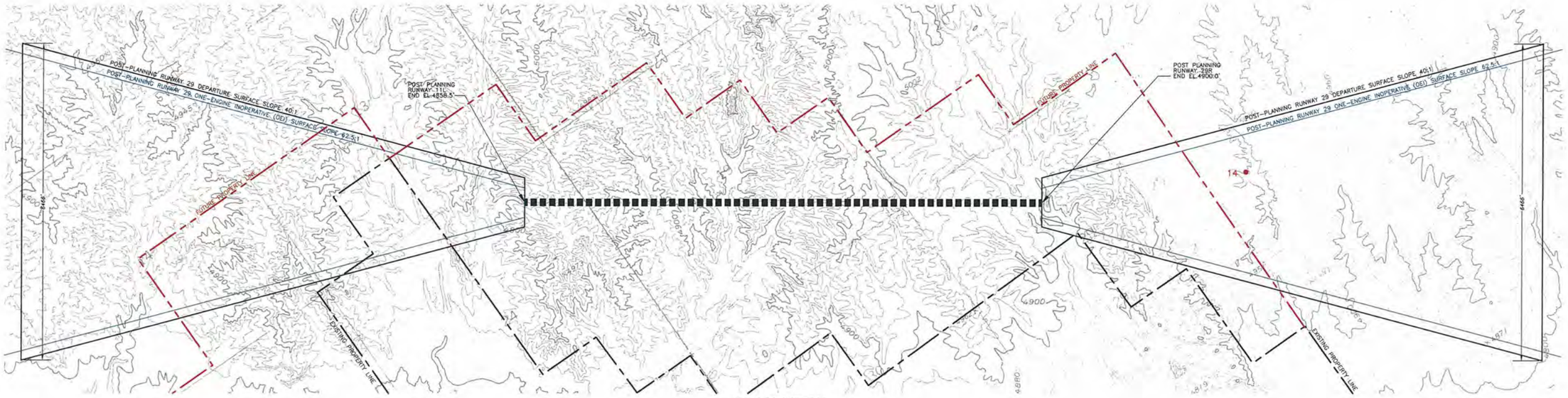
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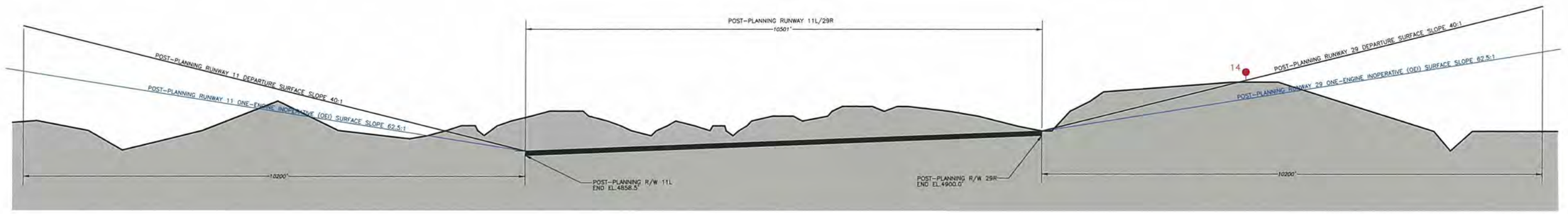
DATE
Nov 2009

SCALE
1" = 2000'

SHEET NO.
F.24



PLAN VIEW
1" = 1000'



PROFILE VIEW
1" = 1000' HORIZONTALLY
1" = 100' VERTICALLY

10°51'E MAG. DEC.
0°7'E ANNUAL CHANGE
1/06/09

Existing Property Line

Future Property Line

REVISIONS	DATE

DEPARTURE SURFACE OBSTRUCTIONS

NO.	OBJECT DESCRIPTION	TOP ELEVATION	PENETRATION	SURFACE PENETRATED	PROPOSED DISPOSITION
14	GROUND	5021.0'	17.4'	RUNWAY 29R DEPARTURE	RE-GRADE

NOTES

1. This drawing reflects planning standards specific to this airport, and is not a product of detailed engineering design analysis. It is not intended to be used for construction documentation or navigation.
2. Topographic information taken from USGS 7.5 Minute Survey Maps, "Ruby Lee Reservoir, Colorado",1968, "Fruita, Colorado",1973, "Corcoran Point, Colorado",1973, "Grand Junction, Colorado",1982, "Round Mountain, Colorado",1982, "Clifton, Colorado",1973, and "Palisade, Colorado",1968.
3. Obstructions taken from Airport Obstruction Data Sheet (005 #634) for Grand Junction, Colorado. Surveyed, June, 1993.
4. Refer to the Inner Portion of the Approach Surface Drawing for close in obstructions.

GRAND JUNCTION
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GRAND JUNCTION, COLORADO

Figure F18 | **DEPARTURE SURFACE DRAWING**
Post Planning Runway 11L/29R

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1743 Wazee Street, Suite 400
Denver, Colorado 80202
303.825.8844

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Nov 2009

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As Noted

SHEET NO.
F.25

Terminal Area Plans

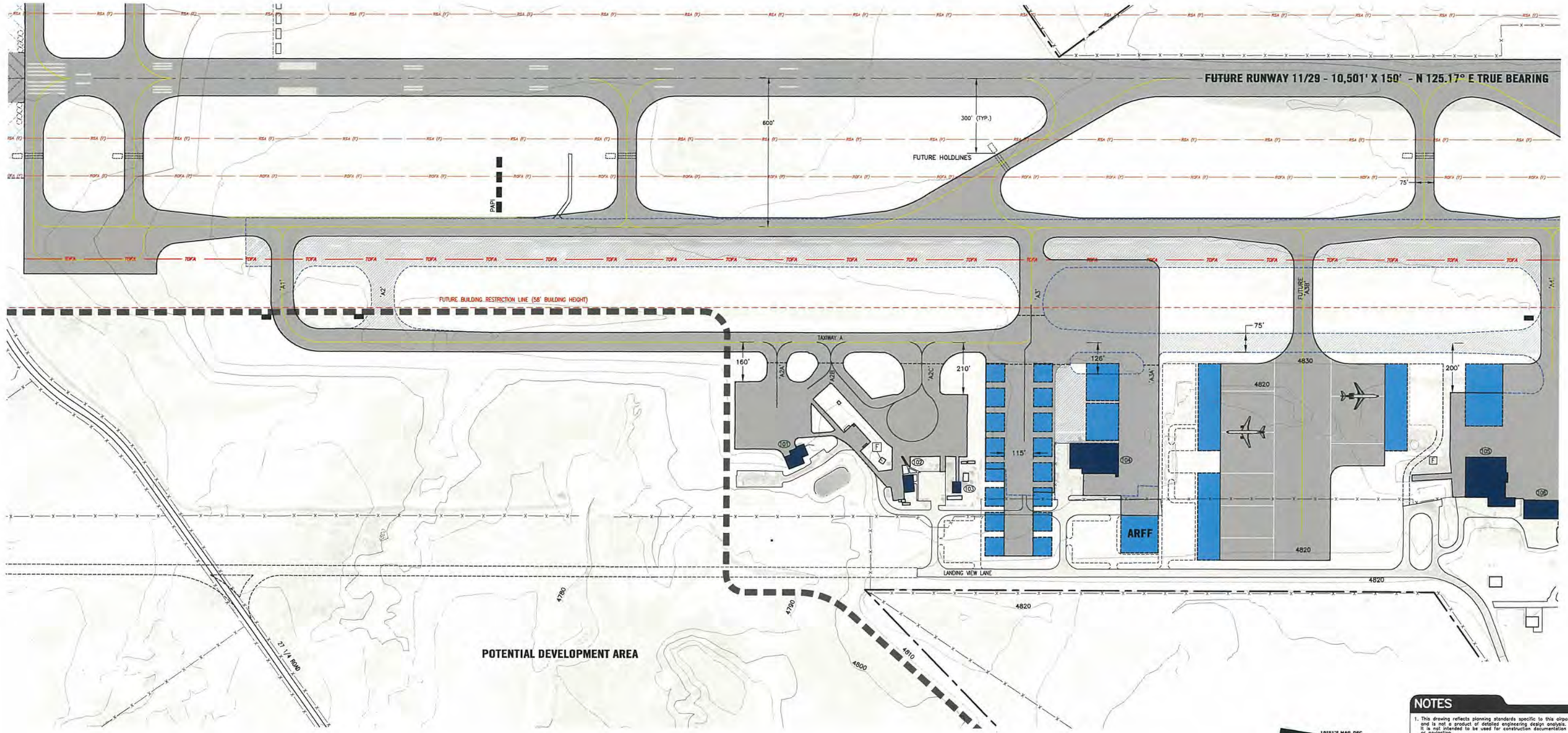
The following illustrations, entitled *TERMINAL AREA PLAN 1*, *TERMINAL AREA PLAN 2*, and *TERMINAL AREA PLAN 3*, present detailed views of the more intensely developed landside use areas on the Airport.

Airport Land Use Plan

The *LAND USE PLAN,* presented in the following figure, depicts existing and recommended use of all land within the ultimate airport property line and in the vicinity of the Airport [including the area contained in the future 65 day/night average sound level (DNL) noise contour]. The purpose of the on-airport portions of the *LAND USE PLAN* is to provide airport management with a guide for leasing revenue-producing areas on the Airport. The off-airport portions of the *LAND USE PLAN* provide guidance to local authorities for establishing appropriate land use zoning in the vicinity of the Airport.

Airport Property Map

The *AIRPORT PROPERTY MAP,* which is presented in the following illustration, indicates how various tracts of land within the airport boundaries were acquired (e.g., federal funds, surplus property, local funds, etc.). The purpose of the *AIRPORT PROPERTY MAP* is to provide information for analyzing the current and future aeronautical use of land acquired with federal funds.



AIRPORT DATA

	EXISTING	FUTURE
LOCATION – COUNTY	MESA	*SAME*
– TOWNSHIP/RANGE	T.1 NORTH/R.1 EAST	*SAME*
AIRPORT ELEVATION (AMSL) NAVD 88	4861.0'	*4900.0'*
AIRPORT REFERENCE POINT (ARP) NAD 83	LAT.39°07'20.69"N LON.108°31'36.25"W	*LAT.39°07'28.13"N LON.108°31'38.75"W*
AIRPORT REFERENCE CODE	D–II(11/29)/B–II(4/22)	*D–IV/SAME*
NPIAS SERVICE LEVEL/ROLE	COMM. SERVICE	*SAME*
MEAN MAX. TEMPERATURE (HOTTEST MONTH)	92.1°F	*SAME*
AIRPORT & TERMINAL NAVAIDS	BEACON R/W 11–MALSR,ILS,GPS,RNR R/W 29–LDA/DME,GPS	*ALL EXISTING PLUS R/W 11/29 – ILS,MLS,RGPS RWY 29 – ILS,GPS,MALSR RWY 11 – RNP/GPS*
CRITICAL AIRCRAFT (11/29)	CRJ–200/B–727–200	*B–757*
WINGSPAN (FEET)	69.6/108	*124.8*
UNDERCARRIAGE WIDTH (FEET)	10.4/19	*24*
APPROACH SPEED	141/138	*135*
MAXIMUM TAKE–OFF WEIGHT (LBS.)	53,000/209,500	*255,000*
CRITICAL AIRCRAFT (4/22)	CITATION 550	*SAME*
WINGSPAN (FEET)	52.2	*SAME*
UNDERCARRIAGE WIDTH (FEET)	12.6	*SAME*
APPROACH SPEED	112	*SAME*
MAXIMUM TAKE–OFF WEIGHT (LBS.)	14,800	*SAME*

BUILDING LEGEND

NO.	DESCRIPTION	TOP ELEV.	NO.	DESCRIPTION	TOP ELEV.
101	BLM GJ Air Center Building #3	4850.0'	300	Rouse Parcel	4845.0'
102	BLM GJ Air Center Building #2	4850.0'	301A–301C	Hangar One Building 2	4842.0'
103	BLM GJ Air Center Building #1	4850.0'	302A–302F	Hangar One Building 1	4841.0'
104	Twin Otter	4855.0'	303A–303D	Gordon Autry Hangar	4845.0'
105	Mesa Airlines Maintenance Hangar	4857.0'	304	Don D LLC	4844.0'
106	Sky Adventures Building and Hangar	4867.0'	305	Plane Storage Tie Downs	4844.0'
200	Terminal Building	4870.0'	306A–306E	Corporate Hangars	4841.0'
201	NWS Building	4851.0'	307A–307J	Charlie One Alpha Hangar	4841.0'
202	Electrical Building	4847.0'	308	Daly Hangar	4844.0'
203	Fed Ex	4857.0'	309A–309D	Commemorative Air Force hangars	4837.0'
204	Fire Bay	4868.0'	310	L. & K. Consulting	4844.0'
205	ATCT①	4926.0'	311	Kempton Hangar	4853.0'
206	West Star 804 Building	4868.0'	312A–312G	Parkerson Brothers Hangar	4845.0'
207	West Star 802 Building	4870.0'	313	Commemorative Air Force Main hangar	4844.0'
208	West Star 800 Building	4862.0'	314	Tri–Star (Bottom Hangar)	4844.0'
209	West Star 796 Building (Main Lobby)	4879.0'	315	R&L Nunnery	4847.0'
210	West Star 790 Building (Challenger Hangar)	4880.0'	316A–316G	Clear Blue Sky, LLC	4848.0'
211	West Star Line Office	4858.0'	317A–317C	Nunnery/Bottom Hangars	4850.0'
213	Herr Hangar	4862.0'	318	WS Flyers	4845.0'
214	Colorado Division of Wildlife Hangar	4846.0'	319	Aero LLC.(Phil Smith)	4846.0'
215	Aero GJT "T" Hangars – Building 3	4850.0'	320	John Beeson	4847.0'
216	Aero GJT "T" Hangars – Building 2	4850.0'	321	Petol LP	4848.0'
217	Aero GJT "T" Hangars –Building 1	4850.0'	322	R&L Nunnery 2	4849.0'
218	Civil Air Patrol	4847.0'	323	R&L Nunnery 1	4850.0'
219	Colorado Skunkworks (Reed Mitchell)	4846.0'	324	Remote Transmitter (to be relocated)	4905.0'
220	West Star Completions	4858.0'	325	Localizer Equipment Building	4872.0'

① – ATCT TO BE RECONSTRUCTED/RELOCATED

DRAWING LEGEND

	EXISTING	FUTURE
AIRPORT PROPERTY LINE		
AIRPORT SECURITY FENCE	X	X
BUILDINGS		
AIRFIELD PAVEMENT		
PAVED ROADS		
RUNWAY PROTECTION ZONE		
BUILDING RESTRICTION LINE		BRL
RUNWAY SAFETY AREA		RSA (F)
RUNWAY OBJECT FREE AREA		ROFA (F)
TAXIWAY OBJECT FREE AREA		TOFA
PRECISION OBJECT FREE AREA		
FUEL STORAGE AREA	F	
AIRPORT BEACON		
LIGHTED WIND CONE		
PRECISION APPROACH PATH INDICATOR (PAPI)		
HOLDLINES & SIGNS		
VISUAL APPROACH SLOPE INDICATOR (VASI)		
REILS		

REVISIONS

	DATE

10°51'E MAG. DEC. 0°2'E ANNUAL CHANGE 2/06/09

0 100' 200' 400' 600'

GRAPHIC SCALE IN FEET

NOTES

1. This drawing reflects planning standards specific to this airport, and is not a product of detailed engineering design analysis. It is not intended to be used for construction documentation or navigation.
2. No obstacle free zone (OFZ) penetrations.
3. No threshold siting surface (TSS) penetrations.
4. The preparation of this plan was financed in part through a planning grant from the Federal Aviation Administration as provided under Section 505 of the Airport and Airway Improvement Act of 1982, as amended. The contents do not necessarily reflect the official views or policy of the FAA. Acceptance of this plan by the FAA does not in any way constitute a commitment on the part of the United States to participate in any development depicted therein nor does it indicate that the proposed development is environmentally acceptable in accordance with appropriate public laws.
5. The existing fence line is based on Mapping Survey Data from CarterBurgess Aviation Services, dated 10/16/2008. Future perimeter fencing improvements are planned in 2009 and 2011.

GRAND JUNCTION REGIONAL AIRPORT
GRAND JUNCTION, COLORADO

Figure F19 | **TERMINAL AREA PLAN 1**

Barnard Dunkelberg & Company

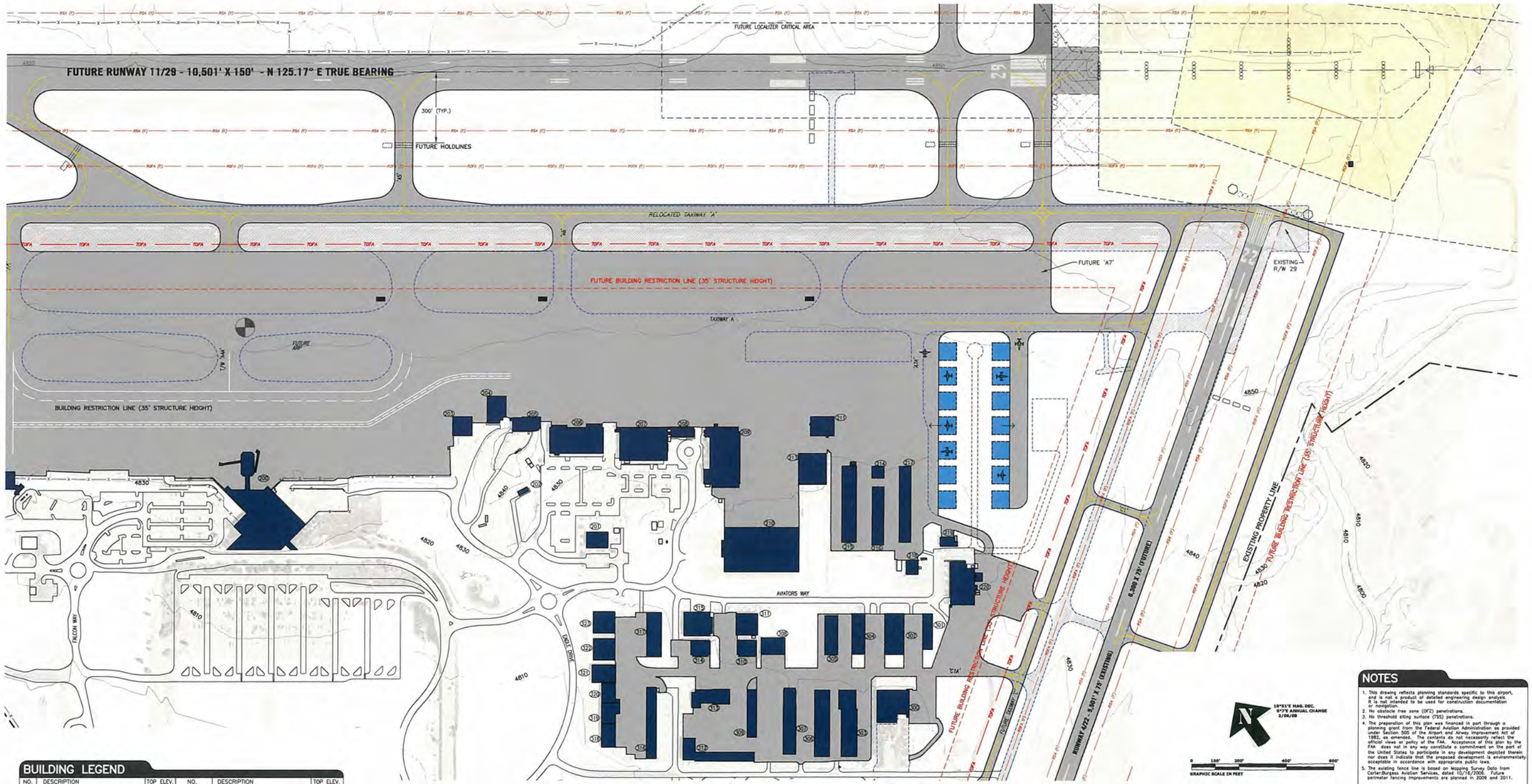
TULSA
1616 East 15th Street
Tulsa, Oklahoma 74120
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DENVER
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Denver, Colorado 80202
303.825.8844

DATE
Nov 2009

SCALE
1" = 200'

SHEET NO.
F.27



BUILDING LEGEND

NO.	DESCRIPTION	TOP ELEV.	NO.	DESCRIPTION	TOP ELEV.
101	BLM GJ Air Center Building #3	4850.0'	300	Rouse Parcel	4845.0'
102	BLM GJ Air Center Building #2	4850.0'	301A–301C	Hangar One Building 2	4842.0'
103	BLM GJ Air Center Building #1	4850.0'	302A–302F	Hangar One Building 1	4841.0'
104	Twin Otter	4855.0'	303A–303D	Gordon Autry Hangar	4845.0'
105	Meso Airlines Maintenance Hangar	4857.0'	304	Don D LLC	4844.0'
106	Sky Adventures Building and Hangar	4867.0'	305	Plane Storage Tie Downs	4844.0'
200	Terminal Building	4870.0'	306A–306E	Corporate Hangars	4841.0'
201	NWS Building	4851.0'	307A–307J	Charlie One Alpha Hangar	4841.0'
202	Electrical Building	4847.0'	308	Daly Hangar	4844.0'
203	Fed Ex	4857.0'	309A–309D	Commemorative Air Force hangars	4837.0'
204	Fire Bay	4868.0'	310	L & K Consulting	4844.0'
205	ATCT①	4926.0'	311	Kempton Hangar	4853.0'
206	West Star 804 Building	4868.0'	312A–312G	Parkerson Brothers Hangar	4845.0'
207	West Star 802 Building	4870.0'	313	Commemorative Air Force Main hangar	4844.0'
208	West Star 800 Building	4862.0'	314	Tri-Star (Bottom Hangar)	4844.0'
209	West Star 796 Building (Main Lobby)	4879.0'	315	R&L Nunnery	4847.0'
210	West Star 790 Building (Challenger Hangar)	4880.0'	316A–316G	Clear Blue Sky, LLC	4848.0'
211	West Star Line Office	4858.0'	317A–317C	Nunnery/Bottom Hangars	4850.0'
213	Herr Hangar	4862.0'	318	WS Flyers	4845.0'
214	Colorado Division of Wildlife Hangar	4846.0'	319	Aero LLC (Phil Smith)	4846.0'
215	Aero GJT "T" Hangars – Building 3	4850.0'	320	John Beeson	4847.0'
216	Aero GJT "T" Hangars – Building 2	4850.0'	321	Petal LP	4848.0'
217	Aero GJT "T" Hangars –Building 1	4850.0'	322	R&L Nunnery 2	4849.0'
218	Civil Air Patrol	4847.0'	323	R&L Nunnery 1	4850.0'
219	Colorado Skunkworks (Reed Mitchell)	4846.0'	324	Remote Transmitter (to be relocated)	4905.0'
220	West Star Completions	4858.0'	325	Localizer Equipment Building	4872.0'

① – ATCT TO BE RECONSTRUCTED/RELOCATED

AIRPORT DATA

	EXISTING	FUTURE
LOCATION – COUNTY	MESA	*SAME*
– TOWNSHIP/RANGE	T.1 NORTH/R.1 EAST	*SAME*
AIRPORT ELEVATION (AMSL) NAVD 88	4861.0'	*4900.0'*
AIRPORT REFERENCE POINT (ARP) NAD 83	LAT.39°07'20.69"N LON.108°31'36.25"W	*LAT.39°07'28.13"N LON.108°31'38.75"W*
AIRPORT REFERENCE CODE	D–III(11/29)/B–II(4/22)	*D–IV/SAME*
NPIAS SERVICE LEVEL/ROLE	COMM. SERVICE	*SAME*
MEAN MAX. TEMPERATURE (HOTTEST MONTH)	92.1°F	*SAME*
AIRPORT & TERMINAL NAVAIDS	BEACON R/W 11–MALSR,ILS,GPS,RNP, R/W 29–LDA/DME,GPS	*ALL EXISTING PLUS R/W 11/29R – ILS,MALSR,GPS RWY 29 – ILS,GPS,MALSR RWY 11 – RNAV,GPS*
CRITICAL AIRCRAFT (11/29)	CRJ–200/B–727–200	*B–757*
WINGSPAN (FEET)	69.6/108	*124.8*
UNDERCARRIAGE WIDTH (FEET)	10.4/19	*24*
APPROACH SPEED	141/138	*135*
MAXIMUM TAKE–OFF WEIGHT (LBS.)	53,000/209,500	*255,000*
CRITICAL AIRCRAFT (4/22)	CITATION 550	*SAME*
WINGSPAN (FEET)	52.2	*SAME*
UNDERCARRIAGE WIDTH (FEET)	12.6	*SAME*
APPROACH SPEED	112	*SAME*
MAXIMUM TAKE–OFF WEIGHT (LBS.)	14,800	*SAME*

DRAWING LEGEND

	EXISTING	FUTURE
AIRPORT PROPERTY LINE		
AIRPORT SECURITY FENCE		
BUILDINGS		
AIRFIELD PAVEMENT		
PAVED ROADS		
RUNWAY PROTECTION ZONE		
BUILDING RESTRICTION LINE		
RUNWAY SAFETY AREA		RSA (F)
RUNWAY OBJECT FREE AREA		ROFA (F)
TAXIWAY OBJECT FREE AREA		TOFA
PRECISION OBJECT FREE AREA		POFA
FUEL STORAGE AREA	F	
AIRPORT BEACON		
LIGHTED WIND CONE		
PRECISION APPROACH PATH INDICATOR (PAPI)		
HOLDLINES & SIGNS		
VISUAL APPROACH SLOPE INDICATOR (VASI)		
REILS		

NOTES

1. This drawing reflects planning standards specific to this airport, and is not a product of detailed engineering design analysis, nor is intended to be used for construction documentation or bidding.
2. No obstacle free zone (OFZ) penetrations.
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5. The existing fence line is based on Mapping Survey Data from Certer:Burgess Aviation Services, dated 10/16/2006. Future perimeter fencing improvements are planned in 2009 and 2011.

REVISIONS

	DATE

GRAND JUNCTION REGIONAL AIRPORT
GRAND JUNCTION, COLORADO

Figure F20 | **TERMINAL AREA PLAN 2**

Barnard Dunkelberg & Company

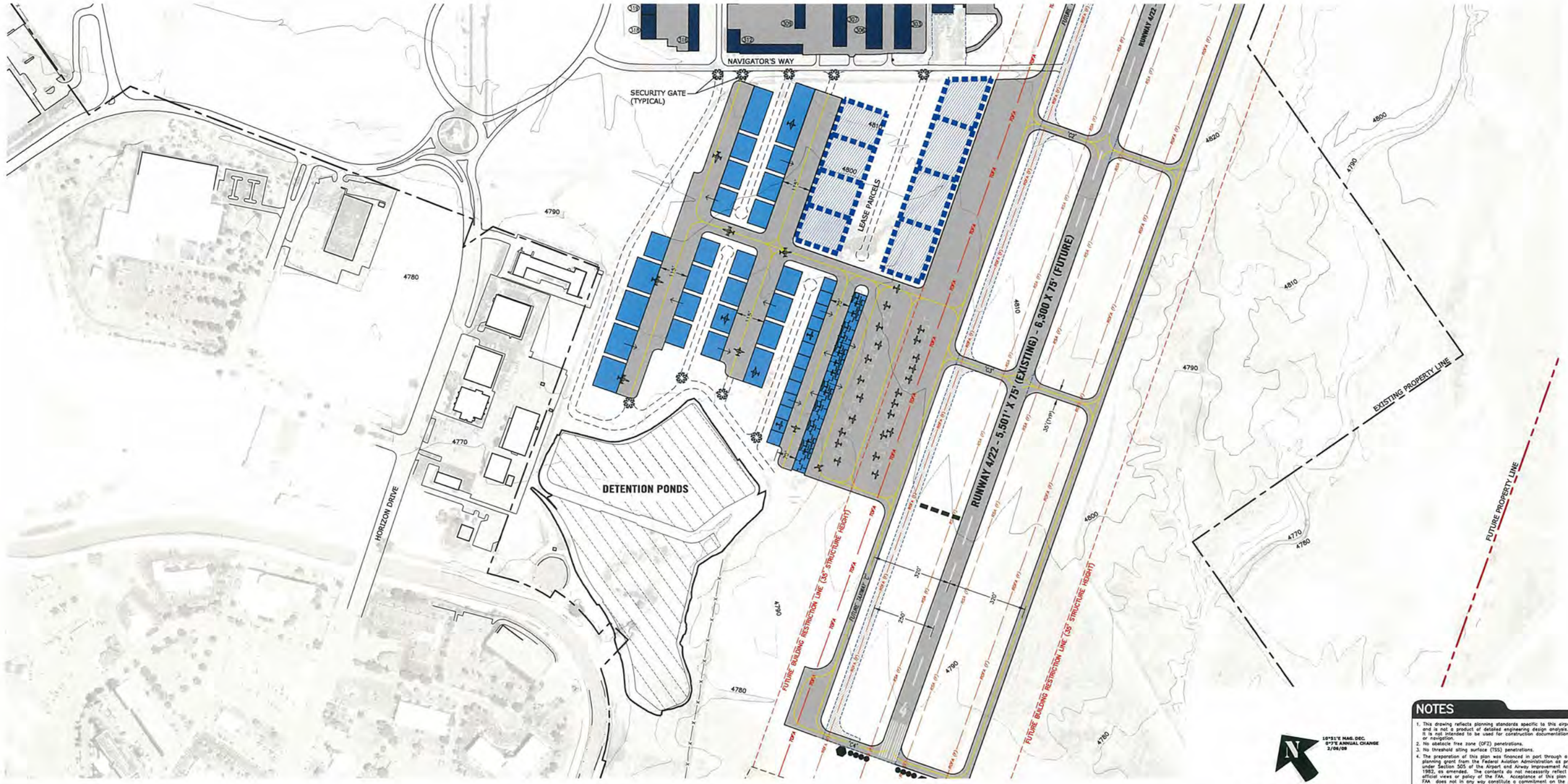
TULSA
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Tulsa, Oklahoma 74120
918.585.8844

DENVER
1743 Wazee Street, Suite 400
Denver, Colorado 80202
303.825.8844

DATE
Nov 2009

SCALE
1" = 200'

SHEET NO.
F.28



NOTES

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5. The existing fence line is based on Mapping Survey Data from Corker:Burgess Aviation Services, dated 10/16/2006. Future perimeter fencing improvements are planned in 2009 and 2011.

AIRPORT DATA

	EXISTING	FUTURE
LOCATION – COUNTY	MESA	SAME
– TOWNSHIP/RANGE	T.1 NORTH/R.1 EAST	SAME
AIRPORT ELEVATION (AMSL) NAVD 88	4861.0'	4900.0'
AIRPORT REFERENCE POINT (ARP) NAD 83	LAT.39°07'20.69"N LON.108°31'36.25"W	LAT.39°07'28.13"N LON.108°31'38.75"W
AIRPORT REFERENCE CODE	D-III(11/29)/B-II(4/22)	D-IV/SAME
NPIAS SERVICE LEVEL/ROLE	COMM. SERVICE	SAME
MEAN MAX. TEMPERATURE (HOTTEST MONTH)	92.1°F	SAME
AIRPORT & TERMINAL NAVAIDS	BEACON R/W 11-VALSR/LS,GPS,RVR R/W 29-LDA/DME,GPS	ALL EXISTING PLUS R/W 11/29H – ILS/MLS/GPS RWY 29 – ILS/GPS/MLS/R RWY 11 – RNAV/GPS
CRITICAL AIRCRAFT (11/29)	CRJ-200/B-727-200	B-757
WINGSPAN (FEET)	69.6/108	124.8
UNDERCARRIAGE WIDTH (FEET)	10.4/19	24
APPROACH SPEED	141/138	135
MAXIMUM TAKE-OFF WEIGHT (LBS.)	53,000/209,500	255,000
CRITICAL AIRCRAFT (4/22)	CITATION 550	SAME
WINGSPAN (FEET)	52.2	SAME
UNDERCARRIAGE WIDTH (FEET)	12.6	SAME
APPROACH SPEED	112	SAME
MAXIMUM TAKE-OFF WEIGHT (LBS.)	14,800	SAME

BUILDING LEGEND

NO.	DESCRIPTION	TOP ELEV.	NO.	DESCRIPTION	TOP ELEV.
101	BLM GJ Air Center Building #3	4850.0'	300	Rouse Parcel	4845.0'
102	BLM GJ Air Center Building #2	4850.0'	301A–301C	Hangar One Building 2	4842.0'
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104	Twin Otter	4855.0'	303A–303D	Gordon Autry Hangar	4845.0'
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202	Electrical Building	4847.0'	308	Daly Hangar	4844.0'
203	Fed Ex	4857.0'	309A–309D	Commemorative Air Force hangars	4837.0'
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205	ATCT ①	4926.0'	311	Kempton Hangar	4853.0'
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210	West Star 780 Building (Challenger Hangar)	4880.0'	316A–316G	Clear Blue Sky, LLC	4848.0'
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213	Herr Hangar	4862.0'	318	WS Flyers	4845.0'
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215	Aero GJT "I" Hangars – Building 3	4850.0'	320	John Beeson	4847.0'
216	Aero GJT "I" Hangars – Building 2	4850.0'	321	Petal LP	4848.0'
217	Aero GJT "I" Hangars –Building 1	4850.0'	322	R&L Nunnery 2	4849.0'
218	Civil Air Patrol	4847.0'	323	R&L Nunnery 1	4850.0'
219	Colorado Skunkworks (Reed Mitchell)	4846.0'	324	Remote Transmitter (to be relocated)	4905.0'
220	West Star Completions	4858.0'	325	Localizer Equipment Building	4872.0'

① – ATCT TO BE RECONSTRUCTED/RELOCATED

DRAWING LEGEND

	EXISTING	FUTURE
AIRPORT PROPERTY LINE		
AIRPORT SECURITY FENCE	X	X
BUILDINGS		
AIRFIELD PAVEMENT		
PAVED ROADS		
RUNWAY PROTECTION ZONE		
BUILDING RESTRICTION LINE		BRL
RUNWAY SAFETY AREA		RSA (F)
RUNWAY OBJECT FREE AREA		ROFA (F)
TAXIWAY OBJECT FREE AREA		TOFA
PRECISION OBJECT FREE AREA		
FUEL STORAGE AREA	F	
AIRPORT BEACON		
LIGHTED WIND CONE		
PRECISION APPROACH PATH INDICATOR (PAPI)		
HOLDLINES & SIGNS		
VISUAL APPROACH SLOPE INDICATOR (VASI)		
REILS		

REVISIONS

	DATE

GRAND JUNCTION
REGIONAL AIRPORT
GRAND JUNCTION, COLORADO

Figure F21 | **TERMINAL AREA PLAN 3**

Barnard Dunkelberg & Company

TULSA
1616 East 15th Street
Tulsa, Oklahoma 74120
918.585.8844

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1743 Wazee Street, Suite 400
Denver, Colorado 80202
303.825.8844

DATE
Nov 2009

SCALE
1" = 200'

SHEET NO.
F.29

REVISIONS	DATE

10°51'E MAG. DEC.
0°7'E ANNUAL CHANGE
2/06/09

0 400' 800' 1600' 2400'
GRAPHIC SCALE IN FEET

Area of Influence

Critical Zone

65 DNL

65 DNL

Critical Zone

Critical Zone

Area of Influence

PARK

GOLF COURSE

CHURCH

ENVIRONS OVERLAY ZONING

Area of Influence
AN AREA SURROUNDING THE AIRPORT IMPACTED OR INFLUENCED BY PROXIMITY OF THE AIRPORT EITHER BY AIRCRAFT OVERFLIGHT, NOISE AND/OR VIBRATIONS.

Clear Zone
AREA MATCHING THE DIMENSIONS OF THE RUNWAY PROTECTION ZONE (RPZ) AS SHOWN ON THE AIRPORT LAYOUT PLAN.

Critical Zone
AREA LOCATED DIRECTLY OFF THE END OF EACH RUNWAY'S PRIMARY SURFACE (OR 200 FEET FROM THE END OF THE PAVEMENT) WHICH IS CRITICAL TO AIRCRAFT OPERATIONS.

Noise Zone
AREA WITHIN THE 65 DNL NOISE EXPOSURE CONTOUR.

SOURCE: CITY OF GRAND JUNCTION ZONING AND DEVELOPMENT CODE ADOPTED PURSUANT TO ORDINANCE NO. 3240.

DRAWING LEGEND

	EXISTING	FUTURE
AIRPORT PROPERTY LINE		
AIRPORT SECURITY FENCE		
BUILDINGS		
AIRFIELD PAVEMENT		
PAVED ROADS		
AVIGATION EASEMENT		
RUNWAY PROTECTION ZONE		
BUILDING RESTRICTION LINE	BRL	(BRL)
RUNWAY SAFETY AREA	RSA	RSA (F)
RUNWAY OBJECT FREE AREA	ROFA	ROFA (F)
TAXIWAY OBJECT FREE AREA		
PRECISION OBJECT FREE AREA		
FUEL STORAGE AREA		
AIRPORT BEACON		
LIGHTED WIND CONE		
PRECISION APPROACH PATH INDICATOR (PAPI)		
HOLDLINES & SIGNS		
VISUAL APPROACH SLOPE INDICATOR (VASI)		
REILS		

NOTE: PRIOR TO THE OPENING OF THE RELOCATED RUNWAY 11/29, CURRENTLY PROGRAMMED FOR 2019, THE GRAND JUNCTION REGIONAL AIRPORT WILL WORK WITH THE CITY OF GRAND JUNCTION TO REVISE THE AIRPORT ENVIRONS OVERLAY ZONES.

GENERALIZED OFF-AIRPORT LAND USE

- Residential
- Business/Commercial
- Public Facilities

GENERALIZED OFF-AIRPORT LAND USE

- Industrial
- Agriculture/Open Space
- Mixed Use

ON-AIRPORT LAND USE

- Airport Operations Area
- Runway Protection Zone
- Air Carrier Development Area

ON-AIRPORT LAND USE

- Potential Air Cargo Development Area
- Aviation Related Development Area
- Non-Aviation Related Development Area

GRAND JUNCTION REGIONAL AIRPORT
GRAND JUNCTION, COLORADO

Figure F22 | **LAND USE PLAN**

Barnard Dunkelberg & Company

TULSA
1616 East 15th Street
Tulsa, Oklahoma 74120
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DENVER
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Denver, Colorado 80202
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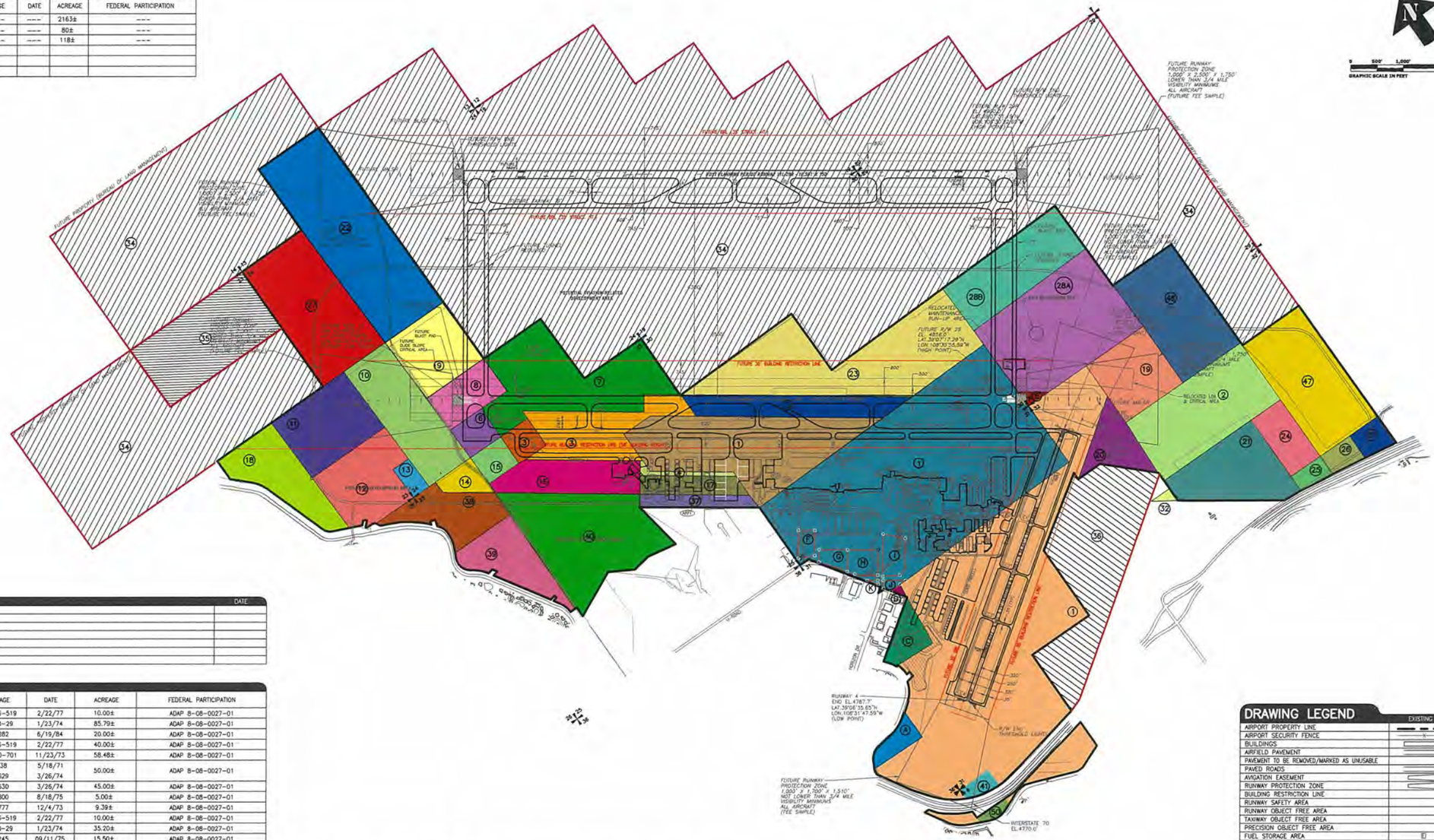
DATE
Nov 2009

SCALE
1" = 1,000'

SHEET NO.
F.30

FUTURE PROPERTY INFORMATION

PARCEL	TRACT	INTEREST (OWNER)	BOOK	PAGE	DATE	ACREAGE	FEDERAL PARTICIPATION
34	---	FUTURE FEE (BLM)	---	---	---	2163±	---
35	---	FUTURE FEE (PRIVATE)	---	---	---	80±	---
36	---	FUTURE FEE (PRIVATE)	---	---	---	118±	---



REVISIONS

	DATE

PROPERTY INFORMATION

PARCEL	TRACT	INTEREST (OWNER)	BOOK	PAGE	DATE	ACREAGE	FEDERAL PARTICIPATION
1	---	FEE (WFAA)	1096	516-519	2/22/77	321.04±	ADAP 8-08-0027-01
2	---	FEE (WFAA)	1009	28-29	1/23/74	85.79±	ADAP 8-08-0027-01
3	---	FEE (WFAA)	1501	282	6/19/84	20.00±	ADAP 8-08-0027-01
9	---	FEE (WFAA)	1096	516-519	2/22/77	40.00±	ADAP 8-08-0027-01
10	---	FEE (WFAA)	1005	700-701	11/23/73	58.48±	ADAP 8-08-0027-01
5		FEE (WFAA)	959 1013	38 629	5/18/71 3/26/74	50.00±	ADAP 8-08-0027-01
12	---	FEE (WFAA) (16)	1013	630	3/26/74	45.00±	ADAP 8-08-0027-01
13	---	FEE (WFAA)	1048	800	8/18/75	5.00±	ADAP 8-08-0027-01
14	---	FEE (WFAA)	1006	777	12/4/73	9.39±	ADAP 8-08-0027-01
15	---	FEE (WFAA)	1096	516-519	2/22/77	10.00±	ADAP 8-08-0027-01
16	---	FEE (WFAA)	1009	28-29	1/23/74	35.20±	ADAP 8-08-0027-01
17	---	FEE (WFAA)	1039	245	09/11/75	15.50±	ADAP 8-08-0027-01
18	---	FEE (WFAA) (16)	1702	503-504	7/20/88	48.40±	AIP 3-08-0027-05
19	---	FEE (WFAA)	1688	447-448	4/13/88	39.89±	AIP 3-08-0027-05
20	---	FEE (WFAA)	1688	447-448	4/13/88	23.05±	AIP 3-08-0027-05
21	---	FEE (WFAA)	1747	137	6/5/89	53.15±	AIP 3-08-0027-06
22	---	FEE (WFAA)	1501	280	6/19/84	120.00±	SPONSOR ACQUIRED (6)
23	---	FEE (WFAA)	1682	962	3/2/88	126.00±	AIP 3-08-0027-06
24	---	FEE (WFAA)	1703	815	7/22/88	20.12±	AIP 3-08-0027-06
25	---	FEE (WFAA)	1687	741	4/8/88	6.05±	AIP 3-08-0027-06
26	---	FEE (WFAA)	1728	767	1/25/89	7.53±	AIP 3-08-0027-06
27	---	FEE (WFAA)	2402	145	2/2/98	80.00±	SPONSOR ACQUIRED (6)
28A	---	FEE (WFAA)	1688	447-448	4/13/88	105.95±	AIP 3-08-0027-05
28B	---	FEE (WFAA)	1688	447-448	4/13/88	52.98±	AIP 3-08-0027-05
	1	FEE (WFAA)	1703	815	7/22/88	9.20±	SPONSOR ACQUIRED (6)
32	---	AVIGATION EASEMENT	---	---	11/21/89	3.82±	SPONSOR ACQUIRED (6)
37	---	FEE (WFAA)	3494	998	9/29/03	15.31±	AIP 3-08-0027-28
38	---	FEE (WFAA) (15) (16)	1826	923	3/6/91	18.50±	SPONSOR ACQUIRED (6)
39	---	FEE (WFAA) (16)	1920	527	8/7/92	15.91±	SPONSOR ACQUIRED (6)
40	---	FEE (WFAA)	2050	421-422	2/17/94	96.5±	SPONSOR ACQUIRED (6)
41	---	FEE (WFAA)	4063	363-365	12/22/05	4.759±	SPONSOR ACQUIRED (6)
42	---	FEE	4367	319	03/04/07	70±	SPONSOR ACQUIRED (6)
47	---	FEE (WFAA)	4753	901	11/17/08	80±	SPONSOR ACQUIRED (6)
50	---	FEE (WFAA)	4723	433	09/04/08	2.76±	SPONSOR ACQUIRED (6)
A	---	FEE (CITY/COUNTY)	972	901	1/19/70	6.91±	--- (3)
B	---	FEE (WFAA)	972 1096	901 516-519	1/19/70 2/22/77	13.65±	--- (3)
C	---	FEE (WFAA)	972 1096	901 516-519	1/19/70 2/22/77	1.10±	--- (3)

PROPERTY INFORMATION

PARCEL	TRACT	INTEREST (OWNER)	BOOK	PAGE	DATE	ACREAGE	FEDERAL PARTICIPATION
1	1	FEE (WFAA)	1096 (18)	516-519	2/22/77	321.04±	FED. APT. ACT. SEC. 16 (17)
2	2	FEE (WFAA)	402 399 1096	B 482-483 516-519	8/15/41 9/17/41 2/22/77	112.08±	--- (2)
3	3	FEE (WFAA)	375 325 325 313 357 315 373 399 1096	294 143 78 214 235 90 49 145 482-483 516-519	10/31/38 5/19/30 5/12/30 3/7/30 4/21/30 9/5/35 9/14/38 7/15/38 9/17/41 2/22/77	415.00±	--- (2)
2	1	FEE (WFAA) (9,10,&11)	1096	516-519	2/22/77	102.44±	9-05-004-5802
	1	FEE (WFAA)	778 1096	290 516-519	4/20/60 2/22/77	37.95±	9-05-004-5802
3	2	FEE (WFAA)	778 1096	289-290 516-519	4/20/60 2/22/77	112.08±	9-05-004-5802
3	3	FEE (WFAA)	1096	516-519	2/22/77	10.00±	9-05-004-5802
4	---	FEE (WFAA)	778 1096	289 516-519	4/20/60 2/22/77	2.18±	9-05-004-5802
	---	FEE (WFAA)	778 1096	289 516-519	4/20/60 2/22/77	1.08±	9-05-004-5802

PROPERTY INFORMATION FOOTNOTES

1. INFORMATION OBTAINED FROM MESA COUNTY CLERK AND RECORDER'S OFFICE.
2. PROPERTY OWNED BY CITY OF GRAND JUNCTION AT TIME OF FAAP-01.
3. PARCELS B AND E TRADED FOR PARCELS A, C, AND D.
4. PARCEL B (3.00 +/- ACRES) REMOVED FROM PARCEL 1 TRACT 3.
5. PARCEL E (18.59 +/- ACRES) REMOVED FROM PARCEL 1 TRACT 1.
6. NO FEDERAL PARTICIPATION.
7. NO PROPERTY ACQUIRED UNDER THE SURPLUS PROPERTY ACT.
8. PARCEL 1 TRACT 2, PARCEL 1 TRACT 3, A PORTION OF PARCEL 2, PARCEL 3 TRACT 1, PARCEL 3 TRACT 2, PARCEL 3 TRACT 3, PARCEL 4, PARCEL 6 TRANSFERRED FROM OWNERSHIP BY CITY OF GRAND JUNCTION AND COUNTY OF MESA TO WALKER FIELD, COLORADO, PUBLIC AIRPORT AUTHORITY IN BOOK 1096, PAGES 516-519.
9. EASEMENTS IN PARCEL 2 SUBSEQUENTLY ACQUIRED IN FEE AS PORTIONS OF PARCELS 19, 20 & 21.
10. EASEMENTS IN PARCEL 2 SUBSEQUENTLY ACQUIRED IN FEE AS PORTIONS OF PARCELS 19, 20 & 21.
11. EASEMENTS IN PARCEL 2 SUBSEQUENTLY ACQUIRED IN FEE AS PORTIONS OF PARCELS 19, 20 & 21.
12. PARCELS F, G, H, I, J, AND K ARE PART OF PARCEL 1 TRACT 1. PARCELS F, G, I, J, AND K WERE RELEASED FROM REQUIRED AERONAUTICAL USE ON 2/1/79.
13. PARCELS A AND C EXCLUDE ROAD AS DESCRIBED IN BOOK 714 PAGE 521.
14. PARCEL 1 TRACT 3 EXCLUDES 3.00 ACRES DESCRIBED IN BOOK 962 PAGE 720.
15. PARCEL 38 EXCLUDES TRACT OF LAND CONVEYED TO COLORADO-UTE ELECTRIC ASSOCIATION, INC. AS DESCRIBED IN BOOK 795 PAGE 28 AND A TRACT OF LAND CONVEYED TO GRAND VALLEY RURAL POWER LINES, INC. AS DESCRIBED IN BOOK 746 PAGE 278.
16. PARCEL 1 TRACT 3, 18, 12, 35 AND 39 EITHER BORDER THE RIGHT-OF-WAY OF THE GOVERNMENT HIGHLINE CANAL OR ARE OFFSET FROM IT.
17. FED. APT. ACT IS FEDERAL AIRPORT ACT OF 1946.
18. PER PREVIOUSLY APPROVED EXHIBIT A, DATED 5/28/97.

DRAWING LEGEND

	EXISTING	FUTURE
AIRPORT PROPERTY LINE		
AIRPORT SECURITY FENCE		
BUILDINGS		
AIRFIELD PAVEMENT		
PAVEMENT TO BE REMOVED/MARKED AS UNUSABLE		
PAVED ROADS		
AVIGATION EASEMENT		
RUNWAY PROTECTION ZONE		
BUILDING RESTRICTION LINE		(BRL)
RUNWAY SAFETY AREA		RSA (F)
RUNWAY OBJECT FREE AREA		ROFA (F)
TAXIWAY OBJECT FREE AREA		
PRECISION OBJECT FREE AREA		
FUEL STORAGE AREA	F	
AIRPORT BEACON		
LIGHTED WIND CONE		
PRECISION APPROACH PATH INDICATOR (PAPI)		
HOLDLINES & SIGNS		
VISUAL APPROACH SLOPE INDICATOR (VASI)		
REILS		

GRAND JUNCTION
REGIONAL AIRPORT
GRAND JUNCTION, COLORADO

Figure F23 | **AIRPORT PROPERTY MAP**

Barnard Dunkelberg & Company

TULSA
1616 East 15th Street
Tulsa, Oklahoma 74120
918.585.8844

DENVER
1743 Wazee Street, Suite 400
Denver, Colorado 80202
303.825.8844

DATE
Nov 2009

SCALE
1" = 1,000'

SHEET NO.
F.31

Development

G. Development Program

MASTER PLAN UPDATE

GRAND JUNCTION

REGIONAL AIRPORT

G. Development Program

The long-term development program or Capital Improvement Program (CIP) for Grand Junction Regional Airport is intended to establish a strategy to fund airport improvements and maximize the potential to receive federal and state grant funds, while also establishing a financially prudent plan for improvement funding on a local level. This programming effort is a critical component of the Master Plan Update for the Federal Aviation Administration (FAA), the Colorado Division of Aeronautics, and the local sponsor (Grand Junction Regional Airport Authority). From the FAA's perspective, the CIP provides a detailed listing of projects and costs that is critical for their use in establishing priorities and budgeting expenditures at this airport, when compared with the needs of other airports. From the local sponsor's perspective, the CIP identifies improvement needs and allows budgeting/financial decisions to be made with a comprehensive understanding of financial implications. The overall concept is to maximize the opportunities to receive federal and state grants, within the context of, and in recognition of, the amount of local funds that are available for capital needs. Although the CIP will be used for programming by the FAA, there is no financial commitment for the Federal Government or the sponsor to provide funding for the CIP. If federal matching funds are unavailable for a certain project during the specified time frame, the project will almost certainly be unaffordable using only local money, and, the improvement project will not go forward until appropriate funding is available. The basic structure of the Development Program/CIP is established in this chapter, with a detailed financial analysis being provided in the next chapter (entitled *Financial Implementation Plan*).

The potential improvements necessary to accommodate the future needs of Grand Junction Regional Airport have been placed into three phases: Phase I (0-5 years), Phase II (6-10 years), and Phase III (11-20 years). The suggested program for the phasing of these projects is provided in Tables G1 and G2. The proposed improvements are illustrated graphically by time period on the Phasing Plans (see Figures G1through G3).

Implementation Schedule and Project List

Using the documentation previously presented regarding anticipated facility demands, along with preliminary engineering analysis focusing on short-term pavement rehabilitation needs and medium-term new runway needs, a list of capital improvement projects has been assembled. The projects for the first five years are listed in priority order by year. In the second and third phases (years 6-20), the projects are listed without year designators. Grand Junction Regional Airport's proposed phased Capital Improvement Program, entitled *DEVELOPMENT PROGRAM PROJECT COSTS*, is presented as Tables G1 and G2 in this chapter. It is anticipated that the project phasing will invariably be altered as local and federal priorities evolve over the coming months and years.

The details of the Development Program (including a capital improvement project list, project cost estimates, a finalized phasing list, and a financial feasibility analysis) have been formulated in consideration of comments received from airport staff, the FAA, and the Study Committee.

Cost Estimates

Cost estimates for individual projects, based on current construction unit costs, have been prepared for the improvement projects that have been identified as potentially being needed during the 20-year planning period. Some of the improvement costs listed have been escalated to include an inflation factor. Other project costs, particularly those involving Airport Improvement Program matching funds, have not been escalated. These estimates are intended to be used for planning purposes only and should not be construed as construction cost estimates, which can only be compiled following the preparation of detailed engineering design documents.

Table G1

PHASE I (0-5 YEARS) DEVELOPMENT PROGRAM PROJECT COSTS

	Project Description	Total Costs	Recommended Financing Method						
			Federal Ent (a	Federal Disc (b	PFC (c	CFC (d	State (e	Local (f	Other (g
2009 Projects									
1	Reconstruct Rental Car Parking Lot	$4,140,000				$4,140,000			
2	Architectural Fees (various projects)	$207,000						$207,000	
3	South Round-About Signage & Landscaping	$258750						$258,750	
4	29 Road Land Purchase (future airport development)	$310,500						$310,000	
5	Air Cargo Apron Phase II – Utilities	$544,737	$517,500				$13,618	$13,618	
6	Reconstruct Air Carrier Apron (Amend AIP 34)	$366,607	$348,277				$9,165	$9,165	
7	General Aviation Ramp Rehabilitation – Phase I (ASR)	$8,280,000		$8,280,000					
8	General Aviation Ramp Rehabilitation – Phase II (ASR)	$4,357,894		$4,357,894					
9	Construct Perimeter Fence – Phase I	$3,268,421		$3,268,421					
10	Fog Seal – Air Carrier Ramp, Runway 4/22, Taxiways A, C & C1A	$359,527					$227,216	$132,311	
	Sub-Total/2009 Projects	**$22,093,437**	**$865,777**	**$15,906,315**	**$0**	**$4,140,000**	**$250,000**	**$931,344**	**$0**
2010 Projects									
11	Air Carrier Ramp Phase II (ASR)	$5,638,026	$2,684,538	$2,671,587			$140,951	$140,951	
12	EA – ATCT	$187,464							$187,464
13	EA Rwy 11/29 & 27 ¼ Road	$1,124,786		$1,068,547			$28,120	$28,120	
14	Architectural Fees (various projects)	$267,806						$267,806	
15	BLM Land Transfer Cost – Phase II (future airport development)	$535,613					$80,930	$454,683	
	Sub-Total/2010 Projects	**$7,753,696**	**$2,684,538**	**$3,740,134**	**$0**	**$0**	**$250,000**	**$891,559**	**$187,464**
2011 Projects									
16	Construct Perimeter Fence – Phase II	$6,236,538	$2,054,000	$3,870,711			$155,913	$155,913	
17	BLM Land Transfer Cost – Phase II (future airport development)	$214,914					$94,087	$120,728	
	Sub-Total/2011 Projects	**$6,451,352**	**$2,054,000**	**$3,870,711**	**$0**	**$0**	**$250,000**	**$276,641**	**$0**

Notes:

(a Federal Ent– FAA Airport Improvement Program (AIP) Entitlement Grants
(b Federal Disc – FAA Airport Improvement Program (AIP) Discretionary Grants. Projects 7, 8 and 9 included as American Recovery and Reinvestment Act Discretionary Grants
(c PFC – Passenger Facility Charge Proceeds
(d CFC – Rental Car Customer Facility Charge Proceeds
(e State – Colorado Division of Aeronautics, Discretionary Aviation Grants
(f Local – Airport Net Revenues, Cash Reserves
(g Other Unidentified Funding

Table G1

PHASE I (0-5 YEARS) DEVELOPMENT PROGRAM PROJECT COSTS (continued)

			Recommended Financing Method						
	Project Description	**Total Costs**	**Federal Ent (a**	**Federal Disc (b**	**PFC (c**	**CFC (d**	**State (e**	**Local (f**	**Other (g**
2012 Projects									
18	GA Expansion Ramp Embankment	$1,147,523						$1,147,523	
19	3,000 Gallon ARFF Vehicle	$975,395	$926,625				$24,385	$24,385	
20	New Rwy 11/29 –(grading and drainage design)	$1,721,285	$1,160,499	$474,721			$43,032	$43,032	
21	ATCT Infrastructure	$5,737,615							$5,737,615
	Sub-Total/2012 Projects	**$9,581,817**	**$2,087,124**	**$474,721**	**$0**	**$0**	**$67,417**	**$1,214,940**	**$5,737,615**
2013 Projects									
22	New Rwy 11/29 – Phase I (drainage, infrastructure & earthwork)	$23,157,895	$2,000,000	$20,000,000			$370,083	$787,812	
23	New Rwy 11/29 – Realign County 27 ¼ Road	$2,500,000	$121,109	$2,253,891			$62,500	$62,500	
24	Construct New ATCT	$7,719,961							$7,719,961
25	Rental Car Service Facility	$6,000,000				$1,450,485			$4,459,515
26	Administration Office Building	$15,000,000							$15,000,000
	Sub-Total/2013 Projects	**$54,377,856**	**$2,121,109**	**$22,253,891**	**$0**	**$1,450,485**	**$432,583**	**$850,312**	**$27,179,476**
	Total Phase I (2009-2013)	**$100,258,158**	**$9,812,549**	**$46,245,772**	**$0**	**$5,860,485**	**$1,250,000**	**$4,164,796**	**$33,104,556**

Notes:

(a Federal Ent– FAA Airport Improvement Program (AIP) Entitlement Grants
(b Federal Disc – FAA Airport Improvement Program (AIP) Discretionary Grants. Projects 7, 8 and 9 included as American Recovery and Reinvestment Act Discretionary Grants
(c PFC – Passenger Facility Charge Proceeds
(d CFC – Rental Car Customer Facility Charge Proceeds
(e State – Colorado Division of Aeronautics, Discretionary Aviation Grants
(f Local – Airport Net Revenues, Cash Reserves
(g Other Unidentified Funding

Table G2

PHASES II AND III (6-20 YEARS) DEVELOPMENT PROGRAM PROJECT COSTS

			Recommended Financing Method						
	Project Description	**Total Costs**	**Federal Ent (a**	**Federal Disc (b**	**PFC (c**	**CFC (d**	**State (e**	**Local (f**	**Other (g**
Phase II Projects (6-10 Years)									
27	New Rwy 11/29 – Phase II (earthwork, electrical, seeding, base course)	$23,322,082	$2,155,978	$20,000,000			$250,000	$916,104	
28	New Passenger Terminal Building Terminal Air Carrier Apron (ASR)	$50,000,000			$1,889,663				$48,110,337
29	Phase III	$9,384,057	$2,191,753	$6,723,101			$234,601	$234,601	
30	Rehabilitate Rwy 4/22	$2,724,105	$2,228,459				$68,124	$428,370	
31	New Rwy 11/29 – Phase III (paving)	$27,342,105	$2,266,119	$23,708,881			$447,275	$919,830	
32	New Rwy 11/29 – Phase IV (paving and NAVAIDS)	$27,342,105	$2,304,758	$23,670,242			$250,000	$1,117,105	
	Total Phase II Projects	**$140,115,302**	**$11,147,068**	**$74,102,223**	**$1,889,663**	**$0**	**$1,250,000**	**$3,616,011**	**$48,110,337**
Phase III Projects(11-20 Years)									
33	Relocate Taxiway C	$8,911,797	$4,729,478	$3,736,729			$222,795	$222,795	
34	Ramp Expansion	$8,911,797	$2,426,808	$6,039,399			$222,795	$222,795	
	Total Phase III Projects	**$17,823,593**	**$7,156,286**	**$9,776,127**	**$0**	**$0**	**$445,590**	**$445,590**	**$0**
	GRAND TOTALS	**$258,197,053**	**$28,115,903**	**$130,124,122**	**$1,889,663**	**$5,680,485**	**$2,945,590**	**$8,226,397**	**$81,214,893**

Notes:

(a Federal Ent– FAA Airport Improvement Program (AIP) Entitlement Grants
(b Federal Disc – FAA Airport Improvement Program (AIP) Discretionary Grants
(c PFC – Passenger Facility Charge Proceeds
(d CFC – Rental Car Customer Facility Charge Proceeds
(e State – Colorado Division of Aeronautics, Discretionary Aviation Grants
(f Local – Airport Net Revenues, Cash Reserves
(g Other Unidentified Funding

Capital Improvement Program (CIP)

To assist in preparation of the FAA's effort to provide grant funding to the most needed projects, airport staff keeps, on file and up to date with the FAA, an Airport Capital Improvement Program (ACIP), which is similar in format to the tables presented previously. The purpose of the proposed project list, phasing, and costs is to provide a progressive projection of capital needs, which can then be utilized in local and federal financial programming. It is realized that, as soon as this long-range planning document is published, the project list starts to be out of date; therefore, it will always differ to some degree with the Airport's ACIP on file with the FAA.

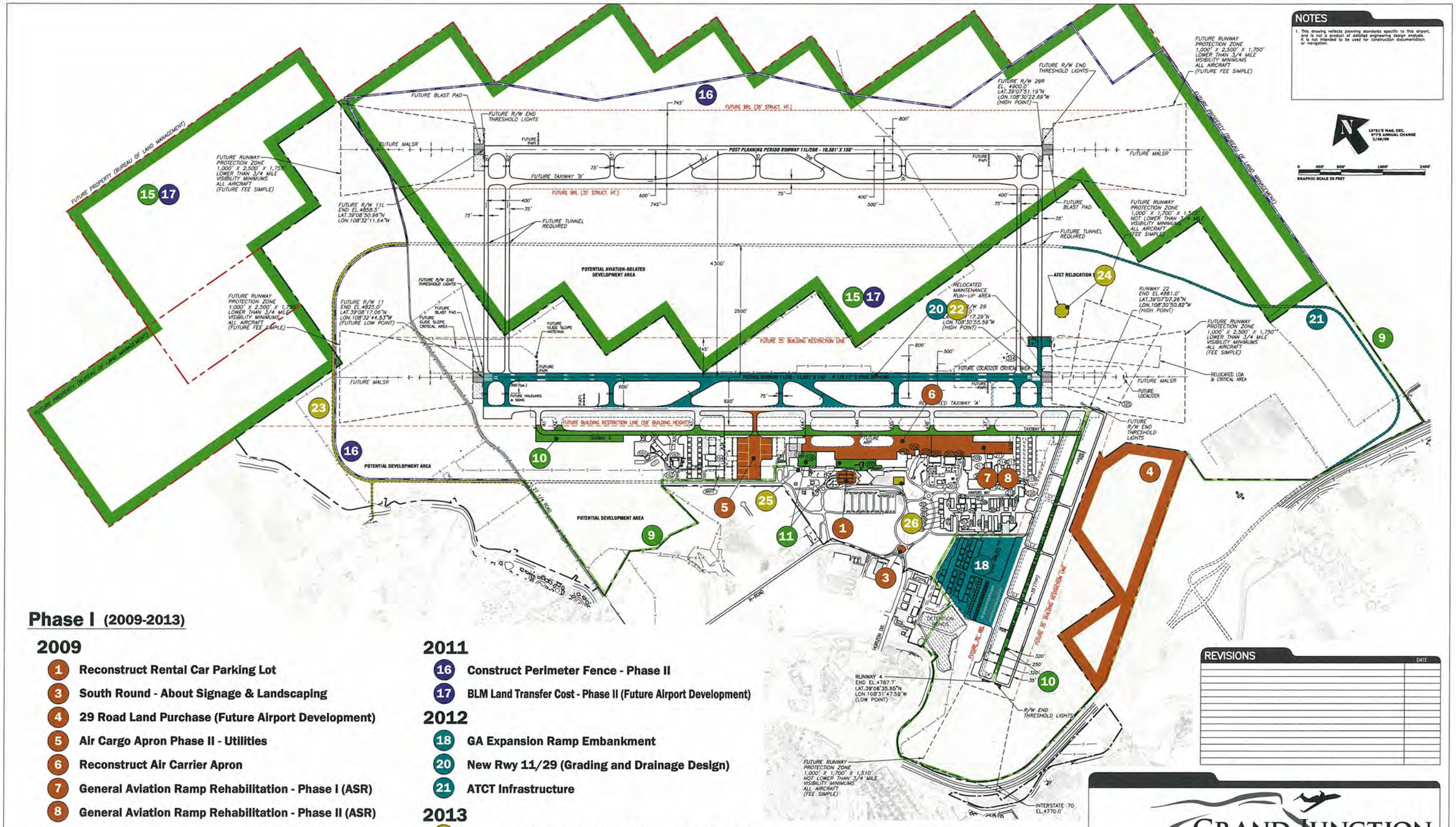
Phasing Plan

To supplement the information provided by the project list and project cost estimates, phasing illustrations have been prepared. The following illustrations, entitled *PHASE I, PHASE II,* and *PHASE III*, indicate the suggested phasing for the proposed improvement projects throughout the 20-year planning period.

The plans represent a suggested schedule and variance from it may be necessary, especially during the latter time periods. Attention has been given to the first five years because the projects outlined in this time frame include many critical improvements. The demand for certain facilities, especially in the latter time frame, and the economic feasibility of their development, are to be the prime factors influencing the timing of individual project construction. Care must be taken to provide for adequate lead-time for detailed planning and construction of facilities, in order to meet aviation demands. It is also important to minimize the disruptive scheduling, where a portion of the facility may become inoperative due to construction, and to prevent extra costs resulting from improper project scheduling.

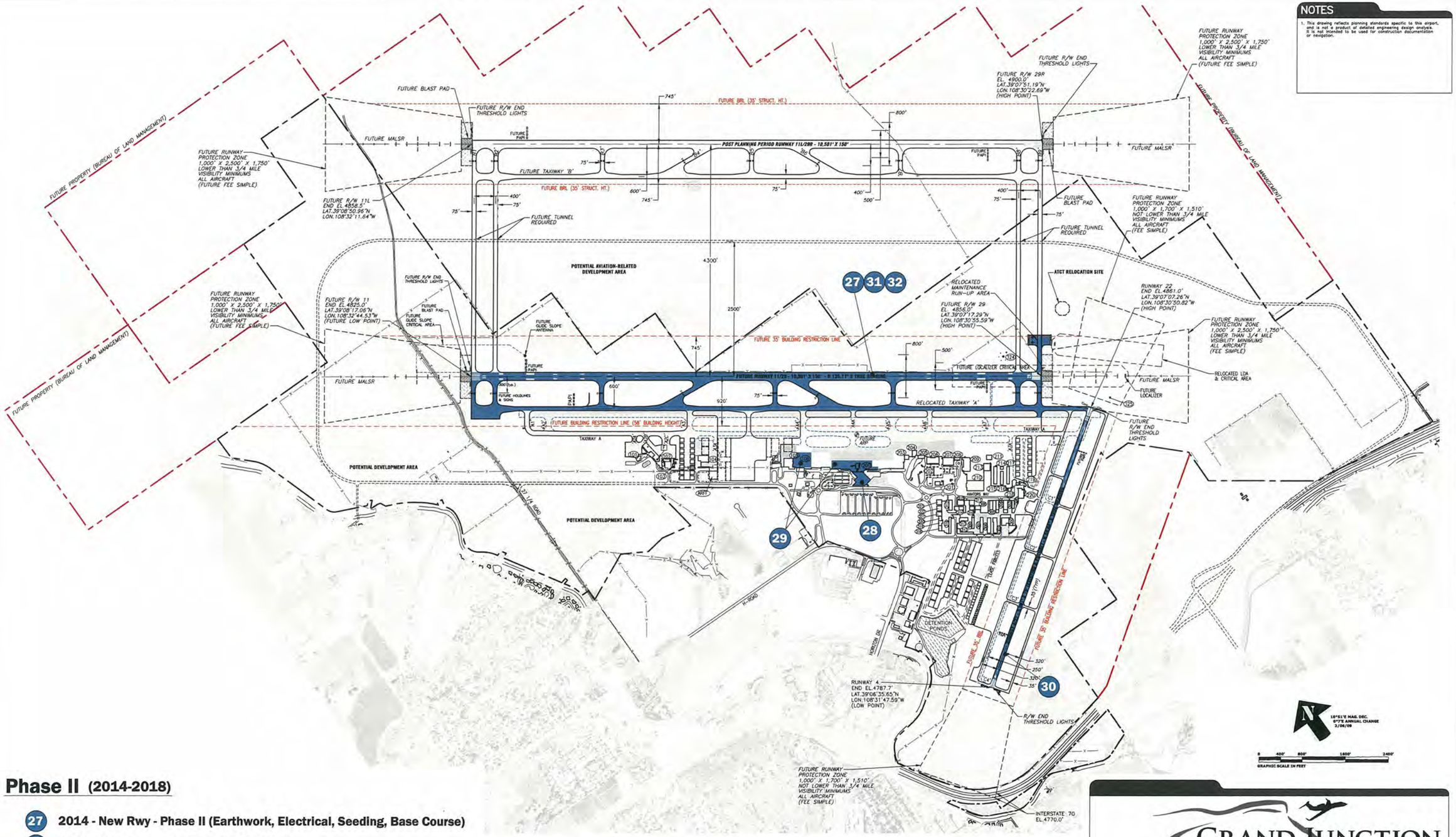
Financial Plan and Implementation Strategy

Funding sources for the Capital Improvement Program depend on many factors, including the Airport Improvement Program (AIP) project eligibility, the ultimate type and use of facilities to be developed, debt capacity of the airport, the availability of other financing sources, and the priorities for scheduling project completion. For planning purposes, assumptions were made related to the funding source of each capital improvement. The projects' costs provided in the previous tables are identified with likely funding sources. More detailed information related to capital funding sources is included in the following chapter.


NOTES
1. This drawing reflects planning standards specific to this airport, and is not a product of detailed engineering design analysis. It is not intended to be used for construction documentation or navigation.
10°51'E MAG. DEC.
0°2'E ANNUAL CHANGE
1/08/09
0 400' 800' 1600' 2400'
GRAPHIC SCALE IN FEET
FUTURE PROPERTY (BUREAU OF LAND MANAGEMENT)
FUTURE RUNWAY PROTECTION ZONE 1,000' X 2,500' X 1,750' LOWER THAN 3/4 MILE VISIBILITY MINIMUMS ALL AIRCRAFT (FUTURE FEE SIMPLE)
FUTURE BLAST PAD
FUTURE R/W END THRESHOLD LIGHTS
FUTURE MALSR
FUTURE BRL (35' STRUCT. HT.)
POST PLANNING PERIOD RUNWAY 11L/29R - 10,501' X 150'
FUTURE TAXIWAY 'B'
FUTURE PAPI
FUTURE R/W 11L END EL. 4858.5' LAT. 39°08'50.96"N LON. 108°32'11.64"W
FUTURE TUNNEL REQUIRED
POTENTIAL AVIATION-RELATED DEVELOPMENT AREA
FUTURE R/W 11 END EL. 4825.0' LAT. 39°08'17.06"N LON. 108°32'44.53"W (FUTURE LOW POINT)
FUTURE GLIDE SLOPE ANTENNA
FUTURE GLIDE SLOPE CRITICAL AREA
FUTURE 35' BUILDING RESTRICTION LINE
FUTURE HOLDLINES & SIGNS
FUTURE BUILDING RESTRICTION LINE (58' BUILDING HEIGHT)
POTENTIAL DEVELOPMENT AREA
FUTURE R/W 29R EL. 4900.0' LAT. 39°07'51.19"N LON. 108°30'22.69"W (HIGH POINT)
RELOCATED MAINTENANCE RUN-UP AREA
FUTURE R/W 29 END EL. 4817.0' LAT. 39°07'17.29"N LON. 108°30'55.59"W (HIGH POINT)
FUTURE LOCALIZER CRITICAL AREA
RELOCATED TAXIWAY 'A'
ATCT RELOCATION
RUNWAY 22 END EL. 4861.0' LAT. 39°07'07.26"N LON. 108°30'50.82"W (HIGH POINT)
FUTURE RUNWAY PROTECTION ZONE 1,000' X 1,700' X 1,540' NOT LOWER THAN 3/4 MILE VISIBILITY MINIMUMS ALL AIRCRAFT (FEE SIMPLE)
FUTURE RUNWAY PROTECTION ZONE 1,000' X 2,500' X 1,750' LOWER THAN 3/4 MILE VISIBILITY MINIMUMS ALL AIRCRAFT (FEE SIMPLE)
RELOCATED LDA & CRITICAL AREA
FUTURE LOCALIZER
FUTURE R/W END THRESHOLD LIGHTS
TAXIWAY A
TAXIWAY A1
TAXIWAY A2
TAXIWAY A3
TAXIWAY A4
TAXIWAY A5
TAXIWAY A6
TAXIWAY A7
TAXIWAY A8
TAXIWAY A9
TAXIWAY A10
TAXIWAY A11
TAXIWAY A12
TAXIWAY A13
TAXIWAY A14
TAXIWAY A15
TAXIWAY A16
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TAXIWAY A18
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TAXIWAY A20
TAXIWAY

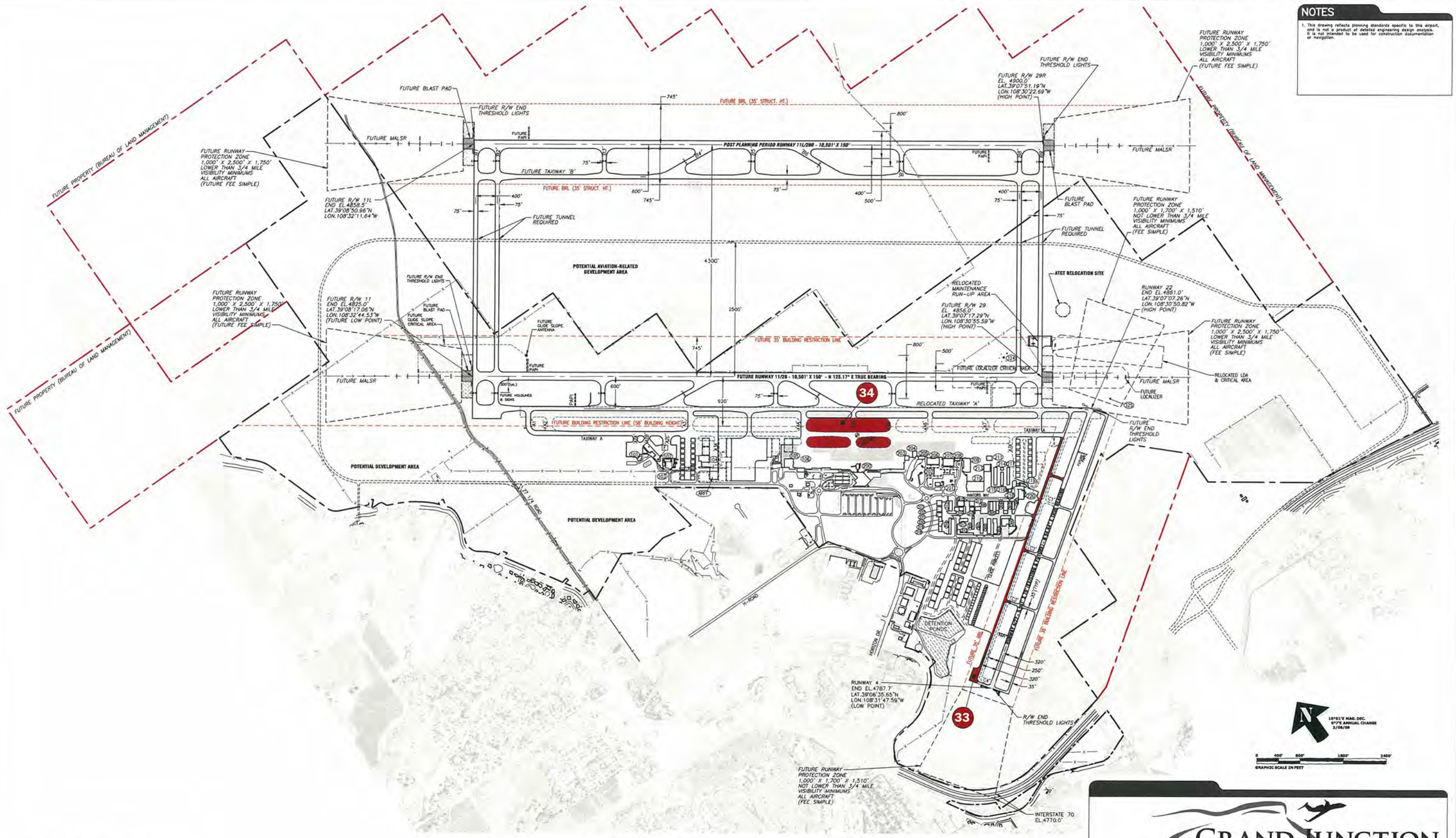
NOTES

1. This drawing reflects planning standards specific to this airport, and is not a product of detailed engineering design analysis. It is not intended to be used for construction documentation or navigation.


FUTURE PROPERTY (BUREAU OF LAND MANAGEMENT)
FUTURE RUNWAY PROTECTION ZONE 1,000' X 2,500' X 1,750' LOWER THAN 3/4 MILE VISIBILITY MINIMUMS ALL AIRCRAFT (FUTURE FEE SIMPLE)
FUTURE BLAST PAD
FUTURE R/W END THRESHOLD LIGHTS
FUTURE MALSR
FUTURE BRL (35' STRUCT. HT.)
POST PLANNING PERIOD RUNWAY 11L/29R - 10,501' X 150'
FUTURE TAXIWAY 'B'
FUTURE R/W 11L END EL 4858.5' LAT.39°08'50.96"N LON.108°32'11.64"W
FUTURE TUNNEL REQUIRED
POTENTIAL AVIATION-RELATED DEVELOPMENT AREA
FUTURE R/W 11 END EL 4825.0' LAT.39°08'17.06"N LON.108°32'44.53"W (FUTURE LOW POINT)
FUTURE GLIDE SLOPE ANTENNA
FUTURE GLIDE SLOPE CRITICAL AREA
FUTURE 35' BUILDING RESTRICTION LINE
FUTURE RUNWAY 11/29 - 10,501' X 150' - R 125.1°T @ TRUE BEARING
FUTURE HOLDLINES & SIGNS
FUTURE BUILDING RESTRICTION LINE (56' BUILDING HEIGHT)
TAXIWAY A
POTENTIAL DEVELOPMENT AREA
27 31 32
RELOCATED MAINTENANCE RUN-UP AREA
ATCT RELOCATION SITE
FUTURE R/W 29 EL 4856.0' LAT.39°07'17.29"N LON.108°30'55.59"W (HIGH POINT)
FUTURE LOCALIZER CRITICAL AREA
RELOCATED TAXIWAY 'A'
FUTURE R/W 29R EL. 4900.0' LAT.39°07'51.19"N LON.108°30'22.69"W (HIGH POINT)
FUTURE RUNWAY PROTECTION ZONE 1,000' X 1,700' X 1,510' NOT LOWER THAN 3/4 MILE VISIBILITY MINIMUMS ALL AIRCRAFT (FEE SIMPLE)
RUNWAY 22 END EL.4861.0' LAT.39°07'07.26"N LON.108°30'50.82"W (HIGH POINT)
FUTURE LOCALIZER
RELOCATED LDA & CRITICAL AREA
FUTURE RUNWAY PROTECTION ZONE 1,000' X 2,500' X 1,750' LOWER THAN 3/4 MILE VISIBILITY MINIMUMS ALL AIRCRAFT (FEE SIMPLE)
FUTURE R/W END THRESHOLD LIGHTS
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TAXIWAY A
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TAXIWAY

NOTES

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Phase III (2019-2022)

- 33 2020 - Relocate Taxiway C
- 34 2021 - Ramp Expansion

REVISIONS

	DATE

DRAWING LEGEND

	EXISTING	FUTURE
AIRPORT PROPERTY LINE		
AIRPORT SECURITY FENCE		
BUILDINGS		
AIRFIELD PAVEMENT		
PAVED ROADS		
AVIGATION EASEMENT		
RUNWAY PROTECTION ZONE		
PRECISION OBJECT FREE AREA		
FUEL STORAGE AREA		
AIRPORT BEACON		
LIGHTED WIND CONE		
PRECISION APPROACH PATH INDICATOR (PAPI)		
HOLDLINES & SIGNS		
VISUAL APPROACH SLOPE INDICATOR (VASI)		
REILS		

GRAND JUNCTION REGIONAL AIRPORT
GRAND JUNCTION, COLORADO

Figure G3 | **Phase III**

Barnard Dunkelberg & Company

TULSA
1616 East 15th Street
Tulsa, Oklahoma 74120
918.585.8844

DENVER
1743 Wazee Street, Suite 400
Denver, Colorado 80202
303.825.8844

DATE
Feb 2010

SCALE
1" = 800'

SHEET NO.
G.9

Summary – Master Plan Capital Improvement Program

If aviation demands continue to indicate that improvements are needed, and, if the proposed improvements prove to be environmentally acceptable, the capital improvement financial implications discussed previously are likely to be acceptable for the FAA and the Grand Junction Regional Airport Authority. However, it must be recognized that this is only a programming analysis and not a commitment on the part of the FAA or the Airport Sponsor. If the cost of an improvement project is not financially feasible, it will not be pursued at that time.

To further refine the financial implications involved with the long-term development program and the implementation schedule, the following chapter, entitled *Financial Implementation Plan*, provides a detailed analysis of the CIP and funding strategies.

Financial

H. Financial Implementation Plan

MASTER PLAN UPDATE

GRAND JUNCTION

REGIONAL AIRPORT

H. Financial Implementation Plan

The purpose of this analysis is to evaluate Grand Junction Regional Airport's capability to fund the Master Plan Capital Improvement Program (CIP) and finance operations during the Phase I, Phase II, and Phase III planning periods of the capital program. Results of the evaluation are presented in a detailed Financial Implementation Plan that provides a basis for matching the amounts and timing of estimated capital costs with projected capital funding sources. Detailed tables of projections for the capital program, operating expenses, operating revenues, and cash flow are provided in support of the Financial Plan Summary, which presents the results of this evaluation.

Overall Approach

The overall approach for development of the Financial Implementation Plan included the following steps:

- Gathering and reviewing key Airport documents related to historical financial results, capital improvement plans, operating budgets, regulatory requirements, and Airport policies;
- Interviewing key Airport management personnel to gain an understanding of the existing operating and financial environment and overall financial management philosophy;
- Reviewing the aviation traffic forecast previously developed in the Master Plan and discussing forecast modifications with Airport management to reflect the more recent experience of actual aviation activity. For the financial analysis, the overall enplanement growth rate assumed for the planning period was 2.6% per year, which is consistent with the original Master Plan forecast;
- Reviewing the Master Plan CIP, cost estimates, and development schedule anticipated for the planning period and projecting the overall financial requirements for the program;
- Determining and analyzing the sources and timing of capital funds available to

meet the financial requirements for funding the capital program;

- Analyzing historical and budgeted operating expenses, developing operations and maintenance expense assumptions, reviewing assumptions with Airport management, and projecting future operating costs for the planning period;
- Analyzing historical and budgeted operating revenues, developing operating revenue assumptions, reviewing assumptions with Airport management, and projecting future operating revenues for the planning period; and,
- Completing results of the analysis and evaluation in a Financial Plan Summary that provides conclusions regarding the financial practicability of implementing the planned capital program.

Sources of Capital Funding

The development of the Master Plan CIP is anticipated to be funded from several sources. These sources include FAA entitlement and discretionary grants, state aviation grants, passenger facility charges (PFCs), rental car customer facility charges (CFCs), cash reserves/net operating cash flow, and other funding. Airport management has indicated that its overriding policy for funding capital projects is to identify funding sources for all projects and devise a plan to obtain these sources. If a planned funding source is not available in the nature, amount, or time frame that is needed for a project, then the project will be delayed until the funding is secured. Each identified source of funds is described in the following section.

FAA Airport Improvement Program Grants. The Airport receives grants from the Federal Aviation Administration (FAA) to finance the eligible costs of certain capital improvements. These federal grants are allocated to commercial passenger service airports through the Airport Improvement Program (AIP). AIP grants include entitlement grants, which are allocated among airports by a formula that is driven by enplanements, and discretionary grants, which are awarded in accordance with FAA guidelines. Under the current AIP re-authorization legislation, the Airport is projected to receive entitlements of $1.7 to $2.4 million per year during the 2009 through 2021 planning period based on the modified forecast of passenger enplanements. Non-Hub airports (those with annual enplanements up to about 330,000) can accumulate up to four years of unspent entitlements before the award is revoked.

The approval of AIP discretionary funding is based on a project eligibility ranking method the FAA uses to award grants, at their discretion, based on a project's priority and importance to the national airport and airway system. During the Phase I period through 2013, the Financial Plan projects discretionary grant awards totaling $30.3 million to the Airport to support a commercial

aircraft ramp, environmental assessment, perimeter fence and, most significantly, projects related to the new Runway 11/29. The FAA has indicated its support and has planned to provide significant discretionary funding for the new Runway 11/29 because replacing this runway is the most economically feasible way to remedy a number of non-standard conditions present in the existing runway. Airport management has indicated that the existing Runway 11/29 will no longer be viable or serviceable by the end of the planning period in 2021 and, thus, needs to be replaced as indicated in the CIP and supported by the FAA. Although the FAA does not commit discretionary funding in advance of project initiation, this funding represents a reasonable expectation for the plan (particularly based on the FAA's stated, although not formally committed, future support, as well as, the discretionary support already provided). It is also reasonable to assume that the Airport will receive additional discretionary funding later during the planning period for higher priority, eligible projects, such as aircraft apron improvements, taxiway relocation, and continued support of the new runway. It was assumed that an additional $74.1 million in discretionary grants ($67 million for Runway 11/29) would be provided during Phase II and an additional $9.8 million during Phase III of the planning period. If the projected discretionary funds are not available when implementation of the related projects is planned, these projects will be delayed.

The American Recovery and Reinvestment Act of 2009 (ARRA) was passed by Congress in February 2009. The ARRA specifically provides $1.1 billion in discretionary funding for capital projects administered by the FAA. The Airport has received $8.1 million in ARRA grants for rehabilitation of a general aviation aircraft apron and has been designated to receive an additional $1.5 million for this project. As indicated in the Act, 100% of project funding is provided without the requirement for local matching funds. Although not yet awarded, Airport management anticipates that additional ARRA grants of about $7.6 million will also be awarded for perimeter fencing and additional GA apron rehabilitation.

State Division of Aeronautics Grants. The Colorado Department of Transportation Division of Aeronautics provides Discretionary Aviation Grants for airport projects from a portion of the state sales tax collected on aviation fuel. Grants are approved for projects including those that are AIP eligible, aviation pavement maintenance projects, and various other aviation projects. For AIP eligible projects, state grant awards for up to 50% of an airport's local match requirement are allowed. Non-Revenue producing projects that are not AIP eligible (but are still eligible for state funding) may also receive up to 80% funding (with a 20% local match) for the total cost of approved projects. In general, a limit of about $250,000 per year in state grants is awarded to Colorado airports supported by the Division. The Master Plan CIP includes several projects during the planning period that are assumed to be partially funded from State Aeronautics Grants - $1,250,000 in Phase I; $1,250,000 in Phase II; and $445,000 in Phase III.

Passenger Facility Charges. The Aviation Safety and Capacity Expansion Act of 1990 established the authority for commercial service airports to apply to the FAA for imposing and using a Passenger Facility Charge (PFC) of up to $3.00 per enplaned passenger. With the passage of AIR-21 in June 2000, airports were permitted to apply for an increase in the PFC collection amount from $3.00 per eligible enplaned passenger to $4.50. (In 2009, a further increase to $7 is being considered by Congress in AIP re-authorization legislation. The actual outcome of this legislation is currently uncertain.) The proceeds from PFCs are eligible to be used for AIP eligible projects and for certain additional projects that preserve or enhance capacity, safety, or security; mitigate the effects of aircraft noise; or, enhance airline competition. PFCs may also be used to pay debt service on bonds (including principal, interest, and issue costs) and other indebtedness incurred to carry out eligible projects. In addition to funding future planned projects, the legislation permits airports to collect PFCs to reimburse the eligible costs of projects that began on or after November 5, 1990.

Since 1992, Grand Junction has submitted seven PFC applications that were approved by the FAA. Only applications #4 and #7 remain open with a total collection authority of $10,013,922 and a charge expiration date of approximately August 2019. As of December 2008, about $6.5 million in collection authority remained. The implementation analysis assumes that the Airport will submit additional PFC applications and amendments, as required, to ensure that the collection of PFC revenues continues beyond the current anticipated expiration date. Throughout the 13-year planning period, projected PFC revenues of $1.9 million are planned to provide partial funding for the new passenger building scheduled for implementation in 2015. Although PFC collections of about $14.3 million are projected during the planning period, the majority has already been committed to pay debt service on the previously issued Series 2007 General Airport Revenue Bonds.

Rental Car Company Customer Facility Charges. In May 2008, the Authority imposed a customer facility charge (CFC) within rental car concession agreements of $3.25 per rental car transaction day. The fee was imposed to finance and pay for the repair, planning and construction of on-Airport rental car facilities (which are indicated in the Master Plan CIP). It is the Authority's intent to cease collecting the CFC when all rental car costs (including financing costs) are recovered. During Phase I, collections of about $2.3 million are anticipated. During Phase II, collections of about $2.5 million are anticipated and, in Phase III, collections of about $1.5 million are anticipated. Projects to be funded include reconstruction of a rental car parking lot and a rental car service facility.

Other Funding. During the Phase I planning period, the Master Plan CIP includes ATCT projects (at a cost of about $13.6 million), a rental car service facility (with an estimated cost of $6

million), and an administration office building (with an estimated cost of $15 million). During Phase II, the CIP includes a new passenger terminal building with an estimated cost of $50 million. Airport management has identified future CFC revenues, PFC revenues, tenant rentals, and other funds as the funding sources for these projects. Issuing debt serviced by these funding sources may also be a consideration to finance the projects. However, with information currently available, the timing for attainment of these funds is uncertain. Consequently, the funding sources for these projects have been referenced throughout the Financial Plan as "Other Funding". In accordance with Airport management's overriding funding policy, if the "Other Funding" sources identified for the projects cannot be obtained in the time frames planned, the associated projects will be delayed until such funding can be secured.

Cash Reserves/Net Operating Cash Flow. At the beginning of 2009, the Airport had about $2.9 million in cash reserves to support operations and partially fund some projects included in the Master Plan CIP. Net operating cash flow (revenues less expenses and debt service) is anticipated to range from about $800,000 to $2.1 million per year by the end of the planning period. The Financial Plan assumes these sources of cash will contribute to fund ineligible projects, partially fund selected eligible projects, and ensure that positive year-end cash balances are maintained.

Financial Analysis and Implementation Plan for the Master Plan Capital Improvement Program

This section, along with the Tables presented at the end of the chapter, provides the analysis and results of evaluating the financial reasonableness of implementing the Master Plan Capital Improvement Program during the planning period from 2009 through 2021.

Estimated Project Costs and Development Schedule. The estimated project costs and development schedule are derived from previous results of the Master Plan development analysis. The program for capital expansion and improvement projects is projected for the Phase I planning period from the years ending 2009 through 2013, for the Phase II period from the years ending 2014 through 2018, and for the Phase III period from the years ending 2019 through 2021. For each of these planning periods, Table H1 at the end of the chapter presents the estimated timing and costs of the identified projects included in the capital program. As shown in Table H1, the total estimated cost of capital projects is $245,272,674 in 2008 dollars. The estimated costs for most of the projects scheduled during the period 2009 through 2021 are adjusted by an assumed 3.5% rate of annual inflation. Due to the uncertainty of estimated development costs for the new Runway 11/29, the rental car service facility, the administration office building, and the new passenger terminal projects, costs for these elements of the CIP were not escalated.

The resulting total escalated costs are $258,197,053. Exhibit H1 below presents a summary of Table H1 and provides a comparison of 2008 base year costs with escalated costs adjusted for inflation for each of the planning periods.

Exhibit H1

SUMMARY OF BASE YEAR AND ESCALATED COSTS FOR THE CAPITAL PROGRAM

Planning Periods	2008 Base Year Costs	Escalated Costs
Phase I Projects (2009 – 2013)	$95,911,119	$100,258,158
Phase II Projects (2014 – 2018)	$137,361,555	$140,115,302
Phase III Projects (2019 – 2021)	$12,000,000	$17,823,593
Total Project Costs	$245,272,674	$258,197,053

Source: *Leibowitz & Horton AMC Analysis.*
Note: Addition errors are due to rounding of calculated amounts and not all project costs include the inflation adjustment.

Sources and Uses of Capital Funding. As discussed in previous sections of this analysis, a variety of sources are available for funding capital improvements at the Airport. The funding structure of the capital program depends on many factors, including project eligibility for the various funding sources, the ultimate type and use of facilities to be developed, the amounts and timing of funds availability, and the priorities for scheduling project completion. For planning purposes, assumptions were made related to the funding source of each capital improvement. The detailed capital funding analysis is provided in Table H2 at the end of the chapter. A summary of the capital plan, with escalated project cost estimates and the application of funding sources, is presented in Exhibit H2 that follows.

Exhibit H2

SUMMARY OF SOURCES AND USES OF CAPITAL FUNDING

Sources of Capital Funding	Phase I (2009 – 2013)	Phase II (2014 – 2018)	Phase III (2019 - 2021)	Totals
AIP Entitlement Grants	$9,812,549	$11,147,068	$7,156,286	$28,115,903
AIP Discretionary Grants	30,339,457	74,102,223	9,776,127	114,217,807
AIP ARRA Discretionary Grants	15,906,316	0	0	15,906,316
State Div. of Aeronautics Grants	1,250,000	1,250,000	445,590	2,945,590
Passenger Facility Charges	0	1,889,663	0	1,889,663
RAC Customer Facility Charges	5,680,485	0	0	5,680,485
Other Funding	33,104,556	48,110,337	0	81,214,893
Cash Reserves/Net Ops Cash Flow	4,164,796	3,343,011	445,590	8,226,397
Total Sources of Capital Funding	$100,258,158	$140,115,302	$17,823,593	$258,197,053
Uses of Capital Funding				
Runway 11/29 Extension	$28,503,966	$78,006,292	$0	$106,510,258
Other Airfield Improvements	9,864,486	2,724,953	8,911,797	21,501,236
ATCT	13,645,040	0	0	13,645,040
General Aviation	13,785,417	0	0	13,785,417
Air Cargo	544,737	0	0	544,737
Terminal Area	6,004,634	59,384,057	8,911,797	74,300,487
Ground Transportation	10,140,000	0	0	10,140,000
Land Acquisition	1,060,927	0	0	1,060,927
Other	16,708,951	0	0	16,708,951
Total Project Costs	$100,258,158	$140,115,302	$17,823,593	$258,197,053

Source: *Leibowitz & Horton AMC Analysis.*
Note: Addition errors are due to rounding of calculated amounts.

Exhibit H2 provides a summary of capital funding by source and by phase of development. It also provides a summary of the uses of capital funding by phase and by type of project to which the funding is applied. As shown in the above exhibit, a substantial amount of funding will be needed from federal sources, including $1.7 to $2.4 million per year throughout the planning period from AIP entitlement grants, $114 million in AIP discretionary grants, and $15.9 million in ARRA grants. Thus, $158 million, or 61.3%, of total funding for the 13-year Master Plan CIP is projected to come from AIP grants. State Division of Aeronautics grants are expected to provide $2.9 million, or 1.1%, of the funding. Passenger Facility Charges are expected to provide $1.9 million, or 0.7%, of the funding. Although about $14.3 million in PFC revenues

are expected to be collected during the planning period, a substantial portion of these funds have been allocated by the Authority for the payment of debt service on the previously issued Series 2007 General Airport Revenue Bonds. Customer Facility Charges (collected from the rental car companies operating at the Airport) are expected to provide $5.7 million, or 2.2%, of the funding. Other funding is needed to provide $81.2 million, or 31.5%, of the total capital funding. Cash reserves/net operating cash flow are anticipated to provide $8.2 million, or 3.2%, of the total.

As discussed previously, the availability of AIP discretionary grants is reasonably expected, but nonetheless, is not certain. If the level of discretionary funding is not available in the time frames indicated in the CIP project schedule, then specific projects to which the funding is applied may be delayed. However, it should be noted that the FAA Northwest Mountain Region has indicated its support for the new Runway 11/29 project and its plan to provide discretionary funding for a large part of the phased project. Table H2 at the end of the chapter indicates about $87 million (out of $114 million total discretionary for all CIP projects) will be needed for implementation of the new runway.

"Other Funding" has been indicated as the funding source for the ATCT projects, the rental car service facility, the administration office building in Phase I, and the new passenger terminal building currently planned for 2015 in Phase II. Specific funding sources have been planned for these projects, but the timing for obtaining the identified funding is uncertain. If this funding is not available to match the planned implementation schedule, Airport management has indicated it will delay the projects until the funding is secured.

Projected Operations and Maintenance Expenses. Operations and maintenance expense projections for the Phase I (2009-2013), the Phase II (2014-2018), and the Phase III (2019-2021) planning periods are based on the Airport's current budget, the anticipated impacts of inflation, aviation traffic increases, and the recent experience of other similarly sized airports. The Airport's accounting structure is organized into the following departments:

- Administration
- Terminal
- Airport Operations
- Aircraft Rescue and Fire Fighting (ARFF)
- Security
- Grounds & Roadways
- Buildings & Land
- Information Technology
- Fleet

Operating expense projections for Employee Benefits and Utilities are based on 2009 budgeted amounts, with growth at an assumed annual inflation rate of 5% beginning in 2010. All other expenses are based on the 2009 budget, with growth at an assumed annual inflation rate of 3.5% beginning in 2010. Descriptions of projected expenses within each department include the following categories:

- Salaries & Benefits - Salaries include full-time, part-time and overtime payroll expenses. Employee benefits include payroll taxes, retirement, health and life insurance, workers' compensation, employee recognition, clothing allowance, and other expenses.
- Materials & Supplies - This category includes expenses for office supplies, vending machine costs, tools & equipment, computer equipment, software, ARFF supplies, fuel, oil & lubricants, and other materials & supplies expenses.
- Repairs & Maintenance - This category includes the cost of maintaining buildings, equipment, and other improvements such as HVAC, boarding bridges, elevators & escalators, pavement, ATCT, airfield lighting, automobile parking lots, landscaping, telephone/communications systems, SRE, photocopy machines, and other buildings/equipment. This category also includes scheduled replacements and snow removal activities.
- Utilities - This category includes expenses for gas, electricity, water, trash removal, and sewer utilities. It also includes expenses for telephone service and cell phone service.
- Other Operating Expenses - This category includes expenses for personnel services, personnel recruiting, property/liability insurance, education & training, travel, meals, professional services, professional dues & publications, legal services, bank service charges, licenses & fees, postage & shipping, marketing, LEO services, advertising & promotions, glycol disposal, fingerprint processing, fleet allocation, IT allocation, rentals, other purchased services, and other operating expenses.

The projection of operations and maintenance expenses is provided in Table H3 at the end of the chapter. Historical expenses for the period 2006 through 2008 are provided as a comparison, with the projection period 2009 (budgeted) through 2021.

As shown in Table H3, total expenses are expected to grow from $3,979,530 budgeted for 2009 to $4,626,734 projected for 2013, with a total of $21,484,414 during the five-year Phase I period. During the five-year Phase II period, expenses are projected to total

$25,949,748 and, during the three-year Phase III period, expenses are projected to total $18,103,288. The overall growth rate of expenses during the projection period is 5.3% per year.

Table H3 also provides a comparison of the Airport's total operating expenses per enplaned passenger versus the industry average for non-hub airports. The Airport's operating expenses per enplaned passenger are projected to grow from $16.24 budgeted for 2009 to an average of $18.57 during the Phase III planning period. During the same period, the industry average for non-hub airports grows from $28.56 in 2009 to an average of $41.71 during Phase III (Source: AAAE 2003-2004 Survey of Airport Rates and Charges with inflation adjustments after 2004). This shows that operating expenses at the Airport are significantly below those of other similarly-sized airports and are projected to remain lower throughout the 13-year projection period. Beginning in 2009, this comparison indicates that the Airport is projected to operate 43% to 55% more cost efficiently than other airports of similar size and operation.

Projected Operating Revenues. Operating revenue projections for the Phase I (2009-2013), the Phase II (2014-2018), and the Phase III (2019-2021) planning periods are based on the Airport's current budget, the anticipated impacts of inflation, aviation traffic increases, and the recent experience of other similarly-sized airports. Although inflation adjustments (3.5% annually) are included in the revenue projections, it is recognized that fees and rental rates are periodically reviewed by Airport management and may be increased by more than the assumed annual inflation rate provided in this projection to reflect reasonable market rates and fully recover costs. Historical revenues for the period 2006 through 2008 are provided as a comparison with the projection period 2009 (budgeted) through 2021. Annual growth assumptions beginning in 2010 and continuing through 2021, for the revenue categories that follow, are provided below.

Airline Revenues

- Landing Fees - Projections are initially based on the 2009 budget. Beginning in 2010, fees are assumed to grow with a 3.5% annual inflation rate, plus increases in aircraft landed weight using annual growth at ½ the rate of the Master Plan forecast of passenger enplanements. This approach reflects the airlines' practice of managing increased load factors before additional flights are provided.
- Terminal Rent - Projections are based on the budget for 2009 with 3.5% annual inflation growth thereafter.

- Security Fees - Projections are based on the budget for 2009 with 3.5% annual inflation growth thereafter.
- Boarding Bridge Use Fees - Projections are based on the budget for 2009 with 3.5% annual inflation growth thereafter.
- Deicing Fees - Projections are based on the budget for 2009 with 3.5% annual inflation growth thereafter.
- Disposal Station Fees - Projections are based on the budget for 2009 with 3.5% annual inflation growth thereafter.
- Aircraft Ramp Parking Fees - Projections are based on the budget for 2009 with 3.5% annual inflation growth thereafter.
- Overtime Fees - Projections are based on the budget for 2009 with 3.5% annual inflation growth thereafter.

Non-Airline Revenues

- Other Carrier Landing Fees - Projections are initially based on the 2009 budget. Beginning in 2010, fees are assumed to grow with a 3.5% annual inflation rate, plus increases in aircraft landed weight using annual growth at ½ the rate of the Master Plan forecast of passenger enplanements.
- Fuel Flowage Fees - Based on the 2009 budget and 3.5% annual inflation, plus ½ the annual rate of forecast enplanement growth.
- State Fuel Taxes - Tax rebates based on the 2009 budget and 3.5% annual inflation, plus ½ the annual rate of forecast enplanement growth.
- Other Airfield Use Fees - Based on the 2009 budget with 3.5% annual inflation growth thereafter.
- Rental Car Concessions - Based on the 2009 budget and 3.5% annual inflation, plus the annual rate of forecast enplanement growth.
- Rental Car Space Rent - Based on the 2009 budget with 3.5% annual inflation growth thereafter.
- Rental Car Service Area Rent - Based on the 2009 budget with 3.5% annual inflation growth thereafter.
- Ground Transportation Fees - Based on the 2009 budget and 3.5% annual inflation, plus the annual rate of forecast enplanement growth.

- Parking Lot Concession Fees - Based on the 2009 budget and 3.5% annual inflation, plus the annual rate of forecast enplanement growth.
- Advertising Display Concessions - Based on the 2009 budget with 3.5% annual inflation growth thereafter.
- News/Gift Concession Fees - Based on the 2009 budget and 3.5% annual inflation, plus the annual rate of forecast enplanement growth.
- Other Retail Concession Fees - Based on the 2009 budget and 3.5% annual inflation, plus the annual rate of forecast enplanement growth.
- TSA Rent - Based on the 2009 budget with 3.5% annual inflation growth thereafter.
- Other Terminal Space Rent - Based on the 2009 budget with 3.5% annual inflation growth thereafter.
- Badge/Fingerprint Processing Fees - Based on the 2009 budget with 3.5% annual inflation growth thereafter.
- LEO Security Cost Reimbursement - Based on the 2009 budget with 3.5% annual inflation growth thereafter.
- Land Rent - Based on the 2009 budget with 3.5% annual inflation growth thereafter.
- Hangar Rent - Based on the 2009 budget with 3.5% annual inflation growth thereafter.
- Other Building Rent - Based on the 2009 budget with 3.5% annual inflation growth thereafter.
- Expense Reimbursement - Based on the 2009 budget and 3.5% annual inflation.
- Investment Earnings - Based on the 2009 budget and fixed thereafter.
- Miscellaneous Revenues - Based on the 2009 budget and 3.5% annual inflation.

The projection of operating revenues is provided in Table H4 at the end of the chapter. As shown in the Table, revenues derived from airlines are expected to grow from $1,076,010 budgeted for 2009 to $1,257,094 projected for 2013, with a total of $5,823,741 during the five-year Phase I period. During the five-year Phase II period, airline revenues are projected to total $7,077,086 and, during the three-year Phase III period, these revenues are projected to total $4,961,029. Revenues derived from non-airline sources are expected to grow from

$3,691,873 budgeted for 2009 to $4,534,048 projected for 2013, with a total of $20,507,747 during the five-year Phase I period. During the five-year Phase II period, non-airline revenues are projected to total $26,562,860 and, during the three-year Phase III period, these revenues are projected to total $19,612,684. Total Airport revenues are expected to grow from $4,767,883 budgeted for 2009 to $5,791,142 projected for 2013, with a total of $26,331,488 during the five-year Phase I period. During the five-year Phase II period, revenues are projected to total $33,639,945 and, during the three-year Phase III period, revenues are projected to total $24,573,712. During the 13-year planning period, the overall annual growth rate for total Airport revenues is 4.8%.

Table H4 also provides a comparison of the Airport's airline cost per enplaned passenger versus the industry average for non-hub airports. The airline cost per enplaned passenger (airline fees and rentals divided by enplaned passengers) is a measure airlines use to compare their cost of operations among the airports they serve. The Airport's airline cost per enplaned passenger is projected to grow from $4.39 in 2009 to an average of $5.09 during the Phase III planning period. During the same period, the industry average for non-hub airports grows from $7.55 in 2009 to an average of $11.03 during Phase III (Source: AAAE 2003-2004 Survey of Airport Rates and Charges with inflation adjustments after 2004). This result shows that current airline rates and charges at the Airport are substantially below industry averages (41%-54% lower) and are projected to remain so throughout the planning period. (It should be noted that the AAAE survey for non-hubs includes airports with enplanements up to about 330,000 per year. Airports with higher enplanement levels have more leverage to negotiate higher airline rates. Other non-hub airports with lower enplanement levels similar to Grand Junction - about 212,000 in 2008 - also report airline costs per enplaned passenger that are lower than the non-hub averages.) In the future, if airline rates can be adjusted to more closely reflect the cost of providing airport facilities and services, an additional source of capital funding would be generated. However, the current financial weakness in the airline industry effectively precludes any substantive increase in airline rates and charges. Nonetheless, the Airport could consider conducting a Rates and Charges Study that would result in providing guidance for setting future airline rates that could eventually support the Airport's ability to collect the full cost of providing facilities for the airlines' use.

Table H4 also provides a comparison of the Airport's total operating revenue per enplaned passenger versus the industry average for non-hub airports. The Airport's operating revenue per enplaned passenger is projected to grow from $19.46 budgeted for 2009 to an average of $25.20 during the Phase III planning period. During the same period, the industry average for non-hub airports grows from $21.16 in 2009 to an average of $30.90 during Phase III

(Source: AAAE 2003-2004 Survey of Airport Rates and Charges with adjustments for inflation after 2004). This comparison shows that total Airport revenues range from about 8%-18% below those of other similarly-sized airports during the planning period. This projected shortfall is caused primarily by lower revenues derived from airline sources. Total non-airline revenues appear to currently reflect reasonably competitive levels and provide an offset to relatively lower airline rates. If a Rates and Charges Study is conducted by the Airport, it will provide a more detailed analysis of non-airline rates in addition to airline rates.

Financial Plan Summary. The Financial Plan Summary presented in Table H5 at the end of the chapter includes projection totals for operating revenues, operating expenses, capital expenditures, capital funding, and cash flow that result from the projections previously presented.

In previous sections of this analysis, Table H1 provided a practical approach for scheduling capital expenditures to match the availability of capital financing. Table H2 provided a practical approach for matching specific capital funding sources with each of the scheduled projects. Based on the assumptions underlying the Financial Implementation Plan summarized in Table H5, implementation of the Master Plan CIP is financially practicable subject to the availability of AIP discretionary grant awards and acquisition of other funding described in the analysis.

Key assumptions supporting the financial plan relate to the availability and timeliness of the funding sources that have been indicated. Continuation of the AIP entitlement program at authorized funding levels is essential. Funding levels enacted with AIR-21 in June 2000 resulted in a doubling of entitlement grants from previous years with the provision that Congress continue to appropriate at least $3.2 billion in AIP funds annually. If future appropriations fall below $3.2 billion, entitlement grants will revert to the pre-2000 levels. Receiving AIP discretionary grants of $30.3 million during Phase I, $74.1 million during Phase II, and $9.8 million during Phase III (as indicated in Table H2) is key to the financial feasibility of implementing these projects. Without this level of discretionary funding, these projects would have to be delayed until the funds could be acquired.

As discussed in previous sections of this analysis, "Other Funding" sources have been identified and are planned to provide $33.1 million in Phase I and $48.1 million in Phase II of the CIP. In accordance with Airport management's overriding funding policy, if the "Other Funding" sources identified for projects cannot be obtained in the time frames planned, the associated projects will be delayed until such funding can be secured.

Additionally, the Financial Implementation Plan relies on achievement of the Master Plan forecasts of aviation activity. Actual aviation traffic may temporarily vary from the projected levels of activity without a significant adverse impact on the capital program. If decreased traffic levels occur and persist, implementation of all the proposed projects may not be financially feasible. It should also be noted, however, that if the forecast activity levels are not met, then a number of the planned capital improvements may not be necessary.

Financial Plan Tables

Tables H1 through H5, which provide the detailed financial analysis for implementation of the Master Plan CIP, are provided on the following pages.

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Table H1

Master Plan Update Capital Improvement Program
Estimated Project Costs and Development Schedule

28-Apr-09

Capital Improvement Program	Funding Schedule								
	Phase I						Phase II	Phase III	Total
	2009	2010	2011	2012	2013	Total	2014-2018	2019-2021	Funding
Funds Used for Capital Improvement Projects						468,749			
AIP Entitlement Grants	$1,668,347	$1,881,968	$2,054,000	$2,087,124	$2,121,109	$9,812,549	$11,147,068	$7,156,286	$28,115,903
AIP Discretionary Grants	0	3,740,134	3,870,711	474,721	22,253,891	30,339,457	74,102,223	9,776,127	114,217,807
AIP Discretionary Grants - ARRA	15,906,316	0	0	0	0	15,906,316	0	0	15,906,316
CDOT Aviation Grants	250,000	250,000	250,000	67,417	432,583	1,250,000	1,250,000	445,590	2,945,590
Passenger Facility Charges	2,157,591	873,639	896,354	919,659	943,570	5,790,812	5,098,850	3,388,615	14,278,278
Less GARB Series 2007 - Net Debt Service (New Money)	(1,370,297)	(1,374,982)	(1,373,102)	(1,374,507)	(1,373,927)	(6,866,815)	(6,862,655)	(4,113,296)	(17,842,766)
RAC Customer Facility Charges	509,000	441,180	452,651	464,420	476,495	2,343,745	2,540,366	1,485,594	6,369,705
SIB Loan (10 yrs, 3%)	4,000,000	0	0	0	0	4,000,000	0	0	4,000,000
Less SIB Debt Service	(234,461)	(468,922)	(468,922)	(468,922)	(468,922)	(2,110,149)	(2,344,610)	(234,461)	(4,689,220)
Other Funding	0	187,464	0	5,737,615	27,179,476	33,104,556	48,110,337	0	81,214,893
Net Operating Cash Flow	788,353	872,148	962,452	1,059,713	1,164,408	4,847,074	7,690,197	6,470,424	19,007,696
Funds Available Current Year	23,674,849	6,402,630	6,644,144	8,967,239	52,728,683	98,417,544	140,731,776	24,374,880	263,524,201
Beginning Cash Balance/Funds Carried Over from Prior Year	2,936,000	4,517,412	3,166,346	3,359,137	2,744,559	2,936,000	1,095,386	1,711,861	2,936,000
Funds Used Current Year	(22,093,437)	(7,753,696)	(6,451,352)	(9,581,817)	(54,377,856)	(100,258,158)	(140,115,302)	(17,823,593)	(258,197,053)
Funds Carried Over to Next Year	$4,517,412	$3,166,346	$3,359,137	$2,744,559	$1,095,386	$1,095,386	$1,711,861	$8,263,147	$8,263,147

			Estimated Project Costs and Development Schedule								
				Phase I					Phase II	Phase III	Total
	Capital Project Description	2008 Base Year Costs	2009	2010	2011	2012	2013	Total	2014-2018	2019-2021	Escalated Costs
Phase I Projects (2009-2013)											
1	Reconstruct Rental Car Parking Lot	$4,000,000	$4,140,000					$4,140,000			$4,140,000
2	Architectural Fees (various projects)	200,000	207,000					207,000			207,000
3	South Round-About Signage & Landscaping	250,000	258,750					258,750			258,750
4	29 Road Land Purchase (future airport dev)	300,000	310,500					310,500			310,500
5	Air Cargo Apron Phase II - Utilities	526,316	544,737					544,737			544,737
6	Reconstruct Air Carrier Apron (Amend AIP 34)	354,210	366,607					366,607			366,607
7	General Aviation Ramp Rehab - Phase I (ASR)	8,000,000	8,280,000					8,280,000			8,280,000
8	General Aviation Ramp Rehab - Phase II (ASR)	4,210,526	4,357,894					4,357,894			4,357,894
9	Construct Perimeter Fence - Phase I	3,157,895	3,268,421					3,268,421			3,268,421
10	Fog Seal - A/C Ramp, R/W 4/22; T/Ws A, C & C1A	347,369	359,527					359,527			359,527
	Totals for FY 2009	$21,346,316	$22,093,437	$0	$0	$0	$0	$22,093,437	$0	$0	$22,093,437
11	Air Carrier Ramp Phase II (ASR)	5,263,158		5,638,026				5,638,026			5,638,026
12	EA - ATCT	175,000		187,464				187,464			187,464
13	EA - R/W 11/29, ATCT & 27 1/4 Road	1,050,000		1,124,786				1,124,786			1,124,786
14	Architectural Fees (various projects)	250,000		267,806				267,806			267,806
15	BLM Land Transfer Cost - Phase I (future airport dev)	500,000		535,613				535,613			535,613
	Totals for FY 2010	$7,238,158	$0	$7,753,696	$0	$0	$0	$7,753,696	$0	$0	$7,753,696
16	Construct Perimeter Fence - Phase II	5,625,000			6,236,538			6,236,538			6,236,538
17	BLM Land Transfer Cost - Phase II (future airport dev)	193,750			214,814			214,814			214,814
	Totals for FY 2011	$5,818,750	$0	$0	$6,451,352	$0	$0	$6,451,352	$0	$0	$6,451,352
18	GA Expansion Ramp Embankment	1,000,000				1,147,523		1,147,523			1,147,523
19	3000 Gallon ARFF Vehicle	850,000				975,395		975,395			975,395
20	New Runway 11/29 - Grading & Drainage Design	1,500,000				1,721,285		1,721,285			1,721,285
21	ATCT Infrastructure	5,000,000				5,737,615		5,737,615			5,737,615
	Totals for FY 2012	$8,350,000	$0	$0	$0	$9,581,817	$0	$9,581,817	$0	$0	$9,581,817
22	New R/W 11/29 - Ph I (Drainage, Infrastructure & Earthwork)	23,157,895					23,157,895	23,157,895			23,157,895
23	R/W 11/29 - Realign County 27 1/4 Road	2,500,000					2,500,000	2,500,000			2,500,000
24	Construct New ATCT	6,500,000					7,719,961	7,719,961			7,719,961
25	Rental Car Service Facility	6,000,000					6,000,000	6,000,000			6,000,000
26	Administration Office Building	15,000,000					15,000,000	15,000,000			15,000,000
	Totals for FY 2013	$53,157,895	$0	$0	$0	$0	$54,377,856	$54,377,856	$0	$0	$54,377,856
Total Phase I Project Costs		$95,911,119	$22,093,437	$7,753,696	$6,451,352	$9,581,817	$54,377,856	$100,258,158	$0	$0	$100,258,158

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Table H1

Master Plan Update Capital Improvement Program
Estimated Project Costs and Development Schedule

28-Apr-09

Capital Improvement Program	Funding Schedule								
	Phase I						Phase II	Phase III	Total
	2009	2010	2011	2012	2013	Total	2014-2018	2019-2021	Funding
Funds Used for Capital Improvement Projects						468,749			
AIP Entitlement Grants	$1,668,347	$1,881,968	$2,054,000	$2,087,124	$2,121,109	$9,812,549	$11,147,068	$7,156,286	$28,115,903
AIP Discretionary Grants	0	3,740,134	3,870,711	474,721	22,253,891	30,339,457	74,102,223	9,776,127	114,217,807
AIP Discretionary Grants - ARRA	15,906,316	0	0	0	0	15,906,316	0	0	15,906,316
CDOT Aviation Grants	250,000	250,000	250,000	67,417	432,583	1,250,000	1,250,000	445,590	2,945,590
Passenger Facility Charges	2,157,591	873,639	896,354	919,659	943,570	5,790,812	5,098,850	3,388,615	14,278,278
Less GARB Series 2007 - Net Debt Service (New Money)	(1,370,297)	(1,374,982)	(1,373,102)	(1,374,507)	(1,373,927)	(6,866,815)	(6,862,655)	(4,113,296)	(17,842,766)
RAC Customer Facility Charges	509,000	441,180	452,651	464,420	476,495	2,343,745	2,540,366	1,485,594	6,369,705
SIB Loan (10 yrs, 3%)	4,000,000	0	0	0	0	4,000,000	0	0	4,000,000
Less SIB Debt Service	(234,461)	(468,922)	(468,922)	(468,922)	(468,922)	(2,110,149)	(2,344,610)	(234,461)	(4,689,220)
Other Funding	0	187,464	0	5,737,615	27,179,476	33,104,556	48,110,337	0	81,214,893
Net Operating Cash Flow	788,353	872,148	962,452	1,059,713	1,164,408	4,847,074	7,690,197	6,470,424	19,007,696
Funds Available Current Year	23,674,849	6,402,630	6,644,144	8,967,239	52,728,683	98,417,544	140,731,776	24,374,880	263,524,201
Beginning Cash Balance/Funds Carried Over from Prior Year	2,936,000	4,517,412	3,166,346	3,359,137	2,744,559	2,936,000	1,095,386	1,711,861	2,936,000
Funds Used Current Year	(22,093,437)	(7,753,696)	(6,451,352)	(9,581,817)	(54,377,856)	(100,258,158)	(140,115,302)	(17,823,593)	(258,197,053)
Funds Carried Over to Next Year	$4,517,412	$3,166,346	$3,359,137	$2,744,559	$1,095,386	$1,095,386	$1,711,861	$8,263,147	$8,263,147

Capital Project Description	2008 Base Year Costs	Estimated Project Costs and Development Schedule								
		Phase I						Phase II	Phase III	Total Escalated
		2009	2010	2011	2012	2013	Total	2014-2018	2019-2021	Costs
Phase II Projects (2014-2018)										
27 New Runway 11/29 - Phase II (Earthwork, Electrical, Seeding, Base Course) - 2014	$23,322,082						$0	$23,322,082		$23,322,082
28 New Passenger Terminal Building - 2015	50,000,000						0	50,000,000		50,000,000
29 Terminal Air Carrier Apron (ASR) Phase III - 2015	7,250,000						0	9,384,057		9,384,057
30 Rehabilitate R/W 4/22 - 2016	2,105,263						0	2,724,953		2,724,953
31 New Runway 11/29 - Phase III (Paving) - 2017	27,342,105						0	27,342,105		27,342,105
32 New Runway 11/29 - Phase IV (Paving, NAVAIDs) - 2018	27,342,105						0	27,342,105		27,342,105
Total Phase II Project Costs	$137,361,555	$0	$0	$0	$0	$0	$0	$140,115,302	$0	$140,115,302
Phase III Projects (2019-2021)										
33 Relocate Taxiway C - 2020	$6,000,000						$0		$8,911,797	$8,911,797
34 Ramp Expansion - 2021	6,000,000						0		8,911,797	8,911,797
Total Phase III Project Costs	$12,000,000	$0	$0	$0	$0	$0	$0	$0	$17,823,593	$17,823,593
Total Project Costs	$245,272,674	$22,093,437	$7,753,696	$6,451,352	$9,581,817	$54,377,856	$100,258,158	$140,115,302	$17,823,593	$258,197,053

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Table H2

Master Plan Update Capital Improvement Program
Projected Capital Funding Sources

28-Apr-09

	Capital Improvement Projects	Total Escalated Costs	AIP Entitlement Funding	AIP Discretionary Funding	AIP ARRA Discretionary Funding	Total AIP Funding	CDOT Aviation Grants	Passenger Facility Charges	RAC Customer Facility Charges	Other Funding	Cash Reserves/ Net Operating Cash Flow	Total Funding
Phase I Projects (2009-2013)												
1	Reconstruct Rental Car Parking Lot	$4,140,000				$0			$4,140,000			$4,140,000
2	Architectural Fees (various projects)	207,000				0					207,000	207,000
3	South Round-About Signage & Landscaping	258,750				0					258,750	258,750
4	29 Road Land Purchase (future airport dev)	310,500				0					310,500	310,500
5	Air Cargo Apron Phase II - Utilities	544,737	517,500			517,500	13,618				13,618	544,737
6	Reconstruct Air Carrier Apron (Amend AIP 34)	366,607	348,277			348,277	9,165				9,165	366,607
7	General Aviation Ramp Rehab - Phase I (ASR)	8,280,000			8,280,000	8,280,000					0	8,280,000
8	General Aviation Ramp Rehab - Phase II (ASR)	4,357,894			4,357,894	4,357,894					0	4,357,894
9	Construct Perimeter Fence - Phase I	3,268,421			3,268,421	3,268,421					0	3,268,421
10	Fog Seal - A/C Ramp, R/W 4/22; T/Ws A, C & C1A	359,527				0	227,216				132,311	359,527
	Totals for FY 2009	$22,093,437	$865,777	$0	$15,906,316	$16,772,093	$250,000	$0	$4,140,000	$0	$931,344	$22,093,437
11	Air Carrier Ramp Phase II (ASR)	5,638,026	2,684,538	2,671,587		5,356,125	140,951				140,951	5,638,026
12	EA - ATCT	187,464				0				187,464	0	187,464
13	EA - R/W 11/29, ATCT & 27 1/4 Road	1,124,786		1,068,547		1,068,547	28,120				28,120	1,124,786
14	Architectural Fees (various projects)	267,806				0					267,806	267,806
15	BLM Land Transfer Cost - Phase I (future airport dev)	535,613				0	80,930				454,683	535,613
	Totals for FY 2010	$7,753,696	$2,684,538	$3,740,134	$0	$6,424,672	$250,000	$0	$0	$187,464	$891,559	$7,753,696
16	Construct Perimeter Fence - Phase II	6,236,538	2,054,000	3,870,711		5,924,711	155,913				155,913	6,236,538
17	BLM Land Transfer Cost - Phase II (future airport dev)	214,814				0	94,087				120,728	214,814
	Totals for FY 2011	$6,451,352	$2,054,000	$3,870,711	$0	$5,924,711	$250,000	$0	$0	$0	$276,641	$6,451,352
18	GA Expansion Ramp Embankment	1,147,523				0					1,147,523	1,147,523
19	3000 Gallon ARFF Vehicle	975,395	926,625			926,625	24,385				24,385	975,395
20	New Runway 11/29 - Grading & Drainage Design	1,721,285	1,160,499	474,721		1,635,220	43,032				43,032	1,721,285
21	ATCT Infrastructure	5,737,615				0				5,737,615	0	5,737,615
	Totals for FY 2012	$9,581,817	$2,087,124	$474,721	$0	$2,561,845	$67,417	$0	$0	$5,737,615	$1,214,940	$9,581,817
22	New R/W 11/29 - Ph I (Drainage, Infrastructure & Earthwork)	23,157,895	2,000,000	20,000,000		22,000,000	370,083				787,812	23,157,895
23	R/W 11/29 - Realign County 27 1/4 Road	2,500,000	121,109	2,253,891		2,375,000	62,500				62,500	2,500,000
24	Construct New ATCT	7,719,961				0				7,719,961	0	7,719,961
25	Rental Car Service Facility	6,000,000				0			1,540,485	4,459,515	0	6,000,000
26	Administration Office Building	15,000,000				0				15,000,000		15,000,000
	Totals for FY 2013	$54,377,856	$2,121,109	$22,253,891	$0	$24,375,000	$432,583	$0	$1,540,485	$27,179,476	$850,312	$54,377,856
Total Phase I Projects		$100,258,158	$9,812,549	$30,339,457	$15,906,316	$56,058,321	$1,250,000	$0	$5,680,485	$33,104,556	$4,164,796	$100,258,158

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Table H2

Master Plan Update Capital Improvement Program
Projected Capital Funding Sources

28-Apr-09

Capital Improvement Projects	Total Escalated Costs	AIP Entitlement Funding	AIP Discretionary Funding	AIP ARRA Discretionary Funding	Total AIP Funding	CDOT Aviation Grants	Passenger Facility Charges	RAC Customer Facility Charges	Other Funding	Cash Reserves/ Net Operating Cash Flow	Total Funding
Phase II Projects (2014-2018)					0						
27 New Runway 11/29 - Phase II (Earthwork, Electrical, Seeding, Base Course) - 2014	$23,322,082	$2,155,978	$20,000,000		$22,155,978	$250,000				$916,104	$23,322,082
28 New Passenger Terminal Building - 2015	50,000,000				0		1,889,663		48,110,337	0	50,000,000
29 Terminal Air Carrier Apron (ASR) Phase III - 2015	9,384,057	2,191,753	6,723,101		8,914,854	234,601				234,601	9,384,057
30 Rehabilitate R/W 4/22 - 2016	2,724,953	2,228,459			2,228,459	68,124				428,370	2,724,953
31 New Runway 11/29 - Phase III (Paving) - 2017	27,342,105	2,266,119	23,708,881		25,975,000	447,275				919,830	27,342,105
32 New Runway 11/29 - Phase IV (Paving, NAVAIDs) - 2018	27,342,105	2,304,758	23,670,242		25,975,000	250,000				1,117,105	27,342,105
Total Phase II Projects	$140,115,302	$11,147,068	$74,102,223	$0	$85,249,291	$1,250,000	$1,889,663	$0	$48,110,337	$3,616,011	$140,115,302
Phase III Projects (2019-2021)											
33 Relocate Taxiway C - 2020	$8,911,797	$4,729,478	$3,736,729		$8,466,207	$222,795				$222,795	$8,911,797
34 Ramp Expansion - 2021	8,911,797	2,426,808	6,039,399		8,466,207	222,795				222,795	8,911,797
Total Phase III Projects	$17,823,593	$7,156,286	$9,776,127	$0	$16,932,414	$445,590	$0	$0	$0	$445,590	$17,823,593
Total Projects	$258,197,053	$28,115,903	$114,217,807	$15,906,316	$158,240,026	$2,945,590	$1,889,663	$5,680,485	$81,214,893	$8,226,397	$258,197,053

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Table H3

Master Plan Update Capital Improvement Program
Actual, Estimated, Budgeted and Projected Operations & Maintenance Expenses

28-Apr-09

				Phase I						Phase II	Phase III
	Actual	Actual	Estimated	Budgeted	Projected					Projected	Projected
Operations & Maintenance Expenses	2006	2007	2008	2009	2010	2011	2012	2013	Total	2014-2018	2019-2021
ADMINISTRATION											
Salaries & Benefits:											
Salaries & Wages	$238,836	$230,160	$216,563	$285,738	$295,739	$306,090	$316,803	$327,891	$1,532,260	$1,819,845	$1,252,000
Employee Benefits - 5%	55,670	74,248	64,201	89,986	94,485	99,210	104,170	109,379	497,229	634,605	462,086
Total Salaries & Benefits	$294,506	$304,408	$280,764	$375,724	$390,224	$405,299	$420,973	$437,269	$2,029,490	$2,454,449	$1,714,086
Annual Growth Rate	-	3.4%	-7.8%	33.8%	3.9%	3.9%	3.9%	3.9%	9.3%	3.9%	3.9%
Materials & Supplies:											
Office Supplies	$15,909	$14,441	$5,015	$10,000	$10,350	$10,712	$11,087	$11,475	$53,625	$63,689	$43,816
Materials & Supplies	2,492	3,585	4,212	6,000	6,210	6,427	6,652	6,885	32,175	38,214	26,290
Total Materials & Supplies	$18,401	$18,026	$9,227	$16,000	$16,560	$17,140	$17,739	$18,360	$85,799	$101,903	$70,106
Annual Growth Rate	-	-2.0%	-48.8%	73.4%	3.5%	3.5%	3.5%	3.5%	14.8%	3.5%	3.5%
Other Operating Expenses:											
Personnel Services	$14,212	$4,257	$3,895	$4,000	$4,140	$4,285	$4,435	$4,590	$21,450	$25,476	$17,527
Insurance	103,571	49,312	29,581	26,919	27,861	28,836	29,846	30,890	144,352	171,445	117,949
Education & Training	16,964	14,192	36,424	26,000	26,910	27,852	28,827	29,836	139,424	165,592	113,923
Routine Travel	(847)	9,663	5,744	12,000	12,420	12,855	13,305	13,770	64,350	76,427	52,580
Professional Services	45,076	34,261	8,628	30,000	31,050	32,137	33,262	34,426	160,874	191,068	131,449
Purchased Services	190	310	130	100	104	107	111	115	536	637	438
Professional Dues	4,566	4,772	4,895	4,000	4,140	4,285	4,435	4,590	21,450	25,476	17,527
Legal Services	10,781	10,154	45,601	40,000	41,400	42,849	44,349	45,901	214,499	254,757	175,265
Bank Service Charges	0	3,689	5,607	6,000	6,210	6,427	6,652	6,885	32,175	38,214	26,290
Licenses & Fees	0	185	70	500	518	536	554	574	2,681	3,184	2,191
Audting	9,876	8,325	10,575	17,000	17,595	18,211	18,848	19,508	91,162	108,272	74,488
Publications	2,592	265	1,914	1,000	1,035	1,071	1,109	1,148	5,362	6,369	4,382
Board Expense	2,151	3,002	1,062	1,100	1,139	1,178	1,220	1,262	5,899	7,006	4,820
Meals	1,549	1,958	3,950	2,000	2,070	2,142	2,217	2,295	10,725	12,738	8,763
Postage & Shipping	3,429	2,152	3,952	5,000	5,175	5,356	5,544	5,738	26,812	31,845	21,908
Personnel Recruiting	8,171	3,303	3,702	5,000	5,175	5,356	5,544	5,738	26,812	31,845	21,908
Customer Service Program	3,168	1,758	1,922	5,000	5,175	5,356	5,544	5,738	26,812	31,845	21,908
Marketing	9,823	79,241	72,318	40,000	41,400	42,849	44,349	45,901	214,499	254,757	175,265
Advertising & Promotions	26,780	6,703	62,105	65,000	67,275	69,630	72,067	74,589	348,560	413,980	284,806
Bad Debt	0	4,453	0	0	0	0	0	0	0	0	0
Contingency/Miscellaneous	0	0	0	50,000	51,750	53,561	55,436	57,376	268,123	318,446	219,082
Reimbursable Expenses	23	(9)	65	100	104	107	111	115	536	637	438
Total Other Operating Expenses	$262,075	$241,946	$302,140	$340,719	$352,644	$364,987	$377,761	$390,983	$1,827,094	$2,170,015	$1,492,907
Annual Growth Rate	-	-7.7%	24.9%	12.8%	3.5%	3.5%	3.5%	3.5%	5.3%	3.5%	3.5%
Total ADMINISTRATION O&M Expenses	$574,982	$564,380	$592,131	$732,443	$759,428	$787,426	$816,474	$846,613	$3,942,383	$4,726,367	$3,277,100
Annual Growth Rate	-	-1.8%	4.9%	23.7%	3.7%	3.7%	3.7%	3.7%	7.4%	3.7%	3.7%

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Actual, Estimated, Budgeted and Projected Operations & Maintenance Expenses

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				Phase I						Phase II	Phase III
	Actual	Actual	Estimated	Budgeted	Projected					Projected	Projected
Operations & Maintenance Expenses	2006	2007	2008	2009	2010	2011	2012	2013	Total	2014-2018	2019-2021
TERMINAL											
Salaries & Benefits:											
Salaries & Wages	$241,524	$287,833	$239,277	$254,335	$263,237	$272,450	$281,986	$291,855	$1,363,863	$1,619,841	$1,114,404
Employee Benefits - 5%	55,956	87,353	97,278	107,123	112,479	118,103	124,008	130,209	591,922	755,459	550,086
Total Salaries & Benefits	$297,480	$375,186	$336,555	$361,458	$375,716	$390,553	$405,994	$422,064	$1,955,785	$2,375,301	$1,664,490
Annual Growth Rate	-	26.1%	-10.3%	7.4%	3.9%	3.9%	4.0%	4.0%	4.6%	4.0%	4.0%
Materials & Supplies:											
Office Supplies	$0	$179	$0	$0	$0	$0	$0	$0	$0	$0	$0
Materials & Supplies	27,094	32,322	32,236	33,000	34,155	35,350	36,588	37,868	176,961	210,175	144,594
Vending Machine Costs	0	3,156	9,389	9,700	10,040	10,391	10,755	11,131	52,016	61,779	42,502
Tools & Equipment/Computers	3,427	2,673	2,635	2,500	2,588	2,678	2,772	2,869	13,406	15,922	10,954
Total Materials & Supplies	$30,521	$38,330	$44,260	$45,200	$46,782	$48,419	$50,114	$51,868	$242,383	$287,876	$198,050
Annual Growth Rate	-	25.6%	15.5%	2.1%	3.5%	3.5%	3.5%	3.5%	3.2%	3.5%	3.5%
Repairs & Maintenance:											
HVAC	$11,557	$17,004	$7,428	$21,000	$21,735	$22,496	$23,283	$24,098	$112,612	$133,747	$92,014
Repairs & Maintenance	45,574	73,455	57,820	40,000	41,400	42,849	44,349	45,901	214,499	254,757	175,265
Boarding Bridge Maintenance	0	0	0	25,000	25,875	26,781	27,718	28,688	134,062	159,223	109,541
Elevators & Escalators	23,699	52,743	20,147	50,000	51,750	53,561	55,436	57,376	268,123	318,446	219,082
Scheduled Replacements	0	6,145	58,828	54,500	56,408	58,382	60,425	62,540	292,254	347,107	238,799
Snow Removal	0	0	170	2,000	2,070	2,142	2,217	2,295	10,725	12,738	8,763
Total Repairs & Maintenance	$80,830	$149,347	$144,393	$192,500	$199,238	$206,211	$213,428	$220,898	$1,032,275	$1,226,019	$843,465
Annual Growth Rate	-	84.8%	-3.3%	33.3%	3.5%	3.5%	3.5%	3.5%	8.9%	3.5%	3.5%
Utilities: - 5%											
Telephone	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Utilities-Gas	30,214	23,416	19,473	48,205	50,615	53,146	55,803	58,593	266,363	339,954	247,537
Utilities-Electric	112,536	106,005	148,313	155,000	162,750	170,888	179,432	188,403	856,473	1,093,100	795,939
Utilities-Water	7,479	5,821	8,084	8,570	8,999	9,448	9,921	10,417	47,355	60,438	44,008
Utilities-Trash	5,545	5,618	6,212	6,963	7,311	7,677	8,061	8,464	38,475	49,105	35,756
Utilities-Sewer	3,778	3,803	3,899	4,285	4,499	4,724	4,960	5,208	23,677	30,219	22,004
Total Utilities	$159,552	$144,663	$185,981	$223,023	$234,174	$245,883	$258,177	$271,086	$1,232,343	$1,572,816	$1,145,243
Annual Growth Rate	-	-9.3%	28.6%	19.9%	5.0%	5.0%	5.0%	5.0%	7.8%	5.0%	5.0%
Other Operating Expenses:											
Personnel Services	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Insurance	1,756	40,255	42,780	44,015	45,556	47,150	48,800	50,508	236,029	280,328	192,858
Education & Training	2,556	880	0	4,000	4,140	4,285	4,435	4,590	21,450	25,476	17,527
Routine Travel	778	100	0	0	0	0	0	0	0	0	0
Purchased Services	4,803	6,585	10,458	10,800	11,178	11,569	11,974	12,393	57,915	68,784	47,322
Professional Dues	225	480	225	450	466	482	499	516	2,413	2,866	1,972
Total Other Operating Expenses	$10,118	$48,300	$53,463	$59,265	$61,339	$63,486	$65,708	$68,008	$317,807	$377,454	$259,678
Annual Growth Rate	-	377.4%	10.7%	10.9%	3.5%	3.5%	3.5%	3.5%	4.9%	3.5%	3.5%
Total TERMINAL O&M Expenses	$578,501	$755,826	$764,652	$881,446	$917,249	$954,552	$993,421	$1,033,924	$4,780,592	$5,839,465	$4,110,926
Annual Growth Rate	-	30.7%	1.2%	15.3%	4.1%	4.1%	4.1%	4.1%	6.2%	4.1%	4.1%

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				Phase I						Phase II	Phase III
	Actual	Actual	Estimated	Budgeted	Projected					Projected	Projected
Operations & Maintenance Expenses	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**Total**	**2014-2018**	**2019-2021**
AIRPORT OPERATIONS											
Salaries & Benefits:											
Salaries & Wages	$211,379	$210,526	$184,692	$287,317	$297,373	$307,781	$318,553	$329,703	$1,540,728	$1,829,901	$1,258,919
Employee Benefits - 5%	73,427	60,936	66,401	103,549	108,726	114,163	119,871	125,864	572,174	730,255	531,733
Total Salaries & Benefits	$284,806	$271,462	$251,093	$390,866	$406,100	$421,944	$438,424	$455,567	$2,112,901	$2,560,156	$1,790,652
Annual Growth Rate	-	-4.7%	-7.5%	55.7%	3.9%	3.9%	3.9%	3.9%	12.7%	3.9%	3.9%
Materials & Supplies:											
Office Supplies	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Materials & Supplies	1,372	2,506	2,631	2,700	2,795	2,892	2,994	3,098	14,479	17,196	11,830
Tools & Equipment/Computers	1,548	1,628	238	1,200	1,242	1,285	1,330	1,377	6,435	7,643	5,258
Total Materials & Supplies	$2,920	$4,134	$2,869	$3,900	$4,037	$4,178	$4,324	$4,475	$20,914	$24,839	$17,088
Annual Growth Rate	-	41.6%	-30.6%	35.9%	3.5%	3.5%	3.5%	3.5%	9.3%	3.5%	3.5%
Repairs & Maintenance:											
Repairs & Maintenance	$5,519	$13,712	$1,705	$5,000	$5,175	$5,356	$5,544	$5,738	$26,812	$31,845	$21,908
Scheduled Replacements	194	0	0	0	0	0	0	0	0	0	0
Pavement Maintenance	18,658	2,961	15,648	20,000	20,700	21,425	22,174	22,950	107,249	127,379	87,633
Snow Removal	239	3,117	326	300	311	321	333	344	1,609	1,911	1,314
Runway & Taxiway Lighting	1,184	3,952	2,512	3,500	3,623	3,749	3,881	4,016	18,769	22,291	15,336
Total Repairs & Maintenance	$25,794	$23,742	$20,191	$28,800	$29,808	$30,851	$31,931	$33,049	$154,439	$183,425	$126,191
Annual Growth Rate	-	-8.0%	-15.0%	42.6%	3.5%	3.5%	3.5%	3.5%	10.4%	3.5%	3.5%
Utilities: - 5%											
Utilities-Electric	$12,932	$14,733	$16,629	$17,140	$17,997	$18,897	$19,842	$20,834	$94,709	$120,876	$88,015
Utilities-Water	714	0	0	1,500	1,575	1,654	1,736	1,823	8,288	10,578	7,703
Total Utilities	$13,646	$14,733	$16,629	$18,640	$19,572	$20,551	$21,578	$22,657	$102,998	$131,454	$95,718
Annual Growth Rate	-	8.0%	12.9%	12.1%	5.0%	5.0%	5.0%	5.0%	6.4%	5.0%	5.0%
Other Operating Expenses:											
Insurance	$0	$10,440	$12,222	$14,577	$15,087	$15,615	$16,162	$16,727	$78,169	$92,840	$63,871
Education & Training	8,531	4,628	121	7,500	7,763	8,034	8,315	8,606	40,218	47,767	32,862
Purchased Services	355	226	0	200	207	214	222	230	1,072	1,274	876
Professional Dues	0	438	0	0	0	0	0	0	0	0	0
Glycol Disposal	4,325	6,250	6,025	6,200	6,417	6,642	6,874	7,115	33,247	39,487	27,166
Contingency/Miscellaneous	(18)	558	0	0	0	0	0	0	0	0	0
Total Other Operating Expenses	$13,193	$22,540	$18,368	$28,477	$29,474	$30,505	$31,573	$32,678	$152,707	$181,368	$124,776
Annual Growth Rate	-	70.8%	-18.5%	55.0%	3.5%	3.5%	3.5%	3.5%	12.2%	3.5%	3.5%
Total AIRPORT OPS O&M Expenses	$340,359	$336,611	$309,150	$470,683	$488,990	$508,029	$527,831	$548,426	$2,543,959	$3,081,242	$2,154,426
Annual Growth Rate	-	-1.1%	-8.2%	52.3%	3.9%	3.9%	3.9%	3.9%	12.1%	3.9%	3.9%

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				Phase I						Phase II	Phase III
	Actual	Actual	Estimated	Budgeted	Projected					Projected	Projected
Operations & Maintenance Expenses	2006	2007	2008	2009	2010	2011	2012	2013	Total	2014-2018	2019-2021
ARFF											
Salaries & Benefits:											
Salaries & Wages	$46,920	$67,653	$126,762	$186,199	$192,716	$199,461	$206,442	$213,668	$998,486	$1,185,888	$815,856
Employee Benefits - 5%	8,050	21,170	39,602	70,155	73,663	77,346	81,213	85,274	387,651	494,751	360,252
Total Salaries & Benefits	$54,970	$88,823	$166,364	$256,354	$266,379	$276,807	$287,655	$298,941	$1,386,136	$1,680,639	$1,176,109
Annual Growth Rate	-	61.6%	87.3%	54.1%	3.9%	3.9%	3.9%	3.9%	12.4%	3.9%	4.0%
Materials & Supplies:											
Materials & Supplies	$3,912	$206	$2,611	$2,500	$2,588	$2,678	$2,772	$2,869	$13,406	$15,922	$10,954
Tools & Equipment/Computers	3,527	1,690	0	1,000	1,035	1,071	1,109	1,148	5,362	6,369	4,382
ARFF Supplies	2,063	4,445	1,268	4,000	4,140	4,285	4,435	4,590	21,450	25,476	17,527
Total Materials & Supplies	$9,502	$6,341	$3,879	$7,500	$7,763	$8,034	$8,315	$8,606	$40,218	$47,767	$32,862
Annual Growth Rate	-	-33.3%	-38.8%	93.3%	3.5%	3.5%	3.5%	3.5%	17.3%	3.5%	3.5%
Repairs & Maintenance:											
Repairs & Maintenance	$76	$192	$1,181	$1,500	$1,553	$1,607	$1,663	$1,721	$8,044	$9,553	$6,572
Elevators & Escalators	0	4,985	0	6,000	6,210	6,427	6,652	6,885	32,175	38,214	26,290
Total Repairs & Maintenance	$76	$5,177	$1,181	$7,500	$7,763	$8,034	$8,315	$8,606	$40,218	$47,767	$32,862
Annual Growth Rate	-	6711.8%	-77.2%	535.1%	3.5%	3.5%	3.5%	3.5%	48.8%	3.5%	3.5%
Other Operating Expenses:											
Education & Training	$12,378	$13,901	$21,889	$16,000	$16,560	$17,140	$17,739	$18,360	$85,799	$101,903	$70,106
Purchased Services	60	0	90	100	104	107	111	115	536	637	438
Professional Dues	1,135	189	1,235	1,000	1,035	1,071	1,109	1,148	5,362	6,369	4,382
Total Other Operating Expenses	$13,573	$14,090	$23,214	$17,100	$17,699	$18,318	$18,959	$19,623	$91,698	$108,909	$74,926
Annual Growth Rate	-	3.8%	64.8%	-26.3%	3.5%	3.5%	3.5%	3.5%	-3.3%	3.5%	3.5%
Total ARFF O&M Expenses	$78,121	$114,431	$194,638	$288,454	$299,602	$311,193	$323,245	$335,777	$1,558,272	$1,885,082	$1,316,759
Annual Growth Rate	-	46.5%	70.1%	48.2%	3.9%	3.9%	3.9%	3.9%	11.5%	3.9%	3.9%

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				Phase I						Phase II	Phase III
	Actual	Actual	Estimated	Budgeted	Projected					Projected	Projected
Operations & Maintenance Expenses	2006	2007	2008	2009	2010	2011	2012	2013	Total	2014-2018	2019-2021
SECURITY											
Salaries & Benefits:											
Salaries & Wages	$49,399	$63,347	$73,962	$98,467	$101,913	$105,480	$109,172	$112,993	$528,026	$627,129	$431,447
Employee Benefits - 5%	9,198	17,549	24,333	33,842	35,534	37,311	39,176	41,135	186,998	238,663	173,782
Total Salaries & Benefits	$58,597	$80,896	$98,295	$132,309	$137,447	$142,791	$148,348	$154,128	$715,024	$865,792	$605,228
Annual Growth Rate	-	38.1%	21.5%	34.6%	3.9%	3.9%	3.9%	3.9%	9.4%	3.9%	3.9%
Materials & Supplies:											
Office Supplies	$203	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Materials & Supplies	1,660	7,290	137	2,500	2,588	2,678	2,772	2,869	13,406	15,922	10,954
Tools & Equipment/Computers	111	0	0	0	0	0	0	0	0	0	0
Total Materials & Supplies	$1,974	$7,290	$137	$2,500	$2,588	$2,678	$2,772	$2,869	$13,406	$15,922	$10,954
Annual Growth Rate	-	269.3%	-98.1%	1724.8%	3.5%	3.5%	3.5%	3.5%	83.7%	3.5%	3.5%
Repairs & Maintenance:											
Repairs & Maintenance	$9,209	$1,198	$24,248	$500	$518	$536	$554	$574	$2,681	$3,184	$2,191
Scheduled Replacements	0	0	9,121	12,000	12,420	12,855	13,305	13,770	64,350	76,427	52,580
Total Repairs & Maintenance	$9,209	$1,198	$33,369	$12,500	$12,938	$13,390	$13,859	$14,344	$67,031	$79,612	$54,770
Annual Growth Rate	-	-87.0%	2685.4%	-62.5%	3.5%	3.5%	3.5%	3.5%	-15.5%	3.5%	3.5%
Other Operating Expenses:											
Education & Training	$0	$3,152	$0	$4,000	$4,140	$4,285	$4,435	$4,590	$21,450	$25,476	$17,527
Professional Services	38,549	0	0	8,500	8,798	9,105	9,424	9,754	45,581	54,136	37,244
Purchased Services	10,980	(1,739)	7,450	6,000	6,210	6,427	6,652	6,885	32,175	38,214	26,290
TSA Required LEO	116,990	173,526	164,109	160,000	165,600	171,396	177,395	183,604	857,995	1,019,028	701,062
Professional Dues	0	268	225	200	207	214	222	230	1,072	1,274	876
Postage & Shipping	0	29	38	1,500	1,553	1,607	1,663	1,721	8,044	9,553	6,572
Fingerprint Processing	3,000	2,500	0	2,500	2,588	2,678	2,772	2,869	13,406	15,922	10,954
Total Other Operating Expenses	$169,519	$177,736	$171,822	$182,700	$189,095	$195,713	$202,563	$209,652	$979,723	$1,163,603	$800,525
Annual Growth Rate	-	4.8%	-3.3%	6.3%	3.5%	3.5%	3.5%	3.5%	4.1%	3.5%	3.5%
Total SECURITY O&M Expenses	$239,299	$267,120	$303,623	$330,009	$342,067	$354,572	$367,542	$380,994	$1,775,184	$2,124,929	$1,471,478
Annual Growth Rate	-	11.6%	13.7%	8.7%	3.7%	3.7%	3.7%	3.7%	4.6%	3.7%	3.7%

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				Phase I						Phase II	Phase III
	Actual	Actual	Estimated	Budgeted	Projected					Projected	Projected
Operations & Maintenance Expenses	2006	2007	2008	2009	2010	2011	2012	2013	Total	2014-2018	2019-2021
GROUNDS & ROADWAYS											
Salaries & Benefits:											
Salaries & Wages	$105,136	$103,664	$166,883	$257,850	$266,875	$276,215	$285,883	$295,889	$1,382,712	$1,642,228	$1,129,805
Employee Benefits - 5%	26,307	45,434	62,571	103,264	108,427	113,849	119,541	125,518	570,599	728,245	530,270
Total Salaries & Benefits	$131,443	$149,098	$229,454	$361,114	$375,302	$390,064	$405,424	$421,407	$1,953,311	$2,370,473	$1,660,075
Annual Growth Rate	-	13.4%	53.9%	57.4%	3.9%	3.9%	3.9%	3.9%	12.9%	4.0%	4.0%
Materials & Supplies:											
Materials & Supplies	$1,214	$1,769	$13,300	$10,000	$10,350	$10,712	$11,087	$11,475	$53,625	$63,689	$43,816
Tools & Equipment/Computers	247	3,866	3,841	2,000	2,070	2,142	2,217	2,295	10,725	12,738	8,763
Total Materials & Supplies	$1,461	$5,635	$17,141	$12,000	$12,420	$12,855	$13,305	$13,770	$64,350	$76,427	$52,580
Annual Growth Rate	-	285.7%	204.2%	-30.0%	3.5%	3.5%	3.5%	3.5%	-4.3%	3.5%	3.5%
Repairs & Maintenance:											
Repairs & Maintenance	($481)	$11,663	$12,324	$13,000	$13,455	$13,926	$14,413	$14,918	$69,712	$82,796	$56,961
Pavement Maintenance	23	0	4,569	5,000	5,175	5,356	5,544	5,738	26,812	31,845	21,908
Snow Removal	413	684	517	2,000	2,070	2,142	2,217	2,295	10,725	12,738	8,763
Landscaping	0	24,478	0	50,000	51,750	53,561	55,436	57,376	268,123	318,446	219,082
Total Repairs & Maintenance	($45)	$36,825	$17,410	$70,000	$72,450	$74,986	$77,610	$80,327	$375,373	$445,825	$306,715
Annual Growth Rate	-	-	-52.7%	302.1%	3.5%	3.5%	3.5%	3.5%	35.8%	3.5%	3.5%
Utilities: - 5%											
Utilities-Electric	$17,267	$13,011	$21,160	$24,000	$25,200	$26,460	$27,783	$29,172	$132,615	$169,254	$123,242
Utilities-Water	110	149	136	1,071	1,125	1,181	1,240	1,302	5,918	7,553	5,500
Utilities-Trash	0	204	0	0	0	0	0	0	0	0	0
Total Utilities	$17,377	$13,364	$21,296	$25,071	$26,325	$27,641	$29,023	$30,474	$138,533	$176,807	$128,742
Annual Growth Rate	-	-23.1%	59.4%	17.7%	5.0%	5.0%	5.0%	5.0%	7.4%	5.0%	5.0%
Other Operating Expenses:											
Education & Training	$425	$0	$0	$1,000	$1,035	$1,071	$1,109	$1,148	$5,362	$6,369	$4,382
Purchased Services	17,587	0	0	0	0	0	0	0	0	0	0
Professional Dues	865	128	0	0	0	0	0	0	0	0	0
Total Other Operating Expenses	$18,877	$128	$0	$1,000	$1,035	$1,071	$1,109	$1,148	$5,362	$6,369	$4,382
Annual Growth Rate	-	-99.3%	-100.0%	-	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
Total GROUNDS & ROADWAYS O&M Exps	$169,113	$205,050	$285,301	$469,185	$487,532	$506,616	$526,470	$547,125	$2,536,928	$3,075,901	$2,152,493
Annual Growth Rate	-	21.3%	39.1%	64.5%	3.9%	3.9%	3.9%	3.9%	13.9%	3.9%	4.0%

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				Phase I						Phase II	Phase III
	Actual	Actual	Estimated	Budgeted	Projected					Projected	Projected
Operations & Maintenance Expenses	2006	2007	2008	2009	2010	2011	2012	2013	Total	2014-2018	2019-2021
BUILDINGS & LAND											
Salaries & Benefits:											
Salaries & Wages	$66,181	$17,174	$46,545	$67,610	$69,976	$72,426	$74,960	$77,584	$362,556	$430,603	$296,242
Employee Benefits - 5%	15,246	5,663	11,790	19,472	20,446	21,468	22,541	23,668	107,595	137,322	99,990
Total Salaries & Benefits	$81,427	$22,837	$58,335	$87,082	$90,422	$93,893	$97,502	$101,252	$470,151	$567,925	$396,233
Annual Growth Rate	-	-72.0%	155.4%	49.3%	3.8%	3.8%	3.8%	3.8%	11.7%	3.9%	3.9%
Repairs & Maintenance:											
Repairs & Maintenance	$198	$0	$2,282	$500	$518	$536	$554	$574	$2,681	$3,184	$2,191
Pavement Maintenance	373	0	0	500	518	536	554	574	2,681	3,184	2,191
A/F Building	439	0	0	1,000	1,035	1,071	1,109	1,148	5,362	6,369	4,382
ATCT Repairs & Maintenance	17,682	9,217	6,932	25,000	25,875	26,781	27,718	28,688	134,062	159,223	109,541
Parking Lot Maintenance	0	0	0	2,000	2,070	2,142	2,217	2,295	10,725	12,738	8,763
Total Repairs & Maintenance	$18,692	$9,217	$9,214	$29,000	$30,015	$31,066	$32,153	$33,278	$155,512	$184,699	$127,067
Annual Growth Rate	-	-50.7%	-0.0%	214.7%	3.5%	3.5%	3.5%	3.5%	29.3%	3.5%	3.5%
Utilities: - 5%											
Utilities-Gas	$10,309	$8,051	$5,942	$11,783	$12,372	$12,991	$13,640	$14,322	$65,109	$83,097	$60,507
Utilities-Electric	7,722	7,510	9,076	10,177	10,686	11,220	11,781	12,370	56,234	71,771	52,260
Utilities-Water	1,032	1,477	1,462	1,500	1,575	1,654	1,736	1,823	8,288	10,578	7,703
Utilities-Trash	1,479	1,732	1,806	1,714	1,800	1,890	1,984	2,083	9,471	12,088	8,802
Utilities-Sewer	153	171	175	268	281	295	310	326	1,481	1,890	1,376
Total Utilities	$20,695	$18,941	$18,461	$25,442	$26,714	$28,050	$29,452	$30,925	$140,583	$179,424	$130,647
Annual Growth Rate	-	-8.5%	-2.5%	37.8%	5.0%	5.0%	5.0%	5.0%	10.9%	5.0%	5.0%
Other Operating Expenses:											
Professional Services	$0	$0	$0	$7,500	$7,763	$8,034	$8,315	$8,606	$40,218	$47,767	$32,862
Purchased Services	0	200	1,200	1,200	1,242	1,285	1,330	1,377	6,435	7,643	5,258
Legal Services	535	4,230	0	5,000	5,175	5,356	5,544	5,738	26,812	31,845	21,908
Reimbursable Expenses	0	0	35,650	0	0	0	0	0	0	0	0
Total Other Operating Expenses	$535	$4,473	$36,850	$13,700	$14,180	$14,676	$15,189	$15,721	$73,466	$87,254	$60,028
Annual Growth Rate	-	736.1%	723.8%	-62.8%	3.5%	3.5%	3.5%	3.5%	-15.7%	3.5%	3.5%
Total BUILDINGS & LAND O&M Expenses	$121,349	$55,468	$122,860	$155,224	$161,331	$167,685	$174,296	$181,177	$839,712	$1,019,302	$713,976
Annual Growth Rate	-	-54.3%	121.5%	26.3%	3.9%	3.9%	3.9%	3.9%	8.1%	4.0%	4.0%

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				Phase I						Phase II	Phase III
	Actual	Actual	Estimated	Budgeted	Projected					Projected	Projected
Operations & Maintenance Expenses	2006	2007	2008	2009	2010	2011	2012	2013	Total	2014-2018	2019-2021
INFORMATION TECHNOLOGY											
Salaries & Benefits:											
Salaries & Wages	$13,854	($92)	$13,810	$6,264	$6,483	$6,710	$6,945	$7,188	$33,590	$39,895	$27,447
Employee Benefits - 5%	2,604	51	3,628	1,480	1,554	1,632	1,713	1,799	8,178	10,437	7,600
Total Salaries & Benefits	$16,458	($41)	$17,438	$7,744	$8,037	$8,342	$8,658	$8,987	$41,768	$50,332	$35,047
Annual Growth Rate	-	-100.2%	-	-55.6%	3.8%	3.8%	3.8%	3.8%	-12.4%	3.8%	3.8%
Materials & Supplies:											
Materials & Supplies	$2,492	$34	$807	$800	$828	$857	$887	$918	$4,290	$5,095	$3,505
Tools & Equipment/Computers	2,390	4,854	427	10,000	10,350	10,712	11,087	11,475	53,625	63,689	43,816
Software	10,936	3,546	0	0	0	0	0	0	0	0	0
Total Materials & Supplies	$15,818	$8,434	$1,234	$10,800	$11,178	$11,569	$11,974	$12,393	$57,915	$68,784	$47,322
Annual Growth Rate	-	-46.7%	-85.4%	775.2%	3.5%	3.5%	3.5%	3.5%	58.6%	3.5%	3.5%
Repairs & Maintenance:											
Repairs & Maintenance	$3,291	$239	$0	$0	$0	$0	$0	$0	$0	$0	$0
Scheduled Replacements	0	0	30,306	40,000	41,400	42,849	44,349	45,901	214,499	254,757	175,265
Copier Maintenance	800	7,725	7,136	10,000	10,350	10,712	11,087	11,475	53,625	63,689	43,816
Phone System	4,103	12,057	4,666	5,000	5,175	5,356	5,544	5,738	26,812	31,845	21,908
Communications Systems	20,205	473	2,479	7,000	7,245	7,499	7,761	8,033	37,537	44,582	30,671
Alarm/Emerg Phones-Terminal	3,583	4,150	3,261	7,000	7,245	7,499	7,761	8,033	37,537	44,582	30,671
Total Repairs & Maintenance	$31,982	$24,644	$47,848	$69,000	$71,415	$73,915	$76,502	$79,179	$370,010	$439,456	$302,333
Annual Growth Rate	-	-22.9%	94.2%	44.2%	3.5%	3.5%	3.5%	3.5%	10.6%	3.5%	3.5%
Utilities: - 5%											
Cell Phone Service	$7,888	$7,309	$9,709	$10,000	$10,500	$11,025	$11,576	$12,155	$55,256	$70,523	$51,351
Phone Service	12,293	1,544	8,988	9,000	9,450	9,923	10,419	10,940	49,731	63,470	46,216
Total Utilities	$20,181	$8,853	$18,697	$19,000	$19,950	$20,948	$21,995	$23,095	$104,987	$133,993	$97,567
Annual Growth Rate	-	-56.1%	111.2%	1.6%	5.0%	5.0%	5.0%	5.0%	4.3%	5.0%	5.0%
Other Operating Expenses:											
Education & Training	$0	$0	$0	$23	$24	$25	$26	$26	$123	$146	$101
Purchased Services	22,199	37,359	27,889	36,000	37,260	38,564	39,914	41,311	193,049	229,281	157,739
Total Other Operating Expenses	$22,199	$37,359	$27,889	$36,023	$37,284	$38,589	$39,939	$41,337	$193,172	$229,428	$157,840
Annual Growth Rate	-	68.3%	-25.3%	29.2%	3.5%	3.5%	3.5%	3.5%	8.2%	3.5%	3.5%
Total INFORMATION TECH O&M Expenses	$106,638	$79,249	$113,106	$142,567	$147,864	$153,362	$159,068	$164,991	$767,852	$921,994	$640,108
Annual Growth Rate	-	-25.7%	42.7%	26.0%	3.7%	3.7%	3.7%	3.7%	7.8%	3.7%	3.7%

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				Phase I						Phase II	Phase III
	Actual	Actual	Estimated	Budgeted	Projected					Projected	Projected
Operations & Maintenance Expenses	2006	2007	2008	2009	2010	2011	2012	2013	Total	2014-2018	2019-2021
FLEET											
Salaries & Benefits:											
Salaries & Wages	$8,746	$23,767	$20,318	$46,233	$47,851	$49,526	$51,259	$53,053	$247,923	$294,455	$202,576
Employee Benefits - 5%	2,029	4,900	3,835	13,875	14,569	15,297	16,062	16,865	76,668	97,850	71,249
Total Salaries & Benefits	$10,775	$28,667	$24,153	$60,108	$62,420	$64,823	$67,321	$69,919	$324,591	$392,305	$273,826
Annual Growth Rate	-	166.1%	-15.7%	148.9%	3.8%	3.9%	3.9%	3.9%	23.7%	3.9%	3.9%
Materials & Supplies:											
Materials & Supplies	$1,281	$4,194	$949	$5,000	$5,175	$5,356	$5,544	$5,738	$26,812	$31,845	$21,908
Tools & Equipment/Computers	377	2,060	36	2,000	2,070	2,142	2,217	2,295	10,725	12,738	8,763
Fuel	14,890	20,361	37,656	60,000	62,100	64,274	66,523	68,851	321,748	382,136	262,898
Oil & Lubricants	581	2,035	1,980	3,000	3,105	3,214	3,326	3,443	16,087	19,107	13,145
Total Materials & Supplies	$17,129	$28,650	$40,621	$70,000	$72,450	$74,986	$77,610	$80,327	$375,373	$445,825	$306,715
Annual Growth Rate	-	67.3%	41.8%	72.3%	3.5%	3.5%	3.5%	3.5%	14.6%	3.5%	3.5%
Repairs & Maintenance:											
Repairs & Maintenance	$35,343	$22,033	$21,264	$18,000	$18,630	$19,282	$19,957	$20,655	$96,524	$114,641	$78,869
Scheduled Replacements	15,073	7,806	218,516	293,000	303,255	313,869	324,854	336,224	1,571,203	1,866,096	1,283,820
Building Maintenance	2,169	1,665	618	3,500	3,623	3,749	3,881	4,016	18,769	22,291	15,336
SRE Repairs & Maintenance	6,523	1,379	5,474	15,000	15,525	16,068	16,631	17,213	80,437	95,534	65,725
Total Repairs & Maintenance	$59,108	$32,883	$245,872	$329,500	$341,033	$352,969	$365,323	$378,109	$1,766,933	$2,098,562	$1,443,749
Annual Growth Rate	-	-44.4%	647.7%	34.0%	3.5%	3.5%	3.5%	3.5%	9.0%	3.5%	3.5%
Utilities: - 5%											
Utilities-Gas	$14,639	$3,743	$8,862	$18,211	$19,122	$20,078	$21,082	$22,136	$100,627	$128,429	$93,515
Utilities-Electric	7,740	6,295	7,098	9,641	10,123	10,629	11,161	11,719	53,273	67,991	49,507
Utilities-Water	275	650	678	643	675	709	744	782	3,553	4,535	3,302
Utilities-Trash	941	1,586	1,655	1,700	1,785	1,874	1,968	2,066	9,394	11,989	8,730
Utilities-Sewer	97	156	160	386	405	426	447	469	2,133	2,722	1,982
Total Utilities	$23,692	$12,430	$18,453	$30,581	$32,110	$33,716	$35,401	$37,171	$168,979	$215,665	$157,036
Annual Growth Rate	-	-47.5%	48.5%	65.7%	5.0%	5.0%	5.0%	5.0%	15.0%	5.0%	5.0%
Other Operating Expenses:											
Insurance	$395	$7,964	$10,466	$9,730	$10,071	$10,423	$10,788	$11,165	$52,177	$61,970	$42,633
Education & Training	0	1,712	0	2,000	2,070	2,142	2,217	2,295	10,725	12,738	8,763
Purchased Services	535	197	60	200	207	214	222	230	1,072	1,274	876
Professional Dues	0	225	0	200	207	214	222	230	1,072	1,274	876
Legal Services	0	65	0	0	0	0	0	0	0	0	0
Rentals	1,987	4,422	3,600	7,200	7,452	7,713	7,983	8,262	38,610	45,856	31,548
Total Other Operating Expenses	$2,917	$14,585	$14,126	$19,330	$20,007	$20,707	$21,432	$22,182	$103,656	$123,111	$84,697
Annual Growth Rate	-	400.0%	-3.1%	36.8%	3.5%	3.5%	3.5%	3.5%	9.4%	3.5%	3.5%
Total FLEET O&M Expenses	$113,621	$117,215	$343,225	$509,519	$528,019	$547,200	$567,087	$587,707	$2,739,532	$3,275,468	$2,266,023
Annual Growth Rate	-	3.2%	192.8%	48.5%	3.6%	3.6%	3.6%	3.6%	11.4%	3.6%	3.6%
Total Operations & Maintenance Expenses	$2,321,983	$2,495,350	$3,028,686	$3,979,530	$4,132,081	$4,290,635	$4,455,435	$4,626,734	$21,484,414	$25,949,748	$18,103,288
Annual Growth Rate	-	7.5%	21.4%	31.4%	3.8%	3.8%	3.8%	3.8%	8.8%	3.9%	3.9%
Operating Expenses Per Enplaned Passenger:											
Grand Junction Regional	$14.48	$14.61	$14.29	$16.24	$16.44	$16.64	$16.84	$17.04	$16.65	$17.69	$18.57
Non-Hub Industry Average	$25.76	$26.66	$27.59	$28.56	$29.56	$30.59	$31.66	$32.77	$30.63	$36.38	$41.71

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Actual, Estimated, Budgeted and Projected Operating Revenues

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Operating Revenues	Actual 2006	Actual 2007	Estimated 2008	Phase I Budgeted 2009	Phase I Projected 2010	Phase I Projected 2011	Phase I Projected 2012	Phase I Projected 2013	Phase I Total	Phase II Projected 2014-2018	Phase III Projected 2019-2021
					LDW+INF						
					ENP+INF						
					INF						
					FLAT						
Airline Revenues											
Landing Fees	$183,734	$218,051	$254,275	$281,324	$294,956	$309,248	$324,232	$339,943	$1,549,702	$1,963,348	$1,421,346
Terminal Rent	436,079	456,030	458,720	539,723	558,613	578,165	598,401	619,345	2,894,246	3,437,457	2,364,870
Security Fees	150,000	155,822	156,999	161,399	167,048	172,895	178,946	185,209	865,497	1,027,938	707,192
Boarding Bridge Use Fees	0	0	0	72,800	76,328	80,026	83,904	87,969	401,026	508,068	367,811
Deicing Fees	4,325	6,250	6,025	6,200	6,417	6,642	6,874	7,115	33,247	39,487	27,166
Disposal Station Fees	2,583	3,390	3,840	4,064	4,261	4,467	4,684	4,911	22,387	28,362	20,533
Aircraft Ramp Parking Fees	6,079	4,950	8,850	9,100	9,541	10,003	10,488	10,996	50,128	63,509	45,976
OT Fees	2,353	1,610	1,325	1,400	1,449	1,500	1,552	1,607	7,507	8,916	6,134
Total Airline Revenues	$785,153	$846,103	$890,034	$1,076,010	$1,118,612	$1,162,945	$1,209,080	$1,257,094	$5,823,741	$7,077,086	$4,961,029
Annual Growth Rate	-	7.8%	5.2%	20.9%	4.0%	4.0%	4.0%	4.0%	7.2%	4.0%	4.0%
Airline Cost Per Enplaned Passenger:											
Grand Junction Regional	$4.90	$4.95	$4.20	$4.39	$4.45	$4.51	$4.57	$4.63	$4.51	$4.82	$5.09
Non-Hub Industry Average	$6.81	$7.05	$7.30	$7.55	$7.81	$8.09	$8.37	$8.66	$8.10	$9.62	$11.03
Non-Airline Revenues											
Other Carrier Landing Fees	$128,161	$139,106	$121,351	$121,725	$127,623	$133,807	$140,291	$147,089	$670,535	$849,513	$614,997
Fuel Flowage Fees	237,405	253,384	255,314	255,300	267,671	280,641	294,239	308,496	1,406,346	1,781,727	1,289,864
State Fuel Taxes	248,284	187,076	310,824	266,700	279,623	293,172	307,378	322,272	1,469,144	1,861,288	1,347,461
Other Airfield Use Fees	664	360	1,320	1,400	1,449	1,500	1,552	1,607	7,507	8,916	6,134
Rental Car Concessions	713,243	663,749	972,238	1,033,000	1,096,953	1,164,865	1,236,982	1,313,564	5,845,364	7,893,146	6,007,705
Rental Car Space Rent	0	0	37,976	56,964	58,958	61,021	63,157	65,368	305,468	362,800	249,596
Rental Car Service Area Rent	14,244	14,721	41,597	59,783	61,875	64,041	66,282	68,602	320,584	380,754	261,947
Ground Transportion Fees	12,057	13,676	12,452	12,800	13,592	14,434	15,328	16,276	72,430	97,805	74,442
Parking Lot Concession Fees	696,571	787,829	1,042,634	1,042,632	1,107,181	1,175,727	1,248,516	1,325,812	5,899,868	7,966,744	6,063,723
Advertising Display Concessions	15,545	16,446	13,534	15,000	15,525	16,068	16,631	17,213	80,437	95,534	65,725
News/Gift Concession Fees	16,863	24,253	57,814	58,800	62,440	66,306	70,411	74,770	332,727	449,290	341,968
Restaurant Concession Fees	10,890	7,867	0	0	0	0	0	0	0	0	0
Other Retail Concession Fees	2,519	4,207	1,373	1,680	1,784	1,894	2,012	2,136	9,506	12,837	9,771
TSA Rent	34,979	62,325	60,863	62,087	64,260	66,509	68,837	71,246	332,939	395,428	272,043
Other Terminal Space Rent	9,571	3,284	2,674	1,644	1,702	1,761	1,823	1,887	8,816	10,471	7,203
Badge/Fringerprint Processing Fees	6,162	4,436	2,988	3,000	3,105	3,214	3,326	3,443	16,087	19,107	13,145
LEO Security Cost Reimbursement	131,490	132,761	83,484	134,747	139,463	144,344	149,396	154,625	722,576	858,194	590,412
Land Rent	318,009	304,238	301,017	312,897	323,848	335,183	346,914	359,057	1,677,899	1,992,818	1,371,001
Hangar Rent	41,098	39,710	38,980	49,307	51,033	52,819	54,668	56,581	264,407	314,033	216,045
Other Building Rent	71,966	113,169	103,631	99,361	102,839	106,438	110,163	114,019	532,820	632,823	435,364
Expense Reimbursement	254	1,925	2,100	14,288	14,788	15,306	15,841	16,396	76,619	90,999	62,605
Interest Earnings	5,312	57,581	28,609	56,000	56,000	56,000	56,000	56,000	280,000	280,000	168,000
Miscellaneous Revenues	32,123	(364,485)	54,803	32,758	33,905	35,091	36,319	37,591	175,664	208,633	143,534
Total Non-Airline Revenues	$2,747,410	$2,467,618	$3,547,576	$3,691,873	$3,885,617	$4,090,142	$4,306,067	$4,534,048	$20,507,747	$26,562,860	$19,612,684
Annual Growth Rate	-	-10.2%	43.8%	4.1%	5.2%	5.3%	5.3%	5.3%	5.0%	5.3%	5.4%
Total Operating Revenues	$3,532,563	$3,313,721	$4,437,610	$4,767,883	$5,004,229	$5,253,087	$5,515,147	$5,791,142	$26,331,488	$33,639,945	$24,573,712
Annual Growth Rate	-	-6.2%	33.9%	7.4%	5.0%	5.0%	5.0%	5.0%	5.5%	5.1%	5.1%
Operating Revenues Per Enplaned Passenger:											
Grand Junction Regional	$22.04	$19.40	$20.94	$19.46	$19.91	$20.37	$20.84	$21.33	$20.41	$22.93	$25.20
Non-Hub Industry Average	$19.08	$19.75	$20.44	$21.16	$21.90	$22.67	$23.46	$24.28	$22.69	$26.95	$30.90

GRAND JUNCTION REGIONAL AIRPORT
Grand Junction, CO

GJTMP2009.123

Table H5

Master Plan Update Capital Improvement Program
Financial Plan Summary
Budgeted and Projected Cash Flow, Capital Funding and Capital Expenditures

28-Apr-09

Operating/Capital Cash Flow	Phase I						Phase II	Phase III
	Budgeted	Projected					Projected	Projected
	2009	2010	2011	2012	2013	Total	2014-2018	2019-2021
Operating Cash Flow								
Revenues:								
Airline Revenues	$1,076,010	$1,118,612	$1,162,945	$1,209,080	$1,257,094	$5,823,741	$7,077,086	$4,961,029
Non-Airline Revenues	3,691,873	3,885,617	4,090,142	4,306,067	4,534,048	20,507,747	26,562,860	19,612,684
Total Revenues	$4,767,883	$5,004,229	$5,253,087	$5,515,147	$5,791,142	$26,331,488	$33,639,945	$24,573,712
Operations & Maintenance Expenses:								
Administration	$732,443	$759,428	$787,426	$816,474	$846,613	$3,942,383	$4,726,367	$3,277,100
Terminal	881,446	917,249	954,552	993,421	1,033,924	4,780,592	5,839,465	4,110,926
Airport Operations	470,683	488,990	508,029	527,831	548,426	2,543,959	3,081,242	2,154,426
ARFF	288,454	299,602	311,193	323,245	335,777	1,558,272	1,885,082	1,316,759
Security	330,009	342,067	354,572	367,542	380,994	1,775,184	2,124,929	1,471,478
Grounds & Roadways	469,185	487,532	506,616	526,470	547,125	2,536,928	3,075,901	2,152,493
Buildings & Land	155,224	161,331	167,685	174,296	181,177	839,712	1,019,302	713,976
Information Technology	142,567	147,864	153,362	159,068	164,991	767,852	921,994	640,108
Fleet	509,519	528,019	547,200	567,087	587,707	2,739,532	3,275,468	2,266,023
Total Operations & Maintenance Expenses	$3,979,530	$4,132,081	$4,290,635	$4,455,435	$4,626,734	$21,484,414	$25,949,748	$18,103,288
Total Net Operating Cash Flow Available For Capital Expenditures	$788,353	$872,148	$962,452	$1,059,713	$1,164,408	$4,847,074	$7,690,197	$6,470,424
Capital Cash Flow								
Beginning Cash Balance	$2,936,000	$4,517,412	$3,166,346	$3,359,137	$2,744,559	$2,936,000	$1,095,386	$1,711,861
Other Capital Funding Sources:								
AIP Entitlement Grants	$1,668,347	$1,881,968	$2,054,000	$2,087,124	$2,121,109	$9,812,549	$11,147,068	$7,156,286
AIP Discretionary Grants	0	3,740,134	3,870,711	474,721	22,253,891	30,339,457	74,102,223	9,776,127
AIP Discretionary Grants - ARRA	15,906,316	0	0	0	0	15,906,316	0	0
CDOT Aviation Grants	250,000	250,000	250,000	67,417	432,583	1,250,000	1,250,000	445,590
Passenger Facility Charges	2,157,591	873,639	896,354	919,659	943,570	5,790,812	5,098,850	3,388,615
Less GARB Series 2007 - Net Debt Service	(1,370,297)	(1,374,982)	(1,373,102)	(1,374,507)	(1,373,927)	(6,866,815)	(6,862,655)	(4,113,296)
RAC Customer Facility Charges	509,000	441,180	452,651	464,420	476,495	2,343,745	2,540,366	1,485,594
SIB Loan (10 yrs, 3%)	4,000,000	0	0	0	0	4,000,000	0	0
Less SIB Debt Service	(234,461)	(468,922)	(468,922)	(468,922)	(468,922)	(2,110,149)	(2,344,610)	(234,461)
County Capital Contributions	0	0	0	0	0	0	0	0
Other Funding	0	187,464	0	5,737,615	27,179,476	33,104,556	48,110,337	0
Total Other Capital Funding Sources	22,886,496	5,530,481	5,681,691	7,907,526	51,564,275	93,570,470	133,041,579	17,904,456
Total Funds Available for Capital Expenditures	$26,610,849	$10,920,041	$9,810,489	$12,326,376	$55,473,242	$101,353,544	$141,827,163	$26,086,741
Capital Improvement Program Expenditures	22,093,437	7,753,696	6,451,352	9,581,817	54,377,856	100,258,158	140,115,302	17,823,593
Ending Cash Balance	$4,517,412	$3,166,346	$3,359,137	$2,744,559	$1,095,386	$1,095,386	$1,711,861	$8,263,147

Appendix

Appendix

One. Master Drainage Report
Two. Master Utility Report
Three. FAA Forecast Approval Letter
Four. Study Committee Notes

MASTER PLAN UPDATE
GRAND JUNCTION
REGIONAL AIRPORT

Appendix One

MASTER DRAINAGE REPORT

MASTER DRAINAGE REPORT

Grand Junction Regional Airport

Grand Junction, Colorado

Sponsored By:

Grand Junction Regional Airport Authority

Federal Aviation Administration

May 05, 2009

JVIATION
NGINEERING & PLANNING

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ENGINEER'S CERTIFICATION

I hereby certify that this *Master Drainage Report* (plan) for the design of the Master Plan for the Grand Junction Regional Airport was prepared by me (or under my direct supervision) in accordance with the provisions of the *Stormwater Management Manual* for the owners thereof. I understand that the City of Grand Junction does not and will not assume liability for drainage facilities designed by others.

_____

Mark J. Lovato, P.E.
State of Colorado No. 35184
(Affix Seal)

OWNER'S CERTIFICATION

The Grand Junction Regional Airport Authority hereby certifies that the drainage facilities for the Grand Junction Regional Airport shall be constructed according to the design presented in this report. We understand that the City of Grand Junction does not and will not assume liability for the drainage facilities designed and/or certified by our engineer. We understand that the City of Grand Junction reviews drainage plans but cannot, on behalf of the Grand Junction Regional Airport, guarantee that final drainage design review will absolve the Grand Junction Regional Airport Authority and/or their successors and/or assigns of future liability for improper design. We further understand that approval of the Master Plan does not imply approval of our engineer's drainage design.

Grand Junction Regional Airport Authority

_____

Authorized Signature Date

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APPENDIX A

Vicinity Map
Flood Insurance Rate Map
Excerpts from Stormwater Management Manual
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Excerpt from AC 150/5200-33B
SCS Method Reference Data

APPENDIX B

HEC-1 Input Data Current Conditions
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C&B HEC-1 Model 100-yr Current Conditions
Jviation HEC-1 Model 10-yr Current Conditions
Jviation HEC-1 Model 100-yr Current Conditions
Jviation HEC-1 Model 10-yr Proposed Conditions
Jviation HEC-1 Model 100-yr Proposed Conditions

APPENDIX C

Hydraulic Calculations
Detention Pond Summaries

APPENDIX D

Existing and Proposed Conditions Basin Map

I. INTRODUCTION

A. Background

The Grand Junction Regional Airport is in the process of updating their Airport Master Plan for the Federal Aviation Administration (FAA). As part of the Airport Master Plan Update, improvements to various roadways are proposed to provide improved circulation and connectivity around the airport, including improvements to Landing View Lane, 27 ¼ Road, and I Road, among others. In addition, various development areas will be added, expanded, or relocated. The improved roadways and development areas will have an effect on existing drainage patterns, basins, and peak flow rates. Traffic circulation patterns and counts will also be affected. Utilities will need to be relocated and/or added as a result of the proposed improvements, as shown on the Conceptual Airport Development Plan.

B. Project Location

This project is located at the Grand Junction Regional Airport (see Vicinity Map in Appendix A). The airport is located northeast of the City of Grand Junction, CO in Mesa County, north of Interstate Highway I-70 approximately one mile along Horizon Drive. The airport is bordered by Bureau of Land Management (BLM) property to the north and east, I-70 and the Government Highline Canal to the south and Road 27 ¼ to the west.

The area studied in this report includes land in Sections 12, 13, 24, 25 and 36 of Township 1 North, Range 1 West of the UTE Meridian and in Sections 3-10, 15-21 and 29-32 of Township 1 North, Range 1 East of the UTE Meridian.

C. Property Description

The property is made up of Commercial and General Aviation areas that utilize the airport for business. The land consists of runways, taxiways, aprons, parking lots, buildings, roadway network and utility infrastructure to serve the operations at the airport.

D. Previous Investigations

There have been two recent drainage reports generated for the areas on and near the airport prior to this report. The first was a Conditional Letter of Map Revision (CLOMR) created by ICON Engineering, Inc. (ref. 2) that analyzed the Corcoran Wash, Indian Wash, Ranchman's Ditch and Leach Creek. This report created sub-basins for the entire area for use with HEC-1 software. The purpose of this report was to request a Conditional Letter of Map Revision (CLOMR) to the Flood Insurance Study (FIS) and Flood Insurance Rate Map (FIRM) for the City of Grand Junction, Mesa

County, CO. The report proposed modifications to the flood hazard information along the Horizon Drive Channel (referred to as Ranchman's Ditch), Leach Creek, and North Leach Creek.

The second report was prepared by Carter & Burgess, Inc. (ref. 3) for the development of a new parking lot and access road system for the airport (Landside Improvements Project). The report used the ICON Engineering, Inc. HEC-1 model with a few modifications for the impervious areas created by the proposed facilities. Additional detention and water quality ponds were included into the new model and areas outside the core (Ranchman's Ditch/Landside Improvements Project) were eliminated from the model.

II. DRAINAGE SYSTEM DESCRIPTION

A. Existing Drainage Conditions

The existing basins which convey drainage through the airport are Corcoran Wash, Indian Wash, Ranchman's Ditch and Leach Creek. These basins are mostly undeveloped north of the airport.

ICON Engineering, Inc analyzed an existing large dam in the Leach Creek basin that detains approximately 167 acre-feet of water and reduces the amount of flow that is conveyed around the west side of the airport. An additional detention pond was designed with the ICON Engineering, Inc. report along the southern edge of the basin to detain an additional 13 acre feet of runoff. These detention ponds have not been constructed at the time of this report and the flows for these basins should only be compared between Jviation Current Conditions and Proposed Conditions.

Ranchman's Ditch is an existing basin that conveys flows through the airport in a system of channels along the north side of the runway and into a new detention pond (WF_PD1) built with the Landside Improvements Project. This detention pond then conveys flows through a system of storm sewer pipes south under the Runway 11/29, aprons and parking lot to another new detention pond (WF_PD2) installed with the Landside Improvements Project south of the airport. This pond then conveys flows to the existing city system to the south.

There is a large dam in the Indian Wash basin that detains 128 acre-feet of water and reduces the amount of flow that is conveyed around the east side of the airport. Several stock dams are also located in the Indian Wash basin and reduce existing flows.

The Corcoran Wash basin is an existing basin that conveys flows through airport property on the west end of the airport that is planned to be acquired in the future. At this time, the area will not be developed with the Master Plan. The property is only being acquired to ensure airport safety and protections zones are accounted for.

B. Master Drainage Plan

The Master Drainage plan for the airport is to develop several new detention facilities to account for areas of development and new roadway systems. These detention ponds are shown on the Grand Junction Airport Master Drainage Existing/Proposed Basin Map (Appendix D). The basins for the Master Drainage study have been associated to the areas that were determined in the ICON report.

C. Offsite Tributary Area

Leach Creek is a large, mostly undeveloped basin that conveys about 8,000 acres of BLM land around the west side of the airport. The Master Plan shows some development in the southern portions of this basin near the west end of the airport.

Indian Wash is a large, mostly undeveloped basin that conveys about 6,000 acres of BLM land around the east side of the airport. The Master Plan shows some development in the southern portions of this basin near the southeast edge of the airport.

Corcoran Wash is a large offsite basin that conveys flows through a small area of land that is planned to be acquired by the airport for runway safety areas/protection zones. Future development is not planned for this area and the existing drainage conveyance will not change.

D. Proposed Drainage System Description

The Grand Junction Regional Airport Master drainage study is divided into four major basins; 1. Ranchman's Ditch, 2. Leach Creek, 3. Corcoran Wash and 4. Indian Wash.

Ranchman's Creek is subdivided into nineteen subbasins and is the main basin that conveys flows through the airport. Subbasin DB21 is north of Runway 11/29 and is comprised of 97.2 acres that conveys flows to an existing detention pond (PD A). Subbasin DB21a is comprised of 217.8 acres that conveys flows to an existing detention pond (WF_PD1) built with the Landside Improvements Project. Subbasin DB23b is comprised of 37.4 acres of runway, taxiway and apron area and coveys flow to an existing 3 foot diameter pipe. Subbasin DB23c is comprises of 50.1 acres of runway, taxiway and apron area that conveys flow to an existing detention pond (WF_PD2). Subbasin DB23d is comprised of 11.1 acres of parking lot and also conveys flows to detention pond (WF_PD2). Subbasin DB23e is comprised of 45.5 acres and conveys flows to an existing detention pond (R_PDU). Subbasin DB23a is comprised of 12.5 acres of area that is planned to be developed and conveys flow to an existing 4 foot diameter pipe. Subbasin DB22 is comprised of 142.5 acres of undeveloped land north of Runway 11/29 and conveys flow to an existing 4 foot diameter pipe. Subbasin DB24a is comprised of 13.6 acres of land adjacent to Runway 4/22 and conveys flows to an existing 4.5 foot diameter pipe. Subbasin DB24 is comprised of 148.4 acres of land that is planned to be developed and conveys flow to an existing detention pond (R_PDL). Subbasin

DB25a is comprised of 20.2 acres of mostly undeveloped land that conveys flows to detention pond (R_PDL). Subbasin DB25 is comprised of 15.6 acres of land adjacent to Runway 4/22. Subbasin R16 is comprised of 99.2 acres that conveys flow to a trapezoidal channel and then off-site. Subbasin R14a is comprised of 25.2 acres of land adjacent to Runway 4/22 and also conveys flow to detention pond (R_PDL). Subbasin R17 is comprised of 103.9 acres of undeveloped land north of Runway 11/29 and conveys flows to a proposed detention pond (R17). This pond is planned to detain approximately 2.0 acre-feet of water to help reduce the amount of flow through the airport after development. Subbasin R15 is comprised of 191.6 acres of runway, taxiway, apron, and parking lot uses that conveys flow offsite. Subbasin R13 is an off-site basin comprised of 27.2 acres of mostly undeveloped land. Subbasin R14 is comprised of 38.5 acres of mostly developed land that conveys flow to a trapezoidal channel off-site. Subbasin R5 is an individual basin on the south end of Runway 4/22 that conveys flow off-site.

Leach Creek is subdivided into eight subbasins and conveys flows around the west side of Runway 11/29. Subbasin L11b is comprised of 4785.0 acres of mostly undeveloped land and conveys flow to an existing major detention pond (RL11bU). Subbasin L11au is comprised of 645.8 acres of mostly undeveloped land and conveys flows to a proposed detention pond (RLOWER). Subbasin L11ad is comprised of 11.1 acres of land and conveys flow off-site. Subbasin L10u is a new split basin comprised of 236.4 acres of undeveloped land that conveys flow to a proposed detention pond (R_L10u). Subbasin L10d is a new split basin comprised of 393.0 acres of land planned to have some development in the future. Subbasin L9.1u is a new spilt basin comprised of 1523.6 acres of undeveloped land that conveys flow to a new storm drainage system south a proposed detention pond (R_L9.1). Subbasin L9.1d is a new spilt basin comprised of 217.8 acres of land planned to have some development in the future. Subbasin L9.1d also conveys flows to a proposed detention pond (R_L9.1). Subbasin L9 is comprised of 131.3 acres of mostly undeveloped land that conveys flows off-site.

Indian Wash is subdivided into nine subbasins and conveys flows around the east side of Runway 11/29. Subbasin I5 is comprised of 511.6 acres of undeveloped land that conveys flows to an existing stock dam (R_I5). Subbasin I4 is comprised of 776.3 acres of undeveloped land that conveys flows along with I3, which is made up of 2051.6 acres of undeveloped land, to an existing trapezoidal channel then onto an existing dam (R_I2). Subbasin I2 is comprised of 622.6 acres of mostly undeveloped land that conveys flow to the existing dam (R_I2). Subbasin I1 is comprised of 484.0 acres of mostly undeveloped land that conveys flows to a proposed detention pond (R_I1). Subbasin I7 is comprised of 656.5 acres of undeveloped land that conveys flows to an existing stock dam (R_I7). Subbasin I6 is comprised of 288.8 acres of land that is planned to be developed in the future and will convey flow to a proposed detention pond (R_I6). Subbasin I8 is comprised of 265.4 acres of mostly undeveloped land that will convey flow off-site. Subbasin I9 is comprised of 435.7 acres of undeveloped land that will not be modified with future development of the airport.

E. Drainage Facility Maintenance

Drainage facility maintenance for all detention ponds on the property of the Grand Junction Regional Airport will be the responsibility of the airport. After final development areas are determined and detention ponds are designed, a maintenance plan shall be created by the airport.

III. DRAINAGE ANALYSIS AND DESIGN CRITERIA

A. Regulations

The regulation for analysis for this study was the City of Grand Junction Stormwater Management Manual (ref. 4). Additional guidance was provided by the Urban Storm Drainage – Criteria Manual (ref. 1).

There are several methods used to determine the values used with HEC-1 for the characteristic of each basin, the SCS Curve Number Method, the Green and Ampt Method and the Snyder Method. These methods were computed in the analysis of this report. According to the City of Grand Junction Stormwater Management Manual "Typical values for Green-Ampt parameters were obtained from the *Drainage Manual for Maricopa County Hydrology* (Maricopa County 2003 (draft))", this procedure was also calculated with this report. The Green-Ampt values produced with the Maricopa method were significantly different than those produced by the ICON analysis. In discussions with the City of Grand Junction Development Engineer, Rick Dorris, PE, CFM, it was determined to use the Green-Ampt and SCS Method similar to how ICON Engineering, Inc. used in their prior study. It was decided that these values used in conjunction with HEC-1 would produce basin characteristics that are compatible to this region.

After reviewing the ICON/C&B HEC-1 models it was determined that the Curve Numbers (CN) and Imperviousness (I) for each subbasin were slightly different than what was generated within Jviation's report for the same areas. These differences can be seen in the SOIL DATA INPUT – CURRENT CONDITIONS, SCS Runoff Curve Number Method spreadsheet located in Appendix B.

The final procedure used to determine the input values for HEC-1 was as follows:
Each subbasin was divided into separate areas by soil type (see web soil survey in Appendix A). A Curve Number (CN) is then derived based on the soil type and imperviousness of each basin. The Initial Loss (IA) is then determined using the SCS Method.

The SCS Method uses a CN value calculated directly from the Imperviousness and soil type:

$$S = (1{,}000/CN)-10$$
$$IA = 0.2*S$$
$$Q = (P - IA)^2/((P-IA)+S$$

The values for precipitation losses, Volume Moisture Deficit (DTHETA), Wetting Front Suction (PSIF) and Hydraulic Conductivity (XKSAT) are selected from Table A1 – Table of Correspondence (see Appendix A) based on the Curve Number (CN).

The Snyder Method is then used to determine lag time (T_{lag}) and the coefficient related to peak rate of runoff (C_P):

$$T_{lag} = Ct\,(L x L_{ca}/S^{0.5})^{0.48}$$
$$C_p = PC_tA^{0.15}$$

A table with the final input values used with the HEC-1 model can be found in Appendix B.

B. Development Criteria

The development of the Grand Junction Regional Airport will be based on the Master Plan created for the FAA and the City of Grand Junction. An airport master plan is a comprehensive study of an airport and usually describes the short-, medium-, and long-term development plans to meet future aviation demand. The goal of a master plan is to provide the framework needed to guide future airport development that will cost-effectively satisfy aviation demand, while considering potential environmental and socioeconomic impacts.

C. Hydrologic Criteria

The two design storms analyzed in this study are the 10-year and 100-year design storms. Both storms are compared to the existing flow data provided by the ICON Engineering, Inc. and Carter & Burgess, Inc. reports. The existing HEC-1 model is compared to each study and the data is presented in Appendix B.

Rainfall intensities are obtained from the City of Grand Junction Stormwater Management Manual, Table 602 – Point Rainfall Values for the Leach Creek/Horizon Drive Watershed. The Depth Area Curves (Figure 614, Appendix A) where utilized with 24-Hour Storm, NRCS Type II Rainfall Distribution to generate rainfall depths and runoff.

The routing of the HEC-1 models was compared with the ICON Engineering, Inc. and Carter & Burgess, Inc. routing maps using the software Graphical HEC-1 (see Appendix B). The output shows the routing of the HEC-1 input data. Additional information was added to these routing maps for clarification.

The soil types for the airport and the off-site tributary areas are made up of Type B, Type C and Type D soils (see web soil survey in Appendix A).

This report reviews the flows and detention requirements developed with the ICON Engineering, Inc. and Carter & Burgess, Inc. drainage reports and compares them to the flows generated by the HEC-1 model prepared by Jviation, Inc. The analysis found that the flows for the undeveloped land were 10-20% higher and the flows on the developed land were 10-20% lower. After developing the model for the current and proposed conditions per the soil types and imperviousness of each subbasin all the models were compared to ensure that the flows off-site did not increase. The critical design points that convey flow off-site are as follows:

Comparison Table of Critical Design Points

Design Point	ICON/C&B-Current Conditions		Jviation-Current Conditions		Jviation-Proposed Conditions	
	10-Year	100-Year	10-Year	100-Year	10-Year	100-Year
C_L9M	260 cfs	645 cfs	265 cfs	1,493 cfs	202 cfs	1,370 cfs
C_14a	83 cfs	177 cfs	126 cfs	226 cfs	127 cfs	227 cfs
R15	50 cfs	165 cfs	53 cfs	167 cfs	84 cfs	208 cfs
R13	51 cfs	175 cfs	80 cfs	258 cfs	88 cfs	228 cfs
R_I1	N/A	N/A	24 cfs	75 cfs	21 cfs	64 cfs
R_I6	N/A	N/A	41 cfs	206 cfs	40 cfs	173 cfs
C3	N/A	N/A	31 cfs	196 cfs	31 cfs	196 cfs
R5	N/A	N/A	3 cfs	13 cfs	3 cfs	13 cfs
I8	N/A	N/A	5 cfs	116 cfs	21 cfs	141 cfs
I9	N/A	N/A	30 cfs	140 cfs	30 cfs	140 cfs

As the above table represents the allowable release rates for the detention ponds are based on comparing Jviation, Inc. current conditions to proposed conditions. This is done to ensure that the detention ponds are sized to detain the difference between current flows and proposed flows for similar models. The ICON Engineering, Inc. model is used for reference and order of magnitude for the major basins. Due to the differences in the Curve Numbers (CN) used in the different models the flows are higher in the Jviation, Inc. model. Again, to provide similar size detention ponds as in the ICON Engineering, Inc. report, the volume of water that is required to be detained is based on similar models.

As shown, the new detention pond for the Leach Creek Basin (R_L9.1) may be able to be reduced after final development areas and exact routing is determined.

Also, subbasin I8 may require a detention pond to reduce proposed developed flows, after a final development plan is completed for that area.

D. Hydraulic Criteria

The existing storm sewer system was verified using AutoCAD Civil 3D Land Desktop. Pipe flow calculations were calculated using the Manning Formula shown below:

$$V = (1/n)*R^{2/3}*S^{1/2}$$

Where:
V = mean flow rate (ft/s)
R = hydraulic radius (ft)
S = slope of hydraulic gradeline (ft/ft)
n = Manning's roughness coefficient

E. Variance from Criteria

In discussions with the City of Grand Junction Development Engineer, Rick Dorris, PE, CFM it was determined to use the Green-Ampt and SCS Method similar to how ICON Engineering, Inc. used in their prior study. This is a variance from the Maricopa Method as stated in the Stormwater Management Manual.

IV. CONCLUSION

A. Compliance with Manual

This report is prepared in accordance with the procedures and concepts outlined in the City of Grand Junction Stormwater Management Manual (ref. 4) as well as the Urban Storm Drainage – Criteria Manual (ref. 1). Hydraulic Criteria as defined in the Stormwater Management Manual is adhered to and only the variance described above is requested.

B. Design Effectiveness

The design in the report allows the airport to develop portions of the property as required by future aviation demands. Detention ponds will be required in subbasins that are developed for roadway, apron or other aviation related improvements. These detention ponds will have to be designed for construction once the ultimate development is determined for each subbasin. This report gives the airport the guidelimes of location and potential size of new detention facilities. Final design of outlet structures and storm system conveyance from subbasin to subbasin will be completed in the future with each construction project.

C. Areas in Flood Hazard Zone

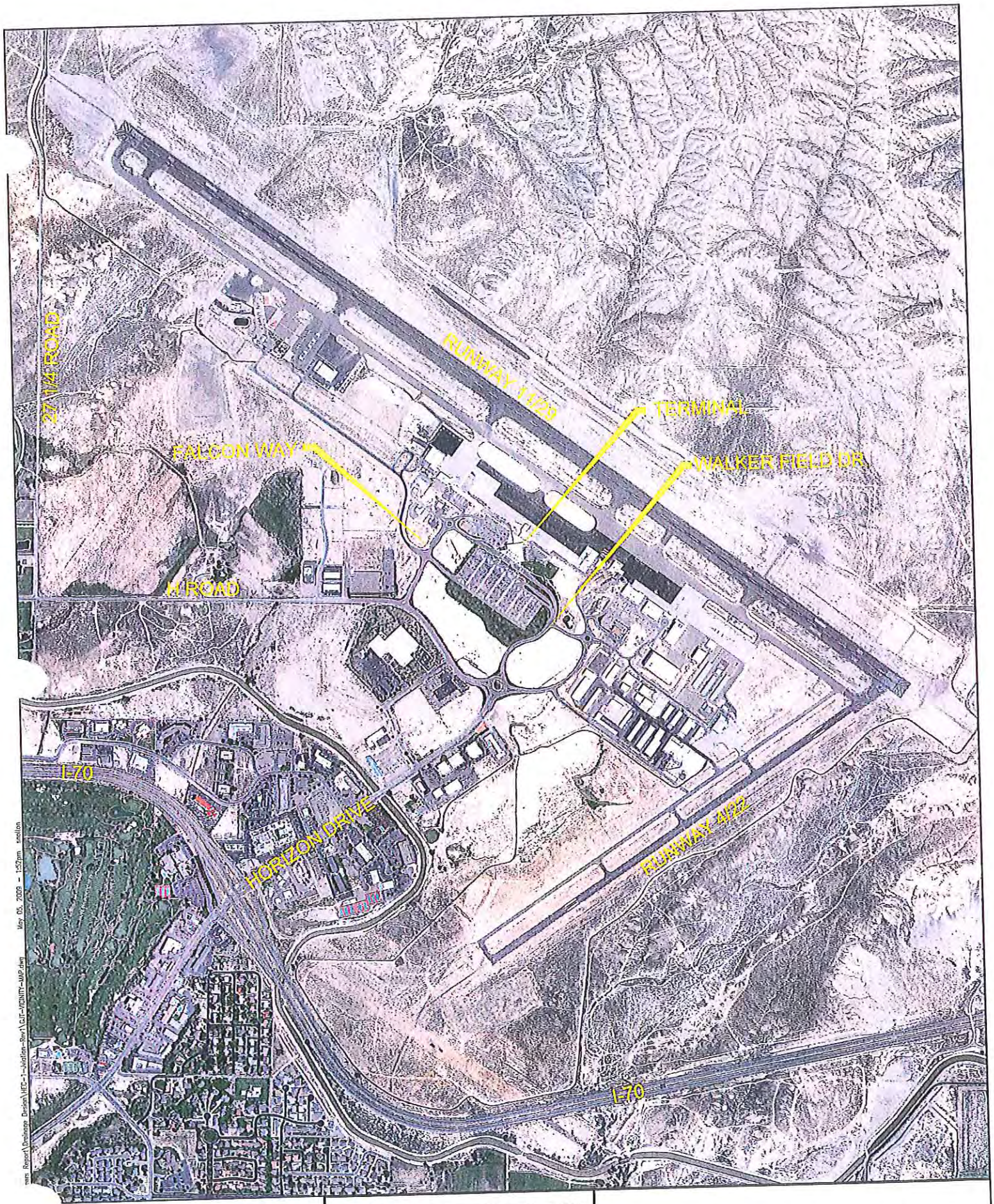
From the Flood Insurance Rate Map, Community Panel Number 080117 0001 0009, revised July 15, 1992, the entire airport lies in Zone X. Zone X is determined to be areas outside the 500-year flood plain.

REFERENCES

1. *Urban Storm Drainage - Criteria Manual,* (revised June 2002) - Prepared by the Urban Drainage and Flood Control District, Denver CO
2. *Ranchman's Ditch (Horizon Drive Channel), Leach Creek, & North Leach Creek Conditional Letter of Map Revision (CLOMR),* (October 2004, revised February 2005) - Prepared by ICON Engineering, Inc.
3. *Land-Side Improvements to Walker Field - Final Drainage Design Report:,* (January 2007) - Prepared by Carter & Burgess
4. *City of Grand Junction Stormwater Management Manual,* (December 31, 2007) - Prepared by WRC Engineering, Inc.
5. *FAA AC 150/5320-5C Surface Drainage Design,* (August 01, 2006) - Prepared by U.S. Department of Transportation, Federal Aviation Administration
6. *FAA AC 150/5200-33B Hazardous Wildlife Attractants on or Near Airports,* (August 28, 2007) - Prepared by U.S. Department of Transportation, Federal Aviation Administration

APPENDIX A

Vicinity Map
Flood Insurance Rate Map
Excerpts from Stormwater Management Manual
NRCS Web Soil Survey Data
Excerpt from AC 150/5200-33B
SCS Method Reference Data

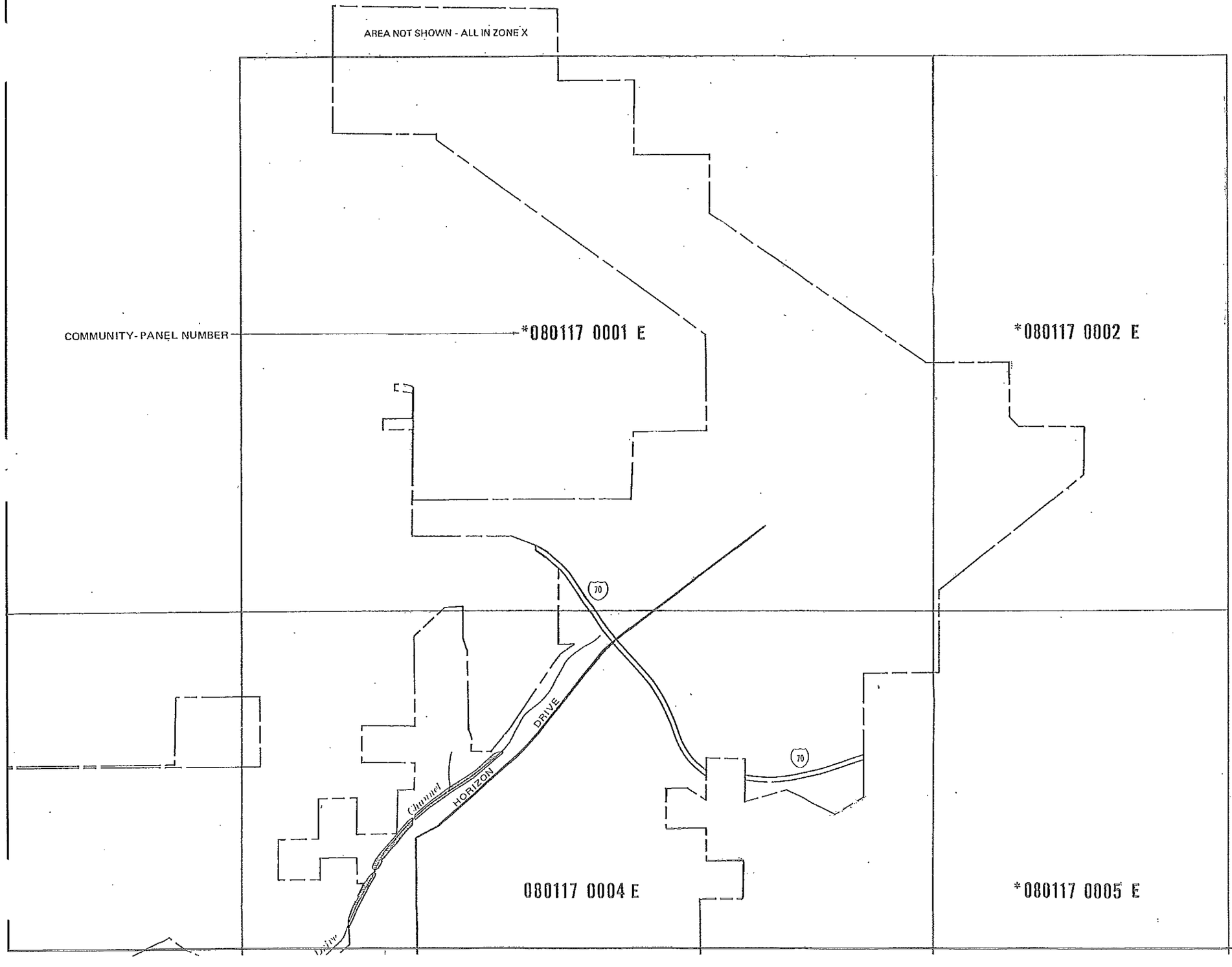


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GRAND JUNCTION REGIONAL AIRPORT
VICINITY MAP

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NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

CITY OF
GRAND JUNCTION, COLORADO
MESA COUNTY

MAP INDEX and STREET INDEX

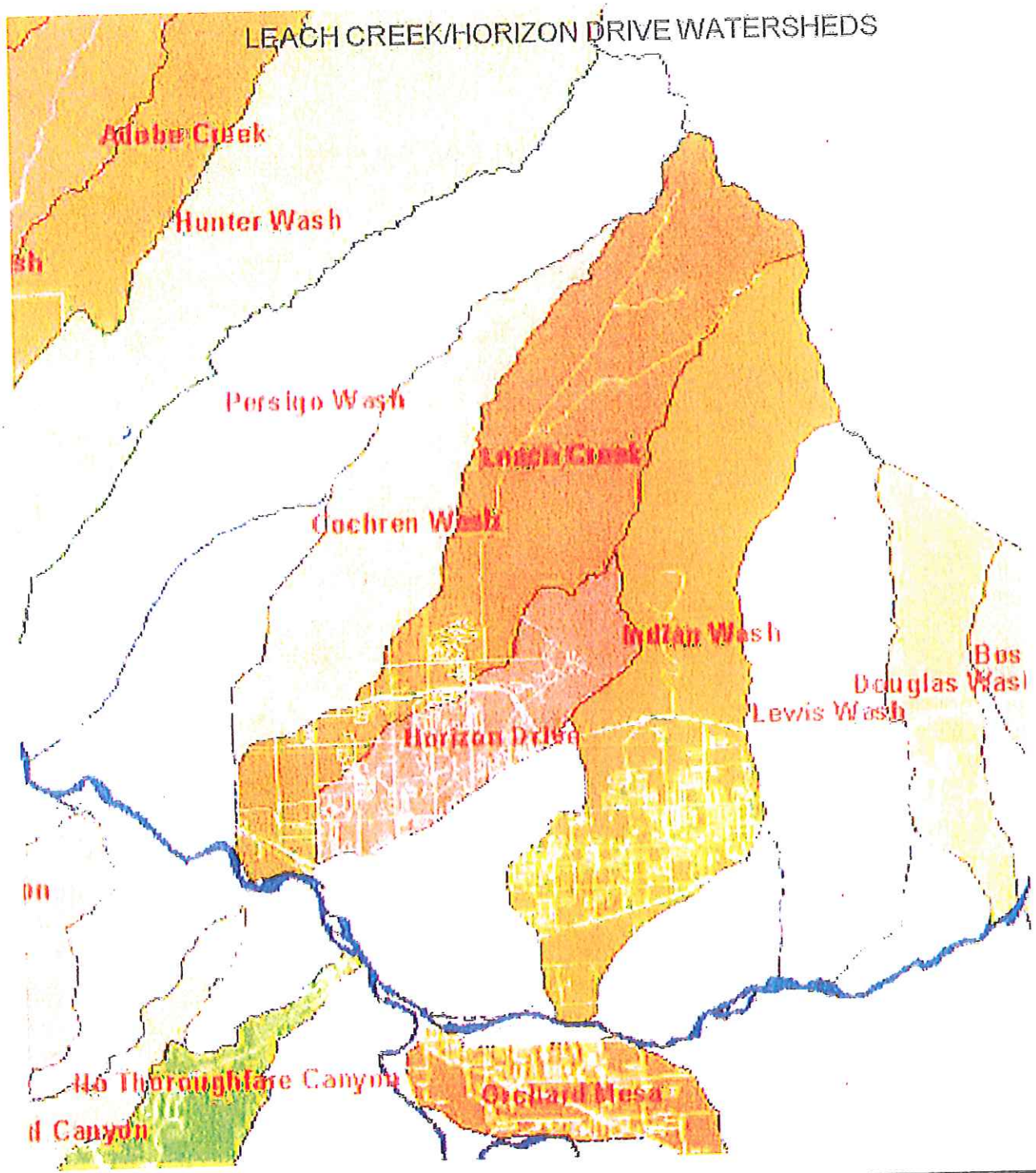
PANELS PRINTED: 3, 4, 6, 7, 9

COMMUNITY-PANEL NUMBERS
080117 0001 0009

MAP REVISED:
JULY 15, 1992

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



Revision	Date
ORIGINAL ISSUE	3/27/06

WRC ENGINEERING, INC

REFERENCE:
MESA COUNTY GIS WEBSITE

FIGURE 617

Table 601 - Point Rainfall Values for the Grand Valley Area

Storm Duration	Precipitation Depth (inches)					
	2-year Recurrence	5-year Recurrence	10-year Recurrence	25-year Recurrence	50-year Recurrence	100-year Recurrence
5-min	0.10	0.14	0.18	0.25	0.31	0.39
10-min	0.15	0.22	0.28	0.38	0.48	0.60
15-min	0.19	0.28	0.36	0.48	0.61	0.76
30-min	0.27	0.39	0.50	0.67	0.85	1.06
1-hr	0.34	0.49	0.63	0.85	1.07	1.34
2-hr	0.42	0.58	0.72	0.94	1.15	1.40
3-hr	0.47	0.63	0.77	0.99	1.19	1.44
6-hr	0.55	0.73	0.87	1.10	1.31	1.56
12-hr	0.55	0.83	0.98	1.22	1.44	1.69
24-hr	0.70	0.93	1.12	1.42	1.69	2.01

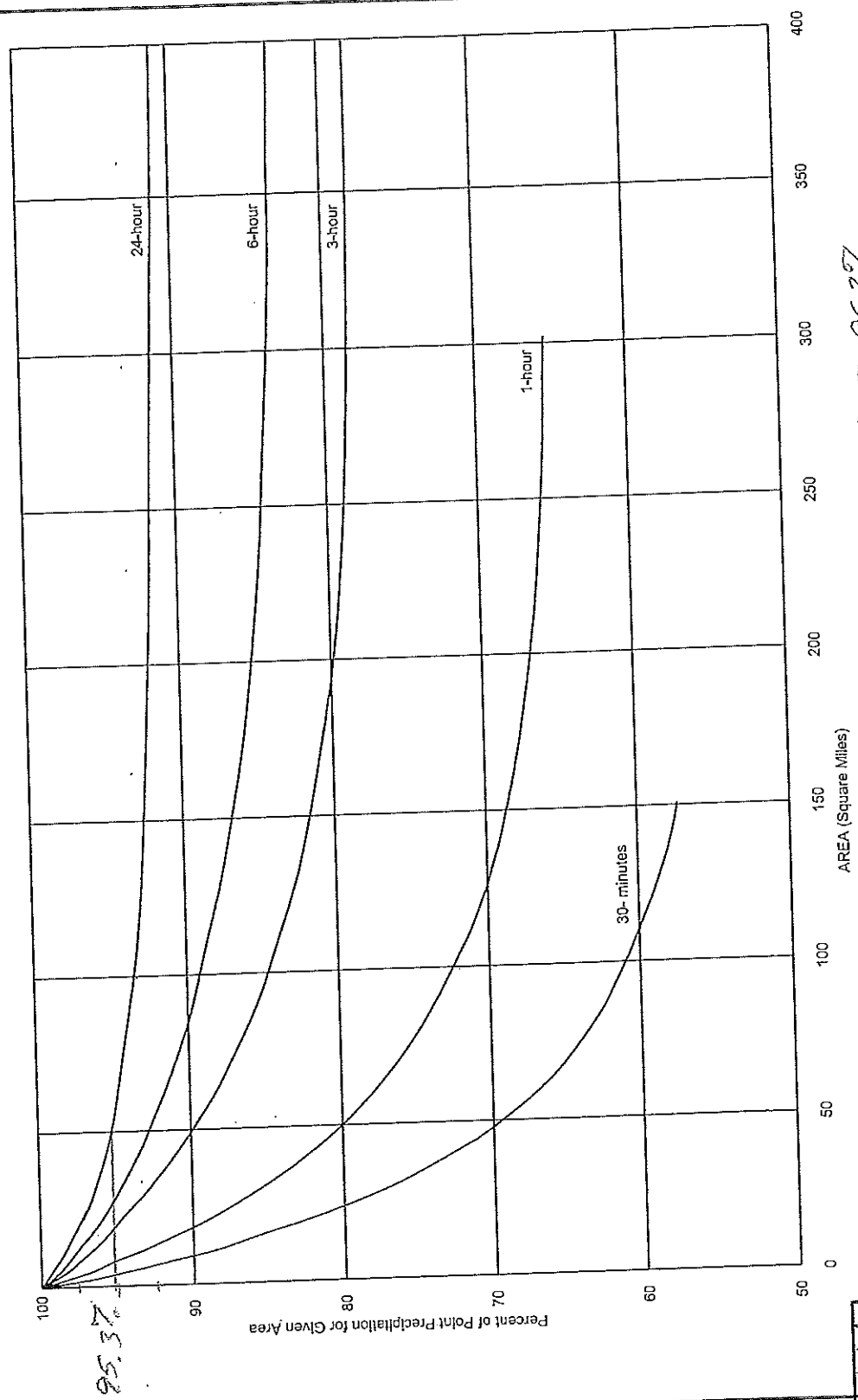
For the area outside of the Grand Valley, the NOAA Atlas 2 Rainfall Depth-Duration-Frequency Maps are reproduced for the Mesa County area in **Figures 602 through 613**. Maps are presented for the 6- and 24-hour durations for the 2-, 5-, 10-, 25-, 50-, and 100-year recurrence intervals. Depending on the location of the project, point rainfall values are read from these figures, converted to other storm durations, and used to generate intensity-duration-frequency curves and design storms, following procedures described below.

For the areas within the Leach Creek/Horizon Drive watershed, point precipitation values are provided in **Table 602** for various frequencies and durations.

Table 602 - Point Rainfall Values for the Leach Creek/Horizon Drive Watershed

Storm Duration	Precipitation Depth (inches)					
	2-year Recurrence	5-year Recurrence	10-year Recurrence	25-year Recurrence	50-year Recurrence	100-year Recurrence
5-min	0.10	0.14	0.18	0.25	0.31	0.39
10-min	0.15	0.22	0.28	0.38	0.48	0.60
15-min	0.19	0.28	0.36	0.48	0.61	0.76
30-min	0.27	0.39	0.50	0.67	0.85	1.06
1-hr	*0.29*	*0.41*	*0.52*	0.85	*0.86*	*1.07*
2-hr	0.42	0.58	0.72	0.94	1.15	1.40
3-hr	*0.46*	*0.63*	*0.78*	0.99	*1.24*	*1.52*
6-hr	*0.55*	*0.72*	*0.86*	1.10	*1.28*	*1.52*
12-hr	*0.67*	*0.85*	*0.99*	1.22	*1.39*	*1.61*
24-hr	*0.79*	*1.01*	*1.19*	1.42	*1.71*	*1.99*

NOTE: The *italicized* values are the actual FEMA-approved data. The remaining data was obtained from **Table 601**.



DEPTH AREA CURVES

e 50 = 95.3%
e 36.5 = 96.0%
e 24.0 = 97.0%
e 14.0 = 98.0%

10yr 24hr = 1.19 in
100yr 24hr = 1.99 in

95.3%

Revision	Date
ORIGINAL ISSUE	3/27/06

WRC ENGINEERING, INC

REFERENCE:
National Weather Service, NOAA 1973. Precipitation Frequency Atlas of the Western United States Volume III-Colorado. NOAA Atlas 2

FIGURE 614

Table 705 Surface Retention Loss

Land Use and/or Surface Cover	Surface Retention Loss, IA (inches)
Natural	
Desert and rangeland, flat slope	0.35
Desert Hillslopes	0.15
Mountain with vegetated surface	0.25
Developed (Residential/commercial)	
Lawn and turf	0.20
Desert landscape	0.10
Pavement	0.05
Agricultural, tilled fields and irrigate pasture	0.50

The second phase of the rainfall loss process is infiltration of rainfall into the soil. The infiltration is assumed to begin after the surface retention loss is completely satisfied. Excess precipitation is computed using the Green-Ampt equations after the initial loss is satisfied. Required parameters are then the hydraulic conductivity of the soil at saturation, volumetric moisture deficit at the beginning of rainfall, and wetting front capillary action.

Typical values for Green-Ampt parameters were obtained from the *Drainage Design Manual for Maricopa County Hydrology* (Maricopa County 2003 (draft)), available at http://www.fcd.maricopa.gov/Resources/HydrologyManual.asp.

704.3.1 Soil Hydraulic Conductivity

The soil hydraulic conductivity is based on soil texture classification. Typical values for different soil type are listed in Table 706. For watershed areas of sub-watersheds consisting of several different soil textures, a composite value for Green-Ampt parameters should be used.

Table 706 Soil Hydraulic Conductivity Values

Soil Texture Classification	(for bare ground) Hydrologic Soils Group	Soil Hydraulic Conductivity (in/hr)
Loamy-sand and sand	A	1.20
Sandy-Loam	B	0.40
Loam	B	0.25
Silty-loam	C	0.15
Sandy clay-loam	C	0.06
Clay-loam	D	0.04
Silty clay-loam	D	0.04
Sandy-clay	D	0.02
Silty-clay	D	0.02
Clay	D	0.01

Hydraulic conductivity is affected by several factors besides soil texture, including soil crusting, tillage, ground cover, and canopy cover and should be adjusted. Ground cover, such as grass, litter, and gravel, will generally increase the infiltration rate over that of bare ground conditions.

RECOMMENDED IMPERVIOUSNESS VALUES

Land Use or Surface Characteristic	Percentage Imperviousness
Business	
Commercial Areas	85
Neighborhood Areas	70
Residential	
Single Family	(see figures)
Multi-unit (detached)	60
Multi-unit (attached)	75
Half-acre lot or larger	(see figures)
Apartments	80
Industrial	
Light industrial	80
Heavy industrial	90
Parks, cemeteries	5
Playgrounds	10
Schools	50
Railroad yards	15
Undeveloped Areas	
Historic flow analysis	2
Greenbelts, agriculture	2
Off-site flow analysis (when land use not defined)	45
Streets	
Paved (concrete/asphalt)	100
Gravel	40
Drives and walks	90
Roofs	90
Lawns (all soils)	0

NOTES:

1. The imperviousness values are representative of land uses shown and are for future development projections only. Impervious values for existing land uses may vary.
2. For areas that will not be developed, 2% imperviousness is an appropriate assumption where soil and vegetative cover are present. Areas with geological features, including significant rock outcroppings, need to be accounted for. See Section 702.2.

Revision	Date
ORIGINAL ISSUE	3/27/06
CHANGED BUS. VALUES	12/6/07
ADDED NOTE 2	1/25/08

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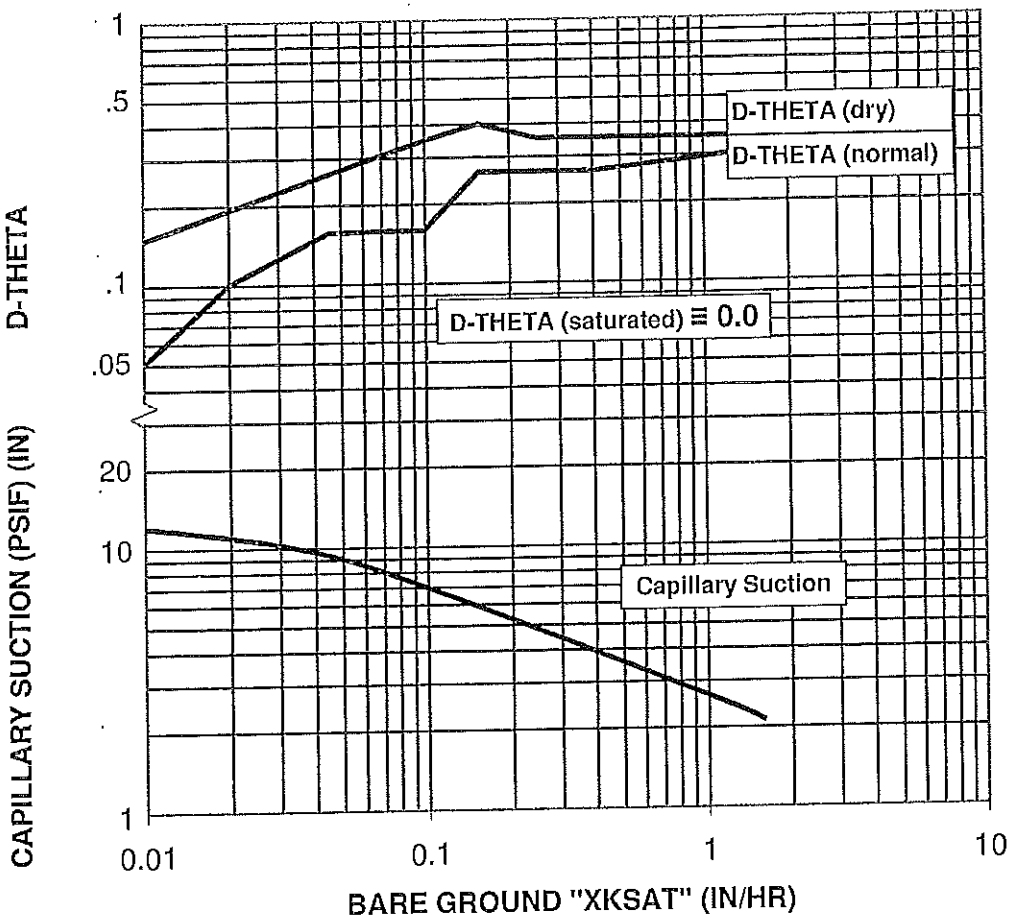
REFERENCE:
UDFCD 2001. Urban Storm Drainage Criteria Manual, Volume 1 (revised)

TABLE 701

ADJUSTMENT FOR SOIL MOISTURE DEFICIT AND CAPILLARY ACTION

SELECTION OF DTHETA CONDITION:

DRY – USE THIS FOR NON–IRRIGATED LANDS, SUCH AS DESERT AND RANGELAND.
NORMAL – USE THIS FOR IRRIGATED LAWN, TURF, AND PERMANENT PASTURE.
SATURATED – USE THIS FOR IRRIGATED AGRICULTURAL LAND.



NOTE:

DO NOT USE "XKSAT" VAU=LUES THAT HAVE BEEN AOJUSTED FOR VEGETATION COVER.

Revision	Date
ORIGINAL ISSUE	3/27/06

WRC ENGINEERING, INC.

REFERENCE: ADAPTED FROM MARIPOSA COUNTY DRAINAGE DESIGN MANUAL - HYDROLOGY (2002)

FIGURE 702

may not be correct. Incorrect results could cause serious consequences for flood control planning and design. Therefore, it is recommended that, for watersheds consisting of relatively small subareas of sand, the Green and Ampt parameter values for loamy sand be used for the sand portion of the watershed. If the area contains a large portion of sand, then either the Green and Ampt method should be used with the parameter values for loamy sand or the IL+ULR method should be used with the appropriately determined values for the parameters.

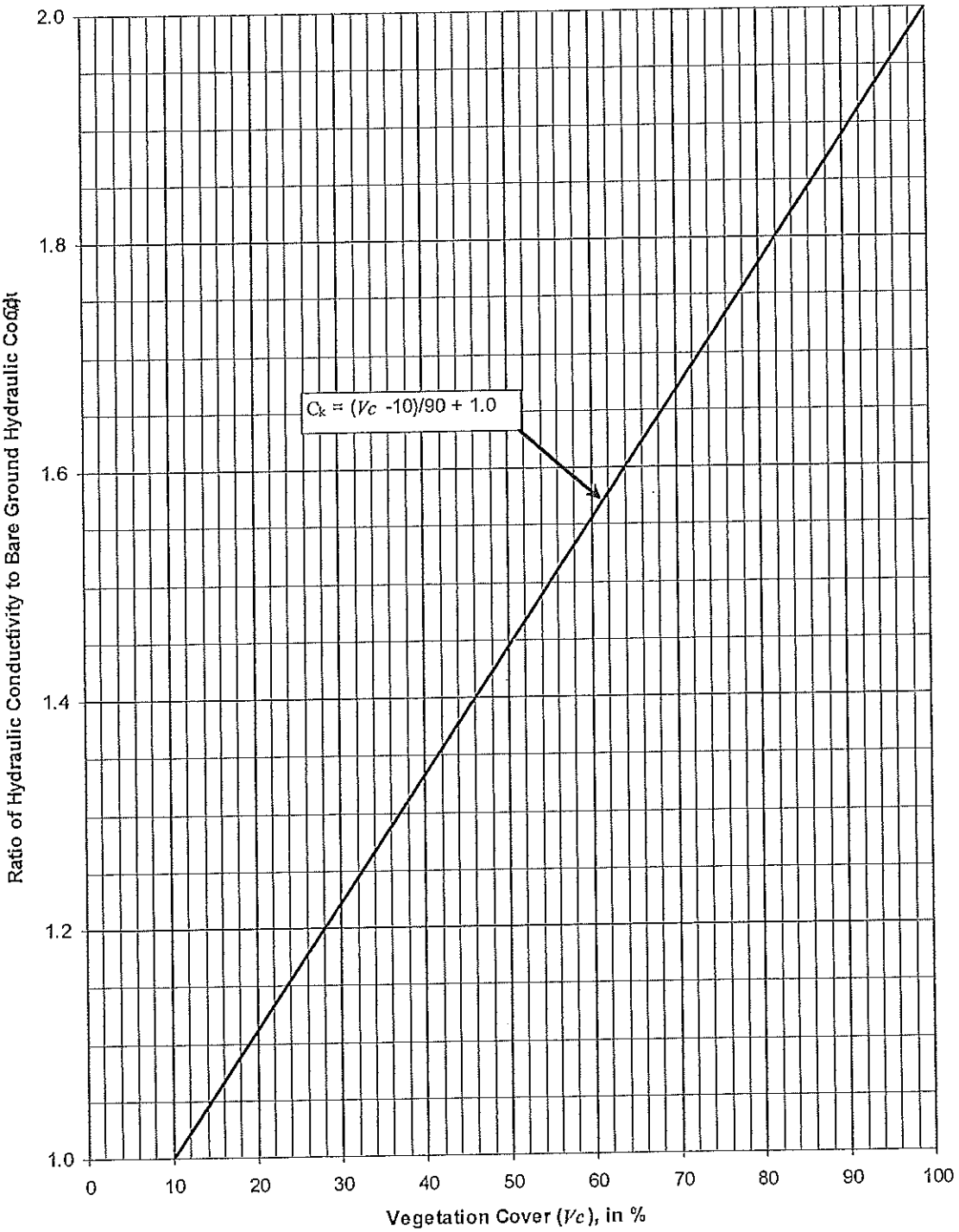
Table 4.1
GREEN AND AMPT LOSS RATE PARAMETER VALUES FOR BARE GROUND

Soil Texture Classification (1)	XKSAT inches/hour (2)	PSIF inches (3)	DTHETA[1] Dry (4)	DTHETA[1] Normal (5)	DTHETA[1] Saturated (6)
loamy sand & sand	1.20	2.4	0.35	0.30	0
sandy loam	0.40	4.3	0.35	0.25	0
loam	0.25	3.5	0.35	0.25	0
silty loam	0.15	6.6	0.40	0.25	0
silt	0.10	7.5	0.35	0.15	0
sandy clay loam	0.06	8.6	0.25	0.15	0
clay loam	0.04	8.2	0.25	0.15	0
silty clay loam	0.04	10.8	0.30	0.15	0
sandy clay	0.02	9.4	0.20	0.10	0
silty clay	0.02	11.5	0.20	0.10	0
clay	0.01	12.4	0.15	0.05	0

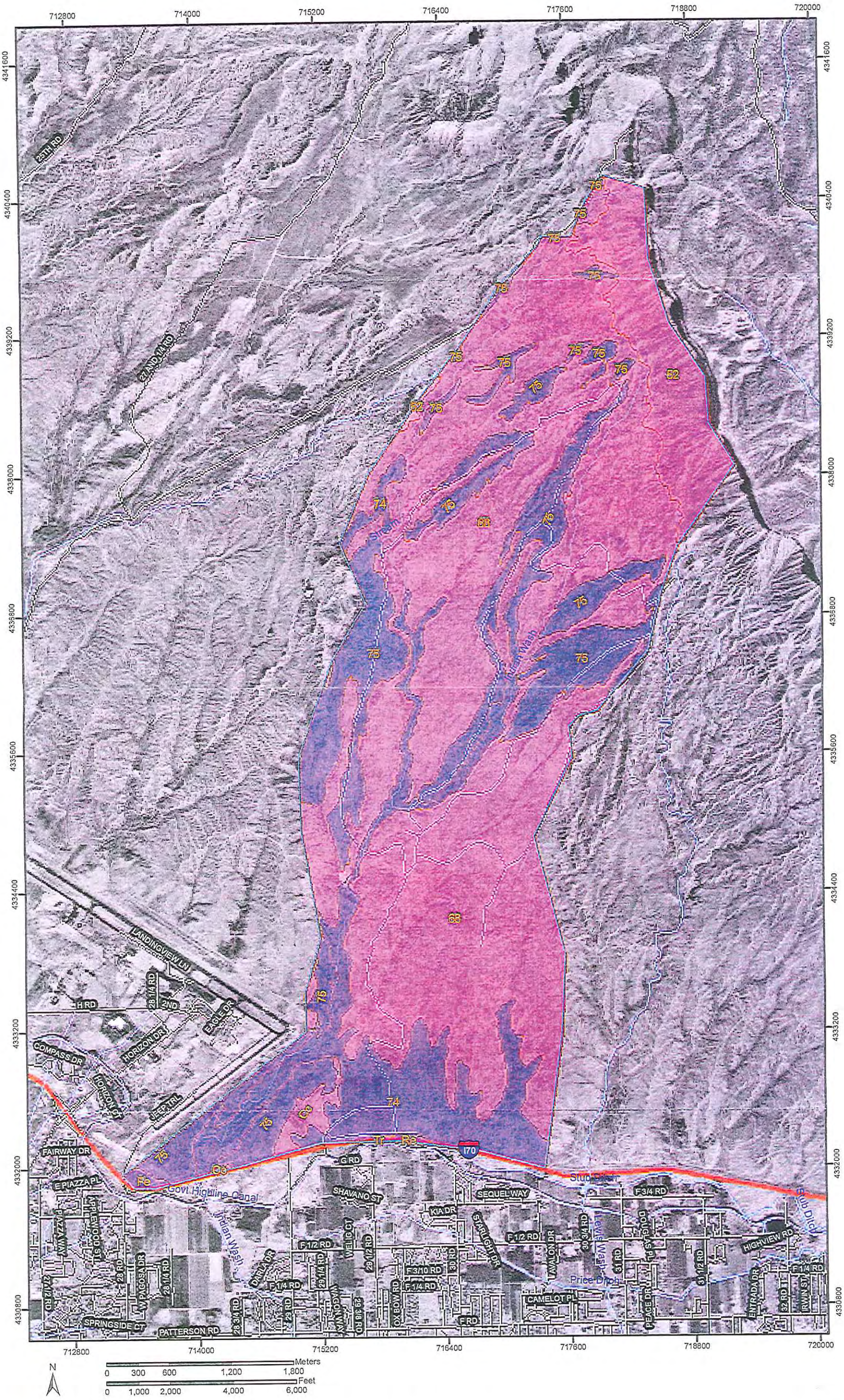
Notes:
1. Selection of DTHETA

Dry	=	Nonirrigated lands, such as desert and rangeland;
Normal	=	Irrigated lawn, turf, and permanent pasture;
Saturated	=	Irrigated agricultural land.

FIGURE 4.4
EFFECT OF VEGETATION COVER ON HYDRAULIC CONDUCTIVITY
FOR HYDRAULIC SOIL GROUPS B, C, AND D, AND FOR ALL SOIL TEXTURES
OTHER THAN SAND AND LOAMY SAND



Hydrologic Soil Group–Mesa County Area, Colorado
(Grand Junction Regional Airport - Master Drainage - Indian Wash)



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Units

Soil Ratings
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Political Features

Municipalities
- Cities
- Urban Areas

Water Features
- Oceans
- Streams and Canals

Transportation
- Rails

Roads
- Interstate Highways
- US Routes
- State Highways
- Local Roads
- Other Roads

MAP INFORMATION

Original soil survey map sheets were prepared at publication scale. Viewing scale and printing scale, however, may vary from the original. Please rely on the bar scale on each map sheet for proper map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 12N

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Mesa County Area, Colorado
Survey Area Data: Version 3, Sep 25, 2007

Date(s) aerial images were photographed: 8/3/1993; 9/14/1993; 9/28/1994

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Hydrologic Soil Group— Summary by Map Unit — Mesa County Area, Colorado				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
52	Badlands-Deaver-Chipeta complex, 25 to 99 percent slopes, extremely stony	D	437.0	7.3%
68	Killpack-Badlands-Persayo complex, 3 to 25 percent slopes, saline	D	3,512.6	59.1%
74	Turley-Sagrlite-Fruitland complex, 0 to 3 percent slopes	B	753.0	12.7%
75	Uffens fine sandy loam, 1 to 6 percent slopes	B	1,166.5	19.6%
Cc	Persayo silty clay loam, 5 to 12 percent slopes	D	53.7	0.9%
Fe	Fruita clay loam, 0 to 2 percent slopes	B	13.9	0.2%
Re	Sagrlite loam, 0 to 2 percent slopes	B	6.9	0.1%
Tr	Turley clay loam, 0 to 2 percent slopes	B	3.1	0.1%
Totals for Area of Interest (AOI)			5,946.8	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

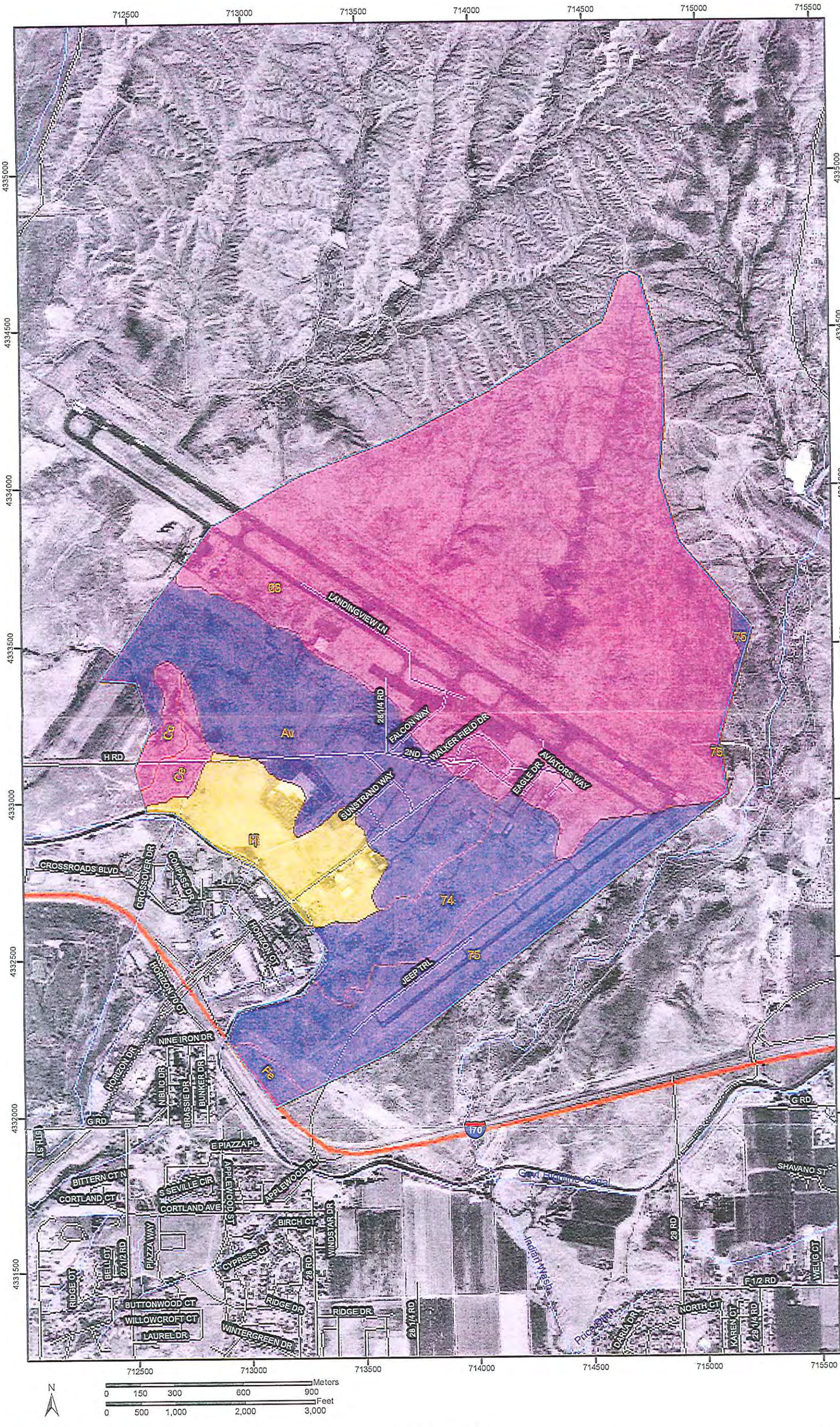
Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: *None Specified*

Tie-break Rule: Lower

Hydrologic Soil Group–Mesa County Area, Colorado
(Grand Junction Regional Airport - Master Drainage - Ranchman's Ditch)



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Units

Soil Ratings
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Political Features

Municipalities
- Cities
- Urban Areas

Water Features
- Oceans
- Streams and Canals

Transportation
- Rails

Roads
- Interstate Highways
- US Routes
- State Highways
- Local Roads
- Other Roads

MAP INFORMATION

Original soil survey map sheets were prepared at publication scale. Viewing scale and printing scale, however, may vary from the original. Please rely on the bar scale on each map sheet for proper map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 12N

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Mesa County Area, Colorado
Survey Area Data: Version 3, Sep 25, 2007

Date(s) aerial images were photographed: 8/3/1993; 9/14/1993; 9/28/1994

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Hydrologic Soil Group— Summary by Map Unit — Mesa County Area, Colorado				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
68	Killpack-Badlands-Persayo complex, 3 to 25 percent slopes, saline	D	780.6	56.7%
74	Turley-Sagrlite-Fruitland complex, 0 to 3 percent slopes	B	81.6	5.9%
75	Uffens fine sandy loam, 1 to 6 percent slopes	B	151.6	11.0%
Av	Avalon sandy loam, gravelly substratum, 2 to 5 percent slopes	B	232.3	16.9%
Cc	Persayo silty clay loam, 5 to 12 percent slopes	D	14.2	1.0%
Ce	Persayo silty clay loam, 2 to 5 percent slopes	D	16.2	1.2%
Fe	Fruita clay loam, 0 to 2 percent slopes	B	9.1	0.7%
Hj	Killpack silty clay, 2 to 5 percent slopes	C	92.0	6.7%
Totals for Area of Interest (AOI)			1,377.7	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

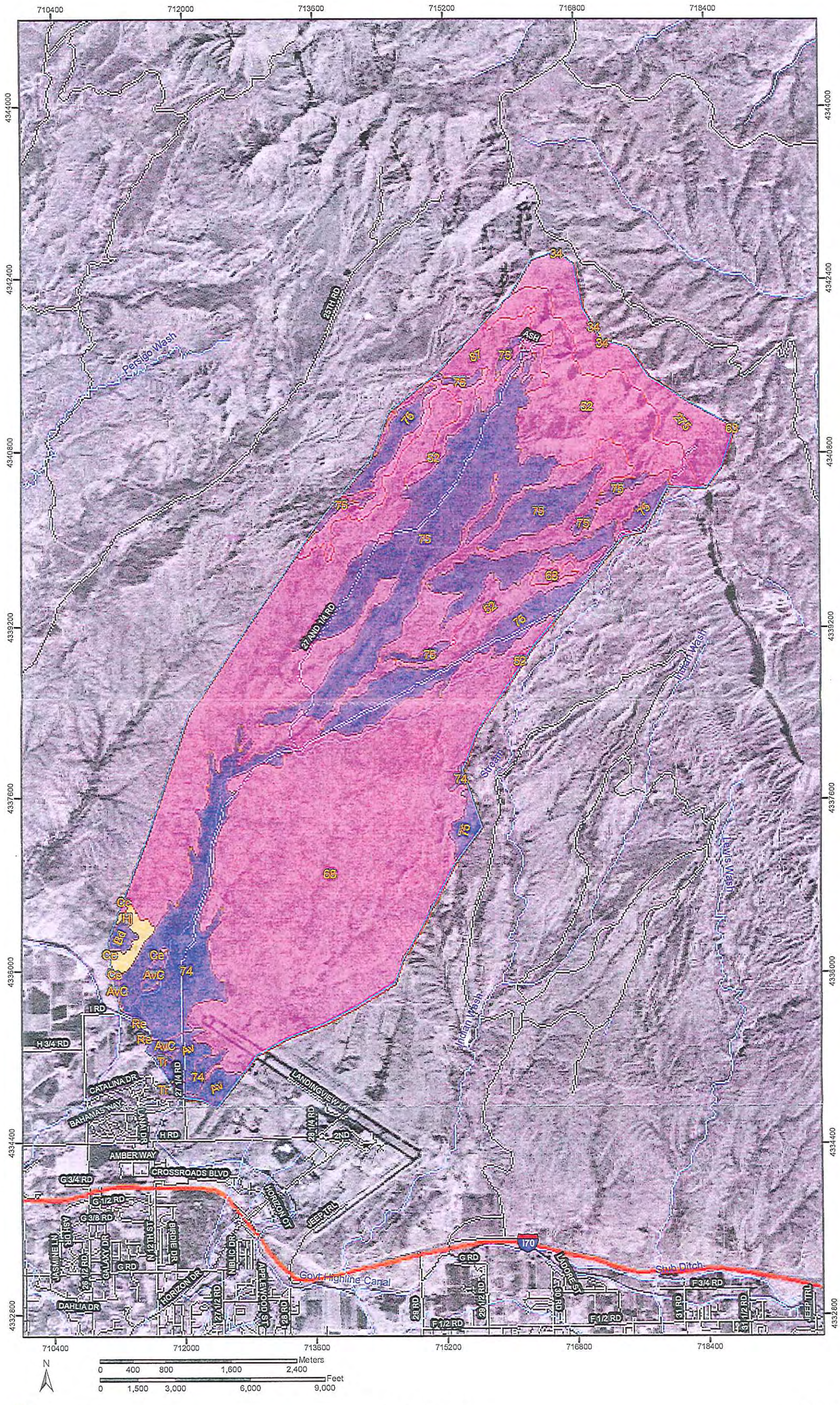
If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: *None Specified*

Tie-break Rule: Lower


710400
712000
713600
715200
716800
718400
4344000
4342400
4340800
4339200
4337600
4336000
4334400
4332800
25TH RD
Persigo Wash
ASH
34
87
75
76
52
65
27 AND 1/4 RD
68
74
Cc
JHJ
Ba
Ce
AvC
Re
Tr
Av
I RD
H 3/4 RD
CATALINA DR
BAHAMAS WAY
27 1/4 RD
H RD
28 1/4 RD
2ND
LANDINGVIEW LN
Indian Wash
AMBER WAY
CROSSROADS BLVD
G 3/4 RD
G 1/2 RD
G 3/8 RD
HORIZON CT
JEEP TRL
Stream
Govt Highline Canal
170
Stub Ditch
G RD
F3/4 RD
F1/2 RD
DAHLIA DR
HORIZON DR
27 1/2 RD
28 RD
29 1/2 RD
30 RD
31 RD
31 1/2 RD
JEEP TRL
N
Meters
0 400 800 1,600 2,400
Feet
0 1,500 3,000 6,000 9,000

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Units

Soil Ratings
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Political Features

Municipalities
- Cities
- Urban Areas

Water Features
- Oceans
- Streams and Canals

Transportation
- Rails

Roads
- Interstate Highways
- US Routes
- State Highways
- Local Roads
- Other Roads

MAP INFORMATION

Original soil survey map sheets were prepared at publication scale. Viewing scale and printing scale, however, may vary from the original. Please rely on the bar scale on each map sheet for proper map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 12N

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Mesa County Area, Colorado
Survey Area Data: Version 3, Sep 25, 2007

Date(s) aerial images were photographed: 8/1/1993; 8/3/1993; 9/14/1993; 9/28/1994

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Hydrologic Soil Group

Hydrologic Soil Group— Summary by Map Unit — Mesa County Area, Colorado				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
27	Rock outcrop-Biedsaw complex, 25 to 65 percent slopes, extremely bouldery	D	0.1	0.0%
34	Wrayha-Dollard-Fergus complex, 25 to 65 percent slopes, very stony	C	1.6	0.0%
52	Badlands-Deaver-Chipeta complex, 25 to 99 percent slopes, extremely stony	D	915.8	11.3%
63	Forelle-Cushool complex, 6 to 25 percent slopes	B	0.2	0.0%
68	Killpack-Badlands-Persayo complex, 3 to 25 percent slopes, saline	D	4,239.3	52.2%
74	Turley-Sagrlite-Fruitland complex, 0 to 3 percent slopes	B	523.0	6.4%
75	Uffens fine sandy loam, 1 to 6 percent slopes	B	1,686.6	20.8%
87	Persayo-Blackston complex, 6 to 45 percent slopes	D	170.3	2.1%
275	Torriorthents, warm-rock outcrop, 35 to 90 percent slopes	D	367.8	4.5%
Av	Avalon sandy loam, gravelly substratum, 2 to 5 percent slopes	B	109.5	1.3%
AvC	Avalon loam, gravelly substratum, 5 to 25 percent slopes	B	25.6	0.3%
Bd	Sagers silty clay loam, 2 to 5 percent slopes	B	23.0	0.3%
Cc	Persayo silty clay loam, 5 to 12 percent slopes	D	2.1	0.0%
Ce	Persayo silty clay loam, 2 to 5 percent slopes	D	4.3	0.1%
Hj	Killpack silty clay, 2 to 5 percent slopes	C	44.5	0.5%
Re	Sagrlite loam, 0 to 2 percent slopes	B	0.3	0.0%

Hydrologic Soil Group— Summary by Map Unit — Mesa County Area, Colorado				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Tr	Turley clay loam, 0 to 2 percent slopes	B	4.1	0.1%
Totals for Area of Interest (AOI)			8,118.1	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

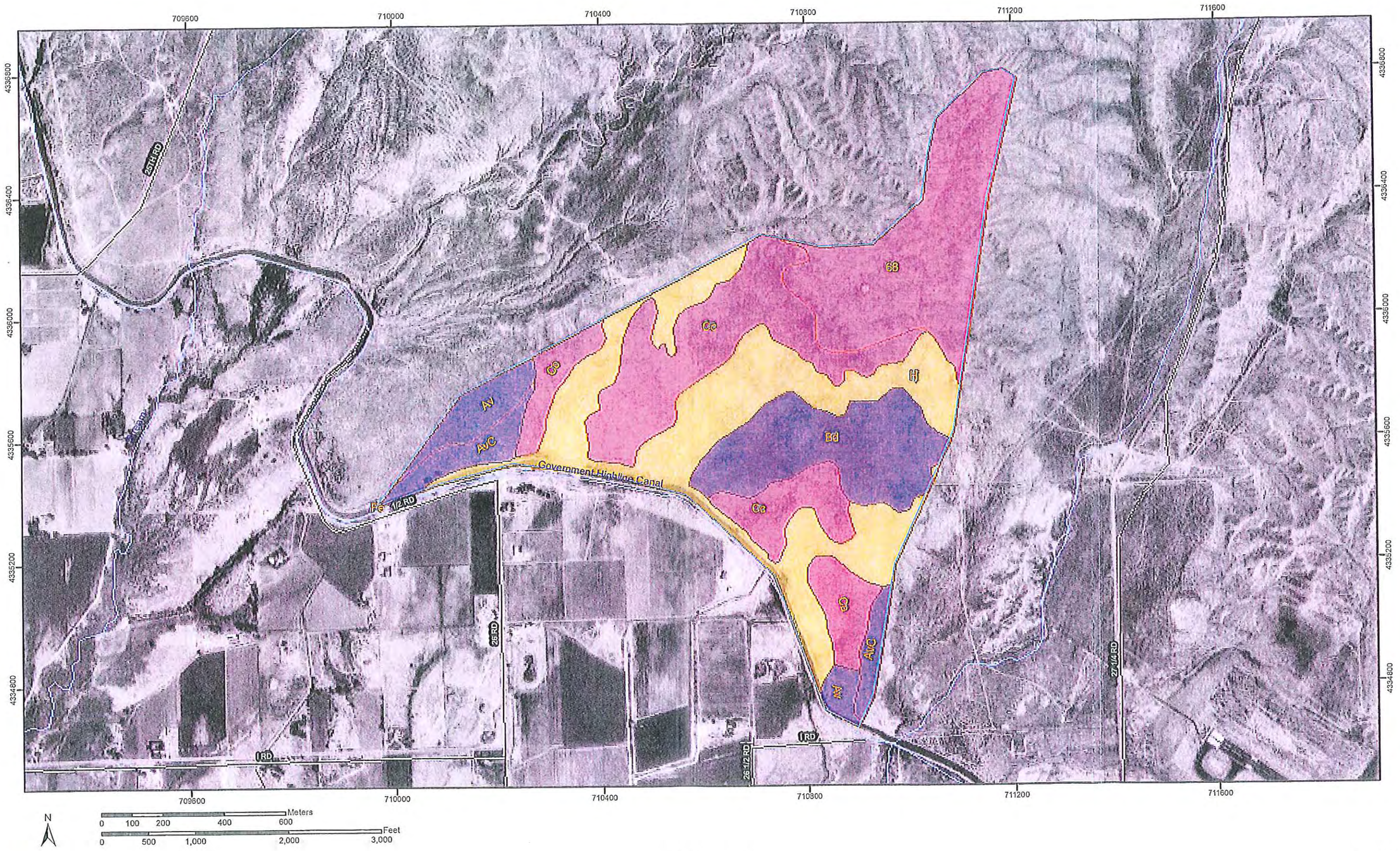
If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: *None Specified*

Tie-break Rule: Lower


709600
710000
710400
710800
711200
711600
4336800
4336400
4336000
4335600
4335200
4334800
25TH RD
Canal
AV
AvC
Co
68
Hj
Bd
Ce
Government Highline Canal
F 1/2 RD
26 RD
26 1/2 RD
27 1/4 RD
I RD
N
Meters
0 100 200 400 600
Feet
0 500 1,000 2,000 3,000

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Units

Soil Ratings
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- A/D
- B
- B/D
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Hydrologic Soil Group

Hydrologic Soil Group— Summary by Map Unit — Mesa County Area, Colorado				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
68	Killpack-Badlands-Persayo complex, 3 to 25 percent slopes, saline	D	76.6	20.7%
Av	Avalon sandy loam, gravelly substratum, 2 to 5 percent slopes	B	16.3	4.4%
AvC	Avalon loam, gravelly substratum, 5 to 25 percent slopes	B	16.8	4.5%
Bd	Sagers silty clay loam, 2 to 5 percent slopes	B	50.3	13.6%
Cc	Persayo silty clay loam, 5 to 12 percent slopes	D	87.5	23.6%
Ce	Persayo silty clay loam, 2 to 5 percent slopes	D	12.2	3.3%
Fe	Fruita clay loam, 0 to 2 percent slopes	B	0.0	0.0%
Hj	Killpack silty clay, 2 to 5 percent slopes	C	110.6	29.9%
Totals for Area of Interest (AOI)			370.3	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

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Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: *None Specified*

Tie-break Rule: Lower

f. **Underwater waste discharges.** The FAA recommends against the underwater discharge of any food waste (e.g., fish processing offal) within the separations identified in Sections 1-2 through 1-4 because it could attract scavenging hazardous wildlife.

g. **Recycling centers.** Recycling centers that accept previously sorted non-food items, such as glass, newspaper, cardboard, or aluminum, are, in most cases, not attractive to hazardous wildlife and are acceptable.

h. **Construction and demolition (C&D) debris facilities.** C&D landfills do not generally attract hazardous wildlife and are acceptable if maintained in an orderly manner, admit no putrescible waste, and are not co-located with other waste disposal operations. However, C&D landfills have similar visual and operational characteristics to putrescible waste disposal sites. When co-located with putrescible waste disposal operations, C&D landfills are more likely to attract hazardous wildlife because of the similarities between these disposal facilities. Therefore, a C&D landfill co-located with another waste disposal operation should be located outside of the separations identified in Sections 1-2 through 1-4.

i. **Fly ash disposal.** The incinerated residue from resource recovery power/heat-generating facilities that are fired by municipal solid waste, coal, or wood is generally not a wildlife attractant because it no longer contains putrescible matter. Landfills accepting only fly ash are generally not considered to be wildlife attractants and are acceptable as long as they are maintained in an orderly manner, admit no putrescible waste of any kind, and are not co-located with other disposal operations that attract hazardous wildlife.

   Since varying degrees of waste consumption are associated with general incineration (not resource recovery power/heat-generating facilities), the FAA considers the ash from general incinerators a regular waste disposal by-product and, therefore, a hazardous wildlife attractant if disposed of within the separation criteria outlined in Sections 1-2 through 1-4.

2-3. WATER MANAGEMENT FACILITIES. Drinking water intake and treatment facilities, storm water and wastewater treatment facilities, associated retention and settling ponds, ponds built for recreational use, and ponds that result from mining activities often attract large numbers of potentially hazardous wildlife. To prevent wildlife hazards, land-use developers and airport operators may need to develop management plans, in compliance with local and state regulations, to support the operation of storm water management facilities on or near all public-use airports to ensure a safe airport environment.

a. **Existing storm water management facilities.** On-airport storm water management facilities allow the quick removal of surface water, including discharges related to aircraft deicing, from impervious surfaces, such as pavement and terminal/hangar building roofs. Existing on-airport detention ponds collect storm water, protect water quality, and control runoff. Because they slowly release water

after storms, they create standing bodies of water that can attract hazardous wildlife. Where the airport has developed a Wildlife Hazard Management Plan (WHMP) in accordance with Part 139, the FAA requires immediate correction of any wildlife hazards arising from existing storm water facilities located on or near airports, using appropriate wildlife hazard mitigation techniques. Airport operators should develop measures to minimize hazardous wildlife attraction in consultation with a wildlife damage management biologist.

Where possible, airport operators should modify storm water detention ponds to allow a maximum 48-hour detention period for the design storm. The FAA recommends that airport operators avoid or remove retention ponds and detention ponds featuring dead storage to eliminate standing water. Detention basins should remain totally dry between rainfalls. Where constant flow of water is anticipated through the basin, or where any portion of the basin bottom may remain wet, the detention facility should include a concrete or paved pad and/or ditch/swale in the bottom to prevent vegetation that may provide nesting habitat.

When it is not possible to drain a large detention pond completely, airport operators may use physical barriers, such as bird balls, wires grids, pillows, or netting, to deter birds and other hazardous wildlife. When physical barriers are used, airport operators must evaluate their use and ensure they will not adversely affect water rescue. Before installing any physical barriers over detention ponds on Part 139 airports, airport operators must get approval from the appropriate FAA Regional Airports Division Office.

The FAA recommends that airport operators encourage off-airport storm water treatment facility operators to incorporate appropriate wildlife hazard mitigation techniques into storm water treatment facility operating practices when their facility is located within the separation criteria specified in Sections 1-2 through 1-4.

b. **New storm water management facilities.** The FAA strongly recommends that off-airport storm water management systems located within the separations identified in Sections 1-2 through 1-4 be designed and operated so as not to create above-ground standing water. Stormwater detention ponds should be designed, engineered, constructed, and maintained for a maximum 48–hour detention period after the design storm and remain completely dry between storms. To facilitate the control of hazardous wildlife, the FAA recommends the use of steep-sided, rip-rap lined, narrow, linearly shaped water detention basins. When it is not possible to place these ponds away from an airport's AOA, airport operators should use physical barriers, such as bird balls, wires grids, pillows, or netting, to prevent access of hazardous wildlife to open water and minimize aircraft-wildlife interactions. When physical barriers are used, airport operators must evaluate their use and ensure they will not adversely affect water rescue. Before installing any physical barriers over detention ponds on Part 139 airports, airport operators must get approval from the appropriate FAA Regional Airports Division Office. All vegetation in or around detention basins that provide food or cover for hazardous wildlife should be eliminated. If soil conditions and other requirements allow, the FAA encourages

the use of underground storm water infiltration systems, such as French drains or buried rock fields, because they are less attractive to wildlife.

c. **Existing wastewater treatment facilities.** The FAA strongly recommends that airport operators immediately correct any wildlife hazards arising from existing wastewater treatment facilities located on or near the airport. Where required, a WHMP developed in accordance with Part 139 will outline appropriate wildlife hazard mitigation techniques. Accordingly, airport operators should encourage wastewater treatment facility operators to incorporate measures, developed in consultation with a wildlife damage management biologist, to minimize hazardous wildlife attractants. Airport operators should also encourage those wastewater treatment facility operators to incorporate these mitigation techniques into their standard operating practices. In addition, airport operators should consider the existence of wastewater treatment facilities when evaluating proposed sites for new airport development projects and avoid such sites when practicable.

d. **New wastewater treatment facilities.** The FAA strongly recommends against the construction of new wastewater treatment facilities or associated settling ponds within the separations identified in Sections 1-2 through 1-4. Appendix 1 defines wastewater treatment facility as "any devices and/or systems used to store, treat, recycle, or reclaim municipal sewage or liquid industrial wastes." The definition includes any pretreatment involving the reduction of the amount of pollutants or the elimination of pollutants prior to introducing such pollutants into a publicly owned treatment works (wastewater treatment facility). During the site-location analysis for wastewater treatment facilities, developers should consider the potential to attract hazardous wildlife if an airport is in the vicinity of the proposed site, and airport operators should voice their opposition to such facilities if they are in proximity to the airport.

e. **Artificial marshes.** In warmer climates, wastewater treatment facilities sometimes employ artificial marshes and use submergent and emergent aquatic vegetation as natural filters. These artificial marshes may be used by some species of flocking birds, such as blackbirds and waterfowl, for breeding or roosting activities. The FAA strongly recommends against establishing artificial marshes within the separations identified in Sections 1-2 through 1-4.

f. **Wastewater discharge and sludge disposal.** The FAA recommends against the discharge of wastewater or sludge on airport property because it may improve soil moisture and quality on unpaved areas and lead to improved turf growth that can be an attractive food source for many species of animals. Also, the turf requires more frequent mowing, which in turn may mutilate or flush insects or small animals and produce straw, both of which can attract hazardous wildlife. In addition, the improved turf may attract grazing wildlife, such as deer and geese. Problems may also occur when discharges saturate unpaved airport areas. The resultant soft, muddy conditions can severely restrict or prevent emergency vehicles from reaching accident sites in a timely manner.

Chapter 2: Estimating runoff

SCS Runoff Curve Number method

The SCS Runoff Curve Number (CN) method is described in detail in NEH-4 (SCS 1985). The SCS runoff equation is

$$Q = \frac{(P - I_a)^2}{(P - I_a) + S} \qquad \text{[Eq. 2-1]}$$

where

Q = runoff (in),
P = rainfall (in),
S = potential maximum retention after runoff begins (in), and
I_a = initial abstraction (in).

Initial abstraction (I_a) is all losses before runoff begins. It includes water retained in surface depressions, water intercepted by vegetation, evaporation, and infiltration. I_a is highly variable but generally is correlated with soil and cover parameters. Through studies of many small agricultural watersheds, I_a was found to be approximated by the following empirical equation:

$$I_a = 0.2S. \qquad \text{[Eq. 2-2]}$$

By removing I_a as an independent parameter, this approximation allows use of a combination of S and P to produce a unique runoff amount. Substituting equation 2-2 into equation 2-1 gives

$$Q = \frac{(P - 0.2S)^2}{(P + 0.8S)} \qquad \text{[Eq. 2-3]}$$

S is related to the soil and cover conditions of the watershed through the CN. CN has a range of 0 to 100, and S is related to CN by

$$S = \frac{1000}{CN} - 10. \qquad \text{[Eq. 2-4]}$$

Figure 2-1 and table 2-1 solve equations 2-3 and 2-4 for a range of CN's and rainfall.

Factors considered in determining runoff curve numbers

The major factors that determine CN are the hydrologic soil group (HSG), cover type, treatment, hydrologic condition, and antecedent runoff condition (ARC). Another factor considered is whether impervious areas outlet directly to the drainage system (connected) or whether the flow spreads over pervious areas before entering the drainage system (unconnected). Figure 2-2 is provided to aid in selecting the appropriate figure or table for determining curve numbers.

CN's in table 2-2 (*a* to *d*) represent average antecedent runoff condition for urban, cultivated agricultural, other agricultural, and arid and semiarid rangeland uses. Table 2-2 assumes impervious areas are directly connected. The following sections explain how to determine CN's and how to modify them for urban conditions.

Hydrologic soil groups

Infiltration rates of soils vary widely and are affected by subsurface permeability as well as surface intake rates. Soils are classified into four HSG's (A, B, C, and D) according to their minimum infiltration rate, which is obtained for bare soil after prolonged wetting. Appendix A defines the four groups and provides a list of most of the soils in the United States and their group classification. The soils in the area of interest may be identified from a soil survey report, which can be obtained from local SCS offices or soil and water conservation district offices.

Most urban areas are only partially covered by impervious surfaces: the soil remains an important factor in runoff estimates. Urbanization has a greater effect on runoff in watersheds with soils having high infiltration rates (sands and gravels) than in watersheds predominantly of silts and clays, which generally have low infiltration rates.

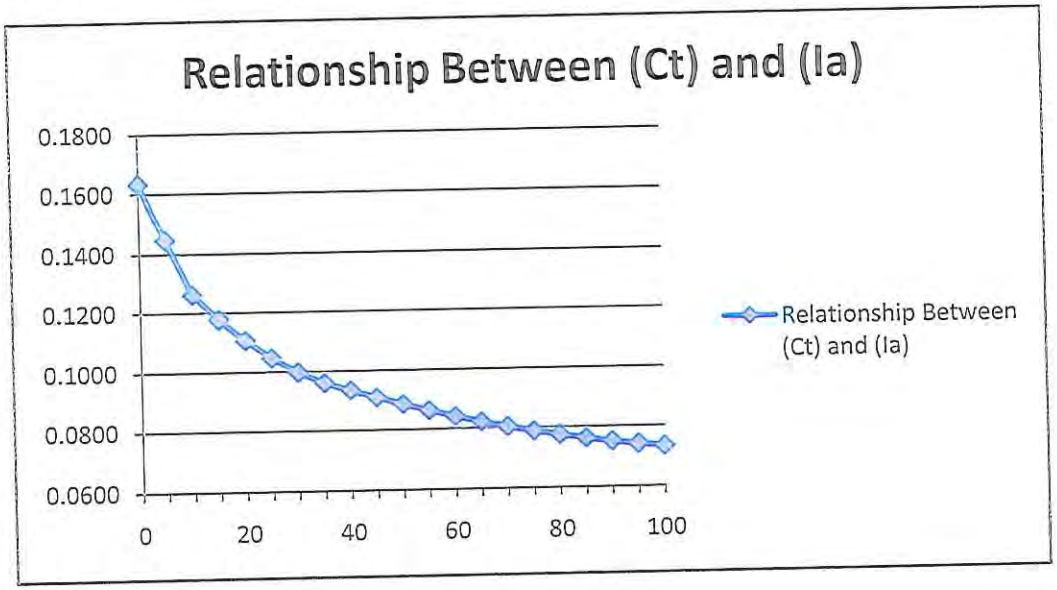
Any disturbance of a soil profile can significantly change its infiltration characteristics. With urbanization, native soil profiles may be mixed or removed or fill material from other areas may be introduced. Therefore, a method based on soil

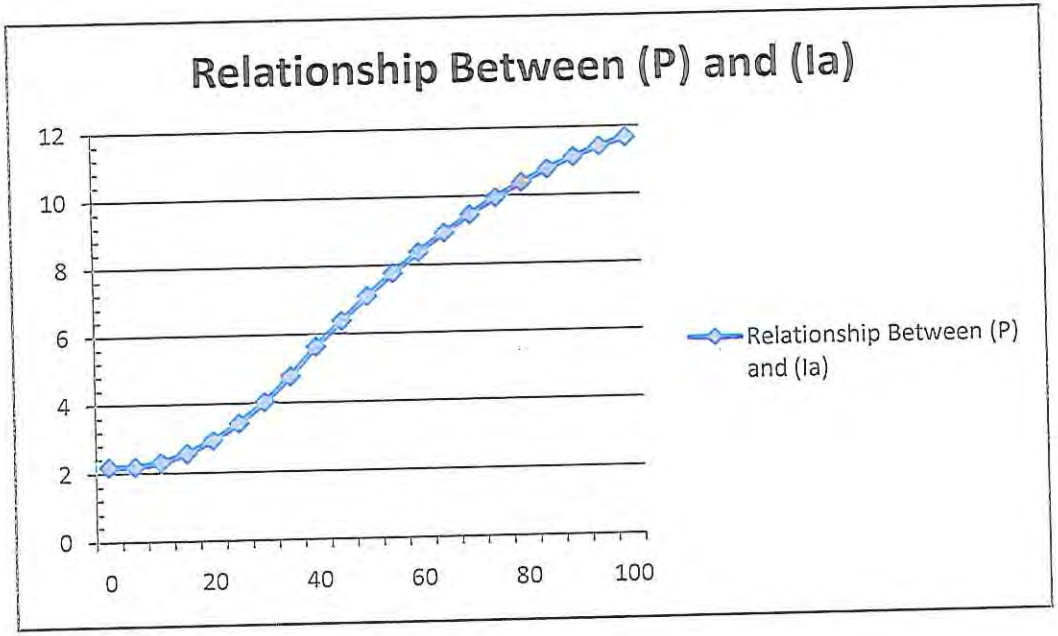
Table A1. Table of Correspondence.

CURVE NUMBER	KT(IN/HR)	SF(IN)	SORPTIVITY(IN/HR**1/2)
100.0	0.000	I	0.0000
99.0	.003	.088	.0237
98.0	.006	.177	.0473
97.0	.010	.265	.0710
96.0	.013	.353	.0947
95.0	.016	.442	.1183
94.0	.019	.530	.1420
93.0	.022	.618	.1657
92.0	.025	.707	.1893
91.0	.029	.795	.2130
90.0	.032	.883	.2367
89.0	.035	.972	.2603
88.0	.038	1.060	.2840
87.0	.041	1.148	.3077
86.0	.044	1.237	.3313
85.0	.048	1.325	.3550
84.0	.051	1.414	.3787
83.0	.054	1.502	.4023
82.0	.057	1.590	.4260
81.0	.060	1.679	.4497
80.0	.063	1.767	.4734
79.0	.067	1.855	.4970
78.0	.070	1.944	.5207
77.0	.073	2.032	.5444
76.0	.076	2.120	.5680
75.0	.081	2.161	.5917
74.0	.096	1.964	.6154
73.0	.112	1.826	.6390
72.0	.127	1.726	.6627
71.0	.143	1.652	.6864
70.0	.158	1.595	.7100
69.0	.173	1.552	.7337
68.0	.189	1.519	.7574
67.0	.204	1.494	.7810
66.0	.220	1.474	.8047
65.0	.235	1.421	.8173
64.0	.250	1.352	.8230
63.0	.266	1.292	.8288
62.0	.281	1.238	.8345
61.0	.297	1.190	.8403
60.0	.312	1.147	.8460
59.0	.327	1.108	.8518
58.0	.343	1.073	.8575
57.0	.358	1.040	.8633
56.0	.374	1.011	.8690
55.0	.389	.984	.8748
54.0	.404	.959	.8805
53.0	.420	.935	.8863
52.0	.435	.914	.8920
51.0	.451	.894	.8978
50.0	.466	.876	.9035
49.0	.481	.859	.9093
48.0	.497	.843	.9150
47.0	.512	.828	.9208
46.0	.528	.813	.9265
45.0	.543	.800	.9323
44.0	.558	.788	.9380
43.0	.574	.776	.9438
42.0	.589	.765	.9495
41.0	.605	.755	.9553
40.0	.620	.745	.9610
39.0	.635	.735	.9668
38.0	.651	.727	.9725
37.0	.666	.718	.9783
36.0	.687	.705	.9840
35.0	.719	.681	.9898
34.0	.751	.659	.9955
33.0	.784	.640	1.0013
32.0	.816	.621	1.0070
31.0	.849	.604	1.0128
30.0	.881	.589	1.0185
29.0	.913	.574	1.0243
28.0	.946	.561	1.0300
27.0	.978	.548	1.0358
26.0	1.011	.537	1.0415
25.0	1.043	.526	1.0473
24.0	1.075	.516	1.0530
23.0	1.108	.506	1.0588
22.0	1.140	.497	1.0645
21.0	1.173	.488	1.0703
20.0	1.205	.480	1.0760
19.0	1.237	.473	1.0818
18.0	1.270	.466	1.0875
17.0	1.302	.459	1.0933
16.0	1.335	.452	1.0990
15.0	1.367	.446	1.1048
14.0	1.399	.441	1.1105
13.0	1.432	.435	1.1163
12.0	1.464	.430	1.1220
11.0	1.497	.425	1.1278
10.0	1.529	.420	1.1335
9.0	1.561	.416	1.1393
8.0	1.594	.411	1.1450
7.0	1.626	.407	1.1508
6.0	1.659	.403	1.1565
5.0	1.691	.399	1.1623
4.0	1.723	.396	1.1680
3.0	1.756	.392	1.1738
2.0	1.788	.389	1.1795
1.0	1.821	.386	1.1853

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Imp (%)	C_t	P
0	0.1630	2.1600
5	0.1445	2.1613
10	0.1259	2.2850
15	0.1176	2.5313
20	0.1104	2.9000
25	0.1044	3.3913
30	0.0995	4.0050
35	0.0958	4.7413
40	0.0932	5.6040
45	0.0906	6.3573
50	0.0882	7.0650
55	0.0859	7.7273
60	0.0838	8.3440
65	0.0819	8.9153
70	0.0801	9.4410
75	0.0785	9.9213
80	0.0770	10.3560
85	0.0758	10.7453
90	0.0746	11.0890
95	0.0737	11.3873
100	0.0729	11.6400





$C_t = aI_a^2 + bI_a + c$

I_a = 0 to 10	a=0	b=-0.00371	c=0.163
I_a = 10 to 40	a=0.000023	b=-0.00224	c=0.146
I_a = 40 to 100	a=0.0000033	b=-0.000801	c=0.120

$P = aI_a^2 + bI_a + c$

I_a = 0 to 40	a=0.00245	b=-0.012	c=2.16
I_a = 40 to 100	a=-0.00091	b=0.228	c=-2.06

Table 2-2c Runoff curve numbers for other agricultural lands [1]

Cover description		Curve numbers for hydrologic soil group			
Cover type	Hydrologic condition	A	B	C	D
Pasture, grassland, or range—continuous forage for grazing. [2]	Poor	68	79	86	89
	Fair	49	69	79	84
	Good	39	61	74	80
Meadow—continuous grass, protected from grazing and generally mowed for hay.	—	30	58	71	78
Brush—brush-weed-grass mixture with brush the major element. [3]	Poor	48	67	77	83
	Fair	35	56	70	77
	Good	30 [4]	48	65	73
Woods—grass combination (orchard or tree farm). [5]	Poor	57	73	82	86
	Fair	43	65	76	82
	Good	32	58	72	79
Woods. [6]	Poor	45	66	77	83
	Fair	36	60	73	79
	Good	30 [4]	55	70	77
Farmsteads—buildings, lanes, driveways, and surrounding lots.	—	59	74	82	86

1 Average runoff condition, and $I_a = 0.2S$.
2 *Poor:* <50%) ground cover or heavily grazed with no mulch.
Fair: 50 to 75% ground cover and not heavily grazed.
Good: > 75% ground cover and lightly or only occasionally grazed.
3 *Poor:* <50% ground cover.
Fair: 50 to 75% ground cover.
Good: >75% ground cover.
4 Actual curve number is less than 30; use CN = 30 for runoff computations.
5 CN's shown were computed for areas with 50% woods and 50% grass (pasture) cover. Other combinations of conditions may be computed from the CN's for woods and pasture.
6 *Poor:* Forest litter, small trees, and brush are destroyed by heavy grazing or regular burning.
Fair: Woods are grazed but not burned, and some forest litter covers the soil.
Good: Woods are protected from grazing, and litter and brush adequately cover the soil.

Table 2-2a Runoff curve numbers for urban areas [1]

Cover description: Cover type and hydrologic condition	Average percent impervious area [2]	Curve numbers for hydrologic soil group: A	B	C	D
Fully developed urban areas (vegetation established)					
Open space (lawns, parks, golf courses, cemeteries, etc.) [3]:					
Poor condition (grass cover < 50%)		68	79	86	89
Fair condition (grass cover 50% to 75%)		49	69	79	84
Good condition (grass cover > 75%)		39	61	74	80
Impervious areas:					
Paved parking lots, roofs, driveways, etc. (excluding right-of-way)		98	98	98	98
Streets and roads:					
Paved; curbs and storm sewers (excluding right-of-way)		98	98	98	98
Paved; open ditches (including right-of-way)		83	89	92	93
Gravel (including right-of-way)		76	85	89	91
Dirt (including right-of-way)		72	82	87	89
Western desert urban areas:					
Natural desert landscaping (pervious areas only) [4]		63	77	85	88
Artificial desert landscaping (impervious weed barrier, desert shrub with 1- to 2-inch sand or gravel mulch and basin borders)		96	96	96	96
Urban districts:					
Commercial and business	85	89	92	94	95
Industrial	72	81	88	91	93
Residential districts by average lot size:					
1/8 acre or less (town houses)	65	77	85	90	92
1/4 acre	38	61	75	83	87
1/3 acre	30	57	72	81	86
1/2 acre	25	54	70	80	85
1 acre	20	51	68	79	84
2 acres	12	46	65	77	82
Developing urban areas					
Newly graded areas (pervious areas only, no vegetation) [5]		77	86	91	94
Idle lands (CN's are determined using cover types similar to those in table 2-2c).					

1 Average runoff condition, and $I_a = 0.2S$.

2 The average percent impervious area shown was used to develop the composite CN's. Other assumptions are as follows: impervious areas are directly connected to the drainage system, impervious areas have a CN of 98, and pervious areas are considered equivalent to open space in good hydrologic condition. CN's for other combinations of conditions may be computed using figure 2-3 or 2-4.

3 CN's shown are equivalent to those of pasture. Composite CN's may be computed for other combinations of open space cover type.

4 Composite CN's for natural desert landscaping should be computed using figures 2-3 or 2-4 based on the impervious area percentage (CN = 98) and the pervious area CN. The pervious area CN's are assumed equivalent to desert shrub in poor hydrologic condition.

5 Composite CN's to use for the design of temporary measures during grading and construction should be computed using figure 2-3 or 2-4 based on the degree of development (impervious area percentage) and the CN's for the newly graded pervious areas.

2. Infiltration and depression losses can no longer be varied from storm to storm. To do so, the user has to set up a new CUHP run for each storm or a group of storms that have different infiltration and depression losses.
3. Depression storage loss values are entered separately for the pervious and impervious areas.
4. If a detailed storm hyetograph input option is used, the user needs to identify the storm and then input incremental rainfall depths for each time increment of the hyetograph.
   If the 1-hour design rainfall depth input option is to be used, the user needs to identify the design storm (i.e., 2-, 5-, 10-, 50-, or 100-year) and then enter the 1-hour depth. The Excel program will then generate the design hyetograph using the USDCM protocols. Should the user want to generate hydrographs for the 500-year storm with the 1-hour depth input option, enter the 500-year 1-hour depth and then 100-year for the design storm. The software will use the 100-year distribution to develop a 2-hour design storm.
5. For all practical purposes, there are no limits to the number of different hyetographs that can be entered. The user may input several sets of storms developed for different parts of the study area and then to specify the specific the storm to be used by a given catchment for each run of CUHP.

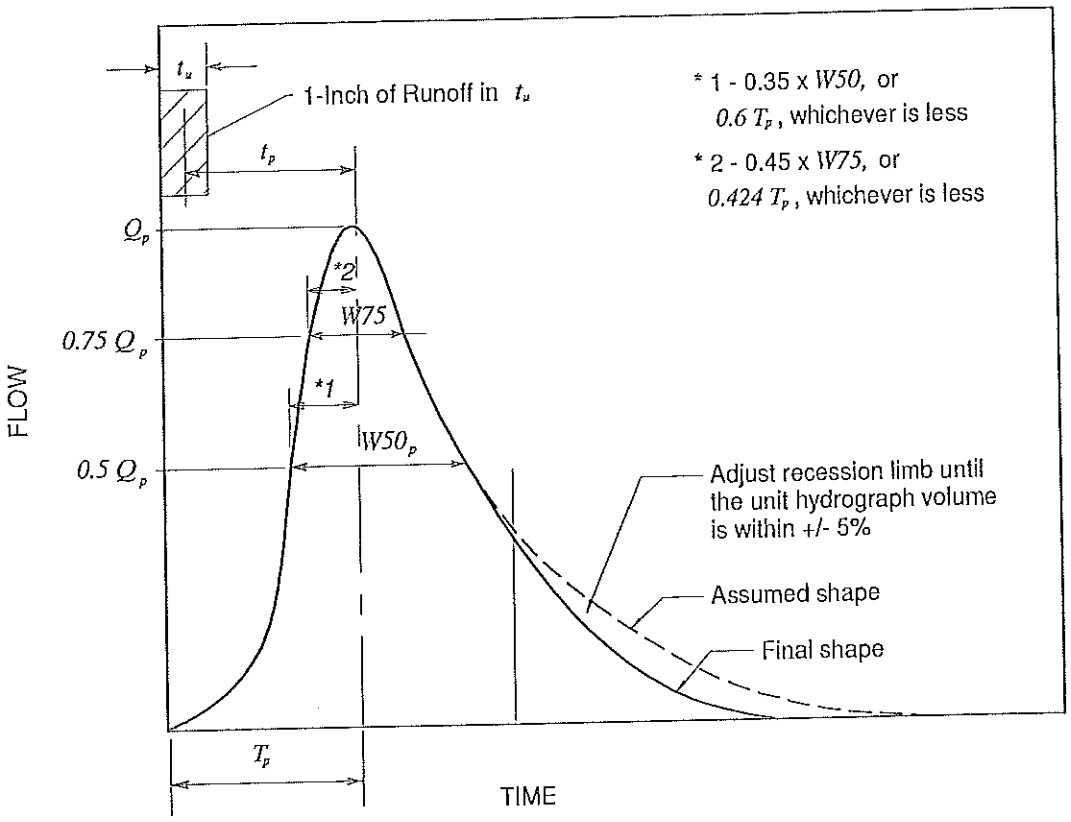
Unit and Storm Hydrograph

The CUHP2005 program will generate a unit hydrograph column matrix for each catchment. It will then set up an excess precipitation row matrix for each storm called by the catchment data, which it then cross-multiplies with the unit hydrograph matrix. The resultant storm hydrographs are then printed or routed to output files. Unit hydrographs are developed using several catchment parameters and the equations found in the USDCM. As an option, the coefficients *Cp* and *Ct*, if known or predetermined, can be input directly to override the values computed by the Excel macro using the USDCM protocols. The level of DCIA can be also be input as catchment data. If DCIA levels are not entered, the program defaults to "established practice" mode. The Excel spreadsheet also allows the user to enter calibrating multipliers to adjust the coefficients that are shown on the spreadsheet as "Used by CUHP2005". This feature was provided to permit the user to calibrate the CUHP2005 output to known rainfall/runoff data.

CUHP2005 is based on four basic equations used in defining the shape of the synthetic unit hydrograph. Figure 1 defines the terms used to describe the unit hydrograph and some of the default shaping factors. With this as a reference, the first equation defines the time to peak (t_p) the time from the center of the unit storm duration to the peak of the unit hydrograph:

$$t_p = C_t \cdot \left(\frac{L \cdot L_{ca}}{\sqrt{S}} \right)^{0.48}$$

in which, t_p = time to peak of the unit hydrograph from midpoint of unit rainfall in hours



L = length along the drainageway path from study point to the most upstream limits of the catchment in miles

L_{ca} = length along stream from study point to a point along stream adjacent to the centroid of the catchment in miles

Figure 1. Elements of a Unit Hydrograph.

S = length weighted average slope of catchment along the drainageway path to upstream limits of the catchment in feet per foot

C_t = coefficient reflecting time to peak

A 5-minute unit hydrograph produces reasonable length outpnt files and longer using times are not recommended for urban hydrology. The user has the option of using any unit time increment regardless of the rainfall unit time increments used to define the hyetograph being used.

The second equation is,

$$T_p = 60 \cdot t_p + 0.5 \cdot t_u$$

in which, T_p = time from the beginning of unit rainfall to the peak of the unit hydrograph
t_u = duration of unit rainfall

The third equation is,

$$q_p = \frac{640 \cdot C_p}{t_p}$$

in which, q_p = peak rate of runoff in cfs per square mile
C_p = coefficient related to peak rate of runoff

The fourth equation is,

$$Q_p = q_p \cdot A$$

in which, Q_p = peak of the unit hydrograph in cfs
A = area of catchment in square miles

The maximum recommended catchment size for any single unit hydrograph is 5-square miles. Whenever a larger catchment is studied, it should be subdivided into sub-catchments of 5-square miles or less. These are then combined and routed downstream using appropriate channel routing procedures.

The minimum catchment size recommended for use with the CUHP2005 program is 5 to 10 acres. If the Rational Formula option is used, the minimum catchment size is five (5) acres for catchments with 25% or more imperviousness and 2 acres for catchments with less than 25% imperviousness.

Subdivide very long catchments (i.e., ones with length to width ratio of four or more) into more regularly shaped sub-catchments. Although not an absolute rule, the length to width ratio of four should not be exceeded.

Natural and grass-lined drainageways and channels become unstable when the Froude Number approaches 1.0 and natural processes work to limit the reduction in time to peak as these drainageways become steeper. To account for this, the slope used in the second equation, one to find

t_p, for natural and grass-lined channels needs to be adjusted using Figure 2. These adjustments have been determined to give more realistic hydrologic results in steep terrain.

Grass-lined channels designed and built using UDFCD criteria have a slope that limits maximum control velocities. A typical range in slopes for these channels is 0.004 ft/ft to 0.007 ft/ft and it is recommended that initial hydrologic runs use a slope of 0.005 ft/ft when grass-lined channels are to be designed using UDFCD criteria.

For riprap and concrete-lined channels and storm sewers use the actual flow line slope, especially where they dominate the catchment drainageways.

When the flow line slope varies along the drainageway path, calculate a length-weighted catchment slope. Do this by:

1. Segmenting the drainageway into reaches of similar longitudinal slopes
2. Correct the slope of a steep reach using the correction coefficient taken form Figure 2.
3. Apply the following equation using the corrected slope for each reach:

$$S = \left(\frac{L_1 \cdot S_1^{0.24} + L_2 \cdot S_2^{0.24} + \cdots + L_n \cdot S_n^{0.24}}{L_1 + L_2 + \cdots + L_n} \right)^{4.17}$$

in which, S = weighted catchment waterway slope in ft/ft
$S_1, S_2, \ldots S_n$ = slopes of individual reaches in ft/ft (after adjustments using Figure 2)
$L_1, L_2, \ldots L_n$ = lengths of corresponding reaches

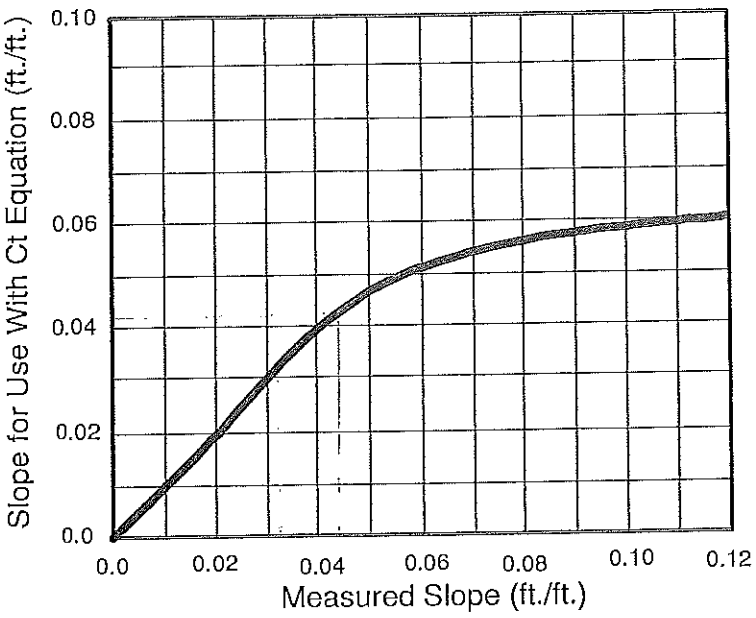


Figure 2: Slope Correction for Natural and Grass-Lined Channels

The value of C_t is calculated by CUHP2005 using the "Equations of Curve" in Figure 3.

The program uses the "Equations of Curve" shown on Figure 4 to determine the value of C_p. Using the Peaking Parameter P taken for Figure 4, C_p is calculated using the following equations:

If A>0.141

$$C_p = P \cdot C_t \cdot A^{0.15}$$

Otherwise

$$Cp = P\ Ct\ A^{\left(0.25 - \frac{A}{0.141}\right)}$$

in which,

C_p	=	unit hydrograph peaking coefficient
C_t	=	Time to peak coefficient
P	=	peaking parameter
A	=	catchment area in square miles

The Figure 5 is used to help shape the unit hydrograph. The relationships shown are part of the CUHP2005 program and provide the width of the unit hydrograph at 50% and 75% of its peak discharge value. Using these values for widths and built-in values for how these widths are distributed in front of the time-to-peak of the unit hydrograph, a set of 6 coordinates are fixed that are used to shape the unit hydrograph. Curvilinear relationships are passed through these points and the

residual unit area is then adjusted using an exponential decay function so that the area under the unit hydrograph equals one-inch of runoff form the catchment.

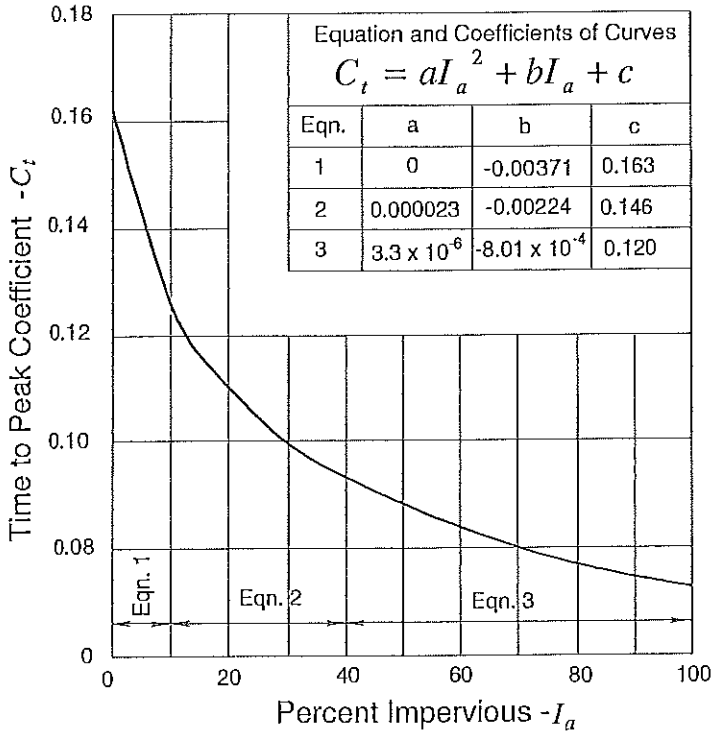


Figure 3: Relationship Between C_t and Imperviousness (I_a)

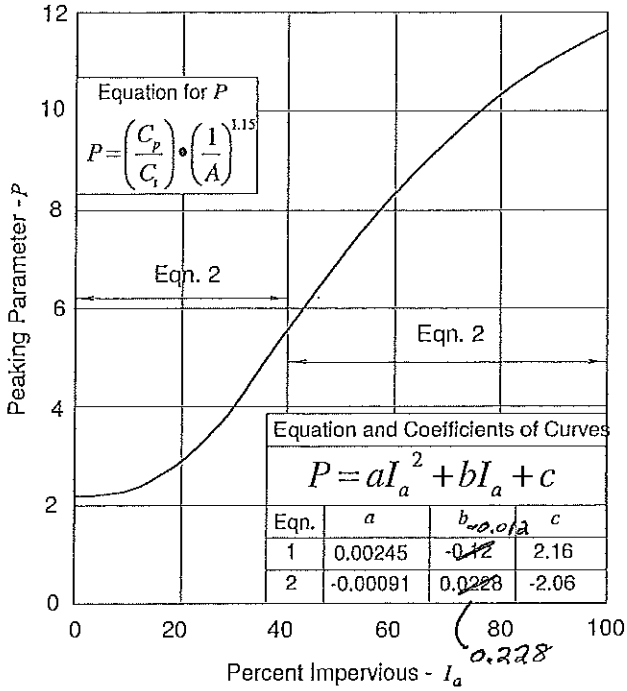


Figure 4: Relationship Between Peaking Parameter *(P)* and Imperviousness *(I_a)*

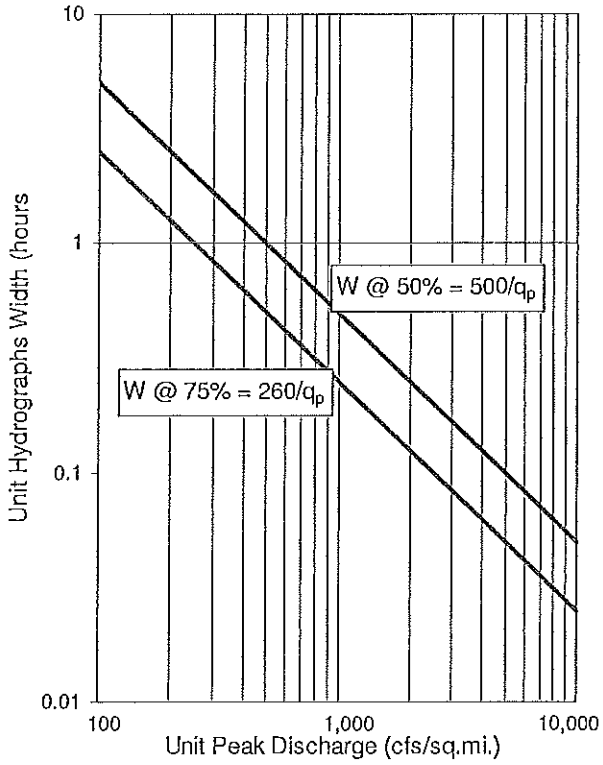


Figure 5: Unit Hydrograph Widths

APPENDIX B

HEC-1 Input Data Current Conditions
HEC-1 Input Data Proposed Conditions
Graphical HEC-1 Connectivity Diagrams
ICON/C&B Connectivity Excerpts
ICON HEC-1 Model 10-yr Current Conditions
ICON HEC-1 Model 100-yr Current Conditions
C&B HEC-1 Model 10-yr Current Conditions
C&B HEC-1 Model 100-yr Current Conditions
Jviation HEC-1 Model 10-yr Current Conditions
Jviation HEC-1 Model 100-yr Current Conditions
Jviation HEC-1 Model 10-yr Proposed Conditions
Jviation HEC-1 Model 100-yr Proposed Conditions

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HEC-1 INPUT

KK		BA		LG					US	
Basin	Basin Description	Area (mi^2)	Area (ac)	Initial Loss (in) IA	Vol Moist Deficit DTHETA	Wetting Front Suction (in) PSIF	Hydraulic Conduct (in/hr) XKSAT	Percent Impervious (%) RTIMP	Snyder's Lag (hr)	Snyder's Peak Coef CP
ICON - October 2004										
DB21	Subbasin	0.1519	97.2	0.30	0.3077	1.148	0.041	1	0.171	0.258
DB21a	Subbasin	0.3403	217.8	0.30	0.3077	1.148	0.041	1	0.211	0.291
DB23	Subbasin	0.2313	148.0	0.53	0.4970	1.855	0.067	75	0.186	0.625
DB23a	Subbasin	0.0196	12.5	0.59	0.5397	2.0144	0.0724	1	0.063	0.190
DB22	Subbasin	0.2226	142.5	0.30	0.3077	1.148	0.041	1	0.203	0.273
DB24a	Subbasin	0.0212	13.6	0.53	0.4970	1.855	0.067	20	0.150	0.180
DB24	Subbasin	0.2259	144.6	0.44	0.4260	1.590	0.057	75	0.180	0.623
DB25	Subbasin	0.0244	15.6	0.53	0.4970	1.855	0.067	20	0.151	0.183
DB25a	Subbasin	0.0316	20.2	0.55	0.5112	1.9084	0.0688	1	0.066	0.204
DB16	Subbasin	0.1391	89.0	0.67	0.5917	2.161	0.081	52	0.119	0.476
R14a	Subbasin	0.0393	25.2	0.60	0.5491	2.0496	0.0736	75	0.119	0.479
L11b	Subbasin	7.4766	4785.0	0.40	0.3976	1.484	0.0530	0	1.539	0.453
L11au	Subbasin	1.0090	645.8	0.40	0.3976	1.484	0.0530	0	0.747	0.335
L11ad	Subbasin	0.0173	11.1	0.40	0.3976	1.484	0.0530	0	0.089	0.182
L10	Subbasin	0.9833	629.3	0.44	0.4236	1.581	0.0570	1	0.644	0.342
L9.1	Subbasin	2.7210	1741.4	0.34	0.3479	1.299	0.0470	1	1.289	0.398
L9	Subbasin	0.2051	131.3	0.90	0.7337	1.552	0.1730	8.2	0.340	0.238
L8	Subbasin	0.3577	228.9	0.81	0.6793	1.674	0.1380	22.9	0.466	0.259
R17	Subbasin	0.1623	103.9	0.30	0.3077	1.148	0.0410	1	0.153	0.261
R15	Subbasin	0.2994	191.6	0.70	0.6107	2.0034	0.0930	1	0.267	0.286
R13	Subbasin	0.0425	27.2	0.60	0.5468	2.0408	0.0733	1	0.148	0.213
R14	Subbasin	0.0602	38.5	0.44	0.4260	1.59	0.0570	5	0.355	0.205

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KK		BA		LG					US	
Basin	Basin Description	Area (mi^2)	Area (ac)	Initial Loss (in) IA	Vol Moist Deficit DTHETA	Wetting Front Suction (in) PSIF	Hydraulic Conduct (in/hr) XKSAT	Percent Impervious (%) RTIMP	Snyder's Lag (hr)	Snyder's Peak Coef CP
C&B - January 2007										
DB21	Subbasin	0.1519	97.2	0.30	0.3077	1.148	0.041	1	0.171	0.258
DB21a	Subbasin	0.3403	217.8	0.30	0.3077	1.148	0.041	1	0.211	0.291
DB23b	New Subbasin	0.0584	37.4	0.53	0.4970	1.855	0.067	75	0.186	0.625
DB23c	New Subbasin	0.0783	50.1	0.53	0.4970	1.855	0.067	73	0.186	0.625
DB23d	New Subbasin	0.0173	11.1	0.53	0.4970	1.855	0.067	62	0.186	0.625
DB23e	New Subbasin	0.0709	45.4	0.53	0.4970	1.855	0.067	75	0.186	0.625
DB23a	Subbasin	0.0196	12.5	0.59	0.5397	2.0144	0.0724	1	0.063	0.190
DB22	Subbasin	0.2226	142.5	0.30	0.3077	1.148	0.041	1	0.203	0.273
DB24a	Subbasin	0.0212	13.6	0.53	0.4970	1.855	0.067	20	0.150	0.180
DB24	Subbasin	0.2318	148.4	0.44	0.4260	1.590	0.057	58	0.180	0.623
DB25	Subbasin	0.0244	15.6	0.53	0.4970	1.855	0.067	20	0.151	0.183
DB25a	Subbasin	0.0316	20.2	0.55	0.5112	1.9084	0.0688	1	0.066	0.204
R16	New Subbasin	0.1550	99.2	0.67	0.5917	2.161	0.081	50	0.119	0.476
R14a	Subbasin	0.0393	25.2	0.60	0.5491	2.0496	0.0736	75	0.119	0.479

GRAND JUNCTION ' IONAL AIRPORT
MASTER DRAINAGE
HEC-1 INPUT

KK		BA		LG					US	
Basin	Basin Description	Area (mi^2)	Area (ac)	Initial Loss (in) IA	Vol Moist Deficit DTHETA	Wetting Front Suction (in) PSIF	Hydraulic Conduct (in/hr) XKSAT	Percent Impervious (%) RTIMP	Snyder's Lag (hr)	Snyder's Peak Coef CP
J3 Aviation - August 2008										
RANCHMAN'S DITCH BASIN - CURRENT CONDITIONS										
DB21	Subbasin	0.1519	97.2	0.41	0.4023	1.502	0.054	2	0.137	0.252
DB21a	Subbasin	0.3403	217.8	0.41	0.4023	1.502	0.054	2	0.128	0.284
DB23b	New Subbasin	0.0584	37.4	0.07	0.0947	0.353	0.013	95	0.046	0.548
DB23c	New Subbasin	0.0783	50.1	0.07	0.0947	0.353	0.013	95	0.080	0.573
DB23d	New Subbasin	0.0173	11.1	0.04	0.0473	0.177	0.006	100	0.023	0.462
DB23e	New Subbasin	0.0709	45.4	0.04	0.0473	0.177	0.006	100	0.067	0.571
DB23a	Subbasin	0.0196	12.5	0.84	0.7100	1.595	0.158	10	0.051	0.160
DB22	Subbasin	0.2226	142.5	0.41	0.4023	1.502	0.054	2	0.196	0.266
DB24a	Subbasin	0.0212	13.6	0.57	0.5207	1.944	0.070	36	0.096	0.264
DB24	Subbasin	0.2318	148.4	0.22	0.2367	0.883	0.032	75	0.162	0.627
DB25	Subbasin	0.0244	15.6	0.57	0.5207	1.944	0.070	36	0.106	0.270
DB25a	Subbasin	0.0316	20.2	0.85	0.7100	1.595	0.158	12	0.031	0.173
R16	New Subbasin	0.1550	99.2	0.34	0.3550	1.325	0.048	51	0.076	0.478
R14a	Subbasin	0.0393	25.2	0.18	0.1893	0.707	0.025	75	0.038	0.480
LEACH CREEK BASIN - CURRENT CONDITIONS										
L11b	Subbasin	7.4766	4785.0	0.57	0.5207	1.944	0.070	2	1.197	0.451
L11au	Subbasin	1.0090	645.8	0.59	0.5444	2.032	0.073	2	0.651	0.334
L11ad	Subbasin	0.0173	11.1	0.99	0.7810	1.494	0.204	2	0.043	0.182
L10	Subbasin	0.9833	629.3	0.49	0.4734	1.767	0.063	2	0.626	0.333
L9.1	Subbasin	2.7210	1741.4	0.41	0.4023	1.502	0.054	4	1.156	0.368
L9	Subbasin	0.2051	131.3	0.93	0.7574	1.519	0.189	6	0.276	0.243
R17	Subbasin	0.1623	103.9	0.41	0.4023	1.502	0.054	2	0.096	0.254
R15	Subbasin	0.2994	191.6	0.53	0.4970	1.855	0.067	22	0.153	0.280
R13	Subbasin	0.0425	27.2	0.48	0.4497	1.679	0.060	2	0.055	0.208
R14	Subbasin	0.0602	38.5	0.98	0.7810	1.494	0.204	2	0.354	0.219
R5	Subbasin	0.0843	54.0	0.89	0.7337	1.552	0.173	9	0.118	0.201
CORCORAN BASIN - CURRENT CONDITIONS										
C3	New Subbasin	0.5641	361.0	0.56	0.5207	1.944	0.070	2	0.254	0.306

GRAND JUNCTION IONAL AIRPORT
MASTER DRAINAGE
HEC-1 INPUT

KK		BA		LG					US	
Basin	Basin Description	Area (mi^2)	Area (ac)	Initial Loss (in) IA	Vol Moist Deficit DTHETA	Wetting Front Suction (in) PSIF	Hydraulic Conduct (in/hr) XKSAT	Percent Impervious (%) RTIMP	Snyder's Lag (hr)	Snyder's Peak Coef CP
INDIAN WASH BASIN - CURRENT CONDITIONS										
I5	New Subbasin	0.7994	511.6	0.47	0.4497	1.679	0.060	2	0.428	0.323
I4	New Subbasin	1.2130	776.3	0.62	0.5680	2.120	0.076	2	0.768	0.344
I3	New Subbasin	3.2057	2051.6	0.50	0.4734	1.767	0.063	2	1.181	0.398
I2	New Subbasin	0.9728	622.6	0.64	0.5680	2.120	0.076	3	0.539	0.325
I1	New Subbasin	0.7563	484.0	0.81	0.6864	1.652	0.143	3	0.698	0.312
I7	New Subbasin	1.0258	656.5	0.45	0.4260	1.590	0.057	2	0.822	0.335
I6	New Subbasin	0.4512	288.8	0.75	0.6390	1.826	0.112	4	0.191	0.285
I8	New Subbasin	0.4147	265.4	0.65	0.5917	2.161	0.081	3	0.242	0.285
I9	New Subbasin	0.6808	435.7	0.52	0.4970	1.855	0.067	2	0.510	0.315

GRAND JUNCTION IONAL AIRPORT

MASTER DRAINAGE

SOIL DATA INPUT - CURRENT CONDITIONS

Soil Hydraulic Conductivity Values from Table 706 $XKSAT = \text{alog}\ (\Sigma A_i \log XKSAT_i / A_T)$

A = 1.20
B = 0.25
C = 0.06
D = 0.04

Basin	Area (ac)	Hydrological Soil Group A (%)	Sub Area (ac)	B (%)	Sub Area (ac)	C (%)	Sub Area (ac)	D (%)	Sub Area (ac)	XKSAT (in./hr)	DTHETA Dry	DTHETA Normal	PSIF (in)
RANCHMAN'S DITCH BASIN													
DB21	97.22	0	0.00	0	0.00	0	0.00	100	97.22	0.040	0.25	0.15	9.50
DB21a	217.79	0	0.00	0	0.00	0	0.00	100	217.79	0.040	0.25	0.15	9.50
DB23b	37.38	0	0.00	25	9.50	0	0.00	75	27.88	0.064	0.30	0.15	8.05
DB23c	50.11	0	0.00	22	10.91	0	0.00	78	39.20	0.060	0.29	0.15	8.25
DB23d	11.07	0	0.00	91	10.05	0	0.00	9	1.02	0.211	0.33	0.25	5.20
DB23e	45.38	0	0.00	54	24.62	0	0.00	46	20.76	0.108	0.38	0.25	6.00
DB23a	12.54	0	0.00	90	11.34	10	1.20	0	0.00	0.218	0.35	0.25	5.00
DB22	142.46	0	0.00	0	0.00	0	0.00	100	142.46	0.040	0.25	0.15	9.50
DB24a	13.57	0	0.00	100	13.57	0	0.00	0	0.00	0.250	0.35	0.25	4.60
DB24	148.35	0	0.00	53	79.14	0	0.00	47	69.21	0.106	0.38	0.25	6.00
DB25	15.62	0	0.00	100	15.62	0	0.00	0	0.00	0.250	0.35	0.25	4.60
DB25a	20.22	0	0.00	100	20.22	0	0.00	0	0.00	0.250	0.35	0.25	4.60
R16	99.20	0	0.00	41	41.00	59	58.20	0	0.00	0.108	0.38	0.25	6.00
R14a	25.15	0	0.00	40	10.09	60	15.06	0	0.00	0.106	0.38	0.25	6.00
LEACH CREEK BASIN													
L11b	4785.02	0	0.00	33	1558.00	0	0.00	67	3227.02	0.073	0.31	0.15	8.00
L11au	645.76	0	0.00	33	216.00	7	43.00	60	386.76	0.076	0.32	0.15	7.90
L11ad	11.07	0	0.00	100	11.07	0	0.00	0	0.00	0.250	0.35	0.15	4.60
L10	629.31	0	0.00	0	0.00	42	266.31	58	363.00	0.047	0.26	0.15	9.00
L9.1	1741.44	0	0.00	3	50.00	0	0.00	97	1691.44	0.042	0.26	0.15	9.40
L9	131.26	0	0.00	100	131.26	0	0.00	0	0.00	0.250	0.35	0.15	4.60
R17	103.87	0	0.00	0	0.00	0	0.00	100	103.87	0.040	0.25	0.15	9.50
R15	191.62	0	0.00	45	87.15	0	0.00	55	104.47	0.092	0.33	0.15	7.00
R13	27.20	0	0.00	0	0.00	40	11.00	60	16.20	0.047	0.26	0.15	9.00
R14	38.53	0	0.00	100	38.53	0	0.00	0	0.00	0.250	0.35	0.15	4.60
R5	53.95	0	0.00	100	53.95	0	0.00	0	0.00	0.250	0.35	0.15	4.60

GRAND JUNCTION .IONAL AIRPORT
MASTER DRAINAGE

Basin	Area (ac)	Hydrological Soil Group								XKSAT (in./hr)	DTHETA Dry	DTHETA Normal	PSIF (in)
		A (%)	Sub Area (ac)	B (%)	Sub Area (ac)	C (%)	Sub Area (ac)	D (%)	Sub Area (ac)				
CORCORAN BASIN													
C3	361.02	0	0.00	20	72.52	25	91.50	55	197.00	0.064	0.30	0.15	8.20
INDIAN WASH BASIN													
I5	511.62	0	0.00	12	61.62	0	0.00	88	450.00	0.050	0.25	0.15	9.00
I4	776.32	0	0.00	43	330.00	0	0.00	57	446.32	0.087	0.32	0.15	7.20
I3	2051.65	0	0.00	19	394.00	0	0.00	81	1657.65	0.057	0.29	0.15	8.80
I2	622.59	0	0.00	47	295.00	0	0.00	53	327.59	0.095	0.33	0.15	7.00
I1	484.03	0	0.00	76	366.00	0	0.00	24	118.03	0.160	0.40	0.25	5.80
I7	656.51	0	0.00	9	61.00	0	0.00	91	595.51	0.047	0.26	0.15	9.00
I6	288.77	0	0.00	67	194.00	0	0.00	33	94.77	0.137	0.39	0.20	5.90
I8	265.41	0	0.00	49	129.00	0	0.00	51	136.41	0.097	0.33	0.15	7.00
I9	435.71	0	0.00	23	101.50	0	0.00	77	334.21	0.061	0.29	0.15	8.25

GRAND JUNCTION IONAL AIRPORT

MASTER DRAINAGE

SOIL DATA INPUT - CURRENT CONDITIONS

$IA_w = \Sigma IA_i/A_T$

$RTIMP = \Sigma RTIMP*A_i/A_T$

Surface Retention Loss Values from Table 705

Natural - Desert flat slopes = 0.35

Natural - Desert Hillslopes = 0.15

Developed - Pavement = 0.05

RTIMP PAVE = 100 %

RTIMP UNDEVELOPED = 2 %

Basin	Natural Flat (ac)	Area (%)	Natural Hill (ac)	Area (%)	Developed (ac)	Area (%)	IA_w (in)	RTIMP (%)	DTHETA Avg	VC (%)	Corr Factor	Adjusted XKSAT (in./hr)
RANCHMAN'S DITCH BASIN												
DB21	0.00	0	97.22	100	0.00	0	0.15	2	0.25	50	1.4	0.058
DB21a	130.67	60	87.12	40	0.00	0	0.27	2	0.25	50	1.4	0.058
DB23b	2.00	5	0.00	0	35.38	95	0.07	95	0.16	50	1.4	0.092
DB23c	2.51	5	0.00	0	47.60	95	0.07	95	0.16	50	1.4	0.086
DB23d	0.00	0	0.00	0	11.07	100	0.05	100	0.25	50	1.4	0.305
DB23e	0.00	0	0.00	0	45.38	100	0.05	100	0.25	50	1.4	0.156
DB23a	11.54	92	0.00	0	1.00	8	0.33	10	0.34	50	1.4	0.315
DB22	106.85	75	35.61	25	0.00	0	0.30	2	0.25	50	1.4	0.058
DB24a	8.82	65	0.00	0	4.75	35	0.25	36	0.32	50	1.4	0.361
DB24	37.09	25	0.00	0	111.26	75	0.13	75	0.28	50	1.4	0.154
DB25	10.15	65	0.00	0	5.47	35	0.24	36	0.32	50	1.4	0.361
DB25a	18.20	90	0.00	0	2.02	10	0.32	12	0.34	50	1.4	0.361
R16	49.60	50	0.00	0	49.60	50	0.20	51	0.32	50	1.4	0.156
R14a	6.29	25	0.00	0	18.86	75	0.13	75	0.28	50	1.4	0.154
LEACH CREEK BASIN												
L11b	0.00	0	4785.02	100	0.00	0	0.15	2	0.31	50	1.4	0.105
L11au	193.76	30	452.00	70	0.00	0	0.21	2	0.32	50	1.4	0.110
L11ad	11.07	100	0.00	0	0.00	0	0.35	2	0.35	50	1.4	0.361
L10	378.00	60	251.31	40	0.00	0	0.27	2	0.26	50	1.4	0.069
L9.1	174.00	10	1527.44	88	40.00	2	0.17	4	0.26	50	1.4	0.061
L9	126.26	96	0.00	0	5.00	4	0.34	6	0.34	50	1.4	0.361
R17	103.87	100	0.00	0	0.00	0	0.35	2	0.25	50	1.4	0.058
R15	151.62	79	0.00	0	40.00	21	0.29	22	0.29	50	1.4	0.133
R13	27.20	100	0.00	0	0.00	0	0.35	2	0.26	50	1.4	0.068
R14	38.53	100	0.00	0	0.00	0	0.35	2	0.35	50	1.4	0.361
R5	50.00	93	0.00	0	3.95	7	0.33	9	0.34	50	1.4	0.361

GRAND JUNCTION IONAL AIRPORT
MASTER DRAINAGE

Basin	Natural Flat (ac)	Area (%)	Natural Hill (ac)	Area (%)	Developed (ac)	Area (%)	IA_w (in)	RTIMP (%)	DTHETA Avg	VC (%)	Corr Factor	Adjusted XKSAT (in./hr)
CORCORAN BASIN												
C3	261.02	72	100.00	28	0.00	0	0.29	2	0.30	50	1.4	0.093
INDIAN WASH BASIN												
I5	51.00	10	460.62	90	0.00	0	0.17	2	0.25	50	1.4	0.072
I4	566.32	73	210.00	27	0.00	0	0.30	2	0.32	50	1.4	0.126
I3	731.65	36	1320.00	64	0.00	0	0.22	2	0.29	50	1.4	0.082
I2	616.59	99	0.00	0	6.00	1	0.35	3	0.33	50	1.4	0.138
I1	479.03	99	0.00	0	5.00	1	0.35	3	0.40	50	1.4	0.231
I7	656.51	100	0.00	0	0.00	0	0.35	2	0.26	50	1.4	0.069
I6	283.77	98	0.00	0	5.00	2	0.34	4	0.39	50	1.4	0.198
I8	236.41	89	26.00	10	3.00	1	0.33	3	0.33	50	1.4	0.141
I9	400.71	92	35.00	8	0.00	0	0.33	2	0.29	50	1.4	0.089

GRAND JUNCTION [illegible]ONAL AIRPORT
MASTER DRAINAGE
SOIL DATA INPUT - CURRENT CONDITIONS
SCS Runoff Curve Number Method

	A	B	C	D
CN Pave	98	98	98	98
CN UNDEVEL	48	67	77	83

IA = 0.2*[(1000/CN)-10]

Basin	CN A	CN B	CN C	CN D	Comp CN	CB/ICON CN	CB/ICON IA	Initial Loss (in) IA	From Table A1 - Table of Correspondence: Vol Moist Deficit DTHETA	Wetting Front Suction (in) PSIF	Hydra Conduct (in/hr) XKSAT	Percent Imp (%) RTIMP
RANCHMAN'S DITCH BASIN												
DB21	0	0	0	83	83.0	87.0	0.30	0.41	0.4023	1.502	0.054	2
DB21a	0	0	0	83	83.0	87.0	0.30	0.41	0.4023	1.502	0.054	2
DB23b	0	92	0	98	96.4	79.1	0.53	0.07	0.0947	0.353	0.013	95
DB23c	0	91	0	98	96.4	79.1	0.53	0.07	0.0947	0.353	0.013	95
DB23d	0	98	0	98	98.0	79.1	0.53	0.04	0.0473	0.177	0.006	100
DB23e	0	98	0	98	98.0	79.1	0.53	0.04	0.0473	0.177	0.006	100
DB23a	0	70	77	0	70.5	77.2	0.59	0.84	0.7100	1.595	0.158	10
DB22	0	0	0	83	83.0	87.0	0.30	0.41	0.4023	1.502	0.054	2
DB24a	0	78	0	0	77.9	79.1	0.53	0.57	0.5207	1.944	0.070	36
DB24	0	83	0	98	90.2	82.0	0.44	0.22	0.2367	0.883	0.032	75
DB25	0	78	0	0	77.9	79.1	0.53	0.57	0.5207	1.944	0.070	36
DB25a	0	70	0	0	70.1	78.4	0.55	0.85	0.7100	1.595	0.158	12
R16	0	83	88	0	85.4	74.9	0.67	0.34	0.3550	1.325	0.048	51
R14a	0	90	93	0	91.7	76.9	0.60	0.18	0.1893	0.707	0.025	75
LEACH CREEK BASIN												
L11b	0	67	0	83	77.8	83.3	0.40	0.57	0.5207	1.944	0.070	2
L11au	0	67	77	83	77.2	83.3	0.40	0.59	0.5444	2.032	0.073	2
L11ad	0	67	0	0	67.0	83.3	0.40	0.99	0.7810	1.494	0.204	2
L10	0	0	77	83	80.5	82.0	0.44	0.49	0.4734	1.767	0.063	2
L9.1	0	67	0	83	82.8	85.5	0.34	0.41	0.4023	1.502	0.054	4
L9	0	68	0	0	68.2	69.0	0.90	0.93	0.7574	1.519	0.189	6
R17	0	0	0	83	83.0	87.0	0.30	0.41	0.4023	1.502	0.054	2
R15	0	67	0	89	79.0	74.1	0.70	0.53	0.4970	1.855	0.067	22
R13	0	0	77	83	80.6	76.9	0.60	0.48	0.4497	1.679	0.060	2
R14	0	67	0	0	67.0	82.0	0.44	0.98	0.7810	1.494	0.204	2
R5	0	69	0	0	69.2			0.89	0.7337	1.552	0.173	9

9/26/2008

GRAND JUNCTION ' IONAL AIRPORT

MASTER DRAINAGE

Basin	CN A	CN B	CN C	CN D	Comp CN	CB/ICON CN	CB/ICON IA	Initial Loss (in) IA	Vol Moist Deficit DTHETA	Wetting Front Suction (in) PSIF	Hydra Conduct (in/hr) XKSAT	Percent Imp (%) RTIMP
CORCORAN BASIN												
C3	0	67	77	83	78.3			0.56	0.5207	1.944	0.070	2
INDIAN WASH BASIN												
I5	0	67	0	83	81.1			0.47	0.4497	1.679	0.060	2
I4	0	67	0	83	76.2			0.62	0.5680	2.120	0.076	2
I3	0	67	0	83	79.9			0.50	0.4734	1.767	0.063	2
I2	0	67	0	83	75.6			0.64	0.5680	2.120	0.076	3
I1	0	67	0	83	71.2			0.81	0.6864	1.652	0.143	3
I7	0	67	0	83	81.5			0.45	0.4260	1.590	0.057	2
I6	0	68	0	83	72.8			0.75	0.6390	1.826	0.112	4
I8	0	67	0	83	75.5			0.65	0.5917	2.161	0.081	3
I9	0	67	0	83	79.3			0.52	0.4970	1.855	0.067	2

GRAND JUNCTION ' IONAL AIRPORT
MASTER DRAINAGE
Snyder's Method Input

Basin	L (lf)	L (mi)	L_{ca} (lf)	L_{ca} (mi)	C_t	$T_{lag} = C_t (LxL_{ca})^{0.3}$ (hrs)	$T_d = T_{lag}/5.5$ (hrs)	T_{da} (hrs)	$T_{pr} = T_{lag} + 0.25(T_{da} - T_d)$ (hrs)
RANCHMAN'S DITCH BASIN - CURRENT CONDITIONS									
DB21	3333	0.6313	1163	0.2203	2.0	1.107	0.201	0.1667	1.098
DB21a	3656	0.6924	1035	0.1960	2.0	1.099	0.200	0.1667	1.090
DB23b	1894	0.3587	699	0.1324	2.0	0.802	0.146	0.1667	0.807
DB23c	3142	0.5951	1246	0.2360	2.0	1.110	0.202	0.1667	1.101
DB23d	831	0.1574	416	0.0788	2.0	0.536	0.097	0.1667	0.553
DB23e	2691	0.5097	1077	0.2040	2.0	1.014	0.184	0.1667	1.010
DB23a	1345	0.2547	558	0.1057	2.0	0.676	0.123	0.1667	0.687
DB22	4081	0.7729	1818	0.3443	2.0	1.344	0.244	0.1667	1.325
DB24a	2433	0.4608	1173	0.2222	2.0	1.009	0.184	0.1667	1.005
DB24	5727	1.0847	2695	0.5104	2.0	1.675	0.305	0.1667	1.640
DB25	2746	0.5201	1325	0.2509	2.0	1.086	0.197	0.1667	1.078
DB25a	528	0.1000	408	0.0773	2.0	0.465	0.085	0.1667	0.486
R16	2128	0.4030	1121	0.2123	2.0	0.957	0.174	0.1667	0.955
R14a	1475	0.2794	578	0.1095	2.0	0.703	0.128	0.1667	0.712
LEACH CREEK BASIN - CURRENT CONDITIONS									
L11b	29585	5.6032	15656	2.9652	2.0	4.647	0.845	0.1667	4.477
L11au	9530	1.8049	6329	1.1987	2.0	2.521	0.458	0.1667	2.448
L11ad	590	0.1117	350	0.0663	2.0	0.459	0.083	0.1667	0.480
L10	13149	2.4903	5726	1.0845	2.0	2.694	0.490	0.1667	2.614
L9.1	24604	4.6598	12022	2.2769	2.0	4.062	0.739	0.1667	3.919
L9	5635	1.0672	2437	0.4616	2.0	1.617	0.294	0.1667	1.585
R17	2311	0.4377	863	0.1634	2.0	0.907	0.165	0.1667	0.907
R15	3910	0.7405	2050	0.3883	2.0	1.376	0.250	0.1667	1.355
R13	994	0.1883	325	0.0616	2.0	0.525	0.095	0.1667	0.543
R14	6879	1.3028	2745	0.5199	2.0	1.779	0.324	0.1667	1.740
R5	2152	0.4076	1021	0.1934	2.0	0.933	0.170	0.1667	0.933
CORCORAN BASIN - CURRENT CONDITIONS									
C3	6679	1.2650	1938	0.3670	2.0	1.589	0.289	0.1667	1.558

GRAND JUNCTION ' IONAL AIRPORT
MASTER DRAINAGE
Snyder's Method Input

Basin	L (lf)	L (mi)	L_{ca} (lf)	L_{ca} (mi)	C_t	$T_{lag} = C_t (LxL_{ca})^{0.3}$ (hrs)	$T_d = T_{lag}/5.5$ (hrs)	T_{da} (hrs)	$T_{pr} = T_{lag} + 0.25(T_{da} - T_d)$ (hrs)
INDIAN WASH BASIN - CURRENT CONDITIONS									
I5	10315	1.9536	5463	1.0347	2.0	2.470	0.449	0.1667	2.400
I4	18756	3.5523	10062	1.9057	2.0	3.550	0.645	0.1667	3.430
I3	29640	5.6136	15183	2.8756	2.0	4.607	0.838	0.1667	4.439
I2	13433	2.5441	4490	0.8504	2.0	2.521	0.458	0.1667	2.448
I1	14703	2.7847	5938	1.1246	2.0	2.817	0.512	0.1667	2.730
I7	17566	3.3269	8201	1.5532	2.0	3.273	0.595	0.1667	3.166
I6	3752	0.7106	1408	0.2667	2.0	1.214	0.221	0.1667	1.201
I8	5875	1.1127	2482	0.4701	2.0	1.647	0.299	0.1667	1.613
I9	10747	2.0354	4658	0.8822	2.0	2.384	0.433	0.1667	2.317

GRAND JUNCTION [illegible]ONAL AIRPORT
MASTER DRAINAGE
Snyder's Method Input

Basin	From CB/ICON			Imp	Delta Y	S	Fig. 2 S- Corr	C_t	$T_{lag} = C_t (LxL_{ca}/S^{0.5})^{0.48}$	P	A	$C_p = PC_tA^{0.15}$
	Imp (%)	T_{lag} (hrs)	C_p	(%)	(ft)	(ft/ft)	(ft/ft)		(hrs)		(mi^2)	
RANCHMAN'S DITCH BASIN - CURRENT CONDITIONS												
DB21	1	0.1710	0.2580	2	110	0.033	0.033	0.1556	0.1369	2.1458	0.1519	0.2517
DB21a	1	0.2110	0.2910	2	160	0.044	0.042	0.1556	0.1277	2.1458	0.3403	0.2840
DB23b	75	0.1860	0.6250	95	30	0.016	0.016	0.0737	0.0461	11.3738	0.0584	0.5477
DB23c	73	0.1860	0.6250	95	45	0.014	0.014	0.0737	0.0800	11.3923	0.0783	0.5728
DB23d	62	0.1860	0.6250	100	17	0.020	0.020	0.0729	0.0227	11.6400	0.0173	0.4617
DB23e	75	0.1860	0.6250	100	40	0.015	0.015	0.0729	0.0674	11.6400	0.0709	0.5705
DB23a	1	0.0630	0.1900	10	43	0.032	0.032	0.1265	0.0510	2.2793	0.0196	0.1598
DB22	1	0.2030	0.2730	2	112	0.027	0.027	0.1556	0.1961	2.1458	0.2226	0.2665
DB24a	20	0.1500	0.1800	36	25	0.010	0.010	0.0950	0.0961	4.9518	0.0212	0.2639
DB24	58	0.1800	0.6230	75	85	0.015	0.015	0.0783	0.1616	9.9667	0.2318	0.6270
DB25	20	0.1510	0.1830	36	30	0.011	0.011	0.0950	0.1055	4.9532	0.0244	0.2696
DB25a	1	0.0660	0.2040	12	10	0.019	0.019	0.1228	0.0308	2.3599	0.0316	0.1725
R16	50	0.1190	0.4760	51	27	0.013	0.013	0.0877	0.0764	7.2011	0.1550	0.4776
R14a	75	0.1190	0.4790	75	30	0.020	0.020	0.0783	0.0376	9.9661	0.0393	0.4805
LEACH CREEK BASIN - CURRENT CONDITIONS												
L11b	0	1.5390	0.4530	2	2316	0.078	0.056	0.1556	1.1973	2.1458	7.4766	0.4514
L11au	0	0.7470	0.3350	2	115	0.012	0.012	0.1556	0.6514	2.1458	1.0090	0.3343
L11ad	0	0.0890	0.1820	2	7	0.012	0.012	0.1555	0.0427	2.1458	0.0173	0.1816
L10	1	0.6440	0.3420	2	285	0.022	0.022	0.1556	0.6264	2.1458	0.9833	0.3330
L9.1	1	1.2890	0.3980	4	520	0.021	0.021	0.1472	1.1561	2.1533	2.7210	0.3684
L9	8.2	0.3400	0.2380	6	85	0.015	0.015	0.1417	0.2764	2.1718	0.2051	0.2427
R17	1	0.1530	0.2610	2	90	0.039	0.039	0.1556	0.0956	2.1458	0.1623	0.2541
R15	1	0.2670	0.2860	22	75	0.019	0.019	0.1073	0.1527	3.1262	0.2994	0.2799
R13	1	0.1480	0.2130	2	10	0.010	0.010	0.1556	0.0553	2.1458	0.0425	0.2079
R14	5	0.3550	0.2050	2	100	0.015	0.015	0.1556	0.3536	2.1458	0.0602	0.2190
R5				9	20	0.009	0.009	0.1289	0.1180	2.2563	0.0843	0.2008
CORCORAN BASIN - CURRENT CONDITIONS												
C3				2	190	0.028	0.028	0.1556	0.2539	2.1458	0.5641	0.3064

GRAND JUNCTION ' IONAL AIRPORT
MASTER DRAINAGE
Snyder's Method Input

Basin	From CB/ICON			Imp	Delta Y	S	Fig. 2 S- Corr	C_t	$T_{lag} = C_t (LxL_{ca}/S^{0.5})^{0.48}$	P	A	$C_p = PC_tA^{0.15}$
	Imp (%)	T_{lag} (hrs)	C_p	(%)	(ft)	(ft/ft)	(ft/ft)		(hrs)		(mi^2)	
INDIAN WASH BASIN - CURRENT CONDITIONS												
I5				2	1625	0.158	0.060	0.1556	0.4285	2.1458	0.7994	0.3228
I4				2	1850	0.099	0.059	0.1556	0.7685	2.1458	1.2130	0.3437
I3				2	2230	0.075	0.056	0.1556	1.1809	2.1458	3.2057	0.3976
I2				3	320	0.024	0.024	0.1521	0.5391	2.1459	0.9728	0.3250
I1				3	250	0.017	0.017	0.1518	0.6982	2.1461	0.7563	0.3125
I7				2	460	0.026	0.026	0.1556	0.8217	2.1458	1.0258	0.3351
I6				4	50	0.013	0.013	0.1493	0.1905	2.1491	0.4512	0.2847
I8				3	230	0.039	0.039	0.1515	0.2418	2.1464	0.4147	0.2849
I9				2	245	0.023	0.023	0.1556	0.5095	2.1458	0.6808	0.3151

GRAND JUNCTION IONAL AIRPORT
MASTER DRAINAGE
HEC-1 INPUT

KK		BA		LG					US	
Basin	Basin Description	Area (mi^2)	Area (ac)	Initial Loss (in) IA	Vol Moist Deficit DTHETA	Wetting Front Suction (in) PSIF	Hydraulic Conduct (in/hr) XKSAT	Percent Impervious (%) RTIMP	Snyder's Lag (hr)	Snyder's Peak Coef CP
J3 Aviation - August 2008		Proposed Conditions								
RANCHMAN"S DITCH BASIN - PROPOSED CONDITIONS										
DB21	Subbasin	0.1519	97.2	0.29	0.3077	1.148	0.041	30	0.087	0.302
DB21a	Subbasin	0.3403	217.8	0.29	0.3077	1.148	0.041	30	0.082	0.339
DB23b	Subbasin	0.0584	37.4	0.07	0.0947	0.353	0.013	95	0.046	0.548
DB23c	Subbasin	0.0783	50.1	0.07	0.0947	0.353	0.013	95	0.080	0.573
DB23d	Subbasin	0.0173	11.1	0.04	0.0473	0.177	0.006	100	0.023	0.462
DB23e	Subbasin	0.0709	45.4	0.04	0.0473	0.177	0.006	100	0.067	0.571
DB23a	Subbasin	0.0196	12.5	0.66	0.5917	2.161	0.081	50	0.035	0.348
DB22	Subbasin	0.2226	142.5	0.27	0.2840	1.060	0.038	35	0.121	0.363
DB24a	Subbasin	0.0212	13.6	0.53	0.4970	1.855	0.067	40	0.094	0.292
DB24	Subbasin	0.2318	148.4	0.06	0.0710	0.265	0.010	95	0.152	0.673
DB25	Subbasin	0.0244	15.6	0.53	0.4970	1.855	0.067	40	0.104	0.300
DB25a	Subbasin	0.0316	20.2	0.85	0.7100	1.595	0.158	12	0.031	0.173
R16	Subbasin	0.1550	99.2	0.34	0.3550	1.325	0.048	51	0.076	0.478
R14a	Subbasin	0.0393	25.2	0.18	0.1893	0.707	0.025	75	0.038	0.480
LEACH CREEK BASIN - PROPOSED CONDITIONS										
L11b	Subbasin	7.4766	4785.0	0.57	0.5207	1.944	0.070	2	1.197	0.451
L11au	Subbasin	1.0090	645.8	0.58	0.5207	1.944	0.070	5	0.604	0.312
L11ad	Subbasin	0.0173	11.1	0.80	0.6864	1.652	0.143	15	0.032	0.162
L10u	Split Subbasin	0.3693	236.4	0.49	0.4734	1.767	0.063	2	0.320	0.288
L10d	Split Subbasin	0.6140	393.0	0.38	0.3787	1.414	0.051	23	0.243	0.317
L9.1u	Split Subbasin	2.3807	1523.6	0.42	0.4023	1.502	0.054	2	0.865	0.380
L9.1d	Split Subbasin	0.3403	217.8	0.10	0.1183	0.442	0.016	82	0.169	0.686
L9	Subbasin	0.2051	131.3	0.74	0.6390	1.826	0.112	21	0.214	0.256
R17	Subbasin	0.1623	103.9	0.35	0.3550	1.325	0.048	15	0.072	0.227
R15	Subbasin	0.2994	191.6	0.48	0.4497	1.679	0.060	30	0.141	0.334
R13	Subbasin	0.0425	27.2	0.48	0.4497	1.679	0.060	2	0.055	0.208
R14	Subbasin	0.0602	38.5	0.58	0.5207	1.944	0.070	35	0.218	0.298
R5	Subbasin	0.0843	54.0	0.89	0.7337	1.552	0.173	9	0.118	0.201
CORCORAN BASIN - PROPOSED CONDITIONS										
C3	New Subbasin	0.5641	361.0	0.56	0.5207	1.944	0.070	2	0.254	0.306

GRAND JUNCTION [illegible]IONAL AIRPORT
MASTER DRAINAGE
HEC-1 INPUT

KK		BA		LG					US	
Basin	Basin Description	Area (mi^2)	Area (ac)	Initial Loss (in) IA	Vol Moist Deficit DTHETA	Wetting Front Suction (in) PSIF	Hydraulic Conduct (in/hr) XKSAT	Percent Impervious (%) RTIMP	Snyder's Lag (hr)	Snyder's Peak Coef CP
INDIAN WASH BASIN - PROPOSED CONDITIONS										
I5	New Subbasin	0.7994	511.6	0.47	0.4497	1.679	0.060	2	0.428	0.323
I4	New Subbasin	1.2130	776.3	0.62	0.5680	2.120	0.076	2	0.768	0.344
I3	New Subbasin	3.2057	2051.6	0.50	0.4734	1.767	0.063	2	1.181	0.398
I2	New Subbasin	0.9728	622.6	0.63	0.5680	2.120	0.076	5	0.517	0.313
I1	New Subbasin	0.7563	484.0	0.72	0.6154	1.964	0.096	12	0.562	0.278
I7	New Subbasin	1.0258	656.5	0.45	0.4260	1.590	0.057	3	0.807	0.329
I6	New Subbasin	0.4512	288.8	0.43	0.4260	1.590	0.057	40	0.119	0.464
I8	New Subbasin	0.4147	265.4	0.61	0.5444	2.032	0.073	10	0.200	0.252
I9	New Subbasin	0.6808	435.7	0.52	0.4970	1.855	0.067	2	0.510	0.315

GRAND JUNCTION [illegible]IONAL AIRPORT

MASTER DRAINAGE

SOIL DATA INPUT - PROPOSED CONDITIONS

Soil Hydraulic Conductivity Values from Table 706 $XKSAT = \text{alog}\ (\Sigma A_i \log XKSAT_i / A_T)$

A = 1.20
B = 0.25
C = 0.06
D = 0.04

Basin	Area (ac)	Hydrological Soil Group A (%)	Sub Area (ac)	B (%)	Sub Area (ac)	C (%)	Sub Area (ac)	D (%)	Sub Area (ac)	XKSAT (in./hr)	DTHETA Dry	DTHETA Normal	PSIF (in)
RANCHMAN'S DITCH BASIN													
DB21	97.22	0	0.00	0	0.00	0	0.00	100	97.22	0.040	0.25	0.15	9.50
DB21a	217.79	0	0.00	0	0.00	0	0.00	100	217.79	0.040	0.25	0.15	9.50
DB23b	37.38	0	0.00	25	9.50	0	0.00	75	27.88	0.064	0.30	0.15	8.05
DB23c	50.11	0	0.00	22	10.91	0	0.00	78	39.20	0.060	0.29	0.15	8.25
DB23d	11.07	0	0.00	91	10.05	0	0.00	9	1.02	0.211	0.33	0.25	5.20
DB23e	45.38	0	0.00	54	24.62	0	0.00	46	20.76	0.108	0.38	0.25	6.00
DB23a	12.54	0	0.00	90	11.34	10	1.20	0	0.00	0.218	0.35	0.25	5.00
DB22	142.46	0	0.00	0	0.00	0	0.00	100	142.46	0.040	0.25	0.15	9.50
DB24a	13.57	0	0.00	100	13.57	0	0.00	0	0.00	0.250	0.35	0.25	4.60
DB24	148.35	0	0.00	53	79.14	0	0.00	47	69.21	0.106	0.38	0.25	6.00
DB25	15.62	0	0.00	100	15.62	0	0.00	0	0.00	0.250	0.35	0.25	4.60
DB25a	20.22	0	0.00	100	20.22	0	0.00	0	0.00	0.250	0.35	0.25	4.60
R16	99.20	0	0.00	41	41.00	59	58.20	0	0.00	0.108	0.38	0.25	6.00
R14a	25.15	0	0.00	40	10.09	60	15.06	0	0.00	0.106	0.38	0.25	6.00
LEACH CREEK BASIN													
L11b	4785.02	0	0.00	33	1558.00	0	0.00	67	3227.02	0.073	0.31	0.15	8.00
L11au	645.76	0	0.00	33	216.00	7	43.00	60	386.76	0.076	0.32	0.15	7.90
L11ad	11.07	0	0.00	100	11.07	0	0.00	0	0.00	0.250	0.35	0.15	4.60
L10u	236.35	0	0.00	0	0.00	42	99.27	58	137.08	0.047	0.26	0.15	9.00
L10d	392.96	0	0.00	0	0.00	42	165.04	58	227.92	0.047	0.26	0.15	9.00
L9.1u	1523.65	0	0.00	3	45.71	0	0.00	97	1477.94	0.042	0.26	0.15	9.40
L9.1d	217.79	0	0.00	3	6.53	0	0.00	97	211.26	0.042	0.26	0.15	9.40
L9	131.26	0	0.00	100	131.26	0	0.00	0	0.00	0.250	0.35	0.15	4.60
R17	103.87	0	0.00	0	0.00	0	0.00	100	103.87	0.040	0.25	0.15	9.50
R15	191.62	0	0.00	45	87.15	0	0.00	55	104.47	0.092	0.33	0.15	7.00
R13	27.20	0	0.00	0	0.00	40	11.00	60	16.20	0.047	0.26	0.15	9.00
R14	38.53	0	0.00	100	38.53	0	0.00	0	0.00	0.250	0.35	0.15	4.60

GRAND JUNCTION IONAL AIRPORT

MASTER DRAINAGE

Basin	Area (ac)	Hydrological Soil Group								XKSAT (in./hr)	DTHETA Dry	DTHETA Normal	PSIF (in)
		A (%)	Sub Area (ac)	B (%)	Sub Area (ac)	C (%)	Sub Area (ac)	D (%)	Sub Area (ac)				
R5	53.95	0	0.00	100	53.95	0	0.00	0	0.00	0.250	0.35	0.15	4.60
CORCORAN BASIN													
C3	361.02	0	0.00	20	72.52	25	91.50	55	197.00	0.064	0.30	0.15	8.20
INDIAN WASH BASIN													
I5	511.62	0	0.00	12	61.62	0	0.00	88	450.00	0.050	0.25	0.15	9.00
I4	776.32	0	0.00	43	330.00	0	0.00	57	446.32	0.087	0.32	0.15	7.20
I3	2051.65	0	0.00	19	394.00	0	0.00	81	1657.65	0.057	0.29	0.15	8.80
I2	622.59	0	0.00	47	295.00	0	0.00	53	327.59	0.095	0.33	0.15	7.00
I1	484.03	0	0.00	76	366.00	0	0.00	24	118.03	0.160	0.40	0.25	5.80
I7	656.51	0	0.00	9	61.00	0	0.00	91	595.51	0.047	0.26	0.15	9.00
I6	288.77	0	0.00	67	194.00	0	0.00	33	94.77	0.137	0.39	0.20	5.90
I8	265.41	0	0.00	49	129.00	0	0.00	51	136.41	0.097	0.33	0.15	7.00
I9	435.71	0	0.00	23	101.50	0	0.00	77	334.21	0.061	0.29	0.15	8.25

GRAND JUNCTION ...IONAL AIRPORT
MASTER DRAINAGE
SOIL DATA INPUT - PROPOSED CONDITIONS

Surface Retention Loss Values from Table 705

Natural - Desert flat slopes = 0.35
Natural - Desert Hillslopes = 0.15
Developed - Pavement = 0.05

$IA_w = \Sigma IA_i/A_T$

$RTIMP = \Sigma RTIMP*A_i/A_T$

RTIMP PAVE = 100 %
RTIMP UNDEVELOPED = 2 %

Basin	Natural Flat (ac)	Area (%)	Natural Hill (ac)	Area (%)	Developed (ac)	Area (%)	IA_w (in)	RTIMP (%)	DTHETA Avg	VC (%)	Corr Factor	Adjusted XKSAT (in./hr)
RANCHMAN'S DITCH BASIN												
DB21	0.00	0	69.22	71	28.00	29	0.12	30	0.22	50	1.4	0.058
DB21a	68.47	31	87.12	40	62.20	29	0.18	30	0.22	50	1.4	0.058
DB23b	2.00	5	0.00	0	35.38	95	0.07	95	0.16	50	1.4	0.092
DB23c	2.51	5	0.00	0	47.60	95	0.07	95	0.16	50	1.4	0.086
DB23d	0.00	0	0.00	0	11.07	100	0.05	100	0.25	50	1.4	0.305
DB23e	0.00	0	0.00	0	45.38	100	0.05	100	0.25	50	1.4	0.156
DB23a	6.34	51	0.00	0	6.20	49	0.20	50	0.30	50	1.4	0.315
DB22	58.85	41	35.61	25	48.00	34	0.20	35	0.22	50	1.4	0.058
DB24a	8.32	61	0.00	0	5.25	39	0.23	40	0.31	50	1.4	0.361
DB24	8.00	5	0.00	0	140.35	95	0.07	95	0.26	50	1.4	0.154
DB25	9.55	61	0.00	0	6.07	39	0.23	40	0.31	50	1.4	0.361
DB25a	18.20	90	0.00	0	2.02	10	0.32	12	0.34	50	1.4	0.361
R16	49.60	50	0.00	0	49.60	50	0.20	51	0.32	50	1.4	0.156
R14a	6.29	25	0.00	0	18.86	75	0.13	75	0.28	50	1.4	0.154
LEACH CREEK BASIN												
L11b	0.00	0	4785.02	100	0.00	0	0.15	2	0.31	50	1.4	0.105
L11au	173.76	27	452.00	70	20.00	3	0.20	5	0.31	50	1.4	0.110
L11ad	9.57	86	0.00	0	1.50	14	0.31	15	0.32	50	1.4	0.361
L10u	0.00	0	236.35	100	0.00	0	0.15	2	0.26	50	1.4	0.069
L10d	293.00	75	14.96	4	85.00	22	0.28	23	0.24	50	1.4	0.069
L9.1u	0.00	0	1523.65	100	0.00	0	0.15	2	0.26	50	1.4	0.061
L9.1d	39.00	18	0.00	0	178.79	82	0.10	82	0.17	50	1.4	0.061
L9	106.26	81	0.00	0	25.00	19	0.29	21	0.31	50	1.4	0.361
R17	89.87	87	0.00	0	14.00	13	0.31	15	0.24	50	1.4	0.058
R15	136.62	71	0.00	0	55.00	29	0.26	30	0.28	50	1.4	0.133
R13	27.20	100	0.00	0	0.00	0	0.35	2	0.26	50	1.4	0.068
R14	25.53	66	0.00	0	13.00	34	0.25	35	0.28	50	1.4	0.361

GRAND JUNCTION ,IONAL AIRPORT
MASTER DRAINAGE

Basin	Natural Flat (ac)	Area (%)	Natural Hill (ac)	Area (%)	Developed (ac)	Area (%)	IA_w (in)	RTIMP (%)	DTHETA Avg	VC (%)	Corr Factor	Adjusted XKSAT (in./hr)
R5	50.00	93	0.00	0	3.95	7	0.33	9	0.34	50	1.4	0.361
CORCORAN BASIN												
C3	261.02	72	100.00	28	0.00	0	0.29	2	0.30	50	1.4	0.093
INDIAN WASH BASIN												
I5	51.00	10	460.62	90	0.00	0	0.17	2	0.25	50	1.4	0.072
I4	566.32	73	210.00	27	0.00	0	0.30	2	0.32	50	1.4	0.126
I3	731.65	36	1320.00	64	0.00	0	0.22	2	0.29	50	1.4	0.082
I2	606.09	97	0.00	0	16.50	3	0.34	5	0.32	50	1.4	0.138
I1	434.03	90	0.00	0	50.00	10	0.32	12	0.39	50	1.4	0.231
I7	651.51	99	0.00	0	5.00	1	0.35	3	0.26	50	1.4	0.069
I6	176.77	61	0.00	0	112.00	39	0.23	40	0.32	50	1.4	0.198
I8	216.41	82	26.00	10	23.00	9	0.30	10	0.32	50	1.4	0.141
I9	400.71	92	35.00	8	0.00	0	0.33	2	0.29	50	1.4	0.089

GRAND JUNCTION IONAL AIRPORT

MASTER DRAINAGE

SOIL DATA INPUT - PROPOSED CONDITIONS

SCS Runoff Curve Number Method

	A	B	C	D
CN Pave	98	98	98	98
CN UNDEVEL	48	67	77	83

IA = 0.2*[(1000/CN)-10]

Basin	CN A	CN B	CN C	CN D	Comp CN	CB/ICON CN	CB/ICON IA	Initial Loss (in) IA	From Table A1 - Table of Correspondence: Vol Moist Deficit DTHETA	Wetting Front Suction (in) PSIF	Hydra Conduct (in/hr) XKSAT	Percent Imp (%) RTIMP
RANCHMAN'S DITCH BASIN												
DB21	0	0	0	87	87.4	87.0	0.30	0.29	0.3077	1.148	0.041	30
DB21a	0	0	0	87	87.3	87.0	0.30	0.29	0.3077	1.148	0.041	30
DB23b	0	92	0	98	96.4	79.1	0.53	0.07	0.0947	0.353	0.013	95
DB23c	0	91	0	98	96.4	79.1	0.53	0.07	0.0947	0.353	0.013	95
DB23d	0	98	0	98	98.0	79.1	0.53	0.04	0.0473	0.177	0.006	100
DB23e	0	98	0	98	98.0	79.1	0.53	0.04	0.0473	0.177	0.006	100
DB23a	0	74	82	0	75.1	77.2	0.59	0.66	0.5917	2.161	0.081	50
DB22	0	0	0	88	88.1	87.0	0.30	0.27	0.2840	1.060	0.038	35
DB24a	0	79	0	0	79.1	79.1	0.53	0.53	0.4970	1.855	0.067	40
DB24	0	96	0	98	97.2	82.0	0.44	0.06	0.0710	0.265	0.010	95
DB25	0	79	0	0	79.1	79.1	0.53	0.53	0.4970	1.855	0.067	40
DB25a	0	70	0	0	70.1	78.4	0.55	0.85	0.7100	1.595	0.158	12
R16	0	83	88	0	85.4	74.9	0.67	0.34	0.3550	1.325	0.048	51
R14a	0	90	93	0	91.7	76.9	0.60	0.18	0.1893	0.707	0.025	75
LEACH CREEK BASIN												
L11b	0	67	0	83	77.8	83.3	0.40	0.57	0.5207	1.944	0.070	2
L11au	0	68	77	83	77.7	83.3	0.40	0.58	0.5207	1.944	0.070	5
L11ad	0	71	0	0	71.3	83.3	0.40	0.80	0.6864	1.652	0.143	15
L10u	0	0	77	83	80.5	82.0	0.44	0.49	0.4734	1.767	0.063	2
L10d	0	0	81	86	84.2	85.5	0.34	0.38	0.3787	1.414	0.051	23
L9.1u	0	67	0	83	82.5	85.5	0.34	0.42	0.4023	1.502	0.054	2
L9.1d	0	92	0	95	95.2	71.2	0.81	0.10	0.1183	0.442	0.016	82
L9	0	73	0	0	72.9	69.0	0.90	0.74	0.6390	1.826	0.112	21
R17	0	0	0	85	84.9	87.0	0.30	0.35	0.3550	1.325	0.048	15
R15	0	67	0	92	80.6	74.1	0.70	0.48	0.4497	1.679	0.060	30
R13	0	0	77	83	80.6	76.9	0.60	0.48	0.4497	1.679	0.060	2
R14	0	78	0	0	77.5	82.0	0.44	0.58	0.5207	1.944	0.070	35

9/26/2008

GRAND JUNCTION [illegible]IONAL AIRPORT

MASTER DRAINAGE

Basin	CN A	CN B	CN C	CN D	Comp CN	CB/ICON CN	CB/ICON IA	Initial Loss (in) IA	Vol Moist Deficit DTHETA	Wetting Front Suction (in) PSIF	Hydra Conduct (in/hr) XKSAT	Percent Imp (%) RTIMP
R5	0	69	0	0	69.2			0.89	0.7337	1.552	0.173	9
CORCORAN BASIN												
C3	0	67	77	83	78.3			0.56	0.5207	1.944	0.070	2
INDIAN WASH BASIN												
I5	0	67	0	83	81.1			0.47	0.4497	1.679	0.060	2
I4	0	67	0	83	76.2			0.62	0.5680	2.120	0.076	2
I3	0	67	0	83	79.9			0.50	0.4734	1.767	0.063	2
I2	0	68	0	83	76.1			0.63	0.5680	2.120	0.076	5
I1	0	70	0	85	73.6			0.72	0.6154	1.964	0.096	12
I7	0	67	0	83	81.5			0.45	0.4260	1.590	0.057	3
I6	0	79	0	89	82.3			0.43	0.4260	1.590	0.057	40
I8	0	69	0	83	76.5			0.61	0.5444	2.032	0.073	10
I9	0	67	0	83	79.3			0.52	0.4970	1.855	0.067	2

GRAND JUNCTION [illegible] IONAL AIRPORT
MASTER DRAINAGE
Snyder's Method Input

Basin	L (lf)	L (mi)	L_{ca} (lf)	L_{ca} (mi)	C_t	$T_{lag} = C_t (LxL_{ca})^{0.3}$ (hrs)	$T_d = T_{lag}/5.5$ (hrs)	T_{da} (hrs)	$T_{pr} = T_{lag} + 0.25(T_{da} - T_d)$ (hrs)
RANCHMAN"S DITCH BASIN - PROPOSED CONDITIONS									
DB21	3333	0.6313	1163	0.2203	2.0	1.107	0.201	0.1667	1.098
DB21a	3656	0.6924	1035	0.1960	2.0	1.099	0.200	0.1667	1.090
DB23b	1894	0.3587	699	0.1324	2.0	0.802	0.146	0.1667	0.807
DB23c	3142	0.5951	1246	0.2360	2.0	1.110	0.202	0.1667	1.101
DB23d	831	0.1574	416	0.0788	2.0	0.536	0.097	0.1667	0.553
DB23e	2691	0.5097	1077	0.2040	2.0	1.014	0.184	0.1667	1.010
DB23a	1345	0.2547	558	0.1057	2.0	0.676	0.123	0.1667	0.687
DB22	4081	0.7729	1818	0.3443	2.0	1.344	0.244	0.1667	1.325
DB24a	2433	0.4608	1173	0.2222	2.0	1.009	0.184	0.1667	1.005
DB24	5727	1.0847	2695	0.5104	2.0	1.675	0.305	0.1667	1.640
DB25	2746	0.5201	1325	0.2509	2.0	1.086	0.197	0.1667	1.078
DB25a	528	0.1000	408	0.0773	2.0	0.465	0.085	0.1667	0.486
R16	2128	0.4030	1121	0.2123	2.0	0.957	0.174	0.1667	0.955
R14a	1475	0.2794	578	0.1095	2.0	0.703	0.128	0.1667	0.712
LEACH CREEK BASIN - PROPOSED CONDITIONS									
L11b	29585	5.6032	15656	2.9652	2.0	4.647	0.845	0.1667	4.477
L11au	9530	1.8049	6329	1.1987	2.0	2.521	0.458	0.1667	2.448
L11ad	590	0.1117	350	0.0663	2.0	0.459	0.083	0.1667	0.480
L10u	7086	1.3420	2614	0.4951	2.0	1.769	0.322	0.1667	1.730
L10d	6063	1.1483	3823	0.7241	2.0	1.892	0.344	0.1667	1.848
L9.1u	18219	3.4506	7910	1.4981	2.0	3.274	0.595	0.1667	3.167
L9.1d	6385	1.2093	3294	0.6239	2.0	1.838	0.334	0.1667	1.796
L9	5635	1.0672	2437	0.4616	2.0	1.617	0.294	0.1667	1.585
R17	2311	0.4377	863	0.1634	2.0	0.907	0.165	0.1667	0.907
R15	3910	0.7405	2050	0.3883	2.0	1.376	0.250	0.1667	1.355
R13	994	0.1883	325	0.0616	2.0	0.525	0.095	0.1667	0.543
R14	6879	1.3028	2745	0.5199	2.0	1.779	0.324	0.1667	1.740
R5	2152	0.4076	1021	0.1934	2.0	0.933	0.170	0.1667	0.933
CORCORAN BASIN - PROPOSED CONDITIONS									
C3	6679	1.2650	1938	0.3670	2.0	1.589	0.289	0.1667	1.558

GRAND JUNCTION ...IONAL AIRPORT
MASTER DRAINAGE
Snyder's Method Input

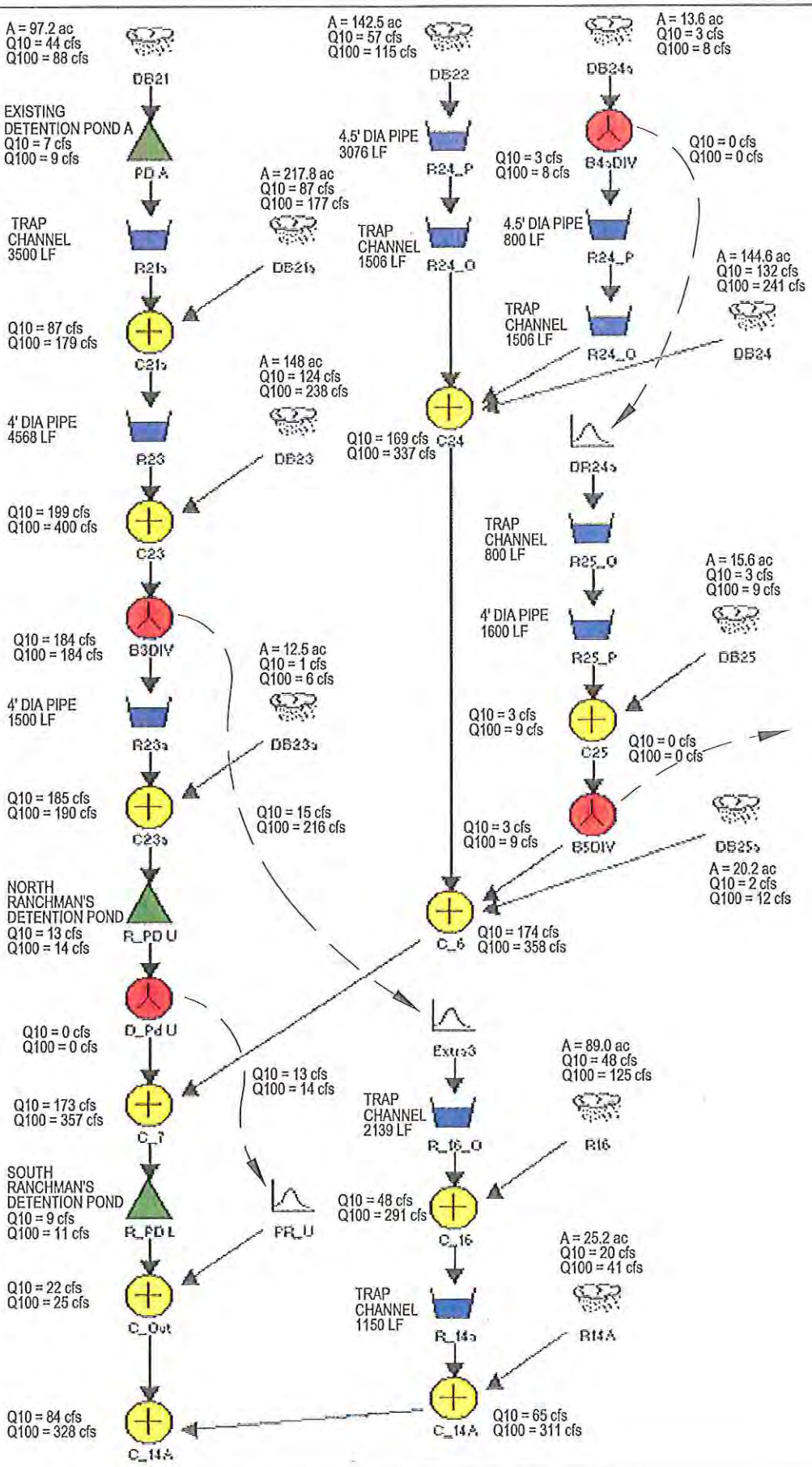
Basin	L (lf)	L (mi)	L_{ca} (lf)	L_{ca} (mi)	C_t	$T_{lag} = C_t (LxL_{ca})^{0.3}$ (hrs)	$T_d = T_{lag}/5.5$ (hrs)	T_{da} (hrs)	$T_{pr} = T_{lag} + 0.25(T_{da} - T_d)$ (hrs)
INDIAN WASH BASIN - PROPOSED CONDITIONS									
I5	10315	1.9536	5463	1.0347	2.0	2.470	0.449	0.1667	2.400
I4	18756	3.5523	10062	1.9057	2.0	3.550	0.645	0.1667	3.430
I3	29640	5.6136	15183	2.8756	2.0	4.607	0.838	0.1667	4.439
I2	13433	2.5441	4490	0.8504	2.0	2.521	0.458	0.1667	2.448
I1	14703	2.7847	5938	1.1246	2.0	2.817	0.512	0.1667	2.730
I7	17566	3.3269	8201	1.5532	2.0	3.273	0.595	0.1667	3.166
I6	3752	0.7106	1408	0.2667	2.0	1.214	0.221	0.1667	1.201
I8	5875	1.1127	2482	0.4701	2.0	1.647	0.299	0.1667	1.613
I9	10747	2.0354	4658	0.8822	2.0	2.384	0.433	0.1667	2.317

GRAND JUNCTION IONAL AIRPORT
MASTER DRAINAGE
Snyder's Method Input

Basin	From CB/ICON			Imp	Delta Y	S	Fig. 2 S- Corr	C_t	$T_{lag} = C_t (LxL_{ca}/S^{0.5})^{0.48}$	P	A	$C_p = PC_tA^{0.15}$
	Imp (%)	T_{lag} (hrs)	C_p	(%)	(ft)	(ft/ft)	(ft/ft)		(hrs)		(mi^2)	
RANCHMAN"S DITCH BASIN - PROPOSED CONDITIONS												
DB21	1	0.1710	0.2580	30	110	0.033	0.033	0.0993	0.0873	4.0351	0.1519	0.3020
DB21a	1	0.2110	0.2910	30	160	0.044	0.042	0.0995	0.0817	4.0035	0.3403	0.3389
DB23b	75	0.1860	0.6250	95	30	0.016	0.016	0.0737	0.0461	11.3738	0.0584	0.5477
DB23c	73	0.1860	0.6250	95	45	0.014	0.014	0.0737	0.0800	11.3923	0.0783	0.5728
DB23d	62	0.1860	0.6250	100	17	0.020	0.020	0.0729	0.0227	11.6400	0.0173	0.4617
DB23e	75	0.1860	0.6250	100	40	0.015	0.015	0.0729	0.0674	11.6400	0.0709	0.5705
DB23a	1	0.0630	0.1900	50	43	0.032	0.032	0.0880	0.0354	7.1290	0.0196	0.3477
DB22	1	0.2030	0.2730	35	112	0.027	0.027	0.0958	0.1207	4.7447	0.2226	0.3627
DB24a	20	0.1500	0.1800	40	25	0.010	0.010	0.0932	0.0943	5.5827	0.0212	0.2920
DB24	58	0.1800	0.6230	95	85	0.015	0.015	0.0737	0.1521	11.3715	0.2318	0.6734
DB25	20	0.1510	0.1830	40	30	0.011	0.011	0.0932	0.1035	5.6145	0.0244	0.2998
DB25a	1	0.0660	0.2040	12	10	0.019	0.019	0.1228	0.0308	2.3599	0.0316	0.1725
R16	50	0.1190	0.4760	51	27	0.013	0.013	0.0877	0.0764	7.2011	0.1550	0.4776
R14a	75	0.1190	0.4790	75	30	0.020	0.020	0.0783	0.0376	9.9661	0.0393	0.4805
LEACH CREEK BASIN - PROPOSED CONDITIONS												
L11b	0	1.5390	0.4530	2	2316	0.078	0.056	0.1556	1.1973	2.1458	7.4766	0.4514
L11au	0	0.7470	0.3350	5	115	0.012	0.012	0.1443	0.6042	2.1617	1.0090	0.3124
L11ad	0	0.0890	0.1820	15	7	0.012	0.012	0.1171	0.0321	2.5496	0.0173	0.1625
L10u				2	154	0.022	0.022	0.1556	0.3195	2.1458	0.3693	0.2875
L10d				23	131	0.022	0.022	0.1064	0.2434	3.2001	0.6140	0.3165
L9.1u				2	385	0.021	0.021	0.1556	0.8651	2.1458	2.3807	0.3802
L9.1d				82	135	0.021	0.021	0.0764	0.1686	10.5525	0.3403	0.6858
L9	8.2	0.3400	0.2380	21	85	0.015	0.015	0.1095	0.2136	2.9585	0.2051	0.2555
R17	1	0.1530	0.2610	15	90	0.039	0.039	0.1172	0.0720	2.5443	0.1623	0.2271
R15	1	0.2670	0.2860	30	75	0.019	0.019	0.0994	0.1415	4.0222	0.2994	0.3336
R13	1	0.1480	0.2130	2	10	0.010	0.010	0.1556	0.0553	2.1458	0.0425	0.2079
R14	5	0.3550	0.2050	35	100	0.015	0.015	0.0957	0.2176	4.7511	0.0602	0.2984
R5				9	20	0.009	0.009	0.1289	0.1180	2.2563	0.0843	0.2008
CORCORAN BASIN - PROPOSED CONDITIONS												
C3				2	190	0.028	0.028	0.1556	0.2539	2.1458	0.5641	0.3064

GRAND JUNCTION [illegible]IONAL AIRPORT
MASTER DRAINAGE
Snyder's Method Input

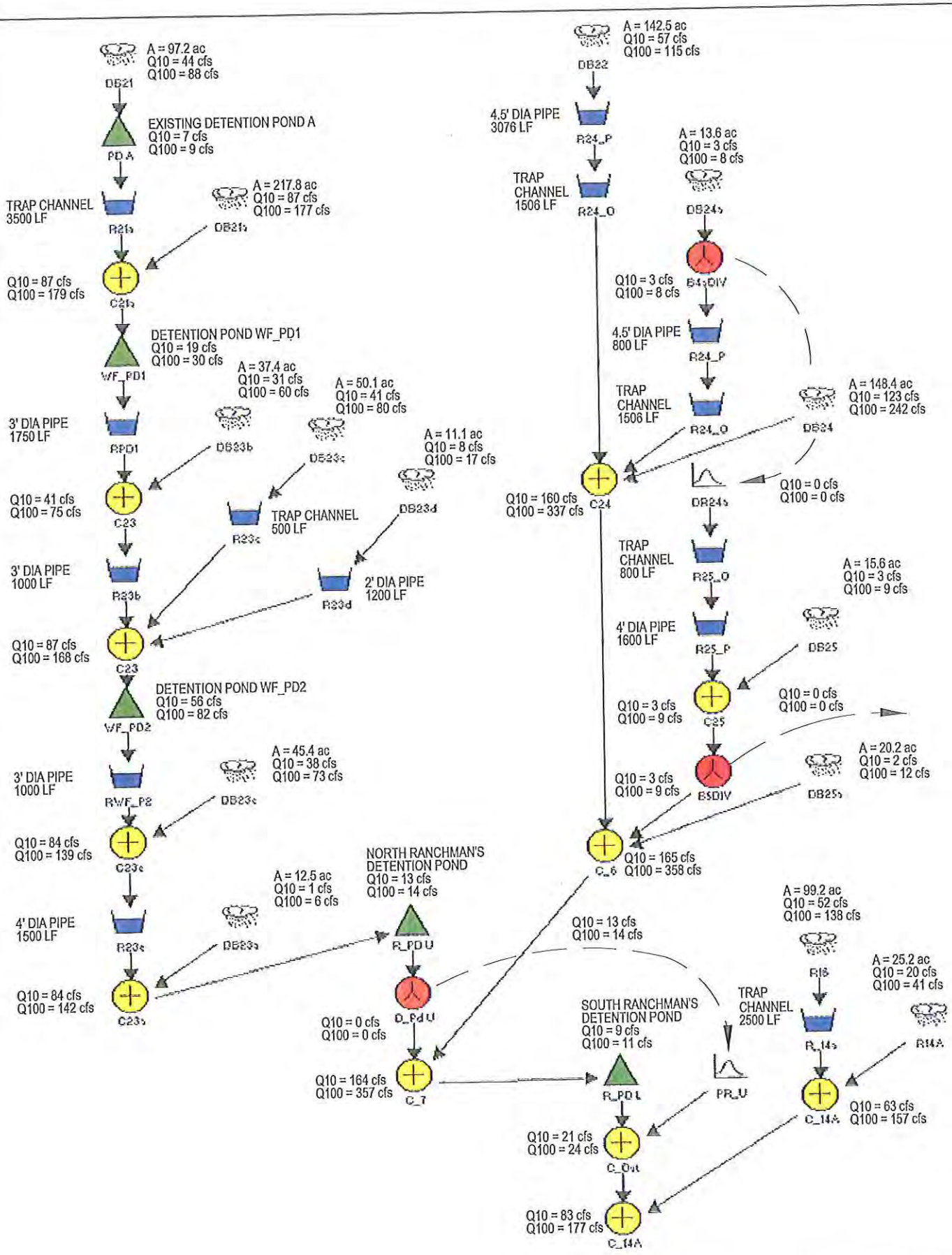
Basin	From CB/ICON			Imp	Delta Y	S	Fig. 2 S- Corr	C_t	$T_{lag} = C_t (LxL_{ca}/S^{0.5})^{0.48}$	P	A	$C_p = PC_tA^{0.15}$
	Imp (%)	T_{lag} (hrs)	C_p	(%)	(ft)	(ft/ft)	(ft/ft)		(hrs)		(mi^2)	
INDIAN WASH BASIN - PROPOSED CONDITIONS												
I5				2	1625	0.158	0.060	0.1556	0.4285	2.1458	0.7994	0.3228
I4				2	1850	0.099	0.059	0.1556	0.7685	2.1458	1.2130	0.3437
I3				2	2230	0.075	0.056	0.1556	1.1809	2.1458	3.2057	0.3976
I2				5	320	0.024	0.024	0.1459	0.5174	2.1566	0.9728	0.3134
I1				12	250	0.017	0.017	0.1222	0.5621	2.3746	0.7563	0.2783
I7				3	460	0.026	0.026	0.1528	0.8071	2.1455	1.0258	0.3291
I6				40	50	0.013	0.013	0.0932	0.1190	5.6054	0.4512	0.4638
I8				10	230	0.039	0.039	0.1250	0.1996	2.3038	0.4147	0.2524
I9				2	245	0.023	0.023	0.1556	0.5095	2.1458	0.6808	0.3151



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GRAND JUNCTION REGIONAL AIRPORT
GRAPHICAL HEC-1 NETWORK
FROM ICON

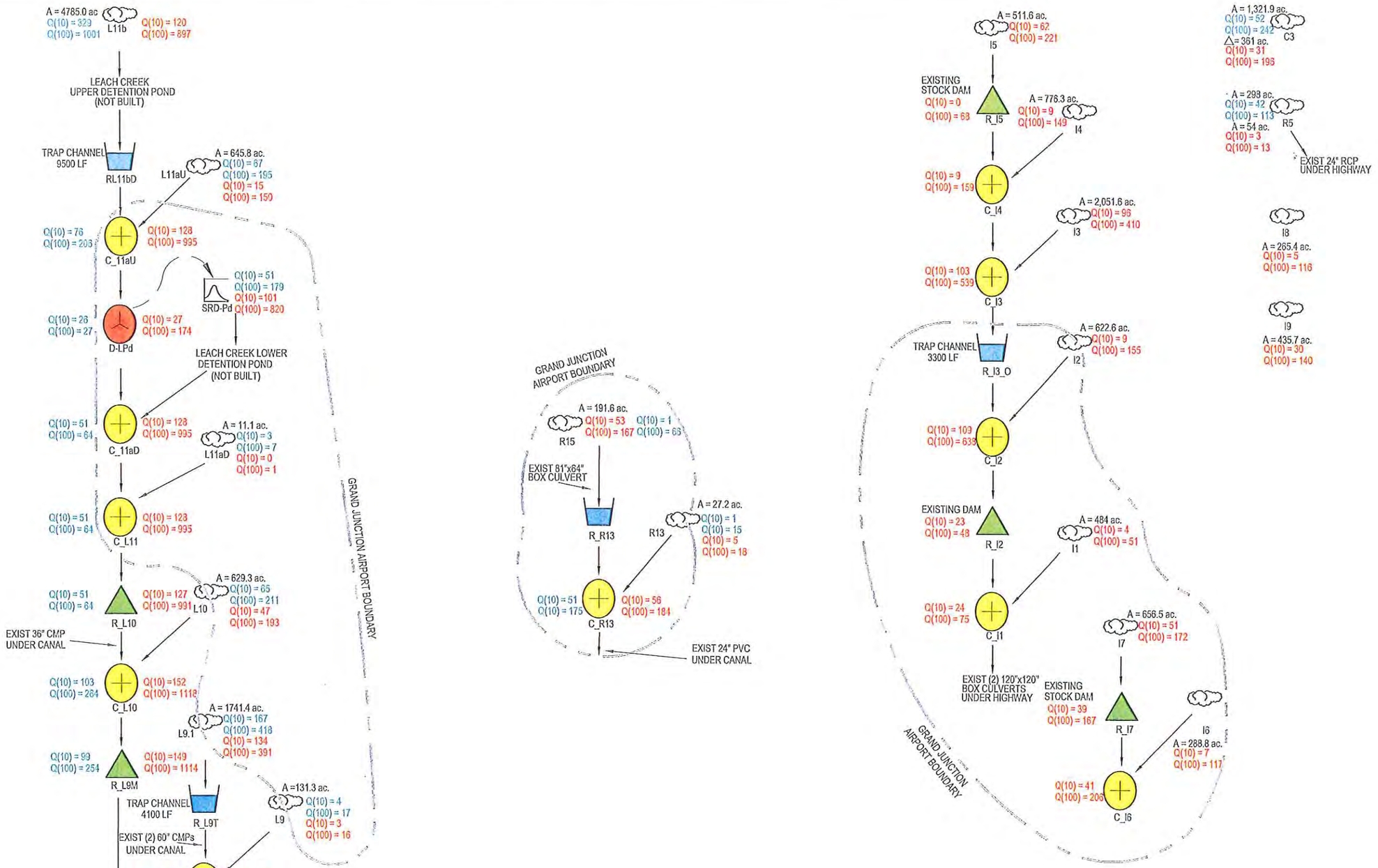
DATE: JULY 25, 2008



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GRAND JUNCTION REGIONAL AIRPORT
GRAPHICAL HEC-1 NETWORK
FROM CARTER & BURGESS

DATE: JULY 25, 2008



LEGEND

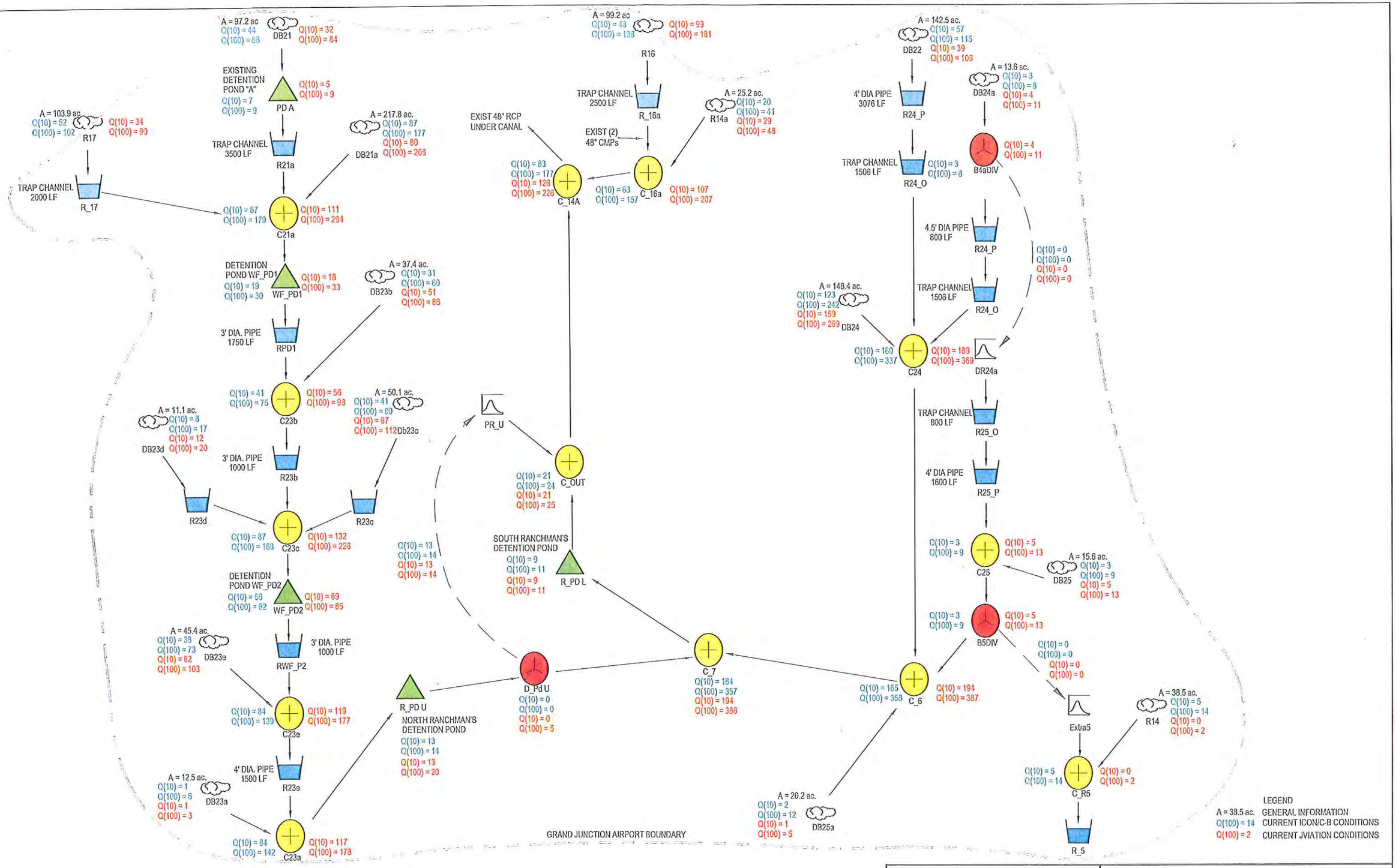
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Q(100) = 14	CURRENT ICON/C-B CONDITIONS
Q(100) = 2	CURRENT JVIATION CONDITIONS

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GRAND JUNCTION REGIONAL AIRPORT
GRAPHICAL HEC-1 NETWORK
CURRENT CONDITIONS

DATE: MARCH 20, 2009

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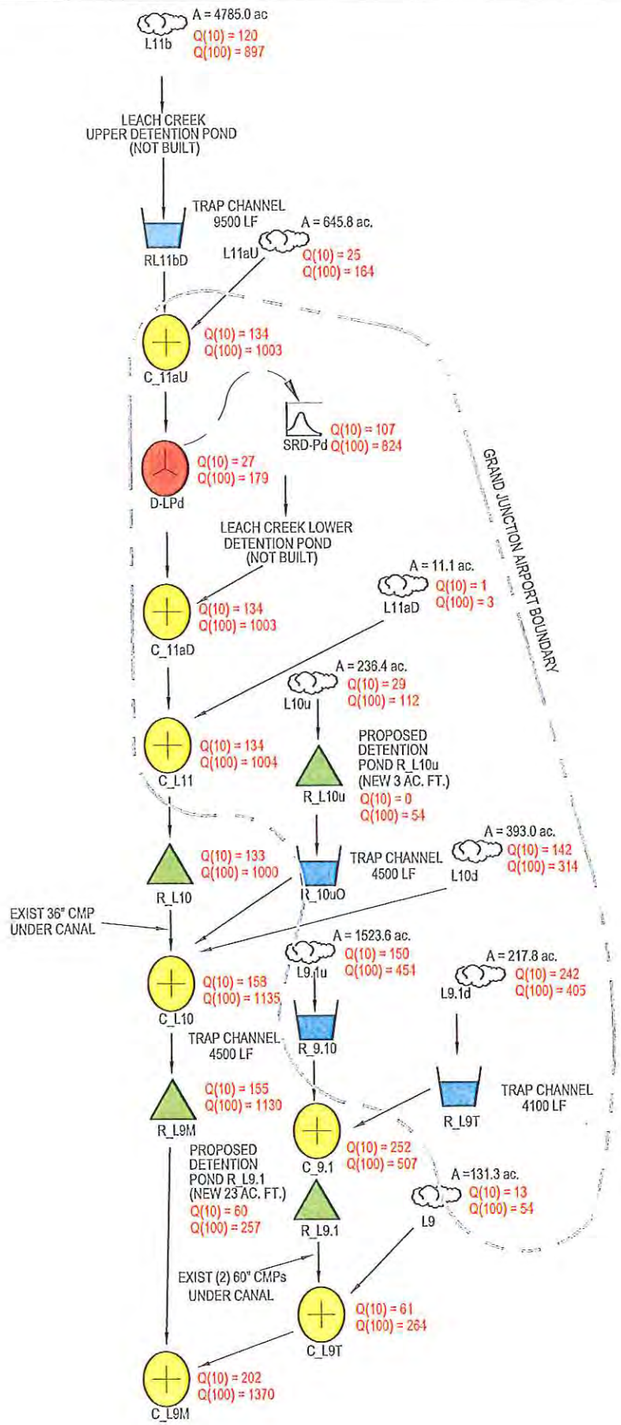


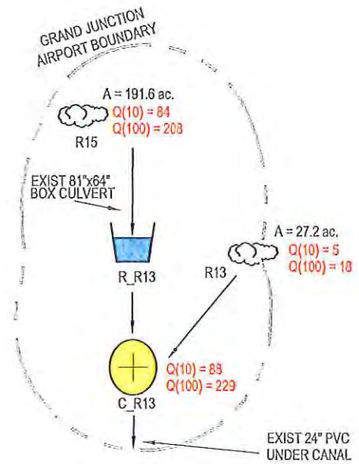
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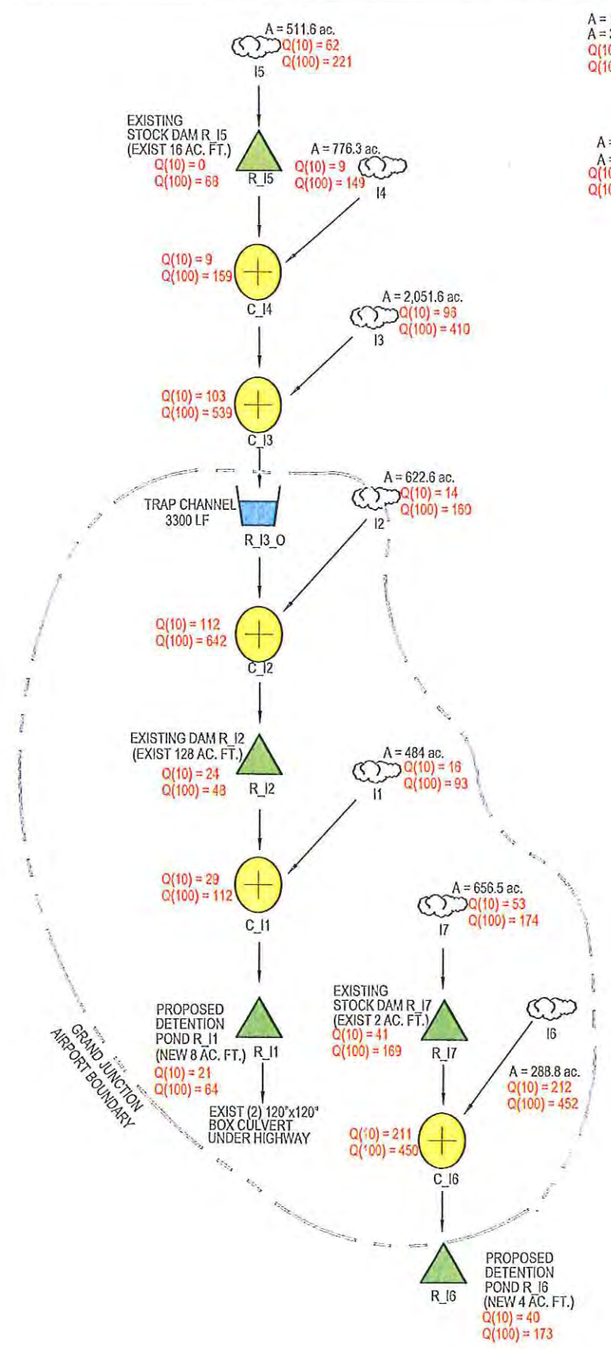
GRAND JUNCTION REGIONAL AIRPORT
GRAPHICAL HEC-1 NETWORK
CURRENT CONDITIONS

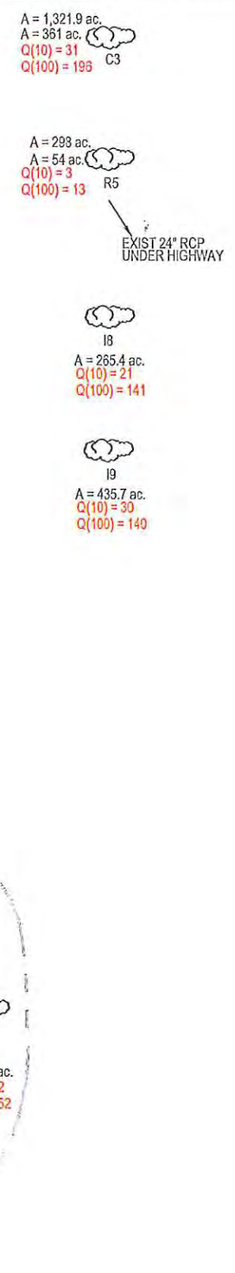
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LEGEND

A = 38.5 ac. GENERAL INFORMATION

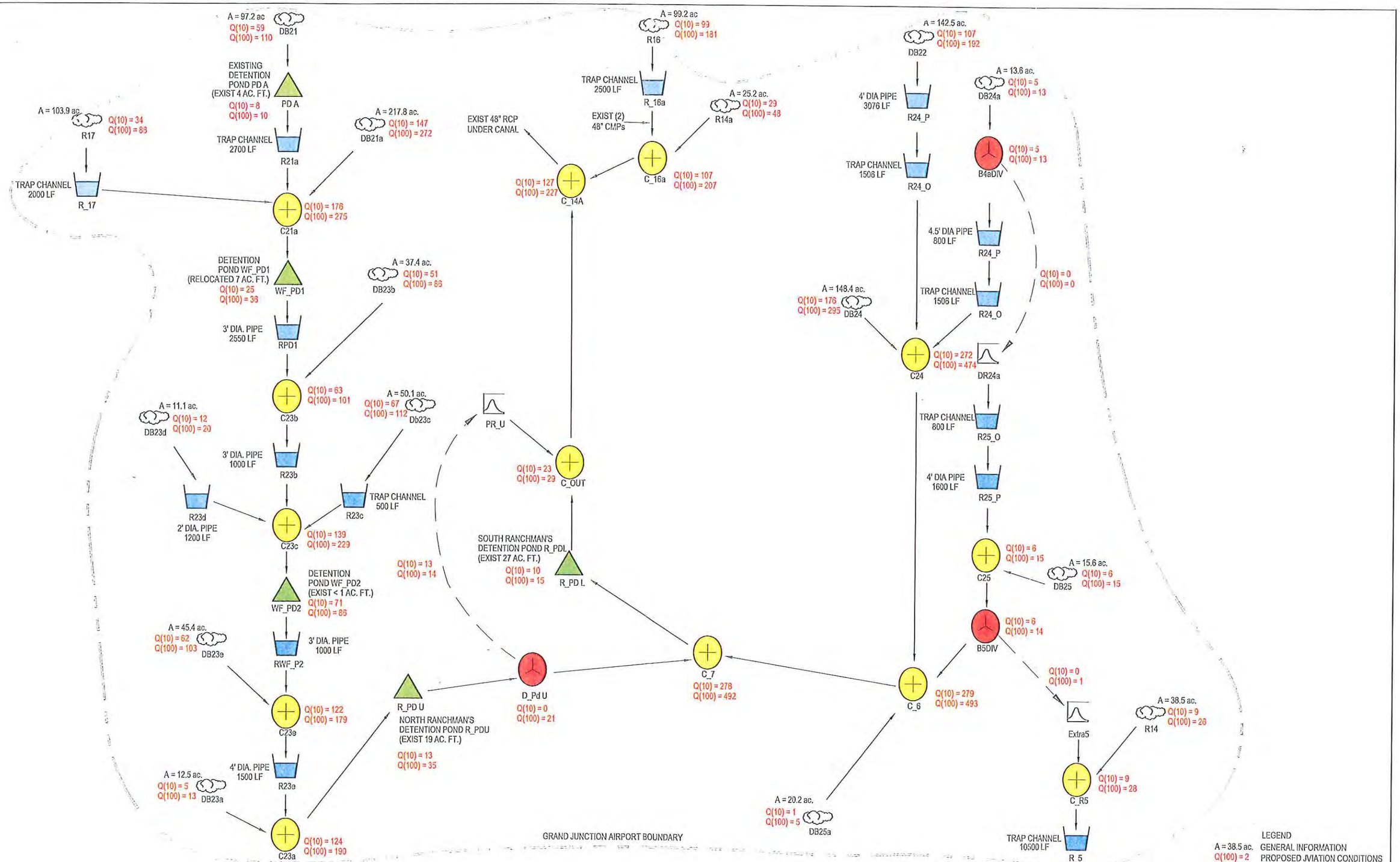
Q(100) = 2 PROPOSED JVIATION CONDITIONS

JVIATION SM
ENGINEERING & PLANNING
900 S. BROADWAY ➧ SUITE 350 ➧ DENVER, COLORADO 80209
PHONE: 303-524-3030 ➧ FAX: 303-524-3031
➧ WWW.JVIATION.COM ➧

GRAND JUNCTION REGIONAL AIRPORT
GRAPHICAL HEC-1 NETWORK
PROPOSED CONDITIONS

DATE: MARCH 20, 2009

I:\Projects\GJT\Engineering\AIP-33\J. Engineers Report\Drainage Design\HEC-1-Jviation-Rev1\J5-HEC-1-PROP-01.dwg Apr 29, 2009 - 5:00pm jgonzales

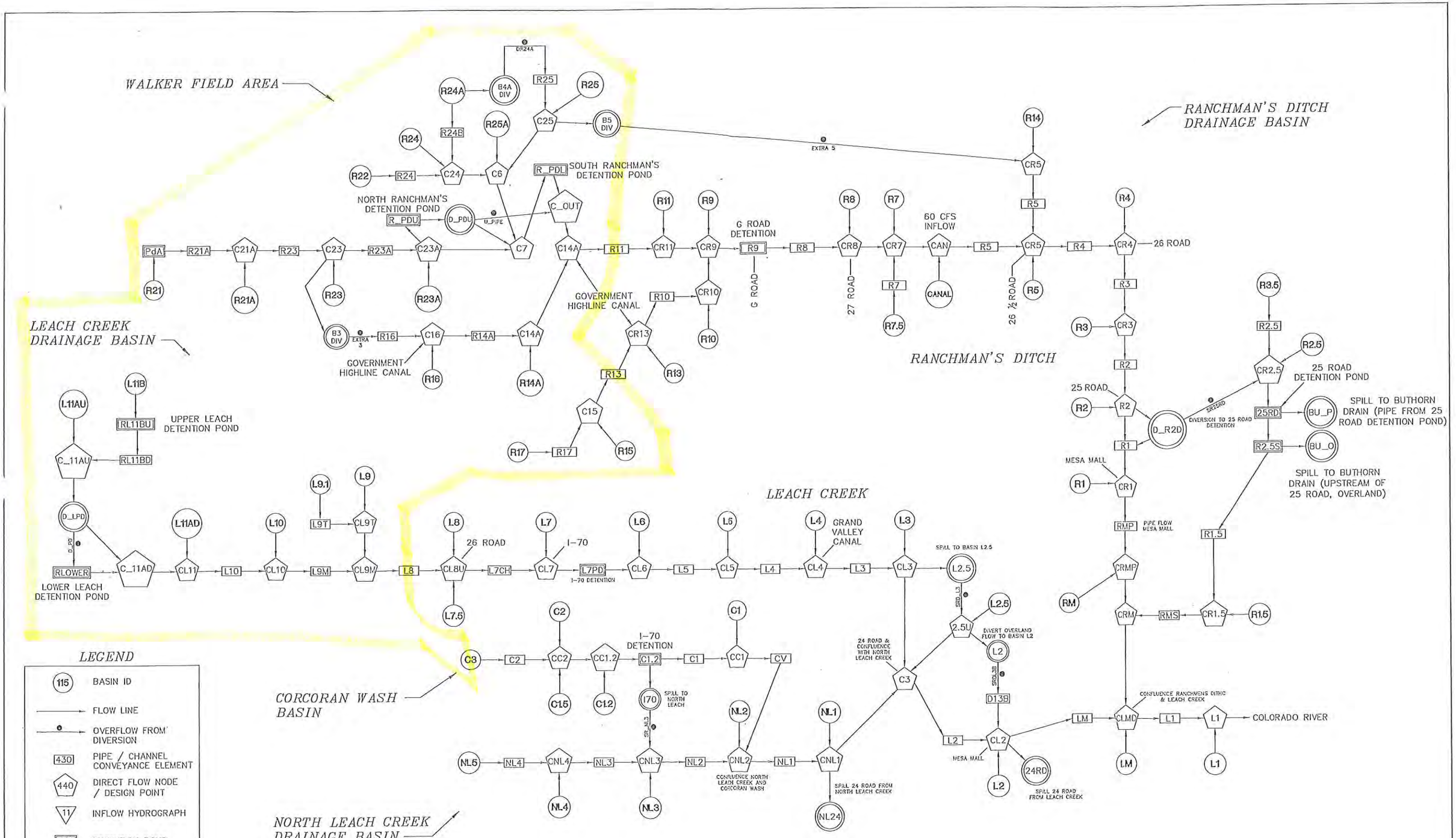


JVIATION SM
ENGINEERING & PLANNING
900 S. BROADWAY ⇔ SUITE 350 ⇔ DENVER, COLORADO 80209
PHONE: 303-524-3030 ⇔ FAX: 303-524-3031
⇔ WWW.JVIATION.COM ⇔

GRAND JUNCTION REGIONAL AIRPORT
GRAPHICAL HEC-1 NETWORK
PROPOSED CONDITIONS

DATE: MARCH 20, 2009

I:\Projects\GJT\Engineering\AP-33\A Engineers Report\Drainage Design\HEC-1-Aviation-Rev1\B-HEC-1-PROP-02.dwg Apr 29, 2009 - 5:02pm jgonzales



No.	DATE	REVISIONS	APPR.

00-015-GJC-6-415

DRAWN BJL
DESIGNED CDJ
CHECKED CDJ

CITY OF GRAND JUNCTION COLORADO

ICON ENGINEERING, INC.
600 South Huron Street, Suite 300, Englewood, CO 80112
Phone (303) 289-0500 / Fax (303) 289-1019

GRAND JUNCTION, COLORADO
RANCHMAN'S DITCH AND LEACH CREEK
CONDITIONAL LETTER OF MAP REVISION

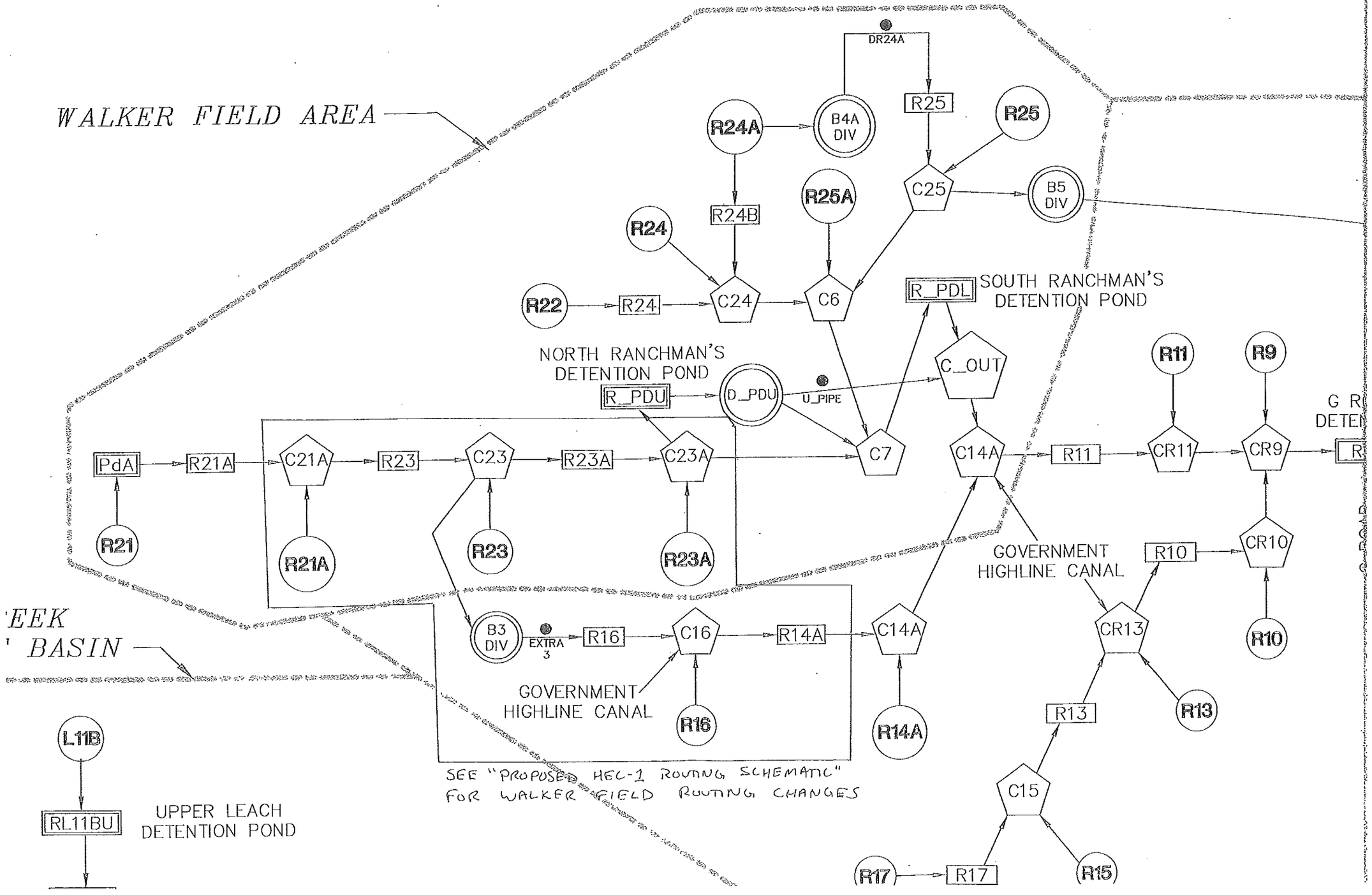
PROPOSED CONDITIONS HYDROLOGY HEC-1 CONNECTIVITY DIAGRAM

DATE OCT 04

FIGURE 5

EXISTING HEC-1 ROUTING SCHEMATIC

(FROM ICON ENGINEERING, INC., OCTOBER 2004)



EXISTING DRAINAGE BASIN MAP (FROM ICON ENGINEERING, INC., OCTOBER 2004)

RANCHMAN'S DITCH DRAINAGE BASIN

SEE "WALKER FIELD" MAJOR BASIN MAP FOR PROPOSED CHANGES

RANCHMAN'S DITCH WALKER FIELD DETENTION PONDS

29 ROAD

28 ROAD

27 ROAD

25 ROAD

R24A

R22

R25

R25A

R24

R14

R23A

R21

R21A

R23

R14A

R16

R17

R9

R15

R13

R10

R8

R5

R7.5

R7

R4

R3.5

R3

R2

R2.5

R1

L10

L9

L11AD

L11AU

L7.5

L8

L7

L6

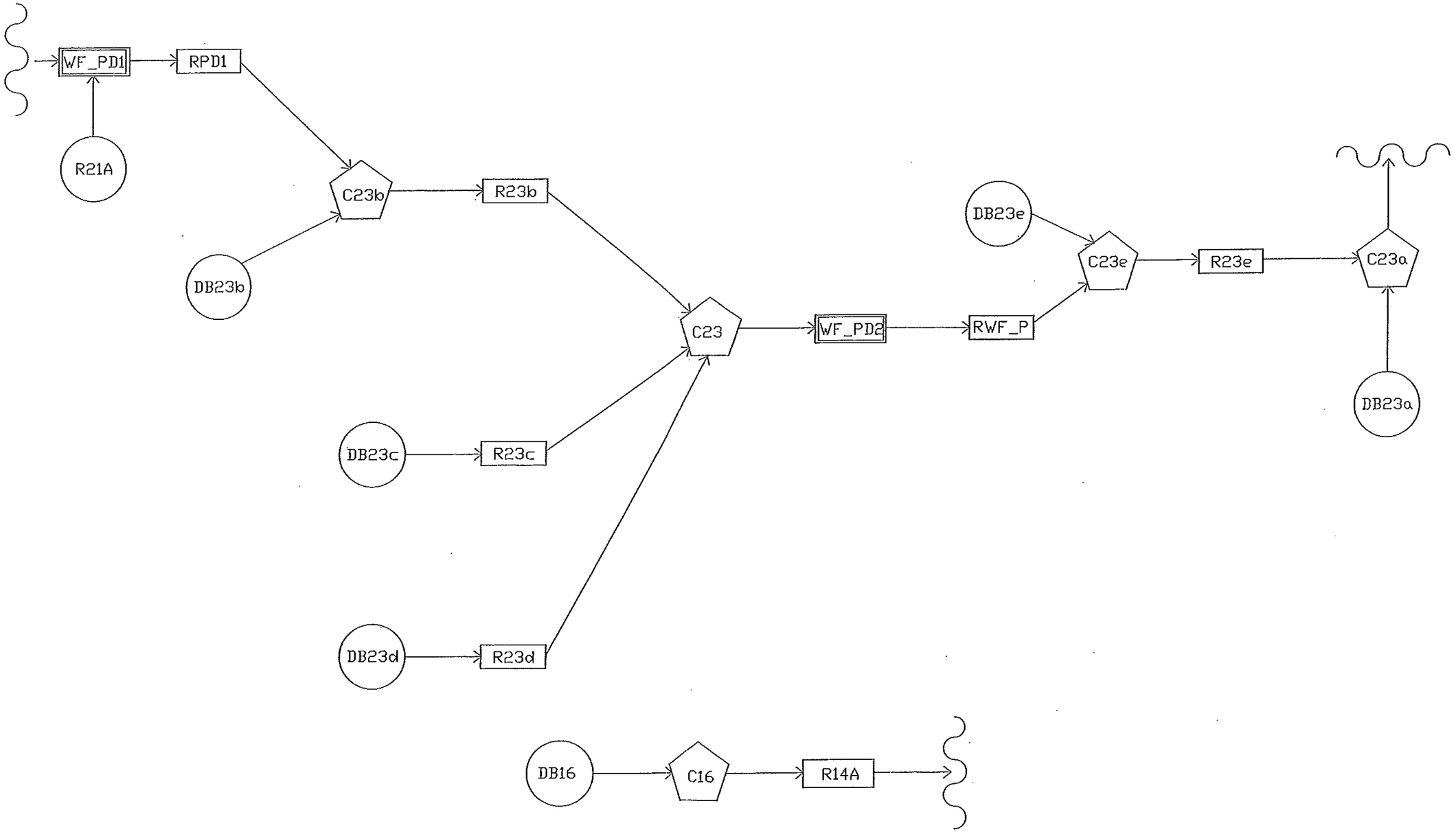
L5

L4

LEACH CREEK LOWER DETENTION POND

CORCORAN WASH DRAINAGE BASIN

LEACH CREEK UPPER DETENTION POND



DESCRIPTION	DATE
REVISION 1	–
REVISION 2	–
REVISION 3	–
REVISION 4	–

DRAWN BY
DESIGNED BY
CHECKED BY DATE 11/29/06
APPROVED BY DATE 11/29/06

ORIGINAL SCALE
PLAN HORIZ.
PROFILE HORIZ.
VERT.

Carter::Burgess

LAND-SIDE IMPROVEMENTS
TO WALKER FIELD

PROPOSED HEC-1
ROUTING SCHEMATIC

01

```
*****************************************
*                                       *
*    FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*              JUN  1998                *
*           VERSION 4.1                 *
*                                       *
*  RUN DATE   17JUL08  TIME  15:01:50   *
*                                       *
*****************************************
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 756-1104              *
*                                       *
*****************************************
```

```
X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX         XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM


```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

   1          ID        Ranchmans Ditch Master Drainage Plan
   2          ID        Walker Field Revised Watershed Model - From ICON
   3          ID        10-Year 24-Hour Storm - NRCS Type II Rainfall Distribution
   4          IT       5                    300
   5          IO       4
   6          IN       6
   7          JD    1.19    0.01
   8          PC       0   0.001   0.002  0.0031  0.0041  0.0051  0.0062  0.0073  0.0083  0.0094
   9          PC  0.0105  0.0116  0.0127  0.0138   0.015  0.0161  0.0173  0.0185  0.0196  0.0208
  10          PC   0.022  0.0232  0.0244  0.0257  0.0269  0.0281  0.0294  0.0307  0.0319  0.0332
  11          PC  0.0345  0.0358  0.0371  0.0384  0.0398  0.0411  0.0425  0.0438  0.0452  0.0466
  12          PC   0.048  0.0494  0.0508  0.0523  0.0538  0.0553  0.0568  0.0583  0.0598  0.0614
  13          PC   0.063  0.0646  0.0662  0.0679  0.0696  0.0712   0.073  0.0747  0.0764  0.0782
  14          PC    0.08  0.0818  0.0836  0.0855  0.0874  0.0892  0.0912  0.0931   0.095   0.097
  15          PC   0.099   0.101   0.103  0.1051  0.1072  0.1093  0.1114  0.1135  0.1156  0.1178
  16          PC    0.12  0.1223  0.1246  0.1271  0.1296  0.1323   0.135  0.1379  0.1408  0.1439
  17          PC   0.147  0.1502  0.1534  0.1566  0.1598   0.163  0.1663  0.1697  0.1733  0.1771
  18          PC   0.181  0.1851  0.1895  0.1941  0.1989   0.204  0.2094  0.2152  0.2214   0.228
  19          PC   0.235  0.2427  0.2513  0.2609  0.2715   0.283  0.3068  0.3544  0.4308  0.5679
  20          PC   0.663   0.682  0.6986   0.713  0.7252   0.735  0.7434  0.7514  0.7588  0.7656
  21          PC   0.772   0.778  0.7836   0.789  0.7942   0.799  0.8036   0.808  0.8122  0.8162
  22          PC    0.82  0.8237  0.8273  0.8308  0.8342  0.8376  0.8409  0.8442  0.8474  0.8505
  23          PC  0.8535  0.8565  0.8594  0.8622  0.8649  0.8676  0.8702  0.8728  0.8753  0.8777
  24          PC    0.88  0.8823  0.8846  0.8868   0.889  0.8912  0.8934  0.8955  0.8976  0.8997
  25          PC  0.9018  0.9038  0.9058  0.9078  0.9098  0.9117  0.9136  0.9155  0.9174  0.9192
  26          PC   0.921  0.9228  0.9246  0.9263   0.928  0.9297  0.9314   0.933  0.9346  0.9362
  27          PC  0.9377  0.9393  0.9408  0.9423  0.9438  0.9452  0.9466   0.948  0.9494  0.9507
  28          PC   0.952  0.9533  0.9546  0.9559  0.9572  0.9584  0.9597   0.961  0.9622  0.9635
  29          PC  0.9648   0.966  0.9672  0.9685  0.9697  0.9709  0.9722  0.9734  0.9746  0.9758
  30          PC   0.977  0.9782  0.9794  0.9806  0.9818  0.9829  0.9841  0.9853  0.9864  0.9876
  31          PC  0.9888  0.9899   0.991  0.9922  0.9933  0.9944  0.9956  0.9967  0.9978  0.9989
  32          PC       1       1       1       1       1       1       1       1       1       1
  33          PC       1       1       1       1       1       1       1       1       1       1
  34          PC       1       1       1       1       1       1       1       1       1       1
  35          PC       1       1       1       1       1       1       1       1       1       1
  36          PC       1       1       1       1       1       1       1       1       1       1
  37          PC       1       1       1       1       1       1       1       1       1       1
  38          JD   1.166      14
  39          JD   1.154      24
  40          JD   1.142    36.5
  41          JD   1.134      50

  42          KK    DB21
  43          KM   Subbasin
  44          BA  0.1519
  45          LG    0.30  0.3077   1.148   0.041       1
  46          US   0.171   0.258

  47          KK    PD A
  48          KM   Route Through Pond A
  49          RS       1    STOR       0       0
  50          SV     0.0   0.001     1.8     4.7     8.9    11.6
  51          SQ     0.0     2.5     7.0     9.0    10.6    11.3
  52          SE    4915    4916    4918    4920    4922    4923
```



```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  53          KK    R21a
  54          KM   Route R21 Through R21a
  55          RK    3500   0.023    0.05            TRAP      30       6

  56          KK   DB21a
  57          KM   Subbasin
  58          BA  0.3403
  59          LG    0.30  0.3077   1.148   0.041       1
  60          US   0.211   0.291

  61          KK    C21a
  62          KM   Combine Routed Basin 21 with Basin 21a
  63          HC       2

  64          KK     R23
  65          KM   Route Hydrograph through Bain 23
  66          RK    4568    0.01   0.015            CIRC       4
```

```
KK    DB23
KM   Subbasin
BA  0.2313
LG    0.53  0.4970  1.8550  0.0670      75
US   0.186   0.625

KK     C23
KM   Combine Hydrograph with Basin 21 & Basin 21a
HC       2

KK   B3DIV
KM   Basin 23 storm sewer overflow
DT   B3DIV
DI     0.0   184.0    2000
DQ       0     0.0    1816

KK    R23a
KM   Route Hydrograph through Basin 23a
RK    1500   0.021   0.015            CIRC       4

KK   DB23a
KM   Subbasin
BA  0.0196
LG    0.59  0.5397  2.0144  0.0724       1
US   0.083   0.190

KK    C23a
KM   Combine Hydrograph at Upper Pond
HC       2

KK  R_PD U
KM   Route Hydrograph Through Upper Airport Upper Pond
RS       1    STOR       0       0
SV     0.0   0.001    0.21    6.09   16.16   26.80    29.4
SQ     0.0    10.8    11.4    12.4    13.3    14.2     162
SE    4767 4767.01    4768    4770    4772    4774  4774.5
```



```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

KK  D_Pd U
KM   Weir Flow Into Lower Pond
DT  U_Pipe
DI     0.0    14.2    14.3     100    1000
DQ     0.0    14.2    14.2    14.2    14.2

KK    DB22
KM   Subbasin
BA  0.2226
LG    0.30  0.3077   1.148   0.041       1
US   0.203   0.273

KK   R24_P
KM   Route Hydrograph Through Basin 24 Pipe
RK    3076   0.014   0.015            CIRC     4.5

KK   R24_O
KM   Route Hydrograph Through Basin 24 Overland
RK    1506   0.019    0.03            TRAP      10      12

KK   DB24a
KM   Subbasin
BA  0.0212
LG    0.53  0.4970  1.8550  0.0670      20
US   0.150   0.180

KK  B4aDIV
KM   Divert Basin 24a overflow
DT  B4aDIV
DI     0.0    14.0   100.0  1000.0
DQ       0    0.01    86.0   986.0

KK   R24_P
KM   Route Hydrograph Through Basin 24 Pipe
RK     800   0.014   0.015            CIRC     4.5

KK   R24_O
KM   Route Hydrograph Through Basin 24 Overland
RK    1506   0.019    0.03            TRAP      10      12

KK    DB24
KM   Subbasin
BA  0.2259
LG    0.44  0.4260  1.5900  0.0570      75
US   0.180   0.623

KK     C24
KM   Combine Hydrographs (Basin22, Basin 24a, Basin 24)
HC       3
```



```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

KK   DR24a
KM   Retrieve 24a diversion
DR  B4aDIV

KK   R25_O
KM   Route 24a diversion through Basin 25 overland
RK     800   0.015    0.03            TRAP      30      10

KK   R25_P
KM   Route 24a diversion through Basin 25 pipe
RK    1600   0.013   0.015            CIRC       4

KK    DB25
KM   Subbasin
BA  0.0244
LG    0.53  0.4970  1.8550  0.0670      20
US   0.151   0.183
```

```
          151          KK     C25
          152          KM   Combine Hydrograph with 24a diversion
          153          HC       2

          154          KK   B5DIV
          155          KM   Divert Basin 25 storm sewer overflow
          156          DT   B5DIV
          157          DI     0.0     14.0    100.0   1000.0
          158          DQ       0        0     86.0    986.0

          159          KK   DB25a
          160          KM   Subbasin
          161          BA  0.0316
          162          LG    0.55   0.5112   1.9084   0.0688        1
          163          US   0.066    0.204

          164          KK     C_6
          165          KM   Combine Basins 25a 25 24a 24 22
          166          HC       3

          167          KK     C_7
          168          KM   Combine all Basins
          169          HC       2

          170          KK  R_PD L
          171          KM   route Hydrograph Through Lower Airport East Pond
          172          RS       1    STOR        0        0
          173          SV     0.0     0.05     4.26    13.79    24.65
          174          SQ     0.0      5.5      7.8      9.6     11.1
          175          SE  4758.4     4760     4762     4764     4766
1                                                HEC-1 INPUT                                                PAGE  5

        LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          176          KK     PR_U
          177          KM   Retrieve Upper Pond Pipe Flow
          178          DR   U_Pipe

          179          KK   C_Out
          180          KM   Combine 2 Outflow Hydrographs at Canal
          181          HC       2

          182          KK  Extra3
          183          KM   Overflow released from Basin 23
          184          DR   B3DIV

          185          KK  R_16_O
          186          KM   Route Basin 3 diversion through R16 overland
          187          RK     2139    0.015     0.03            TRAP       10       20

          188          KK     R16
          189          KM   Subbasin
          190          BA  0.1391
          191          LG    0.67   0.5917   2.1610   0.0810     52.0
          192          US   0.119    0.476

          193          KK     C_16
          194          KM   Combine Hydrograph (Basin 3 diversion, R16)
          195          HC       2

          196          KK   R_14a
          197          KM   Route Hydrograph through R14A overland
          198          RK     1150    0.005     0.04            TRAP       10       10

          199          KK     R14A
          200          KM   Subbasin
          201          BA  0.0393
          202          LG    0.60   0.5491   2.0496   0.0736     75.0
          203          US   0.119    0.479

          204          KK   C_14A
          205          KM   Combine Hydrographs (Basin 3 diversion, R16, R14A)
          206          HC       2

          207          KK   C_14A
          208          KM   Combine Hydrograph with Lower Pond Outfall
          209          HC       2
          210          ZZ
1*****************************************
*                                       *
*    FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*              JUN  1998                *
*           VERSION 4.1                 *
*                                       *
*  RUN DATE   17JUL08  TIME  15:01:50   *
*                                       *
*****************************************

*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*        DAVIS, CALIFORNIA 95616        *
*           (916) 756-1104              *
*                                       *
*****************************************

                         Ranchmans Ditch Master Drainage Plan
                         Walker Field Revised Watershed Model - From ICON
                         10-Year 24-Hour Storm - NRCS Type II Rainfall Distribution

    5 IO          OUTPUT CONTROL VARIABLES
                       IPRNT          4  PRINT CONTROL
                       IPLOT          0  PLOT CONTROL
                       QSCAL         0.  HYDROGRAPH PLOT SCALE

    6 IN          TIME DATA FOR INPUT TIME SERIES
                        JXMIN          6  TIME INTERVAL IN MINUTES
                       JXDATE      1    0  STARTING DATE
                       JXTIME          0  STARTING TIME

      IT          HYDROGRAPH TIME DATA
                         NMIN          5  MINUTES IN COMPUTATION INTERVAL
                        IDATE      1    0  STARTING DATE
                        ITIME         0000  STARTING TIME
                           NQ         300  NUMBER OF HYDROGRAPH ORDINATES
                       NDDATE      2    0  ENDING DATE
                       NDTIME         0055  ENDING TIME
```

```
      ICENT          19  CENTURY MARK

   COMPUTATION INTERVAL      .08 HOURS
       TOTAL TIME BASE    24.92 HOURS

ENGLISH UNITS
     DRAINAGE AREA         SQUARE MILES
     PRECIPITATION DEPTH   INCHES
     LENGTH, ELEVATION     FEET
     FLOW                  CUBIC FEET PER SECOND
     STORAGE VOLUME        ACRE-FEET
     SURFACE AREA          ACRES
     TEMPERATURE           DEGREES FAHRENHEIT

7 JD    INDEX STORM NO. 1
          STRM       1.19  PRECIPITATION DEPTH
          TRDA        .01  TRANSPOSITION DRAINAGE AREA

8 PI      PRECIPITATION PATTERN
          .00  .00  .00  .00  .00  .00  .00  .00  .00  .00
```

```
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00

40 JD         INDEX STORM NO. 4
                STRM        1.14  PRECIPITATION DEPTH
                TRDA       36.50  TRANSPOSITION DRAINAGE AREA

 0 PI          PRECIPITATION PATTERN
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
```

```
                41.       36.       31.       26.       23.       19.       17.       14.       12.       11.
                 9.        8.        7.        6.        5.        4.        4.        3.        3.        2.
                 2.        2.        1.        1.        1.        1.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
 47 KK      *      PD A  *
            *            *
            **************
                        Route Through Pond A

               HYDROGRAPH ROUTING DATA

 49 RS           STORAGE ROUTING
                      NSTPS          1  NUMBER OF SUBREACHES
                       ITYP       STOR  TYPE OF INITIAL CONDITION
                     RSVRIC        .00  INITIAL CONDITION
                          X        .00 WORKING R AND D COEFFICIENT

 50 SV           STORAGE          .0        .0       1.8       4.7       8.9      11.6

 51 SQ         DISCHARGE          0.        3.        7.        9.       11.       11.

 52 SE         ELEVATION     4915.00   4916.00   4918.00   4920.00   4922.00   4923.00
                                                          ***

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN        0. TO        3.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
 53 KK      *      R21a  *
            *            *
            **************
                        Route R21 Through R21a

               HYDROGRAPH ROUTING DATA

 55 RK           KINEMATIC WAVE STREAM ROUTING
                          L       3500.  CHANNEL LENGTH
                          S       .0230  SLOPE
                          N        .050  CHANNEL ROUGHNESS COEFFICIENT
                         CA         .00  CONTRIBUTING AREA
                      SHAPE        TRAP  CHANNEL SHAPE
                         WD       30.00  BOTTOM WIDTH OR DIAMETER
                          Z        6.00  SIDE SLOPE
                     NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                 ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
 56 KK      *     DB21a  *
            *            *
            **************
                        Subbasin

               SUBBASIN RUNOFF DATA

 58 BA           SUBBASIN CHARACTERISTICS
                      TAREA         .34  SUBBASIN AREA

 59 LG           GREEN AND AMPT LOSS RATE
                      STRTL         .30  STARTING LOSS
                        DTH         .31  MOISTURE DEFICIT
                       PSIF        1.15  WETTING FRONT SUCTION
                      XKSAT         .04  HYDRAULIC CONDUCTIVITY
                      RTIMP        1.00  PERCENT IMPERVIOUS AREA

 60 US           SNYDER UNITGRAPH
                         TP         .21  LAG
                         CP         .29  PEAKING COEFFICIENT

                 SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                 ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=   .17 HR,       R=   .64 HR
                                   SNYDER   TP=   .21 HR,      CP=   .29

                                          UNIT HYDROGRAPH
                                       42 END-OF-PERIOD ORDINATES
                    80.       231.      285.      250.      220.      193.      169.      148.      130.      114.
                   100.        88.       77.       68.       59.       52.       46.       40.       35.       31.
                    27.        24.       21.       18.       16.       14.       12.       11.        9.        8.
                     7.         6.        6.        5.        4.        4.        3.        3.        3.        2.
                     2.         2.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
 61 KK      *      C21a  *
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          *           *
          *************
                    Combine Routed Basin 21 with Basin 21a

 63 HC          HYDROGRAPH COMBINATION
                     ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

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          *           *
 64 KK    *       R23 *
          *           *
          *************
                    Route Hydrograph through Bain 23

             HYDROGRAPH ROUTING DATA

 66 RK         KINEMATIC WAVE STREAM ROUTING
                     L       4568.  CHANNEL LENGTH
                     S       .0100  SLOPE
                     N        .015  CHANNEL ROUGHNESS COEFFICIENT
                    CA         .00  CONTRIBUTING AREA
                 SHAPE        CIRC  CHANNEL SHAPE
                    WD        4.00  BOTTOM WIDTH OR DIAMETER
                     Z         .00  SIDE SLOPE
                NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

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          *           *
 67 KK    *      DB23 *
          *           *
          *************
                    Subbasin

             SUBBASIN RUNOFF DATA

 69 BA         SUBBASIN CHARACTERISTICS
                   TAREA         .23  SUBBASIN AREA

 70 LG         GREEN AND AMPT LOSS RATE
                   STRTL         .53  STARTING LOSS
                     DTH         .50  MOISTURE DEFICIT
                    PSIF        1.86  WETTING FRONT SUCTION
                   XKSAT         .07  HYDRAULIC CONDUCTIVITY
                   RTIMP       75.00  PERCENT IMPERVIOUS AREA

 71 US         SNYDER UNITGRAPH
                      TP         .19  LAG
                      CP         .63  PEAKING COEFFICIENT

               SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                                    ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=    .22 HR,       R=    .16 HR
                                   SNYDER  TP=    .19 HR,      CP=   .63

                                          UNIT HYDROGRAPH
                                      12 END-OF-PERIOD ORDINATES
                 119.       372.       471.       344.       202.       118.       69.       40.       24.       14.
                   8.         5.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          *************
          *           *
 72 KK    *       C23 *
          *           *
          *************
                    Combine Hydrograph with Basin 21 & Basin 21a

 74 HC          HYDROGRAPH COMBINATION
                     ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          *************
          *           *
 75 KK    *     B3DIV *
          *           *
          *************
                    Basin 23 storm sewer overflow

    DT          DIVERSION
                    ISTAD       B3DIV  DIVERSION HYDROGRAPH IDENTIFICATION

    DI            INFLOW         .00    184.00   2000.00

    DQ     DIVERTED FLOW         .00       .00   1816.00
                                                                    ***
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*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

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          *             *
 80 KK    *      R23a   *
          *             *
          ***************
                    Route Hydrograph through Basin 23a

          HYDROGRAPH ROUTING DATA

 82 RK          KINEMATIC WAVE STREAM RDUTING
                        L       1500.  CHANNEL LENGTH
                        S       .0210  SLOPE
                        N        .015  CHANNEL ROUGHNESS COEFFICIENT
                       CA         .00  CONTRIBUTING AREA
                    SHAPE        CIRC  CHANNEL SHAPE
                       WD        4.00  BOTTOM WIDTH OR DIAMETER
                        Z         .00  SIDE SLOPE
                   NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                        ***

       *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

       *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

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       *** FDKRUT WARNING TIME SIEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

       *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

       *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

       *** FDKRUT WARNING TIME STEP CALCULATION FAILEO TO CONVERGE. STABILITY PROBLEMS MAY RESULT

       *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

       *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

       *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PRDBLEMS MAY RESULT

       *** FDKRUT WARNING TIME SIEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT
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*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

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 *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

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 *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

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          ***************
          *             *
 83 KK    *     DB23a   *
          *             *
          ***************
                     Subbasin

             SUBBASIN RUNOFF DATA

 85 BA         SUBBASIN CHARACTERISTICS
                    TAREA         .02  SUBBASIN AREA

 86 LG         GREEN AND AMPT LOSS RATE
                    STRTL         .59  STARTING LOSS
                      DTH         .54  MOISTURE DEFICIT
                     PSIF        2.01  WETTING FRONT SUCTION
                    XKSAT         .07  HYDRAULIC CONDUCTIVITY
                    RTIMP        1.00  PERCENT IMPERVIOUS AREA

 87 US         SNYDER UNITGRAPH
                      TP         .06  LAG
                      CP         .19  PEAKING COEFFICIENT

               SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=   .08 HR,       R=   .74 HR
                                   SNYDER   TP=   .14 HR,      CP=   .19

                                          UNIT HYDROGRAPH
                                    48 END-OF-PERIOD ORDINATES
               8.      15.      14.      12.      11.      10.       9.       8.       7.       6.
               6.       5.       4.       4.       4.       3.       3.       3.       2.       2.
               2.       2.       1.       1.       1.       1.       1.       1.       1.       1.
               1.       1.       0.       0.       0.       0.       0.       0.       0.       0.
               0.       0.       0.       0.       0.       0.       0.       0.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
 88 KK    *     C23a    *
          *             *
          ***************
                     Combine Hydrograph at Upper Pond

 90 HC         HYDROGRAPH COMBINATION
                    ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                  ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
 91 KK    *   R_PD U    *
          *             *
          ***************
                     Route Hydrograph Through Upper Airport Upper Pond

             HYDROGRAPH ROUTING DATA

 93 RS         STORAGE ROUTING
                    NSTPS           1  NUMBER OF SUBREACHES
                     ITYP        STOR  TYPE OF INITIAL CONDITION
                   RSVRIC         .00  INITIAL CONDITION
                        X         .00 WORKING R AND D COEFFICIENT

 94 SV           STORAGE          .0       .0       .2      6.1     16.2     26.8     29.4
```

```
 95 SQ          DISCHARGE          0.       11.       11.       12.       13.       14.      162.
 96 SE          ELEVATION       4767.00   4767.01   4768.00   4770.00   4772.00   4774.00   4774.50
                                                        ***

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN        0. TO       11.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

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112 RK          KINEMATIC WAVE STREAM ROUTING
                        L       1506.  CHANNEL LENGTH
                        S       .0190  SLOPE
                        N        .030  CHANNEL ROUGHNESS COEFFICIENT
                       CA         .00  CONTRIBUTING AREA
                    SHAPE        TRAP  CHANNEL SHAPE
                       WD       10.00  BOTTOM WIDTH OR DIAMETER
                        Z       12.00  SIDE SLOPE
                   NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *             *
113 KK      *     DB24a   *
            *             *
            ***************
                        Subbasin

          SUBBASIN RUNOFF DATA

115 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .02  SUBBASIN AREA

116 LG          GREEN AND AMPT LOSS RATE
                      STRTL         .53  STARTING LOSS
                        DTH         .50  MOISTURE DEFICIT
                       PSIF        1.86  WETTING FRONT SUCTION
                      XKSAT         .07  HYDRAULIC CONDUCTIVITY
                      RTIMP       20.00  PERCENT IMPERVIOUS AREA

117 US          SNYDER UNITGRAPH
                        TP         .15  LAG
                        CP         .18  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                        ***
                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=    .10 HR,       R=    .78 HR
                                          SNYDER  TP=    .15 HR,      CP=    .18

                                                 UNIT HYDROGRAPH
                                             50 END-OF-PERIOD ORDINATES
                7.       15.       14.       13.       12.       10.        9.        8.        8.        7.
                6.        5.        5.        4.        4.        4.        3.        3.        3.        2.
                2.        2.        2.        2.        1.        1.        1.        1.        1.        1.
                1.        1.        1.        1.        0.        0.        0.        0.        0.        0.
                0.        0.        0.        0.        0.        0.        0.        0.        0.        0.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *             *
118 KK      *    B4aDIV   *
            *             *
            ***************
                        Divert Basin 24a overflow

    DT          DIVERSION
                      ISTAD      B4aOIV  DIVERSION HYDROGRAPH IDENTIFICATION

    DI           INFLOW          .00     14.00     100.00    1000.00

    DQ      DIVERTED FLOW        .00       .01      86.00     986.00
                                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *             *
123 KK      *     R24_P   *
            *             *
            ***************
                        Route Hydrograph Through Basin 24 Pipe

          HYDROGRAPH ROUTING DATA

125 RK          KINEMATIC WAVE STREAM ROUTING
                        L        800.  CHANNEL LENGTH
                        S       .0140  SLOPE
                        N        .015  CHANNEL ROUGHNESS COEFFICIENT
                       CA         .00  CONTRIBUTING AREA
                    SHAPE        CIRC  CHANNEL SHAPE
                       WD        4.50  BOTTOM WIDTH OR DIAMETER
                        Z         .00  SIDE SLOPE
                   NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *             *
126 KK      *     R24_O   *
            *             *
            ***************
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                    Route Hydrograph Through Basin 24 Overland

              HYDROGRAPH ROUTING DATA

128 RK          KINEMATIC WAVE STREAM ROUTING
                          L       1506.  CHANNEL LENGTH
                          S       .0190  SLOPE
                          N        .030  CHANNEL ROUGHNESS COEFFICIENT
                         CA         .00  CONTRIBUTING AREA
                      SHAPE        TRAP  CHANNEL SHAPE
                         WD       10.00  BOTTOM WIDTH OR DIAMETER
                          Z       12.00  SIDE SLOPE
                     NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              **************
              *            *
129 KK        *      DB24  *
              *            *
              **************
                    Subbasin

              SUBBASIN RUNOFF DATA

131 BA          SUBBASIN CHARACTERISTICS
                     TAREA         .23  SUBBASIN AREA

132 LG          GREEN AND AMPT LOSS RATE
                     STRTL         .44  STARTING LOSS
                       DTH         .43  MOISTURE DEFICIT
                      PSIF        1.59  WETTING FRONT SUCTION
                     XKSAT         .06  HYDRAULIC CONDUCTIVITY
                     RTIMP       75.00  PERCENT IMPERVIOUS AREA

133 US          SNYDER UNITGRAPH
                        TP         .18  LAG
                        CP         .62  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                    ***

                                              UNIT HYDROGRAPH PARAMETERS
                                      CLARK   TC=    .22 HR,       R=    .15 HR
                                      SNYDER  TP=    .18 HR,      CP=    .63

                                                 UNIT HYDROGRAPH
                                             11 END-OF-PERIOD ORDINATES
                   124.       383.       472.       333.       189.       108.        61.        35.        20.        11.
                     6.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              **************
              *            *
134 KK        *       C24  *
              *            *
              **************
                    Combine Hydrographs (Basin22, Basin 24a, Basin 24)

136 HC          HYDROGRAPH COMBINATION
                     ICOMP           3  NUMBER OF HYDROGRAPHS TO COMBINE
                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              **************
              *            *
137 KK        *     DR24a  *
              *            *
              **************
                    Retrieve 24a diversion

139 DR          RETRIEVE DIVERSION HYDROGRAPH
                     ISTAD      B4aDIV  DIVERSION HYDROGRAPH IDENTIFICATION
                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              **************
              *            *
140 KK        *     R25_O  *
              *            *
              **************
                    Route 24a diversion through Basin 25 overland

              HYDROGRAPH ROUTING DATA

142 RK          KINEMATIC WAVE STREAM ROUTING
                          L        800.  CHANNEL LENGTH
                          S       .0150  SLOPE
                          N        .030  CHANNEL ROUGHNESS COEFFICIENT
                         CA         .00  CONTRIBUTING AREA
                      SHAPE        TRAP  CHANNEL SHAPE
                         WD       30.00  BOTTOM WIDTH OR DIAMETER
                          Z       10.00  SIDE SLOPE
                     NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
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*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
143 KK    *     R25_P   *
          *             *
          ***************
                    Route 24a diversion through Basin 25 pipe

       HYDROGRAPH ROUTING DATA

145 RK           KINEMATIC WAVE STREAM ROUTING
                       L       1600.  CHANNEL LENGTH
                       S       .0130  SLOPE
                       N        .015  CHANNEL ROUGHNESS COEFFICIENT
                      CA         .00  CONTRIBUTING AREA
                   SHAPE        CIRC  CHANNEL SHAPE
                      WD        4.00  BOTTOM WIDTH OR DIAMETER
                       Z         .00  SIDE SLOPE
                  NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                  ***
      WARNING FOKRUT FAILURE TO PRESERVE UPSTREAM HYDROGRAPH VOLUME - CHECK ROUTED HYDROGRAPH SUMQU=      .0001 SUMQT=      .0005

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
146 KK    *      DB25   *
          *             *
          ***************
                    Subbasin

       SUBBASIN RUNOFF DATA

148 BA           SUBBASIN CHARACTERISTICS
                      TAREA         .02  SUBBASIN AREA

149 LG           GREEN AND AMPT LOSS RATE
                     STRTL         .53  STARTING LOSS
                       DTH         .50  MOISTURE DEFICIT
                      PSIF        1.86  WETTING FRONT SUCTION
                     XKSAT         .07  HYDRAULIC CONDUCTIVITY
                     RTIMP       20.00  PERCENT IMPERVIOUS AREA

150 US           SNYDER UNITGRAPH
                        TP         .15  LAG
                        CP         .18  PEAKING COEFFICIENT

                 SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .10 HR,       R=    .76 HR
                                   SNYDER   TP=    .15 HR,      CP=    .18

                                          UNIT HYDROGRAPH
                                       49 END-OF-PERIOD ORDINATES
                    9.       18.       17.       15.       14.       12.       11.       10.       9.        8.
                    7.        6.        6.        5.        5.        4.        4.        3.       3.        3.
                    2.        2.        2.        2.        2.        1.        1.        1.       1.        1.
                    1.        1.        1.        1.        1.        0.        0.        0.       0.        0.
                    0.        0.        0.        0.        0.        0.        0.        0.       0.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
151 KK    *       C25   *
          *             *
          ***************
                    Combine Hydrograph with 24a diversion

153 HC           HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                  ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
154 KK    *     B5DIV   *
          *             *
          ***************
                    Divert Basin 25 storm sewer overflow

    DT          DIVERSION
                     ISTAD       B5DIV  DIVERSION HYDROGRAPH IDENTIFICATION

    DI              INFLOW         .00      14.00     100.00    1000.00

    DQ       DIVERTED FLOW         .00        .00      86.00     986.00
                                                  ***
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*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          **************
          *            *
159 KK    *     DB25a  *
          *            *
          **************
                    Subbasin

             SUBBASIN RUNOFF DATA

161 BA          SUBBASIN CHARACTERISTICS
                     TAREA          .03  SUBBASIN AREA

162 LG          GREEN AND AMPT LOSS RATE
                     STRTL          .55  STARTING LOSS
                       DTH          .51  MOISTURE DEFICIT
                      PSIF         1.91  WETTING FRONT SUCTION
                     XKSAT          .07  HYDRAULIC CONDUCTIVITY
                     RTIMP         1.00  PERCENT IMPERVIOUS AREA

163 US          SNYDER UNITGRAPH
                       TP          .07  LAG
                       CP          .20  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                    ***

                                              UNIT HYDROGRAPH PARAMETERS
                                      CLARK   TC=    .08 HR,       R=    .68 HR
                                    SNYDER    TP=    .14 HR,      CP=    .20

                                                UNIT HYDROGRAPH
                                          44 END-OF-PERIOD ORDINATES
                    14.       27.       24.       21.       18.       16.       14.       13.       11.       10.
                     9.        8.        7.        6.        5.        5.        4.        4.        3.        3.
                     3.        2.        2.        2.        2.        1.        1.        1.        1.        1.
                     1.        1.        1.        1.        0.        0.        0.        0.        0.        0.
                     0.        0.        0.        0.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          **************
          *            *
164 KK    *       C_6  *
          *            *
          **************
                    Combine Basins 25a 25 24a 24 22

  6 HC          HYDROGRAPH COMBINATION
                     ICOMP             3  NUMBER OF HYDROGRAPHS TO COMBINE
                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          **************
          *            *
167 KK    *       C_7  *
          *            *
          **************
                    Combine all Basins

169 HC          HYDROGRAPH COMBINATION
                     ICOMP             2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          **************
          *            *
170 KK    *    R_PD L  *
          *            *
          **************
                    route Hydrograph Through Lower Airport East Pond

             HYDROGRAPH ROUTING DATA

172 RS          STORAGE ROUTING
                     NSTPS             1  NUMBER OF SUBREACHES
                      ITYP          STOR  TYPE OF INITIAL CONDITION
                     RSVRIC          .00  INITIAL CONDITION
                          X          .00 WORKING R AND D COEFFICIENT

173 SV            STORAGE          .0        .1       4.3      13.8      24.6

174 SQ          DISCHARGE          0.        6.        8.       10.       11.

175 SE          ELEVATION     4758.40   4760.00   4762.00   4764.00   4766.00
                                                    ***

.* *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          **************
          *            *
176 KK    *       PR_U *
          *            *
          **************
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                        Retrieve Upper Pond Pipe Flow

178 DR          RETRIEVE DIVERSION HYDROGRAPH
                      ISTAD      U_Pipe  DIVERSION HYDROGRAPH IDENTIFICATION
                                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

           ***************
           *             *
179 KK     *     C_Out   *
           *             *
           ***************
                        Combine 2 Outflow Hydrographs at Canal

181 HC          HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

           ***************
           *             *
182 KK     *     Extra3  *
           *             *
           ***************
                        Overflow released from Basin 23

184 DR          RETRIEVE DIVERSION HYDROGRAPH
                      ISTAD       B3DIV  DIVERSION HYDROGRAPH IDENTIFICATION
                                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

           ***************
           *             *
185 KK     *     R_16_O  *
           *             *
           ***************
                        Route Basin 3 diversion through R16 overland

   HYDROGRAPH ROUTING DATA

187 RK          KINEMATIC WAVE STREAM ROUTING
                         L       2139.  CHANNEL LENGTH
                         S       .0150  SLOPE
                         N        .030  CHANNEL ROUGHNESS COEFFICIENT
                        CA         .00  CONTRIBUTING AREA
                     SHAPE        TRAP  CHANNEL SHAPE
                        WD       10.00  BOTTOM WIDTH OR DIAMETER
                         Z       20.00  SIDE SLOPE
                    NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

           ***************
           *             *
188 KK     *       R16   *
           *             *
           ***************
                        Subbasin

   SUBBASIN RUNOFF DATA

190 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .14  SUBBASIN AREA

191 LG          GREEN AND AMPT LOSS RATE
                      STRTL         .67  STARTING LOSS
                        DTH         .59  MOISTURE DEFICIT
                       PSIF        2.16  WETTING FRONT SUCTION
                      XKSAT         .08  HYDRAULIC CONDUCTIVITY
                      RTIMP       52.00  PERCENT IMPERVIOUS AREA

192 US          SNYDER UNITGRAPH
                         TP         .12  LAG
                         CP         .48  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                        ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .10 HR,       R=    .18 HR
                                   SNYDER   TP=    .12 HR,      CP=    .48

                                            UNIT HYDROGRAPH
                                        13 END-OF-PERIOD ORDINATES
                  184.       316.       215.       135.        85.        53.        33.        21.        13.         8.
                    5.         3.         2.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

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          *           *
193 KK    *     C_16  *
          *           *
          ***************
                    Combine Hydrograph (Basin 3 diversion, R16)

195 HC          HYDROGRAPH COMBINATION
                     ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *           *
196 KK    *     R_14a *
          *           *
          ***************
                    Route Hydrograph through R14A overland

             HYDROGRAPH ROUTING DATA

198 RK          KINEMATIC WAVE STREAM ROUTING
                          L       1150.  CHANNEL LENGTH
                          S       .0050  SLOPE
                          N        .040  CHANNEL ROUGHNESS COEFFICIENT
                         CA         .00  CONTRIBUTING AREA
                      SHAPE        TRAP  CHANNEL SHAPE
                         WD       10.00  BOTTOM WIDTH OR DIAMETER
                          Z       10.00  SIDE SLOPE
                     NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *           *
199 KK    *      R14A *
          *           *
          ***************
                    Subbasin

             SUBBASIN RUNOFF DATA

201 BA          SUBBASIN CHARACTERISTICS
                     TAREA         .04  SUBBASIN AREA

202 LG          GREEN AND AMPT LOSS RATE
                     STRTL         .60  STARTING LOSS
                       DTH         .55  MOISTURE DEFICIT
                      PSIF        2.05  WETTING FRONT SUCTION
                     XKSAT         .07  HYDRAULIC CONDUCTIVITY
                     RTIMP       75.00  PERCENT IMPERVIOUS AREA

203 US          SNYDER UNITGRAPH
                       TP          .12  LAG
                       CP          .48  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                        ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .10 HR,       R=    .18 HR
                                   SNYDER   TP=    .12 HR,      CP=    .48

                                              UNIT HYDROGRAPH
                                          12 END-OF-PERIOD ORDINATES
                    52.       90.       61.       38.       24.       15.       9.        6.        4.        2.
                     1.        1.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *           *
204 KK    *     C_14A *
          *           *
          ***************
                    Combine Hydrographs (Basin 3 diversion, R16, R14A)

206 HC          HYDROGRAPH COMBINATION
                     ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *           *
207 KK    *     C_14A *
          *           *
          ***************
                    Combine Hydrograph with Lower Pond Outfall

209 HC          HYDROGRAPH COMBINATION
                     ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                        ***
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RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND

TIME IN HOURS, AREA IN SQUARE MILES

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	DB21	44.	12.08	6.	2.	1.	.15		
+	ROUTED TO	PD A	7.	13.17	5.	2.	1.	.15		
+	ROUTED TO	R21a	7.	13.50	5.	2.	1.	.15		
+	HYDROGRAPH AT	DB21a	87.	12.08	13.	3.	3.	.34		
+	2 COMBINED AT	C21a	87.	12.08	18.	5.	5.	.49		
+	ROUTED TO	R23	86.	12.17	18.	5.	5.	.49		
+	HYDROGRAPH AT	DB23	124.	12.08	16.	6.	5.	.23		
+	2 COMBINED AT	C23	199.	12.08	33.	11.	10.	.72		
+	DIVERSION TO	B3DIV	15.	12.08	0.	0.	0.	.72		
+	HYDROGRAPH AT	B3DIV	184.	12.08	33.	10.	10.	.72		
+	ROUTED TO	R23a	184.	12.17	33.	10.	10.	.72		
+	HYDROGRAPH AT	DB23a	1.	12.08	0.	0.	0.	.02		
+	2 COMBINED AT	C23a	185.	12.17	33.	10.	10.	.74		
+	ROUTED TO	R_PD U	13.	14.67	13.	8.	8.	.74		
+	DIVERSION TO	U_Pipe	13.	14.67	13.	8.	8.	.74		
+	HYDROGRAPH AT	D_Pd U	0.	.00	0.	0.	0.	.74		
+	HYDROGRAPH AT	DB22	57.	12.08	9.	2.	2.	.22		
+	ROUTED TO	R24_P	55.	12.17	9.	2.	2.	.22		
+	ROUTED TO	R24_O	54.	12.17	9.	2.	2.	.22		
+	HYDROGRAPH AT	DB24a	3.	12.08	1.	0.	0.	.02		
+	DIVERSION TO	B4aDIV	0.	12.00	0.	0.	0.	.02		
+	HYDROGRAPH AT	B4aDIV	3.	12.08	1.	0.	0.	.02		
+	ROUTED TO	R24_P	2.	12.08	1.	0.	0.	.02		
+	ROUTED TO	R24_O	2.	12.25	1.	0.	0.	.02		
+	HYDROGRAPH AT	DB24	132.	12.08	16.	6.	5.	.23		
+	3 COMBINED AT	C24	178.	12.08	26.	8.	8.	.47		
+	HYDROGRAPH AT	DR24a	0.	12.00	0.	0.	0.	.02		
+	ROUTED TO	R25_O	0.	12.92	0.	0.	0.	.02		
+	ROUTED TO	R25_P	0.	13.08	0.	0.	0.	.02		
+	HYDROGRAPH AT	DB25	3.	12.08	1.	0.	0.	.02		
+	2 COMBINED AT	C25	3.	12.08	1.	0.	0.	.02		
+	DIVERSION TO	B5DIV	0.	.00	0.	0.	0.	.02		
+	HYDROGRAPH AT	B5DIV	3.	12.08	1.	0.	0.	.02		
+	HYDROGRAPH AT	DB25a	2.	12.08	0.	0.	0.	.03		
+	3 COMBINED AT	C_6	183.	12.08	26.	8.	8.	.53		
+	2 COMBINED AT	C_7	182.	12.08	26.	8.	8.	1.27		

	ROUTED TO	R_PD L	9.	14.17	9.	6.	6.	1.27
	HYDROGRAPH AT	PR_U	13.	14.67	13.	8.	8.	.74
+	2 COMBINED AT	C_Out	22.	14.33	21.	14.	14.	1.27
+	HYDROGRAPH AT	Extra3	15.	12.08	0.	0.	0.	.72
+	ROUTED TO	R_16_O	12.	12.25	0.	0.	0.	.72
+	HYDROGRAPH AT	R16	48.	12.00	6.	2.	2.	.14
+	2 COMBINED AT	C_16	48.	12.00	7.	2.	2.	.14
+	ROUTED TO	R_14a	47.	12.08	7.	2.	2.	.14
+	HYDROGRAPH AT	R14A	20.	12.00	3.	1.	1.	.04
+	2 COMBINED AT	C_14A	65.	12.08	10.	3.	3.	.18
+	2 COMBINED AT	C_14A	84.	12.08	30.	18.	17.	1.45

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SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	DT	INTERPOLATED TO COMPUTATION INTERVAL PEAK	TIME TO PEAK	VOLUME
		(MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	(MIN)	(IN)
FOR STORM = 1	STORM AREA (SQ MI) =	.01							
R21a	MANE	5.00	7.16	811.18	.38	5.00	7.16	810.00	.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3071E+01 EXCESS= .0000E+00 OUTFLOW= .3071E+01 BASIN STORAGE= .3580E-02 PERCENT ERROR= -.1

FOR STORM = 2	STORM AREA (SQ MI) =	14.00							
R21a	MANE	5.00	7.09	808.51	.36	5.00	7.09	810.00	.36

NTINUITY SUMMARY (AC-FT) - INFLOW= .2952E+01 EXCESS= .0000E+00 OUTFLOW= .2951E+01 BASIN STORAGE= .3524E-02 PERCENT ERROR= -.1

FOR STORM = 3	STORM AREA (SQ MI) =	24.00							
R21a	MANE	5.00	7.06	807.59	.36	5.00	7.06	810.00	.36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2893E+01 EXCESS= .0000E+00 OUTFLOW= .2896E+01 BASIN STORAGE= .3137E-02 PERCENT ERROR= -.2

FOR STORM = 4	STORM AREA (SQ MI) =	36.50							
R21a	MANE	5.36	7.03	807.36	.35	5.00	7.03	810.00	.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2833E+01 EXCESS= .0000E+00 OUTFLOW= .2836E+01 BASIN STORAGE= .3255E-02 PERCENT ERROR= -.2

FOR STORM = 5	STORM AREA (SQ MI) =	50.00							
R21a	MANE	5.00	7.01	807.80	.35	5.00	7.01	810.00	.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2791E+01 EXCESS= .0000E+00 OUTFLOW= .2795E+01 BASIN STORAGE= .3220E-02 PERCENT ERROR= -.2

FOR STORM = 1	STORM AREA (SQ MI) =	.01							
R23	MANE	1.86	87.82	729.66	.38	5.00	87.66	730.00	.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9951E+01 EXCESS= .0000E+00 OUTFLOW= .9946E+01 BASIN STORAGE= .6910E-03 PERCENT ERROR= .1

FOR STORM = 2	STORM AREA (SQ MI) =	14.00							
R23	MANE	1.83	85.06	729.26	.36	5.00	84.72	730.00	.36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9564E+01 EXCESS= .0000E+00 OUTFLOW= .9564E+01 BASIN STORAGE= .6597E-03 PERCENT ERROR= .0

FOR STORM = 3	STORM AREA (SQ MI) =	24.00							
R23	MANE	1.85	83.30	729.83	.36	5.00	83.22	730.00	.36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9374E+01 EXCESS= .0000E+00 OUTFLOW= .9369E+01 BASIN STORAGE= .6764E-03 PERCENT ERROR= .0

FOR STORM = 4	STORM AREA (SQ MI) =	36.50							
R23	MANE	1.87	81.78	728.56	.35	5.00	81.57	730.00	.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9178E+01 EXCESS= .0000E+00 OUTFLOW= .9176E+01 BASIN STORAGE= .6328E-03 PERCENT ERROR= .0

FOR STORM = 5	STORM AREA (SQ MI) =	50.00							
R23	MANE	1.88	81.23	728.76	.34	5.00	80.69	730.00	.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9045E+01 EXCESS= .0000E+00 OUTFLOW= .9045E+01 BASIN STORAGE= .6311E-03 PERCENT ERROR= .0

FOR STORM = 1	STORM AREA (SQ MI) =	.01							
R23a	MANE	.47	184.00	726.37	.54	5.00	183.98	730.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2102E+02 EXCESS= .0000E+00 OUTFLOW= .2102E+02 BASIN STORAGE= .2216E-03 PERCENT ERROR= .0

FOR STORM = 2 STORM AREA (SQ MI) = 14.00

R23a	MANE	.47	184.00	726.40	.53	5.00	183.97	730.00	.53

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2047E+02 EXCESS= .0000E+00 OUTFLOW= .2047E+02 BASIN STORAGE= .2087E-03 PERCENT ERROR= .0

FOR STORM = 3 STORM AREA (SQ MI) = 24.00

R23a	MANE	.48	184.00	726.33	.52	5.00	183.97	730.00	.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2018E+02 EXCESS= .0000E+00 OUTFLOW= .2018E+02 BASIN STORAGE= .2022E-03 PERCENT ERROR= .0

FOR STORM = 4 STORM AREA (SQ MI) = 36.50

R23a	MANE	.48	183.95	726.01	.52	5.00	183.05	730.00	.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1990E+02 EXCESS= .0000E+00 OUTFLOW= .1990E+02 BASIN STORAGE= .2132E-03 PERCENT ERROR= .0

FOR STORM = 5 STORM AREA (SQ MI) = 50.00

R23a	MANE	.47	183.74	726.19	.51	5.00	181.46	730.00	.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1970E+02 EXCESS= .0000E+00 OUTFLOW= .1970E+02 BASIN STORAGE= .2090E-03 PERCENT ERROR= .0

FOR STORM = 1 STORM AREA (SQ MI) = .01

R24_P	MANE	1.17	57.22	727.26	.38	5.00	56.17	730.00	.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4499E+01 EXCESS= .0000E+00 OUTFLOW= .4502E+01 BASIN STORAGE= .1229E-03 PERCENT ERROR= -.1

FOR STORM = 2 STORM AREA (SQ MI) = 14.00

R24_P	MANE	1.20	55.00	728.30	.36	5.00	54.27	730.00	.36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4324E+01 EXCESS= .0000E+00 OUTFLOW= .4325E+01 BASIN STORAGE= .1303E-03 PERCENT ERROR= .0

FOR STORM = 3 STORM AREA (SQ MI) = 24.00

R24_P	MANE	1.15	54.34	727.56	.36	5.00	53.31	730.00	.36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4236E+01 EXCESS= .0000E+00 OUTFLOW= .4237E+01 BASIN STORAGE= .1342E-03 PERCENT ERROR= .0

FOR STORM = 4 STORM AREA (SQ MI) = 36.50

R24_P	MANE	1.22	53.21	727.90	.35	5.00	52.33	730.00	.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4147E+01 EXCESS= .0000E+00 OUTFLOW= .4148E+01 BASIN STORAGE= .1247E-03 PERCENT ERROR= .0

FOR STORM = 5 STORM AREA (SQ MI) = 50.00

R24_P	MANE	1.33	52.58	727.84	.34	5.00	51.68	730.00	.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4087E+01 EXCESS= .0000E+00 OUTFLOW= .4088E+01 BASIN STORAGE= .1236E-03 PERCENT ERROR= .0

FOR STORM = 1 STORM AREA (SQ MI) = .01

R24_O	MANE	1.56	55.95	732.86	.38	5.00	54.67	730.00	.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4499E+01 EXCESS= .0000E+00 OUTFLOW= .4498E+01 BASIN STORAGE= .5293E-03 PERCENT ERROR= .0

FOR STORM = 2 STORM AREA (SQ MI) = 14.00

R24_O	MANE	1.57	54.08	733.24	.36	5.00	52.77	730.00	.36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4323E+01 EXCESS= .0000E+00 OUTFLOW= .4323E+01 BASIN STORAGE= .4535E-03 PERCENT ERROR= .0

FOR STORM = 3 STORM AREA (SQ MI) = 24.00

R24_O	MANE	1.58	53.10	732.95	.36	5.00	51.81	735.00	.36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4232E+01 EXCESS= .0000E+00 OUTFLOW= .4233E+01 BASIN STORAGE= .5049E-03 PERCENT ERROR= .0

FOR STORM = 4 STORM AREA (SQ MI) = 36.50

R24_O	MANE	1.59	52.15	733.26	.35	5.00	50.87	735.00	.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4146E+01 EXCESS= .0000E+00 OUTFLOW= .4146E+01 BASIN STORAGE= .4775E-03 PERCENT ERROR= .0

FOR STORM = 5 STORM AREA (SQ MI) = 50.00

R24_O	MANE	1.58	51.25	733.62	.34	5.00	50.24	735.00	.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4086E+01 EXCESS= .0000E+00 OUTFLOW= .4085E+01 BASIN STORAGE= .4702E-03 PERCENT ERROR= .0

FOR STORM = 1 STORM AREA (SQ MI) = .01

R24_P	MANE	.58	2.54	726.47	.32	5.00	2.47	725.00	.32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3594E+00 EXCESS= .0000E+00 OUTFLOW= .3594E+00 BASIN STORAGE= .5791E-04 PERCENT ERROR= .0

FOR STORM = 2 STORM AREA (SQ MI) = 14.00

R24_P	MANE	.58	2.38	726.10	.30	5.00	2.30	725.00	.30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3430E+00 EXCESS= .0000E+00 OUTFLOW= .3430E+00 BASIN STORAGE= .5684E-04 PERCENT ERROR= .0

FOR STORM = 3 STORM AREA (SQ MI) = 24.00
R24_P MANE .59 2.30 726.19 .30 5.00 2.22 725.00 .30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3348E+00 EXCESS= .0000E+00 OUTFLOW= .3348E+00 BASIN STORAGE= .5705E-04 PERCENT ERROR= .0

FOR STORM = 4 STORM AREA (SQ MI) = 36.50
R24_P MANE .58 2.21 726.44 .29 5.00 2.14 725.00 .29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3267E+00 EXCESS= .0000E+00 OUTFLOW= .3267E+00 BASIN STORAGE= .5569E-04 PERCENT ERROR= .0

FOR STORM = 5 STORM AREA (SQ MI) = 50.00
R24_P MANE .59 2.15 726.32 .28 5.00 2.08 725.00 .28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3214E+00 EXCESS= .0000E+00 OUTFLOW= .3213E+00 BASIN STORAGE= .5613E-04 PERCENT ERROR= .0

FOR STORM = 1 STORM AREA (SQ MI) = .01
R24_O MANE 3.41 2.46 733.36 .32 5.00 2.45 735.00 .32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3595E+00 EXCESS= .0000E+00 OUTFLOW= .3589E+00 BASIN STORAGE= .6955E-03 PERCENT ERROR= .0

FOR STORM = 2 STORM AREA (SQ MI) = 14.00
R24_O MANE 3.55 2.29 732.01 .30 5.00 2.28 735.00 .30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3430E+00 EXCESS= .0000E+00 OUTFLOW= .3423E+00 BASIN STORAGE= .7339E-03 PERCENT ERROR= .0

FOR STORM = 3 STORM AREA (SQ MI) = 24.00
R24_O MANE 3.43 2.21 732.48 .30 5.00 2.21 735.00 .30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3349E+00 EXCESS= .0000E+00 OUTFLOW= .3339E+00 BASIN STORAGE= .6743E-03 PERCENT ERROR= .1

FOR STORM = 4 STORM AREA (SQ MI) = 36.50
R24_O MANE 3.53 2.13 733.91 .29 5.00 2.12 735.00 .29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3268E+00 EXCESS= .0000E+00 OUTFLOW= .3264E+00 BASIN STORAGE= .6818E-03 PERCENT ERROR= -.1

FOR STORM = 5 STORM AREA (SQ MI) = 50.00
R24_O MANE 3.55 2.08 734.13 .28 5.00 2.07 735.00 .28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3214E+00 EXCESS= .0000E+00 OUTFLOW= .3209E+00 BASIN STORAGE= .6378E-03 PERCENT ERROR= -.1

FOR STORM = 1 STORM AREA (SQ MI) = .01
R25_O MANE 5.00 .00 780.76 .00 5.00 .00 780.00 .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2569E-03 EXCESS= .0000E+00 OUTFLOW= .2676E-03 BASIN STORAGE= .8510E-05 PERCENT ERROR= -7.5

FOR STORM = 2 STORM AREA (SQ MI) = 14.00
R25_O MANE 4.98 .00 782.12 .00 5.00 .00 780.00 .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2452E-03 EXCESS= .0000E+00 OUTFLOW= .2541E-03 BASIN STORAGE= .8413E-05 PERCENT ERROR= -7.1

FOR STORM = 3 STORM AREA (SQ MI) = 24.00
R25_O MANE 4.99 .00 783.15 .00 5.00 .00 780.00 .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2393E-03 EXCESS= .0000E+00 OUTFLOW= .2468E-03 BASIN STORAGE= .8563E-05 PERCENT ERROR= -6.7

FOR STORM = 4 STORM AREA (SQ MI) = 36.50
R25_O MANE 5.00 .00 779.17 .00 5.00 .00 780.00 .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2336E-03 EXCESS= .0000E+00 OUTFLOW= .2402E-03 BASIN STORAGE= .8296E-05 PERCENT ERROR= -6.4

FOR STORM = 5 STORM AREA (SQ MI) = 50.00
R25_O MANE 5.00 .00 781.57 .00 5.00 .00 785.00 .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2297E-03 EXCESS= .0000E+00 OUTFLOW= .2323E-03 BASIN STORAGE= .8384E-05 PERCENT ERROR= -4.8

FOR STORM = 1 STORM AREA (SQ MI) = .01
R25_P MANE 5.00 .00 791.69 .00 5.00 .00 790.00 .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2669E-03 EXCESS= .0000E+00 OUTFLOW= .2683E-03 BASIN STORAGE= .9613E-06 PERCENT ERROR= -.9

FOR STORM = 2 STORM AREA (SQ MI) = 14.00
R25_P MANE 5.00 .00 792.21 .00 5.00 .00 795.00 .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2536E-03 EXCESS= .0000E+00 OUTFLOW= .2532E-03 BASIN STORAGE= .9434E-06 PERCENT ERROR= -.2

FOR STORM = 3 STORM AREA (SQ MI) = 24.00
R25_P MANE 5.00 .00 793.72 .00 5.00 .00 795.00 .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2467E-03 EXCESS= .0000E+00 OUTFLOW= .2461E-03 BASIN STORAGE= .9396E-06 PERCENT ERROR= -.1

```
          FOR STORM = 4  STORM AREA (SQ MI) =       36.50
            R25_P  MANE          5.00       .00    795.45       .00      5.00       .00    795.00         .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2398E-03 EXCESS= .0000E+00 OUTFLOW= .2413E-03 BASIN STORAGE= .9351E-06 PERCENT ERROR=  -1.0

          FOR STORM = 5  STORM AREA (SQ MI) =       50.00
            R25_P  MANE          5.00       .00    796.55       .00      5.00       .00    800.00         .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2320E-03 EXCESS= .0000E+00 OUTFLOW= .2312E-03 BASIN STORAGE= .9279E-06 PERCENT ERROR=   -.1

          FOR STORM = 1  STORM AREA (SQ MI) =         .01
            R_16_O  MANE          .93      17.60    735.51       .01      5.00     17.49    735.00         .01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2088E+00 EXCESS= .0000E+00 OUTFLOW= .2525E+00 BASIN STORAGE= .7194E-06 PERCENT ERROR= -20.9

          FOR STORM = 2  STORM AREA (SQ MI) =       14.00
            R_16_O  MANE          .91      11.13    736.05       .00      5.00      8.29    735.00         .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1208E+00 EXCESS= .0000E+00 OUTFLOW= .1520E+00 BASIN STORAGE= .6065E-06 PERCENT ERROR= -25.9

          FOR STORM = 3  STORM AREA (SQ MI) =       24.00
            R_16_O  MANE          .92       8.07    737.09       .00      5.00      6.13    740.00         .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7728E-01 EXCESS= .0000E+00 OUTFLOW= .1030E+00 BASIN STORAGE= .6681E-06 PERCENT ERROR= -33.3

          FOR STORM = 4  STORM AREA (SQ MI) =       36.50
            R_16_O  MANE          .94       5.32    738.39       .00      5.00      4.79    740.00         .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4175E-01 EXCESS= .0000E+00 OUTFLOW= .6273E-01 BASIN STORAGE= .5668E-06 PERCENT ERROR= -50.3

          FOR STORM = 5  STORM AREA (SQ MI) =       50.00
            R_16_O  MANE          .94       3.38    740.22       .00      5.00      3.30    740.00         .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2662E-01 EXCESS= .0000E+00 OUTFLOW= .4222E-01 BASIN STORAGE= .5678E-06 PERCENT ERROR= -58.6

          FOR STORM = 1  STORM AREA (SQ MI) =         .01
            R_14a  MANE          2.35      47.36    726.01       .66      5.00     47.24    725.00         .66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4856E+01 EXCESS= .0000E+00 OUTFLOW= .4862E+01 BASIN STORAGE= .1442E-02 PERCENT ERROR=   -.1

          FOR STORM = 2  STORM AREA (SQ MI) =       14.00
            R_14a  MANE          2.40      47.29    725.00       .63      5.00     47.29    725.00         .63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4651E+01 EXCESS= .0000E+00 OUTFLOW= .4656E+01 BASIN STORAGE= .1671E-02 PERCENT ERROR=   -.1

          FOR STORM = 3  STORM AREA (SQ MI) =       24.00
            R_14a  MANE          2.46      45.70    726.11       .61      5.00     45.50    725.00         .61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4522E+01 EXCESS= .0000E+00 OUTFLOW= .4526E+01 BASIN STORAGE= .1957E-02 PERCENT ERROR=   -.1

          FOR STORM = 4  STORM AREA (SQ MI) =       36.50
            R_14a  MANE          2.38      45.22    723.81       .60      5.00     45.19    725.00         .60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4453E+01 EXCESS= .0000E+00 OUTFLOW= .4455E+01 BASIN STORAGE= .2119E-02 PERCENT ERROR=   -.1

          FOR STORM = 5  STORM AREA (SQ MI) =       50.00
            R_14a  MANE          2.38      44.95    723.85       .59      5.00     44.88    725.00         .59

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4409E+01 EXCESS= .0000E+00 OUTFLOW= .4412E+01 BASIN STORAGE= .1825E-02 PERCENT ERROR=   -.1


*** NORMAL END OF HEC-1 ***
```

```
**************************************
*                                    *
*    FLOOD HYDROGRAPH PACKAGE (HEC-1)*
*              JUN 1998              *
*            VERSION 4.1             *
*                                    *
*  RUN DATE  17JUL08  TIME  15:55:07 *
*                                    *
**************************************
```


```
**************************************
*                                    *
*    U.S. ARMY CORPS OF ENGINEERS    *
*    HYDROLOGIC ENGINEERING CENTER   *
*         609 SECOND STREET          *
*       DAVIS, CALIFORNIA 95616      *
*         (916) 756-1104             *
*                                    *
**************************************
```


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X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX          XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM


```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

   1      ID        Ranchmans Ditch Master Drainage Plan
   2      ID        Walker Field Revised Watershed Model - From ICON
   3      ID        100-Year 24-Hour Storm - NRCS Type II Rainfall Distribution
   4      IT       5                    300
   5      IO       4
   6      IN       6
   7      JD    1.99     0.01
   8      PC       0    0.001   0.002   0.0031  0.0041  0.0051  0.0062  0.0073  0.0083  0.0094
   9      PC  0.0105   0.0116  0.0127  0.0138   0.015  0.0161  0.0173  0.0185  0.0196  0.0208
  10      PC   0.022   0.0232  0.0244  0.0257  0.0269  0.0281  0.0294  0.0307  0.0319  0.0332
  11      PC  0.0345   0.0358  0.0371  0.0384  0.0398  0.0411  0.0425  0.0438  0.0452  0.0466
  12      PC   0.048   0.0494  0.0508  0.0523  0.0538  0.0553  0.0568  0.0583  0.0598  0.0614
  13      PC   0.063   0.0646  0.0662  0.0679  0.0696  0.0712   0.073  0.0747  0.0764  0.0782
  14      PC    0.08   0.0818  0.0836  0.0855  0.0874  0.0892  0.0912  0.0931   0.095   0.097
  15      PC   0.099    0.101   0.103  0.1051  0.1072  0.1093  0.1114  0.1135  0.1156  0.1178
  16      PC    0.12   0.1223  0.1246  0.1271  0.1296  0.1323   0.135  0.1379  0.1408  0.1439
  17      PC   0.147   0.1502  0.1534  0.1566  0.1598   0.163  0.1663  0.1697  0.1733  0.1771
  18      PC   0.181   0.1851  0.1895  0.1941  0.1989   0.204  0.2094  0.2152  0.2214   0.228
  19      PC   0.235   0.2427  0.2513  0.2609  0.2715   0.283  0.3068  0.3544  0.4308  0.5679
  20      PC   0.663    0.682  0.6986   0.713  0.7252   0.735  0.7434  0.7514  0.7588  0.7656
  21      PC   0.772    0.778  0.7836   0.789  0.7942   0.799  0.8036   0.808  0.8122  0.8162
  22      PC    0.82   0.8237  0.8273  0.8308  0.8342  0.8376  0.8409  0.8442  0.8474  0.8505
  23      PC  0.8535   0.8565  0.8594  0.8622  0.8649  0.8676  0.8702  0.8728  0.8753  0.8777
  24      PC    0.88   0.8823  0.8846  0.8868   0.889  0.8912  0.8934  0.8955  0.8976  0.8997
  25      PC  0.9018   0.9038  0.9058  0.9078  0.9098  0.9117  0.9136  0.9155  0.9174  0.9192
  26      PC   0.921   0.9228  0.9246  0.9263   0.928  0.9297  0.9314   0.933  0.9346  0.9362
  27      PC  0.9377   0.9393  0.9408  0.9423  0.9438  0.9452  0.9466   0.948  0.9494  0.9507
  28      PC   0.952   0.9533  0.9546  0.9559  0.9572  0.9584  0.9597   0.961  0.9622  0.9635
  29      PC  0.9648    0.966  0.9672  0.9685  0.9697  0.9709  0.9722  0.9734  0.9746  0.9758
  30      PC   0.977   0.9782  0.9794  0.9806  0.9818  0.9829  0.9841  0.9853  0.9864  0.9876
  31      PC  0.9888   0.9899   0.991  0.9922  0.9933  0.9944  0.9956  0.9967  0.9978  0.9989
  32      PC       1        1       1       1       1       1       1       1       1       1
  33      PC       1        1       1       1       1       1       1       1       1       1
  34      PC       1        1       1       1       1       1       1       1       1       1
  35      PC       1        1       1       1       1       1       1       1       1       1
  36      PC       1        1       1       1       1       1       1       1       1       1
  37      PC       1        1       1       1       1       1       1       1       1       1
  38      JD   1.950       14
  39      JD   1.930       24
  40      JD   1.910     36.5
  41      JD   1.896       50

  42      KK    DB21
  43      KM   Subbasin
  44      BA  0.1519
  45      LG    0.30  0.3077   1.148   0.041       1
  46      US   0.171   0.258

  47      KK    PD A
  48      KM   Route Through Pond A
  49      RS       1    STOR       0       0
  50      SV     0.0   0.001     1.8     4.7     8.9    11.6
  51      SQ     0.0     2.5     7.0     9.0    10.6    11.3
  52      SE    4915    4916    4918    4920    4922    4923
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LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  53      KK    R21a
  54      KM   Route R21 Through R21a
  55      RK    3500   0.023    0.05            TRAP      30       6

  56      KK   DB21a
  57      KM   Subbasin
  58      BA  0.3403
  59      LG    0.30  0.3077   1.148   0.041       1
  60      US   0.211   0.291

  61      KK    C21a
  62      KM   Combine Routed Basin 21 with Basin 21a
  63      HC       2

  64      KK     R23
  65      KM   Route Hydrograph through Bain 23
  66      RK    4568    0.01   0.015            CIRC       4
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 67          KK    DB23
 68          KM   Subbasin
 69          BA  0.2313
 70          LG    0.53  0.4970  1.8550  0.0670      75
 71          US   0.186   0.625

 72          KK     C23
 73          KM   Combine Hydrograph with Basin 21 & Basin 21a
 74          HC       2

 75          KK   B3DIV
 76          KM   Basin 23 storm sewer overflow
 77          DT   B3DIV
 78          DI     0.0   184.0    2000
 79          DQ       0     0.0    1816

 80          KK    R23a
 81          KM   Route Hydrograph through Basin 23a
 82          RK    1500   0.021   0.015            CIRC       4

 83          KK   DB23a
 84          KM   Subbasin
 85          BA  0.0196
 86          LG    0.59  0.5397  2.0144  0.0724       1
 87          US   0.063   0.190

 88          KK    C23a
 89          KM   Combine Hydrograph at Upper Pond
 90          HC       2

 91          KK  R_PD U
 92          KM   Route Hydrograph Through Upper Airport Upper Pond
 93          RS       1    STOR       0       0
 94          SV     0.0   0.001    0.21    6.09   16.16   26.80    29.4
 95          SQ     0.0    10.8    11.4    12.4    13.3    14.2     162
 96          SE    4767 4767.01    4768    4770    4772    4774  4774.5
1                                      HEC-1 INPUT                                    PAGE  3
    LINE     ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 97          KK  D_Pd U
 98          KM   Weir Flow Into Lower Pond
 99          DT  U_Pipe
100          DI     0.0    14.2    14.3     100    1000
101          DQ     0.0    14.2    14.2    14.2    14.2

102          KK    DB22
103          KM   Subbasin
104          BA  0.2226
105          LG    0.30  0.3077   1.148   0.041       1
106          US   0.203   0.273

107          KK   R24_P
108          KM   Route Hydrograph Through Basin 24 Pipe
109          RK    3076   0.014   0.015            CIRC     4.5

110          KK   R24_O
111          KM   Route Hydrograph Through Basin 24 Overland
112          RK    1506   0.019    0.03            TRAP      10      12

113          KK   DB24a
114          KM   Subbasin
115          BA  0.0212
116          LG    0.53  0.4970  1.8550  0.0670      20
117          US   0.150   0.180

118          KK  B4aDIV
119          KM   Divert Basin 24a overflow
120          DT  B4aDIV
121          DI     0.0    14.0   100.0  1000.0
122          DQ       0    0.01    86.0   986.0

123          KK   R24_P
124          KM   Route Hydrograph Through Basin 24 Pipe
125          RK     800   0.014   0.015            CIRC     4.5

126          KK   R24_O
127          KM   Route Hydrograph Through Basin 24 Overland
128          RK    1506   0.019    0.03            TRAP      10      12

129          KK    DB24
130          KM   Subbasin
131          BA  0.2259
132          LG    0.44  0.4260  1.5900  0.0570      75
133          US   0.180   0.623

134          KK     C24
135          KM   Combine Hydrographs (Basin22, Basin 24a, Basin 24)
136          HC       3
1                                      HEC-1 INPUT                                    PAGE  4
    LINE     ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

137          KK   DR24a
138          KM   Retrieve 24a diversion
139          DR  B4aDIV

140          KK   R25_O
141          KM   Route 24a diversion through Basin 25 overland
142          RK     800   0.015    0.03            TRAP      30      10

143          KK   R25_P
144          KM   Route 24a diversion through Basin 25 pipe
145          RK    1600   0.013   0.015            CIRC       4

146          KK    DB25
147          KM   Subbasin
148          BA  0.0244
149          LG    0.53  0.4970  1.8550  0.0670      20
150          US   0.151   0.183
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          151          KK     C25
          152          KM   Combine Hydrograph with 24a diversion
          153          HC       2

          154          KK   B5DIV
          155          KM   Divert Basin 25 storm sewer overflow
          156          DT   B5DIV
          157          DI     0.0     14.0    100.0  1000.0
          158          DQ       0        0     86.0   986.0

          159          KK   DB25a
          160          KM   Subbasin
          161          BA  0.0316
          162          LG    0.55  0.5112  1.9084  0.0688       1
          163          US   0.066   0.204

          164          KK     C_6
          165          KM   Combine Basins 25a 25 24a 24 22
          166          HC       3

          167          KK     C_7
          168          KM   Combine all Basins
          169          HC       2

          170          KK  R_PD L
          171          KM   route Hydrograph Through Lower Airport East Pond
          172          RS       1    STOR       0       0
          173          SV     0.0     0.05    4.26   13.79   24.65
          174          SQ     0.0      5.5     7.8     9.6    11.1
          175          SE  4758.4     4760    4762    4764    4766
1                                          HEC-1 INPUT                                                    PAGE   5

         LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          176          KK    PR_U
          177          KM   Retrieve Upper Pond Pipe Flow
          178          DR  U_Pipe

          179          KK   C_Out
          180          KM   Combine 2 Outflow Hydrographs at Canal
          181          HC       2

          182          KK  Extra3
          183          KM   Overflow released from Basin 23
          184          DR   B3DIV

          185          KK  R_16_O
          186          KM   Route Basin 3 diversion through R16 overland
          187          RK    2139   0.015    0.03            TRAP      10      20

          188          KK     R16
          189          KM   Subbasin
          190          BA  0.1391
          191          LG    0.67  0.5917  2.1610  0.0810    52.0
          192          US   0.119   0.476

          193          KK    C_16
          194          KM   Combine Hydrograph (Basin 3 diversion, R16)
          195          HC       2

          196          KK   R_14a
          197          KM   Route Hydrograph through R14A overland
          198          RK    1150   0.005    0.04            TRAP      10      10

          199          KK    R14A
          200          KM   Subbasin
          201          BA  0.0393
          202          LG    0.60  0.5491  2.0496  0.0736    75.0
          203          US   0.119   0.479

          204          KK   C_14A
          205          KM   Combine Hydrographs (Basin 3 diversion, R16, R14A)
          206          HC       2

          207          KK   C_14A
          208          KM   Combine Hydrograph with Lower Pond Outfall
          209          HC       2
          210          ZZ
```

```
1*****************************************
 *                                       *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
 *             JUN  1998                 *
 *          VERSION 4.1                  *
 *                                       *
 *  RUN DATE   17JUL08  TIME  15:55:07   *
 *                                       *
 *****************************************
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*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 756-1104              *
*                                       *
*****************************************
```

Ranchmans Ditch Master Drainage Plan
Walker Field Revised Watershed Model - From ICON
100-Year 24-Hour Storm - NRCS Type II Rainfall Distribution

```
    5 IO          OUTPUT CONTROL VARIABLES
                       IPRNT          4  PRINT CONTROL
                       IPLOT          0  PLOT CONTROL
                       QSCAL         0.  HYDROGRAPH PLOT SCALE

    6 IN          TIME DATA FOR INPUT TIME SERIES
                       JXMIN          6  TIME INTERVAL IN MINUTES
                      JXDATE      1   0  STARTING DATE
                      JXTIME          0  STARTING TIME

      IT          HYDROGRAPH TIME DATA
                        NMIN          5  MINUTES IN COMPUTATION INTERVAL
                       IDATE      1   0  STARTING DATE
                       ITIME       0000  STARTING TIME
                          NQ        300  NUMBER OF HYDROGRAPH ORDINATES
                      NDDATE      2   0  ENDING DATE
                      NDTIME       0055  ENDING TIME
```

```
      ICENT          19  CENTURY MARK

   COMPUTATION INTERVAL      .08 HOURS
      TOTAL TIME BASE    24.92 HOURS

ENGLISH UNITS
     DRAINAGE AREA          SQUARE MILES
     PRECIPITATION DEPTH    INCHES
     LENGTH, ELEVATION      FEET
     FLOW                   CUBIC FEET PER SECOND
     STORAGE VOLUME         ACRE-FEET
     SURFACE AREA           ACRES
     TEMPERATURE            DEGREES FAHRENHEIT

7 JD    INDEX STORM NO. 1
          STRM        1.99  PRECIPITATION DEPTH
          TRDA         .01  TRANSPOSITION DRAINAGE AREA

8 PI     PRECIPITATION PATTERN
        .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
```

```
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00
40 JD        INDEX STORM NO. 4
                STRM        1.91  PRECIPITATION DEPTH
                TRDA       36.50  TRANSPOSITION DRAINAGE AREA

 0 PI         PRECIPITATION PATTERN
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
```

```
      41.       36.       31.       26.       23.       19.       17.       14.       12.       11.
       9.        8.        7.        6.        5.        4.        4.        3.        3.        2.
       2.        2.        1.        1.        1.        1.
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*** ***

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          **************
          *            *
 47 KK    *      PD A  *
          *            *
          **************
                    Route Through Pond A

             HYDROGRAPH ROUTING DATA

 49 RS         STORAGE ROUTING
                    NSTPS          1  NUMBER OF SUBREACHES
                     ITYP       STOR  TYPE OF INITIAL CONDITION
                   RSVRIC        .00  INITIAL CONDITION
                        X        .00 WORKING R AND D COEFFICIENT

 50 SV           STORAGE          .0       .0      1.8      4.7      8.9     11.6

 51 SQ         DISCHARGE          0.       3.       7.       9.      11.      11.

 52 SE         ELEVATION     4915.00  4916.00  4918.00  4920.00  4922.00  4923.00
                                                    ***

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN        0. TO        3.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)
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*** ***

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          **************
          *            *
 53 KK    *      R21a  *
          *            *
          **************
                    Route R21 Through R21a

             HYDROGRAPH ROUTING DATA

 55 RK         KINEMATIC WAVE STREAM ROUTING
                        L       3500.  CHANNEL LENGTH
                        S       .0230  SLOPE
                        N        .050  CHANNEL ROUGHNESS COEFFICIENT
                       CA         .00  CONTRIBUTING AREA
                    SHAPE        TRAP  CHANNEL SHAPE
                       WD       30.00  BOTTOM WIDTH OR DIAMETER
                        Z        6.00  SIDE SLOPE
                   NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                    ***
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*** ***

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          **************
          *            *
 56 KK    *     DB21a  *
          *            *
          **************
                    Subbasin

             SUBBASIN RUNOFF DATA

 58 BA         SUBBASIN CHARACTERISTICS
                    TAREA        .34  SUBBASIN AREA

 59 LG         GREEN AND AMPT LOSS RATE
                    STRTL        .30  STARTING LOSS
                      DTH        .31  MOISTURE DEFICIT
                     PSIF       1.15  WETTING FRONT SUCTION
                    XKSAT        .04  HYDRAULIC CONDUCTIVITY
                    RTIMP       1.00  PERCENT IMPERVIOUS AREA

 60 US         SNYDER UNITGRAPH
                       TP        .21  LAG
                       CP        .29  PEAKING COEFFICIENT

             SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                    ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=   .17 HR,       R=   .64 HR
                                  SNYDER   TP=   .21 HR,      CP=   .29

                                          UNIT HYDROGRAPH
                                       42 END-OF-PERIOD ORDINATES
          80.      231.      285.      250.      220.      193.      169.      148.      130.      114.
         100.       88.       77.       68.       59.       52.       46.       40.       35.       31.
          27.       24.       21.       18.       16.       14.       12.       11.        9.        8.
           7.        6.        6.        5.        4.        4.        3.        3.        3.        2.
           2.        2.
```

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          **************
          *            *
 61 KK    *      C21a  *
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*               *
***************
                Combine Routed Basin 21 with Basin 21a

63 HC           HYDROGRAPH COMBINATION
                     ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

               ***************
               *               *
64 KK          *       R23     *
               *               *
               ***************
                Route Hydrograph through Bain 23

   HYDROGRAPH ROUTING DATA

66 RK            KINEMATIC WAVE STREAM ROUTING
                          L       4568.  CHANNEL LENGTH
                          S       .0100  SLOPE
                          N        .015  CHANNEL ROUGHNESS COEFFICIENT
                         CA         .00  CONTRIBUTING AREA
                      SHAPE        CIRC  CHANNEL SHAPE
                         WD        4.00  BOTTOM WIDTH OR DIAMETER
                          Z         .00  SIDE SLOPE
                     NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

               ***************
               *               *
67 KK          *       DB23    *
               *               *
               ***************
                Subbasin

   SUBBASIN RUNOFF DATA

69 BA            SUBBASIN CHARACTERISTICS
                      TAREA         .23  SUBBASIN AREA

70 LG            GREEN AND AMPT LOSS RATE
                     STRTL         .53  STARTING LOSS
                       DTH         .50  MOISTURE DEFICIT
                      PSIF        1.86  WETTING FRONT SUCTION
                     XKSAT         .07  HYDRAULIC CONDUCTIVITY
                     RTIMP       75.00  PERCENT IMPERVIOUS AREA

71 US            SNYDER UNITGRAPH
                        TP         .19  LAG
                        CP         .63  PEAKING COEFFICIENT

                 SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                    ***

                                          UNIT HYDRDGRAPH PARAMETERS
                                    CLARK   TC=   .22 HR,       R=   .16 HR
                                    SNYDER  TP=   .19 HR,      CP=   .63

                                          UNIT HYDROGRAPH
                                       12 END-OF-PERIOD ORDINATES
                 119.      372.      471.      344.      202.      118.       69.       40.       24.       14.
                   8.        5.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

               ***************
               *               *
72 KK          *       C23     *
               *               *
               ***************
                Combine Hydrograph with Basin 21 & Basin 21a

74 HC           HYDROGRAPH COMBINATION
                     ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

               ***************
               *               *
75 KK          *     B3DIV     *
               *               *
               ***************
                Basin 23 storm sewer overflow

   DT          DIVERSION
                    ISTAD      B3DIV  DIVERSION HYDROGRAPH IDENTIFICATION

   DI             INFLOW        .00    184.00   2000.00

   DQ      DIVERTED FLOW        .00       .00   1816.00
                                                    ***
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*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
 80 KK    *      R23a   *
          *             *
          ***************
                    Route Hydrograph through Basin 23a

             HYDROGRAPH ROUTING DATA

 82 RK         KINEMATIC WAVE STREAM ROUTING
                     L       1500.  CHANNEL LENGTH
                     S       .0210  SLOPE
                     N        .015  CHANNEL ROUGHNESS COEFFICIENT
                    CA         .00  CONTRIBUTING AREA
                 SHAPE        CIRC  CHANNEL SHAPE
                    WD        4.00  BOTTOM WIDTH OR DIAMETER
                     Z         .00  SIDE SLOPE
                NOXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                    ***

       *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
 83 KK    *     DB23a   *
          *             *
          ***************
                       Subbasin

             SUBBASIN RUNOFF DATA

 85 BA         SUBBASIN CHARACTERISTICS
                    TAREA         .02  SUBBASIN AREA

 86 LG         GREEN AND AMPT LOSS RATE
                    STRTL         .59  STARTING LOSS
                      DTH         .54  MOISTURE DEFICIT
                     PSIF        2.01  WETTING FRONT SUCTION
                    XKSAT         .07  HYDRAULIC CONDUCTIVITY
                    RTIMP        1.00  PERCENT IMPERVIOUS AREA

 87 US         SNYDER UNITGRAPH
                      TP          .06  LAG
                      CP          .19  PEAKING COEFFICIENT

               SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                    ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .08 HR,       R=    .74 HR
                                    SNYDER  TP=    .14 HR,      CP=    .19

                                          UNIT HYDROGRAPH
                                    48 END-OF-PERIOD ORDINATES
               8.      15.      14.      12.      11.      10.       9.       8.       7.       6.
               6.       5.       4.       4.       4.       3.       3.       3.       2.       2.
               2.       2.       1.       1.       1.       1.       1.       1.       1.       1.
               1.       1.       0.       0.       0.       0.       0.       0.       0.       0.
               0.       0.       0.       0.       0.       0.       0.       0.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
 88 KK    *      C23a   *
          *             *
          ***************
                    Combine Hydrograph at Upper Pond

 90 HC         HYDROGRAPH COMBINATION
                   ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
 91 KK    *    R_PD U   *
          *             *
          ***************
                    Route Hydrograph Through Upper Airport Upper Pond

             HYDROGRAPH ROUTING DATA

 93 RS         STORAGE ROUTING
                    NSTPS           1  NUMBER OF SUBREACHES
                     ITYP        STOR  TYPE OF INITIAL CONDITION
                   RSVRIC         .00  INITIAL CONDITION
                        X         .00 WORKING R AND D COEFFICIENT

 94 SV          STORAGE          .0       .0       .2      6.1     16.2     26.8     29.4
```

```
 95 SQ          DISCHARGE          0.       11.       11.       12.       13.       14.      162.
 96 SE          ELEVATION     4767.00   4767.01   4768.00   4770.00   4772.00   4774.00   4774.50
                                                        ***

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN        0. TO       11.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

*** *** *** *
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112 RK          KINEMATIC WAVE STREAM ROUTING
                      L       1506.  CHANNEL LENGTH
                      S       .0190  SLOPE
                      N        .030  CHANNEL ROUGHNESS COEFFICIENT
                     CA         .00  CONTRIBUTING AREA
                  SHAPE        TRAP  CHANNEL SHAPE
                     WD       10.00  BOTTOM WIDTH OR DIAMETER
                      Z       12.00  SIDE SLOPE
                 NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                  ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *             *
113 KK      *     D824a   *
            *             *
            ***************
                        Subbasin

              SUBBASIN RUNOFF DATA

115 BA          SUBBASIN CHARACTERISTICS
                     TAREA         .02  SUBBASIN AREA

116 LG          GREEN AND AMPT LOSS RATE
                     STRTL         .53  STARTING LOSS
                       DTH         .50  MOISTURE DEFICIT
                      PSIF        1.86  WETTING FRONT SUCTION
                     XKSAT         .07  HYDRAULIC CONDUCTIVITY
                     RTIMP       20.00  PERCENT IMPERVIOUS AREA

117 US          SNYDER UNITGRAPH
                        TP         .15  LAG
                        CP         .18  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                  ***

                                        UNIT HYDROGRAPH PARAMETERS
                                  CLARK   TC=    .10 HR,       R=    .78 HR
                                  SNYDER  TP=    .15 HR,      CP=    .18

                                        UNIT HYDROGRAPH
                                    50 END-OF-PERIOD ORDINATES
                7.       15.      14.      13.      12.      10.       9.       8.       8.       7.
                6.        5.       5.       4.       4.       4.       3.       3.       3.       2.
                2.        2.       2.       2.       1.       1.       1.       1.       1.       1.
                1.        1.       1.       1.       0.       0.       0.       0.       0.       0.
                0.        0.       0.       0.       0.       0.       0.       0.       0.       0.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *             *
118 KK      *    B4aDIV   *
            *             *
            ***************
                        Divert Basin 24a overflow

    DT          DIVERSION
                     ISTAD      84aDIV  DIVERSION HYDROGRAPH IDENTIFICATION

    DI            INFLOW          .00     14.00    100.00   1000.00

    DQ      DIVERTED FLOW         .00       .01     86.00    986.00
                                                  ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *             *
123 KK      *     R24_P   *
            *             *
            ***************
                        Route Hydrograph Through Basin 24 Pipe

              HYDROGRAPH ROUTING DATA

125 RK          KINEMATIC WAVE STREAM ROUTING
                      L        800.  CHANNEL LENGTH
                      S       .0140  SLOPE
                      N        .015  CHANNEL ROUGHNESS COEFFICIENT
                     CA         .00  CONTRIBUTING AREA
                  SHAPE        CIRC  CHANNEL SHAPE
                     WD        4.50  BOTTOM WIDTH OR DIAMETER
                      Z         .00  SIDE SLOPE
                 NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                  ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *             *
126 KK      *     R24_O   *
            *             *
            ***************
```

Route Hydrograph Through Basin 24 Overland

HYDROGRAPH ROUTING DATA

128 RK KINEMATIC WAVE STREAM ROUTING

L	1506.	CHANNEL LENGTH
S	.0190	SLOPE
N	.030	CHANNEL ROUGHNESS COEFFICIENT
CA	.00	CONTRIBUTING AREA
SHAPE	TRAP	CHANNEL SHAPE
WD	10.00	BOTTOM WIDTH OR DIAMETER
Z	12.00	SIDE SLOPE
NDXMIN	2	MINIMUM NUMBER OF DX INTERVALS

***

*** ***

****
* *
129 KK * DB24 *
* *
****

Subbasin

SUBBASIN RUNOFF DATA

131 BA SUBBASIN CHARACTERISTICS

TAREA	.23	SUBBASIN AREA

132 LG GREEN AND AMPT LOSS RATE

STRTL	.44	STARTING LOSS
DTH	.43	MOISTURE DEFICIT
PSIF	1.59	WETTING FRONT SUCTION
XKSAT	.06	HYDRAULIC CONDUCTIVITY
RTIMP	75.00	PERCENT IMPERVIOUS AREA

133 US SNYDER UNITGRAPH

TP	.18	LAG
CP	.62	PEAKING COEFFICIENT

SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

***

UNIT HYDROGRAPH PARAMETERS
CLARK TC= .22 HR, R= .15 HR
SNYDER TP= .18 HR, CP= .63

UNIT HYDROGRAPH
11 END-OF-PERIOD ORDINATES

124.	383.	472.	333.	189.	108.	61.	35.	20.	11.
6.									

*** ***

****
* *
134 KK * C24 *
* *
****

Combine Hydrographs (Basin22, Basin 24a, Basin 24)

136 HC HYDROGRAPH COMBINATION

ICOMP	3	NUMBER OF HYDROGRAPHS TO COMBINE

***

*** ***

****
* *
137 KK * DR24a *
* *
****

Retrieve 24a diversion

139 DR RETRIEVE DIVERSION HYDROGRAPH

ISTAD	B4aDIV	DIVERSION HYDROGRAPH IDENTIFICATION

***

*** ***

****
* *
140 KK * R25_O *
* *
****

Route 24a diversion through Basin 25 overland

HYDROGRAPH ROUTING DATA

142 RK KINEMATIC WAVE STREAM ROUTING

L	800.	CHANNEL LENGTH
S	.0150	SLOPE
N	.030	CHANNEL ROUGHNESS COEFFICIENT
CA	.00	CONTRIBUTING AREA
SHAPE	TRAP	CHANNEL SHAPE
WD	30.00	BOTTOM WIDTH OR DIAMETER
Z	10.00	SIDE SLOPE
NDXMIN	2	MINIMUM NUMBER OF DX INTERVALS

***

*** *** *** *

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                                                                      ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          ***************
          *             *
159 KK    *     DB25a   *
          *             *
          ***************
                        Subbasin

             SUBBASIN RUNOFF DATA

161 BA          SUBBASIN CHARACTERISTICS
                     TAREA          .03  SUBBASIN AREA

162 LG          GREEN AND AMPT LOSS RATE
                     STRTL          .55  STARTING LOSS
                       DTH          .51  MOISTURE DEFICIT
                      PSIF         1.91  WETTING FRONT SUCTION
                     XKSAT          .07  HYDRAULIC CONDUCTIVITY
                     RTIMP         1.00  PERCENT IMPERVIOUS AREA

163 US          SNYDER UNITGRAPH
                        TP          .07  LAG
                        CP          .20  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                                      ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=    .08 HR,       R=    .68 HR
                                         SNYDER   TP=    .14 HR,      CP=    .20

                                                    UNIT HYDROGRAPH
                                                44 END-OF-PERIOD ORDINATES
                    14.       27.       24.       21.       18.       16.       14.       13.       11.       10.
                     9.        8.        7.        6.        5.        5.        4.        4.        3.        3.
                     3.        2.        2.        2.        2.        1.        1.        1.        1.        1.
                     1.        1.        1.        1.        0.        0.        0.        0.        0.        0.
                     0.        0.        0.        0.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          ***************
          *             *
.64 KK    *       C_6   *
          *             *
          ***************
                        Combine Basins 25a 25 24a 24 22

166 HC          HYDROGRAPH COMBINATION
                     ICOMP             3  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                      ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          ***************
          *             *
167 KK    *       C_7   *
          *             *
          ***************
                        Combine all Basins

169 HC          HYDRDGRAPH COMBINATION
                     ICOMP             2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                      ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          ***************
          *             *
170 KK    *    R_PD L   *
          *             *
          ***************
                        route Hydrograph Through Lower Airport East Pond

             HYDROGRAPH ROUTING DATA

172 RS          STORAGE ROUTING
                     NSTPS             1  NUMBER OF SUBREACHES
                      ITYP          STOR  TYPE OF INITIAL CONDITION
                     RSVRIC          .00  INITIAL CONDITION
                          X          .00 WORKING R AND D COEFFICIENT

173 SV            STORAGE          .0        .1       4.3      13.8      24.6

174 SQ          DISCHARGE          0.        6.        8.       10.       11.

175 SE          ELEVATION     4758.40   4760.00   4762.00   4764.00   4766.00

                                                                      ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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          *               *
176 KK    *      PR_U     *
          *               *
          ***************
                    Retrieve Upper Pond Pipe Flow

178 DR          RETRIEVE DIVERSION HYDROGRAPH
                     ISTAD      U_Pipe  DIVERSION HYDROGRAPH IDENTIFICATION
                                                                      ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *               *
179 KK    *     C_Out     *
          *               *
          ***************
                    Combine 2 Outflow Hydrographs at Canal

181 HC          HYDROGRAPH COMBINATION
                     ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                      ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *               *
182 KK    *     Extra3    *
          *               *
          ***************
                    Overflow released from Basin 23

184 DR          RETRIEVE DIVERSION HYDROGRAPH
                     ISTAD       B3DIV  DIVERSION HYDROGRAPH IDENTIFICATION
                                                                      ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *               *
185 KK    *     R_16_O    *
          *               *
          ***************
                    Route Basin 3 diversion through R16 overland

            HYDROGRAPH ROUTING DATA

187 RK          KINEMATIC WAVE STREAM ROUTING
                          L       2139.  CHANNEL LENGTH
                          S       .0150  SLOPE
                          N        .030  CHANNEL ROUGHNESS COEFFICIENT
                         CA         .00  CONTRIBUTING AREA
                      SHAPE        TRAP  CHANNEL SHAPE
                         WD       10.00  BOTTOM WIDTH OR DIAMETER
                          Z       20.00  SIDE SLOPE
                     NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                                      ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *               *
188 KK    *       R16     *
          *               *
          ***************
                    Subbasin

            SUBBASIN RUNOFF DATA

190 BA          SUBBASIN CHARACTERISTICS
                     TAREA         .14  SUBBASIN AREA

191 LG          GREEN AND AMPT LOSS RATE
                     STRTL         .67  STARTING LOSS
                       DTH         .59  MOISTURE DEFICIT
                      PSIF        2.16  WETTING FRONT SUCTION
                     XKSAT         .08  HYDRAULIC CONDUCTIVITY
                     RTIMP       52.00  PERCENT IMPERVIOUS AREA

192 US          SNYDER UNITGRAPH
                       TP          .12  LAG
                       CP          .48  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                                      ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .10 HR,       R=    .18 HR
                                  SNYDER    TP=    .12 HR,      CP=    .48

                                              UNIT HYDROGRAPH
                                          13 END-OF-PERIOD ORDINATES
                  184.       316.       215.       135.        85.        53.        33.        21.        13.         8.
                    5.         3.         2.
```

```
193 KK      **************
            *            *
            *     C_16   *
            *            *
            **************
                        Combine Hydrograph (Basin 3 diversion, R16)

195 HC            HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                     ***

            **************
            *            *
196 KK      *     R_14a  *
            *            *
            **************
                        Route Hydrograph through R14A overland

               HYDROGRAPH ROUTING DATA

198 RK            KINEMATIC WAVE STREAM ROUTING
                             L       1150.  CHANNEL LENGTH
                             S       .0050  SLOPE
                             N        .040  CHANNEL ROUGHNESS COEFFICIENT
                            CA         .00  CONTRIBUTING AREA
                         SHAPE        TRAP  CHANNEL SHAPE
                            WD       10.00  BOTTOM WIDTH OR DIAMETER
                             Z       10.00  SIDE SLOPE
                        NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                                     ***

            **************
            *            *
199 KK      *      R14A  *
            *            *
            **************
                        Subbasin

               SUBBASIN RUNOFF DATA

201 BA            SUBBASIN CHARACTERISTICS
                       TAREA         .04  SUBBASIN AREA

202 LG            GREEN AND AMPT LOSS RATE
                       STRTL         .60  STARTING LOSS
                         DTH         .55  MOISTURE DEFICIT
                        PSIF        2.05  WETTING FRONT SUCTION
                       XKSAT         .07  HYDRAULIC CONDUCTIVITY
                       RTIMP       75.00  PERCENT IMPERVIOUS AREA

203 US            SNYDER UNITGRAPH
                         TP         .12  LAG
                         CP         .48  PEAKING COEFFICIENT

                  SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                                     ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=    .10 HR,       R=    .18 HR
                                         SNYDER   TP=    .12 HR,      CP=    .48

                                                   UNIT HYDROGRAPH
                                              12 END-OF-PERIOD ORDINATES
                  52.       90.       61.       38.       24.       15.        9.        6.        4.        2.
                   1.        1.

            **************
            *            *
204 KK      *     C_14A  *
            *            *
            **************
                        Combine Hydrographs (Basin 3 diversion, R16, R14A)

206 HC            HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                     ***

            **************
            *            *
207 KK      *     C_14A  *
            *            *
            **************
                        Combine Hydrograph with Lower Pond Outfall

209 HC            HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
```

1 ***

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	OB21	88.	12.08	14.	4.	4.	.15		
+	ROUTED TO	PD A	9.	13.67	9.	4.	4.	.15		
+	ROUTED TO	R21a	9.	14.00	9.	4.	3.	.15		
+	HYDROGRAPH AT	DB21a	177.	12.08	32.	8.	8.	.34		
+	2 COMBINED AT	C21a	179.	12.08	40.	12.	11.	.49		
+	ROUTED TO	R23	177.	12.17	40.	12.	11.	.49		
+	HYDROGRAPH AT	DB23	238.	12.08	29.	10.	10.	.23		
+	2 COMBINED AT	C23	400.	12.08	67.	22.	21.	.72		
+	DIVERSION TO	B3DIV	216.	12.08	12.	3.	3.	.72		
+	HYDROGRAPH AT	B3DIV	184.	11.92	55.	19.	18.	.72		
+	ROUTED TO	R23a	184.	12.00	55.	19.	18.	.72		
+	HYDROGRAPH AT	DB23a	6.	12.08	1.	0.	0.	.02		
+	2 COMBINED AT	C23a	190.	12.08	56.	19.	18.	.74		
+	ROUTED TO	R_PD U	14.	16.08	14.	10.	9.	.74		
+	DIVERSION TO	U_Pipe	14.	16.08	14.	10.	9.	.74		
+	HYDROGRAPH AT	D_Pd U	0.	.00	0.	0.	0.	.74		
+	HYDROGRAPH AT	DB22	115.	12.08	21.	5.	5.	.22		
+	ROUTED TO	R24_P	113.	12.17	21.	5.	5.	.22		
+	ROUTED TO	R24_O	111.	12.17	21.	5.	5.	.22		
+	HYDROGRAPH AT	DB24a	8.	12.08	2.	0.	0.	.02		
+	DIVERSION TO	B4aDIV	0.	12.00	0.	0.	0.	.02		
+	HYDROGRAPH AT	B4aDIV	8.	12.08	2.	0.	0.	.02		
+	ROUTED TO	R24_P	8.	12.08	2.	0.	0.	.02		
+	ROUTED TO	R24_O	8.	12.17	2.	0.	0.	.02		
+	HYDROGRAPH AT	DB24	241.	12.08	29.	10.	10.	.23		
+	3 COMBINED AT	C24	347.	12.08	52.	16.	15.	.47		
+	HYDROGRAPH AT	DR24a	0.	12.00	0.	0.	0.	.02		
+	ROUTED TO	R25_O	0.	12.67	0.	0.	0.	.02		
+	ROUTED TO	R25_P	0.	12.83	0.	0.	0.	.02		
+	HYDROGRAPH AT	DB25	9.	12.08	2.	1.	1.	.02		
+	2 COMBINED AT	C25	9.	12.08	2.	1.	1.	.02		
+	DIVERSION TO	B5DIV	0.	.00	0.	0.	0.	.02		
+	HYDROGRAPH AT	B5DIV	9.	12.08	2.	1.	1.	.02		
+	HYDROGRAPH AT	DB25a	12.	12.08	2.	0.	0.	.03		
+	3 COMBINED AT	C_6	367.	12.08	55.	17.	16.	.53		

	2 COMBINED AT	C_7	366.	12.08	55.	17.	16.	1.27
+	ROUTED TO	R_PD L	11.	15.00	11.	8.	7.	1.27
+	HYDROGRAPH AT	PR_U	14.	16.08	14.	10.	9.	.74
+	2 COMBINED AT	C_Out	25.	15.25	25.	17.	17.	1.27
+	HYDROGRAPH AT	Extra3	216.	12.08	12.	3.	3.	.72
+	ROUTED TO	R_16_O	210.	12.17	12.	3.	3.	.72
+	HYDROGRAPH AT	R16	125.	12.00	14.	4.	4.	.14
+	2 COMBINED AT	C_16	291.	12.17	26.	8.	7.	.14
+	ROUTED TO	R_14a	286.	12.17	26.	8.	7.	.14
+	HYDROGRAPH AT	R14A	41.	12.00	5.	2.	2.	.04
+	2 COMBINED AT	C_14A	311.	12.17	30.	9.	9.	.18
+	2 COMBINED AT	C_14A	328.	12.17	53.	26.	26.	1.45

1

SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	INTERPOLATED TO COMPUTATION INTERVAL DT	PEAK	TIME TO PEAK	VOLUME
		(MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	(MIN)	(IN)
FOR STORM = 1 STORM AREA (SQ MI) = .01									
	R21a MANE	4.91	9.28	841.46	.89	5.00	9.28	840.00	.89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7296E+01 EXCESS= .0000E+00 OUTFLOW= .7203E+01 BASIN STORAGE= .9508E-01 PERCENT ERROR= .0

FOR STORM = 2 STORM AREA (SQ MI) = 14.00									
	R21a MANE	5.04	9.21	840.02	.87	5.00	9.21	840.00	.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7069E+01 EXCESS= .0000E+00 OUTFLOW= .7028E+01 BASIN STORAGE= .4007E-01 PERCENT ERROR= .0

FOR STORM = 3 STORM AREA (SQ MI) = 24.00									
	R21a MANE	4.92	9.18	839.15	.86	5.00	9.18	840.00	.86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6963E+01 EXCESS= .0000E+00 OUTFLOW= .6933E+01 BASIN STORAGE= .3427E-01 PERCENT ERROR= -.1

FOR STORM = 4 STORM AREA (SQ MI) = 36.50									
	R21a MANE	4.93	9.14	836.43	.84	5.00	9.14	835.00	.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6847E+01 EXCESS= .0000E+00 OUTFLOW= .6825E+01 BASIN STORAGE= .2344E-01 PERCENT ERROR= .0

FOR STORM = 5 STORM AREA (SQ MI) = 50.00									
	R21a MANE	4.93	9.12	836.17	.83	5.00	9.12	835.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6772E+01 EXCESS= .0000E+00 OUTFLOW= .6749E+01 BASIN STORAGE= .2355E-01 PERCENT ERROR= .0

FOR STORM = 1 STORM AREA (SQ MI) = .01									
	R23 MANE	1.58	180.60	728.94	.90	5.00	179.81	730.00	.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2354E+02 EXCESS= .0000E+00 OUTFLOW= .2352E+02 BASIN STORAGE= .2805E-01 PERCENT ERROR= .0

FOR STORM = 2 STORM AREA (SQ MI) = 14.00									
	R23 MANE	1.59	176.59	728.34	.87	5.00	175.40	730.00	.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2286E+02 EXCESS= .0000E+00 OUTFLOW= .2284E+02 BASIN STORAGE= .2143E-01 PERCENT ERROR= .0

FOR STORM = 3 STORM AREA (SQ MI) = 24.00									
	R23 MANE	1.70	173.42	729.70	.86	5.00	173.21	730.00	.86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2251E+02 EXCESS= .0000E+00 OUTFLOW= .2250E+02 BASIN STORAGE= .1590E-01 PERCENT ERROR= .0

FOR STORM = 4 STORM AREA (SQ MI) = 36.50									
	R23 MANE	1.62	172.17	728.28	.84	5.00	170.99	730.00	.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2216E+02 EXCESS= .0000E+00 OUTFLOW= .2215E+02 BASIN STORAGE= .1150E-01 PERCENT ERROR= .0

FOR STORM = 5 STORM AREA (SQ MI) = 50.00									
	R23 MANE	1.73	169.98	729.13	.83	5.00	169.39	730.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2191E+02 EXCESS= .0000E+00 OUTFLOW= .2190E+02 BASIN STORAGE= .9337E-02 PERCENT ERROR= .0

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          FOR STORM = 1  STORM AREA (SQ MI) =        .01
             R23a  MANE          .50    184.00    716.34       .97       5.00    184.00    720.00         .97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3742E+02 EXCESS= .0000E+00 OUTFLOW= .3741E+02 BASIN STORAGE= .6982E-02 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =       14.00
             R23a  MANE          .52    184.00    716.17       .95       5.00    184.00    720.00         .95

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3671E+02 EXCESS= .0000E+00 OUTFLOW= .3670E+02 BASIN STORAGE= .6172E-02 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =       24.00
             R23a  MANE          .52    184.00    716.50       .94       5.00    184.00    720.00         .94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3633E+02 EXCESS= .0000E+00 OUTFLOW= .3632E+02 BASIN STORAGE= .5170E-02 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =       36.50
             R23a  MANE          .52    184.00    716.34       .93       5.00    184.00    720.00         .93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3594E+02 EXCESS= .0000E+00 OUTFLOW= .3594E+02 BASIN STORAGE= .3450E-02 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =       50.00
             R23a  MANE          .52    184.00    716.38       .92       5.00    184.00    720.00         .92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3568E+02 EXCESS= .0000E+00 OUTFLOW= .3567E+02 BASIN STORAGE= .2956E-02 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
             R24_P  MANE         1.08    115.59    727.78       .90       5.00    113.96    730.00         .90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1069E+02 EXCESS= .0000E+00 OUTFLOW= .1069E+02 BASIN STORAGE= .1955E-03 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =       14.00
             R24_P  MANE          .99    113.23    727.17       .87       5.00    111.20    730.00         .87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1036E+02 EXCESS= .0000E+00 OUTFLOW= .1036E+02 BASIN STORAGE= .1978E-03 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =       24.00
             R24_P  MANE         1.06    111.68    727.37       .86       5.00    109.81    730.00         .86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1019E+02 EXCESS= .0000E+00 OUTFLOW= .1020E+02 BASIN STORAGE= .1985E-03 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =       36.50
             R24_P  MANE         1.06    109.92    726.88       .85       5.00    108.43    730.00         .85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1003E+02 EXCESS= .0000E+00 OUTFLOW= .1003E+02 BASIN STORAGE= .1895E-03 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =       50.00
             R24_P  MANE         1.07    109.30    727.35       .84       5.00    107.45    730.00         .84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9916E+01 EXCESS= .0000E+00 OUTFLOW= .9920E+01 BASIN STORAGE= .1822E-03 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
             R24_O  MANE         1.34    113.41    731.95       .90       5.00    112.34    730.00         .90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1069E+02 EXCESS= .0000E+00 OUTFLOW= .1069E+02 BASIN STORAGE= .6506E-03 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =       14.00
             R24_O  MANE         1.39    110.64    732.21       .87       5.00    109.57    730.00         .87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1036E+02 EXCESS= .0000E+00 OUTFLOW= .1036E+02 BASIN STORAGE= .7227E-03 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =       24.00
             R24_O  MANE         1.29    109.50    732.22       .86       5.00    108.20    730.00         .86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1020E+02 EXCESS= .0000E+00 OUTFLOW= .1020E+02 BASIN STORAGE= .6351E-03 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =       36.50
             R24_O  MANE         1.31    107.88    732.91       .85       5.00    106.82    730.00         .84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1003E+02 EXCESS= .0000E+00 OUTFLOW= .1004E+02 BASIN STORAGE= .7125E-03 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =       50.00
             R24_O  MANE         1.30    106.98    731.93       .84       5.00    105.85    730.00         .84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9919E+01 EXCESS= .0000E+00 OUTFLOW= .9921E+01 BASIN STORAGE= .6261E-03 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
             R24_P  MANE          .60      8.07    725.71       .83       5.00      8.00    725.00         .83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9393E+00 EXCESS= .0000E+00 OUTFLOW= .9392E+00 BASIN STORAGE= .8664E-04 PERCENT ERROR=    .0
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          FOR STORM = 2  STORM AREA (SQ MI) =       14.00
             R24_P  MANE          .46       7.83     726.00        .80       5.00       7.73     725.00         .80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9078E+00 EXCESS= .0000E+00 OUTFLOW= .9078E+00 BASIN STORAGE= .8574E-04 PERCENT ERROR=     .0

          FOR STORM = 3  STORM AREA (SQ MI) =       24.00
             R24_P  MANE          .61       7.67     726.20        .79       5.00       7.59     725.00         .79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8921E+00 EXCESS= .0000E+00 OUTFLOW= .8920E+00 BASIN STORAGE= .8468E-04 PERCENT ERROR=     .0

          FOR STORM = 4  STORM AREA (SQ MI) =       36.50
             R24_P  MANE          .61       7.53     725.78        .78       5.00       7.46     725.00         .78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8764E+00 EXCESS= .0000E+00 OUTFLOW= .8763E+00 BASIN STORAGE= .8425E-04 PERCENT ERROR=     .0

          FOR STORM = 5  STORM AREA (SQ MI) =       50.00
             R24_P  MANE          .44       7.46     725.79        .77       5.00       7.36     725.00         .77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8655E+00 EXCESS= .0000E+00 OUTFLOW= .8654E+00 BASIN STORAGE= .8362E-04 PERCENT ERROR=     .0

          FOR STORM = 1  STORM AREA (SQ MI) =         .01
             R24_O  MANE         2.50       7.99     729.94        .83       5.00       7.98     730.00         .83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9396E+00 EXCESS= .0000E+00 OUTFLOW= .9383E+00 BASIN STORAGE= .1048E-02 PERCENT ERROR=     .0

          FOR STORM = 2  STORM AREA (SQ MI) =       14.00
             R24_O  MANE         2.54       7.64     731.43        .80       5.00       7.57     730.00         .80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9081E+00 EXCESS= .0000E+00 OUTFLOW= .9068E+00 BASIN STORAGE= .9656E-03 PERCENT ERROR=     .0

          FOR STORM = 3  STORM AREA (SQ MI) =       24.00
             R24_O  MANE         2.59       7.53     729.87        .79       5.00       7.53     730.00         .79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8924E+00 EXCESS= .0000E+00 OUTFLOW= .8910E+00 BASIN STORAGE= .9727E-03 PERCENT ERROR=     .0

          FOR STORM = 4  STORM AREA (SQ MI) =       36.50
             R24_O  MANE         2.59       7.43     730.40        .77       5.00       7.37     730.00         .78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8767E+00 EXCESS= .0000E+00 OUTFLOW= .8752E+00 BASIN STORAGE= .1021E-02 PERCENT ERROR=     .1

          FOR STORM = 5  STORM AREA (SQ MI) =       50.00
             R24_O  MANE         2.58       7.30     731.01        .76       5.00       7.21     730.00         .76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8658E+00 EXCESS= .0000E+00 OUTFLOW= .8649E+00 BASIN STORAGE= .9427E-03 PERCENT ERROR=     .0

          FOR STORM = 1  STORM AREA (SQ MI) =         .01
             R25_O  MANE         5.00        .01     760.20        .00       5.00        .01     760.00         .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6714E-03 EXCESS= .0000E+00 OUTFLOW= .6824E-03 BASIN STORAGE= .1154E-04 PERCENT ERROR=   -3.3

          FOR STORM = 2  STORM AREA (SQ MI) =       14.00
             R25_O  MANE         5.00        .01     762.76        .00       5.00        .01     760.00         .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6489E-03 EXCESS= .0000E+00 OUTFLOW= .6787E-03 BASIN STORAGE= .1076E-04 PERCENT ERROR=   -6.3

          FOR STORM = 3  STORM AREA (SQ MI) =       24.00
             R25_O  MANE         5.00        .01     760.21        .00       5.00        .01     765.00         .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6377E-03 EXCESS= .0000E+00 OUTFLOW= .6512E-03 BASIN STORAGE= .1146E-04 PERCENT ERROR=   -3.9

          FOR STORM = 4  STORM AREA (SQ MI) =       36.50
             R25_O  MANE         5.00        .01     760.93        .00       5.00        .01     765.00         .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6265E-03 EXCESS= .0000E+00 OUTFLOW= .6378E-03 BASIN STORAGE= .1147E-04 PERCENT ERROR=   -3.6

          FOR STORM = 5  STORM AREA (SQ MI) =       50.00
             R25_O  MANE         5.00        .01     761.47        .00       5.00        .01     765.00         .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6186E-03 EXCESS= .0000E+00 OUTFLOW= .6295E-03 BASIN STORAGE= .1083E-04 PERCENT ERROR=   -3.5

          FOR STORM = 1  STORM AREA (SQ MI) =         .01
             R25_P  MANE         1.76        .01     771.23        .00       5.00        .01     775.00         .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6818E-03 EXCESS= .0000E+00 OUTFLOW= .6832E-03 BASIN STORAGE= .2042E-05 PERCENT ERROR=   -.5

          FOR STORM = 2  STORM AREA (SQ MI) =       14.00
             R25_P  MANE         1.78        .01     771.89        .00       5.00        .01     775.00         .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6774E-03 EXCESS= .0000E+00 OUTFLOW= .6763E-03 BASIN STORAGE= .2006E-05 PERCENT ERROR=   -.1

          FOR STORM = 3  STORM AREA (SQ MI) =       24.00
             R25_P  MANE         2.40        .01     774.41        .00       5.00        .01     775.00         .00
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CONTINUITY SUMMARY (AC-FT) - INFLOW= .6510E-03 EXCESS= .0000E+00 OUTFLOW= .6537E-03 BASIN STORAGE= .1808E-05 PERCENT ERROR=  -.7

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
            R25_P  MANE          2.45       .01    775.22       .00      5.00       .01    775.00       .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6371E-03 EXCESS= .0000E+00 OUTFLOW= .6382E-03 BASIN STORAGE= .1796E-05 PERCENT ERROR=  -.5

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
            R25_P  MANE          2.39       .01    774.23       .00      5.00       .01    775.00       .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6281E-03 EXCESS= .0000E+00 OUTFLOW= .6275E-03 BASIN STORAGE= .1789E-05 PERCENT ERROR=  -.2

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
            R_16_O  MANE          1.84     220.19    729.05       .16      5.00     215.94    730.00       .16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6106E+01 EXCESS= .0000E+00 OUTFLOW= .6138E+01 BASIN STORAGE= .1527E-05 PERCENT ERROR=  -.5

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
            R_16_O  MANE          1.86     209.59    729.31       .15      5.00     206.58    730.00       .15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5702E+01 EXCESS= .0000E+00 OUTFLOW= .5738E+01 BASIN STORAGE= .1790E-05 PERCENT ERROR=  -.6

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
            R_16_O  MANE          1.87     204.31    729.44       .14      5.00     201.91    730.00       .14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5518E+01 EXCESS= .0000E+00 OUTFLOW= .5558E+01 BASIN STORAGE= .1608E-05 PERCENT ERROR=  -.7

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
            R_16_O  MANE          1.88     198.87    729.60       .14      5.00     197.19    730.00       .14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5324E+01 EXCESS= .0000E+00 OUTFLOW= .5369E+01 BASIN STORAGE= .1342E-05 PERCENT ERROR=  -.8

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
            R_16_O  MANE          1.88     195.10    729.68       .14      5.00     193.76    730.00       .14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5202E+01 EXCESS= .0000E+00 OUTFLOW= .5246E+01 BASIN STORAGE= .1235E-05 PERCENT ERROR=  -.9

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
            R_14a  MANE          1.50     293.19    731.87      2.04      5.00     290.41    730.00      2.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1512E+02 EXCESS= .0000E+00 OUTFLOW= .1515E+02 BASIN STORAGE= .2644E-02 PERCENT ERROR=  -.2

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
            R_14a  MANE          1.44     281.31    733.12      1.96      5.00     277.56    730.00      1.96

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1450E+02 EXCESS= .0000E+00 OUTFLOW= .1454E+02 BASIN STORAGE= .2385E-02 PERCENT ERROR=  -.3

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
            R_14a  MANE          1.59     275.06    732.88      1.92      5.00     271.28    730.00      1.92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1421E+02 EXCESS= .0000E+00 OUTFLOW= .1425E+02 BASIN STORAGE= .2831E-02 PERCENT ERROR=  -.3

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
            R_14a  MANE          1.52     270.77    733.01      1.88      5.00     264.71    730.00      1.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1390E+02 EXCESS= .0000E+00 OUTFLOW= .1394E+02 BASIN STORAGE= .1906E-02 PERCENT ERROR=  -.3

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
            R_14a  MANE          1.58     264.50    731.88      1.85      5.00     260.22    730.00      1.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1370E+02 EXCESS= .0000E+00 OUTFLOW= .1373E+02 BASIN STORAGE= .2149E-02 PERCENT ERROR=  -.2


*** NORMAL END OF HEC-1 ***
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*                                       *
*    FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*              JUN  1998                *
*            VERSION 4.1                *
*                                       *
*  RUN DATE   21JUL08  TIME  10:56:42   *
*                                       *
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*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 756-1104              *
*                                       *
*****************************************
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X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX         XXX
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THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT PAGE 1

```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

   1      ID        Ranchmans Ditch Master Drainage Plan
   2      ID        Walker Field Revised Watershed Model - On site Pond Option
   3      ID        10-Year 24-Hour Storm - NRCS Type II Rainfall Distribution
   4      IT       5                   300
   5      IO       4
   6      IN       6
   7      JD    1.19    0.01
   8      PC       0   0.001   0.002  0.0031  0.0041  0.0051  0.0062  0.0073  0.0083  0.0094
   9      PC  0.0105  0.0116  0.0127  0.0138   0.015  0.0161  0.0173  0.0185  0.0196  0.0208
  10      PC   0.022  0.0232  0.0244  0.0257  0.0269  0.0281  0.0294  0.0307  0.0319  0.0332
  11      PC  0.0345  0.0358  0.0371  0.0384  0.0398  0.0411  0.0425  0.0438  0.0452  0.0466
  12      PC   0.048  0.0494  0.0508  0.0523  0.0538  0.0553  0.0568  0.0583  0.0598  0.0614
  13      PC   0.063  0.0646  0.0662  0.0679  0.0696  0.0712   0.073  0.0747  0.0764  0.0782
  14      PC    0.08  0.0818  0.0836  0.0855  0.0874  0.0892  0.0912  0.0931   0.095   0.097
  15      PC   0.099   0.101   0.103  0.1051  0.1072  0.1093  0.1114  0.1135  0.1156  0.1178
  16      PC    0.12  0.1223  0.1246  0.1271  0.1296  0.1323   0.135  0.1379  0.1408  0.1439
  17      PC   0.147  0.1502  0.1534  0.1566  0.1598   0.163  0.1663  0.1697  0.1733  0.1771
  18      PC   0.181  0.1851  0.1895  0.1941  0.1989   0.204  0.2094  0.2152  0.2214   0.228
  19      PC   0.235  0.2427  0.2513  0.2609  0.2715   0.283  0.3068  0.3544  0.4308  0.5679
  20      PC   0.663   0.682  0.6986   0.713  0.7252   0.735  0.7434  0.7514  0.7588  0.7656
  21      PC   0.772   0.778  0.7836   0.789  0.7942   0.799  0.8036   0.808  0.8122  0.8162
  22      PC    0.82  0.8237  0.8273  0.8308  0.8342  0.8376  0.8409  0.8442  0.8474  0.8505
  23      PC  0.8535  0.8565  0.8594  0.8622  0.8649  0.8676  0.8702  0.8728  0.8753  0.8777
  24      PC    0.88  0.8823  0.8846  0.8868   0.889  0.8912  0.8934  0.8955  0.8976  0.8997
  25      PC  0.9018  0.9038  0.9058  0.9078  0.9098  0.9117  0.9136  0.9155  0.9174  0.9192
  26      PC   0.921  0.9228  0.9246  0.9263   0.928  0.9297  0.9314   0.933  0.9346  0.9362
  27      PC  0.9377  0.9393  0.9408  0.9423  0.9438  0.9452  0.9466   0.948  0.9494  0.9507
  28      PC   0.952  0.9533  0.9546  0.9559  0.9572  0.9584  0.9597   0.961  0.9622  0.9635
  29      PC  0.9648   0.966  0.9672  0.9685  0.9697  0.9709  0.9722  0.9734  0.9746  0.9758
  30      PC   0.977  0.9782  0.9794  0.9806  0.9818  0.9829  0.9841  0.9853  0.9864  0.9876
  31      PC  0.9888  0.9899   0.991  0.9922  0.9933  0.9944  0.9956  0.9967  0.9978  0.9989
  32      PC       1       1       1       1       1       1       1       1       1       1
  33      PC       1       1       1       1       1       1       1       1       1       1
  34      PC       1       1       1       1       1       1       1       1       1       1
  35      PC       1       1       1       1       1       1       1       1       1       1
  36      PC       1       1       1       1       1       1       1       1       1       1
  37      PC       1       1       1       1       1       1       1       1       1       1
  38      JD   1.166      14
  39      JD   1.154      24
  40      JD   1.142    36.5
  41      JD   1.134      50

  42      KK    DB21
  43      KM   Subbasin
  44      BA  0.1519
  45      LG    0.30  0.3077   1.148   0.041       1
  46      US   0.171   0.258

  47      KK    PD A
  48      KM   Route Through Pond A
  49      RS       1    STOR       0       0
  50      SV     0.0   0.001     1.8     4.7     8.9    11.6
  51      SQ     0.0     2.5     7.0     9.0    10.6    11.3
  52      SE    4915    4916    4918    4920    4922    4923
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1 HEC-1 INPUT PAGE 2

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LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  53      KK    R21a
  54      KM   Route R21 Through R21a
  55      RK    3500   0.023    0.05            TRAP      30       6

  56      KK   DB21a
  57      KM   Subbasin
  58      BA  0.3403
  59      LG    0.30  0.3077   1.148   0.041       1
  60      US   0.211   0.291

  61      KK    C21a
  62      KM   Combine Routed Basin 21 with Basin 21a
  63      HC       2

  64      KK  WF_PD1
  65      KM   Route Hydrograph Through New Walker Field On Site Pond 1
  66      RS       1    STOR       0       0
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 67          SV     0.0    0.97    6.95    13.6    17.3
 68          SQ     0.0    10.7    23.9    32.1    35.5
 69          SE    38.5    40.0    42.0    44.0    45.0

 70          KK    RPD1
 71          KM    Route Hydrograph Through Basin 23b Pipe
 72          RK     1750   0.014   0.015            CIRC       3

 73          KK    DB23b
 74          KM    Subbasin
 75          BA  0.0584
 76          LG    0.53  0.4970  1.8550  0.0670      75
 77          US   0.186   0.625

 78          KK     C23
 79          KM    Combine Hydrograph Basin 23b with 21 and 21a
 80          HC       2

 81          KK    R23b
 82          KM    Route Hydrograph Through Basin 23c Pipe
 83          RK     1000   0.014   0.015            CIRC       3

 84          KK    DB23c
 85          KM    Subbasin
 86          BA  0.0783
 87          LG    0.53  0.4970  1.8550  0.0670      73
 88          US   0.186   0.625

 89          KK    R23c
 90          KM    Route R23c Through R23c Ditch
 91          RK     500    .005   0.045            TRAP       10       4
1                                    HEC-1 INPUT                                                    PAGE  3
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 92          KK    DB23d
 93          KM    Subbasin
 94          BA  0.0173
 95          LG    0.53  0.4970  1.8550  0.0670      62
 96          US   0.186   0.625

 97          KK    R23d
 98          KM    Route Hydrograph Through Basin 23d Pipe
 99          RK     1200   0.005   0.015            CIRC       2

100          KK     C23
101          KM    Combine Hydrograph Basins 23c,23d with WF_PD1 and 23b
102          HC       3

103          KK  WF_PD2
104          KM    Route Hydrograph Through New Walker Field On Site Pond 2
105          RS       1     STOR       0       0
106          SV     0.0    0.10    0.70    1.64    3.16    5.34
107          SQ     0.0    23.6    48.1    68.1    83.4    90.1
108          SE  4793.5    4795    4797    4799    4801    4803

109          KK  RWF_P2
110          KM    Route Hydrograph Through Basin 23e Pipe
111          RK     1000   0.010   0.015            CIRC       3

112          KK    DB23e
113          KM    Subasin
114          BA  0.0709
115          LG    0.53  0.4970  1.8550  0.0670      75
116          US   0.186   0.625

117          KK    C23e
118          KM    Combine Hydrograph Basin 23e with WF_PD2
119          HC       2

120          KK    R23e
121          KM    Route Hydrograph Through Basin 23a Pipe
122          RK     1500   0.008   0.015            CIRC       4

123          KK    DB23a
124          KM    Subbasin
125          BA  0.0196
126          LG    0.59  0.5397  2.0144  0.0724       1
127          US   0.063   0.190

128          KK    C23a
129          KM    Combine Hydrograph Basin 23a, 23e with WF_PD2
130          HC       2
1                                    HEC-1 INPUT                                                    PAGE  4
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

131          KK  R_PD U
132          KM    Route Hydrograph Through Upper Airport Upper Pond
133          RS       1     STOR       0       0
134          SV     0.0   0.001    0.21    6.09   16.16   26.80    29.4
135          SQ     0.0    10.8    11.4    12.4    13.3    14.2     162
136          SE    4767 4767.01    4768    4770    4772    4774  4774.5

137          KK  D_Pd U
138          KM    Weir Flow Into Lower Pond
139          DT  U_Pipe
140          DI     0.0    14.2    14.3     100    1000
141          DQ     0.0    14.2    14.2    14.2    14.2

142          KK    DB22
143          KM    Subbasin
144          BA  0.2226
145          LG    0.30  0.3077   1.148   0.041       1
146          US   0.203   0.273

147          KK    R24_P
148          KM    Route Hydrograph Through Basin 24 Pipe
149          RK     3076   0.014   0.015            CIRC     4.5

150          KK    R24_O
151          KM    Route Hydrograph Through Basin 24 Overland
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```
152          RK    1506   0.019    0.03            TRAP      10      12

153          KK   DB24a
154          KM   Subbasin
155          BA  0.0212
156          LG    0.53  0.4970  1.8550  0.0670      20
157          US   0.150   0.180

158          KK  B4aDIV
159          KM   Divert Basin 24a overflow
160          DT  B4aDIV
161          DI     0.0    14.0   100.0  1000.0
162          DQ       0    0.01    86.0   986.0

163          KK   R24_P
164          KM   Route Hydrograph Through Basin 24 Pipe
165          RK     800   0.014   0.015            CIRC     4.5

166          KK   R24_O
167          KM   Route Hydrograph Through Basin 24 Overland
168          RK    1506   0.019    0.03            TRAP      10      12

169          KK    DB24
170          KM   Subbasin
171          BA  0.2318
172          LG    0.44  0.4260  1.5900  0.0570      58
173          US   0.180   0.623
1                                    HEC-1 INPUT                                                    PAGE  5

LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

174          KK     C24
175          KM   Combine Hydrographs (Basin22, Basin 24a, Basin 24)
176          HC       3

177          KK   DR24a
178          KM   Retrieve 24a diversion
179          DR  B4aDIV

180          KK   R25_O
181          KM   Route 24a diversion through Basin 25 overland
182          RK     800   0.015    0.03            TRAP      30      10

183          KK   R25_P
184          KM   Route 24a diversion through Basin 25 pipe
185          RK    1600   0.013   0.015            CIRC       4

186          KK    DB25
187          KM   Subbasin
188          BA  0.0244
189          LG    0.53  0.4970  1.8550  0.0670      20
190          US   0.151   0.183

191          KK     C25
192          KM   Combine Hydrograph with 24a diversion
193          HC       2

194          KK   B5DIV
195          KM   Divert Basin 25 storm sewer overflow
196          DT   B5DIV
197          DI     0.0    14.0   100.0  1000.0
198          DQ       0       0    86.0   986.0

199          KK   DB25a
200          KM   Subbasin
201          BA  0.0316
202          LG    0.55  0.5112  1.9084  0.0688       1
203          US   0.066   0.204

204          KK     C_6
205          KM   Combine Basins 25a 25 24a 24 22
206          HC       3

207          KK     C_7
208          KM   Combine all Basins
209          HC       2

210          KK  R_PD L
211          KM   route Hydrograph Through Lower Airport East Pond
212          RS       1    STOR       0       0
213          SV     0.0     0.05    4.26   13.79   24.65
214          SQ     0.0      5.5     7.8     9.6    11.1
215          SE  4758.4    4760    4762    4764    4766
1                                    HEC-1 INPUT                                                    PAGE  6

LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

216          KK    PR_U
217          KM   Retrieve Upper Pond Pipe Flow
218          DR  U_Pipe

219          KK   C_Out
220          KM   Combine 2 Outflow Hydrographs at Canal
221          HC       2

222          KK     R16
223          KM   Subbasin
224          BA  0.1550
225          LG    0.67  0.5917  2.1610  0.0810    50.0
226          US   0.119   0.476

227          KK   R_14a
228          KM   Route Hydrograph through R14A overland
229          RK    2500   0.005    0.04            TRAP      10      10

230          KK    R14A
231          KM   Subbasin
232          BA  0.0393
233          LG    0.60  0.5491  2.0496  0.0736    75.0
234          US   0.119   0.479

235          KK   C_14A
```

```
          236          KM   Combine Hydrographs (R16, R14A)
          237          HC      2

          238          KK   C_14A
          239          KM   Combine Hydrograph with Lower Pond Outfall
          240          HC      2
          241          ZZ
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             JUN  1998                 *
*          VERSION 4.1                  *
*                                       *
*  RUN DATE   21JUL08  TIME  10:56:42   *
*                                       *
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*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*        DAVIS, CALIFORNIA 95616        *
*             (916) 756-1104            *
*                                       *
*****************************************
```

Ranchmans Ditch Master Drainage Plan
Walker Field Revised Watershed Model - On site Pond Option
10-Year 24-Hour Storm - NRCS Type II Rainfall Distribution

```
  5 IO          OUTPUT CONTROL VARIABLES
                     IPRNT          4  PRINT CONTROL
                     IPLOT          0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE

  6 IN          TIME DATA FOR INPUT TIME SERIES
                     JXMIN          6  TIME INTERVAL IN MINUTES
                    JXDATE      1   0  STARTING DATE
                    JXTIME          0  STARTING TIME

    IT          HYDROGRAPH TIME DATA
                     NMIN           5  MINUTES IN COMPUTATION INTERVAL
                    IDATE      1   0  STARTING DATE
                    ITIME       0000  STARTING TIME
                       NQ        300  NUMBER OF HYDROGRAPH ORDINATES
                    NDDATE     2   0  ENDING DATE
                    NDTIME      0055  ENDING TIME
                    ICENT          19  CENTURY MARK

                  COMPUTATION INTERVAL      .08 HOURS
                      TOTAL TIME BASE    24.92 HOURS

        ENGLISH UNITS
             DRAINAGE AREA          SQUARE MILES
             PRECIPITATION DEPTH    INCHES
             LENGTH, ELEVATION      FEET
             FLOW                   CUBIC FEET PER SECOND
             STORAGE VOLUME         ACRE-FEET
             SURFACE AREA           ACRES
             TEMPERATURE            DEGREES FAHRENHEIT

  7 JD          INDEX STORM NO. 1
                     STRM       1.19  PRECIPITATION DEPTH
                     TRDA        .01  TRANSPOSITION DRAINAGE AREA

  8 PI            PRECIPITATION PATTERN
                  .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
```

.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

```
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
 42 KK    *      DB21   *
          *             *
          ***************
                    Subbasin

       SUBBASIN RUNOFF DATA

 44 BA          SUBBASIN CHARACTERISTICS
                     TAREA         .15  SUBBASIN AREA

 45 LG          GREEN AND AMPT LOSS RATE
                     STRTL         .30  STARTING LOSS
                       DTH         .31  MOISTURE DEFICIT
                      PSIF        1.15  WETTING FRONT SUCTION
                     XKSAT         .04  HYDRAULIC CONDUCTIVITY
                     RTIMP        1.00  PERCENT IMPERVIOUS AREA

 46 US          SNYDER UNITGRAPH
                       TP          .17  LAG
                       CP          .26  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                  ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=   .13 HR;       R=   .55 HR
                                         SNYDER   TP=   .17 HR,      CP=   .26

                                                UNIT HYDROGRAPH
                                          36 END-OF-PERIOD ORDINATES
                  56.       131.       139.       120.       103.        88.        76.        65.        56.        48.
                  41.        36.        31.        26.        23.        19.        17.        14.        12.        11.
                   9.         8.         7.         6.         5.         4.         4.         3.         3.         2.
                   2.         2.         1.         1.         1.         1.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
 47 KK    *      PD A   *
          *             *
          ***************
                    Route Through Pond A

       HYDROGRAPH ROUTING DATA

 49 RS          STORAGE ROUTING
                     NSTPS            1  NUMBER OF SUBREACHES
                      ITYP         STOR  TYPE OF INITIAL CONDITION
                    RSVRIC          .00  INITIAL CONDITION
                         X          .00 WORKING R AND D COEFFICIENT

 50 SV            STORAGE          .0        .0       1.8       4.7       8.9      11.6

 51 SQ          DISCHARGE          0.        3.        7.        9.       11.       11.

 52 SE          ELEVATION     4915.00   4916.00   4918.00   4920.00   4922.00   4923.00

                                                  ***

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN        0. TO        3.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
 53 KK    *      R21a   *
          *             *
          ***************
                    Route R21 Through R21a

       HYDROGRAPH ROUTING DATA

 55 RK          KINEMATIC WAVE STREAM ROUTING
                         L       3500.  CHANNEL LENGTH
                         S       .0230  SLOPE
                         N        .050  CHANNEL ROUGHNESS COEFFICIENT
                        CA         .00  CONTRIBUTING AREA
                     SHAPE        TRAP  CHANNEL SHAPE
                        WD       30.00  BOTTOM WIDTH OR DIAMETER
                         Z        6.00  SIDE SLOPE
                    NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS

                                                  ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
 56 KK    *      DB21a  *
          *             *
          ***************
```

Subbasin

SUBBASIN RUNOFF DATA

58 BA SUBBASIN CHARACTERISTICS
TAREA .34 SUBBASIN AREA

59 LG GREEN AND AMPT LOSS RATE
STRTL .30 STARTING LOSS
DTH .31 MOISTURE DEFICIT
PSIF 1.15 WETTING FRONT SUCTION
XKSAT .04 HYDRAULIC CONDUCTIVITY
RTIMP 1.00 PERCENT IMPERVIOUS AREA

60 US SNYDER UNITGRAPH
TP .21 LAG
CP .29 PEAKING COEFFICIENT

SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

***

UNIT HYDROGRAPH PARAMETERS
CLARK TC= .17 HR, R= .64 HR
SNYDER TP= .21 HR, CP= .29

UNIT HYDROGRAPH
42 END-OF-PERIOD ORDINATES

80.	231.	285.	250.	220.	193.	169.	148.	130.	114.
100.	88.	77.	68.	59.	52.	46.	40.	35.	31.
27.	24.	21.	18.	16.	14.	12.	11.	9.	8.
7.	6.	6.	5.	4.	4.	3.	3.	3.	2.
2.	2.								

*** ***

61 KK
C21a

Combine Routed Basin 21 with Basin 21a

63 HC HYDROGRAPH COMBINATION
ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

***

** ***

64 KK
WF_PD1

Route Hydrograph Through New Walker Field On Site Pond 1

HYDROGRAPH ROUTING DATA

66 RS STORAGE ROUTING
NSTPS 1 NUMBER OF SUBREACHES
ITYP STOR TYPE OF INITIAL CONDITION
RSVRIC .00 INITIAL CONDITION
X .00 WORKING R AND D COEFFICIENT

67 SV	STORAGE	.0	1.0	6.9	13.6	17.3
68 SQ	DISCHARGE	0.	11.	24.	32.	36.
69 SE	ELEVATION	38.50	40.00	42.00	44.00	45.00

***

*** ***

70 KK
RPD1

Route Hydrograph Through Basin 23b Pipe

HYDROGRAPH ROUTING DATA

72 RK KINEMATIC WAVE STREAM ROUTING
L 1750. CHANNEL LENGTH
S .0140 SLOPE
N .015 CHANNEL ROUGHNESS COEFFICIENT
CA .00 CONTRIBUTING AREA
SHAPE CIRC CHANNEL SHAPE
WD 3.00 BOTTOM WIDTH OR DIAMETER
Z .00 SIDE SLOPE
NDXMIN 2 MINIMUM NUMBER OF DX INTERVALS

***

*** ***

73 KK
DB23b

```
**************
                Subbasin

   SUBBASIN RUNOFF DATA

75 BA      SUBBASIN CHARACTERISTICS
                TAREA         .06  SUBBASIN AREA

76 LG      GREEN AND AMPT LOSS RATE
                STRTL         .53  STARTING LOSS
                  DTH         .50  MOISTURE DEFICIT
                 PSIF        1.86  WETTING FRONT SUCTION
                XKSAT         .07  HYDRAULIC CONDUCTIVITY
                RTIMP       75.00  PERCENT IMPERVIOUS AREA

77 US      SNYDER UNITGRAPH
                   TP         .19  LAG
                   CP         .63  PEAKING COEFFICIENT

           SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=    .22 HR,       R=    .16 HR
                                  SNYDER   TP=    .19 HR,      CP=    .63

                                             UNIT HYDROGRAPH
                                          12 END-OF-PERIOD ORDINATES
             30.       94.      119.       87.       51.       30.       17.       10.       6.        3.
              2.        1.

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           *             *
78 KK      *       C23   *
           *             *
           ***************
                   Combine Hydrograph Basin 23b with 21 and 21a

80 HC      HYDROGRAPH COMBINATION
                ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

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           *             *
81 KK      *      R23b   *
           *             *
           ***************
                   Route Hydrograph Through Basin 23c Pipe

      HYDROGRAPH ROUTING DATA

83 RK      KINEMATIC WAVE STREAM ROUTING
                     L       1000.  CHANNEL LENGTH
                     S       .0140  SLOPE
                     N        .015  CHANNEL ROUGHNESS COEFFICIENT
                    CA         .00  CONTRIBUTING AREA
                 SHAPE        CIRC  CHANNEL SHAPE
                    WD        3.00  BOTTOM WIDTH OR DIAMETER
                     Z         .00  SIDE SLOPE
                NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS

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    *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

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          *             *
84 KK     *     DB23c   *
          *             *
          ***************
                    Subbasin

             SUBBASIN RUNOFF DATA

86 BA          SUBBASIN CHARACTERISTICS
                    TAREA         .08  SUBBASIN AREA

87 LG          GREEN AND AMPT LOSS RATE
                   STRTL         .53  STARTING LOSS
                     DTH         .50  MOISTURE DEFICIT
                    PSIF        1.86  WETTING FRONT SUCTION
                   XKSAT         .07  HYDRAULIC CONDUCTIVITY
                   RTIMP       73.00  PERCENT IMPERVIOUS AREA

88 US          SNYDER UNITGRAPH
                     TP         .19  LAG
                     CP         .63  PEAKING COEFFICIENT

               SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .22 HR,       R=    .16 HR
                                   SNYDER   TP=    .19 HR,      CP=    .63

                                          UNIT HYDROGRAPH
                                       12 END-OF-PERIOD ORDINATES
               40.      126.      159.      117.       68.       40.       23.       14.       8.        5.
                3.        2.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
89 KK     *      R23c   *
          *             *
          ***************
                    Route R23c Through R23c Ditch

             HYDROGRAPH ROUTING DATA

91 RK          KINEMATIC WAVE STREAM ROUTING
                       L       500.  CHANNEL LENGTH
                       S      .0050  SLOPE
                       N       .045  CHANNEL ROUGHNESS COEFFICIENT
                      CA        .00  CONTRIBUTING AREA
                   SHAPE       TRAP  CHANNEL SHAPE
                      WD      10.00  BOTTOM WIDTH OR DIAMETER
                       Z       4.00  SIDE SLOPE
                  NDXMIN          2  MINIMUM NUMBER OF DX INTERVALS
                                                  ***

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          *             *
92 KK     *     DB23d   *
          *             *
          ***************
                    Subbasin

             SUBBASIN RUNOFF DATA

94 BA          SUBBASIN CHARACTERISTICS
                    TAREA         .02  SUBBASIN AREA

95 LG          GREEN AND AMPT LOSS RATE
                   STRTL         .53  STARTING LOSS
                     DTH         .50  MOISTURE DEFICIT
                    PSIF        1.86  WETTING FRONT SUCTION
                   XKSAT         .07  HYDRAULIC CONDUCTIVITY
                   RTIMP       62.00  PERCENT IMPERVIOUS AREA

96 US          SNYDER UNITGRAPH
                     TP         .19  LAG
                     CP         .63  PEAKING COEFFICIENT

               SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .22 HR,       R=    .16 HR
                                   SNYDER   TP=    .19 HR,      CP=    .63

                                          UNIT HYDROGRAPH
                                       12 END-OF-PERIOD ORDINATES
               9.       28.       35.       26.       15.       9.        5.        3.        2.        1.
               1.        0.

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          *            *
97 KK     *    R23d    *
          *            *
          **************
                    Route Hydrograph Through Basin 23d Pipe

        HYDROGRAPH ROUTING DATA

99 RK       KINEMATIC WAVE STREAM ROUTING
                    L       1200.  CHANNEL LENGTH
                    S       .0050  SLOPE
                    N        .015  CHANNEL ROUGHNESS COEFFICIENT
                   CA         .00  CONTRIBUTING AREA
                SHAPE        CIRC  CHANNEL SHAPE
                   WD        2.00  BOTTOM WIDTH OR DIAMETER
                    Z         .00  SIDE SLOPE
                NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          **************
          *            *
100 KK    *    C23     *
          *            *
          **************
                    Combine Hydrograph Basins 23c,23d with WF_PD1 and 23b

102 HC      HYDROGRAPH COMBINATION
                 ICOMP           3  NUMBER OF HYDROGRAPHS TO COMBINE
                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

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          *            *
103 KK    *   WF_PD2   *
          *            *
          **************
                    Route Hydrograph Through New Walker Field On Site Pond 2

        HYDROGRAPH ROUTING DATA

105 RS      STORAGE ROUTING
                 NSTPS           1  NUMBER OF SUBREACHES
                  ITYP        STOR  TYPE OF INITIAL CONDITION
                RSVRIC         .00  INITIAL CONDITION
                     X         .00 WORKING R AND D COEFFICIENT

106 SV        STORAGE          .0       .1       .7      1.6      3.2      5.3

107 SQ      DISCHARGE          0.      24.      48.      68.      83.      90.

108 SE      ELEVATION     4793.50  4795.00  4797.00  4799.00  4801.00  4803.00
                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          **************
          *            *
109 KK    *   RWF_P2   *
          *            *
          **************
                    Route Hydrograph Through Basin 23e Pipe

        HYDROGRAPH ROUTING DATA

111 RK      KINEMATIC WAVE STREAM ROUTING
                    L       1000.  CHANNEL LENGTH
                    S       .0100  SLOPE
                    N        .015  CHANNEL ROUGHNESS COEFFICIENT
                   CA         .00  CONTRIBUTING AREA
                SHAPE        CIRC  CHANNEL SHAPE
                   WD        3.00  BOTTOM WIDTH OR DIAMETER
                    Z         .00  SIDE SLOPE
                NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          **************
          *            *
112 KK    *    DB23e   *
          *            *
          **************
                    Subasin

        SUBBASIN RUNOFF DATA

114 BA      SUBBASIN CHARACTERISTICS
                 TAREA          .07  SUBBASIN AREA

115 LG      GREEN AND AMPT LOSS RATE
                 STRTL          .53  STARTING LOSS
                   DTH          .50  MOISTURE DEFICIT
                  PSIF         1.86  WETTING FRONT SUCTION
                 XKSAT          .07  HYDRAULIC CONDUCTIVITY
```

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                RTIMP       75.00  PERCENT IMPERVIOUS AREA

 5 US        SNYDER UNITGRAPH
                TP           .19  LAG
                CP           .63  PEAKING COEFFICIENT

             SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .22 HR,       R=    .16 HR
                                   SNYDER   TP=    .19 HR,      CP=    .63

                                            UNIT HYDROGRAPH
                                         12 END-OF-PERIOD ORDINATES
             36.      114.      144.      106.       62.       36.       21.       12.       7.        4.
              2.        1.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


           ***************
           *             *
117 KK     *      C23e   *
           *             *
           ***************
                    Combine Hydrograph Basin 23e with WF_PD2

119 HC        HYDROGRAPH COMBINATION
                 ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                  ***


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           ***************
           *             *
120 KK     *      R23e   *
           *             *
           ***************
                    Route Hydrograph Through Basin 23a Pipe

          HYDROGRAPH ROUTING DATA

122 RK       KINEMATIC WAVE STREAM ROUTING
                    L       1500.  CHANNEL LENGTH
                    S       .0080  SLOPE
                    N        .015  CHANNEL ROUGHNESS COEFFICIENT
                   CA         .00  CONTRIBUTING AREA
                SHAPE        CIRC  CHANNEL SHAPE
                   WD        4.00  BOTTOM WIDTH OR DIAMETER
                    Z         .00  SIDE SLOPE
               NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                  ***

        *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT
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          *             *
123 KK    *     DB23a   *
          *             *
          ***************
                    Subbasin

     SUBBASIN RUNOFF DATA

125 BA          SUBBASIN CHARACTERISTICS
                      TAREA          .02  SUBBASIN AREA

126 LG          GREEN AND AMPT LOSS RATE
                     STRTL          .59  STARTING LOSS
                       DTH          .54  MOISTURE DEFICIT
                      PSIF         2.01  WETTING FRONT SUCTION
                     XKSAT          .07  HYDRAULIC CONDUCTIVITY
                     RTIMP         1.00  PERCENT IMPERVIOUS AREA

127 US          SNYDER UNITGRAPH
                        TP          .06  LAG
                        CP          .19  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .08 HR,       R=    .74 HR
                                   SNYDER   TP=    .14 HR,      CP=    .19

                                          UNIT HYDROGRAPH
                                    48 END-OF-PERIOD ORDINATES
                8.       15.       14.       12.       11.       10.        9.        8.        7.        6.
                6.        5.        4.        4.        4.        3.        3.        3.        2.        2.
                2.        2.        1.        1.        1.        1.        1.        1.        1.        1.
                1.        1.        0.        0.        0.        0.        0.        0.        0.        0.
                0.        0.        0.        0.        0.        0.        0.        0.

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          *             *
128 KK    *     C23a    *
          *             *
          ***************
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Combine Hydrograph Basin 23a, 23e with WF_PD2

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 30 HC          HYDROGRAPH COMBINATION
                     ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                    ***

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          *             *
131 KK    *    R_PD U   *
          *             *
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Route Hydrograph Through Upper Airport Upper Pond

```
          HYDROGRAPH ROUTING DATA

133 RS          STORAGE ROUTING
                     NSTPS           1  NUMBER OF SUBREACHES
                      ITYP        STOR  TYPE OF INITIAL CONDITION
                     RSVRIC         .00  INITIAL CONDITION
                         X          .00 WORKING R AND D COEFFICIENT

134 SV            STORAGE          .0        .0        .2       6.1      16.2      26.8      29.4

135 SQ          DISCHARGE          0.       11.       11.       12.       13.       14.      162.

136 SE          ELEVATION     4767.00   4767.01   4768.00   4770.00   4772.00   4774.00   4774.50
                                                    ***

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN        0. TO       11.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)


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          *             *
137 KK    *    D_Pd U   *
          *             *
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Weir Flow Into Lower Pond

```
     DT           DIVERSION
                       ISTAD      U_Pipe  DIVERSION HYDROGRAPH IDENTIFICATION

     DI             INFLOW          .00     14.20     14.30    100.00   1000.00

     DQ      DIVERTED FLOW          .00     14.20     14.20     14.20     14.20
                                                    ***

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          *             *
142 KK    *      DB22   *
          *             *
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Subbasin

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          SUBBASIN RUNOFF DATA

144 BA          SUBBASIN CHARACTERISTICS
                     TAREA          .22  SUBBASIN AREA

145 LG          GREEN AND AMPT LOSS RATE
                     STRTL          .30  STARTING LOSS
                       DTH          .31  MOISTURE DEFICIT
                      PSIF         1.15  WETTING FRONT SUCTION
                     XXSAT          .04  HYDRAULIC CONDUCTIVITY
                     RTIMP         1.00  PERCENT IMPERVIOUS AREA

146 US          SNYDER UNITGRAPH
                        TP          .20  LAG
                        CP          .27  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                    ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .15 HR,       R=    .65 HR
                                   SNYDER   TP=    .20 HR,      CP=    .27

                                          UNIT HYDROGRAPH
                                    42 END-OF-PERIOD ORDINATES
                    60.       157.      183.      160.      141.      124.      109.       96.       84.       74.
                    65.        57.       50.       44.       39.       34.       30.       26.       23.       20.
                    18.        16.       14.       12.       11.        9.        8.        7.        6.        6.
                     5.         4.        4.        3.        3.        3.        2.        2.        2.        2.
                     1.         1.

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          *             *
147 KK    *     R24_P   *
          *             *
          ***************
```

Route Hydrograph Through Basin 24 Pipe

HYDROGRAPH ROUTING DATA

149 RK KINEMATIC WAVE STREAM ROUTING

L	3076.	CHANNEL LENGTH
S	.0140	SLOPE
N	.015	CHANNEL ROUGHNESS COEFFICIENT
CA	.00	CONTRIBUTING AREA
SHAPE	CIRC	CHANNEL SHAPE
WD	4.50	BOTTOM WIDTH OR DIAMETER
Z	.00	SIDE SLOPE
NDXMIN	2	MINIMUM NUMBER OF DX INTERVALS

***

*** ***

150 KK R24_O

Route Hydrograph Through Basin 24 Overland

HYDROGRAPH ROUTING DATA

152 RK KINEMATIC WAVE STREAM ROUTING

L	1506.	CHANNEL LENGTH
S	.0190	SLOPE
N	.030	CHANNEL ROUGHNESS COEFFICIENT
CA	.00	CONTRIBUTING AREA
SHAPE	TRAP	CHANNEL SHAPE
WD	10.00	BOTTOM WIDTH OR DIAMETER
Z	12.00	SIDE SLOPE
NDXMIN	2	MINIMUM NUMBER OF DX INTERVALS

***

*** ***

153 KK DB24a

Subbasin

SUBBASIN RUNOFF DATA

155 BA SUBBASIN CHARACTERISTICS

TAREA	.02	SUBBASIN AREA

156 LG GREEN AND AMPT LOSS RATE

STRTL	.53	STARTING LOSS
DTH	.50	MOISTURE DEFICIT
PSIF	1.86	WETTING FRONT SUCTION
XKSAT	.07	HYDRAULIC CONDUCTIVITY
RTIMP	20.00	PERCENT IMPERVIOUS AREA

157 US SNYDER UNITGRAPH

TP	.15	LAG
CP	.18	PEAKING COEFFICIENT

SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

***

UNIT HYDROGRAPH PARAMETERS

CLARK TC= .10 HR, R= .78 HR

SNYDER TP= .15 HR, CP= .18

UNIT HYDROGRAPH

50 END-OF-PERIOD ORDINATES

7.	15.	14.	13.	12.	10.	9.	8.	8.	7.
6.	5.	5.	4.	4.	4.	3.	3.	3.	2.
2.	2.	2.	2.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

*** ***

158 KK B4aDIV

Divert Basin 24a overflow

DT	DIVERSION ISTAD	B4aDIV	DIVERSION HYDROGRAPH IOENTIFICATION		
DI	INFLOW	.00	14.00	100.00	1000.00
DQ	DIVERTED FLOW	.00	.01	86.00	986.00

***

*** ***

```
163 KK      *      R24_P  *
            *             *
            ***************
                        Route Hydrograph Through Basin 24 Pipe

               HYDROGRAPH ROUTING DATA

165 RK           KINEMATIC WAVE STREAM ROUTING
                        L       800.  CHANNEL LENGTH
                        S      .0140  SLOPE
                        N       .015  CHANNEL ROUGHNESS COEFFICIENT
                       CA        .00  CONTRIBUTING AREA
                    SHAPE       CIRC  CHANNEL SHAPE
                       WD       4.50  BOTTOM WIDTH OR DIAMETER
                        Z        .00  SIDE SLOPE
                   NDXMIN          2  MINIMUM NUMBER OF DX INTERVALS
                                                  ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *             *
166 KK      *      R24_O  *
            *             *
            ***************
                        Route Hydrograph Through Basin 24 Overland

               HYDROGRAPH ROUTING DATA

168 RK           KINEMATIC WAVE STREAM ROUTING
                        L      1506.  CHANNEL LENGTH
                        S      .0190  SLOPE
                        N       .030  CHANNEL ROUGHNESS COEFFICIENT
                       CA        .00  CONTRIBUTING AREA
                    SHAPE       TRAP  CHANNEL SHAPE
                       WD      10.00  BOTTOM WIDTH OR DIAMETER
                        Z      12.00  SIDE SLOPE
                   NDXMIN          2  MINIMUM NUMBER OF DX INTERVALS
                                                  ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *             *
169.KK      *       DB24  *
            *             *
            ***************
                        Subbasin

               SUBBASIN RUNOFF DATA

171 BA           SUBBASIN CHARACTERISTICS
                      TAREA         .23  SUBBASIN AREA

172 LG           GREEN AND AMPT LOSS RATE
                      STRTL         .44  STARTING LOSS
                        DTH         .43  MOISTURE DEFICIT
                       PSIF        1.59  WETTING FRONT SUCTION
                      XKSAT         .06  HYDRAULIC CONDUCTIVITY
                      RTIMP       58.00  PERCENT IMPERVIOUS AREA

173 US           SNYDER UNITGRAPH
                         TP         .18  LAG
                         CP         .62  PEAKING COEFFICIENT

                 SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .22 HR,       R=    .15 HR
                                    SNYDER  TP=    .18 HR,      CP=    .63

                                          UNIT HYOROGRAPH
                                       11 END-OF-PERIOD ORDINATES
                   127.      393.      484.      342.      194.      110.       63.       36.       20.       11.
                     7.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *             *
174 KK      *       C24   *
            *             *
            ***************
                        Combine Hydrographs (Basin22, Basin 24a, Basin 24)

176 HC           HYDROGRAPH COMBINATION
                      ICOMP           3  NUMBER OF HYDROGRAPHS TO COMBINE
                                                  ***

 * *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *             *
177 KK      *      DR24a  *
            *             *
            ***************
                        Retrieve 24a diversion
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```
179 DR          RETRIEVE DIVERSION HYDROGRAPH
                     ISTAD      B4aDIV  DIVERSION HYDROGRAPH IDENTIFICATION
                                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
180 KK    *     R25_O   *
          *             *
          ***************
                     Route 24a diversion through Basin 25 overland

            HYDROGRAPH ROUTING DATA

182 RK        KINEMATIC WAVE STREAM ROUTING
                        L        800.  CHANNEL LENGTH
                        S       .0150  SLOPE
                        N        .030  CHANNEL ROUGHNESS COEFFICIENT
                       CA         .00  CONTRIBUTING AREA
                    SHAPE        TRAP  CHANNEL SHAPE
                       WD       30.00  BOTTOM WIDTH OR DIAMETER
                        Z       10.00  SIDE SLOPE
                   NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
183 KK    *     R25_P   *
          *             *
          ***************
                     Route 24a diversion through Basin 25 pipe

            HYDROGRAPH ROUTING DATA

185 RK        KINEMATIC WAVE STREAM ROUTING
                        L       1600.  CHANNEL LENGTH
                        S       .0130  SLOPE
                        N        .015  CHANNEL ROUGHNESS COEFFICIENT
                       CA         .00  CONTRIBUTING AREA
                    SHAPE        CIRC  CHANNEL SHAPE
                       WD        4.00  BOTTOM WIDTH OR DIAMETER
                        Z         .00  SIDE SLOPE
                   NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                        ***
      WARNING FDKRUT FAILURE TO PRESERVE UPSTREAM HYDROGRAPH VOLUME - CHECK ROUTED HYDROGRAPH SUMQU=      .0001 SUMQT=      .0005

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
186 KK    *      DB25   *
          *             *
          ***************
                     Subbasin

            SUBBASIN RUNOFF DATA

188 BA        SUBBASIN CHARACTERISTICS
                    TAREA         .02  SUBBASIN AREA

189 LG        GREEN AND AMPT LOSS RATE
                    STRTL         .53  STARTING LOSS
                      DTH         .50  MOISTURE DEFICIT
                     PSIF        1.86  WETTING FRONT SUCTION
                    XKSAT         .07  HYDRAULIC CONDUCTIVITY
                    RTIMP       20.00  PERCENT IMPERVIOUS AREA

190 US        SNYDER UNITGRAPH
                       TP         .15  LAG
                       CP         .18  PEAKING COEFFICIENT

            SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                        ***

                                        UNIT HYDROGRAPH PARAMETERS
                                  CLARK   TC=    .10 HR,       R=    .76 HR
                                 SNYDER   TP=    .15 HR,      CP=    .18

                                          UNIT HYOROGRAPH
                                    49 END-OF-PERIOD ORDINATES
                9.       18.       17.       15.       14.       12.       11.       10.        9.        8.
                7.        6.        6.        5.        5.        4.        4.        3.        3.        3.
                2.        2.        2.        2.        2.        1.        1.        1.        1.        1.
                1.        1.        1.        1.        1.        0.        0.        0.        0.        0.
                0.        0.        0.        0.        0.        0.        0.        0.        0.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
191 KK    *      C25    *
          *             *
          ***************
                     Combine Hydrograph with 24a diversion
```

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193 HC          HYDROGRAPH COMBINATION
                     ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                   ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
194 KK    *     B5DIV   *
          *             *
          ***************
                    Divert Basin 25 storm sewer overflow

    DT          DIVERSION
                     ISTAD       B5DIV  DIVERSION HYDROGRAPH IDENTIFICATION

    DI            INFLOW          .00     14.00    100.00   1000.00

    DQ     DIVERTED FLOW          .00       .00     86.00    986.00
                                                                   ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
199 KK    *     DB25a   *
          *             *
          ***************
                    Subbasin

       SUBBASIN RUNOFF DATA

201 BA          SUBBASIN CHARACTERISTICS
                     TAREA          .03  SUBBASIN AREA

202 LG          GREEN AND AMPT LOSS RATE
                     STRTL          .55  STARTING LOSS
                       DTH          .51  MOISTURE DEFICIT
                      PSIF         1.91  WETTING FRONT SUCTION
                     XKSAT          .07  HYDRAULIC CONDUCTIVITY
                     RTIMP         1.00  PERCENT IMPERVIOUS AREA

203 US          SNYDER UNITGRAPH
                       TP           .07  LAG
                       CP           .20  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                                   ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .08 HR,       R=    .68 HR
                                   SNYDER   TP=    .14 HR,      CP=    .20

                                          UNIT HYDROGRAPH
                                    44 END-OF-PERIOD ORDINATES
                14.       27.       24.       21.       18.       16.       14.       13.       11.       10.
                 9.        8.        7.        6.        5.        5.        4.        4.        3.        3.
                 3.        2.        2.        2.        2.        1.        1.        1.        1.        1.
                 1.        1.        1.        1.        0.        0.        0.        0.        0.        0.
                 0.        0.        0.        0.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
204 KK    *       C_6   *
          *             *
          ***************
                    Combine Basins 25a 25 24a 24 22

206 HC          HYDROGRAPH COMBINATION
                     ICOMP           3  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                   ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
207 KK    *       C_7   *
          *             *
          ***************
                    Combine all Basins

209 HC          HYDROGRAPH COMBINATION
                     ICOMP           2  NUMBER OF HYOROGRAPHS TO COMBINE
                                                                   ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
210 KK    *     R_PD L  *
          *             *
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          ***************
                        route Hydrograph Through Lower Airport East Pond

             HYDROGRAPH ROUTING DATA

 212 RS        STORAGE ROUTING
                    NSTPS          1  NUMBER OF SUBREACHES
                     ITYP       STOR  TYPE OF INITIAL CONDITION
                   RSVRIC        .00  INITIAL CONDITION
                        X        .00 WORKING R AND D COEFFICIENT

 213 SV          STORAGE          .0        .1        4.3       13.8       24.6

 214 SQ        DISCHARGE          0.        6.        8.        10.        11.

 215 SE        ELEVATION     4758.40   4760.00   4762.00   4764.00   4766.00
                                                                  ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
 216 KK   *      PR_U   *
          *             *
          ***************
                        Retrieve Upper Pond Pipe Flow

 218 DR        RETRIEVE DIVERSION HYDROGRAPH
                    ISTAD      U_Pipe  DIVERSION HYDROGRAPH IDENTIFICATION
                                                                  ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
 219 KK   *      C_Out  *
          *             *
          ***************
                        Combine 2 Outflow Hydrographs at Canal

 221 HC        HYDROGRAPH COMBINATION
                    ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                  ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
 222 KK   *       R16   *
          *             *
          ***************
                        Subbasin

             SUBBASIN RUNOFF DATA

 224 BA        SUBBASIN CHARACTERISTICS
                    TAREA        .16  SUBBASIN AREA

 225 LG        GREEN AND AMPT LOSS RATE
                   STRTL        .67  STARTING LOSS
                     DTH        .59  MOISTURE DEFICIT
                    PSIF       2.16  WETTING FRONT SUCTION
                   XKSAT        .08  HYDRAULIC CONDUCTIVITY
                   RTIMP      50.00  PERCENT IMPERVIOUS AREA

 226 US        SNYDER UNITGRAPH
                      TP        .12  LAG
                      CP        .48  PEAKING COEFFICIENT

               SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .10 HR,       R=    .18 HR
                                  SNYDER    TP=    .12 HR,      CP=    .48

                                              UNIT HYDROGRAPH
                                          13 END-OF-PERIOD ORDINATES
                205.      352.      240.      151.       94.       59.       37.       23.       15.       9.
                  6.        4.        2.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
 227 KK   *     R_14a   *
          *             *
          ***************
                        Route Hydrograph through R14A overland

             HYDROGRAPH ROUTING DATA

 229 RK        KINEMATIC WAVE STREAM ROUTING
                      L       2500.  CHANNEL LENGTH
                      S       .0050  SLOPE
                      N        .040  CHANNEL ROUGHNESS COEFFICIENT
                     CA         .00  CONTRIBUTING AREA
                  SHAPE        TRAP  CHANNEL SHAPE
```

```
                    WD        10.00  BOTTOM WIDTH OR DIAMETER
                     Z        10.00  SIDE SLOPE
                NDXMIN            2  MINIMUM NUMBER OF DX INTERVALS
                                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          **************
          *            *
230 KK    *      R14A  *
          *            *
          **************
                    Subbasin

             SUBBASIN RUNOFF DATA

232 BA         SUBBASIN CHARACTERISTICS
                    TAREA         .04  SUBBASIN AREA

233 LG         GREEN AND AMPT LOSS RATE
                    STRTL         .60  STARTING LOSS
                      DTH         .55  MOISTURE DEFICIT
                     PSIF        2.05  WETTING FRONT SUCTION
                    XKSAT         .07  HYDRAULIC CONDUCTIVITY
                    RTIMP       75.00  PERCENT IMPERVIOUS AREA

234 US         SNYDER UNITGRAPH
                      TP          .12  LAG
                      CP          .48  PEAKING COEFFICIENT

               SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                        ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .10 HR,       R=    .18 HR
                                   SNYDER   TP=    .12 HR,      CP=    .48

                                              UNIT HYDROGRAPH
                                          12 END-OF-PERIOD ORDINATES
                52.       90.       61.       38.       24.       15.        9.        6.        4.        2.
                 1.        1.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          **************
          *            *
  5.KK    *     C_14A  *
          *            *
          **************
                    Combine Hydrographs (R16, R14A)

237 HC         HYDROGRAPH COMBINATION
                    ICOMP            2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          **************
          *            *
238 KK    *     C_14A  *
          *            *
          **************
                    Combine Hydrograph with Lower Pond Outfall

240 HC         HYDROGRAPH COMBINATION
                    ICOMP            2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                        ***
1
                                                RUNOFF SUMMARY
                                          FLOW IN CUBIC FEET PER SECOND
                                       TIME IN HOURS,  AREA IN SQUARE MILES

                                                                                                                                  BASIN      MAXIMUM      TIME OF
          OPERATION          STATION      PEAK FLOW   TIME OF PEAK   AVERAGE FLOW FOR MAXIMUM PERIOD   6-HOUR   24-HOUR   72-HOUR      AREA      STAGE      MAX STAGE
+
+         HYDROGRAPH AT       DB21            44.        12.08             6.        2.        1.        .15
+         ROUTED TO           PD A             7.        13.17             5.        2.        1.        .15
+         ROUTED TO           R21a             7.        13.50             5.        2.        1.        .15
+         HYDROGRAPH AT       DB21a           87.        12.08            13.        3.        3.        .34
          2 COMBINED AT       C21a            87.        12.08            18.        5.        5.        .49
          ROUTED TO           WF_PD1          19.        13.50            16.        5.        5.        .49
+         ROUTED TO           RPD1            19.        13.50            16.        5.        5.        .49
+         HYDROGRAPH AT       DB23b           31.        12.08             4.        1.        1.        .06
          2 COMBINED AT
```

+		C23	41.	12.08	19.	6.	6.	.55
+	ROUTED TO	R23b	40.	12.08	19.	6.	6.	.55
+	HYDROGRAPH AT	DB23c	41.	12.08	5.	2.	2.	.08
+	ROUTED TO	R23c	40.	12.08	5.	2.	2.	.08
+	HYDROGRAPH AT	DB23d	8.	12.08	1.	0.	0.	.02
+	ROUTED TO	R23d	8.	12.08	1.	0.	0.	.02
+	3 COMBINED AT	C23	87.	12.08	24.	9.	8.	.65
+	ROUTED TO	WF_PD2	56.	12.33	24.	9.	8.	.65
+	ROUTED TO	RWF_P2	56.	12.33	24.	9.	8.	.65
+	HYDROGRAPH AT	DB23e	38.	12.08	5.	2.	2.	.07
+	2 COMBINED AT	C23e	83.	12.17	29.	10.	10.	.72
+	ROUTED TO	R23e	83.	12.17	29.	10.	10.	.72
+	HYDROGRAPH AT	DB23a	1.	12.08	0.	0.	0.	.02
+	2 COMBINED AT	C23a	84.	12.17	29.	10.	10.	.74
+	ROUTED TO	R_PD U	13.	18.83	13.	8.	8.	.74
+	DIVERSION TO	U_Pipe	13.	18.83	13.	8.	8.	.74
+	HYDROGRAPH AT	D_Pd U	0.	.00	0.	0.	0.	.74
+	HYDROGRAPH AT	DB22	57.	12.08	9.	2.	2.	.22
+	ROUTED TO	R24_P	55.	12.17	9.	2.	2.	.22
+	ROUTED TO	R24_O	54.	12.17	9.	2.	2.	.22
+	HYOROGRAPH AT	DB24a	3.	12.08	1.	0.	0.	.02
+	DIVERSION TO	B4aDIV	0.	12.00	0.	0.	0.	.02
+	HYOROGRAPH AT	B4aDIV	3.	12.08	1.	0.	0.	.02
+	ROUTED TO	R24_P	2.	12.08	1.	0.	0.	.02
+	ROUTED TO	R24_O	2.	12.25	1.	0.	0.	.02
+	HYDROGRAPH AT	DB24	123.	12.08	14.	5.	5.	.23
+	3 COMBINED AT	C24	169.	12.08	23.	7.	7.	.48
+	HYDROGRAPH AT	DR24a	0.	12.00	0.	0.	0.	.02
+	ROUTED TO	R25_O	0.	12.92	0.	0.	0.	.02
+	ROUTED TO	R25_P	0.	13.08	0.	0.	0.	.02
+	HYDROGRAPH AT	DB25	3.	12.08	1.	0.	0.	.02
+	2 COMBINED AT	C25	3.	12.08	1.	0.	0.	.02
+	DIVERSION TO	B5DIV	0.	.00	0.	0.	0.	.02
+	HYDROGRAPH AT	B5OIV	3.	12.08	1.	0.	0.	.02
+	HYDROGRAPH AT	DB25a	2.	12.08	0.	0.	0.	.03
+	3 COMBINED AT	C_6	174.	12.08	24.	7.	7.	.53
+	2 COMBINED AT	C_7	173.	12.08	24.	7.	7.	1.27
+	ROUTED TO	R_PD L	9.	14.00	9.	6.	5.	1.27
	HYDROGRAPH AT							

+		PR_U	13.	18.83	13.	8.	8.	.74
	2 COMBINED AT	C_Out	21.	15.00	21.	14.	13.	1.27
	HYDROGRAPH AT	R16	52.	12.00	7.	2.	2.	.16
+	ROUTED TO	R_14a	50.	12.17	7.	2.	2.	.16
+	HYDROGRAPH AT	R14A	20.	12.00	3.	1.	1.	.04
+	2 COMBINED AT	C_14A	63.	12.17	10.	3.	3.	.19
+	2 COMBINED AT	C_14A	83.	12.17	30.	17.	17.	1.46

1

SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	INTERPOLATED TO COMPUTATION INTERVAL DT	PEAK	TIME TO PEAK	VOLUME
		(MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	(MIN)	(IN)
FOR STORM = 1 STORM AREA (SQ MI) = .01									
	R21a MANE	5.00	7.16	811.18	.38	5.00	7.16	810.00	.38
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3071E+01 EXCESS= .0000E+00 OUTFLOW= .3071E+01 BASIN STORAGE= .3580E-02 PERCENT ERROR= -.1									
FOR STORM = 2 STORM AREA (SQ MI) = 14.00									
	R21a MANE	5.00	7.09	808.51	.36	5.00	7.09	810.00	.36
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2952E+01 EXCESS= .0000E+00 OUTFLOW= .2951E+01 BASIN STORAGE= .3524E-02 PERCENT ERROR= -.1									
FOR STORM = 3 STORM AREA (SQ MI) = 24.00									
	R21a MANE	5.00	7.06	807.59	.36	5.00	7.06	810.00	.36
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2893E+01 EXCESS= .0000E+00 OUTFLOW= .2896E+01 BASIN STORAGE= .3137E-02 PERCENT ERROR= -.2									
FOR STORM = 4 STORM AREA (SQ MI) = 36.50									
	R21a MANE	5.36	7.03	807.36	.35	5.00	7.03	810.00	.35
ITINUITY SUMMARY (AC-FT) - INFLOW= .2833E+01 EXCESS= .0000E+00 OUTFLOW= .2836E+01 BASIN STORAGE= .3255E-02 PERCENT ERROR= -.2									
FOR STORM = 5 STORM AREA (SQ MI) = 50.00									
	R21a MANE	5.00	7.01	807.80	.35	5.00	7.01	810.00	.35
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2791E+01 EXCESS= .0000E+00 OUTFLOW= .2795E+01 BASIN STORAGE= .3220E-02 PERCENT ERROR= -.2									
FOR STORM = 1 STORM AREA (SQ MI) = .01									
	RPD1 MANE	1.00	18.91	811.19	.38	5.00	18.91	810.00	.38
CONTINUITY SUMMARY (AC-FT) - INFLOW= .9942E+01 EXCESS= .0000E+00 OUTFLOW= .9942E+01 BASIN STORAGE= .7173E-03 PERCENT ERROR= .0									
FOR STORM = 2 STORM AREA (SQ MI) = 14.00									
	RPD1 MANE	1.01	18.45	811.95	.36	5.00	18.45	810.00	.36
CONTINUITY SUMMARY (AC-FT) - INFLOW= .9556E+01 EXCESS= .0000E+00 OUTFLOW= .9555E+01 BASIN STORAGE= .6607E-03 PERCENT ERROR= .0									
FOR STORM = 3 STORM AREA (SQ MI) = 24.00									
	RPD1 MANE	.91	18.23	811.14	.36	5.00	18.23	810.00	.36
CONTINUITY SUMMARY (AC-FT) - INFLOW= .9366E+01 EXCESS= .0000E+00 OUTFLOW= .9365E+01 BASIN STORAGE= .6279E-03 PERCENT ERROR= .0									
FOR STORM = 4 STORM AREA (SQ MI) = 36.50									
	RPD1 MANE	1.02	17.99	811.77	.35	5.00	17.99	810.00	.35
CONTINUITY SUMMARY (AC-FT) - INFLOW= .9171E+01 EXCESS= .0000E+00 OUTFLOW= .9170E+01 BASIN STORAGE= .5990E-03 PERCENT ERROR= .0									
FOR STORM = 5 STORM AREA (SQ MI) = 50.00									
	RPD1 MANE	.87	17.84	811.82	.34	5.00	17.83	810.00	.34
CONTINUITY SUMMARY (AC-FT) - INFLOW= .9039E+01 EXCESS= .0000E+00 OUTFLOW= .9038E+01 BASIN STORAGE= .5905E-03 PERCENT ERROR= .0									
FOR STORM = 1 STORM AREA (SQ MI) = .01									
	R23b MANE	.54	41.70	726.06	.44	5.00	40.70	725.00	.44
ONTINUITY SUMMARY (AC-FT) - INFLOW= .1279E+02 EXCESS= .0000E+00 OUTFLOW= .1279E+02 BASIN STORAGE= .4309E-03 PERCENT ERROR= .0									
FOR STORM = 2 STORM AREA (SQ MI) = 14.00									
	R23b MANE	.54	40.52	726.02	.42	5.00	39.52	725.00	.42
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1234E+02 EXCESS= .0000E+00 OUTFLOW= .1234E+02 BASIN STORAGE= .3941E-03 PERCENT ERROR= .0									
FOR STORM = 3 STORM AREA (SQ MI) = 24.00									

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      R23b  MANE          .55     39.90    726.25       .41      5.00     38.94    725.00         .41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1212E+02 EXCESS= .0000E+00 OUTFLOW= .1212E+02 BASIN STORAGE= .3746E-03 PERCENT ERROR=    .0

      FOR STORM = 4  STORM AREA (SQ MI) =      36.50
      R23b  MANE          .55     39.33    725.97       .40      5.00     38.37    725.00         .40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1189E+02 EXCESS= .0000E+00 OUTFLOW= .1189E+02 BASIN STORAGE= .3614E-03 PERCENT ERROR=    .0

      FOR STORM = 5  STORM AREA (SQ MI) =      50.00
      R23b  MANE          .55     38.94    725.97       .40      5.00     37.98    725.00         .40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1174E+02 EXCESS= .0000E+00 OUTFLOW= .1173E+02 BASIN STORAGE= .3547E-03 PERCENT ERROR=    .0

      FOR STORM = 1  STORM AREA (SQ MI) =        .01
      R23c  MANE         1.02     41.40    727.07       .89      5.00     39.93    725.00         .89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3730E+01 EXCESS= .0000E+00 OUTFLOW= .3733E+01 BASIN STORAGE= .3082E-03 PERCENT ERROR=   -.1

      FOR STORM = 2  STORM AREA (SQ MI) =      14.00
      R23c  MANE         1.00     39.93    726.52       .87      5.00     38.73    725.00         .87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3643E+01 EXCESS= .0000E+00 OUTFLOW= .3645E+01 BASIN STORAGE= .3158E-03 PERCENT ERROR=   -.1

      FOR STORM = 3  STORM AREA (SQ MI) =      24.00
      R23c  MANE         1.11     39.25    726.81       .86      5.00     38.13    725.00         .86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3600E+01 EXCESS= .0000E+00 OUTFLOW= .3601E+01 BASIN STORAGE= .3010E-03 PERCENT ERROR=   -.1

      FOR STORM = 4  STORM AREA (SQ MI) =      36.50
      R23c  MANE          .98     38.68    726.44       .85      5.00     37.55    725.00         .85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3557E+01 EXCESS= .0000E+00 OUTFLOW= .3559E+01 BASIN STORAGE= .4591E-03 PERCENT ERROR=   -.1

      FOR STORM = 5  STORM AREA (SQ MI) =      50.00
      R23c  MANE         1.03     38.34    726.69       .85      5.00     37.16    725.00         .85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3528E+01 EXCESS= .0000E+00 OUTFLOW= .3530E+01 BASIN STORAGE= .3872E-03 PERCENT ERROR=   -.1

      FOR STORM = 1  STORM AREA (SQ MI) =        .01
      R23d  MANE         1.22      8.18    726.92       .77      5.00      7.84    725.00         .77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7142E+00 EXCESS= .0000E+00 OUTFLOW= .7144E+00 BASIN STORAGE= .2567E-04 PERCENT ERROR=    .0

      FOR STORM = 2  STORM AREA (SQ MI) =      14.00
      R23d  MANE         1.11      7.95    726.94       .76      5.00      7.56    725.00         .75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6962E+00 EXCESS= .0000E+00 OUTFLOW= .6966E+00 BASIN STORAGE= .1791E-04 PERCENT ERROR=   -.1

      FOR STORM = 3  STORM AREA (SQ MI) =      24.00
      R23d  MANE         1.12      7.80    727.51       .75      5.00      7.43    725.00         .75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6872E+00 EXCESS= .0000E+00 OUTFLOW= .6877E+00 BASIN STORAGE= .1541E-04 PERCENT ERROR=   -.1

      FOR STORM = 4  STORM AREA (SQ MI) =      36.50
      R23d  MANE         1.28      7.60    727.74       .74      5.00      7.29    725.00         .74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6783E+00 EXCESS= .0000E+00 OUTFLOW= .6786E+00 BASIN STORAGE= .1728E-04 PERCENT ERROR=    .0

      FOR STORM = 5  STORM AREA (SQ MI) =      50.00
      R23d  MANE         1.13      7.54    727.58       .73      5.00      7.20    725.00         .73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6724E+00 EXCESS= .0000E+00 OUTFLOW= .6728E+00 BASIN STORAGE= .2396E-04 PERCENT ERROR=   -.1

      FOR STORM = 1  STORM AREA (SQ MI) =        .01
    RWF_P2  MANE          .50     56.89    740.81       .50      5.00     56.79    740.00         .50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1724E+02 EXCESS= .0000E+00 OUTFLOW= .1724E+02 BASIN STORAGE= .6473E-03 PERCENT ERROR=    .0

      FOR STORM = 2  STORM AREA (SQ MI) =      14.00
    RWF_P2  MANE          .51     55.85    740.76       .48      5.00     55.76    740.00         .48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1668E+02 EXCESS= .0000E+00 OUTFLOW= .1668E+02 BASIN STORAGE= .6018E-03 PERCENT ERROR=    .0

      FOR STORM = 3  STORM AREA (SQ MI) =      24.00
    RWF_P2  MANE          .51     55.35    741.03       .48      5.00     55.25    740.00         .48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1641E+02 EXCESS= .0000E+00 OUTFLOW= .1640E+02 BASIN STORAGE= .5848E-03 PERCENT ERROR=    .0

      FOR STORM = 4  STORM AREA (SQ MI) =      36.50
    RWF_P2  MANE          .51     54.82    740.71       .47      5.00     54.74    740.00         .47
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CONTINUITY SUMMARY (AC-FT) - INFLOW= .1613E+02 EXCESS= .0000E+00 OUTFLOW= .1612E+02 BASIN STORAGE= .5751E-03 PERCENT ERROR= .0

FOR STORM = 5 STORM AREA (SQ MI) = 50.00

RWF_P2	MANE	.51	54.47	740.72	.46	5.00	54.39	740.00	.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1594E+02 EXCESS= .0000E+00 OUTFLOW= .1594E+02 BASIN STORAGE= .5659E-03 PERCENT ERROR= .0

FOR STORM = 1 STORM AREA (SQ MI) = .01

R23e	MANE	.69	84.42	731.15	.54	5.00	84.07	730.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2070E+02 EXCESS= .0000E+00 OUTFLOW= .2070E+02 BASIN STORAGE= .1127E-02 PERCENT ERROR= .0

FOR STORM = 2 STORM AREA (SQ MI) = 14.00

R23e	MANE	.71	82.61	731.34	.52	5.00	82.18	730.00	.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2006E+02 EXCESS= .0000E+00 OUTFLOW= .2006E+02 BASIN STORAGE= .1109E-02 PERCENT ERROR= .0

FOR STORM = 3 STORM AREA (SQ MI) = 24.00

R23e	MANE	.71	81.73	731.41	.52	5.00	81.24	730.00	.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1975E+02 EXCESS= .0000E+00 OUTFLOW= .1975E+02 BASIN STORAGE= .1038E-02 PERCENT ERROR= .0

FOR STORM = 4 STORM AREA (SQ MI) = 36.50

R23e	MANE	.77	80.74	731.41	.51	5.00	80.32	730.00	.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1943E+02 EXCESS= .0000E+00 OUTFLOW= .1943E+02 BASIN STORAGE= .1039E-02 PERCENT ERROR= .0

FOR STORM = 5 STORM AREA (SQ MI) = 50.00

R23e	MANE	.76	80.12	731.16	.50	5.00	79.70	730.00	.50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1921E+02 EXCESS= .0000E+00 OUTFLOW= .1921E+02 BASIN STORAGE= .9918E-03 PERCENT ERROR= .0

FOR STORM = 1 STORM AREA (SQ MI) = .01

R24_P	MANE	1.17	57.22	727.26	.38	5.00	56.17	730.00	.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4499E+01 EXCESS= .0000E+00 OUTFLOW= .4502E+01 BASIN STORAGE= .1229E-03 PERCENT ERROR= -.1

FOR STORM = 2 STORM AREA (SQ MI) = 14.00

R24_P	MANE	1.20	55.00	728.30	.36	5.00	54.27	730.00	.36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4324E+01 EXCESS= .0000E+00 OUTFLOW= .4325E+01 BASIN STORAGE= .1303E-03 PERCENT ERROR= .0

FOR STORM = 3 STORM AREA (SQ MI) = 24.00

R24_P	MANE	1.15	54.34	727.56	.36	5.00	53.31	730.00	.36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4236E+01 EXCESS= .0000E+00 OUTFLOW= .4237E+01 BASIN STORAGE= .1342E-03 PERCENT ERROR= .0

FOR STORM = 4 STORM AREA (SQ MI) = 36.50

R24_P	MANE	1.22	53.21	727.90	.35	5.00	52.33	730.00	.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4147E+01 EXCESS= .0000E+00 OUTFLOW= .4148E+01 BASIN STORAGE= .1247E-03 PERCENT ERROR= .0

FOR STORM = 5 STORM AREA (SQ MI) = 50.00

R24_P	MANE	1.33	52.58	727.84	.34	5.00	51.68	730.00	.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4087E+01 EXCESS= .0000E+00 OUTFLOW= .4088E+01 BASIN STORAGE= .1236E-03 PERCENT ERROR= .0

FOR STORM = 1 STORM AREA (SQ MI) = .01

R24_O	MANE	1.56	55.95	732.86	.38	5.00	54.67	730.00	.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4499E+01 EXCESS= .0000E+00 OUTFLOW= .4498E+01 BASIN STORAGE= .5293E-03 PERCENT ERROR= .0

FOR STORM = 2 STORM AREA (SQ MI) = 14.00

R24_O	MANE	1.57	54.08	733.24	.36	5.00	52.77	730.00	.36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4323E+01 EXCESS= .0000E+00 OUTFLOW= .4323E+01 BASIN STORAGE= .4535E-03 PERCENT ERROR= .0

FOR STORM = 3 STORM AREA (SQ MI) = 24.00

R24_O	MANE	1.58	53.10	732.95	.36	5.00	51.81	735.00	.36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4232E+01 EXCESS= .0000E+00 OUTFLOW= .4233E+01 BASIN STORAGE= .5049E-03 PERCENT ERROR= .0

FOR STORM = 4 STORM AREA (SQ MI) = 36.50

R24_O	MANE	1.59	52.15	733.26	.35	5.00	50.87	735.00	.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4146E+01 EXCESS= .0000E+00 OUTFLOW= .4146E+01 BASIN STORAGE= .4775E-03 PERCENT ERROR= .0

FOR STORM = 5 STORM AREA (SQ MI) = 50.00

R24_O	MANE	1.58	51.25	733.62	.34	5.00	50.24	735.00	.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4086E+01 EXCESS= .0000E+00 OUTFLOW= .4085E+01 BASIN STORAGE= .4702E-03 PERCENT ERROR= .0

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          FOR STORM = 1  STORM AREA (SQ MI) =        .01
             R24_P  MANE          .58       2.54     726.47        .32       5.00       2.47     725.00          .32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3594E+00 EXCESS= .0000E+00 OUTFLOW= .3594E+00 BASIN STORAGE= .5791E-04 PERCENT ERROR=     .0

          FOR STORM = 2  STORM AREA (SQ MI) =       14.00
             R24_P  MANE          .58       2.38     726.10        .30       5.00       2.30     725.00          .30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3430E+00 EXCESS= .0000E+00 OUTFLOW= .3430E+00 BASIN STORAGE= .5684E-04 PERCENT ERROR=     .0

          FOR STORM = 3  STORM AREA (SQ MI) =       24.00
             R24_P  MANE          .59       2.30     726.19        .30       5.00       2.22     725.00          .30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3348E+00 EXCESS= .0000E+00 OUTFLOW= .3348E+00 BASIN STORAGE= .5705E-04 PERCENT ERROR=     .0

          FOR STORM = 4  STORM AREA (SQ MI) =       36.50
             R24_P  MANE          .58       2.21     726.44        .29       5.00       2.14     725.00          .29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3267E+00 EXCESS= .0000E+00 OUTFLOW= .3267E+00 BASIN STORAGE= .5569E-04 PERCENT ERROR=     .0

          FOR STORM = 5  STORM AREA (SQ MI) =       50.00
             R24_P  MANE          .59       2.15     726.32        .28       5.00       2.08     725.00          .28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3214E+00 EXCESS= .0000E+00 OUTFLOW= .3213E+00 BASIN STORAGE= .5613E-04 PERCENT ERROR=     .0

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
             R24_O  MANE         3.41       2.46     733.36        .32       5.00       2.45     735.00          .32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3595E+00 EXCESS= .0000E+00 OUTFLOW= .3589E+00 BASIN STORAGE= .6955E-03 PERCENT ERROR=     .0

          FOR STORM = 2  STORM AREA (SQ MI) =       14.00
             R24_O  MANE         3.55       2.29     732.01        .30       5.00       2.28     735.00          .30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3430E+00 EXCESS= .0000E+00 OUTFLOW= .3423E+00 BASIN STORAGE= .7339E-03 PERCENT ERROR=     .0

          FOR STORM = 3  STORM AREA (SQ MI) =       24.00
             R24_O  MANE         3.43       2.21     732.48        .30       5.00       2.21     735.00          .30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3349E+00 EXCESS= .0000E+00 OUTFLOW= .3339E+00 BASIN STORAGE= .6743E-03 PERCENT ERROR=     .1

          FOR STORM = 4  STORM AREA (SQ MI) =       36.50
             R24_O  MANE         3.53       2.13     733.91        .29       5.00       2.12     735.00          .29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3268E+00 EXCESS= .0000E+00 OUTFLOW= .3264E+00 BASIN STORAGE= .6818E-03 PERCENT ERROR=    -.1

          FOR STORM = 5  STORM AREA (SQ MI) =       50.00
             R24_O  MANE         3.55       2.08     734.13        .28       5.00       2.07     735.00          .28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3214E+00 EXCESS= .0000E+00 OUTFLOW= .3209E+00 BASIN STORAGE= .6378E-03 PERCENT ERROR=    -.1

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
             R25_O  MANE         5.00        .00     780.76        .00       5.00        .00     780.00          .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2569E-03 EXCESS= .0000E+00 OUTFLOW= .2676E-03 BASIN STORAGE= .8510E-05 PERCENT ERROR=  -7.5

          FOR STORM = 2  STORM AREA (SQ MI) =       14.00
             R25_O  MANE         4.98        .00     782.12        .00       5.00        .00     780.00          .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2452E-03 EXCESS= .0000E+00 OUTFLOW= .2541E-03 BASIN STORAGE= .8413E-05 PERCENT ERROR=  -7.1

          FOR STORM = 3  STORM AREA (SQ MI) =       24.00
             R25_O  MANE         4.99        .00     783.15        .00       5.00        .00     780.00          .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2393E-03 EXCESS= .0000E+00 OUTFLOW= .2468E-03 BASIN STORAGE= .8563E-05 PERCENT ERROR=  -6.7

          FOR STORM = 4  STORM AREA (SQ MI) =       36.50
             R25_O  MANE         5.00        .00     779.17        .00       5.00        .00     780.00          .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2336E-03 EXCESS= .0000E+00 OUTFLOW= .2402E-03 BASIN STORAGE= .8296E-05 PERCENT ERROR=  -6.4

          FOR STORM = 5  STORM AREA (SQ MI) =       50.00
             R25_O  MANE         5.00        .00     781.57        .00       5.00        .00     785.00          .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2297E-03 EXCESS= .0000E+00 OUTFLOW= .2323E-03 BASIN STORAGE= .8384E-05 PERCENT ERROR=  -4.8

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
             R25_P  MANE         5.00        .00     791.69        .00       5.00        .00     790.00          .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2669E-03 EXCESS= .0000E+00 OUTFLOW= .2683E-03 BASIN STORAGE= .9613E-06 PERCENT ERROR=    -.9
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          FOR STORM = 2  STORM AREA (SQ MI) =       14.00
             R25_P  MANE          5.00       .00    792.21       .00      5.00       .00    795.00         .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2536E-03 EXCESS= .0000E+00 OUTFLOW= .2532E-03 BASIN STORAGE= .9434E-06 PERCENT ERROR=   -.2

          FOR STORM = 3  STORM AREA (SQ MI) =       24.00
             R25_P  MANE          5.00       .00    793.72       .00      5.00       .00    795.00         .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2467E-03 EXCESS= .0000E+00 OUTFLOW= .2461E-03 BASIN STORAGE= .9396E-06 PERCENT ERROR=   -.1

          FOR STORM = 4  STORM AREA (SQ MI) =       36.50
             R25_P  MANE          5.00       .00    795.45       .00      5.00       .00    795.00         .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2398E-03 EXCESS= .0000E+00 OUTFLOW= .2413E-03 BASIN STORAGE= .9351E-06 PERCENT ERROR=  -1.0

          FOR STORM = 5  STORM AREA (SQ MI) =       50.00
             R25_P  MANE          5.00       .00    796.55       .00      5.00       .00    800.00         .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2320E-03 EXCESS= .0000E+00 OUTFLOW= .2312E-03 BASIN STORAGE= .9279E-06 PERCENT ERROR=   -.1

          FOR STORM = 1  STORM AREA (SQ MI) =         .01
             R_14a  MANE          4.93      49.68    728.38       .60      5.00      49.28    730.00         .60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4910E+01 EXCESS= .0000E+00 OUTFLOW= .4926E+01 BASIN STORAGE= .8383E-02 PERCENT ERROR=   -.5

          FOR STORM = 2  STORM AREA (SQ MI) =       14.00
             R_14a  MANE          4.94      51.09    729.94       .58      5.00      51.03    730.00         .58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4804E+01 EXCESS= .0000E+00 OUTFLOW= .4827E+01 BASIN STORAGE= .7169E-02 PERCENT ERROR=   -.6

          FOR STORM = 3  STORM AREA (SQ MI) =       24.00
             R_14a  MANE          5.00      47.75    728.47       .58      5.00      47.57    730.00         .58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4755E+01 EXCESS= .0000E+00 OUTFLOW= .4763E+01 BASIN STORAGE= .1049E-01 PERCENT ERROR=   -.4

          FOR STORM = 4  STORM AREA (SQ MI) =       36.50
             R_14a  MANE          5.09      48.27    731.77       .57      5.00      46.90    730.00         .57

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4705E+01 EXCESS= .0000E+00 OUTFLOW= .4718E+01 BASIN STORAGE= .1146E-01 PERCENT ERROR=   -.5

          FOR STORM = 5  STORM AREA (SQ MI) =       50.00
             R_14a  MANE          4.95      49.22    729.56       .57      5.00      48.83    730.00         .57

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4672E+01 EXCESS= .0000E+00 OUTFLOW= .4692E+01 BASIN STORAGE= .7424E-02 PERCENT ERROR=   -.6


*** NORMAL END OF HEC-1 ***
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**********************************************
*                                            *
*    FLOOD HYDROGRAPH PACKAGE  (HEC-1)       *
*              JUN  1998                     *
*           VERSION 4.1                      *
*                                            *
*  RUN DATE   21JUL08  TIME  10:56:42        *
*                                            *
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*                                    *
*    U.S. ARMY CORPS OF ENGINEERS    *
*    HYDROLOGIC ENGINEERING CENTER   *
*          609 SECOND STREET         *
*       DAVIS, CALIFORNIA 95616      *
*            (916) 756-1104          *
*                                    *
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X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X        XXXXX X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX         XXX
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THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM


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LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

    1     ID        Ranchmans Ditch Master Drainage Plan
    2     ID        Walker Field Revised Watershed Model - On site Pond Option
    3     ID        10-Year 24-Hour Storm - NRCS Type II Rainfall Distribution
    4     IT       5                  300
    5     IO       4
    6     IN       6
    7     JD    1.19    0.01
    8     PC       0   0.001   0.002  0.0031  0.0041  0.0051  0.0062  0.0073  0.0083  0.0094
    9     PC  0.0105  0.0116  0.0127  0.0138   0.015  0.0161  0.0173  0.0185  0.0196  0.0208
   10     PC   0.022  0.0232  0.0244  0.0257  0.0269  0.0281  0.0294  0.0307  0.0319  0.0332
   11     PC  0.0345  0.0358  0.0371  0.0384  0.0398  0.0411  0.0425  0.0438  0.0452  0.0466
   12     PC   0.048  0.0494  0.0508  0.0523  0.0538  0.0553  0.0568  0.0583  0.0598  0.0614
   13     PC   0.063  0.0646  0.0662  0.0679  0.0696  0.0712   0.073  0.0747  0.0764  0.0782
   14     PC    0.08  0.0818  0.0836  0.0855  0.0874  0.0892  0.0912  0.0931   0.095   0.097
   15     PC   0.099   0.101   0.103  0.1051  0.1072  0.1093  0.1114  0.1135  0.1156  0.1178
   16     PC    0.12  0.1223  0.1246  0.1271  0.1296  0.1323   0.135  0.1379  0.1408  0.1439
   17     PC   0.147  0.1502  0.1534  0.1566  0.1598   0.163  0.1663  0.1697  0.1733  0.1771
   18     PC   0.181  0.1851  0.1895  0.1941  0.1989   0.204  0.2094  0.2152  0.2214   0.228
   19     PC   0.235  0.2427  0.2513  0.2609  0.2715   0.283  0.3068  0.3544  0.4308  0.5679
   20     PC   0.663   0.682  0.6986   0.713  0.7252   0.735  0.7434  0.7514  0.7588  0.7656
   21     PC   0.772   0.778  0.7836   0.789  0.7942   0.799  0.8036   0.808  0.8122  0.8162
   22     PC    0.82  0.8237  0.8273  0.8308  0.8342  0.8376  0.8409  0.8442  0.8474  0.8505
   23     PC  0.8535  0.8565  0.8594  0.8622  0.8649  0.8676  0.8702  0.8728  0.8753  0.8777
   24     PC    0.88  0.8823  0.8846  0.8868   0.889  0.8912  0.8934  0.8955  0.8976  0.8997
   25     PC  0.9018  0.9038  0.9058  0.9078  0.9098  0.9117  0.9136  0.9155  0.9174  0.9192
   26     PC   0.921  0.9228  0.9246  0.9263   0.928  0.9297  0.9314   0.933  0.9346  0.9362
   27     PC  0.9377  0.9393  0.9408  0.9423  0.9438  0.9452  0.9466   0.948  0.9494  0.9507
   28     PC   0.952  0.9533  0.9546  0.9559  0.9572  0.9584  0.9597   0.961  0.9622  0.9635
   29     PC  0.9648   0.966  0.9672  0.9685  0.9697  0.9709  0.9722  0.9734  0.9746  0.9758
   30     PC   0.977  0.9782  0.9794  0.9806  0.9818  0.9829  0.9841  0.9853  0.9864  0.9876
   31     PC  0.9888  0.9899   0.991  0.9922  0.9933  0.9944  0.9956  0.9967  0.9978  0.9989
   32     PC       1       1       1       1       1       1       1       1       1       1
   33     PC       1       1       1       1       1       1       1       1       1       1
   34     PC       1       1       1       1       1       1       1       1       1       1
   35     PC       1       1       1       1       1       1       1       1       1       1
   36     PC       1       1       1       1       1       1       1       1       1       1
   37     PC       1       1       1       1       1       1       1       1       1       1
   38     JD   1.166      14
   39     JD   1.154      24
   40     JD   1.142    36.5
   41     JD   1.134      50

   42     KK    DB21
   43     KM   Subbasin
   44     BA  0.1519
   45     LG    0.30  0.3077   1.148   0.041       1
   46     US   0.171   0.258

   47     KK    PD A
   48     KM   Route Through Pond A
   49     RS       1    STOR       0       0
   50     SV     0.0   0.001     1.8     4.7     8.9    11.6
   51     SQ     0.0     2.5     7.0     9.0    10.6    11.3
   52     SE    4915    4916    4918    4920    4922    4923
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LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

   53     KK    R21a
   54     KM   Route R21 Through R21a
   55     RK    3500   0.023    0.05            TRAP      30       6

   56     KK   DB21a
   57     KM   Subbasin
   58     BA  0.3401
   59     LG    0.30  0.3077   1.148   0.041       1
   60     US   0.211   0.291

   61     KK    C21a
   62     KM   Combine Routed Basin 21 with Basin 21a
   63     HC       2

   64     KK  WF_PD1
   65     KM   Route Hydrograph Through New Walker Field On Site Pond 1
   66     RS       1    STOR       0       0
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 67          SV     0.0    0.97    6.95    13.6    17.3
 68          SQ     0.0    10.7    23.9    32.1    35.5
 69          SE    38.5    40.0    42.0    44.0    45.0

 70          KK    RPD1
 71          KM    Route Hydrograph Through Basin 23b Pipe
 72          RK    1750   0.014   0.015            CIRC       3

 73          KK    DB23b
 74          KM    Subbasin
 75          BA  0.0584
 76          LG    0.53  0.4970  1.8550  0.0670      75
 77          US   0.186   0.625

 78          KK     C23
 79          KM    Combine Hydrograph Basin 23b with 21 and 21a
 80          HC       2

 81          KK    R23b
 82          KM    Route Hydrograph Through Basin 23c Pipe
 83          RK    1000   0.014   0.015            CIRC       3

 84          KK    DB23c
 85          KM    Subbasin
 86          BA  0.0783
 87          LG    0.53  0.4970  1.8550  0.0670      73
 88          US   0.186   0.625

 89          KK    R23c
 90          KM    Route R23c Through R23c Ditch
 91          RK     500    .005   0.045            TRAP       10       4
1                                        HEC-1 INPUT                                                    PAGE  3

LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 92          KK    DB23d
 93          KM    Subbasin
 94          BA  0.0173
 95          LG    0.53  0.4970  1.8550  0.0670      62
 96          US   0.186   0.625

 97          KK    R23d
 98          KM    Route Hydrograph Through Basin 23d Pipe
 99          RK    1200   0.005   0.015            CIRC       2

100          KK     C23
101          KM    Combine Hydrograph Basins 23c,23d with WF_PD1 and 23b
102          HC       3

103          KK  WF_PD2
104          KM    Route Hydrograph Through New Walker Field On Site Pond 2
105          RS       1    STOR       0       0
106          SV     0.0    0.10    0.70    1.64    3.16    5.34
107          SQ     0.0    23.6    48.1    68.1    83.4    90.1
108          SE  4793.5    4795    4797    4799    4801    4803

109          KK  RWF_P2
110          KM    Route Hydrograph Through Basin 23e Pipe
111          RK    1000   0.010   0.015            CIRC       3

112          KK    DB23e
113          KM    Subasin
114          BA  0.0709
115          LG    0.53  0.4970  1.8550  0.0670      75
116          US   0.186   0.625

117          KK    C23e
118          KM    Combine Hydrograph Basin 23e with WF_PD2
119          HC       2

120          KK    R23e
121          KM    Route Hydrograph Through Basin 23a Pipe
122          RK    1500   0.008   0.015            CIRC       4

123          KK    DB23a
124          KM    Subbasin
125          BA  0.0196
126          LG    0.59  0.5397  2.0144  0.0724       1
127          US   0.063   0.190

128          KK    C23a
129          KM    Combine Hydrograph Basin 23a, 23e with WF_PD2
130          HC       2
1                                        HEC-1 INPUT                                                    PAGE  4

LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

131          KK  R_PD U
132          KM    Route Hydrograph Through Upper Airport Upper Pond
133          RS       1    STOR       0       0
134          SV     0.0   0.001    0.21    6.09   16.16   26.80    29.4
135          SQ     0.0    10.8    11.4    12.4    13.3    14.2     162
136          SE    4767 4767.01    4768    4770    4772    4774  4774.5

137          KK  D_Pd U
138          KM    Weir Flow Into Lower Pond
139          DT  U_Pipe
140          DI     0.0    14.2    14.3     100    1000
141          DQ     0.0    14.2    14.2    14.2    14.2

142          KK    DB22
143          KM    Subbasin
144          BA  0.2226
145          LG    0.30  0.3077   1.148   0.041       1
146          US   0.203   0.273

147          KK    R24_P
148          KM    Route Hydrograph Through Basin 24 Pipe
149          RK    3076   0.014   0.015            CIRC     4.5

150          KK    R24_O
151          KM    Route Hydrograph Through Basin 24 Overland
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152          RK    1506   0.019    0.03            TRAP      10       12

153          KK   DB24a
154          KM   Subbasin
155          BA  0.0212
156          LG    0.53  0.4970  1.8550  0.0670       20
157          US   0.150   0.180

158          KK  B4aDIV
159          KM   Divert Basin 24a overflow
160          DT  B4aDIV
161          DI     0.0    14.0   100.0  1000.0
162          DQ       0    0.01    86.0   986.0

163          KK   R24_P
164          KM   Route Hydrograph Through Basin 24 Pipe
165          RK     800   0.014   0.015            CIRC      4.5

166          KK   R24_O
167          KM   Route Hydrograph Through Basin 24 Overland
168          RK    1506   0.019    0.03            TRAP      10       12

169          KK    DB24
170          KM   Subbasin
171          BA  0.2318
172          LG    0.44  0.4260  1.5900  0.0570       58
173          US   0.180   0.623
1                                    HEC-1 INPUT                                                    PAGE  5

LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

174          KK     C24
175          KM   Combine Hydrographs (Basin22, Basin 24a, Basin 24)
176          HC       3

177          KK   DR24a
178          KM   Retrieve 24a diversion
179          DR  B4aDIV

180          KK   R25_O
181          KM   Route 24a diversion through Basin 25 overland
182          RK     800   0.015    0.03            TRAP      30       10

183          KK   R25_P
184          KM   Route 24a diversion through Basin 25 pipe
185          RK    1600   0.013   0.015            CIRC       4

186          KK    DB25
187          KM   Subbasin
188          BA  0.0244
189          LG    0.53  0.4970  1.8550  0.0670       20
190          US   0.151   0.183

191          KK     C25
192          KM   Combine Hydrograph with 24a diversion
193          HC       2

194          KK   B5DIV
195          KM   Divert Basin 25 storm sewer overflow
196          DT   B5DIV
197          DI     0.0    14.0   100.0  1000.0
198          DQ       0       0    86.0   986.0

199          KK   DB25a
200          KM   Subbasin
201          BA  0.0316
202          LG    0.55  0.5112  1.9084  0.0688        1
203          US   0.066   0.204

204          KK     C_6
205          KM   Combine Basins 25a 25 24a 24 22
206          HC       3

207          KK     C_7
208          KM   Combine all Basins
209          HC       2

210          KK  R_PD L
211          KM   route Hydrograph Through Lower Airport East Pond
212          RS       1    STOR       0       0
213          SV     0.0     0.05    4.26   13.79   24.65
214          SQ     0.0      5.5     7.8     9.6    11.1
215          SE  4758.4    4760    4762    4764    4766
1                                    HEC-1 INPUT                                                    PAGE  6

LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

216          KK    PR_U
217          KM   Retrieve Upper Pond Pipe Flow
218          DR  U_Pipe

219          KK   C_Out
220          KM   Combine 2 Outflow Hydrographs at Canal
221          HC       2

222          KK     R16
223          KM   Subbasin
224          BA  0.1550
225          LG    0.67  0.5917  2.1610  0.0810     50.0
226          US   0.119   0.476

227          KK   R_14a
228          KM   Route Hydrograph through R14A overland
229          RK    2500   0.005    0.04            TRAP      10       10

230          KK    R14A
231          KM   Subbasin
232          BA  0.0393
233          LG    0.60  0.5491  2.0496  0.0736     75.0
234          US   0.119   0.479

235          KK   C_14A
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          236          KM   Combine Hydrographs (R16, R14A)
          237          HC      2

          238          KK   C_14A
          239          KM   Combine Hydrograph with Lower Pond Outfall
          240          HC      2
          241          ZZ
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             JUN  1998                 *
*          VERSION 4.1                  *
*                                       *
*  RUN DATE   21JUL08  TIME  10:56:42   *
*                                       *
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*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*        DAVIS, CALIFORNIA 95616        *
*            (916) 756-1104             *
*                                       *
*****************************************
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Ranchmans Ditch Master Drainage Plan
Walker Field Revised Watershed Model - On site Pond Option
10-Year 24-Hour Storm - NRCS Type II Rainfall Distribution

```
  5 IO          OUTPUT CONTROL VARIABLES
                     IPRNT          4  PRINT CONTROL
                     IPLOT          0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE

  6 IN          TIME DATA FOR INPUT TIME SERIES
                     JXMIN          6  TIME INTERVAL IN MINUTES
                    JXDATE      1   0  STARTING DATE
                    JXTIME          0  STARTING TIME

    IT          HYDROGRAPH TIME DATA
                     NMIN           5  MINUTES IN COMPUTATION INTERVAL
                    IDATE      1   0  STARTING DATE
                    ITIME       0000  STARTING TIME
                       NQ        300  NUMBER OF HYDROGRAPH ORDINATES
                   NDDATE      2   0  ENDING DATE
                   NDTIME       0055  ENDING TIME
                    ICENT          19  CENTURY MARK

                 COMPUTATION INTERVAL      .08 HOURS
                     TOTAL TIME BASE    24.92 HOURS

        ENGLISH UNITS
             DRAINAGE AREA          SQUARE MILES
             PRECIPITATION DEPTH    INCHES
             LENGTH, ELEVATION      FEET
             FLOW                   CUBIC FEET PER SECOND
             STORAGE VOLUME         ACRE-FEET
             SURFACE AREA           ACRES
             TEMPERATURE            DEGREES FAHRENHEIT

  7 JD        INDEX STORM NO. 1
                   STRM        1.19  PRECIPITATION DEPTH
                   TRDA         .01  TRANSPOSITION DRAINAGE AREA

  8 PI          PRECIPITATION PATTERN
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39 JD INDEX STORM NO. 3
STRM 1.15 PRECIPITATION DEPTH
TRDA 24.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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40 JD INDEX STORM NO. 4
STRM 1.14 PRECIPITATION DEPTH
TRDA 36.50 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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41 JD INDEX STORM NO. 5
STRM 1.13 PRECIPITATION DEPTH
TRDA 50.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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 42 KK    *     DB21    *
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          ***************
                    Subbasin

       SUBBASIN RUNOFF DATA

 44 BA       SUBBASIN CHARACTERISTICS
                   TAREA         .15  SUBBASIN AREA

 45 LG       GREEN AND AMPT LOSS RATE
                   STRTL         .30  STARTING LOSS
                     DTH         .31  MOISTURE DEFICIT
                    PSIF        1.15  WETTING FRONT SUCTION
                   XKSAT         .04  HYDRAULIC CONDUCTIVITY
                   RTIMP        1.00  PERCENT IMPERVIOUS AREA

 46 US       SNYDER UNITGRAPH
                      TP         .17  LAG
                      CP         .26  PEAKING COEFFICIENT

            SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .13 HR;       R=    .55 HR
                                   SNYDER   TP=    .17 HR,      CP=    .26

                                          UNIT HYDROGRAPH
                                    36 END-OF-PERIOD ORDINATES
                56.      131.      139.      120.      103.       88.       76.       65.       56.       48.
                41.       36.       31.       26.       23.       19.       17.       14.       12.       11.
                 9.        8.        7.        6.        5.        4.        4.        3.        3.        2.
                 2.        2.        1.        1.        1.        1.

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 47 KK    *     PD A    *
          *             *
          ***************
                    Route Through Pond A

       HYDROGRAPH ROUTING DATA

 49 RS       STORAGE ROUTING
                   NSTPS          1  NUMBER OF SUBREACHES
                    ITYP       STOR  TYPE OF INITIAL CONDITION
                  RSVRIC        .00  INITIAL CONDITION
                       X        .00 WORKING R AND D COEFFICIENT

 50 SV       STORAGE          .0        .0       1.8       4.7       8.9      11.6

 51 SQ       DISCHARGE        0.        3.        7.        9.       11.       11.

 52 SE       ELEVATION     4915.00   4916.00   4918.00   4920.00   4922.00   4923.00

                                                ***

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN        0. TO        3.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

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 53 KK    *     R21a    *
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                    Route R21 Through R21a

       HYDROGRAPH ROUTING DATA

 55 RK       KINEMATIC WAVE STREAM ROUTING
                       L       3500.  CHANNEL LENGTH
                       S       .0230  SLOPE
                       N        .050  CHANNEL ROUGHNESS COEFFICIENT
                      CA         .00  CONTRIBUTING AREA
                   SHAPE        TRAP  CHANNEL SHAPE
                      WD       30.00  BOTTOM WIDTH OR DIAMETER
                       Z        6.00  SIDE SLOPE
                  NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS

                                                ***

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          *             *
 56 KK    *     DB21a   *
          *             *
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Subbasin

SUBBASIN RUNOFF DATA

```
58 BA     SUBBASIN CHARACTERISTICS
               TAREA          .34  SUBBASIN AREA

59 LG     GREEN AND AMPT LOSS RATE
               STRTL          .30  STARTING LOSS
                 DTH          .31  MOISTURE DEFICIT
                PSIF         1.15  WETTING FRONT SUCTION
               XKSAT          .04  HYDRAULIC CONDUCTIVITY
               RTIMP         1.00  PERCENT IMPERVIOUS AREA

60 US     SNYDER UNITGRAPH
                  TP          .21  LAG
                  CP          .29  PEAKING COEFFICIENT

          SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                  ***

                                        UNIT HYDROGRAPH PARAMETERS
                                  CLARK   TC=   .17 HR,       R=   .64 HR
                                SNYDER   TP=   .21 HR,      CP=   .29

                                          UNIT HYDROGRAPH
                                    42 END-OF-PERIOD ORDINATES
           80.      231.      285.      250.      220.      193.      169.      148.      130.      114.
          100.       88.       77.       68.       59.       52.       46.       40.       35.       31.
           27.       24.       21.       18.       16.       14.       12.       11.        9.        8.
            7.        6.        6.        5.        4.        4.        3.        3.        3.        2.
            2.        2.
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          *             *
61 KK     *      C21a   *
          *             *
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Combine Routed Basin 21 with Basin 21a

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63 HC     HYDROGRAPH COMBINATION
               ICOMP             2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                  ***
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          *             *
64 KK     *    WF_PD1   *
          *             *
          ***************
```

Route Hydrograph Through New Walker Field On Site Pond 1

HYDROGRAPH ROUTING DATA

```
66 RS     STORAGE ROUTING
               NSTPS             1  NUMBER OF SUBREACHES
                ITYP          STOR  TYPE OF INITIAL CONDITION
              RSVRIC           .00  INITIAL CONDITION
                   X           .00 WORKING R AND D COEFFICIENT

67 SV       STORAGE           .0       1.0       6.9      13.6      17.3

68 SQ     DISCHARGE           0.       11.       24.       32.       36.

69 SE     ELEVATION        38.50     40.00     42.00     44.00     45.00
                                                  ***
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          *             *
70 KK     *      RPD1   *
          *             *
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```

Route Hydrograph Through Basin 23b Pipe

HYDROGRAPH ROUTING DATA

```
72 RK     KINEMATIC WAVE STREAM ROUTING
                    L        1750.  CHANNEL LENGTH
                    S         .0140  SLOPE
                    N          .015  CHANNEL ROUGHNESS COEFFICIENT
                   CA           .00  CONTRIBUTING AREA
                SHAPE          CIRC  CHANNEL SHAPE
                   WD          3.00  BOTTOM WIDTH OR DIAMETER
                    Z           .00  SIDE SLOPE
               NDXMIN             2  MINIMUM NUMBER OF DX INTERVALS
                                                  ***
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          *             *
73 KK     *     DB23b   *
          *             *
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                    Subbasin

              SUBBASIN RUNOFF DATA

 75 BA          SUBBASIN CHARACTERISTICS
                      TAREA          .06  SUBBASIN AREA

 76 LG          GREEN AND AMPT LOSS RATE
                     STRTL          .53  STARTING LOSS
                       DTH          .50  MOISTURE DEFICIT
                      PSIF         1.86  WETTING FRONT SUCTION
                     XKSAT          .07  HYDRAULIC CONDUCTIVITY
                     RTIMP        75.00  PERCENT IMPERVIOUS AREA

 77 US          SNYDER UNITGRAPH
                        TP          .19  LAG
                        CP          .63  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                      ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=    .22 HR,       R=    .16 HR
                                          SNYDER  TP=    .19 HR,      CP=    .63

                                                   UNIT HYDROGRAPH
                                               12 END-OF-PERIOD ORDINATES
                30.        94.       119.       87.        51.        30.        17.        10.        6.         3.
                 2.         1.

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          *            *
 78 KK    *       C23  *
          *            *
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                    Combine Hydrograph Basin 23b with 21 and 21a

 80 HC          HYDROGRAPH COMBINATION
                     ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                      ***

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          *            *
 81 KK    *      R23b  *
          *            *
          **************
                    Route Hydrograph Through Basin 23c Pipe

              HYDROGRAPH ROUTING DATA

 83 RK          KINEMATIC WAVE STREAM ROUTING
                          L       1000.  CHANNEL LENGTH
                          S       .0140  SLOPE
                          N        .015  CHANNEL ROUGHNESS COEFFICIENT
                         CA         .00  CONTRIBUTING AREA
                      SHAPE        CIRC  CHANNEL SHAPE
                         WD        3.00  BOTTOM WIDTH OR DIAMETER
                          Z         .00  SIDE SLOPE
                     NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS

                                                      ***

        *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

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97 KK     *     R23d    *
          *             *
          ***************
                    Route Hydrograph Through Basin 23d Pipe

        HYDROGRAPH ROUTING DATA

99 RK       KINEMATIC WAVE STREAM ROUTING
                    L       1200.  CHANNEL LENGTH
                    S       .0050  SLOPE
                    N        .015  CHANNEL ROUGHNESS COEFFICIENT
                   CA         .00  CONTRIBUTING AREA
                SHAPE        CIRC  CHANNEL SHAPE
                   WD        2.00  BOTTOM WIDTH OR DIAMETER
                    Z         .00  SIDE SLOPE
                NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                    ***

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100 KK    *      C23    *
          *             *
          ***************
                    Combine Hydrograph Basins 23c,23d with WF_PD1 and 23b

102 HC      HYDROGRAPH COMBINATION
                 ICOMP           3  NUMBER OF HYDROGRAPHS TO COMBINE
                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

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          *             *
103 KK    *    WF_PD2   *
          *             *
          ***************
                    Route Hydrograph Through New Walker Field On Site Pond 2

        HYDROGRAPH ROUTING DATA

105 RS      STORAGE ROUTING
                 NSTPS           1  NUMBER OF SUBREACHES
                  ITYP        STOR  TYPE OF INITIAL CONDITION
                RSVRIC         .00  INITIAL CONDITION
                     X         .00 WORKING R AND D COEFFICIENT

106 SV        STORAGE          .0       .1       .7      1.6      3.2      5.3

107 SQ      DISCHARGE          0.      24.      48.      68.      83.      90.

108 SE      ELEVATION     4793.50  4795.00  4797.00  4799.00  4801.00  4803.00
                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

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          *             *
109 KK    *    RWF_P2   *
          *             *
          ***************
                    Route Hydrograph Through Basin 23e Pipe

        HYDROGRAPH ROUTING DATA

111 RK      KINEMATIC WAVE STREAM ROUTING
                    L       1000.  CHANNEL LENGTH
                    S       .0100  SLOPE
                    N        .015  CHANNEL ROUGHNESS COEFFICIENT
                   CA         .00  CONTRIBUTING AREA
                SHAPE        CIRC  CHANNEL SHAPE
                   WD        3.00  BOTTOM WIDTH OR DIAMETER
                    Z         .00  SIDE SLOPE
                NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

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          *             *
112 KK    *    DB23e    *
          *             *
          ***************
                    Subasin

        SUBBASIN RUNOFF DATA

114 BA      SUBBASIN CHARACTERISTICS
                 TAREA          .07  SUBBASIN AREA

115 LG      GREEN AND AMPT LOSS RATE
                 STRTL          .53  STARTING LOSS
                   DTH          .50  MOISTURE DEFICIT
                  PSIF         1.86  WETTING FRONT SUCTION
                 XKSAT          .07  HYDRAULIC CONDUCTIVITY
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                RTIMP       75.00  PERCENT IMPERVIOUS AREA

16 US       SNYDER UNITGRAPH
                TP           .19  LAG
                CP           .63  PEAKING COEFFICIENT

            SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .22 HR,       R=    .16 HR
                                   SNYDER   TP=    .19 HR,      CP=    .63

                                            UNIT HYDROGRAPH
                                        12 END-OF-PERIOD ORDINATES
            36.      114.      144.      106.       62.       36.       21.       12.       7.        4.
             2.        1.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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          *             *
117 KK    *      C23e   *
          *             *
          ***************
                    Combine Hydrograph Basin 23e with WF_PD2

119 HC      HYDROGRAPH COMBINATION
              ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                  ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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          *             *
120 KK    *      R23e   *
          *             *
          ***************
                    Route Hydrograph Through Basin 23a Pipe

        HYDROGRAPH ROUTING DATA

122 RK      KINEMATIC WAVE STREAM ROUTING
                    L       1500.  CHANNEL LENGTH
                    S       .0080  SLOPE
                    N        .015  CHANNEL ROUGHNESS COEFFICIENT
                   CA         .00  CONTRIBUTING AREA
                SHAPE        CIRC  CHANNEL SHAPE
                   WD        4.00  BOTTOM WIDTH OR DIAMETER
                    Z         .00  SIDE SLOPE
               NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                  ***

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          *            *
123 KK    *     DB23a  *
          *            *
          **************
                    Subbasin

          SUBBASIN RUNOFF DATA

125 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .02  SUBBASIN AREA

126 LG          GREEN AND AMPT LOSS RATE
                     STRTL         .59  STARTING LOSS
                       DTH         .54  MOISTURE DEFICIT
                      PSIF        2.01  WETTING FRONT SUCTION
                     XKSAT         .07  HYDRAULIC CONDUCTIVITY
                     RTIMP        1.00  PERCENT IMPERVIOUS AREA

127 US          SNYDER UNITGRAPH
                        TP         .06  LAG
                        CP         .19  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                  ***

                                              UNIT HYDROGRAPH PARAMETERS
                                       CLARK   TC=    .08 HR,       R=    .74 HR
                                      SNYDER   TP=    .14 HR,      CP=    .19

                                              UNIT HYDROGRAPH
                                        48 END-OF-PERIOD ORDINATES
                8.       15.       14.       12.       11.       10.        9.        8.        7.        6.
                6.        5.        4.        4.        4.        3.        3.        3.        2.        2.
                2.        2.        1.        1.        1.        1.        1.        1.        1.        1.
                1.        1.        0.        0.        0.        0.        0.        0.        0.        0.
                0.        0.        0.        0.        0.        0.        0.        0.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          **************
          *            *
128 KK    *     C23a   *
          *            *
          **************
```

Combine Hydrograph Basin 23a, 23e with WF_PD2

```
 30 HC          HYDROGRAPH COMBINATION
                      ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                    ***
```

*** ***

```
          ***************
          *             *
131 KK    *    R_PD U   *
          *             *
          ***************
```

Route Hydrograph Through Upper Airport Upper Pond

HYDROGRAPH ROUTING DATA

```
133 RS          STORAGE ROUTING
                     NSTPS          1  NUMBER OF SUBREACHES
                      ITYP       STOR  TYPE OF INITIAL CONDITION
                     RSVRIC        .00  INITIAL CONDITION
                         X         .00 WORKING R AND D COEFFICIENT

134 SV            STORAGE         .0        .0        .2       6.1      16.2      26.8      29.4

135 SQ          DISCHARGE          0.       11.       11.       12.       13.       14.      162.

136 SE          ELEVATION     4767.00   4767.01   4768.00   4770.00   4772.00   4774.00   4774.50
                                                    ***

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN        0. TO       11.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)
```

*** ***

```
          ***************
          *             *
137 KK    *    D_Pd U   *
          *             *
          ***************
```

Weir Flow Into Lower Pond

```
    DT          DIVERSION
                     ISTAD      U_Pipe  DIVERSION HYDROGRAPH IDENTIFICATION

    DI           INFLOW          .00     14.20     14.30     100.00    1000.00

    DQ     DIVERTED FLOW         .00     14.20     14.20      14.20      14.20
                                                    ***
```

*** ***

```
          ***************
          *             *
142 KK    *      DB22   *
          *             *
          ***************
```

Subbasin

SUBBASIN RUNOFF DATA

```
144 BA          SUBBASIN CHARACTERISTICS
                     TAREA          .22  SUBBASIN AREA

145 LG          GREEN AND AMPT LOSS RATE
                     STRTL          .30  STARTING LOSS
                       DTH          .31  MOISTURE DEFICIT
                      PSIF         1.15  WETTING FRONT SUCTION
                     XKSAT          .04  HYDRAULIC CONDUCTIVITY
                     RTIMP         1.00  PERCENT IMPERVIOUS AREA

146 US          SNYDER UNITGRAPH
                        TP          .20  LAG
                        CP          .27  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                    ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .15 HR,       R=    .65 HR
                                  SNYDER    TP=    .20 HR,      CP=    .27

                                          UNIT HYDROGRAPH
                                    42 END-OF-PERIOD ORDINATES
                    60.       157.      183.      160.      141.      124.      109.       96.       84.       74.
                    65.        57.       50.       44.       39.       34.       30.       26.       23.       20.
                    18.        16.       14.       12.       11.        9.        8.        7.        6.        6.
                     5.         4.        4.        3.        3.        3.        2.        2.        2.        2.
                     1.         1.
```

*** ***

```
          ***************
          *             *
147 KK    *     R24_P   *
          *             *
          ***************
```

Route Hydrograph Through Basin 24 Pipe

HYDROGRAPH ROUTING DATA

149 RK KINEMATIC WAVE STREAM ROUTING

L	3076.	CHANNEL LENGTH
S	.0140	SLOPE
N	.015	CHANNEL ROUGHNESS COEFFICIENT
CA	.00	CONTRIBUTING AREA
SHAPE	CIRC	CHANNEL SHAPE
WD	4.50	BOTTOM WIDTH OR DIAMETER
Z	.00	SIDE SLOPE
NDXMIN	2	MINIMUM NUMBER OF DX INTERVALS

***

*** ***

150 KK R24_O

Route Hydrograph Through Basin 24 Overland

HYDROGRAPH ROUTING DATA

152 RK KINEMATIC WAVE STREAM ROUTING

L	1506.	CHANNEL LENGTH
S	.0190	SLOPE
N	.030	CHANNEL ROUGHNESS COEFFICIENT
CA	.00	CONTRIBUTING AREA
SHAPE	TRAP	CHANNEL SHAPE
WD	10.00	BOTTOM WIDTH OR DIAMETER
Z	12.00	SIDE SLOPE
NDXMIN	2	MINIMUM NUMBER OF DX INTERVALS

***

*** ***

153 KK DB24a

Subbasin

SUBBASIN RUNOFF DATA

155 BA SUBBASIN CHARACTERISTICS

TAREA	.02	SUBBASIN AREA

156 LG GREEN AND AMPT LOSS RATE

STRTL	.53	STARTING LOSS
DTH	.50	MOISTURE DEFICIT
PSIF	1.86	WETTING FRONT SUCTION
XKSAT	.07	HYDRAULIC CONDUCTIVITY
RTIMP	20.00	PERCENT IMPERVIOUS AREA

157 US SNYDER UNITGRAPH

TP	.15	LAG
CP	.18	PEAKING COEFFICIENT

SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

***

UNIT HYDROGRAPH PARAMETERS

CLARK TC= .10 HR, R= .78 HR

SNYDER TP= .15 HR, CP= .18

UNIT HYDROGRAPH
50 END-OF-PERIOD ORDINATES

7.	15.	14.	13.	12.	10.	9.	8.	8.	7.
6.	5.	5.	4.	4.	4.	3.	3.	3.	2.
2.	2.	2.	2.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

*** ***

158 KK B4aDIV

Divert Basin 24a overflow

DT DIVERSION ISTAD B4aDIV DIVERSION HYDROGRAPH IDENTIFICATION

DI INFLOW .00 14.00 100.00 1000.00

DQ DIVERTED FLOW .00 .01 86.00 986.00

***

*** ***

```
163 KK      *      R24_P  *
            *             *
            ***************
                        Route Hydrograph Through Basin 24 Pipe

               HYDROGRAPH RDUTING DATA

165 RK           KINEMATIC WAVE STREAM ROUTING
                        L       800.  CHANNEL LENGTH
                        S      .0140  SLOPE
                        N       .015  CHANNEL ROUGHNESS COEFFICIENT
                       CA        .00  CONTRIBUTING AREA
                    SHAPE       CIRC  CHANNEL SHAPE
                       WD       4.50  BOTTOM WIDTH OR DIAMETER
                        Z        .00  SIDE SLOPE
                   NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                  ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *             *
166 KK      *      R24_O  *
            *             *
            ***************
                        Route Hydrograph Through Basin 24 Overland

               HYDROGRAPH ROUTING DATA

168 RK           KINEMATIC WAVE STREAM ROUTING
                        L      1506.  CHANNEL LENGTH
                        S      .0190  SLOPE
                        N       .030  CHANNEL ROUGHNESS COEFFICIENT
                       CA        .00  CONTRIBUTING AREA
                    SHAPE       TRAP  CHANNEL SHAPE
                       WD      10.00  BOTTOM WIDTH OR DIAMETER
                        Z      12.00  SIDE SLOPE
                   NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                  ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *             *
169.KK      *       DB24  *
            *             *
            ***************
                        Subbasin

               SUBBASIN RUNOFF DATA

171 BA           SUBBASIN CHARACTERISTICS
                     TAREA         .23  SUBBASIN AREA

172 LG           GREEN AND AMPT LOSS RATE
                     STRTL         .44  STARTING LOSS
                       DTH         .43  MOISTURE DEFICIT
                      PSIF        1.59  WETTING FRONT SUCTION
                     XKSAT         .06  HYDRAULIC CONDUCTIVITY
                     RTIMP       58.00  PERCENT IMPERVIOUS AREA

173 US           SNYDER UNITGRAPH
                        TP         .18  LAG
                        CP         .62  PEAKING COEFFICIENT

                 SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .22 HR,       R=    .15 HR
                                   SNYDER   TP=    .18 HR,      CP=    .63

                                          UNIT HYDROGRAPH
                                      11 END-OF-PERIOD ORDINATES
                   127.      393.      484.      342.      194.      110.       63.       36.       20.       11.
                     7.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *             *
174 KK      *       C24   *
            *             *
            ***************
                        Combine Hydrographs (Basin22, Basin 24a, Basin 24)

176 HC           HYDROGRAPH COMBINATION
                    ICOMP           3  NUMBER OF HYDROGRAPHS TO COMBINE
                                                  ***

* *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *             *
177 KK      *      DR24a  *
            *             *
            ***************
                        Retrieve 24a diversion
```

```
179 DR          RETRIEVE DIVERSION HYDROGRAPH
                     ISTAD      B4a0IV  DIVERSION HYDROGRAPH IDENTIFICATION
                                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
180 KK    *     R25_O   *
          *             *
          ***************
                        Route 24a diversion through Basin 25 overland

            HYDROGRAPH ROUTING DATA

182 RK        KINEMATIC WAVE STREAM ROUTING
                        L        800.  CHANNEL LENGTH
                        S       .0150  SLOPE
                        N        .030  CHANNEL ROUGHNESS COEFFICIENT
                       CA         .00  CONTRIBUTING AREA
                    SHAPE        TRAP  CHANNEL SHAPE
                       WD       30.00  BOTTOM WIDTH OR DIAMETER
                        Z       10.00  SIDE SLOPE
                   NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
183 KK    *     R25_P   *
          *             *
          ***************
                        Route 24a diversion through Basin 25 pipe

            HYDROGRAPH ROUTING DATA

185 RK        KINEMATIC WAVE STREAM ROUTING
                        L       1600.  CHANNEL LENGTH
                        S       .0130  SLOPE
                        N        .015  CHANNEL ROUGHNESS COEFFICIENT
                       CA         .00  CONTRIBUTING AREA
                    SHAPE        CIRC  CHANNEL SHAPE
                       WD        4.00  BOTTOM WIDTH OR DIAMETER
                        Z         .00  SIDE SLOPE
                   NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                        ***
      WARNING FDKRUT FAILURE TO PRESERVE UPSTREAM HYDROGRAPH VOLUME - CHECK ROUTED HYDROGRAPH SUMQU=      .0001 SUMQT=      .0005

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
186 KK    *     DB25    *
          *             *
          ***************
                        Subbasin

            SUBBASIN RUNOFF DATA

188 BA        SUBBASIN CHARACTERISTICS
                    TAREA         .02  SUBBASIN AREA

189 LG        GREEN AND AMPT LOSS RATE
                    STRTL         .53  STARTING LOSS
                      DTH         .50  MOISTURE DEFICIT
                     PSIF        1.86  WETTING FRONT SUCTION
                    XKSAT         .07  HYDRAULIC CONDUCTIVITY
                    RTIMP       20.00  PERCENT IMPERVIOUS AREA

190 US        SNYDER UNITGRAPH
                       TP         .15  LAG
                       CP         .18  PEAKING COEFFICIENT

              SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                        ***

                                        UNIT HYDROGRAPH PARAMETERS
                                  CLARK   TC=    .10 HR,       R=    .76 HR
                                SNYDER    TP=    .15 HR,      CP=    .18

                                          UNIT HYDROGRAPH
                                      49 END-OF-PERIOD ORDINATES
              9.       18.       17.       15.       14.       12.       11.       10.       9.        8.
              7.        6.        6.        5.        5.        4.        4.        3.       3.        3.
              2.        2.        2.        2.        2.        1.        1.        1.       1.        1.
              1.        1.        1.        1.        1.        0.        0.        0.       0.        0.
              0.        0.        0.        0.        0.        0.        0.        0.       0.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
191 KK    *     C25     *
          *             *
          ***************
                        Combine Hydrograph with 24a diversion
```

```
193 HC          HYDROGRAPH COMBINATION
                     ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

                ***************
                *             *
194 KK          *     B5DIV   *
                *             *
                ***************
                          Divert Basin 25 storm sewer overflow

    DT          DIVERSION
                     ISTAD       B5DIV  DIVERSION HYDROGRAPH IDENTIFICATION

    DI            INFLOW          .00     14.00     100.00    1000.00

    DQ      DIVERTED FLOW         .00       .00      86.00     986.00
                                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

                ***************
                *             *
199 KK          *     DB25a   *
                *             *
                ***************
                          Subbasin

             SUBBASIN RUNOFF DATA

201 BA          SUBBASIN CHARACTERISTICS
                     TAREA          .03  SUBBASIN AREA

202 LG          GREEN AND AMPT LOSS RATE
                     STRTL          .55  STARTING LOSS
                       DTH          .51  MOISTURE DEFICIT
                      PSIF         1.91  WETTING FRONT SUCTION
                     XKSAT          .07  HYDRAULIC CONDUCTIVITY
                     RTIMP         1.00  PERCENT IMPERVIOUS AREA

203 US          SNYDER UNITGRAPH
                       TP           .07  LAG
                       CP           .20  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                                    ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=   .08 HR,       R=   .68 HR
                                         SNYDER   IP=   .14 HR,      CP=   .20

                                                    UNIT HYDROGRAPH
                                                44 END-OF-PERIOD ORDINATES
                    14.       27.       24.       21.       18.       16.       14.       13.       11.       10.
                     9.        8.        7.        6.        5.        5.        4.        4.        3.        3.
                     3.        2.        2.        2.        2.        1.        1.        1.        1.        1.
                     1.        1.        1.        1.        0.        0.        0.        0.        0.        0.
                     0.        0.        0.        0.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

                ***************
                *             *
204 KK          *       C_6   *
                *             *
                ***************
                          Combine Basins 25a 25 24a 24 22

206 HC          HYDRDGRAPH COMBINATION
                     ICOMP           3  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

                ***************
                *             *
207 KK          *       C_7   *
                *             *
                ***************
                          Combine all Basins

209 HC          HYDROGRAPH COMBINATION
                     ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

                ***************
                *             *
210 KK          *     R_PD L  *
                *             *
```

```
**************
                route Hydrograph Through Lower Airport East Pond

  HYDROGRAPH ROUTING DATA

212 RS      STORAGE ROUTING
                 NSTPS          1  NUMBER OF SUBREACHES
                  ITYP       STOR  TYPE OF INITIAL CONDITION
                RSVRIC        .00  INITIAL CONDITION
                     X        .00 WORKING R AND D COEFFICIENT

213 SV        STORAGE          .0        .1       4.3      13.8      24.6

214 SQ      DISCHARGE          0.        6.        8.       10.       11.

215 SE      ELEVATION     4758.40   4760.00   4762.00   4764.00   4766.00
                                                  ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

**************
*            *
216 KK      *      PR_U  *
*            *
**************
                Retrieve Upper Pond Pipe Flow

218 DR      RETRIEVE DIVERSION HYDROGRAPH
                 ISTAD      U_Pipe  DIVERSION HYDROGRAPH IDENTIFICATION
                                                  ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

**************
*            *
219 KK      *     C_Out  *
*            *
**************
                Combine 2 Outflow Hydrographs at Canal

221 HC      HYDROGRAPH COMBINATION
                 ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                  ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

**************
*            *
222 KK      *       R16  *
*            *
**************
                Subbasin

  SUBBASIN RUNOFF DATA

224 BA      SUBBASIN CHARACTERISTICS
                TAREA         .16  SUBBASIN AREA

225 LG      GREEN AND AMPT LOSS RATE
                STRTL         .67  STARTING LOSS
                  DTH         .59  MOISTURE DEFICIT
                 PSIF        2.16  WETTING FRONT SUCTION
                XKSAT         .08  HYDRAULIC CONDUCTIVITY
                RTIMP       50.00  PERCENT IMPERVIOUS AREA

226 US      SNYDER UNITGRAPH
                  TP         .12  LAG
                  CP         .48  PEAKING COEFFICIENT

            SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                  ***

                                        UNIT HYDROGRAPH PARAMETERS
                                  CLARK   TC=    .10 HR,       R=    .18 HR
                                SNYDER    TP=    .12 HR,      CP=    .48

                                           UNIT HYDROGRAPH
                                       13 END-OF-PERIOD ORDINATES
          205.      352.      240.      151.       94.       59.       37.       23.       15.        9.
            6.        4.        2.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

**************
*            *
227 KK      *     R_14a  *
*            *
**************
                Route Hydrograph through R14A overland

  HYDROGRAPH ROUTING DATA

229 RK      KINEMATIC WAVE STREAM ROUTING
                    L       2500.  CHANNEL LENGTH
                    S       .0050  SLOPE
                    N        .040  CHANNEL ROUGHNESS COEFFICIENT
                   CA         .00  CONTRIBUTING AREA
                SHAPE        TRAP  CHANNEL SHAPE
```

```
                    WD        10.00  BOTTOM WIDTH OR DIAMETER
                     Z        10.00  SIDE SLOPE
                NDXMIN            2  MINIMUM NUMBER OF DX INTERVALS
                                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
230 KK    *      R14A   *
          *             *
          ***************
                    Subbasin

       SUBBASIN RUNOFF DATA

232 BA          SUBBASIN CHARACTERISTICS
                     TAREA         .04  SUBBASIN AREA

233 LG          GREEN AND AMPT LOSS RATE
                     STRTL         .60  STARTING LOSS
                       DTH         .55  MOISTURE DEFICIT
                      PSIF        2.05  WETTING FRONT SUCTION
                     XKSAT         .07  HYDRAULIC CONDUCTIVITY
                     RTIMP       75.00  PERCENT IMPERVIOUS AREA

234 US          SNYOER UNITGRAPH
                       TP          .12  LAG
                       CP          .48  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                        ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .10 HR,       R=    .18 HR
                                   SNYDER   TP=    .12 HR,      CP=    .48

                                          UNIT HYDROGRAPH
                                      12 END-OF-PERIOD ORDINATES
                52.       90.       61.       38.       24.       15.        9.        6.        4.        2.
                 1.        1.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
 5.KK     *      C_14A  *
          *             *
          ***************
                    Combine Hydrographs (R16, R14A)

237 HC          HYDROGRAPH COMBINATION
                     ICOMP            2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
238 KK    *      C_14A  *
          *             *
          ***************
                    Combine Hydrograph with Lower Pond Outfall

240 HC          HYDROGRAPH COMBINATION
                     ICOMP            2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                        ***
1
                                          RUNOFF SUMMARY
                                    FLOW IN CUBIC FEET PER SECOND
                                    TIME IN HOURS,  AREA IN SQUARE MILES

                                                                                                                                  BASIN      MAXIMUM      TIME OF
          OPERATION          STATION      PEAK FLOW   TIME OF PEAK   AVERAGE FLOW FOR MAXIMUM PERIOD                              AREA       STAGE        MAX STAGE
+                                                                      6-HOUR          24-HOUR         72-HOUR
+         HYDROGRAPH AT      DB21             44.        12.08            6.              2.              1.          .15
+         ROUTED TO          PD A              7.        13.17            5.              2.              1.          .15
+         ROUTED TO          R21a              7.        13.50            5.              2.              1.          .15
+         HYDROGRAPH AT      DB21a            87.        12.08           13.              3.              3.          .34
          2 COMBINED AT      C21a             87.        12.08           18.              5.              5.          .49
          ROUTED TO          WF_PD1           19.        13.50           16.              5.              5.          .49
+         ROUTED TO          RPD1             19.        13.50           16.              5.              5.          .49
+         HYDROGRAPH AT      DB23b            31.        12.08            4.              1.              1.          .06
          2 COMBINED AT
```

+		C23	41.	12.08	19.	6.	6.	.55
+	ROUTED TO	R23b	40.	12.08	19.	6.	6.	.55
+	HYDROGRAPH AT	DB23c	41.	12.08	5.	2.	2.	.08
+	ROUTED TO	R23c	40.	12.08	5.	2.	2.	.08
+	HYDROGRAPH AT	DB23d	8.	12.08	1.	0.	0.	.02
+	ROUTED TO	R23d	8.	12.08	1.	0.	0.	.02
+	3 COMBINED AT	C23	87.	12.08	24.	9.	8.	.65
+	ROUTED TO	WF_PD2	56.	12.33	24.	9.	8.	.65
+	ROUTED TO	RWF_P2	56.	12.33	24.	9.	8.	.65
+	HYDROGRAPH AT	DB23e	38.	12.08	5.	2.	2.	.07
+	2 COMBINED AT	C23e	83.	12.17	29.	10.	10.	.72
+	ROUTED TO	R23e	83.	12.17	29.	10.	10.	.72
+	HYDROGRAPH AT	DB23a	1.	12.08	0.	0.	0.	.02
+	2 COMBINED AT	C23a	84.	12.17	29.	10.	10.	.74
+	ROUTED TO	R_PD U	13.	18.83	13.	8.	8.	.74
+	DIVERSION TO	U_Pipe	13.	18.83	13.	8.	8.	.74
+	HYDROGRAPH AT	D_Pd U	0.	.00	0.	0.	0.	.74
+	HYDROGRAPH AT	DB22	57.	12.08	9.	2.	2.	.22
+	ROUTED TO	R24_P	55.	12.17	9.	2.	2.	.22
+	ROUTED TO	R24_O	54.	12.17	9.	2.	2.	.22
+	HYDROGRAPH AT	DB24a	3.	12.08	1.	0.	0.	.02
+	DIVERSION TO	B4aDIV	0.	12.00	0.	0.	0.	.02
+	HYDROGRAPH AT	B4aDIV	3.	12.08	1.	0.	0.	.02
+	ROUTED TO	R24_P	2.	12.08	1.	0.	0.	.02
+	ROUTED TO	R24_O	2.	12.25	1.	0.	0.	.02
+	HYDROGRAPH AT	DB24	123.	12.08	14.	5.	5.	.23
+	3 COMBINED AT	C24	169.	12.08	23.	7.	7.	.48
+	HYDROGRAPH AT	DR24a	0.	12.00	0.	0.	0.	.02
+	ROUTED TO	R25_O	0.	12.92	0.	0.	0.	.02
+	ROUTED TO	R25_P	0.	13.08	0.	0.	0.	.02
+	HYDROGRAPH AT	DB25	3.	12.08	1.	0.	0.	.02
+	2 COMBINED AT	C25	3.	12.08	1.	0.	0.	.02
+	DIVERSION TO	B5DIV	0.	.00	0.	0.	0.	.02
+	HYDROGRAPH AT	B5DIV	3.	12.08	1.	0.	0.	.02
+	HYDROGRAPH AT	DB25a	2.	12.08	0.	0.	0.	.03
+	3 COMBINED AT	C_6	174.	12.08	24.	7.	7.	.53
+	2 COMBINED AT	C_7	173.	12.08	24.	7.	7.	1.27
+	ROUTED TO	R_PD L	9.	14.00	9.	6.	5.	1.27
	HYDROGRAPH AT							

+		PR_U	13.	18.83	13.	8.	8.	.74
	2 COMBINED AT	C_Out	21.	15.00	21.	14.	13.	1.27
	HYDROGRAPH AT	R16	52.	12.00	7.	2.	2.	.16
+	ROUTED TO	R_14a	50.	12.17	7.	2.	2.	.16
+	HYDROGRAPH AT	R14A	20.	12.00	3.	1.	1.	.04
+	2 COMBINED AT	C_14A	63.	12.17	10.	3.	3.	.19
+	2 COMBINED AT	C_14A	83.	12.17	30.	17.	17.	1.46

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SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	INTERPOLATED TO COMPUTATION INTERVAL DT	PEAK	TIME TO PEAK	VOLUME
		(MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	(MIN)	(IN)
FOR STORM = 1 STORM AREA (SQ MI) = .01									
	R21a MANE	5.00	7.16	811.18	.38	5.00	7.16	810.00	.38
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3071E+01 EXCESS= .0000E+00 OUTFLOW= .3071E+01 BASIN STORAGE= .3580E-02 PERCENT ERROR= -.1									
FOR STORM = 2 STORM AREA (SQ MI) = 14.00									
	R21a MANE	5.00	7.09	808.51	.36	5.00	7.09	810.00	.36
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2952E+01 EXCESS= .0000E+00 OUTFLOW= .2951E+01 BASIN STORAGE= .3524E-02 PERCENT ERROR= -.1									
FOR STORM = 3 STORM AREA (SQ MI) = 24.00									
	R21a MANE	5.00	7.06	807.59	.36	5.00	7.06	810.00	.36
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2893E+01 EXCESS= .0000E+00 OUTFLOW= .2896E+01 BASIN STORAGE= .3137E-02 PERCENT ERROR= -.2									
FOR STORM = 4 STORM AREA (SQ MI) = 36.50									
	R21a MANE	5.36	7.03	807.36	.35	5.00	7.03	810.00	.35
NTINUITY SUMMARY (AC-FT) - INFLOW= .2833E+01 EXCESS= .0000E+00 OUTFLOW= .2836E+01 BASIN STORAGE= .3255E-02 PERCENT ERROR= -.2									
FOR STORM = 5 STORM AREA (SQ MI) = 50.00									
	R21a MANE	5.00	7.01	807.80	.35	5.00	7.01	810.00	.35
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2791E+01 EXCESS= .0000E+00 OUTFLOW= .2795E+01 BASIN STORAGE= .3220E-02 PERCENT ERROR= -.2									
FOR STORM = 1 STORM AREA (SQ MI) = .01									
	RPD1 MANE	1.00	18.91	811.19	.38	5.00	18.91	810.00	.38
CONTINUITY SUMMARY (AC-FT) - INFLOW= .9942E+01 EXCESS= .0000E+00 OUTFLOW= .9942E+01 BASIN STORAGE= .7173E-03 PERCENT ERROR= .0									
FOR STORM = 2 STORM AREA (SQ MI) = 14.00									
	RPD1 MANE	1.01	18.45	811.95	.36	5.00	18.45	810.00	.36
CONTINUITY SUMMARY (AC-FT) - INFLOW= .9556E+01 EXCESS= .0000E+00 OUTFLOW= .9555E+01 BASIN STORAGE= .6607E-03 PERCENT ERROR= .0									
FOR STORM = 3 STORM AREA (SQ MI) = 24.00									
	RPD1 MANE	.91	18.23	811.14	.36	5.00	18.23	810.00	.36
CONTINUITY SUMMARY (AC-FT) - INFLOW= .9366E+01 EXCESS= .0000E+00 OUTFLOW= .9365E+01 BASIN STORAGE= .6279E-03 PERCENT ERROR= .0									
FOR STORM = 4 STORM AREA (SQ MI) = 36.50									
	RPD1 MANE	1.02	17.99	811.77	.35	5.00	17.99	810.00	.35
CONTINUITY SUMMARY (AC-FT) - INFLOW= .9171E+01 EXCESS= .0000E+00 OUTFLOW= .9170E+01 BASIN STORAGE= .5990E-03 PERCENT ERROR= .0									
FOR STORM = 5 STORM AREA (SQ MI) = 50.00									
	RPD1 MANE	.87	17.84	811.82	.34	5.00	17.83	810.00	.34
CONTINUITY SUMMARY (AC-FT) - INFLOW= .9039E+01 EXCESS= .0000E+00 OUTFLOW= .9038E+01 BASIN STORAGE= .5905E-03 PERCENT ERROR= .0									
FOR STORM = 1 STORM AREA (SQ MI) = .01									
	R23b MANE	.54	41.70	726.06	.44	5.00	40.70	725.00	.44
ONTINUITY SUMMARY (AC-FT) - INFLOW= .1279E+02 EXCESS= .0000E+00 OUTFLOW= .1279E+02 BASIN STORAGE= .4309E-03 PERCENT ERROR= .0									
FOR STORM = 2 STORM AREA (SQ MI) = 14.00									
	R23b MANE	.54	40.52	726.02	.42	5.00	39.52	725.00	.42
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1234E+02 EXCESS= .0000E+00 OUTFLOW= .1234E+02 BASIN STORAGE= .3941E-03 PERCENT ERROR= .0									
FOR STORM = 3 STORM AREA (SQ MI) = 24.00									

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      R23b  MANE          .55     39.90    726.25       .41      5.00     38.94    725.00         .41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1212E+02 EXCESS= .0000E+00 OUTFLOW= .1212E+02 BASIN STORAGE= .3746E-03 PERCENT ERROR=    .0

      FOR STORM = 4  STORM AREA (SQ MI) =      36.50
      R23b  MANE          .55     39.33    725.97       .40      5.00     38.37    725.00         .40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1189E+02 EXCESS= .0000E+00 OUTFLOW= .1189E+02 BASIN STORAGE= .3614E-03 PERCENT ERROR=    .0

      FOR STORM = 5  STORM AREA (SQ MI) =      50.00
      R23b  MANE          .55     38.94    725.97       .40      5.00     37.98    725.00         .40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1174E+02 EXCESS= .0000E+00 OUTFLOW= .1173E+02 BASIN STORAGE= .3547E-03 PERCENT ERROR=    .0

      FOR STORM = 1  STORM AREA (SQ MI) =        .01
      R23c  MANE         1.02     41.40    727.07       .89      5.00     39.93    725.00         .89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3730E+01 EXCESS= .0000E+00 OUTFLOW= .3733E+01 BASIN STORAGE= .3082E-03 PERCENT ERROR=   -.1

      FOR STORM = 2  STORM AREA (SQ MI) =      14.00
      R23c  MANE         1.00     39.93    726.52       .87      5.00     38.73    725.00         .87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3643E+01 EXCESS= .0000E+00 OUTFLOW= .3645E+01 BASIN STORAGE= .3158E-03 PERCENT ERROR=   -.1

      FOR STORM = 3  STORM AREA (SQ MI) =      24.00
      R23c  MANE         1.11     39.25    726.81       .86      5.00     38.13    725.00         .86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3600E+01 EXCESS= .0000E+00 OUTFLOW= .3601E+01 BASIN STORAGE= .3010E-03 PERCENT ERROR=   -.1

      FOR STORM = 4  STORM AREA (SQ MI) =      36.50
      R23c  MANE          .98     38.68    726.44       .85      5.00     37.55    725.00         .85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3557E+01 EXCESS= .0000E+00 OUTFLOW= .3559E+01 BASIN STORAGE= .4591E-03 PERCENT ERROR=   -.1

      FOR STORM = 5  STORM AREA (SQ MI) =      50.00
      R23c  MANE         1.03     38.34    726.69       .85      5.00     37.16    725.00         .85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3528E+01 EXCESS= .0000E+00 OUTFLOW= .3530E+01 BASIN STORAGE= .3872E-03 PERCENT ERROR=   -.1

      FOR STORM = 1  STORM AREA (SQ MI) =        .01
      R23d  MANE         1.22      8.18    726.92       .77      5.00      7.84    725.00         .77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7142E+00 EXCESS= .0000E+00 OUTFLOW= .7144E+00 BASIN STORAGE= .2567E-04 PERCENT ERROR=    .0

      FOR STORM = 2  STORM AREA (SQ MI) =      14.00
      R23d  MANE         1.11      7.95    726.94       .76      5.00      7.56    725.00         .75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6962E+00 EXCESS= .0000E+00 OUTFLOW= .6966E+00 BASIN STORAGE= .1791E-04 PERCENT ERROR=   -.1

      FOR STORM = 3  STORM AREA (SQ MI) =      24.00
      R23d  MANE         1.12      7.80    727.51       .75      5.00      7.43    725.00         .75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6872E+00 EXCESS= .0000E+00 OUTFLOW= .6877E+00 BASIN STORAGE= .1541E-04 PERCENT ERROR=   -.1

      FOR STORM = 4  STORM AREA (SQ MI) =      36.50
      R23d  MANE         1.28      7.60    727.74       .74      5.00      7.29    725.00         .74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6783E+00 EXCESS= .0000E+00 OUTFLOW= .6786E+00 BASIN STORAGE= .1728E-04 PERCENT ERROR=    .0

      FOR STORM = 5  STORM AREA (SQ MI) =      50.00
      R23d  MANE         1.13      7.54    727.58       .73      5.00      7.20    725.00         .73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6724E+00 EXCESS= .0000E+00 OUTFLOW= .6728E+00 BASIN STORAGE= .2396E-04 PERCENT ERROR=   -.1

      FOR STORM = 1  STORM AREA (SQ MI) =        .01
      RWF_P2  MANE          .50     56.89    740.81       .50      5.00     56.79    740.00         .50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1724E+02 EXCESS= .0000E+00 OUTFLOW= .1724E+02 BASIN STORAGE= .6473E-03 PERCENT ERROR=    .0

      FOR STORM = 2  STORM AREA (SQ MI) =      14.00
      RWF_P2  MANE          .51     55.85    740.76       .48      5.00     55.76    740.00         .48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1668E+02 EXCESS= .0000E+00 OUTFLOW= .1668E+02 BASIN STORAGE= .6018E-03 PERCENT ERROR=    .0

      FOR STORM = 3  STORM AREA (SQ MI) =      24.00
      RWF_P2  MANE          .51     55.35    741.03       .48      5.00     55.25    740.00         .48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1641E+02 EXCESS= .0000E+00 OUTFLOW= .1640E+02 BASIN STORAGE= .5848E-03 PERCENT ERROR=    .0

      FOR STORM = 4  STORM AREA (SQ MI) =      36.50
      RWF_P2  MANE          .51     54.82    740.71       .47      5.00     54.74    740.00         .47
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CONTINUITY SUMMARY (AC-FT) - INFLOW= .1613E+02 EXCESS= .0000E+00 OUTFLOW= .1612E+02 BASIN STORAGE= .5751E-03 PERCENT ERROR= .0

FOR STORM = 5 STORM AREA (SQ MI) = 50.00

RWF_P2	MANE	.51	54.47	740.72	.46	5.00	54.39	740.00	.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1594E+02 EXCESS= .0000E+00 OUTFLOW= .1594E+02 BASIN STORAGE= .5659E-03 PERCENT ERROR= .0

FOR STORM = 1 STORM AREA (SQ MI) = .01

R23e	MANE	.69	84.42	731.15	.54	5.00	84.07	730.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2070E+02 EXCESS= .0000E+00 OUTFLOW= .2070E+02 BASIN STORAGE= .1127E-02 PERCENT ERROR= .0

FOR STORM = 2 STORM AREA (SQ MI) = 14.00

R23e	MANE	.71	82.61	731.34	.52	5.00	82.18	730.00	.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2006E+02 EXCESS= .0000E+00 OUTFLOW= .2006E+02 BASIN STORAGE= .1109E-02 PERCENT ERROR= .0

FOR STORM = 3 STORM AREA (SQ MI) = 24.00

R23e	MANE	.71	81.73	731.41	.52	5.00	81.24	730.00	.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1975E+02 EXCESS= .0000E+00 OUTFLOW= .1975E+02 BASIN STORAGE= .1038E-02 PERCENT ERROR= .0

FOR STORM = 4 STORM AREA (SQ MI) = 36.50

R23e	MANE	.77	80.74	731.41	.51	5.00	80.32	730.00	.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1943E+02 EXCESS= .0000E+00 OUTFLOW= .1943E+02 BASIN STORAGE= .1039E-02 PERCENT ERROR= .0

FOR STORM = 5 STORM AREA (SQ MI) = 50.00

R23e	MANE	.76	80.12	731.16	.50	5.00	79.70	730.00	.50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1921E+02 EXCESS= .0000E+00 OUTFLOW= .1921E+02 BASIN STORAGE= .9918E-03 PERCENT ERROR= .0

FOR STORM = 1 STORM AREA (SQ MI) = .01

R24_P	MANE	1.17	57.22	727.26	.38	5.00	56.17	730.00	.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4499E+01 EXCESS= .0000E+00 OUTFLOW= .4502E+01 BASIN STORAGE= .1229E-03 PERCENT ERROR= -.1

FOR STORM = 2 STORM AREA (SQ MI) = 14.00

R24_P	MANE	1.20	55.00	728.30	.36	5.00	54.27	730.00	.36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4324E+01 EXCESS= .0000E+00 OUTFLOW= .4325E+01 BASIN STORAGE= .1303E-03 PERCENT ERROR= .0

FOR STORM = 3 STORM AREA (SQ MI) = 24.00

R24_P	MANE	1.15	54.34	727.56	.36	5.00	53.31	730.00	.36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4236E+01 EXCESS= .0000E+00 OUTFLOW= .4237E+01 BASIN STORAGE= .1342E-03 PERCENT ERROR= .0

FOR STORM = 4 STORM AREA (SQ MI) = 36.50

R24_P	MANE	1.22	53.21	727.90	.35	5.00	52.33	730.00	.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4147E+01 EXCESS= .0000E+00 OUTFLOW= .4148E+01 BASIN STORAGE= .1247E-03 PERCENT ERROR= .0

FOR STORM = 5 STORM AREA (SQ MI) = 50.00

R24_P	MANE	1.33	52.58	727.84	.34	5.00	51.68	730.00	.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4087E+01 EXCESS= .0000E+00 OUTFLOW= .4088E+01 BASIN STORAGE= .1236E-03 PERCENT ERROR= .0

FOR STORM = 1 STORM AREA (SQ MI) = .01

R24_O	MANE	1.56	55.95	732.86	.38	5.00	54.67	730.00	.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4499E+01 EXCESS= .0000E+00 OUTFLOW= .4498E+01 BASIN STORAGE= .5293E-03 PERCENT ERROR= .0

FOR STORM = 2 STORM AREA (SQ MI) = 14.00

R24_O	MANE	1.57	54.08	733.24	.36	5.00	52.77	730.00	.36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4323E+01 EXCESS= .0000E+00 OUTFLOW= .4323E+01 BASIN STORAGE= .4535E-03 PERCENT ERROR= .0

FOR STORM = 3 STORM AREA (SQ MI) = 24.00

R24_O	MANE	1.58	53.10	732.95	.36	5.00	51.81	735.00	.36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4232E+01 EXCESS= .0000E+00 OUTFLOW= .4233E+01 BASIN STORAGE= .5049E-03 PERCENT ERROR= .0

FOR STORM = 4 STORM AREA (SQ MI) = 36.50

R24_O	MANE	1.59	52.15	733.26	.35	5.00	50.87	735.00	.35

NTINUITY SUMMARY (AC-FT) - INFLOW= .4146E+01 EXCESS= .0000E+00 OUTFLOW= .4146E+01 BASIN STORAGE= .4775E-03 PERCENT ERROR= .0

FOR STORM = 5 STORM AREA (SQ MI) = 50.00

R24_O	MANE	1.58	51.25	733.62	.34	5.00	50.24	735.00	.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4086E+01 EXCESS= .0000E+00 OUTFLOW= .4085E+01 BASIN STORAGE= .4702E-03 PERCENT ERROR= .0

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          FOR STORM = 1  STORM AREA (SQ MI) =        .01
             R24_P  MANE          .58       2.54     726.47        .32       5.00       2.47     725.00          .32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3594E+00 EXCESS= .0000E+00 OUTFLOW= .3594E+00 BASIN STORAGE= .5791E-04 PERCENT ERROR=     .0

          FOR STORM = 2  STORM AREA (SQ MI) =       14.00
             R24_P  MANE          .58       2.38     726.10        .30       5.00       2.30     725.00          .30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3430E+00 EXCESS= .0000E+00 OUTFLOW= .3430E+00 BASIN STORAGE= .5684E-04 PERCENT ERROR=     .0

          FOR STORM = 3  STORM AREA (SQ MI) =       24.00
             R24_P  MANE          .59       2.30     726.19        .30       5.00       2.22     725.00          .30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3348E+00 EXCESS= .0000E+00 OUTFLOW= .3348E+00 BASIN STORAGE= .5705E-04 PERCENT ERROR=     .0

          FOR STORM = 4  STORM AREA (SQ MI) =       36.50
             R24_P  MANE          .58       2.21     726.44        .29       5.00       2.14     725.00          .29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3267E+00 EXCESS= .0000E+00 OUTFLOW= .3267E+00 BASIN STORAGE= .5569E-04 PERCENT ERROR=     .0

          FOR STORM = 5  STORM AREA (SQ MI) =       50.00
             R24_P  MANE          .59       2.15     726.32        .28       5.00       2.08     725.00          .28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3214E+00 EXCESS= .0000E+00 OUTFLOW= .3213E+00 BASIN STORAGE= .5613E-04 PERCENT ERROR=     .0

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
             R24_O  MANE         3.41       2.46     733.36        .32       5.00       2.45     735.00          .32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3595E+00 EXCESS= .0000E+00 OUTFLOW= .3589E+00 BASIN STORAGE= .6955E-03 PERCENT ERROR=     .0

          FOR STORM = 2  STORM AREA (SQ MI) =       14.00
             R24_O  MANE         3.55       2.29     732.01        .30       5.00       2.28     735.00          .30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3430E+00 EXCESS= .0000E+00 OUTFLOW= .3423E+00 BASIN STORAGE= .7339E-03 PERCENT ERROR=     .0

          FOR STORM = 3  STORM AREA (SQ MI) =       24.00
             R24_O  MANE         3.43       2.21     732.48        .30       5.00       2.21     735.00          .30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3349E+00 EXCESS= .0000E+00 OUTFLOW= .3339E+00 BASIN STORAGE= .6743E-03 PERCENT ERROR=     .1

          FOR STORM = 4  STORM AREA (SQ MI) =       36.50
             R24_O  MANE         3.53       2.13     733.91        .29       5.00       2.12     735.00          .29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3268E+00 EXCESS= .0000E+00 OUTFLOW= .3264E+00 BASIN STORAGE= .6818E-03 PERCENT ERROR=    -.1

          FOR STORM = 5  STORM AREA (SQ MI) =       50.00
             R24_O  MANE         3.55       2.08     734.13        .28       5.00       2.07     735.00          .28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3214E+00 EXCESS= .0000E+00 OUTFLOW= .3209E+00 BASIN STORAGE= .6378E-03 PERCENT ERROR=    -.1

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
             R25_O  MANE         5.00        .00     780.76        .00       5.00        .00     780.00          .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2569E-03 EXCESS= .0000E+00 OUTFLOW= .2676E-03 BASIN STORAGE= .8510E-05 PERCENT ERROR=  -7.5

          FOR STORM = 2  STORM AREA (SQ MI) =       14.00
             R25_O  MANE         4.98        .00     782.12        .00       5.00        .00     780.00          .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2452E-03 EXCESS= .0000E+00 OUTFLOW= .2541E-03 BASIN STORAGE= .8413E-05 PERCENT ERROR=  -7.1

          FOR STORM = 3  STORM AREA (SQ MI) =       24.00
             R25_O  MANE         4.99        .00     783.15        .00       5.00        .00     780.00          .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2393E-03 EXCESS= .0000E+00 OUTFLOW= .2468E-03 BASIN STORAGE= .8563E-05 PERCENT ERROR=  -6.7

          FOR STORM = 4  STORM AREA (SQ MI) =       36.50
             R25_O  MANE         5.00        .00     779.17        .00       5.00        .00     780.00          .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2336E-03 EXCESS= .0000E+00 OUTFLOW= .2402E-03 BASIN STORAGE= .8296E-05 PERCENT ERROR=  -6.4

          FOR STORM = 5  STORM AREA (SQ MI) =       50.00
             R25_O  MANE         5.00        .00     781.57        .00       5.00        .00     785.00          .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2297E-03 EXCESS= .0000E+00 OUTFLOW= .2323E-03 BASIN STORAGE= .8384E-05 PERCENT ERROR=  -4.8

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
             R25_P  MANE         5.00        .00     791.69        .00       5.00        .00     790.00          .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2669E-03 EXCESS= .0000E+00 OUTFLOW= .2683E-03 BASIN STORAGE= .9613E-06 PERCENT ERROR=    -.9
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          FOR STORM = 2  STORM AREA (SQ MI) =        14.00
             R25_P  MANE          5.00       .00     792.21       .00       5.00       .00     795.00         .00

.NTINUITY SUMMARY (AC-FT) - INFLOW= .2536E-03 EXCESS= .0000E+00 OUTFLOW= .2532E-03 BASIN STORAGE= .9434E-06 PERCENT ERROR=   -.2

          FOR STORM = 3  STORM AREA (SQ MI) =        24.00
             R25_P  MANE          5.00       .00     793.72       .00       5.00       .00     795.00         .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2467E-03 EXCESS= .0000E+00 OUTFLOW= .2461E-03 BASIN STORAGE= .9396E-06 PERCENT ERROR=   -.1

          FOR STORM = 4  STORM AREA (SQ MI) =        36.50
             R25_P  MANE          5.00       .00     795.45       .00       5.00       .00     795.00         .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2398E-03 EXCESS= .0000E+00 OUTFLOW= .2413E-03 BASIN STORAGE= .9351E-06 PERCENT ERROR=  -1.0

          FOR STORM = 5  STORM AREA (SQ MI) =        50.00
             R25_P  MANE          5.00       .00     796.55       .00       5.00       .00     800.00         .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2320E-03 EXCESS= .0000E+00 OUTFLOW= .2312E-03 BASIN STORAGE= .9279E-06 PERCENT ERROR=   -.1

          FOR STORM = 1  STORM AREA (SQ MI) =          .01
             R_14a  MANE          4.93      49.68    728.38       .60       5.00      49.28    730.00         .60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4910E+01 EXCESS= .0000E+00 OUTFLOW= .4926E+01 BASIN STORAGE= .8383E-02 PERCENT ERROR=   -.5

          FOR STORM = 2  STORM AREA (SQ MI) =        14.00
             R_14a  MANE          4.94      51.09    729.94       .58       5.00      51.03    730.00         .58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4804E+01 EXCESS= .0000E+00 OUTFLOW= .4827E+01 BASIN STORAGE= .7169E-02 PERCENT ERROR=   -.6

          FOR STORM = 3  STORM AREA (SQ MI) =        24.00
             R_14a  MANE          5.00      47.75    728.47       .58       5.00      47.57    730.00         .58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4755E+01 EXCESS= .0000E+00 OUTFLOW= .4763E+01 BASIN STORAGE= .1049E-01 PERCENT ERROR=   -.4

          FOR STORM = 4  STORM AREA (SQ MI) =        36.50
             R_14a  MANE          5.09      48.27    731.77       .57       5.00      46.90    730.00         .57

 NTINUITY SUMMARY (AC-FT) - INFLOW= .4705E+01 EXCESS= .0000E+00 OUTFLOW= .4718E+01 BASIN STORAGE= .1146E-01 PERCENT ERROR=   -.5

          FOR STORM = 5  STORM AREA (SQ MI) =        50.00
             R_14a  MANE          4.95      49.22    729.56       .57       5.00      48.83    730.00         .57

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4672E+01 EXCESS= .0000E+00 OUTFLOW= .4692E+01 BASIN STORAGE= .7424E-02 PERCENT ERROR=   -.6


*** NORMAL END OF HEC-1 ***
```

```
**********************************************
*                                            *
*  FLOOD HYDROGRAPH PACKAGE  (HEC-1)         *
*            JUN  1998                       *
*          VERSION 4.1                       *
*                                            *
*  RUN DATE   21JUL08  TIME  12:57:32        *
*                                            *
**********************************************
```

```
**********************************************
*                                            *
*    U.S. ARMY CORPS OF ENGINEERS            *
*    HYDROLOGIC ENGINEERING CENTER           *
*          609 SECOND STREET                 *
*       DAVIS, CALIFORNIA 95616              *
*            (916) 756-1104                  *
*                                            *
**********************************************
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X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX  XXXXX          XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT

```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
    1     ID        Ranchmans Ditch Master Drainage Plan
    2     ID        Walker Field Revised Watershed Model - On site Pond Option
    3     ID     10-Year 24-Hour Storm - NRCS Type II Rainfall Distribution
    4     IT       5                    300
    5     IO       4
    6     IN       6
    7     JD    1.99     0.01
    8     PC       0    0.001   0.002   0.0031  0.0041  0.0051  0.0062  0.0073  0.0083  0.0094
    9     PC  0.0105   0.0116  0.0127  0.0138   0.015  0.0161  0.0173  0.0185  0.0196  0.0208
   10     PC   0.022   0.0232  0.0244  0.0257  0.0269  0.0281  0.0294  0.0307  0.0319  0.0332
   11     PC  0.0345   0.0358  0.0371  0.0384  0.0398  0.0411  0.0425  0.0438  0.0452  0.0466
   12     PC   0.048   0.0494  0.0508  0.0523  0.0538  0.0553  0.0568  0.0583  0.0598  0.0614
   13     PC   0.063   0.0646  0.0662  0.0679  0.0696  0.0712   0.073  0.0747  0.0764  0.0782
   14     PC    0.08   0.0818  0.0836  0.0855  0.0874  0.0892  0.0912  0.0931   0.095   0.097
   15     PC   0.099    0.101   0.103  0.1051  0.1072  0.1093  0.1114  0.1135  0.1156  0.1178
   16     PC    0.12   0.1223  0.1246  0.1271  0.1296  0.1323   0.135  0.1379  0.1408  0.1439
   17     PC   0.147   0.1502  0.1534  0.1566  0.1598   0.163  0.1663  0.1697  0.1733  0.1771
   18     PC   0.181   0.1851  0.1895  0.1941  0.1989   0.204  0.2094  0.2152  0.2214   0.228
   19     PC   0.235   0.2427  0.2513  0.2609  0.2715   0.283  0.3068  0.3544  0.4308  0.5679
   20     PC   0.663    0.682  0.6986   0.713  0.7252   0.735  0.7434  0.7514  0.7588  0.7656
   21     PC   0.772    0.778  0.7836   0.789  0.7942   0.799  0.8036   0.808  0.8122  0.8162
   22     PC    0.82   0.8237  0.8273  0.8308  0.8342  0.8376  0.8409  0.8442  0.8474  0.8505
   23     PC  0.8535   0.8565  0.8594  0.8622  0.8649  0.8676  0.8702  0.8728  0.8753  0.8777
   24     PC    0.88   0.8823  0.8846  0.8868   0.889  0.8912  0.8934  0.8955  0.8976  0.8997
   25     PC  0.9018   0.9038  0.9058  0.9078  0.9098  0.9117  0.9136  0.9155  0.9174  0.9192
   26     PC   0.921   0.9228  0.9246  0.9263   0.928  0.9297  0.9314   0.933  0.9346  0.9362
   27     PC  0.9377   0.9393  0.9408  0.9423  0.9438  0.9452  0.9466   0.948  0.9494  0.9507
   28     PC   0.952   0.9533  0.9546  0.9559  0.9572  0.9584  0.9597   0.961  0.9622  0.9635
   29     PC  0.9648    0.966  0.9672  0.9685  0.9697  0.9709  0.9722  0.9734  0.9746  0.9758
   30     PC   0.977   0.9782  0.9794  0.9806  0.9818  0.9829  0.9841  0.9853  0.9864  0.9876
   31     PC  0.9888   0.9899   0.991  0.9922  0.9933  0.9944  0.9956  0.9967  0.9978  0.9989
   32     PC       1        1       1       1       1       1       1       1       1       1
   33     PC       1        1       1       1       1       1       1       1       1       1
   34     PC       1        1       1       1       1       1       1       1       1       1
   35     PC       1        1       1       1       1       1       1       1       1       1
   36     PC       1        1       1       1       1       1       1       1       1       1
   37     PC       1        1       1       1       1       1       1       1       1       1
   38     JD   1.950       14
   39     JD   1.930       24
   40     JD   1.910     36.5
   41     JD   1.896       50

   42     KK    DB21
   43     KM   Subbasin
   44     BA  0.1519
   45     LG    0.30  0.3077   1.148   0.041       1
   46     US   0.171   0.258

   47     KK    PD A
   48     KM   Route Through Pond A
   49     RS       1    STOR       0       0
   50     SV     0.0   0.001     1.8     4.7     8.9    11.6
   51     SQ     0.0     2.5     7.0     9.0    10.6    11.3
   52     SE    4915    4916    4918    4920    4922    4923
```


1 HEC-1 INPUT

```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
   53     KK    R21a
   54     KM   Route R21 Through R21a
   55     RK    3500   0.023    0.05              TRAP      30       6

   56     KK   DB21a
   57     KM   Subbasin
   58     BA  0.3403
   59     LG    0.30  0.3077   1.148   0.041       1
   60     US   0.211   0.291

   61     KK    C21a
   62     KM   Combine Routed Basin 21 with Basin 21a
   63     HC       2

   64     KK  WF_PD1
   65     KM   Route Hydrograph Through New Walker Field On Site Pond 1
   66     RS       1    STOR       0       0
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```
 67          SV     0.0    0.97    6.95    13.6    17.3
 68          SQ     0.0    10.7    23.9    32.1    35.5
 69          SE    38.5    40.0    42.0    44.0    45.0

 70          KK    RPD1
 71          KM   Route Hydrograph Through Basin 23b Pipe
 72          RK    1750   0.014   0.015            CIRC       3

 73          KK   DB23b
 74          KM   Subbasin
 75          BA  0.0584
 76          LG    0.53  0.4970  1.8550  0.0670      75
 77          US   0.186   0.625

 78          KK     C23
 79          KM   Combine Hydrograph Basin 23b with 21 and 21a
 80          HC       2

 81          KK    R23b
 82          KM   Route Hydrograph Through Basin 23c Pipe
 83          RK    1000   0.014   0.015            CIRC       3

 84          KK   DB23c
 85          KM   Subbasin
 86          BA  0.0783
 87          LG    0.53  0.4970  1.8550  0.0670      73
 88          US   0.186   0.625

 89          KK    R23c
 90          KM   Route R23c Through R23c Ditch
 91          RK     500    .005   0.045            TRAP      10       4
1                                        HEC-1 INPUT                                                    PAGE  3
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 92          KK   DB23d
 93          KM   Subbasin
 94          BA  0.0173
 95          LG    0.53  0.4970  1.8550  0.0670      62
 96          US   0.186   0.625

 97          KK    R23d
 98          KM   Route Hydrograph Through Basin 23d Pipe
 99          RK    1200   0.005   0.015            CIRC       2

100          KK     C23
101          KM   Combine Hydrograph Basins 23c,23d With WF_PD1 and 23b
102          HC       3

103          KK  WF_PD2
104          KM   Route Hydrograph Through New Walker Field On Site Pond 2
105          RS       1    STOR       0       0
106          SV     0.0    0.10    0.70    1.64    3.16    5.34
107          SQ     0.0    23.6    48.1    68.1    83.4    90.1
108          SE  4793.5    4795    4797    4799    4801    4803

109          KK  RWF_P2
110          KM   Route Hydrograph Through Basin 23e Pipe
111          RK    1000   0.010   0.015            CIRC       3

112          KK   DB23e
113          KM   Subasin
114          BA  0.0709
115          LG    0.53  0.4970  1.8550  0.0670      75
116          US   0.186   0.625

117          KK    C23e
118          KM   Combine Hydrograph Basin 23e With WF_PD2
119          HC       2

120          KK    R23e
121          KM   Route Hydrograph Through Basin 23a Pipe
122          RK    1500   0.008   0.015            CIRC       4

123          KK   DB23a
124          KM   Subbasin
125          BA  0.0196
126          LG    0.59  0.5397  2.0144  0.0724       1
127          US   0.063   0.190

128          KK    C23a
129          KM   Combine Hydrograph Basin 23a, 23e With WF_PD2
130          HC       2
1                                        HEC-1 INPUT                                                    PAGE  4
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

131          KK  R_PD U
132          KM   Route Hydrograph Through Upper Airport Upper Pond
133          RS       1    STOR       0       0
134          SV     0.0   0.001    0.21    6.09   16.16   26.80    29.4
135          SQ     0.0    10.8    11.4    12.4    13.3    14.2     162
136          SE    4767 4767.01    4768    4770    4772    4774  4774.5

137          KK  D_Pd U
138          KM   Weir Flow Into Lower Pond
139          DT  U_Pipe
140          DI     0.0    14.2    14.3     100    1000
141          DQ     0.0    14.2    14.2    14.2    14.2

142          KK    DB22
143          KM   Subbasin
144          BA  0.2226
145          LG    0.30  0.3077   1.148   0.041       1
146          US   0.203   0.273

147          KK   R24_P
148          KM   Route Hydrograph Through Basin 24 Pipe
149          RK    3076   0.014   0.015            CIRC     4.5

150          KK   R24_O
151          KM   Route Hydrograph Through Basin 24 Overland
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152          RK    1506   0.019     0.03             TRAP       10       12

153          KK   DB24a
154          KM   Subbasin
155          BA  0.0212
156          LG    0.53  0.4970  1.8550  0.0670       20
157          US   0.150   0.180

158          KK  B4aDIV
159          KM   Divert Basin 24a overflow
160          DT  B4aDIV
161          DI     0.0    14.0   100.0  1000.0
162          DQ       0    0.01    86.0   986.0

163          KK   R24_P
164          KM   Route Hydrograph Through Basin 24 Pipe
165          RK     800   0.014   0.015             CIRC      4.5

166          KK   R24_O
167          KM   Route Hydrograph Through Basin 24 Overland
168          RK    1506   0.019     0.03             TRAP       10       12

169          KK    DB24
170          KM   Subbasin
171          BA  0.2318
172          LG    0.44  0.4260  1.5900  0.0570       58
173          US   0.180   0.623
1                                    HEC-1 INPUT                                                    PAGE  5

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

174          KK     C24
175          KM   Combine Hydrographs (Basin22, Basin 24a, Basin 24)
176          HC       3

177          KK   DR24a
178          KM   Retrieve 24a diversion
179          DR  B4aDIV

180          KK   R25_O
181          KM   Route 24a diversion through Basin 25 overland
182          RK     800   0.015     0.03             TRAP       30       10

183          KK   R25_P
184          KM   Route 24a diversion through Basin 25 pipe
185          RK    1600   0.013   0.015              CIRC        4

186          KK    DB25
187          KM   Subbasin
188          BA  0.0244
189          LG    0.53  0.4970  1.8550  0.0670       20
190          US   0.151   0.183

191          KK     C25
192          KM   Combine Hydrograph with 24a diversion
193          HC       2

194          KK   B5DIV
195          KM   Divert Basin 25 storm sewer overflow
196          DT   B5DIV
197          DI     0.0    14.0   100.0  1000.0
198          DQ       0       0    86.0   986.0

199          KK   DB25a
200          KM   Subbasin
201          BA  0.0316
202          LG    0.55  0.5112  1.9084  0.0688        1
203          US   0.066   0.204

204          KK     C_6
205          KM   Combine Basins 25a 25 24a 24 22
206          HC       3

207          KK     C_7
208          KM   Combine all Basins
209          HC       2

210          KK  R_PD L
211          KM   route Hydrograph Through Lower Airport East Pond
212          RS       1    STOR       0        0
213          SV     0.0     0.05    4.26    13.79    24.65
214          SQ     0.0      5.5     7.8      9.6     11.1
215          SE  4758.4    4760    4762     4764     4766
1                                    HEC-1 INPUT                                                    PAGE  6

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

216          KK    PR_U
217          KM   Retrieve Upper Pond Pipe Flow
218          DR  U_Pipe

219          KK   C_Out
220          KM   Combine 2 Outflow Hydrographs at Canal
221          HC       2

222          KK     R16
223          KM   Subbasin
224          BA  0.1550
225          LG    0.67  0.5917  2.1610  0.0810     50.0
226          US   0.119   0.476

227          KK   R_14a
228          KM   Route Hydrograph through R14A overland
229          RK    2500   0.005     0.04             TRAP       10       10

230          KK    R14A
231          KM   Subbasin
232          BA  0.0393
233          LG    0.60  0.5491  2.0496  0.0736     75.0
234          US   0.119   0.479

235          KK   C_14A
```

```
          236          KM   Combine Hydrographs (R16, R14A)
          237          HC      2

          238          KK   C_14A
          239          KM   Combine Hydrograph with Lower Pond Outfall
          240          HC      2
          241          ZZ
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             JUN  1998                 *
*          VERSION 4.1                  *
*                                       *
*  RUN DATE   21JUL08  TIME  12:57:32   *
*                                       *
*****************************************
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*************************************
*                                   *
*    U.S. ARMY CORPS OF ENGINEERS   *
*    HYDROLOGIC ENGINEERING CENTER  *
*          609 SECOND STREET        *
*       DAVIS, CALIFORNIA 95616     *
*           (916) 756-1104          *
*                                   *
*************************************
```

Ranchmans Ditch Master Drainage Plan
Walker Field Revised Watershed Model - On site Pond Option
10-Year 24-Hour Storm - NRCS Type II Rainfall Distribution

```
  5 IO          OUTPUT CONTROL VARIABLES
                     IPRNT          4  PRINT CONTROL
                     IPLOT          0  PLOT CONTROL
                     QSCAL         0.  HYDROGRAPH PLOT SCALE

  6 IN          TIME DATA FOR INPUT TIME SERIES
                     JXMIN          6  TIME INTERVAL IN MINUTES
                    JXDATE      1   0  STARTING DATE
                    JXTIME          0  STARTING TIME

    IT          HYDROGRAPH TIME DATA
                      NMIN          5  MINUTES IN COMPUTATION INTERVAL
                     IDATE      1   0  STARTING DATE
                     ITIME       0000  STARTING TIME
                        NQ        300  NUMBER OF HYDROGRAPH ORDINATES
                    NDDATE      2   0  ENDING DATE
                    NDTIME       0055  ENDING TIME
                     ICENT         19  CENTURY MARK

                  COMPUTATION INTERVAL      .08 HOURS
                      TOTAL TIME BASE    24.92 HOURS

        ENGLISH UNITS
             DRAINAGE AREA          SQUARE MILES
             PRECIPITATION DEPTH    INCHES
             LENGTH, ELEVATION      FEET
             FLOW                   CUBIC FEET PER SECOND
             STORAGE VOLUME         ACRE-FEET
             SURFACE AREA           ACRES
             TEMPERATURE            DEGREES FAHRENHEIT

  7 JD        INDEX STORM NO. 1
                    STRM        1.99  PRECIPITATION DEPTH
                    TRDA         .01  TRANSPOSITION DRAINAGE AREA

  8 PI          PRECIPITATION PATTERN
                .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
```

.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

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                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00

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Subbasin

SUBBASIN RUNOFF DATA

58 BA SUBBASIN CHARACTERISTICS
TAREA .34 SUBBASIN AREA

59 LG GREEN AND AMPT LOSS RATE
STRTL .30 STARTING LOSS
DTH .31 MOISTURE DEFICIT
PSIF 1.15 WETTING FRONT SUCTION
XKSAT .04 HYDRAULIC CONDUCTIVITY
RTIMP 1.00 PERCENT IMPERVIOUS AREA

60 US SNYDER UNITGRAPH
TP .21 LAG
CP .29 PEAKING COEFFICIENT

SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

***

UNIT HYDROGRAPH PARAMETERS
CLARK TC= .17 HR, R= .64 HR
SNYDER TP= .21 HR, CP= .29

UNIT HYDROGRAPH
42 END-OF-PERIOD ORDINATES

80.	231.	285.	250.	220.	193.	169.	148.	130.	114.
100.	88.	77.	68.	59.	52.	46.	40.	35.	31.
27.	24.	21.	18.	16.	14.	12.	11.	9.	8.
7.	6.	6.	5.	4.	4.	3.	3.	3.	2.
2.	2.								

*** ***

****
* *
61 KK * C21a *
* *
****
Combine Routed Basin 21 with Basin 21a

63 HC HYDROGRAPH COMBINATION
ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

***

*** ***

****
* *
64 KK * WF_PD1 *
* *
****
Route Hydrograph Through New Walker Field On Site Pond 1

HYDROGRAPH ROUTING DATA

66 RS STORAGE ROUTING
NSTPS 1 NUMBER OF SUBREACHES
ITYP STOR TYPE OF INITIAL CONDITION
RSVRIC .00 INITIAL CONDITION
X .00 WORKING R AND D COEFFICIENT

67 SV	STORAGE	.0	1.0	6.9	13.6	17.3
68 SQ	DISCHARGE	0.	11.	24.	32.	36.
69 SE	ELEVATION	38.50	40.00	42.00	44.00	45.00

***

*** ***

****
* *
70 KK * RPD1 *
* *
****
Route Hydrograph Through Basin 23b Pipe

HYDROGRAPH ROUTING DATA

72 RK KINEMATIC WAVE STREAM ROUTING
L 1750. CHANNEL LENGTH
S .0140 SLOPE
N .015 CHANNEL ROUGHNESS COEFFICIENT
CA .00 CONTRIBUTING AREA
SHAPE CIRC CHANNEL SHAPE
WD 3.00 BOTTOM WIDTH OR DIAMETER
Z .00 SIDE SLOPE
NDXMIN 2 MINIMUM NUMBER OF DX INTERVALS

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*** FOKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION= 1

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          ***************
          *             *
73 KK     *     DB23b   *
          *             *
          ***************
                        Subbasin

   SUBBASIN RUNOFF DATA

75 BA       SUBBASIN CHARACTERISTICS
                 TAREA          .06  SUBBASIN AREA

76 LG       GREEN AND AMPT LOSS RATE
                 STRTL          .53  STARTING LOSS
                   DTH          .50  MOISTURE DEFICIT
                  PSIF         1.86  WETTING FRONT SUCTION
                 XKSAT          .07  HYDRAULIC CONDUCTIVITY
                 RTIMP        75.00  PERCENT IMPERVIOUS AREA

77 US       SNYDER UNITGRAPH
                    TP          .19  LAG
                    CP          .63  PEAKING COEFFICIENT

            SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=    .22 HR,       R=    .16 HR
                                  SNYDER   TP=    .19 HR,      CP=    .63

                                            UNIT HYDROGRAPH
                                        12 END-OF-PERIOD ORDINATES
              30.        94.       119.        87.        51.        30.        17.        10.         6.         3.
               2.         1.

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          *             *
78 KK     *       C23   *
          *             *
          ***************
                        Combine Hydrograph Basin 23b with 21 and 21a

80 HC       HYDROGRAPH COMBINATION
                 ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

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          *             *
81 KK     *      R23b   *
          *             *
          ***************
                        Route Hydrograph Through Basin 23c Pipe

   HYDROGRAPH ROUTING DATA

83 RK       KINEMATIC WAVE STREAM ROUTING
                      L       1000.  CHANNEL LENGTH
                      S       .0140  SLOPE
                      N        .015  CHANNEL ROUGHNESS COEFFICIENT
                     CA         .00  CONTRIBUTING AREA
                  SHAPE        CIRC  CHANNEL SHAPE
                     WD        3.00  BOTTOM WIDTH OR DIAMETER
                      Z         .00  SIDE SLOPE
                 NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS

                                                ***

        *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

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          *            *
 84 KK    *     D823C  *
          *            *
          **************
                    Subbasin

             SUBBASIN RUNOFF DATA

 86 BA          SUBBASIN CHARACTERISTICS
                      TAREA          .08  SUBBASIN AREA

 87 LG          GREEN AND AMPT LOSS RATE
                      STRTL          .53  STARTING LOSS
                       DTH           .50  MOISTURE DEFICIT
                       PSIF         1.86  WETTING FRONT SUCTION
                      XKSAT          .07  HYDRAULIC CONDUCTIVITY
                      RTIMP        73.00  PERCENT IMPERVIOUS AREA

 88 US          SNYDER UNITGRAPH
                        TP           .19  LAG
                        CP           .63  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .22 HR,       R=    .16 HR
                                    SNYDER  TP=    .19 HR,      CP=    .63

                                          UNIT HYDROGRAPH
                                      12 END-OF-PERIOD ORDINATES
                40.      126.      159.      117.       68.       40.       23.       14.       8.       5.
                 3.        2.
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*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

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          *             *
 89 KK    *      R23c   *
          *             *
          ***************
                    Route R23c Through R23c Ditch

        HYDROGRAPH ROUTING DATA

 91 RK      KINEMATIC WAVE STREAM ROUTING
                    L        500.  CHANNEL LENGTH
                    S       .0050  SLOPE
                    N        .045  CHANNEL ROUGHNESS COEFFICIENT
                   CA         .00  CONTRIBUTING AREA
                SHAPE        TRAP  CHANNEL SHAPE
                   WD       10.00  BOTTOM WIDTH OR DIAMETER
                    Z        4.00  SIDE SLOPE
               NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

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          *             *
 92 KK    *     DB23d   *
          *             *
          ***************
                    Subbasin

        SUBBASIN RUNOFF DATA

 94 BA      SUBBASIN CHARACTERISTICS
              TAREA         .02  SUBBASIN AREA

 95 LG      GREEN AND AMPT LOSS RATE
              STRTL         .53  STARTING LOSS
                DTH         .50  MOISTURE DEFICIT
               PSIF        1.86  WETTING FRONT SUCTION
              XKSAT         .07  HYDRAULIC CONDUCTIVITY
              RTIMP       62.00  PERCENT IMPERVIOUS AREA

 96 US      SNYDER UNITGRAPH
                 TP         .19  LAG
                 CP         .63  PEAKING COEFFICIENT

        SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                    ***

                                        UNIT HYDROGRAPH PARAMETERS
                                  CLARK   TC=    .22 HR,       R=    .16 HR
                                SNYDER    TP=    .19 HR,      CP=    .63

                                           UNIT HYDROGRAPH
                                       12 END-OF-PERIOD ORDINATES
        9.       28.       35.       26.       15.        9.        5.        3.        2.        1.
        1.        0.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
 97 KK    *      R23d   *
          *             *
          ***************
                    Route Hydrograph Through Basin 23d Pipe

        HYDROGRAPH ROUTING DATA

 99 RK      KINEMATIC WAVE STREAM ROUTING
                    L       1200.  CHANNEL LENGTH
                    S       .0050  SLOPE
                    N        .015  CHANNEL ROUGHNESS COEFFICIENT
                   CA         .00  CONTRIBUTING AREA
                SHAPE        CIRC  CHANNEL SHAPE
                   WD        2.00  BOTTOM WIDTH OR DIAMETER
                    Z         .00  SIDE SLOPE
               NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                    ***

      *** FDKRUT - NEWTON RAPHSON FAILEOFIXED POINT ITERATION USED - ITERATION=  1

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
100 KK    *      C23    *
          *             *
          ***************
                    Combine Hydrograph Basins 23c,23d with WF_PD1 and 23b

102 HC      HYDROGRAPH COMBINATION
              ICOMP           3  NUMBER OF HYOROGRAPHS TO COMBINE
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*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

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          *             *
103 KK    *    WF_PD2   *
          *             *
          ***************
                    Route Hydrograph Through New Walker Field On Site Pond 2

          HYDROGRAPH ROUTING DATA

105 RS      STORAGE ROUTING
                 NSTPS          1  NUMBER OF SUBREACHES
                  ITYP       STOR  TYPE OF INITIAL CONDITION
                 RSVRIC        .00  INITIAL CONDITION
                     X         .00 WORKING R AND D COEFFICIENT

106 SV        STORAGE          .0        .1        .7       1.6       3.2       5.3

107 SQ      DISCHARGE          0.       24.       48.       68.       83.       90.

108 SE      ELEVATION     4793.50   4795.00   4797.00   4799.00   4801.00   4803.00
                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

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          *             *
109 KK    *    RWF_P2   *
          *             *
          ***************
                    Route Hydrograph Through Basin 23e Pipe

          HYDROGRAPH ROUTING DATA

111 RK      KINEMATIC WAVE STREAM ROUTING
                    L       1000.  CHANNEL LENGTH
                    S       .0100  SLOPE
                    N        .015  CHANNEL ROUGHNESS COEFFICIENT
                   CA         .00  CONTRIBUTING AREA
                SHAPE        CIRC  CHANNEL SHAPE
                   WD        3.00  BOTTOM WIDTH OR DIAMETER
                    Z         .00  SIDE SLOPE
                NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

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          *             *
112 KK    *     DB23e   *
          *             *
          ***************
                    Subasin

          SUBBASIN RUNOFF DATA

114 BA      SUBBASIN CHARACTERISTICS
                 TAREA         .07  SUBBASIN AREA

115 LG      GREEN AND AMPT LOSS RATE
                 STRTL         .53  STARTING LOSS
                   DTH         .50  MOISTURE DEFICIT
                  PSIF        1.86  WETTING FRONT SUCTION
                 XKSAT         .07  HYDRAULIC CONDUCTIVITY
                 RTIMP       75.00  PERCENT IMPERVIOUS AREA

116 US      SNYDER UNITGRAPH
                    TP         .19  LAG
                    CP         .63  PEAKING COEFFICIENT

            SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                        ***

                                        UNIT HYDROGRAPH PARAMETERS
                                  CLARK   TC=   .22 HR,       R=   .16 HR
                                 SNYDER   TP=   .19 HR,      CP=   .63

                                          UNIT HYDROGRAPH
                                      12 END-OF-PERIOD ORDINATES
            36.       114.      144.      106.       62.       36.       21.       12.       7.        4.
             2.         1.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
117 KK    *     C23e    *
          *             *
          ***************
                    Combine Hydrograph Basin 23e with WF_PD2

119 HC      HYDROGRAPH COMBINATION
                 ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
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*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

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          *             *
120 KK    *      R23e   *
          *             *
          ***************
                    Route Hydrograph Through Basin 23a Pipe

          HYDROGRAPH ROUTING DATA

122 RK      KINEMATIC WAVE STREAM ROUTING
                    L       1500.  CHANNEL LENGTH
                    S       .0080  SLOPE
                    N        .015  CHANNEL ROUGHNESS CDEFFICIENT
                   CA         .00  CONTRIBUTING AREA
                SHAPE        CIRC  CHANNEL SHAPE
                   WD        4.00  BOTTOM WIDTH OR DIAMETER
                    Z         .00  SIDE SLOPE
               NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                    ***

      *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
123 KK    *     DB23a   *
          *             *
          ***************
                    Subbasin

          SUBBASIN RUNOFF DATA

125 BA      SUBBASIN CHARACTERISTICS
                 TAREA         .02  SUBBASIN AREA

126 LG      GREEN AND AMPT LOSS RATE
                STRTL         .59  STARTING LOSS
                  DTH         .54  MOISTURE DEFICIT
                 PSIF        2.01  WETTING FRONT SUCTION
                XKSAT         .07  HYDRAULIC CONDUCTIVITY
                RTIMP        1.00  PERCENT IMPERVIOUS AREA

127 US      SNYDER UNITGRAPH
                   TP         .06  LAG
                   CP         .19  PEAKING COEFFICIENT

            SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                    ***
                                        UNIT HYDROGRAPH PARAMETERS
                                  CLARK   TC=    .08 HR,       R=    .74 HR
                                SNYDER   TP=    .14 HR,      CP=    .19

                                        UNIT HYDROGRAPH
                                48 END-OF-PERIOD ORDINATES
            8.      15.     14.     12.     11.     10.     9.      8.      7.      6.
            6.      5.      4.      4.      4.      3.      3.      3.      2.      2.
            2.      2.      1.      1.      1.      1.      1.      1.      1.      1.
            1.      1.      0.      0.      0.      0.      0.      0.      0.      0.
            0.      0.      0.      0.      0.      0.      0.      0.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
128 KK    *      C23a   *
          *             *
          ***************
                    Combine Hydrograph Basin 23a, 23e with WF_PD2

130 HC      HYDROGRAPH COMBINATION
                 ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                    ***


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

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          *             *
131 KK    *    R_PD U   *
          *             *
          ***************
                    Route Hydrograph Through Upper Airport Upper Pond

          HYDROGRAPH ROUTING DATA

133 RS      STORAGE ROUTING
                 NSTPS           1  NUMBER OF SUBREACHES
                  ITYP        STOR  TYPE OF INITIAL CONDITION
                RSVRIC         .00  INITIAL CONDITION
                     X         .00 WORKING R AND D COEFFICIENT

134 SV        STORAGE          .0      .0      .2      6.1     16.2    26.8    29.4

135 SQ      DISCHARGE          0.      11.     11.     12.     13.     14.     162.
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 36 SE          ELEVATION     4767.00   4767.01   4768.00   4770.00   4772.00   4774.00   4774.50
                                                                                  ***

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN        0. TO       11.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

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152 RK          KINEMATIC WAVE STREAM ROUTING
                          L       1506.  CHANNEL LENGTH
                          S       .0190  SLOPE
                          N        .030  CHANNEL ROUGHNESS COEFFICIENT
                         CA         .00  CONTRIBUTING AREA
                      SHAPE        TRAP  CHANNEL SHAPE
                         WD       10.00  BOTTOM WIDTH OR DIAMETER
                          Z       12.00  SIDE SLOPE
                     NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                  ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

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            *             *
153 KK      *     DB24a   *
            *             *
            ***************
                        Subbasin

          SUBBASIN RUNOFF DATA

155 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .02  SUBBASIN AREA

156 LG          GREEN AND AMPT LOSS RATE
                      STRTL         .53  STARTING LOSS
                        DTH         .50  MOISTURE DEFICIT
                       PSIF        1.86  WETTING FRONT SUCTION
                      XKSAT         .07  HYDRAULIC CONDUCTIVITY
                      RTIMP       20.00  PERCENT IMPERVIOUS AREA

157 US          SNYDER UNITGRAPH
                         TP         .15  LAG
                         CP         .18  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=    .10 HR,       R=    .78 HR
                                   SNYDER  TP=    .15 HR;      CP=    .18

                                            UNIT HYDROGRAPH
                                        50 END-OF-PERIOD ORDINATES
                    7.      15.     14.     13.     12.     10.      9.      8.      8.      7.
                    6.       5.      5.      4.      4.      4.      3.      3.      3.      2.
                    2.       2.      2.      2.      1.      1.      1.      1.      1.      1.
                    1.       1.      1.      1.      0.      0.      0.      0.      0.      0.
                    0.       0.      0.      0.      0.      0.      0.      0.      0.      0.

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            ***************
            *             *
158 KK      *     B4aDIV  *
            *             *
            ***************
                        Divert Basin 24a overflow

     DT          DIVERSION
                      ISTAD      B4aDIV  DIVERSION HYDROGRAPH IDENTIFICATION

     DI             INFLOW         .00     14.00    100.00   1000.00

     DQ      DIVERTED FLOW         .00       .01     86.00    986.00
                                                  ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *             *
163 KK      *     R24_P   *
            *             *
            ***************
                        Route Hydrograph Through Basin 24 Pipe

          HYDROGRAPH ROUTING DATA

165 RK          KINEMATIC WAVE STREAM ROUTING
                          L        800.  CHANNEL LENGTH
                          S       .0140  SLOPE
                          N        .015  CHANNEL ROUGHNESS COEFFICIENT
                         CA         .00  CONTRIBUTING AREA
                      SHAPE        CIRC  CHANNEL SHAPE
                         WD        4.50  BOTTOM WIDTH OR DIAMETER
                          Z         .00  SIDE SLOPE
                     NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                  ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *             *
166 KK      *     R24_O   *
            *             *
            ***************
                        Route Hydrograph Through Basin 24 Overland
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                HYDROGRAPH ROUTING DATA

168 RK            KINEMATIC WAVE STREAM ROUTING
                          L       1506.  CHANNEL LENGTH
                          S       .0190  SLOPE
                          N        .030  CHANNEL ROUGHNESS COEFFICIENT
                         CA         .00  CONTRIBUTING AREA
                      SHAPE        TRAP  CHANNEL SHAPE
                         WD      10.00  BOTTOM WIDTH OR DIAMETER
                          Z       12.00  SIDE SLOPE
                     NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

               ***************
               *             *
169 KK         *      DB24   *
               *             *
               ***************
                          Subbasin

               SUBBASIN RUNOFF DATA

171 BA            SUBBASIN CHARACTERISTICS
                    TAREA         .23  SUBBASIN AREA

172 LG            GREEN AND AMPT LOSS RATE
                    STRTL         .44  STARTING LOSS
                      DTH         .43  MOISTURE DEFICIT
                     PSIF        1.59  WETTING FRONT SUCTION
                    XKSAT         .06  HYDRAULIC CONDUCTIVITY
                    RTIMP       58.00  PERCENT IMPERVIOUS AREA

173 US            SNYDER UNITGRAPH
                       TP         .18  LAG
                       CP         .62  PEAKING COEFFICIENT

                  SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                    ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .22 HR,       R=    .15 HR
                                   SNYDER   TP=    .18 HR,      CP=    .63

                                          UNIT HYDROGRAPH
                                      11 END-OF-PERIOD ORDINATES
                    127.      393.     484.      342.      194.      110.       63.       36.       20.       11.
                      7.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

               ***************
               *             *
174 KK         *       C24   *
               *             *
               ***************
                          Combine Hydrographs (Basin22, Basin 24a, Basin 24)

176 HC            HYDROGRAPH COMBINATION
                       ICOMP           3  NUMBER OF HYDROGRAPHS TO COMBINE
                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

               ***************
               *             *
177 KK         *     DR24a   *
               *             *
               ***************
                          Retrieve 24a diversion

179 DR            RETRIEVE DIVERSION HYDROGRAPH
                       ISTAD      B4aDIV  DIVERSION HYDRDGRAPH IDENTIFICATION
                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

               ***************
               *             *
180 KK         *     R25_O   *
               *             *
               ***************
                          Route 24a diversion through Basin 25 overland

                HYDROGRAPH ROUTING DATA

 82 RK            KINEMATIC WAVE STREAM ROUTING
                          L        800.  CHANNEL LENGTH
                          S       .0150  SLOPE
                          N        .030  CHANNEL ROUGHNESS COEFFICIENT
                         CA         .00  CONTRIBUTING AREA
                      SHAPE        TRAP  CHANNEL SHAPE
                         WD       30.00  BOTTOM WIDTH OR DIAMETER
                          Z       10.00  SIDE SLOPE
                     NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
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          ***************
          *             *
183 KK    *     R25_P   *
          *             *
          ***************
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Route 24a diversion through Basin 25 pipe

HYDROGRAPH ROUTING DATA

185 RK KINEMATIC WAVE STREAM ROUTING

L	1600.	CHANNEL LENGTH
S	.0130	SLOPE
N	.015	CHANNEL ROUGHNESS COEFFICIENT
CA	.00	CONTRIBUTING AREA
SHAPE	CIRC	CHANNEL SHAPE
WD	4.00	BOTTOM WIDTH OR DIAMETER
Z	.00	SIDE SLOPE
NDXMIN	2	MINIMUM NUMBER OF DX INTERVALS

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*** FOKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION= 1

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          ***************
          *             *
186 KK    *     DB25    *
          *             *
          ***************
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Subbasin

SUBBASIN RUNOFF DATA

188 BA SUBBASIN CHARACTERISTICS

TAREA	.02	SUBBASIN AREA

189 LG GREEN AND AMPT LOSS RATE

STRTL	.53	STARTING LOSS
DTH	.50	MOISTURE DEFICIT
PSIF	1.86	WETTING FRONT SUCTION
XKSAT	.07	HYDRAULIC CONDUCTIVITY
RTIMP	20.00	PERCENT IMPERVIOUS AREA

190 US SNYDER UNITGRAPH

TP	.15	LAG
CP	.18	PEAKING COEFFICIENT

SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

***

UNIT HYDROGRAPH PARAMETERS
CLARK TC= .10 HR; R= .76 HR
SNYDER TP= .15 HR, CP= .18

UNIT HYDROGRAPH
49 END-OF-PERIOD ORDINATES

9.	18.	17.	15.	14.	12.	11.	10.	9.	8.
7.	6.	6.	5.	5.	4.	4.	3.	3.	3.
2.	2.	2.	2.	2.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	

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          ***************
          *             *
191 KK    *     C25     *
          *             *
          ***************
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Combine Hydrograph with 24a diversion

193 HC HYDROGRAPH COMBINATION

ICOMP	2	NUMBER OF HYDROGRAPHS TO COMBINE

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          ***************
          *             *
194 KK    *     B5DIV   *
          *             *
          ***************
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Divert Basin 25 storm sewer overflow

DT DIVERSION

	ISTAD	B5DIV	DIVERSION HYDROGRAPH IDENTIFICATION		
DI	INFLOW	.00	14.00	100.00	1000.00
DQ	DIVERTED FLOW	.00	.00	86.00	986.00

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*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
199 KK    *     DB25a   *
          *             *
          ***************
                    Subbasin

             SUBBASIN RUNOFF DATA

201 BA          SUBBASIN CHARACTERISTICS
                     TAREA          .03  SUBBASIN AREA

202 LG          GREEN AND AMPT LOSS RATE
                     STRTL          .55  STARTING LOSS
                       DTH          .51  MOISTURE DEFICIT
                      PSIF         1.91  WETTING FRONT SUCTION
                     XKSAT          .07  HYDRAULIC CONDUCTIVITY
                     RTIMP         1.00  PERCENT IMPERVIOUS AREA

203 US          SNYDER UNITGRAPH
                       TP           .07  LAG
                       CP           .20  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                    ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=   .08 HR,       R=    .68 HR
                                   SNYDER   TP=   .14 HR,      CP=    .20

                                               UNIT HYDROGRAPH
                                          44 END-OF-PERIOD ORDINATES
              14.       27.       24.       21.       18.       16.       14.       13.       11.       10.
               9.        8.        7.        6.        5.        5.        4.        4.        3.        3.
               3.        2.        2.        2.        2.        1.        1.        1.        1.        1.
               1.        1.        1.        1.        0.        0.        0.        0.        0.        0.
               0.        0.        0.        0.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
 14 KK    *       C_6   *
          *             *
          ***************
                    Combine Basins 25a 25 24a 24 22

206 HC          HYDROGRAPH COMBINATION
                     ICOMP             3  NUMBER OF HYDROGRAPHS TO COMBINE
                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
207 KK    *       C_7   *
          *             *
          ***************
                    Combine all Basins

209 HC          HYDROGRAPH COMBINATION
                     ICOMP             2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
210 KK    *    R_PD L   *
          *             *
          ***************
                    route Hydrograph Through Lower Airport East Pond

             HYDROGRAPH ROUTING DATA

212 RS          STORAGE ROUTING
                     NSTPS             1  NUMBER OF SUBREACHES
                      ITYP          STOR  TYPE OF INITIAL CONDITION
                    RSVRIC           .00  INITIAL CONDITION
                         X           .00 WORKING R AND D COEFFICIENT

213 SV            STORAGE          .0        .1       4.3      13.8      24.6

214 SQ          DISCHARGE          0.        6.        8.       10.       11.

215 SE          ELEVATION     4758.40   4760.00   4762.00   4764.00   4766.00
                                                    ***

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216 KK      *      PR_U  *
            *            *
            ***************
                        Retrieve Upper Pond Pipe Flow

218 DR            RETRIEVE DIVERSION HYDROGRAPH
                        ISTAD      U_Pipe  DIVERSION HYDROGRAPH IDENTIFICATION
                                                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *             *
219 KK      *      C_Out  *
            *             *
            ***************
                        Combine 2 Outflow Hydrographs at Canal

221 HC            HYDROGRAPH COMBINATION
                        ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *             *
222 KK      *       R16   *
            *             *
            ***************
                        Subbasin

               SUBBASIN RUNOFF DATA

224 BA            SUBBASIN CHARACTERISTICS
                        TAREA         .16  SUBBASIN AREA

225 LG            GREEN AND AMPT LOSS RATE
                        STRTL         .67  STARTING LOSS
                          DTH         .59  MOISTURE DEFICIT
                         PSIF        2.16  WETTING FRONT SUCTION
                        XKSAT         .08  HYDRAULIC CONDUCTIVITY
                        RTIMP       50.00  PERCENT IMPERVIOUS AREA

226 US            SNYDER UNITGRAPH
                          TP         .12  LAG
                          CP         .48  PEAKING COEFFICIENT

                  SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                                        ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=    .10 HR,       R=    .18 HR
                                         SNYDER   TP=    .12 HR,      CP=    .48

                                                   UNIT HYDROGRAPH
                                               13 END-OF-PERIOD ORDINATES
                     205.      352.      240.      151.       94.       59.       37.       23.       15.       9.
                       6.        4.        2.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *             *
227 KK      *      R_14a  *
            *             *
            ***************
                        Route Hydrograph through R14A overland

               HYDROGRAPH ROUTING DATA

229 RK            KINEMATIC WAVE STREAM ROUTING
                          L       2500.  CHANNEL LENGTH
                          S       .0050  SLOPE
                          N        .040  CHANNEL ROUGHNESS COEFFICIENT
                         CA         .00  CONTRIBUTING AREA
                      SHAPE        TRAP  CHANNEL SHAPE
                         WD       10.00  BOTTOM WIDTH OR DIAMETER
                          Z       10.00  SIDE SLOPE
                     NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *             *
230 KK      *      R14A   *
            *             *
            ***************
                        Subbasin

               SUBBASIN RUNOFF DATA

232 BA            SUBBASIN CHARACTERISTICS
                        TAREA         .04  SUBBASIN AREA

233 LG            GREEN AND AMPT LOSS RATE
                        STRTL         .60  STARTING LOSS
                          DTH         .55  MOISTURE DEFICIT
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                    PSIF        2.05  WETTING FRONT SUCTION
                    XKSAT        .07  HYDRAULIC CONDUCTIVITY
                    RTIMP      75.00  PERCENT IMPERVIOUS AREA

234 US          SNYDER UNITGRAPH
                      TP         .12  LAG
                      CP         .48  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=   .10 HR,       R=   .18 HR
                                         SNYDER   TP=   .12 HR,      CP=   .48

                                                UNIT HYDROGRAPH
                                            12 END-OF-PERIOD ORDINATES
                     52.       90.       61.       38.       24.       15.        9.        6.        4.        2.
                      1.        1.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


                ***************
                *               *
235 KK          *     C_14A     *
                *               *
                ***************
                          Combine Hydrographs (R16, R14A)

237 HC          HYDROGRAPH COMBINATION
                     ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


                ***************
                *               *
238 KK          *     C_14A     *
                *               *
                ***************
                          Combine Hydrograph with Lower Pond Outfall

240 HC          HYDROGRAPH COMBINATION
                     ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                ***

                                                RUNOFF SUMMARY
                                        FLOW IN CUBIC FEET PER SECOND
                                      TIME IN HOURS,  AREA IN SQUARE MILES
```

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	DB21	88.	12.08	14.	4.	4.	.15		
+	ROUTED TO	PD A	9.	13.67	9.	4.	4.	.15		
+	ROUTED TO	R21a	9.	14.00	9.	4.	3.	.15		
+	HYDROGRAPH AT	DB21a	177.	12.08	32.	8.	8.	.34		
+	2 COMBINED AT	C21a	179.	12.08	40.	12.	11.	.49		
+	ROUTED TO	WF_PD1	30.	13.83	27.	11.	11.	.49		
+	ROUTED TO	RPD1	30.	13.83	27.	11.	11.	.49		
+	HYDROGRAPH AT	DB23b	60.	12.08	7.	3.	2.	.06		
+	2 COMBINED AT	C23	75.	12.08	33.	14.	13.	.55		
+	ROUTED TO	R23b	74.	12.08	33.	14.	13.	.55		
+	HYDROGRAPH AT	DB23c	80.	12.08	10.	3.	3.	.08		
+	ROUTED TO	R23c	78.	12.08	10.	3.	3.	.08		
+	HYDROGRAPH AT	DB23d	17.	12.08	2.	1.	1.	.02		
	ROUTED TO	R23d	17.	12.08	2.	1.	1.	.02		
+	3 COMBINED AT	C23	168.	12.08	43.	18.	17.	.65		
+	ROUTED TO	WF_PD2	82.	12.42	43.	18.	17.	.65		
+	ROUTED TO	RWF_P2	82.	12.42	43.	18.	17.	.65		

+	HYDROGRAPH AT	DB23e	73.	12.08	9.	3.	3.	.07
+	2 COMBINED AT	C23e	139.	12.08	51.	21.	20.	.72
+	ROUTED TO	R23e	136.	12.17	51.	21.	20.	.72
+	HYDROGRAPH AT	DB23a	6.	12.08	1.	0.	0.	.02
+	2 COMBINED AT	C23a	142.	12.17	52.	21.	20.	.74
+	ROUTED TO	R_PD U	14.	23.58	14.	10.	9.	.74
+	DIVERSION TO	U_Pipe	14.	23.58	14.	10.	9.	.74
+	HYDROGRAPH AT	D_Pd U	0.	.00	0.	0.	0.	.74
+	HYDROGRAPH AT	DB22	115.	12.08	21.	5.	5.	.22
+	ROUTED TO	R24_P	113.	12.17	21.	5.	5.	.22
+	ROUTED TO	R24_O	111.	12.17	21.	5.	5.	.22
+	HYDROGRAPH AT	DB24a	8.	12.08	2.	0.	0.	.02
+	DIVERSION TO	B4aDIV	0.	12.00	0.	0.	0.	.02
+	HYDROGRAPH AT	B4aDIV	8.	12.08	2.	0.	0.	.02
+	ROUTED TO	R24_P	8.	12.08	2.	0.	0.	.02
+	ROUTED TO	R24_O	8.	12.17	2.	0.	0.	.02
+	HYDROGRAPH AT	DB24	242.	12.08	27.	9.	9.	.23
+	3 COMBINED AT	C24	347.	12.08	49.	15.	14.	.48
+	HYDROGRAPH AT	DR24a	0.	12.00	0.	0.	0.	.02
+	ROUTED TO	R25_O	0.	12.67	0.	0.	0.	.02
+	RDUTED TO	R25_P	0.	12.83	0.	0.	0.	.02
+	HYDROGRAPH AT	DB25	9.	12.08	2.	1.	1.	.02
+	2 COMBINED AT	C25	9.	12.08	2.	1.	1.	.02
+	DIVERSION TO	B5DIV	0.	.00	0.	0.	0.	.02
+	HYDROGRAPH AT	B5DIV	9.	12.08	2.	1.	1.	.02
+	HYDROGRAPH AT	DB25a	12.	12.08	2.	0.	0.	.03
+	3 COMBINED AT	C_6	368.	12.08	53.	16.	15.	.53
+	2 COMBINED AT	C_7	367.	12.08	53.	15.	15.	1.27
+	ROUTED TO	R_PD L	11.	14.83	11.	7.	7.	1.27
+	HYDROGRAPH AT	PR_U	14.	23.58	14.	10.	9.	.74
+	2 COMBINED AT	C_Out	24.	18.67	24.	17.	16.	1.27
+	HYDROGRAPH AT	R16	138.	12.00	15.	5.	5.	.16
+	ROUTED TO	R_14a	131.	12.17	15.	5.	5.	.16
+	HYDROGRAPH AT	R14A	41.	12.00	5.	2.	2.	.04
+	2 COMBINED AT	C_14A	157.	12.17	20.	7.	6.	.19
+	2 COMBINED AT	C_14A	177.	12.17	42.	23.	23.	1.46

1

SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	INTERPOLATED TO COMPUTATION INTERVAL DT	PEAK	TIME TO PEAK	VOLUME

		(MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	(MIN)	(IN)
FOR STORM = 1	STORM AREA (SQ MI) =			.01					
R21a MANE		4.91	9.28	841.46	.89	5.00	9.28	840.00	.89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7296E+01 EXCESS= .0000E+00 OUTFLOW= .7203E+01 BASIN STORAGE= .9508E-01 PERCENT ERROR= .0

FOR STORM = 2	STORM AREA (SQ MI) =			14.00					
R21a MANE		5.04	9.21	840.02	.87	5.00	9.21	840.00	.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7069E+01 EXCESS= .0000E+00 OUTFLOW= .7028E+01 BASIN STORAGE= .4007E-01 PERCENT ERROR= .0

FOR STORM = 3	STORM AREA (SQ MI) =			24.00					
R21a MANE		4.92	9.18	839.15	.86	5.00	9.18	840.00	.86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6963E+01 EXCESS= .0000E+00 OUTFLOW= .6933E+01 BASIN STORAGE= .3427E-01 PERCENT ERROR= -.1

FOR STORM = 4	STORM AREA (SQ MI) =			36.50					
R21a MANE		4.93	9.14	836.43	.84	5.00	9.14	835.00	.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6847E+01 EXCESS= .0000E+00 OUTFLOW= .6825E+01 BASIN STORAGE= .2344E-01 PERCENT ERROR= .0

FOR STORM = 5	STORM AREA (SQ MI) =			50.00					
R21a MANE		4.93	9.12	836.17	.83	5.00	9.12	835.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6772E+01 EXCESS= .0000E+00 OUTFLOW= .6749E+01 BASIN STORAGE= .2355E-01 PERCENT ERROR= .0

FOR STORM = 1	STORM AREA (SQ MI) =			.01					
RPD1 MANE		.87	30.19	831.29	.87	5.00	30.19	830.00	.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2282E+02 EXCESS= .0000E+00 OUTFLOW= .2279E+02 BASIN STORAGE= .2378E-01 PERCENT ERROR= .0

FOR STORM = 2	STORM AREA (SQ MI) =			14.00					
RPD1 MANE		.82	29.71	831.73	.85	5.00	29.71	830.00	.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2225E+02 EXCESS= .0000E+00 OUTFLOW= .2222E+02 BASIN STORAGE= .2083E-01 PERCENT ERROR= .0

FOR STORM = 3	STORM AREA (SQ MI) =			24.00					
RPD1 MANE		.81	29.47	831.64	.84	5.00	29.47	830.00	.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2196E+02 EXCESS= .0000E+00 OUTFLOW= .2194E+02 BASIN STORAGE= .1941E-01 PERCENT ERROR= .0

FOR STORM = 4	STORM AREA (SQ MI) =			36.50					
RPD1 MANE		.82	29.23	830.71	.82	5.00	29.23	830.00	.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2165E+02 EXCESS= .0000E+00 OUTFLOW= .2164E+02 BASIN STORAGE= .1786E-01 PERCENT ERROR= .0

FOR STORM = 5	STORM AREA (SQ MI) =			50.00					
RPD1 MANE		.81	29.07	827.07	.82	5.00	29.06	830.00	.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2144E+02 EXCESS= .0000E+00 OUTFLOW= .2143E+02 BASIN STORAGE= .1678E-01 PERCENT ERROR= .0

FOR STORM = 1	STORM AREA (SQ MI) =			.01					
R23b MANE		.44	75.27	725.72	.95	5.00	74.48	725.00	.95

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2785E+02 EXCESS= .0000E+00 OUTFLOW= .2783E+02 BASIN STORAGE= .1373E-01 PERCENT ERROR= .0

FOR STORM = 2	STORM AREA (SQ MI) =			14.00					
R23b MANE		.45	73.61	725.65	.92	5.00	72.86	725.00	.92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2717E+02 EXCESS= .0000E+00 OUTFLOW= .2715E+02 BASIN STORAGE= .1211E-01 PERCENT ERROR= .0

FOR STORM = 3	STORM AREA (SQ MI) =			24.00					
R23b MANE		.45	72.76	726.03	.91	5.00	72.08	725.00	.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2682E+02 EXCESS= .0000E+00 OUTFLOW= .2681E+02 BASIN STORAGE= .1126E-01 PERCENT ERROR= .0

FOR STORM = 4	STORM AREA (SQ MI) =			36.50					
R23b MANE		.45	72.02	725.99	.90	5.00	71.27	725.00	.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2647E+02 EXCESS= .0000E+00 OUTFLOW= .2645E+02 BASIN STORAGE= .1038E-01 PERCENT ERROR= .0

FOR STORM = 5	STORM AREA (SQ MI) =			50.00					
R23b MANE		.46	71.43	725.69	.89	5.00	70.70	725.00	.89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2622E+02 EXCESS= .0000E+00 OUTFLOW= .2621E+02 BASIN STORAGE= .9830E-02 PERCENT ERROR= .0

FOR STORM = 1	STORM AREA (SQ MI) =			.01					
R23c MANE		.89	80.30	726.49	1.60	5.00	78.82	725.00	1.60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6660E+01 EXCESS= .0000E+00 OUTFLOW= .6663E+01 BASIN STORAGE= .5853E-03 PERCENT ERROR= -.1

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          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
              R23c  MANE          .78     79.00    726.45      1.56      5.00     76.97    725.00       1.56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6510E+01 EXCESS= .0000E+00 OUTFLOW= .6514E+01 BASIN STORAGE= .4192E-03 PERCENT ERROR=   -.1

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
              R23c  MANE          .78     77.94    726.37      1.54      5.00     76.04    725.00       1.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6435E+01 EXCESS= .0000E+00 OUTFLOW= .6439E+01 BASIN STORAGE= .4374E-03 PERCENT ERROR=   -.1

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
              R23c  MANE          .90     76.37    726.95      1.52      5.00     75.11    725.00       1.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6361E+01 EXCESS= .0000E+00 OUTFLOW= .6364E+01 BASIN STORAGE= .5387E-03 PERCENT ERROR=   -.1

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
              R23c  MANE          .79     75.93    726.86      1.51      5.00     74.46    725.00       1.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6308E+01 EXCESS= .0000E+00 OUTFLOW= .6312E+01 BASIN STORAGE= .5662E-03 PERCENT ERROR=   -.1

          FOR STORM = 1  STORM AREA (SQ MI) =       .01
              R23d  MANE         1.01     17.24    726.47      1.44      5.00     16.82    725.00       1.44

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1326E+01 EXCESS= .0000E+00 OUTFLOW= .1326E+01 BASIN STORAGE= .3551E-04 PERCENT ERROR=   -.1

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
              R23d  MANE          .98     16.95    726.89      1.40      5.00     16.40    725.00       1.40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1294E+01 EXCESS= .0000E+00 OUTFLOW= .1295E+01 BASIN STORAGE= .2614E-04 PERCENT ERROR=   -.1

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
              R23d  MANE          .97     16.66    726.56      1.39      5.00     16.19    725.00       1.39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1278E+01 EXCESS= .0000E+00 OUTFLOW= .1279E+01 BASIN STORAGE= .3407E-04 PERCENT ERROR=   -.1

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
              R23d  MANE          .98     16.45    727.17      1.37      5.00     15.98    725.00       1.37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1263E+01 EXCESS= .0000E+00 OUTFLOW= .1263E+01 BASIN STORAGE= .2851E-04 PERCENT ERROR=   -.1

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
              R23d  MANE         1.07     16.26    726.79      1.36      5.00     15.83    725.00       1.36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1252E+01 EXCESS= .0000E+00 OUTFLOW= .1252E+01 BASIN STORAGE= .3083E-04 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =       .01
              RWF_P2  MANE          .55     82.44    745.53      1.04      5.00     82.42    745.00       1.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3579E+02 EXCESS= .0000E+00 OUTFLOW= .3577E+02 BASIN STORAGE= .1640E-01 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
              RWF_P2  MANE          .55     81.30    745.74      1.01      5.00     81.28    745.00       1.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3494E+02 EXCESS= .0000E+00 OUTFLOW= .3492E+02 BASIN STORAGE= .1442E-01 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
              RWF_P2  MANE          .55     80.73    745.69      1.00      5.00     80.71    745.00       1.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3450E+02 EXCESS= .0000E+00 OUTFLOW= .3449E+02 BASIN STORAGE= .1350E-01 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
              RWF_P2  MANE          .55     80.15    745.41       .99      5.00     80.14    745.00        .99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3406E+02 EXCESS= .0000E+00 OUTFLOW= .3404E+02 BASIN STORAGE= .1253E-01 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
              RWF_P2  MANE          .55     79.78    745.51       .98      5.00     79.76    745.00        .98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3375E+02 EXCESS= .0000E+00 OUTFLOW= .3374E+02 BASIN STORAGE= .1182E-01 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =       .01
              R23e  MANE          .71    140.18    726.95      1.10      5.00    137.81    730.00       1.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4191E+02 EXCESS= .0000E+00 OUTFLOW= .4189E+02 BASIN STORAGE= .2619E-01 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
              R23e  MANE          .71    138.20    726.46      1.07      5.00    135.56    730.00       1.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4092E+02 EXCESS= .0000E+00 OUTFLOW= .4089E+02 BASIN STORAGE= .2325E-01 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
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      R23e  MANE          .72    136.93    726.59      1.06      5.00    134.44    730.00        1.06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4042E+02 EXCESS= .0000E+00 OUTFLOW= .4041E+02 BASIN STORAGE= .2164E-01 PERCENT ERROR=    .0

    FOR STORM = 4  STORM AREA (SQ MI) =       36.50
      R23e  MANE          .72    135.57    726.72      1.04      5.00    133.26    730.00        1.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3991E+02 EXCESS= .0000E+00 OUTFLOW= .3989E+02 BASIN STORAGE= .2002E-01 PERCENT ERROR=    .0

    FOR STORM = 5  STORM AREA (SQ MI) =       50.00
      R23e  MANE          .72    134.67    726.59      1.03      5.00    132.41    730.00        1.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3956E+02 EXCESS= .0000E+00 OUTFLOW= .3953E+02 BASIN STORAGE= .1916E-01 PERCENT ERROR=    .0

    FOR STORM = 1  STORM AREA (SQ MI) =         .01
     R24_P  MANE         1.08    115.59    727.78       .90      5.00    113.96    730.00         .90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1069E+02 EXCESS= .0000E+00 OUTFLOW= .1069E+02 BASIN STORAGE= .1955E-03 PERCENT ERROR=    .0

    FOR STORM = 2  STORM AREA (SQ MI) =       14.00
     R24_P  MANE          .99    113.23    727.17       .87      5.00    111.20    730.00         .87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1036E+02 EXCESS= .0000E+00 OUTFLOW= .1036E+02 BASIN STORAGE= .1978E-03 PERCENT ERROR=    .0

    FOR STORM = 3  STORM AREA (SQ MI) =       24.00
     R24_P  MANE         1.06    111.68    727.37       .86      5.00    109.81    730.00         .86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1019E+02 EXCESS= .0000E+00 OUTFLOW= .1020E+02 BASIN STORAGE= .1985E-03 PERCENT ERROR=    .0

    FOR STORM = 4  STORM AREA (SQ MI) =       36.50
     R24_P  MANE         1.06    109.92    726.88       .85      5.00    108.43    730.00         .85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1003E+02 EXCESS= .0000E+00 OUTFLOW= .1003E+02 BASIN STORAGE= .1895E-03 PERCENT ERROR=    .0

    FOR STORM = 5  STORM AREA (SQ MI) =       50.00
     R24_P  MANE         1.07    109.30    727.35       .84      5.00    107.45    730.00         .84

ITINUITY SUMMARY (AC-FT) - INFLOW= .9916E+01 EXCESS= .0000E+00 OUTFLOW= .9920E+01 BASIN STORAGE= .1822E-03 PERCENT ERROR=    .0

    FOR STORM = 1  STORM AREA (SQ MI) =         .01
     R24_O  MANE         1.34    113.41    731.95       .90      5.00    112.34    730.00         .90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1069E+02 EXCESS= .0000E+00 OUTFLOW= .1069E+02 BASIN STORAGE= .6506E-03 PERCENT ERROR=    .0

    FOR STORM = 2  STORM AREA (SQ MI) =       14.00
     R24_O  MANE         1.39    110.64    732.21       .87      5.00    109.57    730.00         .87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1036E+02 EXCESS= .0000E+00 OUTFLOW= .1036E+02 BASIN STORAGE= .7227E-03 PERCENT ERROR=    .0

    FOR STORM = 3  STORM AREA (SQ MI) =       24.00
     R24_O  MANE         1.29    109.50    732.22       .86      5.00    108.20    730.00         .86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1020E+02 EXCESS= .0000E+00 OUTFLOW= .1020E+02 BASIN STORAGE= .6351E-03 PERCENT ERROR=    .0

    FOR STORM = 4  STORM AREA (SQ MI) =       36.50
     R24_O  MANE         1.31    107.88    732.91       .85      5.00    106.82    730.00         .84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1003E+02 EXCESS= .0000E+00 OUTFLOW= .1004E+02 BASIN STORAGE= .7125E-03 PERCENT ERROR=    .0

    FOR STORM = 5  STORM AREA (SQ MI) =       50.00
     R24_O  MANE         1.30    106.98    731.93       .84      5.00    105.85    730.00         .84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9919E+01 EXCESS= .0000E+00 OUTFLOW= .9921E+01 BASIN STORAGE= .6261E-03 PERCENT ERROR=    .0

    FOR STORM = 1  STORM AREA (SQ MI) =         .01
     R24_P  MANE          .60      8.07    725.71       .83      5.00      8.00    725.00         .83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9393E+00 EXCESS= .0000E+00 OUTFLOW= .9392E+00 BASIN STORAGE= .8664E-04 PERCENT ERROR=    .0

    FOR STORM = 2  STORM AREA (SQ MI) =       14.00
     R24_P  MANE          .46      7.83    726.00       .80      5.00      7.73    725.00         .80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9078E+00 EXCESS= .0000E+00 OUTFLOW= .9078E+00 BASIN STORAGE= .8574E-04 PERCENT ERROR=    .0

    FOR STORM = 3  STORM AREA (SQ MI) =       24.00
     R24_P  MANE          .61      7.67    726.20       .79      5.00      7.59    725.00         .79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8921E+00 EXCESS= .0000E+00 OUTFLOW= .8920E+00 BASIN STORAGE= .8468E-04 PERCENT ERROR=    .0

    FOR STORM = 4  STORM AREA (SQ MI) =       36.50
     R24_P  MANE          .61      7.53    725.78       .78      5.00      7.46    725.00         .78
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CONTINUITY SUMMARY (AC-FT) - INFLOW= .8764E+00 EXCESS= .0000E+00 OUTFLOW= .8763E+00 BASIN STORAGE= .8425E-04 PERCENT ERROR= .0

FOR STORM = 5 STORM AREA (SQ MI) = 50.00

R24_P	MANE	.44	7.46	725.79	.77	5.00	7.36	725.00	.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8655E+00 EXCESS= .0000E+00 OUTFLOW= .8654E+00 BASIN STORAGE= .8362E-04 PERCENT ERROR= .0

FOR STORM = 1 STORM AREA (SQ MI) = .01

R24_O	MANE	2.50	7.99	729.94	.83	5.00	7.98	730.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9396E+00 EXCESS= .0000E+00 OUTFLOW= .9383E+00 BASIN STORAGE= .1048E-02 PERCENT ERROR= .0

FOR STORM = 2 STORM AREA (SQ MI) = 14.00

R24_O	MANE	2.54	7.64	731.43	.80	5.00	7.57	730.00	.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9081E+00 EXCESS= .0000E+00 OUTFLOW= .9068E+00 BASIN STORAGE= .9656E-03 PERCENT ERROR= .0

FOR STORM = 3 STORM AREA (SQ MI) = 24.00

R24_O	MANE	2.59	7.53	729.87	.79	5.00	7.53	730.00	.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8924E+00 EXCESS= .0000E+00 OUTFLOW= .8910E+00 BASIN STORAGE= .9727E-03 PERCENT ERROR= .0

FOR STORM = 4 STORM AREA (SQ MI) = 36.50

R24_O	MANE	2.59	7.43	730.40	.77	5.00	7.37	730.00	.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8767E+00 EXCESS= .0000E+00 OUTFLOW= .8752E+00 BASIN STORAGE= .1021E-02 PERCENT ERROR= .1

FOR STORM = 5 STORM AREA (SQ MI) = 50.00

R24_O	MANE	2.58	7.30	731.01	.76	5.00	7.21	730.00	.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8658E+00 EXCESS= .0000E+00 OUTFLOW= .8649E+00 BASIN STORAGE= .9427E-03 PERCENT ERROR= .0

FOR STORM = 1 STORM AREA (SQ MI) = .01

R25_O	MANE	5.00	.01	760.20	.00	5.00	.01	760.00	.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6714E-03 EXCESS= .0000E+00 OUTFLOW= .6824E-03 BASIN STORAGE= .1154E-04 PERCENT ERROR= -3.3

FOR STORM = 2 STORM AREA (SQ MI) = 14.00

R25_O	MANE	5.00	.01	762.76	.00	5.00	.01	760.00	.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6489E-03 EXCESS= .0000E+00 OUTFLOW= .6787E-03 BASIN STORAGE= .1076E-04 PERCENT ERROR= -6.3

FOR STORM = 3 STORM AREA (SQ MI) = 24.00

R25_O	MANE	5.00	.01	760.21	.00	5.00	.01	765.00	.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6377E-03 EXCESS= .0000E+00 OUTFLOW= .6512E-03 BASIN STORAGE= .1146E-04 PERCENT ERROR= -3.9

FOR STORM = 4 STORM AREA (SQ MI) = 36.50

R25_O	MANE	5.00	.01	760.93	.00	5.00	.01	765.00	.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6265E-03 EXCESS= .0000E+00 OUTFLOW= .6378E-03 BASIN STORAGE= .1147E-04 PERCENT ERROR= -3.6

FOR STORM = 5 STORM AREA (SQ MI) = 50.00

R25_O	MANE	5.00	.01	761.47	.00	5.00	.01	765.00	.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6186E-03 EXCESS= .0000E+00 OUTFLOW= .6295E-03 BASIN STORAGE= .1083E-04 PERCENT ERROR= -3.5

FOR STORM = 1 STORM AREA (SQ MI) = .01

R25_P	MANE	1.76	.01	771.23	.00	5.00	.01	775.00	.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6818E-03 EXCESS= .0000E+00 OUTFLOW= .6832E-03 BASIN STORAGE= .2042E-05 PERCENT ERROR= -.5

FOR STORM = 2 STORM AREA (SQ MI) = 14.00

R25_P	MANE	1.78	.01	771.89	.00	5.00	.01	775.00	.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6774E-03 EXCESS= .0000E+00 OUTFLOW= .6763E-03 BASIN STORAGE= .2006E-05 PERCENT ERROR= -.1

FOR STORM = 3 STORM AREA (SQ MI) = 24.00

R25_P	MANE	2.40	.01	774.41	.00	5.00	.01	775.00	.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6510E-03 EXCESS= .0000E+00 OUTFLOW= .6537E-03 BASIN STORAGE= .1808E-05 PERCENT ERROR= -.7

FOR STORM = 4 STORM AREA (SQ MI) = 36.50

R25_P	MANE	2.45	.01	775.22	.00	5.00	.01	775.00	.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6371E-03 EXCESS= .0000E+00 OUTFLOW= .6382E-03 BASIN STORAGE= .1796E-05 PERCENT ERROR= -.5

FOR STORM = 5 STORM AREA (SQ MI) = 50.00

R25_P	MANE	2.39	.01	774.23	.00	5.00	.01	775.00	.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6281E-03 EXCESS= .0000E+00 OUTFLOW= .6275E-03 BASIN STORAGE= .1789E-05 PERCENT ERROR= -.2

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          FOR STORM = 1  STORM AREA (SQ MI) =        .01
             R_14a  MANE          3.75    137.66    728.29      1.19      5.00    132.83    730.00        1.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9773E+01 EXCESS= .0000E+00 OUTFLOW= .9801E+01 BASIN STORAGE= .1097E-01 PERCENT ERROR=   -.4

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
             R_14a  MANE          3.91    129.30    730.03      1.15      5.00    129.26    730.00        1.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9521E+01 EXCESS= .0000E+00 OUTFLOW= .9537E+01 BASIN STORAGE= .9029E-02 PERCENT ERROR=   -.3

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
             R_14a  MANE          3.87    132.65    727.96      1.14      5.00    127.03    730.00        1.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9397E+01 EXCESS= .0000E+00 OUTFLOW= .9427E+01 BASIN STORAGE= .1080E-01 PERCENT ERROR=   -.4

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
             R_14a  MANE          3.83    129.68    727.42      1.13      5.00    124.31    730.00        1.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9272E+01 EXCESS= .0000E+00 OUTFLOW= .9310E+01 BASIN STORAGE= .1315E-01 PERCENT ERROR=   -.5

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
             R_14a  MANE          3.84    129.44    727.78      1.12      5.00    123.66    730.00        1.11

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9184E+01 EXCESS= .0000E+00 OUTFLOW= .9229E+01 BASIN STORAGE= .1202E-01 PERCENT ERROR=   -.6


*** NORMAL END OF HEC-1 ***
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1*****************************************
*                                       *
*    FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*              JUN  1998                *
*           VERSION 4.1                 *
*                                       *
*  RUN DATE   27APR09  TIME  12:57:39   *
*                                       *
*****************************************
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*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 756-1104              *
*                                       *
*****************************************
```

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X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX         XXX
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THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-SIYLE INPUT SIRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT PAGE 1

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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
    1         ID        Grand Junction Regional Airport - Jviation - April 2009
    2         ID        Updated to Current Conditions Watershed Model
    3         ID        10-Year 24-Hour Storm - NRCS Type II Rainfall Distribution
    4         IT       5                    300
    5         IO       4
    6         IN       6
    7         JD    1.19    0.01
    8         PC       0   0.001   0.002  0.0031  0.0041  0.0051  0.0062  0.0073  0.0083  0.0094
    9         PC  0.0105  0.0116  0.0127  0.0138   0.015  0.0161  0.0173  0.0185  0.0196  0.0208
   10         PC   0.022  0.0232  0.0244  0.0257  0.0269  0.0281  0.0294  0.0307  0.0319  0.0332
   11         PC  0.0345  0.0358  0.0371  0.0384  0.0398  0.0411  0.0425  0.0438  0.0452  0.0466
   12         PC   0.048  0.0494  0.0508  0.0523  0.0538  0.0553  0.0568  0.0583  0.0598  0.0614
   13         PC   0.063  0.0646  0.0662  0.0679  0.0696  0.0712   0.073  0.0747  0.0764  0.0782
   14         PC    0.08  0.0818  0.0836  0.0855  0.0874  0.0892  0.0912  0.0931   0.095   0.097
   15         PC   0.099   0.101   0.103  0.1051  0.1072  0.1093  0.1114  0.1135  0.1156  0.1178
   16         PC    0.12  0.1223  0.1246  0.1271  0.1296  0.1323   0.135  0.1379  0.1408  0.1439
   17         PC   0.147  0.1502  0.1534  0.1566  0.1598   0.163  0.1663  0.1697  0.1733  0.1771
   18         PC   0.181  0.1851  0.1895  0.1941  0.1989   0.204  0.2094  0.2152  0.2214   0.228
   19         PC   0.235  0.2427  0.2513  0.2609  0.2715   0.283  0.3068  0.3544  0.4308  0.5679
   20         PC   0.663   0.682  0.6986   0.713  0.7252   0.735  0.7434  0.7514  0.7588  0.7656
   21         PC   0.772   0.778  0.7836   0.789  0.7942   0.799  0.8036   0.808  0.8122  0.8162
   22         PC    0.82  0.8237  0.8273  0.8308  0.8342  0.8376  0.8409  0.8442  0.8474  0.8505
   23         PC  0.8535  0.8565  0.8594  0.8622  0.8649  0.8676  0.8702  0.8728  0.8753  0.8777
   24         PC    0.88  0.8823  0.8846  0.8868   0.889  0.8912  0.8934  0.8955  0.8976  0.8997
   25         PC  0.9018  0.9038  0.9058  0.9078  0.9098  0.9117  0.9136  0.9155  0.9174  0.9192
   26         PC   0.921  0.9228  0.9246  0.9263   0.928  0.9297  0.9314   0.933  0.9346  0.9362
   27         PC  0.9377  0.9393  0.9408  0.9423  0.9438  0.9452  0.9466   0.948  0.9494  0.9507
   28         PC   0.952  0.9533  0.9546  0.9559  0.9572  0.9584  0.9597   0.961  0.9622  0.9635
   29         PC  0.9648   0.966  0.9672  0.9685  0.9697  0.9709  0.9722  0.9734  0.9746  0.9758
   30         PC   0.977  0.9782  0.9794  0.9806  0.9818  0.9829  0.9841  0.9853  0.9864  0.9876
   31         PC  0.9888  0.9899   0.991  0.9922  0.9933  0.9944  0.9956  0.9967  0.9978  0.9989
   32         PC       1       1       1       1       1       1       1       1       1       1
   33         PC       1       1       1       1       1       1       1       1       1       1
   34         PC       1       1       1       1       1       1       1       1       1       1
   35         PC       1       1       1       1       1       1       1       1       1       1
   36         PC       1       1       1       1       1       1       1       1       1       1
   37         PC       1       1       1       1       1       1       1       1       1       1
   38         JD   1.166      14
   39         JD   1.154      24
   40         JD   1.142    36.5
   41         JD   1.134      50

   42         KK    L11b Leach Creek at Upper Pond
   43         BA  7.4766
   44         LG    0.57  0.5207   1.944   0.070     2.0
   45         US   1.197   0.451

   46         KK  RL11bD Route Hydrograph Through L11a
   47         RK    9500  0.0129   0.035          TRAP      10       6
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1 HEC-1 INPUT PAGE 2

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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

   48         KK   L11aU Subbasin at the Proposed Lower Detention Pond
   49         BA  1.0090
   50         LG    0.59  0.5444   2.032   0.073     2.0
   51         US   0.651   0.334

   52         KK  C_11aU Combine Hydrographs at the Proposed Lower Detention Pond
   53         HC       2

   54         KK   D-LPd Divert Flow Into Lower Detention Pond
   55         DT    D-Pd
   56         DI       0    24.8   117.6   285.3   755.6    4100   10000
   57         DQ       0       0      91     257   725.8    2050    4000

   58         KK  SRD-Pd Retrieve Pond Inflow
   59         DR    D-Pd

   60         KK  C_11aD Combine Flow Downstream of the Proposed Lower Detention Pond
   61         HC       2

   62         KK   L11aD Subbasin Downstream of the Proposed Lower Detention Pond
   63         BA  0.0173
   64         LG    0.99  0.7810   1.494   0.204     2.0
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 65          US   0.043    0.182

 66          KK   C_L11 Leach Creek at the Government Highline Canal
 67          HC        2

 68          KK   R_L10 Route Hydrograph Through L10
 69          RS        1     STOR        0
 70          SV        0      .88     1.46     1.92     2.35     2.74     3.12     3.85     4.54     5.25
 71          SV     5.84     6.43     7.04     7.63     8.21     8.79
 72          SQ        0      100      200      300      400      500      600      800     1000     1200
 73          SQ     1400     1600     1800     2000     2200     2400

 74          KK      L10 Subbasin
 75          BA   0.9833
 76          LG     0.49   0.4734    1.767    0.063      2.0
 77          US    0.626    0.333

 78          KK   C_L10 Combine L10 with Upstream Hydrograph
 79          HC        2

 80          KK   R_L9M Route Mainstem Hydrograph Through L9
 81          RS        1     STOR        0
 82          SV        0     1.24     2.23      3.3     4.23     4.86     5.34     6.55     7.57     8.54
 83          SV     9.65    10.61    11.55    12.36    13.09    13.85
 84          SQ        0      100      200      300      400      500      600      800     1000     1200
 85          SQ     1400     1600     1800     2000     2200     2400
1                                        HEC-1 INPUT                                                    PAGE   3
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 86          KK    L9.1 Subbasin East of 27.25 Road
 87          BA   2.7210
 88          LG     0.41   0.4023    1.502    0.054      4.0
 89          US    1.156    0.368

 90          KK   R_L9T Route Subbasin L9.1 Hydrograph Through L9
 91          RK     4100    0.011     0.03             TRAP        5      2.4

 92          KK       L9 Subbasin
 93          BA   0.2051
 94          LG     0.93   0.7574    1.519    0.189      6.0
 95          US    0.276    0.243

 96          KK   C_L9T Combine Subbasins L9.1 and L9
 97          KM         Just Upstream of the Mainstem
 98          HC        2

 99          KK   C_L9M Combine L9 with Upstream Mainstem Hydrograph
100          KM         Just East of 26.5 Road
101          HC        2

102          KK    DB21
103          KM   Subbasin
104          BA   0.1519
105          LG     0.41   0.4023    1.502    0.054      2.0
106          US    0.137    0.252

107          KK    PD A
108          KM   Route Through Pond A
109          RS        1     STOR        0        0
110          SV      0.0    0.001      1.8      4.7      8.9     11.6
111          SQ      0.0      2.5      7.0      9.0     10.6     11.3
112          SE     4915     4916     4918     4920     4922     4923

113          KK    R21a
114          KM   Route R21 Through R21a
115          RK     3500    0.023     0.05             TRAP       30        6

116          KK   DB21a
117          KM   Subbasin
118          BA   0.3403
119          LG     0.41   0.4023    1.502    0.054      2.0
120          US    0.128    0.284

121          KK      R17 Subbasin
122          BA   0.1623
123          LG     0.41   0.4023    1.502    0.054      2.0
124          US    0.096    0.254
1                                        HEC-1 INPUT                                                    PAGE   4
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

125          KK   R_17_O Route hydrograph through R15 overland
126          RK     2000    0.018     0.04             TRAP       10        5

127          KK    C21a
128          KM   Combine Routed Basin 21 with Basin 21a and R17
129          HC        3

130          KK  WF_PD1
131          KM   Route Hydrograph Through New Walker Field On Site Pond 1
132          RS        1     STOR        0        0
133          SV      0.0     0.97     6.95     13.6     17.3
134          SQ      0.0     10.7     23.9     32.1     35.5
135          SE     38.5     40.0     42.0     44.0     45.0

136          KK    RPD1
137          KM   Route Hydrograph Through Basin 23b Pipe
138          RK     1750    0.014    0.015             CIRC        3

139          KK   DB23b
140          KM   Subbasin
141          BA   0.0584
142          LG     0.07   0.0947    0.353    0.013     95.0
143          US    0.046    0.548

144          KK      C23
145          KM   Combine Hydrograph Basin 23b with 21 and 21a
146          HC        2

147          KK    R23b
148          KM   Route Hydrograph Through Basin 23c Pipe
```

```
149          RK    1000   0.014    0.015             CIRC       3

150          KK   DB23c
151          KM   Subbasin
152          BA  0.0783
153          LG    0.07  0.0947    0.353   0.013    95.0
154          US   0.080   0.573

155          KK    R23c
156          KM   Route R23c Through R23c Ditch
157          RK     500    .005    0.045             TRAP       10        4

158          KK   DB23d
159          KM   Subbasin
160          BA  0.0173
161          LG    0.04  0.0473    0.177   0.006   100.0
162          US   0.023   0.462

163          KK    R23d
164          KM   Route Hydrograph Through Basin 23d Pipe
165          RK    1200   0.005    0.015             CIRC       2                                          PAGE  5
1                                          HEC-1 INPUT

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

166          KK     C23
167          KM   Combine Hydrograph Basins 23c,23d with WF_PD1 and 23b
168          HC       3

169          KK  WF_PD2
170          KM   Route Hydrograph Through New Walker Field On Site Pond 2
171          RS       1    STOR         0         0
172          SV     0.0    0.10     0.70     1.64     3.16     5.34
173          SQ     0.0    23.6     48.1     68.1     83.4     90.1
174          SE  4793.5    4795     4797     4799     4801     4803

175          KK  RWF_P2
176          KM   Route Hydrograph Through Basin 23e Pipe
177          RK    1000   0.010    0.015             CIRC       3

178          KK   DB23e
179          KM   Subasin
180          BA  0.0709
181          LG    0.04  0.0473    0.177   0.006   100.0
182          US   0.067   0.571

183          KK    C23e
184          KM   Combine Hydrograph Basin 23e with WF_PD2
185          HC       2

186          KK    R23e
187          KM   Route Hydrograph Through Basin 23a Pipe
188          RK    1500   0.008    0.015             CIRC       4

189          KK   DB23a
190          KM   Subbasin
191          BA  0.0196
192          LG    0.84  0.7100    1.595   0.158    10.0
193          US   0.051   0.160

194          KK    C23a
195          KM   Combine Hydrograph Basin 23a, 23e with WF_PD2
196          HC       2

197          KK  R_PD U
198          KM   Route Hydrograph Through Upper Airport Upper Pond
199          RS       1    STOR         0         0
200          SV     0.0   0.001     0.21     6.09    16.16    26.80     29.4
201          SQ     0.0    10.8     11.4     12.4     13.3     14.2      162
202          SE    4767 4767.01     4768     4770     4772     4774   4774.5

203          KK  D_Pd U
204          KM   Weir Flow Into Lower Pond
205          DT  U_Pipe
206          DI     0.0    14.2     14.3      100     1000
207          DQ     0.0    14.2     14.2     14.2     14.2                                               PAGE  6
1                                          HEC-1 INPUT

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

208          KK    DB22
209          KM   Subbasin
210          BA  0.2226
211          LG    0.41  0.4023    1.502   0.054     2.0
212          US   0.196   0.266

213          KK   R24_P
214          KM   Route Hydrograph Through Basin 24 Pipe
215          RK    3076   0.014    0.015             CIRC      4.5

216          KK   R24_O
217          KM   Route Hydrograph Through Basin 24 Overland
218          RK    1506   0.019     0.03             TRAP       10       12

219          KK   DB24a
220          KM   Subbasin
221          BA  0.0212
222          LG    0.57  0.5207    1.944   0.070    36.0
223          US   0.096   0.264

224          KK  B4aDIV
225          KM   Divert Basin 24a overflow
226          DT  B4aDIV
227          DI     0.0    14.0    100.0  1000.0
228          DQ       0    0.01     86.0   986.0

229          KK   R24_P
230          KM   Route Hydrograph Through Basin 24 Pipe
231          RK     800   0.014    0.015             CIRC      4.5

232          KK   R24_O
233          KM   Route Hydrograph Through Basin 24 Overland
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234          RK    1506   0.019    0.03            TRAP      10      12

235          KK     DB24
236          KM    Subbasin
237          BA  0.2318
238          LG    0.22  0.2367   0.883   0.032    75.0
239          US   0.162   0.627

240          KK     C24
241          KM    Combine Hydrographs (Basin22, Basin 24a, Basin 24)
242          HC       3

243          KK    DR24a
244          KM    Retrieve 24a diversion
245          DR  B4aDIV

246          KK    R25_O
247          KM    Route 24a diversion through Basin 25 overland
248          RK     800   0.015    0.03            TRAP      30      10
1                                        HEC-1 INPUT                                                    PAGE  7
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

249          KK    R25_P
250          KM    Route 24a diversion through Basin 25 pipe
251          RK    1600   0.013   0.015            CIRC       4

252          KK     DB25
253          KM    Subbasin
254          BA  0.0244
255          LG    0.57  0.5207   1.944   0.070    36.0
256          US   0.106   0.270

257          KK     C25
258          KM    Combine Hydrograph with 24a diversion
259          HC       2

260          KK    B5DIV
261          KM    Divert Basin 25 storm sewer overflow
262          DT    B5DIV
263          DI     0.0    14.0   100.0  1000.0
264          DQ       0       0    86.0   986.0

265          KK    DB25a
266          KM    Subbasin
267          BA  0.0316
268          LG    0.85  0.7100   1.595   0.158    12.0
269          US   0.031   0.173

270          KK     C_6
271          KM    Combine Basins 25a 25 24a 24 22
272          HC       3

273          KK     C_7
274          KM    Combine all Basins
275          HC       2

276          KK  R_PD L
277          KM    Route Hydrograph Through Lower Airport East Pond
278          RS       1     STOR        0       0
279          SV     0.0    0.05    4.26   13.79   24.65
280          SQ     0.0     5.5     7.8     9.6    11.1
281          SE  4758.4    4760    4762    4764    4766

282          KK    PR_U
283          KM    Retrieve Upper Pond Pipe Flow
284          DR  U_Pipe

285          KK    C_Out
286          KM    Combine 2 Outflow Hydrographs at Canal
287          HC       2
1                                        HEC-1 INPUT                                                    PAGE  8
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

288          KK     R16
289          KM    Subbasin
290          BA  0.1550
291          LG    0.34  0.3550   1.325   0.048    51.0
292          US   0.076   0.478

293          KK    R_14a
294          KM    Route Hydrograph through R14A overland
295          RK    2500   0.005    0.04            TRAP      10      10

296          KK    R14A
297          KM    Subbasin
298          BA  0.0393
299          LG    0.18  0.1893   0.707   0.025    75.0
300          US   0.038   0.480

301          KK    C_14A
302          KM    Combine Hydrographs (R16, R14A)
303          HC       2

304          KK    C_14A
305          KM    Combine Hydrograph with Lower Pond Outfall
306          HC       2

307          KK     R15 Subbasin
308          BA  0.2994
309          LG    0.53  0.4970   1.855   0.067    22.0
310          US   0.153   0.280

311          KK    R_R13 Route Hydrograph through R13
312          RS       1     STOR        0
313          RC   0.035   0.035   0.035     971    .018
314          RX    1000    1014    1022    1026    1036    1046    1050    1062
315          RY    4762    4760    4758    4756    4756    4758    4760    4762

316          KK     R13 Subbasin
317          BA  0.0425
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318          LG    0.48  0.4497   1.679   0.060     2.0
319          US   0.055   0.208

320          KK   C_R13 Combine Hydrographs
321          HC       2

322          KK  Extra5 Overflow released from Basin 25
323          DR   B5DIV

324          KK     R14 Subbasin
325          BA  0.0602
326          LG    0.98  0.7810   1.494   0.204     2.0
327          US   0.354   0.219
1                                    HEC-1 INPUT                                                    PAGE  9

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

328          KK    C_R5 Combine Hydrographs (R14, Basin 5)
329          HC       2

330          KK     R_5 Route Basin 5 & R14 through R5 overland
331          RK   10500   0.008    0.03            TRAP      10       20

332          KK      R5 Subbasin
333          BA  0.0843
334          LG    0.89  0.7337   1.552   0.173     9.0
335          US   0.118   0.201

336          KK      C3 Corcoran Wash at H Road and 25 Road
337          BA  0.5641
338          LG    0.56  0.5207   1.944   0.070     2.0
339          US   0.254   0.306

340          KK      I5 Start Indian Creek Basin
341          BA  0.7994
342          LG    0.47  0.4497   1.679   0.060     2.0
343          US   0.428   0.323

344          KK    R_I5
345          KM   Route Hydrograph Through Existing Dam
346          RS       1    STOR       0       0
347          SV       0    2.24    4.65    7.24   10.01   12.95   16.08   19.41   22.92   26.63
348          SQ     0.0     0.0     0.0     0.0     0.0     0.0     0.0    93.0   263.0   483.2
349          SE    5190    5191    5192    5193    5194    5195    5196    5197    5198    5199

350          KK      I4 Subbasin
351          BA  1.2130
352          LG    0.62  0.5680   2.120   0.076     2.0
353          US   0.768   0.344

354          KK    C_I4 Combine I5 and I4
355          HC       2

356          KK      I3 Subbasin
357          BA  3.2057
358          LG    0.50  0.4734   1.767   0.063     2.0
359          US   1.181   0.398

360          KK    C_I3 Combine I4 and I3
361          HC       2

362          KK  R_I3_O Route hydrograph through I2 overland
363          RK    3300   0.014    0.04            TRAP      10        5

364          KK      I2 Subbasin
365          BA  0.9728
366          LG    0.64  0.5680   2.120   0.076     3.0
367          US   0.539   0.325
1                                    HEC-1 INPUT                                                    PAGE 10

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

368          KK    C_I2 Combine I3 and I2
369          HC       2

370          KK    R_I2
371          KM   Route Hydrograph Through Existing Dam
372          RS       1    STOR       0       0
373          SV       0    3.06    6.67   10.92   15.93   21.81   28.62   36.41   45.21   55.07
374          SV   66.05   78.18   91.52  106.10  121.97  139.16  176.23  235.99  257.34  280.13
375          SQ       0       0    13.0    18.4    22.6    26.1    29.1    31.9    34.5    36.9
376          SQ    39.1    41.2    43.2    45.2    47.0    48.8    52.1   228.8   234.6   240.4
377          SE    4890    4892    4894    4896    4898    4900    4902    4904    4906    4908
378          SE    4910    4912    4914    4916    4918    4920    4924    4930    4932    4934

379          KK      I1 Subbasin
380          BA  0.7563
381          LG    0.81  0.6864   1.652   0.143     3.0
382          US   0.698   0.312

383          KK    C_I1 Combine I2 and I1
384          HC       2

385          KK      I7 Subbasin
386          BA  1.0258
387          LG    0.45  0.4260   1.590   0.057     2.0
388          US   0.822   0.335

389          KK    R_I7
390          KM   Route Hydrograph Through Existing Dam
391          RS       1    STOR       0       0
392          SV       0    0.26    0.60    1.01    1.51    2.11    2.82    3.63    4.57    5.64
393          SQ     0.0     0.0     0.0     0.0     0.0     0.0     0.0    62.0   175.4   322.2
394          SE    4820    4821    4822    4823    4824    4825    4826    4827    4828    4829

395          KK      I6 Subbasin
396          BA  0.4512
397          LG    0.75  0.6390   1.826   0.112     4.0
398          US   0.191   0.285

399          KK    C_I6 Combine I7 and I6
400          HC       2
```

```
          401          KK       I8 Subbasin
          402          BA  0.4147
          403          LG    0.65  0.5917   2.161   0.081     3.0
          404          US   0.242   0.285

          405          KK       I9 Subbasin
          406          BA  0.6808
          407          LG    0.52  0.4970   1.855   0.067     2.0
          408          US   0.510   0.315
          409          ZZ
1*****************************************
 *                                       *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
 *              JUN  1998                *
 *           VERSION 4.1                 *
 *                                       *
 *  RUN DATE   27APR09  TIME  12:57:39   *
 *                                       *
 *****************************************
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*        DAVIS, CALIFORNIA 95616        *
*             (916) 756-1104            *
*                                       *
*****************************************
```

Grand Junction Regional Airport - Jviation - April 2009
Updated to Current Conditions Watershed Model
10-Year 24-Hour Storm - NRCS Type II Rainfall Distribution

```
  5 IO          OUTPUT CONTROL VARIABLES
                     IPRNT          4  PRINT CONTROL
                     IPLOT          0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE

  6 IN          TIME DATA FOR INPUT TIME SERIES
                     JXMIN          6  TIME INTERVAL IN MINUTES
                    JXDATE      1   0  STARTING DATE
                    JXTIME          0  STARTING TIME

    IT          HYDROGRAPH TIME DATA
                     NMIN           5  MINUTES IN COMPUTATION INTERVAL
                    IDATE      1   0  STARTING DATE
                    ITIME       0000  STARTING TIME
                       NQ        300  NUMBER OF HYDROGRAPH ORDINATES
                   NDDATE      2   0  ENDING DATE
                   NDTIME       0055  ENDING TIME
                    ICENT          19  CENTURY MARK

                 COMPUTATION INTERVAL      .08 HOURS
                     TOTAL TIME BASE    24.92 HOURS

        ENGLISH UNITS
             DRAINAGE AREA          SQUARE MILES
             PRECIPITATION DEPTH    INCHES
             LENGTH, ELEVATION      FEET
             FLOW                   CUBIC FEET PER SECOND
             STORAGE VOLUME         ACRE-FEET
             SURFACE AREA           ACRES
             TEMPERATURE            DEGREES FAHRENHEIT

  7 JD          INDEX STORM NO. 1
                     STRM        1.19  PRECIPITATION DEPTH
                     TRDA         .01  TRANSPOSITION DRAINAGE AREA

  8 PI           PRECIPITATION PATTERN
                  .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
```

```
                .05     .08     .11     .08     .02     .01     .01     .01     .01     .01
                .01     .01     .01     .01     .01     .01     .00     .00     .00     .00
                .00     .00     .00     .00     .00     .00
```

.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00		

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**************
*            *
42 KK   *  L11b   *    Leach Creek at Upper Pond
*            *
**************
```

SUBBASIN RUNOFF DATA

43 BA SUBBASIN CHARACTERISTICS

TAREA	7.48	SUBBASIN AREA

44 LG GREEN AND AMPT LOSS RATE

STRTL	.57	STARTING LOSS
DTH	.52	MOISTURE DEFICIT
PSIF	1.94	WETTING FRONT SUCTION
XKSAT	.07	HYDRAULIC CONDUCTIVITY
RTIMP	2.00	PERCENT IMPERVIOUS AREA

45 US SNYDER UNITGRAPH

TP	1.20	LAG
CP	.45	PEAKING COEFFICIENT

SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

***

UNIT HYDROGRAPH PARAMETERS
CLARK TC= 1.25 HR, R= 1.90 HR
SNYDER TP= 1.21 HR, CP= .45

UNIT HYDROGRAPH
129 END-OF-PERIOD ORDINATES

30.	114.	236.	382.	546.	725.	915.	1113.	1303.	1469.
1609.	1721.	1804.	1854.	1862.	1814.	1736.	1661.	1590.	1522.
1456.	1394.	1334.	1276.	1222.	1169.	1119.	1071.	1025.	981.
939.	898.	860.	823.	787.	754.	721.	690.	661.	632.
605.	579.	554.	530.	508.	486.	465.	445.	426.	408.
390.	373.	357.	342.	327.	313.	300.	287.	274.	263.
251.	241.	230.	220.	211.	202.	193.	185.	177.	169.
162.	155.	148.	142.	136.	130.	125.	119.	114.	109.
104.	100.	96.	92.	88.	84.	80.	77.	74.	70.
67.	64.	62.	59.	56.	54.	52.	50.	47.	45.
43.	42.	40.	38.	36.	35.	33.	32.	31.	29.
28.	27.	26.	25.	23.	22.	21.	21.	20.	19.
18.	17.	17.	16.	15.	14.	14.	13.	13.	

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**************
*            *
46 KK   *  RL11bD  *    Route Hydrograph Through L11a
*            *
**************
```

HYDROGRAPH ROUTING DATA

47 RK KINEMATIC WAVE STREAM ROUTING

L	9500.	CHANNEL LENGTH
S	.0129	SLOPE
N	.035	CHANNEL ROUGHNESS COEFFICIENT
CA	.00	CONTRIBUTING AREA
SHAPE	TRAP	CHANNEL SHAPE
WD	10.00	BOTTOM WIDTH OR DIAMETER
Z	6.00	SIDE SLOPE
NDXMIN	2	MINIMUM NUMBER OF DX INTERVALS

***

*** ***

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**************
*            *
48 KK   *  L11aU   *    Subbasin at the Proposed Lower Detention Pond
*            *
**************
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SUBBASIN RUNOFF DATA

49 BA SUBBASIN CHARACTERISTICS

TAREA	1.01	SUBBASIN AREA

50 LG GREEN AND AMPT LOSS RATE

STRTL	.59	STARTING LOSS
DTH	.54	MOISTURE DEFICIT
PSIF	2.03	WETTING FRONT SUCTION
XKSAT	.07	HYDRAULIC CONDUCTIVITY
RTIMP	2.00	PERCENT IMPERVIOUS AREA

51 US SNYDER UNITGRAPH

TP	.65	LAG
CP	.33	PEAKING COEFFICIENT

SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

***

UNIT HYDROGRAPH PARAMETERS
CLARK TC= .65 HR, R= 1.57 HR
SNYDER TP= .65 HR, CP= .33

UNIT HYDROGRAPH
105 END-OF-PERIOD ORDINATES

13.	49.	102.	164.	228.	281.	319.	334.	326.	309.
293.	278.	264.	250.	237.	225.	214.	203.	192.	182.
173.	164.	155.	147.	140.	133.	126.	119.	113.	107.
102.	97.	92.	87.	82.	78.	74.	70.	67.	63.
60.	57.	54.	51.	48.	46.	44.	41.	39.	37.
35.	33.	32.	30.	29.	27.	26.	24.	23.	22.
21.	20.	19.	18.	17.	16.	15.	14.	14.	13.
12.	12.	11.	10.	10.	9.	9.	8.	8.	8.
7.	7.	6.	6.	6.	6.	5.	5.	5.	4.
4.	4.	4.	4.	3.	3.	3.	3.	3.	3.
3.	2.	2.	2.	2.					

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UNIT HYDROGRAPH PARAMETERS
CLARK TC= .08 HR, R= .78 HR
SNYDER TP= .14 HR, CP= .18

UNIT HYDROGRAPH
50 END-OF-PERIOD DROINATES

7.	13.	12.	10.	9.	8.	8.	7.	6.	5.
5.	4.	4.	4.	3.	3.	3.	2.	2.	2.
2.	2.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

*** ***

66 KK
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* *
* C_L11 *
* *
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Leach Creek at the Government Highline Canal

67 HC HYDROGRAPH COMBINATION
ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

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68 KK
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* *
* R_L10 *
* *
****
Route Hydrograph Through L10

HYDROGRAPH ROUTING DATA

69 RS STORAGE ROUTING
NSTPS 1 NUMBER OF SUBREACHES
ITYP STOR TYPE OF INITIAL CONDITION
RSVRIC .00 INITIAL CONDITION
X .00 WORKING R AND D COEFFICIENT

70 SV STORAGE	.0	.9	1.5	1.9	2.3	2.7	3.1	3.8	4.5	5.3
	5.8	6.4	7.0	7.6	8.2	8.8				
72 SQ DISCHARGE	0.	100.	200.	300.	400.	500.	600.	800.	1000.	1200.
	1400.	1600.	1800.	2000.	2200.	2400.				

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*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN 1200. TO 2400.
THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

*** ***

74 KK
****
* *
* L10 *
* *
****
Subbasin

SUBBASIN RUNOFF DATA

75 BA SUBBASIN CHARACTERISTICS
TAREA .98 SUBBASIN AREA

76 LG GREEN AND AMPT LOSS RATE
STRTL .49 STARTING LOSS
DTH .47 MOISTURE DEFICIT
PSIF 1.77 WETTING FRONT SUCTION
XKSAT .06 HYDRAULIC CONDUCTIVITY
RTIMP 2.00 PERCENT IMPERVIOUS AREA

77 US SNYDER UNITGRAPH
TP .63 LAG
CP .33 PEAKING COEFFICIENT

SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

***

UNIT HYDROGRAPH PARAMETERS
CLARK TC= .64 HR, R= 1.49 HR
SNYDER TP= .63 HR, CP= .34

UNIT HYDROGRAPH
99 END-OF-PERIOD ORDINATES

14.	53.	108.	174.	241.	295.	331.	342.	330.	312.
295.	279.	264.	250.	236.	223.	211.	199.	189.	178.
169.	159.	151.	142.	135.	127.	120.	114.	108.	102.
96.	91.	86.	81.	77.	73.	69.	65.	61.	58.
55.	52.	49.	46.	44.	41.	39.	37.	35.	33.
31.	30.	28.	26.	25.	24.	22.	21.	20.	19.
18.	17.	16.	15.	14.	13.	13.	12.	11.	11.
10.	10.	9.	9.	8.	8.	7.	7.	7.	6.
6.	5.	5.	5.	5.	4.	4.	4.	4.	4.
3.	3.	3.	3.	3.	3.	2.	2.	2.	

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          ***************
          *             *
78 KK     *     C_L10   *     Combine L10 with Upstream Hydrograph
          *             *
          ***************

79 HC          HYDROGRAPH COMBINATION
                    ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                  ***

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          *             *
80 KK     *     R_L9M   *     Route Mainstem Hydrograph Through L9
          *             *
          ***************

             HYDROGRAPH ROUTING DATA

81 RS          STORAGE ROUTING
                    NSTPS           1  NUMBER OF SUBREACHES
                     ITYP        STOR  TYPE OF INITIAL CONDITION
                   RSVRIC         .00  INITIAL CONDITION
                        X         .00 WORKING R AND D COEFFICIENT

82 SV            STORAGE          .0       1.2       2.2       3.3       4.2       4.9       5.3       6.6       7.6       8.5
                                 9.6      10.6      11.6      12.4      13.1      13.9

84 SQ          DISCHARGE          0.       100.      200.      300.      400.      500.      600.      800.     1000.     1200.
                              1400.     1600.     1800.     2000.     2200.     2400.
                                                                  ***

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86 KK     *     L9.1    *     Subbasin East of 27.25 Road
          *             *
          ***************

             SUBBASIN RUNOFF DATA

87 BA          SUBBASIN CHARACTERISTICS
                    TAREA        2.72  SUBBASIN AREA

88 LG          GREEN AND AMPT LOSS RATE
                    STRTL         .41  STARTING LOSS
                      DTH         .40  MOISTURE DEFICIT
                     PSIF        1.50  WETTING FRONT SUCTION
                    XKSAT         .05  HYDRAULIC CONDUCTIVITY
                    RTIMP        4.00  PERCENT IMPERVIOUS AREA

89 US          SNYDER UNITGRAPH
                      TP        1.16  LAG
                      CP         .37  PEAKING COEFFICIENT

             SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                                  ***

                                        UNIT HYDROGRAPH PARAMETERS
                                  CLARK   TC=  1.17 HR,       R=  2.43 HR
                                SNYDER   TP=  1.16 HR,      CP=   .37

                                             UNIT HYDROGRAPH
                                        162 END-OF-PERIOD ORDINATES
   10.       36.       75.      121.      174.      232.      294.      357.      415.      466.
  507.      540.      562.      572.      563.      544.      526.      508.      491.      474.
  458.      443.      428.      414.      400.      386.      373.      361.      348.      337.
  325.      314.      304.      294.      284.      274.      265.      256.      247.      239.
  231.      223.      216.      208.      201.      195.      188.      182.      176.      170.
  164.      158.      153.      148.      143.      138.      133.      129.      125.      120.
  116.      112.      109.      105.      101.       98.       95.       92.       88.       85.
   83.       80.       77.       75.       72.       70.       67.       65.       63.       61.
   59.       57.       55.       53.       51.       49.       48.       46.       45.       43.
   42.       40.       39.       38.       36.       35.       34.       33.       32.       31.
   30.       29.       28.       27.       26.       25.       24.       23.       22.       22.
   21.       20.       20.       19.       18.       18.       17.       16.       16.       15.
   15.       14.       14.       13.       13.       13.       12.       12.       11.       11.
   11.       10.       10.       10.        9.        9.        9.        8.        8.        8.
    7.        7.        7.        7.        7.        6.        6.        6.        6.        6.
    5.        5.        5.        5.        5.        4.        4.        4.        4.        4.
    4.        4.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

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          *             *
90 KK     *     R_L9T   *     Route Subbasin L9.1 Hydrograph Through L9
          *             *
          ***************

             HYDROGRAPH ROUTING DATA

91 RK          KINEMATIC WAVE STREAM ROUTING
                        L        4100.  CHANNEL LENGTH
                        S        .0110  SLOPE
                        N         .030  CHANNEL ROUGHNESS COEFFICIENT
                       CA          .00  CONTRIBUTING AREA
                    SHAPE         TRAP  CHANNEL SHAPE
                       WD         5.00  BOTTOM WIDTH OR DIAMETER
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                     Z         2.40  SIDE SLOPE
                 NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
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                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=    .08 HR,       R=    .52 HR
                                          SNYDER  TP=    .14 HR,       CP=   .25

                                                UNIT HYDROGRAPH
                                          34 END-OF-PERIOD ORDINATES
          88.      163.      138.      118.      100.       85.       72.       62.       52.       45.
          38.       32.       27.       23.       20.       17.       14.       12.       10.        9.
           8.        6.        5.        5.        4.        3.        3.        2.        2.        2.
           1.        1.        1.        1.

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          ***************
          *             *
107 KK    *      PD A   *
          *             *
          ***************
                        Route Through Pond A

             HYDROGRAPH ROUTING DATA

109 RS         STORAGE ROUTING
                    NSTPS          1  NUMBER OF SUBREACHES
                     ITYP       STOR  TYPE OF INITIAL CONDITION
                   RSVRIC        .00  INITIAL CONDITION
                        X        .00 WORKING R AND D COEFFICIENT

110 SV           STORAGE          .0        .0       1.8       4.7       8.9      11.6

111 SQ         DISCHARGE          0.        3.        7.        9.       11.       11.

112 SE         ELEVATION     4915.00   4916.00   4918.00   4920.00   4922.00   4923.00
                                                ***

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN        0. TO        3.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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          *             *
113 KK    *      R21a   *
          *             *
          ***************
                        Route R21 Through R21a

             HYDROGRAPH ROUTING DATA

115 RK         KINEMATIC WAVE STREAM ROUTING
                        L       3500.  CHANNEL LENGTH
                        S      .0230  SLOPE
                        N       .050  CHANNEL ROUGHNESS COEFFICIENT
                       CA        .00  CONTRIBUTING AREA
                    SHAPE       TRAP  CHANNEL SHAPE
                       WD      30.00  BOTTOM WIDTH OR DIAMETER
                        Z       6.00  SIDE SLOPE
                   NDXMIN          2  MINIMUM NUMBER OF DX INTERVALS
                                                ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          ***************
          *             *
116 KK    *     DB21a   *
          *             *
          ***************
                           Subbasin

             SUBBASIN RUNOFF DATA

118 BA         SUBBASIN CHARACTERISTICS
                    TAREA         .34  SUBBASIN AREA

119 LG         GREEN AND AMPT LOSS RATE
                    STRTL         .41  STARTING LOSS
                      DTH         .40  MOISTURE DEFICIT
                     PSIF        1.50  WETTING FRONT SUCTION
                    XKSAT         .05  HYDRAULIC CONDUCTIVITY
                    RTIMP        2.00  PERCENT IMPERVIOUS AREA

120 US         SNYDER UNITGRAPH
                       TP         .13  LAG
                       CP         .28  PEAKING COEFFICIENT

               SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=    .08 HR,       R=    .44 HR
                                          SNYDER  TP=    .14 HR,       CP=   .29

                                                UNIT HYDROGRAPH
                                          29 END-OF-PERIOD ORDINATES
          228.      416.      344.      285.      236.      195.      161.      133.      110.       91.
           75.       62.       52.       43.       35.       29.       24.       20.       17.       14.
           11.        9.        8.        6.        5.        4.        4.        3.        2.
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*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

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          *            *
121 KK    *      R17   *      Subbasin
          *            *
          **************

            SUBBASIN RUNOFF DATA

122 BA        SUBBASIN CHARACTERISTICS
                   TAREA          .16  SUBBASIN AREA

123 LG        GREEN AND AMPT LOSS RATE
                   STRTL          .41  STARTING LOSS
                     DTH          .40  MOISTURE DEFICIT
                    PSIF         1.50  WETTING FRONT SUCTION
                   XKSAT          .05  HYDRAULIC CONDUCTIVITY
                   RTIMP         2.00  PERCENT IMPERVIOUS AREA

124 US        SNYDER UNITGRAPH
                     TP          .10  LAG
                     CP          .25  PEAKING COEFFICIENT

              SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .08 HR,       R=    .51 HR
                                   SNYDER   TP=    .14 HR,      CP=    .26

                                          UNIT HYDROGRAPH
                                    34 END-OF-PERIOD ORDINATES
              94.      175.      148.      126.      107.       91.       77.       66.       56.       47.
              40.       34.       29.       25.       21.       18.       15.       13.       11.        9.
               8.        7.        6.        5.        4.        4.        3.        3.        2.        2.
               2.        1.        1.        1.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          **************
          *            *
125 KK    *     R_17_  *     0 Route hydrograph through R15 overland
          *            *
          **************

            HYDROGRAPH ROUTING DATA

126 RK        KINEMATIC WAVE STREAM ROUTING
                       L       2000.  CHANNEL LENGTH
                       S       .0180  SLOPE
                       N        .040  CHANNEL ROUGHNESS COEFFICIENT
                      CA         .00  CONTRIBUTING AREA
                   SHAPE        TRAP  CHANNEL SHAPE
                      WD       10.00  BOTTOM WIDTH OR DIAMETER
                       Z        5.00  SIDE SLOPE
                  NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS

                                                  ***

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          *            *
127 KK    *      C21a  *
          *            *
          **************
                        Combine Routed Basin 21 with Basin 21a and R17

129 HC        HYDROGRAPH COMBINATION
                    ICOMP           3  NUMBER OF HYDROGRAPHS TO COMBINE

                                                  ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

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          *            *
130 KK    *    WF_PD1  *
          *            *
          **************
                        Route Hydrograph Through New Walker Field On Site Pond 1

            HYDROGRAPH ROUTING DATA

132 RS        STORAGE ROUTING
                    NSTPS           1  NUMBER OF SUBREACHES
                     ITYP        STOR  TYPE OF INITIAL CONDITION
                    RSVRIC        .00  INITIAL CONDITION
                        X         .00 WORKING R AND D COEFFICIENT

133 SV          STORAGE          .0       1.0       6.9      13.6      17.3

134 SQ        DISCHARGE          0.       11.       24.       32.       36.

135 SE        ELEVATION       38.50     40.00     42.00     44.00     45.00

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          *             *
136 KK    *      RPD1   *
          *             *
          ***************
                    Route Hydrograph Through Basin 23b Pipe

             HYDROGRAPH ROUTING DATA

138 RK          KINEMATIC WAVE STREAM ROUTING
                       L       1750.  CHANNEL LENGTH
                       S       .0140  SLOPE
                       N        .015  CHANNEL ROUGHNESS COEFFICIENT
                      CA         .00  CONTRIBUTING AREA
                   SHAPE        CIRC  CHANNEL SHAPE
                      WD        3.00  BOTTOM WIDTH OR DIAMETER
                       Z         .00  SIDE SLOPE
                  NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
139 KK    *     DB23b   *
          *             *
          ***************
                    Subbasin

             SUBBASIN RUNOFF DATA

141 BA          SUBBASIN CHARACTERISTICS
                     TAREA         .06  SUBBASIN AREA

142 LG          GREEN AND AMPT LOSS RATE
                     STRTL         .07  STARTING LOSS
                       DTH         .09  MOISTURE DEFICIT
                      PSIF         .35  WETTING FRONT SUCTION
                     XKSAT         .01  HYDRAULIC CONDUCTIVITY
                     RTIMP       95.00  PERCENT IMPERVIOUS AREA

143 US          SNYDER UNITGRAPH
                       TP          .05  LAG
                       CP          .55  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                    ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .08 HR,       R=    .04 HR
                                   SNYDER   TP=    .07 HR,      CP=    .50

                                             UNIT HYDROGRAPH
                                          2 END-OF-PERIOD ORDINATES
                226.       226.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
144 KK    *       C23   *
          *             *
          ***************
                    Combine Hydrograph Basin 23b with 21 and 21a

146 HC          HYDROGRAPH COMBINATION
                     ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
147 KK    *      R23b   *
          *             *
          ***************
                    Route Hydrograph Through Basin 23c Pipe

             HYDROGRAPH ROUTING DATA

149 RK          KINEMATIC WAVE STREAM ROUTING
                       L       1000.  CHANNEL LENGTH
                       S       .0140  SLOPE
                       N        .015  CHANNEL ROUGHNESS COEFFICIENT
                      CA         .00  CONTRIBUTING AREA
                   SHAPE        CIRC  CHANNEL SHAPE
                      WD        3.00  BOTTOM WIDTH OR DIAMETER
                       Z         .00  SIDE SLOPE
                  NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                    ***

        *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

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          **************
          *            *
150 KK    *     DB23C  *
          *            *
          **************
                     Subbasin

             SUBBASIN RUNOFF DATA

152 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .08  SUBBASIN AREA

153 LG          GREEN AND AMPT LOSS RATE
                      STRTL         .07  STARTING LOSS
                        DTH         .09  MOISTURE DEFICIT
                       PSIF         .35  WETTING FRONT SUCTION
```

```
                    XKSAT          .01  HYDRAULIC CONDUCTIVITY
                    RTIMP        95.00  PERCENT IMPERVIOUS AREA

 54 US          SNYDER UNITGRAPH
                      TP           .08  LAG
                      CP           .57  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                    ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=    .11 HR,       R=    .05 HR
                                         SNYDER   TP=    .08 HR,      CP=    .57

                                                UNIT HYDROGRAPH
                                             4 END-OF-PERIOD ORDINATES
              226.       297.        77.         6.


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            ***************
            *             *
 155 KK     *      R23c   *
            *             *
            ***************
                        Route R23c Through R23c Ditch

               HYDROGRAPH ROUTING DATA

 157 RK           KINEMATIC WAVE STREAM ROUTING
                        L         500.  CHANNEL LENGTH
                        S        .0050  SLOPE
                        N         .045  CHANNEL ROUGHNESS COEFFICIENT
                       CA          .00  CONTRIBUTING AREA
                    SHAPE         TRAP  CHANNEL SHAPE
                       WD        10.00  BOTTOM WIDTH OR DIAMETER
                        Z         4.00  SIDE SLOPE
                   NDXMIN            2  MINIMUM NUMBER OF DX INTERVALS
                                                    ***


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            ***************
            *             *
 158 KK     *     DB23d   *
            *             *
            ***************
                        Subbasin

               SUBBASIN RUNOFF DATA

 160 BA           SUBBASIN CHARACTERISTICS
                      TAREA          .02  SUBBASIN AREA

 161 LG           GREEN AND AMPT LOSS RATE
                      STRTL          .04  STARTING LOSS
                        DTH          .05  MOISTURE DEFICIT
                       PSIF          .18  WETTING FRONT SUCTION
                      XKSAT          .01  HYDRAULIC CONDUCTIVITY
                      RTIMP       100.00  PERCENT IMPERVIOUS AREA

 162 US           SNYDER UNITGRAPH
                      TP           .02  LAG
                      CP           .46  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                    ***
R INCREASED TO MINIMUM OF 0.5

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=    .08 HR,       R=    .17 HR
                                         SNYDER   TP=    .11 HR,      CP=    .47

                                                UNIT HYDROGRAPH
                                            12 END-OF-PERIOD ORDINATES
              26.        42.        26.        16.        10.         6.         4.         2.         1.         1.
               0.         0.


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            ***************
            *             *
 163 KK     *      R23d   *
            *             *
            ***************
                        Route Hydrograph Through Basin 23d Pipe

               HYDROGRAPH ROUTING DATA

 165 RK           KINEMATIC WAVE STREAM ROUTING
                        L        1200.  CHANNEL LENGTH
                        S        .0050  SLOPE
                        N         .015  CHANNEL ROUGHNESS COEFFICIENT
                       CA          .00  CONTRIBUTING AREA
                    SHAPE         CIRC  CHANNEL SHAPE
                       WD         2.00  BOTTOM WIDTH OR DIAMETER
                        Z          .00  SIDE SLOPE
                   NDXMIN            2  MINIMUM NUMBER OF DX INTERVALS
                                                    ***
```

```
166 KK      **************
            *            *
            *      C23   *
            *            *
            **************
                    Combine Hydrograph Basins 23c,23d with WF_PD1 and 23b

168 HC          HYDROGRAPH COMBINATION
                     ICOMP           3  NUMBER OF HYDROGRAPHS TO COMBINE
                                                          ***

169 KK      **************
            *            *
            *   WF_PD2   *
            *            *
            **************
                    Route Hydrograph Through New Walker Field On Site Pond 2

   HYDROGRAPH ROUTING DATA

171 RS          STORAGE ROUTING
                     NSTPS           1  NUMBER OF SUBREACHES
                      ITYP        STOR  TYPE OF INITIAL CONDITION
                    RSVRIC         .00  INITIAL CONDITION
                         X         .00 WORKING R AND D COEFFICIENT

172 SV            STORAGE          .0        .1        .7       1.6       3.2       5.3

173 SQ          DISCHARGE          0.       24.       48.       68.       83.       90.

174 SE          ELEVATION     4793.50   4795.00   4797.00   4799.00   4801.00   4803.00
                                                          ***

175 KK      **************
            *            *
            *   RWF_P2   *
            *            *
            **************
                    Route Hydrograph Through Basin 23e Pipe

   HYDROGRAPH ROUTING DATA

177 RK          KINEMATIC WAVE STREAM ROUTING
                          L       1000.  CHANNEL LENGTH
                          S       .0100  SLOPE
                          N        .015  CHANNEL ROUGHNESS COEFFICIENT
                         CA         .00  CONTRIBUTING AREA
                      SHAPE        CIRC  CHANNEL SHAPE
                         WD        3.00  BOTTOM WIDTH OR DIAMETER
                          Z         .00  SIDE SLOPE
                     NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                          ***

178 KK      **************
            *            *
            *    DB23e   *
            *            *
            **************
                    Subasin

   SUBBASIN RUNOFF DATA

180 BA          SUBBASIN CHARACTERISTICS
                     TAREA         .07  SUBBASIN AREA

181 LG          GREEN AND AMPT LOSS RATE
                     STRTL         .04  STARTING LOSS
                       DTH         .05  MOISTURE DEFICIT
                      PSIF         .18  WETTING FRONT SUCTION
                     XKSAT         .01  HYDRAULIC CONDUCTIVITY
                     RTIMP      100.00  PERCENT IMPERVIOUS AREA

182 US          SNYDER UNITGRAPH
                        TP         .07  LAG
                        CP         .57  PEAKING COEFFICIENT

   SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                          ***

                                        UNIT HYDROGRAPH PARAMETERS
                                  CLARK   TC=    .09 HR,       R=    .04 HR
                                 SNYDER   TP=    .07 HR,      CP=    .51

                                            UNIT HYDROGRAPH
                                          3 END-OF-PERIOD ORDINATES
        268.      275.       6.
```

```
          ***************
          *             *
 33 KK    *      C23e   *
          *             *
          ***************
                    Combine Hydrograph Basin 23e with WF_PD2

185 HC          HYDRDGRAPH COMBINATION
                     ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
 186 KK   *      R23e   *
          *             *
          ***************
                    Route Hydrograph Through Basin 23a Pipe

             HYDROGRAPH ROUTING DATA

 188 RK          KINEMATIC WAVE STREAM ROUTING
                          L       1500.  CHANNEL LENGTH
                          S       .0080  SLOPE
                          N        .015  CHANNEL ROUGHNESS COEFFICIENT
                         CA         .00  CONTRIBUTING AREA
                      SHAPE        CIRC  CHANNEL SHAPE
                         WD        4.00  BOTTOM WIDTH OR DIAMETER
                          Z         .00  SIDE SLOPE
                     NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                    ***

        *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
 189 KK   *     DB23a   *
          *             *
          ***************
                    Subbasin

             SUBBASIN RUNOFF DATA

 191 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .02  SUBBASIN AREA

 192 LG          GREEN AND AMPT LOSS RATE
                      STRTL         .84  STARTING LOSS
                        DTH         .71  MOISTURE DEFICIT
                       PSIF        1.60  WETTING FRONT SUCTION
                      XKSAT         .16  HYDRAULIC CONDUCTIVITY
                      RTIMP       10.00  PERCENT IMPERVIOUS AREA

 193 US          SNYDER UNITGRAPH
                         TP         .05  LAG
                         CP         .16  PEAKING COEFFICIENT

                 SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                    ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .08 HR,       R=    .91 HR
                                    SNYDER  TP=    .14 HR,      CP=    .16

                                          UNIT HYDROGRAPH
                                    59 END-OF-PERIOD ORDINATES
                      7.       13.       12.       11.       10.        9.        8.        7.        7.        6.
                      6.        5.        5.        4.        4.        4.        3.        3.        3.        2.
                      2.        2.        2.        2.        2.        1.        1.        1.        1.        1.
                      1.        1.        1.        1.        1.        1.        1.        0.        0.        0.
                      0.        0.        0.        0.        0.        0.        0.        0.        0.        0.
                      0.        0.        0.        0.        0.        0.        0.        0.        0.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
 194 KK   *      C23a   *
          *             *
          ***************
                    Combine Hydrograph Basin 23a, 23e with WF_PD2

 196 HC          HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
 197 KK   *    R_PD U   *
```

```
*           *
***************
```

Route Hydrograph Through Upper Airport Upper Pond

HYDROGRAPH ROUTING DATA

```
199 RS          STORAGE ROUTING
                     NSTPS          1  NUMBER OF SUBREACHES
                      ITYP       STOR  TYPE OF INITIAL CONDITION
                     RSVRIC        .00  INITIAL CONDITION
                         X         .00 WORKING R AND D COEFFICIENT

200 SV            STORAGE          .0       .0       .2      6.1     16.2     26.8     29.4

201 SQ          DISCHARGE          0.       11.      11.     12.      13.      14.      162.

202 SE          ELEVATION     4767.00  4767.01  4768.00  4770.00  4772.00  4774.00  4774.50
                                                                      ***
```

```
*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN        0. TO       11.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)
```

*** ***

```
           ***************
           *             *
203 KK     *    D_Pd U   *
           *             *
           ***************
```

Weir Flow Into Lower Pond

```
    DT          OIVERSION
                     ISTAD      U_Pipe  DIVERSION HYDROGRAPH IDENTIFICATION

    DI            INFLOW          .00     14.20     14.30     100.00   1000.00

    DQ      DIVERTED FLOW         .00     14.20     14.20      14.20     14.20
                                                                ***
```

*** ***

```
           ***************
           *             *
208 KK     *      DB22   *
           *             *
           ***************
```

Subbasin

SUBBASIN RUNOFF DATA

```
210 BA          SUBBASIN CHARACTERISTICS
                     TAREA          .22  SUBBASIN AREA

211 LG          GREEN AND AMPT LOSS RATE
                     STRTL          .41  STARTING LOSS
                       OTH          .40  MOISTURE DEFICIT
                      PSIF         1.50  WETTING FRONT SUCTION
                     XKSAT          .05  HYDRAULIC CONDUCTIVITY
                     RTIMP         2.00  PERCENT IMPERVIOUS AREA

212 US          SNYDER UNITGRAPH
                        TP          .20  LAG
                        CP          .27  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                    ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .15 HR,      R=    .63 HR
                                   SNYDER   TP=    .20 HR,     CP=    .27

                                          UNIT HYDROGRAPH
                                    41 END-OF-PERIOD ORDINATES
                64.      163.      186.      163.      142.      125.      109.       96.       84.       73.
                64.       56.       49.       43.       38.       33.       29.       25.       22.       20.
                17.       15.       13.       12.       10.        9.        8.        7.        6.        5.
                 5.        4.        3.        3.        3.        2.        2.        2.        2.        1.
                 1.
```

*** ***

```
           ***************
           *             *
213 KK     *     R24_P   *
           *             *
           ***************
```

Route Hydrograph Through Basin 24 Pipe

HYDROGRAPH ROUTING DATA

```
215 RK          KINEMATIC WAVE STREAM ROUTING
                         L       3076.  CHANNEL LENGTH
                         S       .0140  SLOPE
                         N        .015  CHANNEL ROUGHNESS COEFFICIENT
                        CA         .00  CONTRIBUTING AREA
                     SHAPE        CIRC  CHANNEL SHAPE
                        WD        4.50  BOTTOM WIDTH OR DIAMETER
                         Z         .00  SIDE SLOPE
                    NOXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                    ***
```

```
* *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
216 KK    *     R24_O   *
          *             *
          ***************
                    Route Hydrograph Through Basin 24 Overland

               HYDROGRAPH ROUTING DATA

218 RK           KINEMATIC WAVE STREAM ROUTING
                          L       1506.  CHANNEL LENGTH
                          S       .0190  SLOPE
                          N        .030  CHANNEL ROUGHNESS COEFFICIENT
                         CA         .00  CONTRIBUTING AREA
                      SHAPE        TRAP  CHANNEL SHAPE
                         WD       10.00  BOTTOM WIDTH OR DIAMETER
                          Z       12.00  SIDE SLOPE
                     NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                  ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
219 KK    *     DB24a   *
          *             *
          ***************
                    Subbasin

               SUBBASIN RUNOFF DATA

221 BA           SUBBASIN CHARACTERISTICS
                      TAREA         .02  SUBBASIN AREA

222 LG           GREEN AND AMPT LOSS RATE
                      STRTL         .57  STARTING LOSS
                        DTH         .52  MOISTURE DEFICIT
                       PSIF        1.94  WETTING FRONT SUCTION
                      XKSAT         .07  HYDRAULIC CONDUCTIVITY
                      RTIMP       36.00  PERCENT IMPERVIOUS AREA

223 US           SNYDER UNITGRAPH
                         TP         .10  LAG
                         CP         .26  PEAKING COEFFICIENT

                 SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=   .08 HR,       R=   .49 HR
                                   SNYDER   TP=   .14 HR,      CP=   .27

                                             UNIT HYDROGRAPH
                                          32 END-OF-PERIOD ORDINATES
                    13.       24.       20.       17.       14.       12.       10.        9.        7.        6.
                     5.        4.        4.        3.        3.        2.        2.        2.        1.        1.
                     1.        1.        1.        1.        0.        0.        0.        0.        0.        0.
                     0.        0.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
224 KK    *    B4aDIV   *
          *             *
          ***************
                    Divert Basin 24a overflow

     DT           DIVERSION
                       ISTAD      B4aDIV  DIVERSION HYDROGRAPH IDENTIFICATION

     DI             INFLOW          .00     14.00     100.00    1000.00

     DQ       DIVERTED FLOW         .00       .01      86.00     986.00
                                                  ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
229 KK    *     R24_P   *
          *             *
          ***************
                    Route Hydrograph Through Basin 24 Pipe

               HYDROGRAPH ROUTING DATA

 31 RK           KINEMATIC WAVE STREAM ROUTING
                          L        800.  CHANNEL LENGTH
                          S       .0140  SLOPE
                          N        .015  CHANNEL ROUGHNESS COEFFICIENT
                         CA         .00  CONTRIBUTING AREA
                      SHAPE        CIRC  CHANNEL SHAPE
                         WD        4.50  BOTTOM WIDTH OR DIAMETER
                          Z         .00  SIDE SLOPE
                     NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
```

***

*** *** *** *

```
            HYDROGRAPH ROUTING DATA

.48 RK          KINEMATIC WAVE STREAM ROUTING
                          L        800.  CHANNEL LENGTH
                          S       .0150  SLOPE
                          N        .030  CHANNEL ROUGHNESS COEFFICIENT
                         CA         .00  CONTRIBUTING AREA
                      SHAPE        TRAP  CHANNEL SHAPE
                         WD       30.00  BOTTOM WIDTH OR DIAMETER
                          Z       10.00  SIDE SLOPE
                     NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                  ***

        *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

           ***************
           *             *
249 KK     *     R25_P   *
           *             *
           ***************
                       Route 24a diversion through Basin 25 pipe

              HYDROGRAPH ROUTING DATA

251 RK          KINEMATIC WAVE STREAM ROUTING
                          L       1600.  CHANNEL LENGTH
                          S       .0130  SLOPE
                          N        .015  CHANNEL ROUGHNESS COEFFICIENT
                         CA         .00  CONTRIBUTING AREA
                      SHAPE        CIRC  CHANNEL SHAPE
                         WD        4.00  BOTTOM WIDTH OR DIAMETER
                          Z         .00  SIDE SLOPE
                     NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                  ***

        *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1


* *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

           ***************
           *             *
252 KK     *     D825    *
           *             *
           ***************
                          Subbasin

              SUBBASIN RUNOFF DATA

254 BA          SUBBASIN CHARACTERISTICS
                     TAREA         .02  SUBBASIN AREA

255 LG          GREEN AND AMPT LOSS RATE
                     STRTL         .57  STARTING LOSS
                       DTH         .52  MOISTURE DEFICIT
                      PSIF        1.94  WETTING FRONT SUCTION
                     XKSAT         .07  HYDRAULIC CONDUCTIVITY
                     RTIMP       36.00  PERCENT IMPERVIOUS AREA

256 US          SNYDER UNITGRAPH
                        TP         .11  LAG
                        CP         .27  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .08 HR,       R=    .47 HR
                                   SNYDER   TP=    .14 HR,      CP=    .27

                                          UNIT HYDROGRAPH
                                    31 END-OF-PERIOD ORDINATES
                     15.       28.       24.       20.       17.       14.       12.       10.       8.        7.
                      6.        5.        4.        3.        3.        2.        2.        2.       1.        1.
                      1.        1.        1.        1.        0.        0.        0.        0.       0.        0.
                      0.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

           ***************
           *             *
257 KK     *     C25     *
           *             *
           ***************
                       Combine Hydrograph with 24a diversion

259 HC          HYDROGRAPH COMBINATION
                     ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                  ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
```

```
          ***************
          *             *
260 KK    *     B5DIV   *
          *             *
          ***************
                    Divert Basin 25 storm sewer overflow

     DT          DIVERSION
                      ISTAD       B5DIV  DIVERSION HYDROGRAPH IDENTIFICATION

     DI            INFLOW          .00     14.00    100.00   1000.00

     DQ       DIVERTED FLOW        .00       .00     86.00    986.00
                                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
265 KK    *     DB25a   *
          *             *
          ***************
                    Subbasin

        SUBBASIN RUNOFF DATA

267 BA          SUBBASIN CHARACTERISTICS
                      TAREA          .03  SUBBASIN AREA

268 LG          GREEN AND AMPT LOSS RATE
                      STRTL          .85  STARTING LOSS
                        DTH          .71  MOISTURE DEFICIT
                       PSIF         1.60  WETTING FRONT SUCTION
                      XKSAT          .16  HYDRAULIC CONDUCTIVITY
                      RTIMP        12.00  PERCENT IMPERVIOUS AREA

269 US          SNYDER UNITGRAPH
                         TP          .03  LAG
                         CP          .17  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                        ***
R INCREASED TO MINIMUM OF 0.5

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .08 HR,       R=    .83 HR
                                   SNYDER   TP=    .14 HR,      CP=    .17

                                             UNIT HYDROGRAPH
                                        53 END-OF-PERIOD ORDINATES
          12.       22.       20.       18.       17.       15.       14.       12.       11.       10.
           9.        8.        7.        7.        6.        5.        5.        4.        4.        4.
           3.        3.        3.        2.        2.        2.        2.        2.        1.        1.
           1.        1.        1.        1.        1.        1.        1.        1.        1.        0.
           0.        0.        0.        0.        0.        0.        0.        0.        0.        0.
           0.        0.        0.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
270 KK    *       C_6   *
          *             *
          ***************
                    Combine Basins 25a 25 24a 24 22

272 HC          HYDROGRAPH COMBINATION
                      ICOMP           3  NUMBER OF HYDROGRAPHS TO COMBINE
                                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
273 KK    *       C_7   *
          *             *
          ***************
                    Combine all Basins

275 HC          HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
276 KK    *    R_PD L   *
          *             *
          ***************
                    route Hydrograph Through Lower Airport East Pond

        HYDROGRAPH ROUTING DATA

278 RS          STORAGE ROUTING
                      NSTPS           1  NUMBER OF SUBREACHES
```

```
                    ITYP          STOR  TYPE OF INITIAL CONDITION
                  RSVRIC           .00  INITIAL CONDITION
                       X           .00 WORKING R AND D COEFFICIENT

279 SV          STORAGE            .0        .1       4.3      13.8      24.6

280 SQ        DISCHARGE            0.        6.        8.       10.       11.

281 SE        ELEVATION       4758.40   4760.00   4762.00   4764.00   4766.00
                                                                 ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
282 KK    *      PR_U   *
          *             *
          ***************
                    Retrieve Upper Pond Pipe Flow

284 DR          RETRIEVE DIVERSION HYDROGRAPH
                     ISTAD       U_Pipe  DIVERSION HYDROGRAPH IDENTIFICATION
                                                                 ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
285 KK    *     C_Out   *
          *             *
          ***************
                    Combine 2 Outflow Hydrographs at Canal

287 HC          HYDROGRAPH COMBINATION
                     ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                 ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
288 KK    *       R16   *
          *             *
          ***************
                    Subbasin

             SUBBASIN RUNOFF DATA

290 BA          SUBBASIN CHARACTERISIICS
                     TAREA         .16  SUBBASIN AREA

291 LG          GREEN AND AMPT LOSS RATE
                     STRTL         .34  STARTING LOSS
                       DTH         .35  MOISTURE DEFICIT
                      PSIF        1.33  WETTING FRONT SUCTION
                     XKSAT         .05  HYDRAULIC CONDUCTIVITY
                     RTIMP       51.00  PERCENT IMPERVIOUS AREA

292 US          SNYDER UNITGRAPH
                       TP         .08  LAG
                       CP         .48  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                                 ***

                                              UNIT HYDROGRAPH PARAMETERS
                                        CLARK   TC=    .08 HR,       R=    .15 HR
                                        SNYDER  TP=    .10 HR,      CP=    .48

                                                 UNIT HYDROGRAPH
                                              10 END-OF-PERIOD ORDINATES
                     262.      410.      231.      130.       73.       41.       23.       13.        7.        4.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
293 KK    *     R_14a   *
          *             *
          ***************
                    Route Hydrograph through R14A overland

             HYDROGRAPH RDUTING DATA

295 RK          KINEMATIC WAVE STREAM ROUTING
                          L        2500.  CHANNEL LENGTH
                          S        .0050  SLOPE
                          N         .040  CHANNEL ROUGHNESS COEFFICIENT
                         CA          .00  CONTRIBUTING AREA
                      SHAPE         TRAP  CHANNEL SHAPE
                         WD        10.00  BOTTOM WIDTH OR DIAMETER
                          Z        10.00  SIDE SLOPE
                     NDXMIN            2  MINIMUM NUMBER OF DX INTERVALS
                                                                 ***
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*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
296 KK    *      R14A   *
          *             *
          ***************
                    Subbasin

             SUBBASIN RUNOFF DATA

298 BA          SUBBASIN CHARACTERISTICS
                      TAREA          .04  SUBBASIN AREA

299 LG          GREEN AND AMPT LOSS RATE
                      STRTL          .18  STARTING LOSS
                        DTH          .19  MOISTURE DEFICIT
                       PSIF          .71  WETTING FRONT SUCTION
                      XKSAT          .03  HYDRAULIC CONDUCTIVITY
                      RTIMP        75.00  PERCENT IMPERVIOUS AREA

300 US          SNYDER UNITGRAPH
                        TP          .04  LAG
                        CP          .48  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                    ***
R INCREASED TO MINIMUM OF 0.5

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=    .08 HR,       R=    .14 HR
                                        SNYDER    TP=    .10 HR,      CP=    .49

                                                    UNIT HYDROGRAPH
                                              10 END-OF-PERIOD ORDINATES
                69.       107.       58.       32.       17.       10.        5.        3.        2.        1.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
301 KK    *     C_14A   *
          *             *
          ***************
                    Combine Hydrographs (R16, R14A)

303 HC          HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
304 KK    *     C_14A   *
          *             *
          ***************
                    Combine Hydrograph with Lower Pond Outfall

306 HC          HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
307 KK    *      R15    *      Subbasin
          *             *
          ***************

             SUBBASIN RUNOFF DATA

308 BA          SUBBASIN CHARACTERISTICS
                      TAREA          .30  SUBBASIN AREA

309 LG          GREEN AND AMPT LOSS RATE
                      STRTL          .53  STARTING LOSS
                        DTH          .50  MOISTURE DEFICIT
                       PSIF         1.86  WETTING FRONT SUCTION
                      XKSAT          .07  HYDRAULIC CONDUCTIVITY
                      RTIMP        22.00  PERCENT IMPERVIOUS AREA

310 US          SNYDER UNITGRAPH
                        TP          .15  LAG
                        CP          .28  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                    ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=    .12 HR,       R=    .44 HR
                                        SNYDER    TP=    .15 HR,      CP=    .28

                                                    UNIT HYDROGRAPH
                                              29 END-OF-PERIOD ORDINATES
              149.      325.      321.      265.      219.      181.      149.      123.      102.       84.
               70.       57.       47.       39.       32.       27.       22.       18.       15.       12.
               10.        8.        7.        6.        5.        4.        3.        3.        2.
```

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*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
311 KK    *     R_R13   *      Route Hydrograph through R13
          *             *
          ***************

            HYDROGRAPH ROUTING DATA

312 RS        STORAGE ROUTING
                   NSTPS          1  NUMBER OF SUBREACHES
                    ITYP       STOR  TYPE OF INITIAL CONDITION
                  RSVRIC        .00  INITIAL CONDITION
                       X        .00 WORKING R AND D COEFFICIENT

313 RC        NORMAL DEPTH CHANNEL
                     ANL       .035  LEFT OVERBANK N-VALUE
                    ANCH       .030  MAIN CHANNEL N-VALUE
                     ANR       .035  RIGHT OVERBANK N-VALUE
                   RLNTH       971.  REACH LENGTH
                     SEL      .0180  ENERGY SLOPE
                   ELMAX         .0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                  CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL -------- + --- RIGHT OVERBANK ---
315 RY        ELEVATION  4762.00  4760.00  4758.00  4756.00  4756.00  4758.00  4760.00  4762.00
314 RX        DISTANCE   1000.00  1014.00  1022.00  1026.00  1036.00  1046.00  1050.00  1062.00
                                                  ***

                                  COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00      .08      .17      .28      .41      .55      .70      .87     1.06     1.26
          OUTFLOW        .00    10.12    33.55    69.09   117.02   177.98   252.70   353.95   477.33   617.67
        ELEVATION    4756.00  4756.32  4756.63  4756.95  4757.26  4757.58  4757.90  4758.21  4758.53  4758.84

          STORAGE       1.47     1.69     1.93     2.18     2.46     2.77     3.10     3.47     3.86     4.28
          OUTFLOW     775.39   950.90  1144.61  1354.75  1582.66  1834.71  2112.09  2416.15  2748.30  3110.17
        ELEVATION    4759.16  4759.48  4759.79  4760.11  4760.42  4760.74  4761.05  4761.37  4761.69  4762.00

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN       34. TO     3110.
                THE routed HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
316 KK    *       R13   *      Subbasin
          *             *
          ***************

            SUBBASIN RUNOFF DATA

317 BA        SUBBASIN CHARACTERISTICS
                  TAREA         .04  SUBBASIN AREA

318 LG        GREEN AND AMPT LOSS RATE
                  STRTL         .48  STARTING LOSS
                    DTH         .45  MOISTURE DEFICIT
                   PSIF        1.68  WETTING FRONT SUCTION
                  XKSAT         .06  HYDRAULIC CONDUCTIVITY
                  RTIMP        2.00  PERCENT IMPERVIOUS AREA

319 US        SNYDER UNITGRAPH
                     TP         .05  LAG
                     CP         .21  PEAKING COEFFICIENT

              SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                  ***

                                        UNIT HYDROGRAPH PARAMETERS
                                  CLARK   TC=    .08 HR,       R=    .66 HR
                                  SNYDER  TP=    .14 HR,      CP=    .21

                                        UNIT HYDROGRAPH
                                  43 END-OF-PERIOD ORDINATES
                    20.      37.      32.      29.      25.      22.      20.      17.      15.      13.
                    12.      10.       9.       8.       7.       6.       6.       5.       4.       4.
                     3.       3.       3.       2.       2.       2.       2.       1.       1.       1.
                     1.       1.       1.       1.       1.       0.       0.       0.       0.       0.
                     0.       0.       0.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
320 KK    *     C_R13   *      Combine Hydrographs
          *             *
          ***************

321 HC        HYDROGRAPH COMBINATION
                  ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                  ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

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322 KK      *              *
            *    Extra5    *      Overflow released from Basin 25
            *              *
            ***************

323 DR          RETRIEVE DIVERSION HYDROGRAPH
                     ISTAD       B5DIV  DIVERSION HYDROGRAPH IDENTIFICATION
                                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *              *
324 KK      *       R14    *      Subbasin
            *              *
            ***************

          SUBBASIN RUNOFF DATA

325 BA          SUBBASIN CHARACTERISTICS
                     TAREA         .06  SUBBASIN AREA

326 LG          GREEN AND AMPT LOSS RATE
                     STRTL         .98  STARTING LOSS
                       DTH         .78  MOISTURE DEFICIT
                      PSIF        1.49  WETTING FRONT SUCTION
                     XKSAT         .20  HYDRAULIC CONDUCTIVITY
                     RTIMP        2.00  PERCENT IMPERVIOUS AREA

327 US          SNYDER UNITGRAPH
                       TP          .35  LAG
                       CP          .22  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                        ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .33 HR,       R=  1.40 HR
                                   SNYDER   TP=    .35 HR,      CP=   .22

                                          UNIT HYDROGRAPH
                                    91 END-OF-PERIOD ORDINATES
                    2.      9.     18.     23.     24.     23.     21.     20.     19.     18.
                   17.     16.     15.     14.     13.     12.     12.     11.     10.     10.
                    9.      9.      8.      8.      7.      7.      6.      6.      6.      5.
                    5.      5.      5.      4.      4.      4.      3.      3.      3.      3.
                    3.      3.      2.      2.      2.      2.      2.      2.      2.      2.
                    2.      1.      1.      1.      1.      1.      1.      1.      1.      1.
                    1.      1.      1.      1.      1.      1.      1.      1.      1.      0.
                    0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
                    0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
                    0.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *              *
328 KK      *      C_R5    *      Combine Hydrographs (R14, Basin 5)
            *              *
            ***************

329 HC          HYDROGRAPH COMBINATION
                     ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *              *
330 KK      *       R_5    *      Route Basin 5 & R14 through R5 overland
            *              *
            ***************

          HYDROGRAPH ROUTING DATA

331 RK          KINEMATIC WAVE STREAM ROUTING
                          L       10500.  CHANNEL LENGTH
                          S        .0080  SLOPE
                          N         .030  CHANNEL ROUGHNESS COEFFICIENT
                         CA          .00  CONTRIBUTING AREA
                      SHAPE         TRAP  CHANNEL SHAPE
                         WD        10.00  BOTTOM WIDTH OR DIAMETER
                          Z        20.00  SIDE SLOPE
                     NDXMIN            2  MINIMUM NUMBER OF DX INTERVALS
                                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *              *
332 KK      *        R5    *      Subbasin
            *              *
            ***************

          SUBBASIN RUNOFF DATA

333 BA          SUBBASIN CHARACTERISTICS
                     TAREA         .08  SUBBASIN AREA
```

```
'34 LG          GREEN AND AMPT LOSS RATE
                      STRTL          .89  STARTING LOSS
                        DTH          .73  MOISTURE DEFICIT
                       PSIF         1.55  WETTING FRONT SUCTION
                      XKSAT          .17  HYDRAULIC CONDUCTIVITY
                      RTIMP         9.00  PERCENT IMPERVIOUS AREA

335 US          SNYDER UNITGRAPH
                        TP           .12  LAG
                        CP           .20  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .08 HR,       R=    .69 HR
                                   SNYDER   TP=    .14 HR,      CP=    .20

                                          UNIT HYDROGRAPH
                                    45 END-OF-PERIOD ORDINATES
              37.       70.       62.       55.       49.       43.       38.       34.       30.       27.
              24.       21.       19.       16.       15.       13.       11.       10.        9.        8.
               7.        6.        5.        5.        4.        4.        3.        3.        3.        2.
               2.        2.        2.        1.        1.        1.        1.        1.        1.        1.
               1.        1.        0.        0.        0.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          ***************
          *             *
336 KK    *       C3    *      Corcoran Wash at H Road and 25 Road
          *             *
          ***************

             SUBBASIN RUNOFF DATA

337 BA          SUBBASIN CHARACTERISTICS
                      TAREA          .56  SUBBASIN AREA

338 LG          GREEN AND AMPT LOSS RATE
                      STRTL          .56  STARTING LOSS
                        DTH          .52  MOISTURE DEFICIT
                       PSIF         1.94  WETTING FRONT SUCTION
                      XKSAT          .07  HYDRAULIC CONDUCTIVITY
                      RTIMP         2.00  PERCENT IMPERVIOUS AREA

339 US          SNYDER UNITGRAPH
                        TP           .25  LAG
                        CP           .31  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .24 HR,       R=    .67 HR
                                   SNYDER   TP=    .25 HR,      CP=    .30

                                          UNIT HYDROGRAPH
                                    45 END-OF-PERIOD ORDINATES
              73.      258.      409.      423.      374.      330.      292.      258.      228.      201.
             178.      157.      139.      122.      108.       96.       84.       75.       66.       58.
              51.       45.       40.       35.       31.       28.       24.       22.       19.       17.
              15.       13.       12.       10.        9.        8.        7.        6.        6.        5.
               4.        4.        3.        3.        3.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          ***************
          *             *
340 KK    *       I5    *      Start Indian Creek Basin
          *             *
          ***************

             SUBBASIN RUNOFF DATA

341 BA          SUBBASIN CHARACTERISTICS
                      TAREA          .80  SUBBASIN AREA

342 LG          GREEN AND AMPT LOSS RATE
                      STRTL          .47  STARTING LOSS
                        DTH          .45  MOISTURE DEFICIT
                       PSIF         1.68  WETTING FRONT SUCTION
                      XKSAT          .06  HYDRAULIC CONDUCTIVITY
                      RTIMP         2.00  PERCENT IMPERVIOUS AREA

343 US          SNYDER UNITGRAPH
                        TP           .43  LAG
                        CP           .32  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .44 HR,       R=   1.07 HR
                                   SNYDER   TP=    .43 HR,      CP=    .32

                                          UNIT HYDROGRAPH
                                    71 END-OF-PERIOD ORDINATES
              27.      103.      209.      310.      375.      385.      359.      332.      307.      284.
             263.      243.      225.      208.      192.      178.      164.      152.      141.      130.
             120.      111.      103.       95.       88.       81.       75.       70.       64.       60.
              55.       51.       47.       44.       40.       37.       35.       32.       30.       27.
              25.       23.       22.       20.       19.       17.       16.       15.       14.       13.
              12.       11.       10.        9.        8.        8.        7.        7.        6.        6.
```

```
                5.        5.        5.        4.        4.        4.        3.        3.        3.        3.
                2.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
344 KK      *     R_I5   *
            *            *
            **************
                        Route Hydrograph Through Existing Dam

              HYDROGRAPH ROUTING DATA

346 RS          STORAGE ROUTING
                     NSTPS          1  NUMBER OF SUBREACHES
                      ITYP       STOR  TYPE OF INITIAL CONDITION
                    RSVRIC        .00  INITIAL CONDITION
                         X        .00 WORKING R AND D COEFFICIENT

347 SV          STORAGE          .0       2.2       4.7       7.2      10.0      12.9      16.1      19.4      22.9      26.6

348 SQ          DISCHARGE        0.        0.        0.        0.        0.        0.        0.       93.      263.      483.

349 SE          ELEVATION     5190.00   5191.00   5192.00   5193.00   5194.00   5195.00   5196.00   5197.00   5198.00   5199.00

                                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
350 KK      *     I4     *      Subbasin
            *            *
            **************

              SUBBASIN RUNOFF DATA

351 BA          SUBBASIN CHARACTERISTICS
                     TAREA        1.21  SUBBASIN AREA

352 LG          GREEN AND AMPT LOSS RATE
                     STRTL         .62  STARTING LOSS
                       DTH         .57  MOISTURE DEFICIT
                      PSIF        2.12  WETTING FRONT SUCTION
                     XKSAT         .08  HYDRAULIC CONDUCTIVITY
                     RTIMP        2.00  PERCENT IMPERVIOUS AREA

353 US          SNYDER UNITGRAPH
                        TP         .77  LAG
                        CP         .34  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                        ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=    .79 HR,       R=  1.75 HR
                                          SNYDER  TP=    .77 HR,      CP=   .34

                                                UNIT HYDROGRAPH
                                          117 END-OF-PERIOD ORDINATES
                  11.       40.       83.      134.      191.      247.      294.      330.      352.      355.
                 342.      326.      311.      296.      282.      269.      257.      245.      234.      223.
                 212.      202.      193.      184.      176.      167.      160.      152.      145.      138.
                 132.      126.      120.      114.      109.      104.       99.       95.       90.       86.
                  82.       78.       75.       71.       68.       65.       62.       59.       56.       53.
                  51.       49.       46.       44.       42.       40.       38.       37.       35.       33.
                  32.       30.       29.       27.       26.       25.       24.       23.       22.       21.
                  20.       19.       18.       17.       16.       16.       15.       14.       13.       13.
                  12.       12.       11.       11.       10.       10.        9.        9.        8.        8.
                   8.        7.        7.        7.        6.        6.        6.        5.        5.        5.
                   5.        5.        4.        4.        4.        4.        4.        3.        3.        3.
                   3.        3.        3.        3.        2.        2.        2.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
354 KK      *     C_I4   *      Combine I5 and I4
            *            *
            **************

355 HC          HYDROGRAPH COMBINATION
                     ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
356 KK      *     I3     *      Subbasin
            *            *
            **************

              SUBBASIN RUNOFF DATA

357 BA          SUBBASIN CHARACTERISTICS
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                    TAREA         3.21  SUBBASIN AREA

 58 LG          GREEN AND AMPT LOSS RATE
                     STRTL          .50  STARTING LOSS
                       DTH          .47  MOISTURE DEFICIT
                      PSIF         1.77  WETTING FRONT SUCTION
                     XKSAT          .06  HYDRAULIC CONDUCTIVITY
                     RTIMP         2.00  PERCENT IMPERVIOUS AREA

359 US          SNYDER UNITGRAPH
                        TP         1.18  LAG
                        CP          .40  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=  1.21 HR,       R=  2.21 HR
                                    SNYDER  TP=  1.19 HR,      CP=   .40

                                          UNIT HYDROGRAPH
                                    149 END-OF-PERIOD ORDINATES
      12.      44.      92.     149.     213.     283.     359.     436.     510.     573.
     627.     670.     701.     718.     714.     693.     667.     642.     619.     596.
     574.     553.     532.     512.     493.     475.     458.     441.     424.     409.
     394.     379.     365.     351.     338.     326.     314.     302.     291.     280.
     270.     260.     250.     241.     232.     224.     215.     207.     200.     192.
     185.     178.     172.     165.     159.     153.     148.     142.     137.     132.
     127.     122.     118.     113.     109.     105.     101.      98.      94.      90.
      87.      84.      81.      78.      75.      72.      69.      67.      64.      62.
      60.      58.      55.      53.      51.      49.      48.      46.      44.      43.
      41.      39.      38.      37.      35.      34.      33.      31.      30.      29.
      28.      27.      26.      25.      24.      23.      22.      22.      21.      20.
      19.      19.      18.      17.      17.      16.      15.      15.      14.      14.
      13.      13.      12.      12.      11.      11.      11.      10.      10.       9.
       9.       9.       8.       8.       8.       8.       7.       7.       7.       6.
       6.       6.       6.       6.       5.       5.       5.       5.       5.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

               ***************
               *             *
360 KK         *      C_I3   *      Combine I4 and I3
               *             *
               ***************

361 HC          HYDROGRAPH COMBINATION
                     ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                  ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

               ***************
               *             *
362 KK         *    R_I3_O   *      Route hydrograph through I2 overland
               *             *
               ***************

            HYDROGRAPH ROUTING DATA

363 RK          KINEMATIC WAVE STREAM ROUTING
                        L        3300.  CHANNEL LENGTH
                        S        .0140  SLOPE
                        N         .040  CHANNEL ROUGHNESS COEFFICIENT
                       CA          .00  CONTRIBUTING AREA
                    SHAPE         TRAP  CHANNEL SHAPE
                       WD        10.00  BOTTOM WIDTH OR DIAMETER
                        Z         5.00  SIDE SLOPE
                   NDXMIN            2  MINIMUM NUMBER OF DX INTERVALS

                                                  ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

               ***************
               *             *
364 KK         *       I2    *      Subbasin
               *             *
               ***************

            SUBBASIN RUNOFF DATA

365 BA          SUBBASIN CHARACTERISTICS
                    TAREA          .97  SUBBASIN AREA

366 LG          GREEN AND AMPT LOSS RATE
                     STRTL          .64  STARTING LOSS
                       DTH          .57  MOISTURE DEFICIT
                      PSIF         2.12  WETTING FRONT SUCTION
                     XKSAT          .08  HYDRAULIC CONDUCTIVITY
                     RTIMP         3.00  PERCENT IMPERVIOUS AREA

367 US          SNYDER UNITGRAPH
                        TP          .54  LAG
                        CP          .32  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=   .54 HR,       R=  1.32 HR
                                    SNYDER  TP=   .54 HR,      CP=   .33
```

UNIT HYDROGRAPH
88 END-OF-PERIOD ORDINATES

20.	73.	151.	238.	315.	367.	381.	366.	343.	322.
303.	284.	267.	251.	235.	221.	207.	195.	183.	172.
161.	151.	142.	133.	125.	118.	110.	104.	97.	91.
86.	81.	76.	71.	67.	63.	59.	55.	52.	49.
46.	43.	40.	38.	36.	33.	31.	29.	28.	26.
24.	23.	21.	20.	19.	18.	17.	16.	15.	14.
13.	12.	11.	11.	10.	9.	9.	8.	8.	7.
7.	6.	6.	6.	5.	5.	5.	4.	4.	4.
4.	3.	3.	3.	3.	3.	3.	2.		

*** ***

368 KK C_I2 Combine I3 and I2

369 HC HYDROGRAPH COMBINATION
ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

***

*** ***

370 KK R_I2

Route Hydrograph Through Existing Dam

HYDROGRAPH ROUTING DATA

372 RS STORAGE ROUTING
NSTPS 1 NUMBER OF SUBREACHES
ITYP STOR TYPE OF INITIAL CONDITION
RSVRIC .00 INITIAL CONDITION
X .00 WORKING R AND D COEFFICIENT

373 SV STORAGE	.0	3.1	6.7	10.9	15.9	21.8	28.6	36.4	45.2	55.1
	66.1	78.2	91.5	106.1	122.0	139.2	176.2	236.0	257.3	280.1
375 SQ DISCHARGE	0.	0.	13.	18.	23.	26.	29.	32.	35.	37.
	39.	41.	43.	45.	47.	49.	52.	229.	235.	240.
377 SE ELEVATION	4890.00	4892.00	4894.00	4896.00	4898.00	4900.00	4902.00	4904.00	4906.00	4908.00
	4910.00	4912.00	4914.00	4916.00	4918.00	4920.00	4924.00	4930.00	4932.00	4934.00

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379 KK I1 Subbasin

SUBBASIN RUNOFF DATA

380 BA SUBBASIN CHARACTERISTICS
TAREA .76 SUBBASIN AREA

381 LG GREEN AND AMPT LOSS RATE
STRTL .81 STARTING LOSS
DTH .69 MOISTURE DEFICIT
PSIF 1.65 WETTING FRONT SUCTION
XKSAT .14 HYDRAULIC CONDUCTIVITY
RTIMP 3.00 PERCENT IMPERVIOUS AREA

382 US SNYDER UNITGRAPH
TP .70 LAG
CP .31 PEAKING COEFFICIENT

SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

***

UNIT HYDROGRAPH PARAMETERS
CLARK TC= .70 HR, R= 1.80 HR
SNYDER TP= .69 HR, CP= .31

UNIT HYDROGRAPH
119 END-OF-PERIOD ORDINATES

8.	29.	60.	97.	137.	173.	200.	218.	222.	214.
204.	195.	186.	178.	169.	162.	154.	147.	141.	134.
128.	122.	117.	112.	107.	102.	97.	93.	89.	84.
81.	77.	74.	70.	67.	64.	61.	58.	56.	53.
51.	48.	46.	44.	42.	40.	38.	37.	35.	33.
32.	30.	29.	28.	26.	25.	24.	23.	22.	21.
20.	19.	18.	17.	17.	16.	15.	14.	14.	13.
13.	12.	11.	11.	10.	10.	10.	9.	9.	8.
8.	8.	7.	7.	7.	6.	6.	6.	5.	5.
5.	5.	5.	4.	4.	4.	4.	4.	3.	3.
3.	3.	3.	3.	3.	2.	2.	2.	2.	2.
2.	2.	2.	2.	2.	2.	1.	1.	1.	

*** ***

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          ***************
          *             *
83 KK     *     C_I1    *     Combine I2 and I1
          *             *
          ***************

384 HC        HYDROGRAPH COMBINATION
                   ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                  ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
385 KK    *      I7     *     Subbasin
          *             *
          ***************

            SUBBASIN RUNOFF DATA

386 BA        SUBBASIN CHARACTERISTICS
                   TAREA       1.03  SUBBASIN AREA

387 LG        GREEN AND AMPT LOSS RATE
                   STRTL        .45  STARTING LOSS
                     DTH        .43  MOISTURE DEFICIT
                    PSIF       1.59  WETTING FRONT SUCTION
                   XKSAT        .06  HYDRAULIC CONDUCTIVITY
                   RTIMP       2.00  PERCENT IMPERVIOUS AREA

388 US        SNYDER UNITGRAPH
                     TP         .82  LAG
                     CP         .34  PEAKING COEFFICIENT

              SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=   .82 HR,       R=  1.95 HR
                                   SNYDER   TP=   .82 HR,      CP=   .33

                                          UNIT HYDROGRAPH
                                    130 END-OF-PERIOD ORDINATES
      8.      29.      59.      96.     137.     179.     216.     246.     266.     274.
    269.     257.     247.     236.     226.     217.     208.     199.     191.     183.
    175.     168.     161.     154.     148.     142.     136.     130.     125.     119.
    114.     110.     105.     101.      97.      92.      89.      85.      81.      78.
     75.      72.      69.      66.      63.      60.      58.      55.      53.      51.
     49.      47.      45.      43.      41.      39.      38.      36.      35.      33.
     32.      31.      29.      28.      27.      26.      25.      24.      23.      22.
     21.      20.      19.      18.      18.      17.      16.      15.      15.      14.
     14.      13.      12.      12.      11.      11.      11.      10.      10.       9.
      9.       8.       8.       8.       7.       7.       7.       7.       6.       6.
      6.       6.       5.       5.       5.       5.       4.       4.       4.       4.
      4.       4.       3.       3.       3.       3.       3.       3.       3.       3.
      2.       2.       2.       2.       2.       2.       2.       2.       2.       2.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
389 KK    *     R_I7    *
          *             *
          ***************
                        Route Hydrograph Through Existing Dam

            HYDROGRAPH ROUTING DATA

391 RS        STORAGE ROUTING
                   NSTPS          1  NUMBER OF SUBREACHES
                    ITYP       STOR  TYPE OF INITIAL CONDITION
                   RSVRIC        .00  INITIAL CONDITION
                       X         .00 WORKING R AND D COEFFICIENT

392 SV        STORAGE          .0       .3       .6      1.0      1.5      2.1      2.8      3.6      4.6      5.6

393 SQ        DISCHARGE        0.       0.       0.       0.       0.       0.       0.      62.     175.     322.

394 SE        ELEVATION    4820.00  4821.00  4822.00  4823.00  4824.00  4825.00  4826.00  4827.00  4828.00  4829.00

                                                                  ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
395 KK    *      I6     *     Subbasin
          *             *
          ***************

            SUBBASIN RUNOFF DATA

396 BA        SUBBASIN CHARACTERISTICS
                   TAREA        .45  SUBBASIN AREA

397 LG        GREEN AND AMPT LOSS RATE
                   STRTL        .75  STARTING LOSS
                     DTH        .64  MOISTURE DEFICII
                    PSIF       1.83  WETTING FRONT SUCTION
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```
                    XKSAT          .11  HYDRAULIC CONDUCTIVITY
                    RTIMP         4.00  PERCENT IMPERVIOUS AREA

 398 US          SNYDER UNITGRAPH
                      TP          .19  LAG
                      CP          .28  PEAKING COEFFICIENT

                 SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                  ***

                                              UNIT HYDROGRAPH PARAMETERS
                                        CLARK   TC=    .15 HR,       R=    .56 HR
                                       SNYDER   TP=    .19 HR,      CP=    .29

                                              UNIT HYDROGRAPH
                                          37 END-OF-PERIOD ORDINATES
              143.      365.      413.      356.      307.      264.      228.      196.      169.      146.
              126.      108.       93.       80.       69.       60.       51.       44.       38.       33.
               28.       24.       21.       18.       16.       13.       12.       10.        9.        7.
                6.        6.        5.        4.        4.        3.        3.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              ***************
              *             *
 399 KK       *      C_I6   *      Combine I7 and I6
              *             *
              ***************

 400 HC          HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                  ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              ***************
              *             *
 401 KK       *       I8    *      Subbasin
              *             *
              ***************

                 SUBBASIN RUNOFF DATA

 402 BA          SUBBASIN CHARACTERISTICS
                     TAREA          .41  SUBBASIN AREA

 403 LG          GREEN AND AMPT LOSS RATE
                     STRTL          .65  STARTING LOSS
                       DTH          .59  MOISTURE DEFICIT
                      PSIF         2.16  WETTING FRONT SUCTION
                     XKSAT          .08  HYDRAULIC CONDUCTIVITY
                     RTIMP         3.00  PERCENT IMPERVIOUS AREA

 404 US          SNYDER UNITGRAPH
                      TP          .24  LAG
                      CP          .28  PEAKING COEFFICIENT

                 SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                  ***

                                              UNIT HYDROGRAPH PARAMETERS
                                        CLARK   TC=    .23 HR,       R=    .69 HR
                                       SNYDER   TP=    .24 HR,      CP=    .28

                                              UNIT HYDROGRAPH
                                          46 END-OF-PERIOD ORDINATES
               58.      201.      303.      303.      269.      238.      211.      186.      165.      146.
              130.      115.      102.       90.       80.       71.       62.       55.       49.       43.
               38.       34.       30.       27.       24.       21.       19.       16.       15.       13.
               11.       10.        9.        8.        7.        6.        5.        5.        4.        4.
                3.        3.        3.        2.        2.        2.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              ***************
              *             *
 405 KK       *       I9    *      Subbasin
              *             *
              ***************

                 SUBBASIN RUNOFF DATA

 406 BA          SUBBASIN CHARACTERISTICS
                     TAREA          .68  SUBBASIN AREA

 407 LG          GREEN AND AMPT LOSS RATE
                     STRTL          .52  STARTING LOSS
                       DTH          .50  MOISTURE DEFICIT
                      PSIF         1.86  WETTING FRONT SUCTION
                     XKSAT          .07  HYDRAULIC CONDUCTIVITY
                     RTIMP         2.00  PERCENT IMPERVIOUS AREA

 408 US          SNYDER UNITGRAPH
                      TP          .51  LAG
                      CP          .31  PEAKING COEFFICIENT

                 SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                  ***

                                              UNIT HYDROGRAPH PARAMETERS
                                        CLARK   TC=    .52 HR,       R=   1.32 HR
```

SNYDER TP= .51 HR, CP= .31

UNIT HYDROGRAPH
88 END-OF-PERIOD ORDINATES

15.	55.	113.	177.	232.	265.	268.	254.	238.	224.
210.	197.	185.	174.	163.	153.	144.	135.	127.	119.
112.	105.	98.	92.	87.	81.	76.	72.	67.	63.
59.	56.	52.	49.	46.	43.	41.	38.	36.	34.
32.	30.	28.	26.	25.	23.	22.	20.	19.	18.
17.	16.	15.	14.	13.	12.	12.	11.	10.	10.
9.	8.	8.	7.	7.	7.	6.	6.	5.	5.
5.	4.	4.	4.	4.	3.	3.	3.	3.	3.
3.	2.	2.	2.	2.	2.	2.	2.		

1

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	L11b	120.	13.08	52.	15.	15.	7.48		
+	ROUTED TO	RL11bD	119.	13.42	52.	15.	14.	7.48		
+	HYDROGRAPH AT	L11aU	15.	12.58	5.	2.	1.	1.01		
+	2 COMBINED AT	C_11aU	128.	13.42	56.	16.	16.	8.49		
+	DIVERSIDN TO	D-Pd	101.	13.42	32.	8.	8.	8.49		
+	HYDROGRAPH AT	D-LPd	27.	13.42	24.	8.	8.	8.49		
+	HYDROGRAPH AT	SRD-Pd	101.	13.42	32.	8.	8.	8.49		
+	2 COMBINED AT	C_11aD	128.	13.42	56.	16.	16.	8.49		
+	HYDROGRAPH AT	L11aD	0.	12.08	0.	0.	0.	.02		
+	2 COMBINED AT	C_L11	128.	13.42	56.	16.	16.	8.50		
	ROUTED TO	R_L10	127.	13.50	56.	16.	16.	8.50		
+	HYDROGRAPH AT	L10	47.	12.50	15.	4.	4.	.98		
+	2 COMBINED AT	C_L10	152.	13.42	70.	20.	20.	9.49		
+	ROUTED TO	R_L9M	149.	13.58	70.	20.	19.	9.49		
+	HYDROGRAPH AT	L9.1	134.	13.00	64.	19.	18.	2.72		
+	ROUTED TO	R_L9T	133.	13.08	64.	19.	18.	2.72		
+	HYDROGRAPH AT	L9	3.	12.17	1.	0.	0.	.21		
+	2 COMBINED AT	C_L9T	135.	13.08	65.	19.	18.	2.93		
+	2 COMBINED AT	C_L9M	265.	13.50	133.	39.	37.	12.41		
+	HYDROGRAPH AT	DB21	32.	12.08	4.	1.	1.	.15		
+	ROUTED TO	PD A	5.	13.00	4.	1.	1.	.15		
+	ROUTED TO	R21a	5.	13.42	4.	1.	1.	.15		
+	HYDROGRAPH AT	DB21a	80.	12.08	9.	2.	2.	.34		
+	HYDROGRAPH AT	R17	34.	12.08	4.	1.	1.	.16		
+	ROUTED TO	R_17_	34.	12.17	4.	1.	1.	.16		
+	3 COMBINED AT	C21a	111.	12.08	16.	4.	4.	.65		
+	ROUTED TO	WF_PD1	18.	13.17	15.	4.	4.	.65		
	ROUTED TO	RPD1	18.	13.17	15.	4.	4.	.65		
+	HYDROGRAPH AT	DB23b	51.	11.92	5.	2.	2.	.06		
+	2 COMBINED AT	C23	56.	12.00	19.	6.	6.	.71		
+	ROUTED TO	R23b	55.	12.00	19.	6.	6.	.71		

+	HYDROGRAPH AT	DB23c	67.	12.00	7.	2.	2.	.08
+	ROUTED TO	R23c	66.	12.00	7.	2.	2.	.08
+	HYDROGRAPH AT	DB23d	12.	12.00	2.	1.	1.	.02
+	ROUTED TO	R23d	11.	12.00	2.	1.	1.	.02
+	3 COMBINED AT	C23	132.	12.00	26.	9.	9.	.81
+	ROUTED TO	WF_PD2	69.	12.17	26.	9.	9.	.81
+	ROUTED TO	RWF_P2	69.	12.17	26.	9.	9.	.81
+	HYDROGRAPH AT	DB23e	62.	11.92	6.	2.	2.	.07
+	2 COMBINED AT	C23e	119.	12.00	32.	11.	11.	.88
+	ROUTED TO	R23e	116.	12.00	32.	11.	11.	.88
+	HYDROGRAPH AT	DB23a	1.	12.08	0.	0.	0.	.02
+	2 COMBINED AT	C23a	117.	12.00	32.	11.	11.	.90
+	ROUTED TO	R_PD U	13.	17.92	13.	9.	8.	.90
+	DIVERSION TO	U_Pipe	13.	17.92	13.	9.	8.	.90
+	HYDROGRAPH AT	D_Pd U	0.	.00	0.	0.	0.	.90
+	HYDROGRAPH AT	DB22	39.	12.08	6.	1.	1.	.22
+	ROUTED TO	R24_P	39.	12.17	6.	1.	1.	.22
+	ROUTED TO	R24_O	37.	12.25	6.	1.	1.	.22
+	HYDROGRAPH AT	DB24a	4.	12.08	1.	0.	0.	.02
+	DIVERSION TO	B4aDIV	0.	12.00	0.	0.	0.	.02
+	HYDROGRAPH AT	B4aDIV	4.	12.08	1.	0.	0.	.02
+	ROUTED TO	R24_P	4.	12.08	1.	0.	0.	.02
+	ROUTED TO	R24_O	4.	12.17	1.	0.	0.	.02
+	HYDROGRAPH AT	DB24	159.	12.08	18.	6.	6.	.23
+	3 COMBINED AT	C24	189.	12.08	25.	8.	8.	.48
+	HYDROGRAPH AT	DR24a	0.	12.00	0.	0.	0.	.02
+	ROUTED TO	R25_O	0.	12.83	0.	0.	0.	.02
+	ROUTED TO	R25_P	0.	13.00	0.	0.	0.	.02
+	HYDROGRAPH AT	DB25	5.	12.08	1.	0.	0.	.02
+	2 COMBINED AT	C25	5.	12.08	1.	0.	0.	.02
+	DIVERSION TO	B5DIV	0.	.00	0.	0.	0.	.02
+	HYDROGRAPH AT	B5DIV	5.	12.08	1.	0.	0.	.02
+	HYDROGRAPH AT	DB25a	1.	12.08	0.	0.	0.	.03
+	3 COMBINED AT	C_6	194.	12.08	26.	8.	8.	.53
+	2 COMBINED AT	C_7	194.	12.08	26.	8.	8.	1.43
+	ROUTED TO	R_PD L	9.	14.00	9.	6.	6.	1.43
+	HYDROGRAPH AT	PR_U	13.	17.92	13.	9.	8.	.90
+	2 COMBINED AT	C_Out	21.	15.00	21.	15.	14.	1.43

	HYDROGRAPH AT	R16	99.	12.00	10.	3.	3.	.16
+	ROUTED TO	R_14a	92.	12.17	10.	3.	3.	.16
+	HYDROGRAPH AT	R14A	29.	12.00	3.	1.	1.	.04
+	2 COMBINED AT	C_14A	107.	12.17	13.	4.	4.	.19
+	2 COMBINED AT	C_14A	126.	12.17	33.	19.	18.	1.62
+	HYDROGRAPH AT	R15	53.	12.08	8.	3.	3.	.30
+	ROUTED TO	R_R13	51.	12.17	8.	3.	3.	.30
+	HYDROGRAPH AT	R13	5.	12.08	1.	0.	0.	.04
+	2 COMBINED AT	C_R13	56.	12.17	9.	3.	3.	.34
+	HYDROGRAPH AT	Extra5	0.	.00	0.	0.	0.	.02
+	HYDROGRAPH AT	R14	0.	12.25	0.	0.	0.	.06
+	2 COMBINED AT	C_R5	0.	12.25	0.	0.	0.	.06
+	ROUTED TO	R_5	0.	15.42	0.	0.	0.	.06
+	HYDROGRAPH AT	R5	3.	12.08	1.	0.	0.	.08
+	HYDROGRAPH AT	C3	31.	12.17	5.	1.	1.	.56
+	HYDROGRAPH AT	I5	62.	12.33	14.	4.	4.	.80
+	ROUTEO TO	R_I5	0.	.00	0.	0.	0.	.80
	HYDROGRAPH AT	I4	9.	12.67	4.	1.	1.	1.21
+	2 COMBINED AT	C_I4	9.	12.67	4.	1.	1.	2.01
+	HYDROGRAPH AT	I3	96.	13.08	43.	12.	12.	3.21
+	2 COMBINED AT	C_I3	103.	13.08	47.	13.	13.	5.22
+	ROUTEO TO	R_I3_O	103.	13.17	47.	13.	13.	5.22
+	HYDROGRAPH AT	I2	9.	12.50	3.	1.	1.	.97
+	2 COMBINED AT	C_I2	109.	13.17	50.	15.	14.	6.19
+	ROUTED TO	R_I2	23.	16.75	23.	10.	10.	6.19
+	HYDROGRAPH AT	I1	4.	12.58	2.	1.	1.	.76
+	2 COMBINED AT	C_I1	24.	16.08	24.	11.	11.	6.95
+	HYDROGRAPH AT	I7	51.	12.67	20.	6.	5.	1.03
+	ROUTED TO	R_I7	39.	13.33	15.	4.	4.	1.03
+	HYDROGRAPH AT	I6	7.	12.08	2.	1.	1.	.45
+	2 COMBINED AT	C_I6	41.	13.25	16.	5.	4.	1.48
+	HYDROGRAPH AT	I8	5.	12.17	1.	0.	0.	.41
+	HYDROGRAPH AT	I9	30.	12.42	8.	2.	2.	.68

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SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	INTERPOLATED TO COMPUTATION INTERVAL DT	PEAK	TIME TO PEAK	VOLUME
		(MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	(MIN)	(IN)
FOR STORM = 1 STORM AREA (SQ MI) = .01									
RL11bD	MANE	5.00	142.22	807.41	.09	5.00	142.05	805.00	.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3489E+02 EXCESS= .0000E+00 OUTFLOW= .3469E+02 BASIN STORAGE= .1699E+00 PERCENT ERROR= .1

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          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
            RL11bD  MANE          5.00    117.63    807.38       .07      5.00    117.10    805.00         .07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2946E+02 EXCESS= .0000E+00 OUTFLOW= .2926E+02 BASIN STORAGE= .1686E+00 PERCENT ERROR=    .1

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
            RL11bD  MANE          5.00    105.86    808.27       .07      5.00    105.37    810.00         .07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2689E+02 EXCESS= .0000E+00 OUTFLOW= .2669E+02 BASIN STORAGE= .1669E+00 PERCENT ERROR=    .1

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
            RL11bD  MANE          5.00     94.99    807.67       .06      5.00     94.65    810.00         .06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2449E+02 EXCESS= .0000E+00 OUTFLOW= .2430E+02 BASIN STORAGE= .1655E+00 PERCENT ERROR=    .1

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
            RL11bD  MANE          4.64     88.13    810.26       .06      5.00     88.08    810.00         .06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2299E+02 EXCESS= .0000E+00 OUTFLOW= .2278E+02 BASIN STORAGE= .1777E+00 PERCENT ERROR=    .1

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
              R_L9T  MANE          2.80    138.67    784.83       .26      5.00    138.65    785.00         .26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3839E+02 EXCESS= .0000E+00 OUTFLOW= .3831E+02 BASIN STORAGE= .6257E-01 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
              R_L9T  MANE          2.86    131.77    786.74       .25      5.00    131.54    785.00         .25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3656E+02 EXCESS= .0000E+00 OUTFLOW= .3650E+02 BASIN STORAGE= .5946E-01 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
              R_L9T  MANE          2.76    128.14    787.21       .25      5.00    128.12    785.00         .24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3563E+02 EXCESS= .0000E+00 OUTFLOW= .3556E+02 BASIN STORAGE= .5893E-01 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
              R_L9T  MANE          2.92    124.81    786.00       .24      5.00    124.52    785.00         .24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3467E+02 EXCESS= .0000E+00 OUTFLOW= .3461E+02 BASIN STORAGE= .5802E-01 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
              R_L9T  MANE          2.86    122.32    786.21       .23      5.00    122.01    785.00         .23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3402E+02 EXCESS= .0000E+00 OUTFLOW= .3395E+02 BASIN STORAGE= .5852E-01 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
                R21a  MANE          4.84      5.55    803.96       .25      5.00      5.55    805.00         .25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2004E+01 EXCESS= .0000E+00 OUTFLOW= .2001E+01 BASIN STORAGE= .5410E-02 PERCENT ERROR=   -.1

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
                R21a  MANE          4.92      5.36    806.27       .23      5.00      5.36    805.00         .23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1902E+01 EXCESS= .0000E+00 OUTFLOW= .1899E+01 BASIN STORAGE= .5210E-02 PERCENT ERROR=   -.1

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
                R21a  MANE          4.93      5.27    802.37       .23      5.00      5.27    805.00         .23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1849E+01 EXCESS= .0000E+00 OUTFLOW= .1851E+01 BASIN STORAGE= .5691E-02 PERCENT ERROR=   -.4

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
                R21a  MANE          4.96      5.17    803.03       .22      5.00      5.17    805.00         .22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1799E+01 EXCESS= .0000E+00 OUTFLOW= .1795E+01 BASIN STORAGE= .5708E-02 PERCENT ERROR=   -.1

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
                R21a  MANE          4.97      5.10    803.43       .22      5.00      5.10    805.00         .22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1761E+01 EXCESS= .0000E+00 OUTFLOW= .1758E+01 BASIN STORAGE= .5095E-02 PERCENT ERROR=   -.1

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
              R_17_  MANE          2.49     34.53    728.43       .25      5.00     34.17    730.00         .25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2139E+01 EXCESS= .0000E+00 OUTFLOW= .2137E+01 BASIN STORAGE= .9941E-03 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
              R_17_  MANE          2.47     33.08    729.29       .23      5.00     32.65    730.00         .24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2031E+01 EXCESS= .0000E+00 OUTFLOW= .2032E+01 BASIN STORAGE= .7968E-03 PERCENT ERROR=   -.1
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          FOR STORM = 3  STORM AREA (SQ MI) =       24.00
             R_17_  MANE          2.47     32.42    729.86        .23       5.00      32.30     730.00          .23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1976E+01 EXCESS= .0000E+00 OUTFLOW= .1977E+01 BASIN STORAGE= .9220E-03 PERCENT ERROR=    -.1

          FOR STORM = 4  STORM AREA (SQ MI) =       36.50
             R_17_  MANE          2.48     31.06    730.51        .22       5.00      31.03     730.00          .22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1920E+01 EXCESS= .0000E+00 OUTFLOW= .1917E+01 BASIN STORAGE= .7367E-03 PERCENT ERROR=     .1

          FOR STORM = 5  STORM AREA (SQ MI) =       50.00
             R_17_  MANE          2.55     30.63    729.35        .22       5.00      30.28     730.00          .22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1882E+01 EXCESS= .0000E+00 OUTFLOW= .1883E+01 BASIN STORAGE= .8732E-03 PERCENT ERROR=    -.1

          FOR STORM = 1  STORM AREA (SQ MI) =         .01
             RPD1  MANE          1.02     18.52    791.96        .25       5.00      18.51     790.00          .25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8609E+01 EXCESS= .0000E+00 OUTFLOW= .8608E+01 BASIN STORAGE= .8137E-03 PERCENT ERROR=     .0

          FOR STORM = 2  STORM AREA (SQ MI) =       14.00
             RPD1  MANE          1.02     17.94    791.49        .23       5.00      17.94     790.00          .23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8182E+01 EXCESS= .0000E+00 OUTFLOW= .8181E+01 BASIN STORAGE= .7862E-03 PERCENT ERROR=     .0

          FOR STORM = 3  STORM AREA (SQ MI) =       24.00
             RPD1  MANE          1.02     17.67    791.57        .23       5.00      17.67     790.00          .23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7971E+01 EXCESS= .0000E+00 OUTFLOW= .7971E+01 BASIN STORAGE= .7637E-03 PERCENT ERROR=     .0

          FOR STORM = 4  STORM AREA (SQ MI) =       36.50
             RPD1  MANE          1.03     17.33    792.02        .22       5.00      17.33     790.00          .22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7731E+01 EXCESS= .0000E+00 OUTFLOW= .7730E+01 BASIN STORAGE= .7558E-03 PERCENT ERROR=     .0

          FOR STORM = 5  STORM AREA (SQ MI) =       50.00
             RPD1  MANE          1.03     17.13    791.37        .22       5.00      17.13     790.00          .22

NTINUITY SUMMARY (AC-FT) - INFLOW= .7578E+01 EXCESS= .0000E+00 OUTFLOW= .7578E+01 BASIN STORAGE= .7498E-03 PERCENT ERROR=     .0

          FOR STORM = 1  STORM AREA (SQ MI) =         .01
             R23b  MANE           .54     56.12    720.22        .32       5.00      56.03     720.00          .32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1226E+02 EXCESS= .0000E+00 OUTFLOW= .1225E+02 BASIN STORAGE= .4774E-03 PERCENT ERROR=     .0

          FOR STORM = 2  STORM AREA (SQ MI) =       14.00
             R23b  MANE           .56     54.70    720.58        .31       5.00      54.65     720.00          .31

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1175E+02 EXCESS= .0000E+00 OUTFLOW= .1175E+02 BASIN STORAGE= .4573E-03 PERCENT ERROR=     .0

          FOR STORM = 3  STORM AREA (SQ MI) =       24.00
             R23b  MANE           .55     53.92    720.15        .30       5.00      53.86     720.00          .30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1151E+02 EXCESS= .0000E+00 OUTFLOW= .1150E+02 BASIN STORAGE= .4482E-03 PERCENT ERROR=     .0

          FOR STORM = 4  STORM AREA (SQ MI) =       36.50
             R23b  MANE           .40     53.55    720.74        .30       5.00      53.20     720.00          .30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1123E+02 EXCESS= .0000E+00 OUTFLOW= .1123E+02 BASIN STORAGE= .4425E-03 PERCENT ERROR=     .0

          FOR STORM = 5  STORM AREA (SQ MI) =       50.00
             R23b  MANE           .40     53.00    720.67        .29       5.00      52.71     720.00          .29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1105E+02 EXCESS= .0000E+00 OUTFLOW= .1105E+02 BASIN STORAGE= .4343E-03 PERCENT ERROR=     .0

          FOR STORM = 1  STORM AREA (SQ MI) =         .01
             R23c  MANE           .93     66.51    721.25       1.17       5.00      66.06     720.00         1.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4885E+01 EXCESS= .0000E+00 OUTFLOW= .4890E+01 BASIN STORAGE= .9375E-04 PERCENT ERROR=    -.1

          FOR STORM = 2  STORM AREA (SQ MI) =       14.00
             R23c  MANE           .89     65.32    721.27       1.15       5.00      64.73     720.00         1.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4785E+01 EXCESS= .0000E+00 OUTFLOW= .4791E+01 BASIN STORAGE= .1167E-03 PERCENT ERROR=    -.1

          FOR STORM = 3  STORM AREA (SQ MI) =       24.00
             R23c  MANE           .90     64.64    721.15       1.14       5.00      64.07     720.00         1.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4736E+01 EXCESS= .0000E+00 OUTFLOW= .4741E+01 BASIN STORAGE= .1316E-03 PERCENT ERROR=    -.1

          FOR STORM = 4  STORM AREA (SQ MI) =       36.50
             R23c  MANE           .94     63.79    721.31       1.12       5.00      63.38     720.00         1.12
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CONTINUITY SUMMARY (AC-FT) - INFLOW= .4686E+01 EXCESS= .0000E+00 OUTFLOW= .4690E+01 BASIN STORAGE= .1070E-03 PERCENT ERROR= -.1

FOR STORM = 5 STORM AREA (SQ MI) = 50.00

R23c	MANE	.89	63.55	721.56	1.12	5.00	62.95	720.00	1.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4653E+01 EXCESS= .0000E+00 OUTFLOW= .4658E+01 BASIN STORAGE= .1365E-03 PERCENT ERROR= -.1

FOR STORM = 1 STORM AREA (SQ MI) = .01

R23d	MANE	1.08	11.84	721.68	1.19	5.00	11.28	720.00	1.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1094E+01 EXCESS= .0000E+00 OUTFLOW= .1095E+01 BASIN STORAGE= .2405E-04 PERCENT ERROR= -.1

FOR STORM = 2 STORM AREA (SQ MI) = 14.00

R23d	MANE	1.18	11.56	721.75	1.16	5.00	11.04	720.00	1.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1072E+01 EXCESS= .0000E+00 OUTFLOW= .1072E+01 BASIN STORAGE= .1903E-04 PERCENT ERROR= .0

FOR STORM = 3 STORM AREA (SQ MI) = 24.00

R23d	MANE	1.03	11.55	721.77	1.15	5.00	10.93	720.00	1.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1061E+01 EXCESS= .0000E+00 OUTFLOW= .1062E+01 BASIN STORAGE= .2347E-04 PERCENT ERROR= -.1

FOR STORM = 4 STORM AREA (SQ MI) = 36.50

R23d	MANE	1.08	11.50	722.16	1.14	5.00	10.82	720.00	1.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1050E+01 EXCESS= .0000E+00 OUTFLOW= .1050E+01 BASIN STORAGE= .1941E-04 PERCENT ERROR= -.1

FOR STORM = 5 STORM AREA (SQ MI) = 50.00

R23d	MANE	1.04	11.38	721.85	1.13	5.00	10.74	720.00	1.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1043E+01 EXCESS= .0000E+00 OUTFLOW= .1043E+01 BASIN STORAGE= .1945E-04 PERCENT ERROR= -.1

FOR STORM = 1 STORM AREA (SQ MI) = .01

RWF_P2	MANE	.47	69.06	730.87	.42	5.00	68.95	730.00	.42

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1824E+02 EXCESS= .0000E+00 OUTFLOW= .1824E+02 BASIN STORAGE= .6065E-03 PERCENT ERROR= .0

FOR STORM = 2 STORM AREA (SQ MI) = 14.00

RWF_P2	MANE	.48	68.48	730.84	.41	5.00	68.33	730.00	.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1762E+02 EXCESS= .0000E+00 OUTFLOW= .1762E+02 BASIN STORAGE= .5758E-03 PERCENT ERROR= .0

FOR STORM = 3 STORM AREA (SQ MI) = 24.00

RWF_P2	MANE	.48	68.16	730.69	.40	5.00	68.00	730.00	.40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1731E+02 EXCESS= .0000E+00 OUTFLOW= .1731E+02 BASIN STORAGE= .5730E-03 PERCENT ERROR= .0

FOR STORM = 4 STORM AREA (SQ MI) = 36.50

RWF_P2	MANE	.49	67.78	730.86	.39	5.00	67.58	730.00	.39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1697E+02 EXCESS= .0000E+00 OUTFLOW= .1697E+02 BASIN STORAGE= .5574E-03 PERCENT ERROR= .0

FOR STORM = 5 STORM AREA (SQ MI) = 50.00

RWF_P2	MANE	.49	67.39	730.91	.39	5.00	67.19	730.00	.39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1675E+02 EXCESS= .0000E+00 OUTFLOW= .1675E+02 BASIN STORAGE= .5547E-03 PERCENT ERROR= .0

FOR STORM = 1 STORM AREA (SQ MI) = .01

R23e	MANE	.76	118.58	720.71	.48	5.00	117.34	720.00	.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2274E+02 EXCESS= .0000E+00 OUTFLOW= .2274E+02 BASIN STORAGE= .1000E-02 PERCENT ERROR= .0

FOR STORM = 2 STORM AREA (SQ MI) = 14.00

R23e	MANE	.76	116.69	720.78	.47	5.00	115.40	720.00	.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2203E+02 EXCESS= .0000E+00 OUTFLOW= .2203E+02 BASIN STORAGE= .9521E-03 PERCENT ERROR= .0

FOR STORM = 3 STORM AREA (SQ MI) = 24.00

R23e	MANE	.78	115.62	720.98	.46	5.00	114.39	720.00	.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2168E+02 EXCESS= .0000E+00 OUTFLOW= .2168E+02 BASIN STORAGE= .9288E-03 PERCENT ERROR= .0

FOR STORM = 4 STORM AREA (SQ MI) = 36.50

R23e	MANE	.78	114.62	721.04	.45	5.00	113.41	720.00	.45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2129E+02 EXCESS= .0000E+00 OUTFLOW= .2129E+02 BASIN STORAGE= .9109E-03 PERCENT ERROR= .0

FOR STORM = 5 STORM AREA (SQ MI) = 50.00

R23e	MANE	.77	113.95	720.70	.45	5.00	112.81	720.00	.45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2104E+02 EXCESS= .0000E+00 OUTFLOW= .2104E+02 BASIN STORAGE= .9134E-03 PERCENT ERROR= .0

FOR STORM = 1 STORM AREA (SQ MI) = .01

R24_P	MANE	1.33	39.92	728.49	.25	5.00	39.35	730.00	.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2931E+01 EXCESS= .0000E+00 OUTFLOW= .2931E+01 BASIN STORAGE= .2082E-03 PERCENT ERROR= .0

FOR STORM = 2 STORM AREA (SQ MI) = 14.00

R24_P	MANE	1.24	38.01	728.20	.23	5.00	37.38	730.00	.23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2784E+01 EXCESS= .0000E+00 OUTFLOW= .2786E+01 BASIN STORAGE= .2188E-03 PERCENT ERROR= -.1

FOR STORM = 3 STORM AREA (SQ MI) = 24.00

R24_P	MANE	1.40	37.05	727.96	.23	5.00	36.36	730.00	.23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2709E+01 EXCESS= .0000E+00 OUTFLOW= .2710E+01 BASIN STORAGE= .2184E-03 PERCENT ERROR= -.1

FOR STORM = 4 STORM AREA (SQ MI) = 36.50

R24_P	MANE	1.27	36.00	727.92	.22	5.00	35.33	730.00	.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2632E+01 EXCESS= .0000E+00 OUTFLOW= .2633E+01 BASIN STORAGE= .2050E-03 PERCENT ERROR= -.1

FOR STORM = 5 STORM AREA (SQ MI) = 50.00

R24_P	MANE	1.27	35.18	728.21	.22	5.00	34.63	730.00	.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2579E+01 EXCESS= .0000E+00 OUTFLOW= .2579E+01 BASIN STORAGE= .2096E-03 PERCENT ERROR= .0

FOR STORM = 1 STORM AREA (SQ MI) = .01

R24_O	MANE	1.76	39.17	733.52	.25	5.00	38.22	735.00	.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2926E+01 EXCESS= .0000E+00 OUTFLOW= .2923E+01 BASIN STORAGE= .6944E-03 PERCENT ERROR= .1

FOR STORM = 2 STORM AREA (SQ MI) = 14.00

R24_O	MANE	1.72	36.83	732.51	.23	5.00	36.34	735.00	.23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2786E+01 EXCESS= .0000E+00 OUTFLOW= .2786E+01 BASIN STORAGE= .7714E-03 PERCENT ERROR= .0

FOR STORM = 3 STORM AREA (SQ MI) = 24.00

R24_O	MANE	1.74	36.10	733.11	.23	5.00	35.38	735.00	.23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2710E+01 EXCESS= .0000E+00 OUTFLOW= .2708E+01 BASIN STORAGE= .7679E-03 PERCENT ERROR= .0

FOR STORM = 4 STORM AREA (SQ MI) = 36.50

R24_O	MANE	1.81	34.95	734.03	.22	5.00	34.40	735.00	.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2631E+01 EXCESS= .0000E+00 OUTFLOW= .2628E+01 BASIN STORAGE= .7173E-03 PERCENT ERROR= .1

FOR STORM = 5 STORM AREA (SQ MI) = 50.00

R24_O	MANE	1.80	34.11	734.30	.22	5.00	33.73	735.00	.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2577E+01 EXCESS= .0000E+00 OUTFLOW= .2574E+01 BASIN STORAGE= .7776E-03 PERCENT ERROR= .1

FOR STORM = 1 STORM AREA (SQ MI) = .01

R24_P	MANE	.65	4.11	726.06	.47	5.00	4.08	725.00	.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5289E+00 EXCESS= .0000E+00 OUTFLOW= .5288E+00 BASIN STORAGE= .5321E-04 PERCENT ERROR= .0

FOR STORM = 2 STORM AREA (SQ MI) = 14.00

R24_P	MANE	.65	3.86	725.97	.45	5.00	3.83	725.00	.45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5095E+00 EXCESS= .0000E+00 OUTFLOW= .5094E+00 BASIN STORAGE= .5320E-04 PERCENT ERROR= .0

FOR STORM = 3 STORM AREA (SQ MI) = 24.00

R24_P	MANE	.66	3.75	726.22	.44	5.00	3.72	725.00	.44

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5001E+00 EXCESS= .0000E+00 OUTFLOW= .5000E+00 BASIN STORAGE= .5307E-04 PERCENT ERROR= .0

FOR STORM = 4 STORM AREA (SQ MI) = 36.50

R24_P	MANE	.66	3.63	725.75	.43	5.00	3.60	725.00	.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4909E+00 EXCESS= .0000E+00 OUTFLOW= .4909E+00 BASIN STORAGE= .5303E-04 PERCENT ERROR= .0

FOR STORM = 5 STORM AREA (SQ MI) = 50.00

R24_P	MANE	.66	3.56	725.65	.43	5.00	3.53	725.00	.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4850E+00 EXCESS= .0000E+00 OUTFLOW= .4850E+00 BASIN STORAGE= .5213E-04 PERCENT ERROR= .0

FOR STORM = 1 STORM AREA (SQ MI) = .01

R24_O	MANE	2.95	3.97	729.66	.47	5.00	3.97	730.00	.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5290E+00 EXCESS= .0000E+00 OUTFLOW= .5283E+00 BASIN STORAGE= .7567E-03 PERCENT ERROR= .0

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 FOR STORM = 2  STORM AREA (SQ MI) =      14.00
   R24_O  MANE          3.12      3.80    731.58       .45      5.00      3.70    730.00       .45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5096E+00 EXCESS= .0000E+00 OUTFLOW= .5089E+00 BASIN STORAGE= .8318E-03 PERCENT ERROR=    .0

 FOR STORM = 3  STORM AREA (SQ MI) =      24.00
   R24_O  MANE          3.12      3.64    732.50       .44      5.00      3.58    730.00       .44

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5001E+00 EXCESS= .0000E+00 OUTFLOW= .4997E+00 BASIN STORAGE= .7061E-03 PERCENT ERROR=   -.1

 FOR STORM = 4  STORM AREA (SQ MI) =      36.50
   R24_O  MANE          3.04      3.53    730.20       .43      5.00      3.51    730.00       .43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4910E+00 EXCESS= .0000E+00 OUTFLOW= .4905E+00 BASIN STORAGE= .7013E-03 PERCENT ERROR=    .0

 FOR STORM = 5  STORM AREA (SQ MI) =      50.00
   R24_O  MANE          3.05      3.51    730.81       .43      5.00      3.44    730.00       .43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4851E+00 EXCESS= .0000E+00 OUTFLOW= .4845E+00 BASIN STORAGE= .6934E-03 PERCENT ERROR=    .0

 FOR STORM = 1  STORM AREA (SQ MI) =        .01
   R25_O  MANE          5.00       .00    768.09       .00      5.00       .00    770.00       .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3781E-03 EXCESS= .0000E+00 OUTFLOW= .3781E-03 BASIN STORAGE= .1219E-04 PERCENT ERROR=  -3.2

 FOR STORM = 2  STORM AREA (SQ MI) =      14.00
   R25_O  MANE          5.00       .00    770.30       .00      5.00       .00    770.00       .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3642E-03 EXCESS= .0000E+00 OUTFLOW= .3606E-03 BASIN STORAGE= .1168E-04 PERCENT ERROR=  -2.2

 FOR STORM = 3  STORM AREA (SQ MI) =      24.00
   R25_O  MANE          5.00       .00    772.19       .00      5.00       .00    770.00       .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3574E-03 EXCESS= .0000E+00 OUTFLOW= .3623E-03 BASIN STORAGE= .1206E-04 PERCENT ERROR=  -4.7

 FOR STORM = 4  STORM AREA (SQ MI) =      36.50
   R25_O  MANE          5.00       .00    773.45       .00      5.00       .00    770.00       .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3509E-03 EXCESS= .0000E+00 OUTFLOW= .3535E-03 BASIN STORAGE= .1197E-04 PERCENT ERROR=  -4.1

 FOR STORM = 5  STORM AREA (SQ MI) =      50.00
   R25_O  MANE          5.00       .00    770.70       .00      5.00       .00    775.00       .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3467E-03 EXCESS= .0000E+00 OUTFLOW= .3440E-03 BASIN STORAGE= .1179E-04 PERCENT ERROR=  -2.6

 FOR STORM = 1  STORM AREA (SQ MI) =        .01
   R25_P  MANE          4.59       .00    780.22       .00      5.00       .00    780.00       .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3780E-03 EXCESS= .0000E+00 OUTFLOW= .3773E-03 BASIN STORAGE= .1485E-05 PERCENT ERROR=   -.2

 FOR STORM = 2  STORM AREA (SQ MI) =      14.00
   R25_P  MANE          4.68       .00    782.76       .00      5.00       .00    785.00       .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3600E-03 EXCESS= .0000E+00 OUTFLOW= .3587E-03 BASIN STORAGE= .1463E-05 PERCENT ERROR=   -.1

 FOR STORM = 3  STORM AREA (SQ MI) =      24.00
   R25_P  MANE          4.66       .00    782.68       .00      5.00       .00    785.00       .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3621E-03 EXCESS= .0000E+00 OUTFLOW= .3621E-03 BASIN STORAGE= .1449E-05 PERCENT ERROR=   -.4

 FOR STORM = 4  STORM AREA (SQ MI) =      36.50
   R25_P  MANE          4.62       .00    779.28       .00      5.00       .00    780.00       .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3535E-03 EXCESS= .0000E+00 OUTFLOW= .3536E-03 BASIN STORAGE= .1442E-05 PERCENT ERROR=   -.5

 FOR STORM = 5  STORM AREA (SQ MI) =      50.00
   R25_P  MANE          4.68       .00    785.05       .00      5.00       .00    785.00       .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3437E-03 EXCESS= .0000E+00 OUTFLOW= .3445E-03 BASIN STORAGE= .1431E-05 PERCENT ERROR=   -.7

 FOR STORM = 1  STORM AREA (SQ MI) =        .01
   R_14a  MANE          4.15     95.58    726.89       .76      5.00     91.65    730.00       .75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6227E+01 EXCESS= .0000E+00 OUTFLOW= .6245E+01 BASIN STORAGE= .6992E-02 PERCENT ERROR=   -.4

 FOR STORM = 2  STORM AREA (SQ MI) =      14.00
   R_14a  MANE          4.13     97.75    728.13       .74      5.00     91.57    730.00       .74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6068E+01 EXCESS= .0000E+00 OUTFLOW= .6124E+01 BASIN STORAGE= .8590E-02 PERCENT ERROR=  -1.1

 FOR STORM = 3  STORM AREA (SQ MI) =      24.00
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          R_14a  MANE          4.22      89.65     726.44        .73        5.00       88.67     730.00          .73

NTINUITY SUMMARY (AC-FT) - INFLOW= .5989E+01 EXCESS= .0000E+00 OUTFLOW= .6007E+01 BASIN STORAGE= .1057E-01 PERCENT ERROR=   -.5

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
            R_14a  MANE          4.28      90.77     729.85        .72        5.00       90.22     730.00          .72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5910E+01 EXCESS= .0000E+00 OUTFLOW= .5953E+01 BASIN STORAGE= .6233E-02 PERCENT ERROR=   -.8

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
            R_14a  MANE          4.27      88.56     730.34        .71        5.00       88.35     730.00          .71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5857E+01 EXCESS= .0000E+00 OUTFLOW= .5888E+01 BASIN STORAGE= .9235E-02 PERCENT ERROR=   -.7

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
            R_5  MANE          5.00       .25     922.09        .02        5.00        .25     925.00          .02

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7534E-01 EXCESS= .0000E+00 OUTFLOW= .7124E-01 BASIN STORAGE= .9647E-02 PERCENT ERROR=  -7.4

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
            R_5  MANE          5.05       .24     925.24        .02        5.00        .24     925.00          .02

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7382E-01 EXCESS= .0000E+00 OUTFLOW= .7089E-01 BASIN STORAGE= .9355E-02 PERCENT ERROR=  -8.7

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
            R_5  MANE          5.16       .24     925.40        .02        5.00        .24     925.00          .02

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7306E-01 EXCESS= .0000E+00 OUTFLOW= .7007E-01 BASIN STORAGE= .9427E-02 PERCENT ERROR=  -8.8

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
            R_5  MANE          5.11       .24     924.34        .02        5.00        .24     925.00          .02

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7230E-01 EXCESS= .0000E+00 OUTFLOW= .6977E-01 BASIN STORAGE= .9381E-02 PERCENT ERROR=  -9.5

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
            R_5  MANE          5.07       .24     923.60        .02        5.00        .24     925.00          .02

ONTINUITY SUMMARY (AC-FT) - INFLOW= .7180E-01 EXCESS= .0000E+00 OUTFLOW= .6813E-01 BASIN STORAGE= .9349E-02 PERCENT ERROR=  -7.9

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
            R_I3_O  MANE          3.21      111.32     791.05        .10        5.00       111.29     790.00          .10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2881E+02 EXCESS= .0000E+00 OUTFLOW= .2876E+02 BASIN STORAGE= .3383E-01 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
            R_I3_O  MANE          3.32      101.44     790.79        .09        5.00       101.40     790.00          .09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2645E+02 EXCESS= .0000E+00 OUTFLOW= .2641E+02 BASIN STORAGE= .3201E-01 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
            R_I3_O  MANE          3.35       96.32     788.81        .09        5.00        96.31     790.00          .09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2525E+02 EXCESS= .0000E+00 OUTFLOW= .2521E+02 BASIN STORAGE= .3224E-01 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
            R_I3_O  MANE          3.39       91.30     790.22        .09        5.00        91.29     790.00          .09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2404E+02 EXCESS= .0000E+00 OUTFLOW= .2400E+02 BASIN STORAGE= .3227E-01 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
            R_I3_O  MANE          3.42       87.95     791.21        .08        5.00        87.86     790.00          .08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2322E+02 EXCESS= .0000E+00 OUTFLOW= .2318E+02 BASIN STORAGE= .3143E-01 PERCENT ERROR=    .0


*** NORMAL END OF HEC-1 ***
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*******************************************
*                                         *
*     FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*               JUN  1998                 *
*            VERSION 4.1                  *
*                                         *
*  RUN DATE   27APR09  TIME  12:59:59     *
*                                         *
*******************************************
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***************************************
*                                     *
*    U.S. ARMY CORPS OF ENGINEERS     *
*    HYDROLOGIC ENGINEERING CENTER    *
*          609 SECOND STREET          *
*       DAVIS, CALIFORNIA 95616       *
*           (916) 756-1104            *
*                                     *
***************************************
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X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X        XXXXX X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX         XXX
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THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM


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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

   1          ID        Grand Junction Regional Airport - Jviation - April 2009
   2          ID        Updated to Current Conditions Watershed Model
   3          ID        100-Year 24-Hour Storm - NRCS Type II Rainfall Distribution
   4          IT       5                   300
   5          IO       4
   6          IN       6
   7          JD    1.99    0.01
   8          PC       0   0.001   0.002  0.0031  0.0041  0.0051  0.0062  0.0073  0.0083  0.0094
   9          PC  0.0105  0.0116  0.0127  0.0138   0.015  0.0161  0.0173  0.0185  0.0196  0.0208
  10          PC   0.022  0.0232  0.0244  0.0257  0.0269  0.0281  0.0294  0.0307  0.0319  0.0332
  11          PC  0.0345  0.0358  0.0371  0.0384  0.0398  0.0411  0.0425  0.0438  0.0452  0.0466
  12          PC   0.048  0.0494  0.0508  0.0523  0.0538  0.0553  0.0568  0.0583  0.0598  0.0614
  13          PC   0.063  0.0646  0.0662  0.0679  0.0696  0.0712   0.073  0.0747  0.0764  0.0782
  14          PC    0.08  0.0818  0.0836  0.0855  0.0874  0.0892  0.0912  0.0931   0.095   0.097
  15          PC   0.099   0.101   0.103  0.1051  0.1072  0.1093  0.1114  0.1135  0.1156  0.1178
  16          PC    0.12  0.1223  0.1246  0.1271  0.1296  0.1323   0.135  0.1379  0.1408  0.1439
  17          PC   0.147  0.1502  0.1534  0.1566  0.1598   0.163  0.1663  0.1697  0.1733  0.1771
  18          PC   0.181  0.1851  0.1895  0.1941  0.1989   0.204  0.2094  0.2152  0.2214   0.228
  19          PC   0.235  0.2427  0.2513  0.2609  0.2715   0.283  0.3068  0.3544  0.4308  0.5679
  20          PC   0.663   0.682  0.6986   0.713  0.7252   0.735  0.7434  0.7514  0.7588  0.7656
  21          PC   0.772   0.778  0.7836   0.789  0.7942   0.799  0.8036   0.808  0.8122  0.8162
  22          PC    0.82  0.8237  0.8273  0.8308  0.8342  0.8376  0.8409  0.8442  0.8474  0.8505
  23          PC  0.8535  0.8565  0.8594  0.8622  0.8649  0.8676  0.8702  0.8728  0.8753  0.8777
  24          PC    0.88  0.8823  0.8846  0.8868   0.889  0.8912  0.8934  0.8955  0.8976  0.8997
  25          PC  0.9018  0.9038  0.9058  0.9078  0.9098  0.9117  0.9136  0.9155  0.9174  0.9192
  26          PC   0.921  0.9228  0.9246  0.9263   0.928  0.9297  0.9314   0.933  0.9346  0.9362
  27          PC  0.9377  0.9393  0.9408  0.9423  0.9438  0.9452  0.9466   0.948  0.9494  0.9507
  28          PC   0.952  0.9533  0.9546  0.9559  0.9572  0.9584  0.9597   0.961  0.9622  0.9635
  29          PC  0.9648   0.966  0.9672  0.9685  0.9697  0.9709  0.9722  0.9734  0.9746  0.9758
  30          PC   0.977  0.9782  0.9794  0.9806  0.9818  0.9829  0.9841  0.9853  0.9864  0.9876
  31          PC  0.9888  0.9899   0.991  0.9922  0.9933  0.9944  0.9956  0.9967  0.9978  0.9989
  32          PC       1       1       1       1       1       1       1       1       1       1
  33          PC       1       1       1       1       1       1       1       1       1       1
  34          PC       1       1       1       1       1       1       1       1       1       1
  35          PC       1       1       1       1       1       1       1       1       1       1
  36          PC       1       1       1       1       1       1       1       1       1       1
  37          PC       1       1       1       1       1       1       1       1       1       1
  38          JD   1.950      14
  39          JD   1.930      24
  40          JD   1.910    36.5
  41          JD   1.896      50

  42          KK    L11b Leach Creek at Upper Pond
  43          BA  7.4766
  44          LG    0.57  0.5207   1.944   0.070     2.0
  45          US   1.197   0.451

  46          KK  RL11bD Route Hydrograph Through L11a
  47          RK    9500  0.0129   0.035            TRAP      10       6
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  48          KK   L11aU Subbasin at the Proposed Lower Detention Pond
  49          BA  1.0090
  50          LG    0.59  0.5444   2.032   0.073     2.0
  51          US   0.651   0.334

  52          KK  C_11aU Combine Hydrographs at the Proposed Lower Detention Pond
  53          HC       2

  54          KK   D-LPd Divert Flow Into Lower Detention Pond
  55          DT    D-Pd
  56          DI       0    24.8   117.6   285.3   755.6    4100   10000
  57          DQ       0       0      91     257   725.8    2050    4000

  58          KK  SRD-Pd Retrieve Pond Inflow
  59          DR    D-Pd
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 60          KK  C_11aD Combine Flow Downstream of the Proposed Lower Detention Pond
 61          HC       2

 62          KK   L11aD Subbasin Downstream of the Proposed Lower Detention Pond
 63          BA  0.0173
 64          LG    0.99  0.7810   1.494   0.204     2.0
 65          US   0.043   0.182

 66          KK   C_L11 Leach Creek at the Government Highline Canal
 67          HC       2

 68          KK   R_L10 Route Hydrograph Through L10
 69          RS       1    STOR       0
 70          SV       0     .88    1.46    1.92    2.35    2.74    3.12    3.85    4.54    5.25
 71          SV    5.84    6.43    7.04    7.63    8.21    8.79
 72          SQ       0     100     200     300     400     500     600     800    1000    1200
 73          SQ    1400    1600    1800    2000    2200    2400

 74          KK    L10 Subbasin
 75          BA  0.9833
 76          LG    0.49  0.4734   1.767   0.063     2.0
 77          US   0.626   0.333

 78          KK   C_L10 Combine L10 with Upstream Hydrograph
 79          HC       2

 80          KK   R_L9M Route Mainstem Hydrograph Through L9
 81          RS       1    STOR       0
 82          SV       0    1.24    2.23     3.3    4.23    4.86    5.34    6.55    7.57    8.54
 83          SV    9.65   10.61   11.55   12.36   13.09   13.85
 84          SQ       0     100     200     300     400     500     600     800    1000    1200
 85          SQ    1400    1600    1800    2000    2200    2400
1                                        HEC-1 INPUT                                        PAGE  3
    LINE     ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 86          KK    L9.1 Subbasin East of 27.25 Road
 87          BA  2.7210
 88          LG    0.41  0.4023   1.502   0.054     4.0
 89          US   1.156   0.368

 90          KK   R_L9T Route Subbasin L9.1 Hydrograph Through L9
 91          RK    4100   0.011    0.03            TRAP       5     2.4

 92          KK      L9 Subbasin
 93          BA  0.2051
 94          LG    0.93  0.7574   1.519   0.189     6.0
 95          US   0.276   0.243

 96          KK   C_L9T Combine Subbasins L9.1 and L9
 97          KM         Just Upstream of the Mainstem
 98          HC       2

 99          KK   C_L9M Combine L9 with Upstream Mainstem Hydrograph
100          KM         Just East of 26.5 Road
101          HC       2

102          KK    DB21
103          KM   Subbasin
104          BA  0.1519
105          LG    0.41  0.4023   1.502   0.054     2.0
106          US   0.137   0.252

107          KK    PD A
108          KM   Route Through Pond A
109          RS       1    STOR       0       0
110          SV     0.0   0.001     1.8     4.7     8.9    11.6
111          SQ     0.0     2.5     7.0     9.0    10.6    11.3
112          SE    4915    4916    4918    4920    4922    4923

113          KK    R21a
114          KM   Route R21 Through R21a
115          RK    3500   0.023    0.05            TRAP      30       6

116          KK   DB21a
117          KM   Subbasin
118          BA  0.3403
119          LG    0.41  0.4023   1.502   0.054     2.0
120          US   0.128   0.284

121          KK     R17 Subbasin
122          BA  0.1623
123          LG    0.41  0.4023   1.502   0.054     2.0
124          US   0.096   0.254
1                                        HEC-1 INPUT                                        PAGE  4
    LINE     ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

125          KK   R_17_O Route hydrograph through R15 overland
126          RK    2000   0.018    0.04            TRAP      10       5

127          KK    C21a
128          KM   Combine Routed Basin 21 with Basin 21a and R17
129          HC       3

130          KK  WF_PD1
131          KM   Route Hydrograph Through New Walker Field On Site Pond 1
132          RS       1    STOR       0       0
133          SV     0.0    0.97    6.95    13.6    17.3
134          SQ     0.0    10.7    23.9    32.1    35.5
135          SE    38.5    40.0    42.0    44.0    45.0

136          KK    RPD1
137          KM   Route Hydrograph Through Basin 23b Pipe
138          RK    1750   0.014   0.015            CIRC       3
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139          KK   DB23b
140          KM   Subbasin
141          BA  0.0584
142          LG    0.07  0.0947   0.353   0.013    95.0
143          US   0.046   0.548

144          KK     C23
145          KM   Combine Hydrograph Basin 23b with 21 and 21a
146          HC       2

147          KK    R23b
148          KM   Route Hydrograph Through Basin 23c Pipe
149          RK    1000   0.014   0.015            CIRC       3

150          KK   DB23c
151          KM   Subbasin
152          BA  0.0783
153          LG    0.07  0.0947   0.353   0.013    95.0
154          US   0.080   0.573

155          KK    R23c
156          KM   Route R23c Through R23c Ditch
157          RK     500    .005   0.045            TRAP      10       4

158          KK   DB23d
159          KM   Subbasin
160          BA  0.0173
161          LG    0.04  0.0473   0.177   0.006   100.0
162          US   0.023   0.462

163          KK    R23d
164          KM   Route Hydrograph Through Basin 23d Pipe
165          RK    1200   0.005   0.015            CIRC       2
1                                    HEC-1 INPUT                                                    PAGE  5

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

166          KK     C23
167          KM   Combine Hydrograph Basins 23c,23d with WF_PD1 and 23b
168          HC       3

169          KK  WF_PD2
170          KM   Route Hydrograph Through New Walker Field On Site Pond 2
171          RS       1     STOR        0        0
172          SV     0.0    0.10    0.70    1.64    3.16    5.34
173          SQ     0.0    23.6    48.1    68.1    83.4    90.1
174          SE  4793.5    4795    4797    4799    4801    4803

175          KK  RWF_P2
176          KM   Route Hydrograph Through Basin 23e Pipe
177          RK    1000   0.010   0.015            CIRC       3

178          KK   DB23e
179          KM   Subasin
180          BA  0.0709
181          LG    0.04  0.0473   0.177   0.006   100.0
182          US   0.067   0.571

183          KK    C23e
184          KM   Combine Hydrograph Basin 23e with WF_PD2
185          HC       2

186          KK    R23e
187          KM   Route Hydrograph Through Basin 23a Pipe
188          RK    1500   0.008   0.015            CIRC       4

189          KK   DB23a
190          KM   Subbasin
191          BA  0.0196
192          LG    0.84  0.7100   1.595   0.158    10.0
193          US   0.051   0.160

194          KK    C23a
195          KM   Combine Hydrograph Basin 23a, 23e with WF_PD2
196          HC       2

197          KK  R_PD U
198          KM   Route Hydrograph Through Upper Airport Upper Pond
199          RS       1     STOR        0        0
200          SV     0.0   0.001    0.21    6.09   16.16   26.80    29.4
201          SQ     0.0    10.8    11.4    12.4    13.3    14.2     162
202          SE    4767 4767.01    4768    4770    4772    4774  4774.5

203          KK  D_Pd U
204          KM   Weir Flow Into Lower Pond
205          DT   U_Pipe
206          DI     0.0    14.2    14.3     100    1000
207          DQ     0.0    14.2    14.2    14.2    14.2
1                                    HEC-1 INPUT                                                    PAGE  6

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

208          KK    DB22
209          KM   Subbasin
210          BA  0.2226
211          LG    0.41  0.4023   1.502   0.054     2.0
212          US   0.196   0.266

213          KK   R24_P
214          KM   Route Hydrograph Through Basin 24 Pipe
215          RK    3076   0.014   0.015            CIRC     4.5

216          KK   R24_O
217          KM   Route Hydrograph Through Basin 24 Overland
218          RK    1506   0.019    0.03            TRAP      10      12
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 219          KK   DB24a
 220          KM   Subbasin
 221          BA  0.0212
 222          LG    0.57  0.5207   1.944   0.070    36.0
 223          US   0.096   0.264

 224          KK  B4aDIV
 225          KM   Divert Basin 24a overflow
 226          DT  B4aDIV
 227          DI     0.0    14.0   100.0  1000.0
 228          DQ       0    0.01    86.0   986.0

 229          KK   R24_P
 230          KM   Route Hydrograph Through Basin 24 Pipe
 231          RK     800   0.014   0.015            CIRC      4.5

 232          KK   R24_O
 233          KM   Route Hydrograph Through Basin 24 Overland
 234          RK    1506   0.019    0.03            TRAP       10       12

 235          KK    DB24
 236          KM   Subbasin
 237          BA  0.2318
 238          LG    0.22  0.2367   0.883   0.032    75.0
 239          US   0.162   0.627

 240          KK     C24
 241          KM   Combine Hydrographs (Basin22, Basin 24a, Basin 24)
 242          HC       3

 243          KK   DR24a
 244          KM   Retrieve 24a diversion
 245          DR  B4aDIV

 246          KK   R25_O
 247          KM   Route 24a diversion through Basin 25 overland
 248          RK     800   0.015    0.03            TRAP       30       10
1                                        HEC-1 INPUT                                                          PAGE  7
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 249          KK   R25_P
 250          KM   Route 24a diversion through Basin 25 pipe
 251          RK    1600   0.013   0.015            CIRC       4

 252          KK    DB25
 253          KM   Subbasin
 254          BA  0.0244
 255          LG    0.57  0.5207   1.944   0.070    36.0
 256          US   0.106   0.270

 257          KK     C25
 258          KM   Combine Hydrograph with 24a diversion
 259          HC       2

 260          KK   B5DIV
 261          KM   Divert Basin 25 storm sewer overflow
 262          DT   B5DIV
 263          DI     0.0    14.0   100.0  1000.0
 264          DQ       0       0    86.0   986.0

 265          KK   DB25a
 266          KM   Subbasin
 267          BA  0.0316
 268          LG    0.85  0.7100   1.595   0.158    12.0
 269          US   0.031   0.173

 270          KK     C_6
 271          KM   Combine Basins 25a 25 24a 24 22
 272          HC       3

 273          KK     C_7
 274          KM   Combine all Basins
 275          HC       2

 276          KK  R_PD L
 277          KM   route Hydrograph Through Lower Airport East Pond
 278          RS       1    STOR       0       0
 279          SV     0.0     0.05    4.26   13.79   24.65
 280          SQ     0.0      5.5     7.8     9.6    11.1
 281          SE  4758.4    4760    4762    4764    4766

 282          KK    PR_U
 283          KM   Retrieve Upper Pond Pipe Flow
 284          DR  U_Pipe

 285          KK   C_Out
 286          KM   Combine 2 Outflow Hydrographs at Canal
 287          HC       2
1                                        HEC-1 INPUT                                                          PAGE  8
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 288          KK     R16
 289          KM   Subbasin
 290          BA  0.1550
 291          LG    0.34  0.3550   1.325   0.048    51.0
 292          US   0.076   0.478

 293          KK   R_14a
 294          KM   Route Hydrograph through R14A overland
 295          RK    2500   0.005    0.04            TRAP       10       10

 296          KK    R14A
 297          KM   Subbasin
 298          BA  0.0393
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299          LG    0.18  0.1893   0.707   0.025    75.0
300          US   0.038   0.480

301          KK   C_14A
302          KM   Combine Hydrographs (R16, R14A)
303          HC      2

304          KK   C_14A
305          KM   Combine Hydrograph with Lower Pond Outfall
306          HC      2

307          KK     R15 Subbasin
308          BA  0.2994
309          LG    0.53  0.4970   1.855   0.067    22.0
310          US   0.153   0.280

311          KK   R_R13 Route Hydrograph through R13
312          RS       1     STOR       0
313          RC   0.035    0.03   0.035     971    .018
314          RX    1000    1014    1022    1026    1036    1046    1050    1062
315          RY    4762    4760    4758    4756    4756    4758    4760    4762

316          KK     R13 Subbasin
317          BA  0.0425
318          LG    0.48  0.4497   1.679   0.060     2.0
319          US   0.055   0.208

320          KK   C_R13 Combine Hydrographs
321          HC      2

322          KK  Extra5 Overflow released from Basin 25
323          DR   B5DIV

324          KK     R14 Subbasin
325          BA  0.0602
326          LG    0.98  0.7810   1.494   0.204     2.0
327          US   0.354   0.219
1                                    HEC-1 INPUT                                    PAGE  9
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

328          KK    C_R5 Combine Hydrographs (R14, Basin 5)
329          HC      2

330          KK     R_5 Route Basin 5 & R14 through R5 overland
331          RK   10500   0.008    0.03            TRAP      10      20

332          KK      R5 Subbasin
333          BA  0.0843
334          LG    0.89  0.7337   1.552   0.173     9.0
335          US   0.118   0.201

336          KK      C3 Corcoran Wash at H Road and 25 Road
337          BA  0.5641
338          LG    0.56  0.5207   1.944   0.070     2.0
339          US   0.254   0.306

340          KK      I5 Start Indian Creek Basin
341          BA  0.7994
342          LG    0.47  0.4497   1.679   0.060     2.0
343          US   0.428   0.323

344          KK    R_I5
345          KM   Route Hydrograph Through Existing Dam
346          RS       1     STOR       0       0
347          SV       0     2.24    4.65    7.24   10.01   12.95   16.08   19.41   22.92   26.63
348          SQ     0.0      0.0     0.0     0.0     0.0     0.0     0.0    93.0   263.0   483.2
349          SE    5190    5191    5192    5193    5194    5195    5196    5197    5198    5199

350          KK      I4 Subbasin
351          BA  1.2130
352          LG    0.62  0.5680   2.120   0.076     2.0
353          US   0.768   0.344

354          KK    C_I4 Combine I5 and I4
355          HC      2

356          KK      I3 Subbasin
357          BA  3.2057
358          LG    0.50  0.4734   1.767   0.063     2.0
359          US   1.181   0.398

360          KK    C_I3 Combine I4 and I3
361          HC      2

362          KK  R_I3_D Route hydrograph through I2 overland
363          RK    3300   0.014    0.04            TRAP      10       5

364          KK      I2 Subbasin
365          BA  0.9728
366          LG    0.64  0.5680   2.120   0.076     3.0
367          US   0.539   0.325
1                                    HEC-1 INPUT                                    PAGE 10
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

368          KK    C_I2 Combine I3 and I2
369          HC      2

370          KK    R_I2
371          KM   Route Hydrograph Through Existing Dam
372          RS       1     STOR       0       0
373          SV       0     3.06    6.67   10.92   15.93   21.81   28.62   36.41   45.21   55.07
374          SV   66.05    78.18   91.52  106.10  121.97  139.16  176.23  235.99  257.34  280.13
375          SQ       0        0    13.0    18.4    22.6    26.1    29.1    31.9    34.5    36.9
376          SQ    39.1     41.2    43.2    45.2    47.0    48.8    52.1   228.8   234.6   240.4
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377          SE    4890    4892    4894    4896    4898    4900    4902    4904    4906    4908
378          SE    4910    4912    4914    4916    4918    4920    4924    4930    4932    4934

379          KK      I1 Subbasin
380          BA  0.7563
381          LG    0.81  0.6864   1.652   0.143     3.0
382          US   0.698   0.312

383          KK    C_I1 Combine I2 and I1
384          HC       2

385          KK      I7 Subbasin
386          BA  1.0258
387          LG    0.45  0.4260   1.590   0.057     2.0
388          US   0.822   0.335

389          KK    R_I7
390          KM   Route Hydrograph Through Existing Dam
391          RS       1    STOR       0       0
392          SV       0    0.26    0.60    1.01    1.51    2.11    2.82    3.63    4.57    5.64
393          SQ     0.0     0.0     0.0     0.0     0.0     0.0     0.0    62.0   175.4   322.2
394          SE    4820    4821    4822    4823    4824    4825    4826    4827    4828    4829

395          KK      I6 Subbasin
396          BA  0.4512
397          LG    0.75  0.6390   1.826   0.112     4.0
398          US   0.191   0.285

399          KK    C_I6 Combine I7 and I6
400          HC       2

401          KK      I8 Subbasin
402          BA  0.4147
403          LG    0.65  0.5917   2.161   0.081     3.0
404          US   0.242   0.285

405          KK      I9 Subbasin
406          BA  0.6808
407          LG    0.52  0.4970   1.855   0.067     2.0
408          US   0.510   0.315
409          ZZ
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*         JUN  1998                     *
*        VERSION 4.1                    *
*                                       *
*  RUN DATE   27APR09  TIME  12:59:59   *
*                                       *
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*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*        DAVIS, CALIFORNIA 95616        *
*           (916) 756-1104              *
*                                       *
*****************************************

                        Grand Junction Regional Airport - Jviation - April 2009
                        Updated to Current Conditions Watershed Model
                        100-Year 24-Hour Storm - NRCS Type II Rainfall Distribution

  5 IO          OUTPUT CONTROL VARIABLES
                     IPRNT          4  PRINT CONTROL
                     IPLOT          0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE

  6 IN          TIME DATA FOR INPUT TIME SERIES
                     JXMIN          6  TIME INTERVAL IN MINUTES
                     JXDATE     1   0  STARTING DATE
                     JXTIME         0  STARTING TIME

    IT          HYDROGRAPH TIME DATA
                     NMIN           5  MINUTES IN COMPUTATION INTERVAL
                     IDATE      1   0  STARTING DATE
                     ITIME       0000  STARTING TIME
                     NQ           300  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE     2   0  ENDING DATE
                     NDTIME      0055  ENDING TIME
                     ICENT         19  CENTURY MARK

                   COMPUTATION INTERVAL      .08 HOURS
                       TOTAL TIME BASE    24.92 HOURS

              ENGLISH UNITS
                   DRAINAGE AREA          SQUARE MILES
                   PRECIPITATION DEPTH    INCHES
                   LENGTH, ELEVATION      FEET
                   FLOW                   CUBIC FEET PER SECOND
                   STORAGE VOLUME         ACRE-FEET
                   SURFACE AREA           ACRES
                   TEMPERATURE            DEGREES FAHRENHEIT

  7 JD            INOEX STORM NO. 1
                     STRM         1.99  PRECIPIIATION DEPTH
                     TRDA          .01  TRANSPOSITION DRAINAGE AREA

  8 PI             PRECIPITATION PATTERN
                     .00     .00     .00     .00     .00     .00     .00     .00     .00     .00
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38 JD       INDEX STORM NO. 2
              STRM        1.95  PRECIPITATION DEPTH
              TRDA       14.00  TRANSPOSITION DRAINAGE AREA

 0 PI         PRECIPITATION PATTERN
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                .01       .01       .01       .01       .01       .01       .01       .01       .02       .04
                .05       .08       .11       .08       .02       .01       .01       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
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                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
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39 JD       INDEX STORM NO. 3
              STRM        1.93  PRECIPITATION DEPTH
              TRDA       24.00  TRANSPOSITION DRAINAGE AREA

 0 PI         PRECIPITATION PATTERN
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                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
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                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .01       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .02       .04
                .05       .08       .11       .08       .02       .01       .01       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00

40 JD       INDEX STORM NO. 4
              STRM        1.91  PRECIPITATION DEPTH
              TRDA       36.50  TRANSPOSITION DRAINAGE AREA

 0 PI         PRECIPITATION PATTERN
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .01       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .02       .04
                .05       .08       .11       .08       .02       .01       .01       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
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                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00

41 JD       INDEX STORM NO. 5
                STRM       1.90  PRECIPITATION DEPTH
                TRDA      50.00  TRANSPOSITION DRAINAGE AREA

 0 PI         PRECIPITATION PATTERN
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .01       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .02       .04
                .05       .08       .11       .08       .02       .01       .01       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00

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            *            *
42 KK       *     L11b   *      Leach Creek at Upper Pond
            *            *
            **************

          SUBBASIN RUNOFF DATA

43 BA       SUBBASIN CHARACTERISTICS
              TAREA       7.48  SUBBASIN AREA

44 LG       GREEN AND AMPT LOSS RATE
              STRTL        .57  STARTING LOSS
                DTH        .52  MOISTURE DEFICIT
               PSIF       1.94  WETTING FRONT SUCTION
              XKSAT        .07  HYDRAULIC CONDUCTIVITY
              RTIMP       2.00  PERCENT IMPERVIOUS AREA

45 US       SNYDER UNITGRAPH
                TP       1.20  LAG
                CP        .45  PEAKING COEFFICIENT

          SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                          ***

                                  UNIT HYDROGRAPH PARAMETERS
                             CLARK   TC=  1.25 HR,      R=  1.90 HR
                             SNYDER  TP=  1.21 HR,      CP=   .45

                                  UNIT HYDROGRAPH
                                129 END-OF-PERIOD ORDINATES
          30.       114.      236.      382.      546.      725.      915.     1113.     1303.     1469.
        1609.      1721.     1804.     1854.     1862.     1814.     1736.     1661.     1590.     1522.
        1456.      1394.     1334.     1276.     1222.     1169.     1119.     1071.     1025.      981.
         939.       898.      860.      823.      787.      754.      721.      690.      661.      632.
         605.       579.      554.      530.      508.      486.      465.      445.      426.      408.
         390.       373.      357.      342.      327.      313.      300.      287.      274.      263.
         251.       241.      230.      220.      211.      202.      193.      185.      177.      169.
         162.       155.      148.      142.      136.      130.      125.      119.      114.      109.
         104.       100.       96.       92.       88.       84.       80.       77.       74.       70.
          67.        64.       62.       59.       56.       54.       52.       50.       47.       45.
          43.        42.       40.       38.       36.       35.       33.       32.       31.       29.
          28.        27.       26.       25.       23.       22.       21.       21.       20.       19.
          18.        17.       17.       16.       15.       14.       14.       13.       13.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

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            *            *
46 KK       *   RL11bD   *      Route Hydrograph Through L11a
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             HYDROGRAPH ROUTING DATA

 47 RK          KINEMATIC WAVE STREAM ROUTING
                         L       9500.  CHANNEL LENGTH
                         S       .0129  SLOPE
                         N        .035  CHANNEL ROUGHNESS COEFFICIENT
                        CA         .00  CONTRIBUTING AREA
                     SHAPE        TRAP  CHANNEL SHAPE
                        WD       10.00  BOTTOM WIDTH OR DIAMETER
                         Z        6.00  SIDE SLOPE
                    NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

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          *             *
 48 KK    *     L11aU   *      Subbasin at the Proposed Lower Detention Pond
          *             *
          ***************

             SUBBASIN RUNOFF DATA

 49 BA          SUBBASIN CHARACTERISTICS
                      TAREA        1.01  SUBBASIN AREA

 50 LG          GREEN AND AMPT LOSS RATE
                      STRTL         .59  STARTING LOSS
                        DTH         .54  MOISTURE DEFICIT
                       PSIF        2.03  WETTING FRONT SUCTION
                      XKSAT         .07  HYDRAULIC CONDUCTIVITY
                      RTIMP        2.00  PERCENT IMPERVIOUS AREA

 51 US          SNYDER UNITGRAPH
                         TP         .65  LAG
                         CP         .33  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                    ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .65 HR,       R=  1.57 HR
                                   SNYDER   TP=    .65 HR,      CP=   .33

                                          UNIT HYDROGRAPH
                                       105 END-OF-PERIOD ORDINATES
                  13.       49.      102.      164.      228.      281.      319.      334.      326.      309.
                 293.      278.      264.      250.      237.      225.      214.      203.      192.      182.
                 173.      164.      155.      147.      140.      133.      126.      119.      113.      107.
                 102.       97.       92.       87.       82.       78.       74.       70.       67.       63.
                  60.       57.       54.       51.       48.       46.       44.       41.       39.       37.
                  35.       33.       32.       30.       29.       27.       26.       24.       23.       22.
                  21.       20.       19.       18.       17.       16.       15.       14.       14.       13.
                  12.       12.       11.       10.       10.        9.        9.        8.        8.        8.
                   7.        7.        6.        6.        6.        6.        5.        5.        5.        4.
                   4.        4.        4.        4.        3.        3.        3.        3.        3.        3.
                   3.        2.        2.        2.        2.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
 52 KK    *    C_11aU   *      Combine Hydrographs at the Proposed Lower Detention Pond
          *             *
          ***************

 53 HC          HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
 54 KK    *     D-LPd   *      Divert Flow Into Lower Detention Pond
          *             *
          ***************

    DT          DIVERSION
                     ISTAD        D-Pd  DIVERSION HYDROGRAPH IDENTIFICATION

    DI           INFLOW          .00     24.80    117.60    285.30    755.60   4100.00  10000.00

    DQ     DIVERTED FLOW         .00       .00     91.00    257.00    725.80   2050.00   4000.00
                                                    ***

** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

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58 KK       *SRD-Pd*       Retrieve Pond Inflow

59 DR          RETRIEVE DIVERSION HYDROGRAPH
                  ISTAD        D-Pd  DIVERSION HYDROGRAPH IDENTIFICATION
                                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

60 KK       *C_11aD*       Combine Flow Downstream of the Proposed Lower Detention Pond

61 HC          HYDROGRAPH COMBINATION
                  ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

62 KK       *L11aD*       Subbasin Downstream of the Proposed Lower Detention Pond

   SUBBASIN RUNOFF DATA

63 BA          SUBBASIN CHARACTERISTICS
                  TAREA         .02  SUBBASIN AREA

64 LG          GREEN AND AMPT LOSS RATE
                  STRTL         .99  STARTING LOSS
                    DTH         .78  MOISTURE DEFICIT
                   PSIF        1.49  WETTING FRONT SUCTION
                  XKSAT         .20  HYDRAULIC CONDUCTIVITY
                  RTIMP        2.00  PERCENT IMPERVIOUS AREA

65 US          SNYDER UNITGRAPH
                     TP         .04  LAG
                     CP         .18  PEAKING COEFFICIENT

               SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USEO
                                                        ***

                                        UNIT HYDROGRAPH PARAMETERS
                                  CLARK   TC=    .08 HR,       R=    .78 HR
                                SNYDER   TP=    .14 HR,      CP=    .18

                                           UNIT HYDROGRAPH
                                       50 END-OF-PERIOD ORDINATES
               7.      13.      12.      10.       9.       8.       8.       7.       6.       5.
               5.       4.       4.       4.       3.       3.       3.       2.       2.       2.
               2.       2.       1.       1.       1.       1.       1.       1.       1.       1.
               1.       1.       0.       0.       0.       0.       0.       0.       0.       0.
               0.       0.       0.       0.       0.       0.       0.       0.       0.       0.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

66 KK       *C_L11*       Leach Creek at the Government Highline Canal

67 HC          HYDROGRAPH COMBINATION
                  ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

68 KK       *R_L10*       Route Hydrograph Through L10

   HYDROGRAPH ROUTING DATA

69 RS          STORAGE ROUTING
                  NSTPS           1  NUMBER OF SUBREACHES
                   ITYP        STOR  TYPE OF INITIAL CONDITION
                 RSVRIC         .00  INITIAL CONDITION
                      X         .00 WORKING R AND D COEFFICIENT

70 SV          STORAGE          .0       .9      1.5      1.9      2.3      2.7      3.1      3.8      4.5      5.3
                                5.8      6.4      7.0      7.6      8.2      8.8

72 SQ          DISCHARGE        0.     100.     200.     300.     400.     500.     600.     800.    1000.    1200.
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                    1400.     1600.     1800.     2000.     2200.     2400.
                                                  ***

 * WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN     1200. TO     2400.
             THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
             THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

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          *             *
74 KK     *       L10   *       Subbasin
          *             *
          ***************

            SUBBASIN RUNOFF DATA

75 BA         SUBBASIN CHARACTERISTICS
                    TAREA         .98  SUBBASIN AREA

76 LG         GREEN AND AMPT LOSS RATE
                    STRTL         .49  STARTING LOSS
                      DTH         .47  MOISTURE DEFICIT
                     PSIF        1.77  WETTING FRONT SUCTION
                    XKSAT         .06  HYDRAULIC CONDUCTIVITY
                    RTIMP        2.00  PERCENT IMPERVIOUS AREA

77 US         SNYDER UNITGRAPH
                      TP          .63  LAG
                      CP          .33  PEAKING COEFFICIENT

              SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .64 HR,       R=  1.49 HR
                                   SNYDER   TP=    .63 HR,      CP=   .34

                                          UNIT HYDROGRAPH
                                    99 END-OF-PERIOD ORDINATES
          14.       53.      108.      174.      241.      295.      331.      342.      330.      312.
         295.      279.      264.      250.      236.      223.      211.      199.      189.      178.
         169.      159.      151.      142.      135.      127.      120.      114.      108.      102.
          96.       91.       86.       81.       77.       73.       69.       65.       61.       58.
          55.       52.       49.       46.       44.       41.       39.       37.       35.       33.
          31.       30.       28.       26.       25.       24.       22.       21.       20.       19.
          18.       17.       16.       15.       14.       13.       13.       12.       11.       11.
          10.       10.        9.        9.        8.        8.        7.        7.        7.        6.
           6.        5.        5.        5.        5.        4.        4.        4.        4.        4.
           3.        3.        3.        3.        3.        3.        2.        2.        2.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

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          *             *
78 KK     *     C_L10   *       Combine L10 with Upstream Hydrograph
          *             *
          ***************

79 HC         HYDROGRAPH COMBINATION
                   ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                  ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

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          *             *
80 KK     *     R_L9M   *       Route Mainstem Hydrograph Through L9
          *             *
          ***************

            HYDROGRAPH ROUTING DATA

81 RS         STORAGE ROUTING
                   NSTPS          1  NUMBER OF SUBREACHES
                    ITYP       STOR  TYPE OF INITIAL CONDITION
                   RSVRIC        .00  INITIAL CONDITION
                       X         .00 WORKING R AND D COEFFICIENT

82 SV           STORAGE          .0       1.2       2.2       3.3       4.2       4.9       5.3       6.6       7.6       8.5
                                9.6      10.6      11.6      12.4      13.1      13.9

84 SQ           DISCHARGE        0.      100.      200.      300.      400.      500.      600.      800.     1000.     1200.
                              1400.     1600.     1800.     2000.     2200.     2400.
                                                  ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

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          *             *
86 KK     *      L9.1   *       Subbasin East of 27.25 Road
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   SUBBASIN RUNOFF DATA

87 BA    SUBBASIN CHARACTERISTICS
           TAREA        2.72  SUBBASIN AREA

88 LG    GREEN AND AMPT LOSS RATE
           STRTL         .41  STARTING LOSS
             DTH         .40  MOISTURE DEFICIT
            PSIF        1.50  WETTING FRONT SUCTION
           XKSAT         .05  HYDRAULIC CONDUCTIVITY
           RTIMP        4.00  PERCENT IMPERVIOUS AREA

89 US    SNYDER UNITGRAPH
             TP        1.16  LAG
             CP         .37  PEAKING COEFFICIENT

   SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                        ***

                                UNIT HYDROGRAPH PARAMETERS
                          CLARK   TC=  1.17 HR,       R=  2.43 HR
                          SNYDER  TP=  1.16 HR,       CP=   .37

                                UNIT HYDROGRAPH
                          162 END-OF-PERIOD ORDINATES
   10.    36.    75.   121.   174.   232.   294.   357.   415.   466.
  507.   540.   562.   572.   563.   544.   526.   508.   491.   474.
  458.   443.   428.   414.   400.   386.   373.   361.   348.   337.
  325.   314.   304.   294.   284.   274.   265.   256.   247.   239.
  231.   223.   216.   208.   201.   195.   188.   182.   176.   170.
  164.   158.   153.   148.   143.   138.   133.   129.   125.   120.
  116.   112.   109.   105.   101.    98.    95.    92.    88.    85.
   83.    80.    77.    75.    72.    70.    67.    65.    63.    61.
   59.    57.    55.    53.    51.    49.    48.    46.    45.    43.
   42.    40.    39.    38.    36.    35.    34.    33.    32.    31.
   30.    29.    28.    27.    26.    25.    24.    23.    22.    22.
   21.    20.    20.    19.    18.    18.    17.    16.    16.    15.
   15.    14.    14.    13.    13.    13.    12.    12.    11.    11.
   11.    10.    10.    10.     9.     9.     9.     8.     8.     8.
    7.     7.     7.     7.     7.     6.     6.     6.     6.     6.
    5.     5.     5.     5.     5.     4.     4.     4.     4.     4.
    4.     4.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

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          *            *
90 KK     *     R_L9T  *      Route Subbasin L9.1 Hydrograph Through L9
          *            *
          **************

   HYDROGRAPH ROUTING DATA

91 RK    KINEMATIC WAVE STREAM ROUTING
             L       4100.  CHANNEL LENGTH
             S       .0110  SLOPE
             N        .030  CHANNEL ROUGHNESS COEFFICIENT
            CA         .00  CONTRIBUTING AREA
         SHAPE        TRAP  CHANNEL SHAPE
            WD        5.00  BOTTOM WIDTH OR DIAMETER
             Z        2.40  SIDE SLOPE
        NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS

                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          **************
          *            *
92 KK     *        L9  *      Subbasin
          *            *
          **************

   SUBBASIN RUNOFF DATA

93 BA    SUBBASIN CHARACTERISTICS
           TAREA         .21  SUBBASIN AREA

94 LG    GREEN AND AMPT LOSS RATE
           STRTL         .93  STARTING LOSS
             DTH         .76  MOISTURE DEFICIT
            PSIF        1.52  WETTING FRONT SUCTION
           XKSAT         .19  HYDRAULIC CONDUCTIVITY
           RTIMP        6.00  PERCENT IMPERVIOUS AREA

95 US    SNYDER UNITGRAPH
             TP         .28  LAG
             CP         .24  PEAKING COEFFICIENT

   SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                        ***

                                UNIT HYDROGRAPH PARAMETERS
                          CLARK   TC=   .24 HR,       R=   .98 HR
                          SNYDER  TP=   .28 HR,       CP=   .24

                                UNIT HYDROGRAPH
                          64 END-OF-PERIOD ORDINATES
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                18.       65.      107.      114.      105.       96.       88.       81.       75.       68.
                63.       58.       53.       49.       45.       41.       38.       35.       32.       29.
                27.       25.       23.       21.       19.       18.       16.       15.       14.       12.
                11.       11.       10.        9.        8.        7.        7.        6.        6.        5.
                 5.        4.        4.        4.        3.        3.        3.        3.        2.        2.
                 2.        2.        2.        2.        1.        1.        1.        1.        1.        1.
                 1.        1.        1.        1.

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            *             *
 96 KK      *     C_L9T   *      Combine Subbasins L9.1 and L9
            *             *
            ***************
                            Just Upstream of the Mainstem

 98 HC          HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                        ***

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            *             *
 99 KK      *     C_L9M   *      Combine L9 with Upstream Mainstem Hydrograph
            *             *
            ***************
                            Just East of 26.5 Road

101 HC          HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                        ***

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            *             *
102 KK      *      DB21   *
            *             *
            ***************
                         Subbasin

               SUBBASIN RUNOFF DATA

104 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .15  SUBBASIN AREA

105 LG          GREEN AND AMPT LOSS RATE
                      STRTL         .41  STARTING LOSS
                        DTH         .40  MOISTURE DEFICIT
                       PSIF        1.50  WETTING FRONT SUCTION
                      XKSAT         .05  HYDRAULIC CONDUCTIVITY
                      RTIMP        2.00  PERCENT IMPERVIOUS AREA

106 US          SNYDER UNITGRAPH
                        TP          .14  LAG
                        CP          .25  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                        ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=    .08 HR,       R=    .52 HR
                                          SNYDER  TP=    .14 HR,      CP=    .25

                                                   UNIT HYDROGRAPH
                                              34 END-OF-PERIOD ORDINATES
                88.       163.      138.      118.      100.       85.       72.       62.       52.       45.
                38.        32.       27.       23.       20.       17.       14.       12.       10.        9.
                 8.         6.        5.        5.        4.        3.        3.        2.        2.        2.
                 1.         1.        1.        1.

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            *             *
107 KK      *      PD A   *
            *             *
            ***************
                         Route Through Pond A

               HYDROGRAPH ROUTING DATA

109 RS          STORAGE ROUTING
                      NSTPS           1  NUMBER OF SUBREACHES
                       ITYP        STOR  TYPE OF INITIAL CONDITION
                      RSVRIC        .00  INITIAL CONDITION
                           X        .00 WORKING R AND D COEFFICIENT

 10 SV            STORAGE          .0        .0       1.8       4.7       8.9      11.6

111 SQ            DISCHARGE        0.        3.        7.        9.       11.       11.
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112 SE          ELEVATION     4915.00   4916.00   4918.00   4920.00   4922.00   4923.00
                                                      ***

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN        0. TO        3.
                THE ROUTED HYOROGRAPH SHOULO BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)


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            *             *
113 KK      *      R21a   *
            *             *
            ***************
                        Route R21 Through R21a

               HYDROGRAPH ROUTING DATA

115 RK           KINEMATIC WAVE STREAM ROUTING
                          L       3500.  CHANNEL LENGTH
                          S       .0230  SLOPE
                          N        .050  CHANNEL ROUGHNESS COEFFICIENT
                         CA         .00  CONTRIBUTING AREA
                      SHAPE        TRAP  CHANNEL SHAPE
                         WD       30.00  BOTTOM WIDTH OR DIAMETER
                          Z        6.00  SIDE SLOPE
                     NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                      ***

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            *             *
116 KK      *     DB21a   *
            *             *
            ***************
                        Subbasin

               SUBBASIN RUNOFF DATA

118 BA           SUBBASIN CHARACTERISTICS
                       TAREA         .34  SUBBASIN AREA

119 LG           GREEN AND AMPT LOSS RATE
                       STRTL         .41  STARTING LOSS
                         DTH         .40  MOISTURE DEFICIT
                        PSIF        1.50  WETTING FRONT-SUCTION
                       XKSAT         .05  HYDRAULIC CONDUCTIVITY
                       RTIMP        2.00  PERCENT IMPERVIOUS AREA

120 US           SNYDER UNITGRAPH
                          TP         .13  LAG
                          CP         .28  PEAKING COEFFICIENT

                 SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                      ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .08 HR,       R=    .44 HR
                                    SNYDER  TP=    .14 HR,      CP=    .29

                                          UNIT HYDROGRAPH
                                       29 END-OF-PERIOD ORDINATES
              228.      416.      344.      285.      236.      195.      161.      133.      110.       91.
               75.       62.       52.       43.       35.       29.       24.       20.       17.       14.
               11.        9.        8.        6.        5.        4.        4.        3.        2.


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            *             *
121 KK      *      R17    *      Subbasin
            *             *
            ***************

               SUBBASIN RUNOFF DATA

122 BA           SUBBASIN CHARACTERISTICS
                       TAREA         .16  SUBBASIN AREA

123 LG           GREEN AND AMPT LOSS RATE
                       STRTL         .41  STARTING LOSS
                         DTH         .40  MOISTURE DEFICIT
                        PSIF        1.50  WETTING FRONT SUCTION
                       XKSAT         .05  HYDRAULIC CONDUCTIVITY
                       RTIMP        2.00  PERCENT IMPERVIOUS AREA

124 US           SNYDER UNITGRAPH
                          TP         .10  LAG
                          CP         .25  PEAKING COEFFICIENT

                 SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                      ***
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UNIT HYDROGRAPH PARAMETERS
CLARK TC= .08 HR, R= .51 HR
SNYDER TP= .14 HR, CP= .26

UNIT HYDROGRAPH
34 END-OF-PERIOD ORDINATES

94.	175.	148.	126.	107.	91.	77.	66.	56.	47.
40.	34.	29.	25.	21.	18.	15.	13.	11.	9.
8.	7.	6.	5.	4.	4.	3.	3.	2.	2.
2.	1.	1.	1.						

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125 KK * R_17_ * O Route hydrograph through R15 overland

HYDROGRAPH ROUTING DATA

126 RK KINEMATIC WAVE STREAM ROUTING

L	2000.	CHANNEL LENGTH
S	.0180	SLOPE
N	.040	CHANNEL ROUGHNESS COEFFICIENT
CA	.00	CONTRIBUTING AREA
SHAPE	TRAP	CHANNEL SHAPE
WD	10.00	BOTTOM WIDTH OR DIAMETER
Z	5.00	SIDE SLOPE
NDXMIN	2	MINIMUM NUMBER OF DX INTERVALS

***

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127 KK * C21a *

Combine Routed Basin 21 with Basin 21a and R17

129 HC HYDROGRAPH COMBINATION

ICOMP	3	NUMBER OF HYDROGRAPHS TO COMBINE

***

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130 KK * WF_PD1 *

Route Hydrograph Through New Walker Field On Site Pond 1

HYDROGRAPH ROUTING DATA

132 RS STORAGE ROUTING

NSTPS	1	NUMBER OF SUBREACHES
ITYP	STOR	TYPE OF INITIAL CONDITION
RSVRIC	.00	INITIAL CONDITION
X	.00	WORKING R AND D COEFFICIENT

133 SV	STORAGE	.0	1.0	6.9	13.6	17.3
134 SQ	DISCHARGE	0.	11.	24.	32.	36.
135 SE	ELEVATION	38.50	40.00	42.00	44.00	45.00

***

*** ***

136 KK * RPD1 *

Route Hydrograph Through Basin 23b Pipe

HYDROGRAPH ROUTING DATA

138 RK KINEMATIC WAVE STREAM ROUTING

L	1750.	CHANNEL LENGTH
S	.0140	SLOPE
N	.015	CHANNEL ROUGHNESS COEFFICIENT
CA	.00	CONTRIBUTING AREA
SHAPE	CIRC	CHANNEL SHAPE
WD	3.00	BOTTOM WIDTH OR DIAMETER
Z	.00	SIDE SLOPE
NDXMIN	2	MINIMUM NUMBER OF DX INTERVALS

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           *             *
139 KK     *     DB23b   *
           *             *
           ***************
                        Subbasin

              SUBBASIN RUNOFF DATA

141 BA          SUBBASIN CHARACTERISTICS
                      TAREA          .06  SUBBASIN AREA

142 LG          GREEN AND AMPT LOSS RATE
                      STRTL          .07  STARTING LOSS
                        DTH          .09  MOISTURE DEFICIT
                       PSIF          .35  WETTING FRONT SUCTION
                      XKSAT          .01  HYDRAULIC CONDUCTIVITY
                      RTIMP        95.00  PERCENT IMPERVIOUS AREA

143 US          SNYDER UNITGRAPH
                         TP          .05  LAG
                         CP          .55  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                      ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=    .08 HR,       R=    .04 HR
                                         SNYDER   TP=    .07 HR,      CP=    .50

                                                   UNIT HYDROGRAPH
                                                2 END-OF-PERIOD ORDINATES
                  226.      226.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

           ***************
           *             *
144 KK     *       C23   *
           *             *
           ***************
                        Combine Hydrograph Basin 23b with 21 and 21a

146 HC          HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                      ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

           ***************
           *             *
147 KK     *      R23b   *
           *             *
           ***************
                        Route Hydrograph Through Basin 23c Pipe

              HYDROGRAPH ROUTING DATA

149 RK          KINEMATIC WAVE STREAM ROUTING
                         L       1000.  CHANNEL LENGTH
                         S       .0140  SLOPE
                         N        .015  CHANNEL ROUGHNESS COEFFICIENT
                        CA         .00  CONTRIBUTING AREA
                     SHAPE        CIRC  CHANNEL SHAPE
                        WD        3.00  BOTTOM WIDTH OR DIAMETER
                         Z         .00  SIDE SLOPE
                    NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                      ***

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150 KK    *     DB23c   *
          *             *
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                     Subbasin

     SUBBASIN RUNOFF DATA

152 BA          SUBBASIN CHARACTERISTICS
                     TAREA          .08  SUBBASIN AREA

153 LG          GREEN AND AMPT LOSS RATE
                     STRTL          .07  STARTING LOSS
                       OTH          .09  MOISTURE DEFICIT
                      PSIF          .35  WETTING FRONT SUCTION
                     XKSAT          .01  HYDRAULIC CONDUCTIVITY
                     RTIMP        95.00  PERCENT IMPERVIOUS AREA

154 US          SNYDER UNITGRAPH
                       TP          .08  LAG
                       CP          .57  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                    ***

                                              UNIT HYDROGRAPH PARAMETERS
                                         CLARK   TC=    .11 HR,       R=    .05 HR
                                        SNYDER   TP=    .08 HR,      CP=    .57

                                                 UNIT HYDROGRAPH
                                              4 END-OF-PERIOD ORDINATES
               226.       297.        77.         6.

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155 KK    *      R23c   *
          *             *
          ***************
                     Route R23c Through R23c Ditch

     HYDROGRAPH ROUTING DATA

157 RK          KINEMATIC WAVE STREAM ROUTING
                       L          500.  CHANNEL LENGTH
                       S        .0050  SLOPE
                       N         .045  CHANNEL ROUGHNESS COEFFICIENT
                      CA          .00  CONTRIBUTING AREA
                   SHAPE         TRAP  CHANNEL SHAPE
                      WD        10.00  BOTTOM WIDTH OR DIAMETER
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                    Z         4.00  SIDE SLOPE
               NDXMIN            2  MINIMUM NUMBER OF DX INTERVALS
                                                    ***

    *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT


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158 KK    *     DB23d   *
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                    Subbasin

       SUBBASIN RUNOFF DATA

160 BA       SUBBASIN CHARACTERISTICS
                 TAREA          .02  SUBBASIN AREA

161 LG       GREEN AND AMPT LOSS RATE
                 STRTL          .04  STARTING LOSS
                   DTH          .05  MOISTURE DEFICIT
                  PSIF          .18  WETTING FRONT SUCTION
                 XKSAT          .01  HYDRAULIC CONDUCTIVITY
                 RTIMP       100.00  PERCENT IMPERVIOUS AREA

162 US       SNYDER UNITGRAPH
                    TP          .02  LAG
                    CP          .46  PEAKING COEFFICIENT

             SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                    ***
R INCREASED TO MINIMUM OF 0.5

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .08 HR,       R=    .17 HR
                                   SNYDER   TP=    .11 HR,      CP=    .47

                                              UNIT HYDROGRAPH
                                          12 END-OF-PERIOD ORDINATES
                 26.       42.       26.       16.       10.        6.        4.        2.        1.        1.
                  0.        0.


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163 KK    *      R23d   *
          *             *
          ***************
                    Route Hydrograph Through Basin 23d Pipe

       HYDROGRAPH ROUTING DATA

165 RK       KINEMATIC WAVE STREAM ROUTING
                    L       1200.  CHANNEL LENGTH
                    S       .0050  SLOPE
                    N        .015  CHANNEL ROUGHNESS COEFFICIENT
                   CA         .00  CONTRIBUTING AREA
                SHAPE        CIRC  CHANNEL SHAPE
                   WD        2.00  BOTTOM WIDTH OR DIAMETER
                    Z         .00  SIDE SLOPE
               NDXMIN            2  MINIMUM NUMBER OF DX INTERVALS
                                                    ***


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166 KK    *       C23   *
          *             *
          ***************
                    Combine Hydrograph Basins 23c,23d with WF_PD1 and 23b

168 HC       HYDROGRAPH COMBINATION
                 ICOMP            3  NUMBER OF HYDROGRAPHS TO COMBINE
                                                    ***


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          *             *
 39 KK    *    WF_PD2   *
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Route Hydrograph Through New Walker Field On Site Pond 2

HYDROGRAPH ROUTING DATA

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171 RS      STORAGE ROUTING
                 NSTPS          1  NUMBER OF SUBREACHES
                 ITYP       STOR  TYPE OF INITIAL CONDITION
                RSVRIC        .00  INITIAL CONDITION
                     X        .00 WORKING R AND D COEFFICIENT

172 SV        STORAGE          .0       .1       .7      1.6      3.2      5.3

173 SQ        DISCHARGE        0.      24.      48.      68.      83.      90.

174 SE        ELEVATION    4793.50  4795.00  4797.00  4799.00  4801.00  4803.00
                                                  ***
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186 KK      *       R23e   *
            *              *
            ***************
                        ROute Hydrograph Through Basin 23a Pipe

               HYDROGRAPH ROUTING DATA

188 RK           KINEMATIC WAVE STREAM ROUTING
                          L       1500.  CHANNEL LENGTH
                          S       .0080  SLOPE
                          N        .015  CHANNEL ROUGHNESS COEFFICIENT
                         CA         .00  CONTRIBUTING AREA
                      SHAPE        CIRC  CHANNEL SHAPE
                         WD        4.00  BOTTOM WIDTH OR DIAMETER
                          Z         .00  SIDE SLOPE
                     NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                    ***

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189 KK      *      DB23a  *
            *             *
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                        Subbasin

               SUBBASIN RUNOFF DATA

191 BA           SUBBASIN CHARACTERISTICS
                      TAREA         .02  SUBBASIN AREA

192 LG           GREEN AND AMPT LOSS RATE
                      STRTL         .84  STARTING LOSS
                        DTH         .71  MOISTURE DEFICIT
                       PSIF        1.60  WETTING FRONT SUCTION
                      XKSAT         .16  HYDRAULIC CONDUCTIVITY
                      RTIMP       10.00  PERCENT IMPERVIOUS AREA

193 US           SNYDER UNITGRAPH
                         TP         .05  LAG
                         CP         .16  PEAKING COEFFICIENT

                 SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                    ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .08 HR,       R=    .91 HR
                                   SNYDER   TP=    .14 HR,      CP=    .16

                                              UNIT HYDROGRAPH
                                          59 END-OF-PERIOD ORDINATES
                 7.       13.       12.       11.       10.        9.        8.        7.        7.        6.
                 6.        5.        5.        4.        4.        4.        3.        3.        3.        2.
                 2.        2.        2.        2.        2.        1.        1.        1.        1.        1.
                 1.        1.        1.        1.        1.        1.        1.        0.        0.        0.
                 0.        0.        0.        0.        0.        0.        0.        0.        0.        0.
                 0.        0.        0.        0.        0.        0.        0.        0.        0.

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194 KK      *      C23a   *
            *             *
            ***************
                        Combine Hydrograph Basin 23a, 23e with WF_PD2

196 HC           HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                    ***

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197 KK      *    R_PD U   *
            *             *
            ***************
                        Route Hydrograph Through Upper Airport Upper Pond

               HYDROGRAPH ROUTING DATA

199 RS           STORAGE ROUTING
                      NSTPS           1  NUMBER OF SUBREACHES
                       ITYP        STOR  TYPE OF INITIAL CONDITION
                     RSVRIC         .00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

200 SV             STORAGE          .0        .0        .2       6.1      16.2      26.8      29.4

201 SQ           DISCHARGE          0.       11.       11.       12.       13.       14.      162.

 02 SE           ELEVATION     4767.00   4767.01   4768.00   4770.00   4772.00   4774.00   4774.50
                                                    ***
```

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN 0. TO 11.
THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

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            HYDROGRAPH ROUTING DATA

 18 RK          KINEMATIC WAVE STREAM ROUTING
                         L       1506.  CHANNEL LENGTH
                         S       .0190  SLOPE
                         N        .030  CHANNEL ROUGHNESS COEFFICIENT
                        CA         .00  CONTRIBUTING AREA
                     SHAPE        TRAP  CHANNEL SHAPE
                        WD       10.00  BOTTOM WIDTH OR DIAMETER
                         Z       12.00  SIDE SLOPE
                    NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                    ***

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 219 KK    *     DB24a   *
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                        Subbasin

              SUBBASIN RUNOFF DATA

 221 BA          SUBBASIN CHARACTERISTICS
                    TAREA         .02  SUBBASIN AREA

 222 LG          GREEN AND AMPT LOSS RATE
                    STRTL         .57  STARTING LOSS
                      DTH         .52  MOISTURE DEFICIT
                     PSIF        1.94  WETTING FRONT SUCTION
                    XKSAT         .07  HYDRAULIC CONDUCTIVITY
                    RTIMP       36.00  PERCENT IMPERVIOUS AREA

 223 US          SNYDER UNITGRAPH
                       TP         .10  LAG
                       CP         .26  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                    ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=    .08 HR,       R=    .49 HR
                                   SNYDER  TP=    .14 HR,      CP=    .27

                                          UNIT HYDROGRAPH
                                       32 END-OF-PERIOD ORDINATES
                13.       24.       20.       17.       14.       12.       10.        9.        7.        6.
                 5.        4.        4.        3.        3.        2.        2.        2.        1.        1.
                 1.        1.        1.        1.        0.        0.        0.        0.        0.        0.
                 0.        0.

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           *             *
 224 KK    *     B4aDIV  *
           *             *
           ***************
                        Divert Basin 24a overflow

     DT          DIVERSION
                      ISTAD      B4aDIV  DIVERSION HYDROGRAPH IDENTIFICATION

     DI            INFLOW          .00     14.00     100.00    1000.00

     DQ     DIVERTED FLOW          .00       .01      86.00     986.00
                                                    ***

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 229 KK    *     R24_P   *
           *             *
           ***************
                        Route Hydrograph Through Basin 24 Pipe

              HYDROGRAPH ROUTING DATA

 231 RK          KINEMATIC WAVE STREAM ROUTING
                         L        800.  CHANNEL LENGTH
                         S       .0140  SLOPE
                         N        .015  CHANNEL ROUGHNESS COEFFICIENT
                        CA         .00  CONTRIBUTING AREA
                     SHAPE        CIRC  CHANNEL SHAPE
                        WD        4.50  BOTTOM WIDTH OR DIAMETER
                         Z         .00  SIDE SLOPE
                    NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                    ***

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          *            *
232 KK    *     R24_O  *
          *            *
          **************
                    Route Hydrograph Through Basin 24 Overland

       HYDROGRAPH ROUTING DATA

234 RK          KINEMATIC WAVE STREAM ROUTING
                        L       1506.  CHANNEL LENGTH
                        S       .0190  SLOPE
                        N        .030  CHANNEL ROUGHNESS COEFFICIENT
                       CA         .00  CONTRIBUTING AREA
                    SHAPE        TRAP  CHANNEL SHAPE
                       WD       10.00  BOTTOM WIDTH OR DIAMETER
                        Z       12.00  SIDE SLOPE
                   NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          **************
          *            *
235 KK    *     DB24   *
          *            *
          **************
                    Subbasin

       SUBBASIN RUNOFF DATA

237 BA          SUBBASIN CHARACTERISTICS
                     TAREA         .23  SUBBASIN AREA

238 LG          GREEN AND AMPT LOSS RATE
                     STRTL         .22  STARTING LOSS
                       DTH         .24  MOISTURE DEFICIT
                      PSIF         .88  WETTING FRONT SUCTION
                     XKSAT         .03  HYDRAULIC CONDUCTIVITY
                     RTIMP       75.00  PERCENT IMPERVIOUS AREA

239 US          SNYDER UNITGRAPH
                        TP         .16  LAG
                        CP         .63  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                    ***
                                              UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=    .21 HR,       R=    .11 HR
                                          SNYDER  TP=    .16 HR,      CP=    .63
                                                UNIT HYDROGRAPH
                                             9 END-OF-PERIOD ORDINATES
                   169.      493.      540.      316.      148.       69.       32.       15.        7.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          **************
          *            *
240 KK    *     C24    *
          *            *
          **************
                    Combine Hydrographs (Basin22, Basin 24a, Basin 24)

242 HC          HYDROGRAPH COMBINATION
                     ICOMP           3  NUMBER OF HYDROGRAPHS TO COMBINE
                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          **************
          *            *
243 KK    *     DR24a  *
          *            *
          **************
                    Retrieve 24a diversion

245 DR          RETRIEVE DIVERSION HYDROGRAPH
                     ISTAD      B4aDIV  DIVERSION HYDROGRAPH IDENTIFICATION
                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          **************
          *            *
246 KK    *     R25_O  *
          *            *
          **************
                    Route 24a diversion through Basin 25 overland
```

```
            HYDROGRAPH ROUTING DATA

 78 RK        KINEMATIC WAVE STREAM ROUTING
                    L        800.  CHANNEL LENGTH
                    S       .0150  SLOPE
                    N        .030  CHANNEL ROUGHNESS COEFFICIENT
                   CA         .00  CONTRIBUTING AREA
                SHAPE        TRAP  CHANNEL SHAPE
                   WD       30.00  BOTTOM WIDTH OR DIAMETER
                    Z       10.00  SIDE SLOPE
               NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *             *
249 KK      *     R25_P   *
            *             *
            ***************
                        Route 24a diversion through Basin 25 pipe

            HYDROGRAPH ROUTING DATA

251 RK        KINEMATIC WAVE STREAM ROUTING
                    L       1600.  CHANNEL LENGTH
                    S       .0130  SLOPE
                    N        .015  CHANNEL ROUGHNESS COEFFICIENT
                   CA         .00  CONTRIBUTING AREA
                SHAPE        CIRC  CHANNEL SHAPE
                   WD        4.00  BOTTOM WIDTH OR DIAMETER
                    Z         .00  SIDE SLOPE
               NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *             *
252 KK      *      DB25   *
            *             *
            ***************
                        Subbasin

            SUBBASIN RUNOFF DATA

 54 BA        SUBBASIN CHARACTERISTICS
                 TAREA         .02  SUBBASIN AREA

255 LG        GREEN AND AMPT LOSS RATE
                 STRTL         .57  STARTING LOSS
                   DTH         .52  MOISTURE DEFICIT
                  PSIF        1.94  WETTING FRONT SUCTION
                 XKSAT         .07  HYDRAULIC CONDUCTIVITY
                 RTIMP       36.00  PERCENT IMPERVIOUS AREA

256 US        SNYDER UNITGRAPH
                    TP         .11  LAG
                    CP         .27  PEAKING COEFFICIENT

              SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                    ***

                                        UNIT HYDROGRAPH PARAMETERS
                                  CLARK   TC=   .08 HR,       R=   .47 HR
                                 SNYDER   TP=   .14 HR,      CP=   .27

                                            UNIT HYDROGRAPH
                                        31 END-OF-PERIOD ORDINATES
              15.      28.      24.      20.      17.      14.      12.      10.      8.       7.
               6.       5.       4.       3.       3.       2.       2.       2.      1.       1.
               1.       1.       1.       1.       0.       0.       0.       0.      0.       0.
               0.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *             *
257 KK      *       C25   *
            *             *
            ***************
                        Combine Hydrograph with 24a diversion

259 HC        HYDROGRAPH COMBINATION
                 ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *             *
260 KK      *     B5DIV   *
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          *           *
          ***************
                        Divert Basin 25 storm sewer overflow

     DT          DIVERSION
                      ISTAD       B5DIV  DIVERSION HYDROGRAPH IDENTIFICATION

     DI             INFLOW         .00     14.00     100.00    1000.00

     DQ      OIVERTED FLOW         .00       .00      86.00     986.00
                                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
265 KK    *     DB25a   *
          *             *
          ***************
                        Subbasin

             SUBBASIN RUNOFF DATA

267 BA         SUBBASIN CHARACTERISTICS
                     TAREA          .03  SUBBASIN AREA

268 LG         GREEN AND AMPT LOSS RATE
                     STRTL          .85  STARTING LOSS
                       DTH          .71  MOISTURE DEFICIT
                      PSIF         1.60  WETTING FRONT SUCTION
                     XKSAT          .16  HYDRAULIC CONDUCTIVITY
                     RTIMP        12.00  PERCENT IMPERVIOUS AREA

269 US         SNYDER UNITGRAPH
                        TP          .03  LAG
                        CP          .17  PEAKING COEFFICIENT

               SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                        ***
R INCREASED TO MINIMUM OF 0.5

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .08 HR,       R=    .83 HR
                                    SNYDER  TP=    .14 HR,      CP=    .17

                                          UNIT HYDROGRAPH
                                    53 END-OF-PERIOD ORDINATES
          12.       22.       20.       18.       17.       15.       14.       12.       11.       10.
           9.        8.        7.        7.        6.        5.        5.        4.        4.        4.
           3.        3.        3.        2.        2.        2.        2.        2.        1.        1.
           1.        1.        1.        1.        1.        1.        1.        1.        1.        0.
           0.        0.        0.        0.        0.        0.        0.        0.        0.        0.
           0.        0.        0.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
270 KK    *       C_6   *
          *             *
          ***************
                        Combine Basins 25a 25 24a 24 22

272 HC         HYDROGRAPH COMBINATION
                     ICOMP           3  NUMBER OF HYDROGRAPHS TO COMBINE
                                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
273 KK    *       C_7   *
          *             *
          ***************
                        Combine all Basins

275 HC         HYDROGRAPH COMBINATION
                     ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
276 KK    *    R_PD L   *
          *             *
          ***************
                        route Hydrograph Through Lower Airport East Pond

             HYDROGRAPH ROUTING DATA

278 RS         STORAGE ROUTING
```

```
                    NSTPS          1  NUMBER OF SUBREACHES
                     ITYP       STOR  TYPE OF INITIAL CONDITION
                    RSVRIC        .00  INITIAL CONDITION
                        X         .00 WORKING R AND D COEFFICIENT

279 SV            STORAGE         .0        .1       4.3      13.8      24.6

280 SQ          DISCHARGE         0.        6.        8.       10.       11.

281 SE          ELEVATION    4758.40   4760.00   4762.00   4764.00   4766.00
                                                          ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *             *
282 KK      *      PR_U   *
            *             *
            ***************
                        Retrieve Upper Pond Pipe Flow

284 DR            RETRIEVE DIVERSION HYDROGRAPH
                       ISTAD      U_Pipe  DIVERSION HYDROGRAPH IDENTIFICATION
                                                          ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *             *
285 KK      *     C_Out   *
            *             *
            ***************
                        Combine 2 Outflow Hydrographs at Canal

287 HC            HYDROGRAPH COMBINATION
                       ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                          ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *             *
 38 KK      *       R16   *
            *             *
            ***************
                        Subbasin

               SUBBASIN RUNOFF DATA

290 BA           SUBBASIN CHARACTERISTICS
                       TAREA        .16  SUBBASIN AREA

291 LG           GREEN AND AMPT LOSS RATE
                       STRTL        .34  STARTING LOSS
                         DTH        .35  MOISTURE DEFICIT
                        PSIF       1.33  WETTING FRONT SUCTION
                       XKSAT        .05  HYDRAULIC CONDUCTIVITY
                       RTIMP      51.00  PERCENT IMPERVIOUS AREA

292 US           SNYDER UNITGRAPH
                          TP        .08  LAG
                          CP        .48  PEAKING COEFFICIENT

                 SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                          ***

                                              UNIT HYDROGRAPH PARAMETERS
                                        CLARK   TC=    .08 HR,       R=    .15 HR
                                        SNYDER  TP=    .10 HR,      CP=    .48

                                                  UNIT HYDROGRAPH
                                              10 END-OF-PERIOD ORDINATES
               262.      410.      231.      130.       73.       41.       23.       13.       7.        4.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *             *
293 KK      *      R_14a  *
            *             *
            ***************
                        Route Hydrograph through R14A overland

               HYDROGRAPH ROUTING DATA

295 RK           KINEMATIC WAVE STREAM ROUTING
                          L       2500.  CHANNEL LENGTH
                          S       .0050  SLOPE
                          N        .040  CHANNEL ROUGHNESS COEFFICIENT
                         CA         .00  CONTRIBUTING AREA
                      SHAPE        TRAP  CHANNEL SHAPE
                         WD       10.00  BOTTOM WIDTH OR DIAMETER
```

```
                    Z          10.00  SIDE SLOPE
                NDXMIN             2  MINIMUM NUMBER OF DX INTERVALS
                                                                ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
296 KK    *       R14A  *
          *             *
          ***************
                        Subbasin

             SUBBASIN RUNOFF DATA

298 BA          SUBBASIN CHARACTERISTICS
                     TAREA          .04  SUBBASIN AREA

299 LG          GREEN AND AMPT LOSS RATE
                     STRTL          .18  STARTING LOSS
                       DTH          .19  MOISTURE DEFICIT
                      PSIF          .71  WETTING FRONT SUCTION
                     XKSAT          .03  HYDRAULIC CONDUCTIVITY
                     RTIMP        75.00  PERCENT IMPERVIOUS AREA

300 US          SNYDER UNITGRAPH
                       TP          .04  LAG
                       CP          .48  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                                ***
R INCREASED TO MINIMUM OF 0.5

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=    .08 HR,       R=    .14 HR
                                          SNYDER  TP=    .10 HR,      CP=    .49

                                                   UNIT HYDROGRAPH
                                               10 END-OF-PERIOD ORDINATES
               69.       107.       58.       32.       17.       10.        5.        3.        2.        1.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
301 KK    *      C_14A  *
          *             *
          ***************
                        Combine Hydrographs (R16, R14A)

303 HC          HYDROGRAPH COMBINATION
                     ICOMP             2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
304 KK    *      C_14A  *
          *             *
          ***************
                        Combine Hydrograph with Lower Pond Outfall

306 HC          HYDROGRAPH COMBINATION
                     ICOMP             2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
307 KK    *       R15   *      Subbasin
          *             *
          ***************

             SUBBASIN RUNOFF DATA

308 BA          SUBBASIN CHARACTERISTICS
                     TAREA          .30  SUBBASIN AREA

309 LG          GREEN AND AMPT LOSS RATE
                     STRTL          .53  STARTING LOSS
                       DTH          .50  MOISTURE DEFICIT
                      PSIF         1.86  WETTING FRONT SUCTION
                     XKSAT          .07  HYDRAULIC CONDUCTIVITY
                     RTIMP        22.00  PERCENT IMPERVIOUS AREA

310 US          SNYDER UNITGRAPH
                       TP          .15  LAG
                       CP          .28  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
```

***

UNIT HYDROGRAPH PARAMETERS
CLARK TC= .12 HR, R= .44 HR
SNYDER TP= .15 HR, CP= .28

UNIT HYDROGRAPH
29 END-OF-PERIOD ORDINATES

149.	325.	321.	265.	219.	181.	149.	123.	102.	84.
70.	57.	47.	39.	32.	27.	22.	18.	15.	12.
10.	8.	7.	6.	5.	4.	3.	3.	2.	

*** ***

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311 KK      **************
            *            *
            *     R_R13  *      Route Hydrograph through R13
            *            *
            **************
```

HYDROGRAPH ROUTING DATA

```
312 RS        STORAGE ROUTING
                    NSTPS          1  NUMBER OF SUBREACHES
                     ITYP       STOR  TYPE OF INITIAL CONDITION
                   RSVRIC        .00  INITIAL CONDITION
                        X        .00 WORKING R AND D COEFFICIENT

313 RC        NORMAL DEPTH CHANNEL
                      ANL       .035  LEFT OVERBANK N-VALUE
                     ANCH       .030  MAIN CHANNEL N-VALUE
                      ANR       .035  RIGHT OVERBANK N-VALUE
                    RLNTH       971.  REACH LENGTH
                      SEL      .0180  ENERGY SLOPE
                    ELMAX         .0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION
```

CROSS-SECTION DATA

		--- LEFT OVERBANK ---	+ ------ MAIN CHANNEL -------	+ --- RIGHT OVERBANK ---				
315 RY	ELEVATION	4762.00	4760.00	4758.00	4756.00	4756.00	4758.00	4760.00	4762.00
314 RX	DISTANCE	1000.00	1014.00	1022.00	1026.00	1036.00	1046.00	1050.00	1062.00

***

COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

STORAGE	.00	.08	.17	.28	.41	.55	.70	.87	1.06	1.26
OUTFLOW	.00	10.12	33.55	69.09	117.02	177.98	252.70	353.95	477.33	617.67
ELEVATION	4756.00	4756.32	4756.63	4756.95	4757.26	4757.58	4757.90	4758.21	4758.53	4758.84
STORAGE	1.47	1.69	1.93	2.18	2.46	2.77	3.10	3.47	3.86	4.28
OUTFLOW	775.39	950.90	1144.61	1354.75	1582.66	1834.71	2112.09	2416.15	2748.30	3110.17
ELEVATION	4759.16	4759.48	4759.79	4760.11	4760.42	4760.74	4761.05	4761.37	4761.69	4762.00

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN 34. TO 3110.
THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

*** ***

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316 KK      **************
            *            *
            *       R13  *      Subbasin
            *            *
            **************
```

SUBBASIN RUNOFF DATA

```
317 BA        SUBBASIN CHARACTERISTICS
                   TAREA         .04  SUBBASIN AREA

318 LG        GREEN AND AMPT LOSS RATE
                   STRTL         .48  STARTING LOSS
                     DTH         .45  MOISTURE DEFICIT
                    PSIF        1.68  WETTING FRONT SUCTION
                   XKSAT         .06  HYDRAULIC CONDUCTIVITY
                   RTIMP        2.00  PERCENT IMPERVIOUS AREA

319 US        SNYDER UNITGRAPH
                      TP         .05  LAG
                      CP         .21  PEAKING COEFFICIENT
```

SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

***

UNIT HYDROGRAPH PARAMETERS
CLARK TC= .08 HR, R= .66 HR
SNYDER TP= .14 HR, CP= .21

UNIT HYDROGRAPH
43 END-OF-PERIOD ORDINATES

20.	37.	32.	29.	25.	22.	20.	17.	15.	13.
12.	10.	9.	8.	7.	6.	6.	5.	4.	4.
3.	3.	3.	2.	2.	2.	2.	1.	1.	1.
1.	1.	1.	1.	1.	0.	0.	0.	0.	0.
0.	0.	0.							

*** ***

```
          ***************
          *             *
320 KK    *     C_R13   *      Combine Hydrographs
          *             *
          ***************

321 HC          HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
322 KK    *    Extra5   *      Overflow released from Basin 25
          *             *
          ***************

323 DR          RETRIEVE DIVERSION HYDROGRAPH
                      ISTAD       B5DIV  DIVERSION HYDROGRAPH IDENTIFICATION
                                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
324 KK    *       R14   *      Subbasin
          *             *
          ***************

             SUBBASIN RUNOFF DATA

325 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .06  SUBBASIN AREA

326 LG          GREEN AND AMPT LOSS RATE
                      STRTL         .98  STARTING LOSS
                        DTH         .78  MOISTURE DEFICIT
                       PSIF        1.49  WETTING FRONT SUCTION
                      XKSAT         .20  HYDRAULIC CONDUCTIVITY
                      RTIMP        2.00  PERCENT IMPERVIOUS AREA

327 US          SNYDER UNITGRAPH
                        TP          .35  LAG
                        CP          .22  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                                    ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .33 HR,       R=  1.40 HR
                                   SNYDER   TP=    .35 HR,      CP=   .22

                                              UNIT HYDROGRAPH
                                          91 END-OF-PERIOD ORDINATES
                    2.       9.      18.      23.      24.      23.      21.      20.      19.      18.
                   17.      16.      15.      14.      13.      12.      12.      11.      10.      10.
                    9.       9.       8.       8.       7.       7.       6.       6.       6.       5.
                    5.       5.       5.       4.       4.       4.       4.       3.       3.       3.
                    3.       3.       2.       2.       2.       2.       2.       2.       2.       2.
                    2.       1.       1.       1.       1.       1.       1.       1.       1.       1.
                    1.       1.       1.       1.       1.       1.       1.       1.       1.       0.
                    0.       0.       0.       0.       0.       0.       0.       0.       0.       0.
                    0.       0.       0.       0.       0.       0.       0.       0.       0.       0.
                    0.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
328 KK    *      C_R5   *      Combine Hydrographs (R14, Basin 5)
          *             *
          ***************

329 HC          HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
330 KK    *       R_5   *      Route Basin 5 & R14 through R5 overland
          *             *
          ***************

             HYDROGRAPH ROUTING DATA

331 RK          KINEMATIC WAVE STREAM ROUTING
                          L      10500.  CHANNEL LENGTH
```

```
                    S       .0080  SLOPE
                    N        .030  CHANNEL ROUGHNESS COEFFICIENT
                   CA         .00  CONTRIBUTING AREA
                SHAPE        TRAP  CHANNEL SHAPE
                   WD       10.00  BOTTOM WIDTH OR DIAMETER
                    Z       20.00  SIDE SLOPE
               NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                    ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
332 KK    *        R5   *      Subbasin
          *             *
          ***************

            SUBBASIN RUNOFF DATA

333 BA        SUBBASIN CHARACTERISTICS
                 TAREA         .08  SUBBASIN AREA

334 LG        GREEN AND AMPT LOSS RATE
                 STRTL         .89  STARTING LOSS
                   DTH         .73  MOISTURE DEFICIT
                  PSIF        1.55  WETTING FRONT SUCTION
                 XKSAT         .17  HYDRAULIC CONDUCTIVITY
                 RTIMP        9.00  PERCENT IMPERVIOUS AREA

335 US        SNYDER UNITGRAPH
                    TP         .12  LAG
                    CP         .20  PEAKING COEFFICIENT

              SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                    ***
                                              UNIT HYDROGRAPH PARAMETERS
                                        CLARK   TC=    .08 HR,       R=    .69 HR
                                       SNYDER   TP=    .14 HR,      CP=    .20

                                                UNIT HYDROGRAPH
                                          45 END-OF-PERIOD ORDINATES
              37.       70.       62.       55.       49.       43.       38.       34.       30.       27.
              24.       21.       19.       16.       15.       13.       11.       10.        9.        8.
               7.        6.        5.        5.        4.        4.        3.        3.        3.        2.
               2.        2.        2.        1.        1.        1.        1.        1.        1.        1.
               1.        1.        0.        0.        0.

.* *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
336 KK    *        C3   *      Corcoran Wash at H Road and 25 Road
          *             *
          ***************

            SUBBASIN RUNOFF DATA

337 BA        SUBBASIN CHARACTERISTICS
                 TAREA         .56  SUBBASIN AREA

338 LG        GREEN AND AMPT LOSS RATE
                 STRTL         .56  STARTING LOSS
                   DTH         .52  MOISTURE DEFICIT
                  PSIF        1.94  WETTING FRONT SUCTION
                 XKSAT         .07  HYDRAULIC CONDUCTIVITY
                 RTIMP        2.00  PERCENT IMPERVIOUS AREA

339 US        SNYDER UNITGRAPH
                    TP         .25  LAG
                    CP         .31  PEAKING COEFFICIENT

              SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                    ***
                                              UNIT HYDROGRAPH PARAMETERS
                                        CLARK   TC=    .24 HR,       R=    .67 HR
                                       SNYDER   TP=    .25 HR,      CP=    .30

                                                UNIT HYDROGRAPH
                                          45 END-OF-PERIOD ORDINATES
              73.      258.      409.      423.      374.      330.      292.      258.      228.      201.
             178.      157.      139.      122.      108.       96.       84.       75.       66.       58.
              51.       45.       40.       35.       31.       28.       24.       22.       19.       17.
              15.       13.       12.       10.        9.        8.        7.        6.        6.        5.
               4.        4.        3.        3.        3.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
340 KK    *        I5   *      Start Indian Creek Basin
          *             *
          ***************

            SUBBASIN RUNOFF DATA
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341 BA          SUBBASIN CHARACTERISTICS
                     TAREA          .80  SUBBASIN AREA

342 LG          GREEN AND AMPT LOSS RATE
                    STRTL          .47  STARTING LOSS
                      DTH          .45  MOISTURE DEFICIT
                     PSIF         1.68  WETTING FRONT SUCTION
                    XKSAT          .06  HYDRAULIC CONDUCTIVITY
                    RTIMP         2.00  PERCENT IMPERVIOUS AREA

343 US          SNYDER UNITGRAPH
                      TP          .43  LAG
                      CP          .32  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=   .44 HR,       R=  1.07 HR
                                   SNYDER   TP=   .43 HR,      CP=   .32

                                          UNIT HYDROGRAPH
                                    71 END-OF-PERIOD ORDINATES
     27.     103.     209.     310.     375.     385.     359.     332.     307.     284.
    263.     243.     225.     208.     192.     178.     164.     152.     141.     130.
    120.     111.     103.      95.      88.      81.      75.      70.      64.      60.
     55.      51.      47.      44.      40.      37.      35.      32.      30.      27.
     25.      23.      22.      20.      19.      17.      16.      15.      14.      13.
     12.      11.      10.       9.       8.       8.       7.       7.       6.       6.
      5.       5.       5.       4.       4.       4.       3.       3.       3.       3.
      2.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
344 KK    *      R_I5   *
          *             *
          ***************
                    Route Hydrograph Through Existing Dam

             HYDROGRAPH ROUTING DATA

346 RS          STORAGE ROUTING
                    NSTPS            1  NUMBER OF SUBREACHES
                     ITYP         STOR  TYPE OF INITIAL CONDITION
                   RSVRIC          .00  INITIAL CONDITION
                        X          .00 WORKING R AND D COEFFICIENT

347 SV            STORAGE          .0       2.2       4.7       7.2      10.0      12.9      16.1      19.4      22.9      26.6

348 SQ          DISCHARGE          0.       0.        0.        0.        0.        0.        0.       93.      263.      483.

349 SE          ELEVATION     5190.00   5191.00   5192.00   5193.00   5194.00   5195.00   5196.00   5197.00   5198.00   5199.00

                                                  ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
350 KK    *       I4    *      Subbasin
          *             *
          ***************

             SUBBASIN RUNOFF DATA

351 BA          SUBBASIN CHARACTERISTICS
                     TAREA         1.21  SUBBASIN AREA

352 LG          GREEN AND AMPT LOSS RATE
                    STRTL          .62  STARTING LOSS
                      DTH          .57  MOISTURE DEFICIT
                     PSIF         2.12  WETTING FRONT SUCTION
                    XKSAT          .08  HYDRAULIC CONDUCTIVITY
                    RTIMP         2.00  PERCENT IMPERVIOUS AREA

353 US          SNYDER UNITGRAPH
                      TP          .77  LAG
                      CP          .34  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=   .79 HR,       R=  1.75 HR
                                   SNYDER   TP=   .77 HR,      CP=   .34

                                          UNIT HYDROGRAPH
                                   117 END-OF-PERIOD ORDINATES
     11.      40.      83.     134.     191.     247.     294.     330.     352.     355.
    342.     326.     311.     296.     282.     269.     257.     245.     234.     223.
    212.     202.     193.     184.     176.     167.     160.     152.     145.     138.
    132.     126.     120.     114.     109.     104.      99.      95.      90.      86.
     82.      78.      75.      71.      68.      65.      62.      59.      56.      53.
     51.      49.      46.      44.      42.      40.      38.      37.      35.      33.
```

32.	30.	29.	27.	26.	25.	24.	23.	22.	21.
20.	19.	18.	17.	16.	16.	15.	14.	13.	13.
12.	12.	11.	11.	10.	10.	9.	9.	8.	8.
8.	7.	7.	7.	6.	6.	6.	5.	5.	5.
5.	5.	4.	4.	4.	4.	4.	3.	3.	3.
3.	3.	3.	3.	2.	2.	2.			

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          N        .040  CHANNEL ROUGHNESS COEFFICIENT
         CA         .00  CONTRIBUTING AREA
      SHAPE        TRAP  CHANNEL SHAPE
         WD       10.00  BOTTOM WIDTH OR DIAMETER
          Z        5.00  SIDE SLOPE
     NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
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          ***************
          *             *
364 KK    *      I2     *      Subbasin
          *             *
          ***************

     SUBBASIN RUNOFF DATA

365 BA      SUBBASIN CHARACTERISTICS
              TAREA         .97  SUBBASIN AREA

366 LG      GREEN AND AMPT LOSS RATE
              STRTL         .64  STARTING LOSS
                DTH         .57  MOISTURE DEFICIT
               PSIF        2.12  WETTING FRONT SUCTION
              XKSAT         .08  HYDRAULIC CONDUCTIVITY
              RTIMP        3.00  PERCENT IMPERVIOUS AREA

367 US      SNYDER UNITGRAPH
                TP          .54  LAG
                CP          .32  PEAKING COEFFICIENT

     SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                  ***

                                    UNIT HYDROGRAPH PARAMETERS
                              CLARK   TC=    .54 HR,       R=  1.32 HR
                              SNYDER  TP=    .54 HR,      CP=   .33

                                    UNIT HYDROGRAPH
                                 88 END-OF-PERIOD ORDINATES
      20.      73.     151.     238.     315.     367.     381.     366.     343.     322.
     303.     284.     267.     251.     235.     221.     207.     195.     183.     172.
     161.     151.     142.     133.     125.     118.     110.     104.      97.      91.
      86.      81.      76.      71.      67.      63.      59.      55.      52.      49.
      46.      43.      40.      38.      36.      33.      31.      29.      28.      26.
      24.      23.      21.      20.      19.      18.      17.      16.      15.      14.
      13.      12.      11.      11.      10.       9.       9.       8.       8.       7.
       7.       6.       6.       6.       5.       5.       5.       4.       4.       4.
       4.       3.       3.       3.       3.       3.       3.       2.
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          ***************
          *             *
368 KK    *     C_I2    *      Combine I3 and I2
          *             *
          ***************

369 HC      HYDROGRAPH COMBINATION
              ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
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          ***************
          *             *
370 KK    *     R_I2    *
          *             *
          ***************
                    Route Hydrograph Through Existing Dam

     HYDROGRAPH ROUTING DATA

372 RS      STORAGE ROUTING
              NSTPS           1  NUMBER OF SUBREACHES
               ITYP        STOR  TYPE OF INITIAL CONDITION
             RSVRIC         .00  INITIAL CONDITION
                  X         .00 WORKING R AND D COEFFICIENT

373 SV      STORAGE          .0      3.1      6.7     10.9     15.9     21.8     28.6     36.4     45.2     55.1
                           66.1     78.2     91.5    106.1    122.0    139.2    176.2    236.0    257.3    280.1

375 SQ      DISCHARGE        0.       0.      13.      18.      23.      26.      29.      32.      35.      37.
                           39.      41.      43.      45.      47.      49.      52.     229.     235.     240.

377 SE      ELEVATION  4890.00  4892.00  4894.00  4896.00  4898.00  4900.00  4902.00  4904.00  4906.00  4908.00
                       4910.00  4912.00  4914.00  4916.00  4918.00  4920.00  4924.00  4930.00  4932.00  4934.00
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          ***************
          *             *
 79 KK    *       I1    *      Subbasin
          *             *
          ***************

             SUBBASIN RUNOFF DATA

380 BA         SUBBASIN CHARACTERISTICS
                    TAREA         .76  SUBBASIN AREA

381 LG         GREEN AND AMPT LOSS RATE
                   STRTL         .81  STARTING LOSS
                     DTH         .69  MOISTURE DEFICIT
                    PSIF        1.65  WETTING FRONT SUCTION
                   XKSAT         .14  HYDRAULIC CONDUCTIVITY
                   RTIMP        3.00  PERCENT IMPERVIOUS AREA

382 US         SNYDER UNITGRAPH
                     TP         .70  LAG
                     CP         .31  PEAKING COEFFICIENT

               SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .70 HR,       R=  1.80 HR
                                   SNYDER   TP=    .69 HR,      CP=   .31

                                          UNIT HYDROGRAPH
                                    119 END-OF-PERIOD ORDINATES
        8.      29.      60.      97.     137.     173.     200.     218.     222.     214.
      204.     195.     186.     178.     169.     162.     154.     147.     141.     134.
      128.     122.     117.     112.     107.     102.      97.      93.      89.      84.
       81.      77.      74.      70.      67.      64.      61.      58.      56.      53.
       51.      48.      46.      44.      42.      40.      38.      37.      35.      33.
       32.      30.      29.      28.      26.      25.      24.      23.      22.      21.
       20.      19.      18.      17.      17.      16.      15.      14.      14.      13.
       13.      12.      11.      11.      10.      10.      10.       9.       9.       8.
        8.       8.       7.       7.       7.       6.       6.       6.       5.       5.
        5.       5.       5.       4.       4.       4.       4.       4.       3.       3.
        3.       3.       3.       3.       3.       2.       2.       2.       2.       2.
        2.       2.       2.       2.       2.       2.       1.       1.       1.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
383 KK    *      C_I1   *      Combine I2 and I1
          *             *
          ***************

384 HC         HYDROGRAPH COMBINATION
                   ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                  ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
385 KK    *       I7    *      Subbasin
          *             *
          ***************

             SUBBASIN RUNOFF DATA

386 BA         SUBBASIN CHARACTERISTICS
                    TAREA        1.03  SUBBASIN AREA

387 LG         GREEN AND AMPT LOSS RATE
                   STRTL         .45  STARTING LOSS
                     DTH         .43  MOISTURE DEFICIT
                    PSIF        1.59  WETTING FRONT SUCTION
                   XKSAT         .06  HYDRAULIC CONDUCTIVITY
                   RTIMP        2.00  PERCENT IMPERVIOUS AREA

388 US         SNYDER UNITGRAPH
                     TP         .82  LAG
                     CP         .34  PEAKING COEFFICIENT

               SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .82 HR,       R=  1.95 HR
                                   SNYDER   TP=    .82 HR,      CP=   .33

                                          UNIT HYDROGRAPH
                                    130 END-OF-PERIOD ORDINATES
        8.      29.      59.      96.     137.     179.     216.     246.     266.     274.
      269.     257.     247.     236.     226.     217.     208.     199.     191.     183.
      175.     168.     161.     154.     148.     142.     136.     130.     125.     119.
      114.     110.     105.     101.      97.      92.      89.      85.      81.      78.
       75.      72.      69.      66.      63.      60.      58.      55.      53.      51.
       49.      47.      45.      43.      41.      39.      38.      36.      35.      33.
       32.      31.      29.      28.      27.      26.      25.      24.      23.      22.
       21.      20.      19.      18.      18.      17.      16.      15.      15.      14.
       14.      13.      12.      12.      11.      11.      11.      10.      10.       9.
        9.       8.       8.       8.       7.       7.       7.       7.       6.       6.
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```
            6.        6.        5.        5.        5.        5.        4.        4.        4.        4.
            4.        4.        3.        3.        3.        3.        3.        3.        3.        3.
            2.        2.        2.        2.        2.        2.        2.        2.        2.        2.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
389 KK    *      R_I7   *
          *             *
          ***************
                        Route Hydrograph Through Existing Dam

             HYDROGRAPH ROUTING DATA

391 RS          STORAGE ROUTING
                     NSTPS          1  NUMBER OF SUBREACHES
                      ITYP       STOR  TYPE OF INITIAL CONDITION
                    RSVRIC        .00  INITIAL CONDITION
                         X        .00 WORKING R AND D COEFFICIENT

392 SV          STORAGE          .0        .3        .6       1.0       1.5       2.1       2.8       3.6       4.6       5.6

393 SQ          DISCHARGE        0.        0.        0.        0.        0.        0.        0.       62.      175.      322.

394 SE          ELEVATION     4820.00   4821.00   4822.00   4823.00   4824.00   4825.00   4826.00   4827.00   4828.00   4829.00

                                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
395 KK    *        I6   *      Subbasin
          *             *
          ***************

             SUBBASIN RUNOFF DATA

396 BA          SUBBASIN CHARACTERISTICS
                     TAREA         .45  SUBBASIN AREA

397 LG          GREEN AND AMPT LOSS RATE
                     STRTL         .75  STARTING LOSS
                       DTH         .64  MOISTURE DEFICIT
                      PSIF        1.83  WETTING FRONT SUCTION
                     XKSAT         .11  HYDRAULIC CONDUCTIVITY
                     RTIMP        4.00  PERCENT IMPERVIOUS AREA

398 US          SNYDER UNITGRAPH
                       TP          .19  LAG
                       CP          .28  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                        ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=    .15 HR,       R=    .56 HR
                                        SNYDER    TP=    .19 HR,      CP=    .29

                                                    UNIT HYDROGRAPH
                                                37 END-OF-PERIOD ORDINATES
                     143.      365.      413.      356.      307.      264.      228.      196.      169.      146.
                     126.      108.       93.       80.       69.       60.       51.       44.       38.       33.
                      28.       24.       21.       18.       16.       13.       12.       10.        9.        7.
                       6.        6.        5.        4.        4.        3.        3.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
399 KK    *      C_I6   *      Combine I7 and I6
          *             *
          ***************

400 HC          HYDROGRAPH COMBINATION
                     ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                        ***

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
401 KK    *        I8   *      Subbasin
          *             *
          ***************

             SUBBASIN RUNOFF DATA

402 BA          SUBBASIN CHARACTERISTICS
                     TAREA         .41  SUBBASIN AREA
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```
 403 LG          GREEN AND AMPT LOSS RATE
                       STRTL         .65  STARTING LOSS
                         DTH         .59  MOISTURE DEFICIT
                        PSIF        2.16  WETTING FRONT SUCTION
                       XKSAT         .08  HYDRAULIC CONDUCTIVITY
                       RTIMP        3.00  PERCENT IMPERVIOUS AREA

 404 US          SNYDER UNITGRAPH
                         TP         .24  LAG
                         CP         .28  PEAKING COEFFICIENT

                 SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                  ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=   .23 HR,       R=   .69 HR
                                         SNYDER   TP=   .24 HR,      CP=   .28

                                                UNIT HYDROGRAPH
                                          46 END-OF-PERIOD ORDINATES
                   58.      201.      303.      303.      269.      238.      211.      186.      165.      146.
                  130.      115.      102.       90.       80.       71.       62.       55.       49.       43.
                   38.       34.       30.       27.       24.       21.       19.       16.       15.       13.
                   11.       10.        9.        8.        7.        6.        5.        5.        4.        4.
                    3.        3.        3.        2.        2.        2.

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              **************
              *             *
 405 KK       *        I9   *      SUbbasin
              *             *
              **************

                 SUBBASIN RUNOFF DATA

 406 BA            SUBBASIN CHARACTERISTICS
                       TAREA         .68  SUBBASIN AREA

 407 LG          GREEN AND AMPT LOSS RATE
                       STRTL         .52  STARTING LOSS
                         DTH         .50  MOISTURE DEFICIT
                        PSIF        1.86  WETTING FRONT SUCTION
                       XKSAT         .07  HYDRAULIC CONDUCTIVITY
                       RTIMP        2.00  PERCENT IMPERVIOUS AREA

 408 US          SNYDER UNITGRAPH
                         TP         .51  LAG
                         CP         .31  PEAKING COEFFICIENT

                 SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                  ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=   .52 HR,       R=  1.32 HR
                                         SNYDER   TP=   .51 HR,      CP=   .31

                                                UNIT HYDROGRAPH
                                          88 END-OF-PERIOD ORDINATES
                   15.       55.      113.      177.      232.      265.      268.      254.      238.      224.
                  210.      197.      185.      174.      163.      153.      144.      135.      127.      119.
                  112.      105.       98.       92.       87.       81.       76.       72.       67.       63.
                   59.       56.       52.       49.       46.       43.       41.       38.       36.       34.
                   32.       30.       28.       26.       25.       23.       22.       20.       19.       18.
                   17.       16.       15.       14.       13.       12.       12.       11.       10.       10.
                    9.        8.        8.        7.        7.        7.        6.        6.        5.        5.
                    5.        4.        4.        4.        4.        3.        3.        3.        3.        3.
                    3.        2.        2.        2.        2.        2.        2.        2.
1
                                                RUNOFF SUMMARY
                                          FLOW IN CUBIC FEET PER SECOND
                                          TIME IN HOURS,  AREA IN SQUARE MILES

                                                                                                                  PEAK      TIME OF      AVERAGE FLOW FOR MAXIMUM PERIOD                BASIN      MAXIMUM      TIME OF
          OPERATION                                STATION                                                        FLOW      PEAK         6-HOUR      24-HOUR      72-HOUR           AREA       STAGE        MAX STAGE
+
          HYDROGRAPH AT                            L11b                                                           897.      13.00         375.        101.         98.              7.48
+         ROUTED TO                                RL11bD                                                         893.      13.17         373.        101.         97.              7.48
+         HYDROGRAPH AT                            L11aU                                                          150.      12.50          50.         13.         13.              1.01
+         2 COMBINED AT                            C_11aU                                                         995.      13.17         419.        114.        110.              8.49
+         DIVERSION TO                             D-Pd                                                           820.      13.17         376.         97.         93.              8.49
+         HYDROGRAPH AT                            D-LPd                                                          174.      13.17          44.         17.         16.              8.49
+         HYDROGRAPH AT                            SRD-Pd                                                         820.      13.17         376.         97.         93.              8.49
          2 COMBINED AT                            C_11aD                                                         995.      13.17         419.        114.        110.              8.49
          HYDROGRAPH AT
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+		L11aD	1.	12.08	0.	0.	0.	.02
+	2 COMBINED AT	C_L11	995.	13.17	419.	114.	110.	8.50
+	ROUTED TO	R_L10	991.	13.25	419.	114.	110.	8.50
+	HYDROGRAPH AT	L10	193.	12.50	62.	16.	16.	.98
+	2 COMBINED AT	C_L10	1118.	13.17	478.	130.	125.	9.49
+	ROUTED TO	R_L9M	1114.	13.25	477.	130.	125.	9.49
+	HYDROGRAPH AT	L9.1	391.	13.00	189.	54.	52.	2.72
+	ROUTED TO	R_L9T	390.	13.08	189.	54.	52.	2.72
+	HYDROGRAPH AT	L9	16.	12.17	4.	1.	1.	.21
+	2 COMBINED AT	C_L9T	398.	13.08	192.	55.	53.	2.93
+	2 COMBINED AT	C_L9M	1493.	13.17	667.	184.	177.	12.41
+	HYDROGRAPH AT	DB21	84.	12.08	12.	3.	3.	.15
+	ROUTED TO	PD A	9.	13.33	8.	3.	3.	.15
+	ROUTED TO	R21a	9.	13.67	8.	3.	3.	.15
+	HYDROGRAPH AT	DB21a	206.	12.08	26.	7.	6.	.34
+	HYDROGRAPH AT	R17	90.	12.08	13.	3.	3.	.16
+	ROUTED TO	R_17_	89.	12.08	12.	3.	3.	.16
+	3 COMBINED AT	C21a	294.	12.08	45.	13.	12.	.65
+	ROUTED TO	WF_PD1	33.	13.33	30.	12.	12.	.65
+	ROUTED TO	RPD1	33.	13.42	30.	12.	12.	.65
+	HYDROGRAPH AT	DB23b	86.	11.92	9.	3.	3.	.06
+	2 COMBINED AT	C23	98.	12.00	36.	15.	15.	.71
+	ROUTED TO	R23b	98.	12.00	36.	15.	15.	.71
+	HYDROGRAPH AT	DB23c	112.	12.00	12.	4.	4.	.08
+	ROUTED TO	R23c	110.	12.00	12.	4.	4.	.08
+	HYDROGRAPH AT	DB23d	20.	12.00	3.	1.	1.	.02
+	ROUTED TO	R23d	19.	12.00	3.	1.	1.	.02
+	3 COMBINED AT	C23	226.	12.00	49.	20.	20.	.81
+	ROUTED TO	WF_PD2	85.	12.17	49.	20.	20.	.81
+	ROUTED TO	RWF_P2	85.	12.25	49.	20.	20.	.81
+	HYDROGRAPH AT	DB23e	103.	11.92	11.	4.	4.	.07
+	2 COMBINED AT	C23e	177.	12.00	58.	24.	23.	.88
+	ROUTED TO	R23e	175.	12.00	58.	24.	23.	.88
+	HYDROGRAPH AT	DB23a	3.	12.08	1.	0.	0.	.02
+	2 COMBINED AT	C23a	178.	12.00	58.	24.	23.	.90
+	ROUTED TO	R_PD U	20.	21.67	16.	11.	11.	.90
	DIVERSION TO							

+		U_Pipe	14.	21.25	14.	10.	10.	.90
	HYDROGRAPH AT	D_Pd U	5.	21.67	2.	1.	1.	.90
+	HYDROGRAPH AT	DB22	106.	12.08	17.	4.	4.	.22
+	ROUTED TO	R24_P	103.	12.17	17.	4.	4.	.22
+	ROUTED TO	R24_O	102.	12.17	17.	4.	4.	.22
+	HYDROGRAPH AT	DB24a	11.	12.08	2.	1.	1.	.02
+	DIVERSION TO	B4aDIV	0.	12.00	0.	0.	0.	.02
+	HYDROGRAPH AT	B4aDIV	11.	12.08	2.	1.	1.	.02
+	ROUTED TO	R24_P	11.	12.08	2.	1.	1.	.02
+	ROUTED TO	R24_O	11.	12.17	2.	1.	1.	.02
+	HYDROGRAPH AT	DB24	269.	12.08	32.	11.	10.	.23
+	3 COMBINED AT	C24	369.	12.08	51.	16.	15.	.48
+	HYDROGRAPH AT	OR24a	0.	12.00	0.	0.	0.	.02
+	ROUTED TO	R25_O	0.	12.58	0.	0.	0.	.02
+	ROUTED TO	R25_P	0.	12.75	0.	0.	0.	.02
+	HYDROGRAPH AT	DB25	13.	12.08	2.	1.	1.	.02
+	2 COMBINED AT	C25	13.	12.08	2.	1.	1.	.02
+	DIVERSION TO	B5DIV	0.	.00	0.	0.	0.	.02
	HYDROGRAPH AT	B5DIV	13.	12.08	2.	1.	1.	.02
+	HYDROGRAPH AT	DB25a	5.	12.08	1.	0.	0.	.03
+	3 COMBINED AT	C_6	387.	12.08	54.	17.	16.	.53
+	2 COMBINED AT	C_7	386.	12.08	54.	17.	17.	1.43
+	ROUTED TO	R_PD L	11.	14.92	11.	8.	8.	1.43
+	HYOROGRAPH AT	PR_U	14.	21.25	14.	10.	10.	.90
+	2 COMBINED AT	C_Out	25.	19.58	25.	18.	18.	1.43
+	HYDROGRAPH AT	R16	181.	12.00	18.	6.	6.	.16
+	ROUTED TO	R_14a	168.	12.08	18.	6.	6.	.16
+	HYDROGRAPH AT	R14A	48.	12.00	6.	2.	2.	.04
+	2 COMBINED AT	C_14A	207.	12.08	24.	8.	7.	.19
+	2 COMBINED AT	C_14A	226.	12.08	46.	26.	25.	1.62
+	HYDROGRAPH AT	R15	167.	12.08	23.	7.	7.	.30
+	ROUTED TO	R_R13	166.	12.08	23.	7.	7.	.30
+	HYDROGRAPH AT	R13	18.	12.08	3.	1.	1.	.04
+	2 COMBINED AT	C_R13	184.	12.08	26.	8.	7.	.34
+	HYDROGRAPH AT	Extra5	0.	.00	0.	0.	0.	.02
	HYDROGRAPH AT	R14	2.	12.33	1.	0.	0.	.06
	2 COMBINED AT							

+		C_R5	2.	12.33	1.	0.	0.	.06
	ROUTED TO							
+		R_5	2.	14.25	1.	0.	0.	.06
	HYDROGRAPH AT							
+		R5	13.	12.08	2.	1.	1.	.08
	HYDROGRAPH AT							
+		C3	196.	12.17	31.	8.	8.	.56
	HYDROGRAPH AT							
+		I5	221.	12.33	54.	14.	13.	.80
	ROUTED TO							
+		R_I5	68.	13.67	23.	6.	5.	.80
	HYDROGRAPH AT							
+		I4	149.	12.67	54.	14.	14.	1.21
	2 COMBINED AT							
+		C_I4	159.	13.42	76.	20.	19.	2.01
	HYDROGRAPH AT							
+		I3	410.	13.00	186.	52.	50.	3.21
	2 COMBINED AT							
+		C_I3	539.	13.17	261.	71.	69.	5.22
	ROUTED TO							
+		R_I3_O	538.	13.25	261.	71.	69.	5.22
	HYDROGRAPH AT							
+		I2	155.	12.42	44.	12.	11.	.97
	2 COMBINED AT							
+		C_I2	638.	12.92	303.	83.	80.	6.19
	ROUTED TO							
+		R_I2	48.	18.50	48.	24.	23.	6.19
	HYDROGRAPH AT							
+		I1	51.	12.58	19.	5.	5.	.76
	2 COMBINED AT							
+		C_I1	75.	12.75	60.	29.	28.	6.95
	HYDROGRAPH AT							
+		I7	172.	12.67	69.	19.	18.	1.03
	ROUTED TO							
+		R_I7	167.	12.83	65.	17.	17.	1.03
	HYDROGRAPH AT							
+		I6	117.	12.08	16.	4.	4.	.45
	2 COMBINED AT							
+		C_I6	206.	12.75	79.	21.	21.	1.48
	HYDROGRAPH AT							
+		I8	116.	12.17	18.	5.	5.	.41
	HYDROGRAPH AT							
+		I9	140.	12.42	40.	10.	10.	.68

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SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	INTERPOLATED TO COMPUTATION INTERVAL DT	PEAK	TIME TO PEAK	VOLUME
		(MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	(MIN)	(IN)
FOR STORM = 1 STORM AREA (SQ MI) =				.01					
	RL11bD MANE	4.85	935.21	791.70	.52	5.00	931.67	790.00	.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2095E+03 EXCESS= .0000E+00 OUTFLOW= .2092E+03 BASIN STORAGE= .1942E+00 PERCENT ERROR= .1

FOR STORM = 2 STORM AREA (SQ MI) =				14.00				
	RL11bD MANE	4.93	891.98	793.38	.50	5.00	889.30	790.00	.50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2000E+03 EXCESS= .0000E+00 OUTFLOW= .1997E+03 BASIN STORAGE= .1893E+00 PERCENT ERROR= .1

FOR STORM = 3 STORM AREA (SQ MI) =				24.00				
	RL11bD MANE	4.96	870.32	794.25	.49	5.00	869.54	790.00	.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1952E+03 EXCESS= .0000E+00 OUTFLOW= .1949E+03 BASIN STORAGE= .1926E+00 PERCENT ERROR= .1

FOR STORM = 4 STORM AREA (SQ MI) =				36.50				
	RL11bD MANE	4.99	850.27	790.21	.48	5.00	849.55	790.00	.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1905E+03 EXCESS= .0000E+00 OUTFLOW= .1902E+03 BASIN STORAGE= .1821E+00 PERCENT ERROR= .0

FOR STORM = 5 STORM AREA (SQ MI) =				50.00				
	RL11bD MANE	5.00	834.99	790.86	.47	5.00	832.42	790.00	.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1871E+03 EXCESS= .0000E+00 OUTFLOW= .1868E+03 BASIN STORAGE= .1926E+00 PERCENT ERROR= .1

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          FOR STORM = 1  STORM AREA (SQ MI) =        .01
             R_L9T  MANE          2.04    400.58    784.46       .76      5.00    400.21    785.00         .76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1103E+03 EXCESS= .0000E+00 OUTFLOW= .1102E+03 BASIN STORAGE= .1121E+00 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =       14.00
             R_L9T  MANE          2.15    388.00    784.46       .73      5.00    387.62    785.00         .73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1066E+03 EXCESS= .0000E+00 OUTFLOW= .1065E+03 BASIN STORAGE= .1113E+00 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =       24.00
             R_L9T  MANE          2.18    381.18    785.16       .72      5.00    381.16    785.00         .72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1048E+03 EXCESS= .0000E+00 OUTFLOW= .1047E+03 BASIN STORAGE= .1086E+00 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =       36.50
             R_L9T  MANE          2.14    374.89    785.03       .71      5.00    374.89    785.00         .71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1030E+03 EXCESS= .0000E+00 OUTFLOW= .1029E+03 BASIN STORAGE= .1093E+00 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =       50.00
             R_L9T  MANE          2.19    370.81    784.45       .70      5.00    370.42    785.00         .70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1017E+03 EXCESS= .0000E+00 OUTFLOW= .1016E+03 BASIN STORAGE= .1092E+00 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
              R21a  MANE          5.00      8.83    819.44       .74      5.00      8.83    820.00         .74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5979E+01 EXCESS= .0000E+00 OUTFLOW= .5969E+01 BASIN STORAGE= .8871E-02 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =       14.00
              R21a  MANE          5.08      8.71    819.61       .71      5.00      8.71    820.00         .71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5778E+01 EXCESS= .0000E+00 OUTFLOW= .5767E+01 BASIN STORAGE= .9307E-02 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =       24.00
              R21a  MANE          5.07      8.65    820.52       .70      5.00      8.65    820.00         .70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5679E+01 EXCESS= .0000E+00 OUTFLOW= .5669E+01 BASIN STORAGE= .8751E-02 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =       36.50
              R21a  MANE          5.00      8.59    817.30       .69      5.00      8.59    820.00         .69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5578E+01 EXCESS= .0000E+00 OUTFLOW= .5570E+01 BASIN STORAGE= .8682E-02 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =       50.00
              R21a  MANE          5.01      8.55    821.12       .68      5.00      8.55    820.00         .68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5509E+01 EXCESS= .0000E+00 OUTFLOW= .5499E+01 BASIN STORAGE= .8088E-02 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
              R_17_  MANE          1.83     90.43    727.50       .74      5.00     89.59    725.00         .74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6387E+01 EXCESS= .0000E+00 OUTFLOW= .6386E+01 BASIN STORAGE= .1141E-02 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =       14.00
              R_17_  MANE          1.98     87.72    728.15       .71      5.00     87.07    725.00         .71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6172E+01 EXCESS= .0000E+00 OUTFLOW= .6164E+01 BASIN STORAGE= .1327E-02 PERCENT ERROR=    .1

          FOR STORM = 3  STORM AREA (SQ MI) =       24.00
              R_17_  MANE          1.85     86.75    727.89       .70      5.00     85.81    725.00         .70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6064E+01 EXCESS= .0000E+00 OUTFLOW= .6062E+01 BASIN STORAGE= .1328E-02 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =       36.50
              R_17_  MANE          1.86     85.52    728.04       .69      5.00     84.54    725.00         .69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5956E+01 EXCESS= .0000E+00 OUTFLOW= .5955E+01 BASIN STORAGE= .1147E-02 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =       50.00
              R_17_  MANE          1.98     84.34    728.83       .68      5.00     83.64    725.00         .68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5881E+01 EXCESS= .0000E+00 OUTFLOW= .5876E+01 BASIN STORAGE= .1173E-02 PERCENT ERROR=    .1

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
              RPD1  MANE           .82     33.80    806.31       .72      5.00     33.80    805.00         .72
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CONTINUITY SUMMARY (AC-FT) - INFLOW= .2512E+02 EXCESS= .0000E+00 OUTFLOW= .2510E+02 BASIN STORAGE= .2114E-01 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
              RPD1  MANE          .93     33.28    802.67       .70      5.00     33.28    805.00         .70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2438E+02 EXCESS= .0000E+00 OUTFLOW= .2436E+02 BASIN STORAGE= .1754E-01 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
              RPD1  MANE          .84     33.02    802.14       .69      5.00     33.02    805.00         .69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2401E+02 EXCESS= .0000E+00 OUTFLOW= .2399E+02 BASIN STORAGE= .1595E-01 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
              RPD1  MANE          .85     32.76    801.88       .68      5.00     32.76    805.00         .68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2363E+02 EXCESS= .0000E+00 OUTFLOW= .2362E+02 BASIN STORAGE= .1432E-01 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
              RPD1  MANE          .83     32.58    802.23       .67      5.00     32.57    805.00         .67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2335E+02 EXCESS= .0000E+00 OUTFLOW= .2333E+02 BASIN STORAGE= .1351E-01 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
              R23b  MANE          .44     98.73    720.24       .82      5.00     98.72    720.00         .82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3123E+02 EXCESS= .0000E+00 OUTFLOW= .3121E+02 BASIN STORAGE= .1234E-01 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
              R23b  MANE          .44     96.77    720.29       .80      5.00     96.76    720.00         .80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3037E+02 EXCESS= .0000E+00 OUTFLOW= .3036E+02 BASIN STORAGE= .1016E-01 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
              R23b  MANE          .45     95.81    720.18       .79      5.00     95.79    720.00         .79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2994E+02 EXCESS= .0000E+00 OUTFLOW= .2993E+02 BASIN STORAGE= .9228E-02 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
              R23b  MANE          .45     94.83    719.91       .78      5.00     94.83    720.00         .78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2950E+02 EXCESS= .0000E+00 OUTFLOW= .2949E+02 BASIN STORAGE= .8395E-02 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
              R23b  MANE          .43     94.17    720.30       .77      5.00     94.14    720.00         .77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2918E+02 EXCESS= .0000E+00 OUTFLOW= .2917E+02 BASIN STORAGE= .7822E-02 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
              R23c  MANE          .86    111.35    720.99      1.97      5.00    110.77    720.00        1.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8217E+01 EXCESS= .0000E+00 OUTFLOW= .8223E+01 BASIN STORAGE= .1494E-03 PERCENT ERROR=   -.1

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
              R23c  MANE          .74    109.73    721.37      1.93      5.00    108.57    720.00        1.93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8050E+01 EXCESS= .0000E+00 OUTFLOW= .8057E+01 BASIN STORAGE= .1406E-03 PERCENT ERROR=   -.1

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
              R23c  MANE          .88    108.18    720.89      1.91      5.00    107.45    720.00        1.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7967E+01 EXCESS= .0000E+00 OUTFLOW= .7973E+01 BASIN STORAGE= .1457E-03 PERCENT ERROR=   -.1

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
              R23c  MANE          .76    107.28    721.37      1.89      5.00    106.33    720.00        1.89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7883E+01 EXCESS= .0000E+00 OUTFLOW= .7890E+01 BASIN STORAGE= .1298E-03 PERCENT ERROR=   -.1

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
              R23c  MANE          .72    106.58    720.91      1.88      5.00    105.55    720.00        1.88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7825E+01 EXCESS= .0000E+00 OUTFLOW= .7833E+01 BASIN STORAGE= .1335E-03 PERCENT ERROR=   -.1

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
              R23d  MANE          .95     19.92    721.62      1.98      5.00     18.98    720.00        1.98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1830E+01 EXCESS= .0000E+00 OUTFLOW= .1830E+01 BASIN STORAGE= .3417E-04 PERCENT ERROR=    .0
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          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
              R23d  MANE          .95     19.57    722.08      1.94      5.00     18.59    720.00         1.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1793E+01 EXCESS= .0000E+00 OUTFLOW= .1794E+01 BASIN STORAGE= .3236E-04 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
              R23d  MANE          .95     19.42    721.82      1.92      5.00     18.40    720.00         1.92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1774E+01 EXCESS= .0000E+00 OUTFLOW= .1775E+01 BASIN STORAGE= .4030E-04 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
              R23d  MANE          .99     19.00    721.47      1.90      5.00     18.21    720.00         1.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1756E+01 EXCESS= .0000E+00 OUTFLOW= .1757E+01 BASIN STORAGE= .2782E-04 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
              R23d  MANE         1.02     19.04    722.06      1.89      5.00     18.07    720.00         1.89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1743E+01 EXCESS= .0000E+00 OUTFLOW= .1744E+01 BASIN STORAGE= .3768E-04 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
            RWF_P2  MANE          .55     85.53    731.37       .96      5.00     85.52    735.00          .96

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4124E+02 EXCESS= .0000E+00 OUTFLOW= .4123E+02 BASIN STORAGE= .1486E-01 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
            RWF_P2  MANE          .51     85.18    731.19       .93      5.00     85.15    735.00          .93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4020E+02 EXCESS= .0000E+00 OUTFLOW= .4018E+02 BASIN STORAGE= .1226E-01 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
            RWF_P2  MANE          .56     85.00    731.18       .92      5.00     84.96    735.00          .92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3966E+02 EXCESS= .0000E+00 OUTFLOW= .3965E+02 BASIN STORAGE= .1119E-01 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
            RWF_P2  MANE          .56     84.83    731.14       .91      5.00     84.78    735.00          .91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3913E+02 EXCESS= .0000E+00 OUTFLOW= .3911E+02 BASIN STORAGE= .1021E-01 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
            RWF_P2  MANE          .56     84.71    731.28       .90      5.00     84.65    735.00          .90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3874E+02 EXCESS= .0000E+00 OUTFLOW= .3873E+02 BASIN STORAGE= .9473E-02 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
              R23e  MANE          .72    177.44    720.99      1.04      5.00    176.96    720.00         1.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4875E+02 EXCESS= .0000E+00 OUTFLOW= .4873E+02 BASIN STORAGE= .2398E-01 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
              R23e  MANE          .72    175.03    720.54      1.01      5.00    174.24    720.00         1.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4755E+02 EXCESS= .0000E+00 OUTFLOW= .4754E+02 BASIN STORAGE= .1976E-01 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
              R23e  MANE          .71    173.84    720.70      1.00      5.00    172.88    720.00         1.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4695E+02 EXCESS= .0000E+00 OUTFLOW= .4693E+02 BASIN STORAGE= .1819E-01 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
              R23e  MANE          .72    172.06    720.91       .99      5.00    171.39    720.00          .99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4632E+02 EXCESS= .0000E+00 OUTFLOW= .4631E+02 BASIN STORAGE= .5904E-02 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
              R23e  MANE          .73    171.25    720.82       .98      5.00    170.41    720.00          .98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4590E+02 EXCESS= .0000E+00 OUTFLOW= .4588E+02 BASIN STORAGE= .1534E-01 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
             R24_P  MANE         1.14    106.78    727.22       .74      5.00    104.49    730.00          .74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8754E+01 EXCESS= .0000E+00 OUTFLOW= .8757E+01 BASIN STORAGE= .3094E-03 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
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   R24_P  MANE          1.12    103.75    727.14       .71       5.00    101.52    730.00         .71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8459E+01 EXCESS= .0000E+00 OUTFLOW= .8462E+01 BASIN STORAGE= .3101E-03 PERCENT ERROR=    .0

        FOR STORM = 3  STORM AREA (SQ MI) =       24.00
   R24_P  MANE          1.12    102.34    727.31       .70       5.00    100.03    730.00         .70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8312E+01 EXCESS= .0000E+00 OUTFLOW= .8314E+01 BASIN STORAGE= .3125E-03 PERCENT ERROR=    .0

        FOR STORM = 4  STORM AREA (SQ MI) =       36.50
   R24_P  MANE          1.11    100.29    727.93       .69       5.00     98.53    730.00         .69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8163E+01 EXCESS= .0000E+00 OUTFLOW= .8166E+01 BASIN STORAGE= .3079E-03 PERCENT ERROR=    .0

        FOR STORM = 5  STORM AREA (SQ MI) =       50.00
   R24_P  MANE          1.06     99.69    727.37       .68       5.00     97.47    730.00         .68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8060E+01 EXCESS= .0000E+00 OUTFLOW= .8062E+01 BASIN STORAGE= .2989E-03 PERCENT ERROR=    .0

        FOR STORM = 1  STORM AREA (SQ MI) =         .01
   R24_O  MANE          1.30    104.14    732.75       .74       5.00    103.13    730.00         .74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8755E+01 EXCESS= .0000E+00 OUTFLOW= .8754E+01 BASIN STORAGE= .1054E-02 PERCENT ERROR=    .0

        FOR STORM = 2  STORM AREA (SQ MI) =       14.00
   R24_O  MANE          1.30    101.10    731.84       .71       5.00    100.18    730.00         .71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8460E+01 EXCESS= .0000E+00 OUTFLOW= .8461E+01 BASIN STORAGE= .1126E-02 PERCENT ERROR=    .0

        FOR STORM = 3  STORM AREA (SQ MI) =       24.00
   R24_O  MANE          1.28     99.86    732.23       .70       5.00     98.69    730.00         .70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8310E+01 EXCESS= .0000E+00 OUTFLOW= .8311E+01 BASIN STORAGE= .9816E-03 PERCENT ERROR=    .0

        FOR STORM = 4  STORM AREA (SQ MI) =       36.50
   R24_O  MANE          1.41     98.06    732.35       .69       5.00     97.18    730.00         .69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8165E+01 EXCESS= .0000E+00 OUTFLOW= .8165E+01 BASIN STORAGE= .1040E-02 PERCENT ERROR=    .0

        FOR STORM = 5  STORM AREA (SQ MI) =       50.00
   R24_O  MANE          1.29     97.23    732.12       .68       5.00     96.13    730.00         .68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8063E+01 EXCESS= .0000E+00 OUTFLOW= .8064E+01 BASIN STORAGE= .9627E-03 PERCENT ERROR=    .0

        FOR STORM = 1  STORM AREA (SQ MI) =         .01
   R24_P  MANE           .48     11.49    725.55      1.03       5.00     11.48    725.00        1.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1164E+01 EXCESS= .0000E+00 OUTFLOW= .1164E+01 BASIN STORAGE= .7968E-04 PERCENT ERROR=    .0

        FOR STORM = 2  STORM AREA (SQ MI) =       14.00
   R24_P  MANE           .48     11.13    725.35      1.00       5.00     11.12    725.00        1.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1131E+01 EXCESS= .0000E+00 OUTFLOW= .1131E+01 BASIN STORAGE= .8078E-04 PERCENT ERROR=    .0

        FOR STORM = 3  STORM AREA (SQ MI) =       24.00
   R24_P  MANE           .49     10.95    725.63       .99       5.00     10.94    725.00         .99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1114E+01 EXCESS= .0000E+00 OUTFLOW= .1114E+01 BASIN STORAGE= .7836E-04 PERCENT ERROR=    .0

        FOR STORM = 4  STORM AREA (SQ MI) =       36.50
   R24_P  MANE           .49     10.77    725.35       .97       5.00     10.76    725.00         .97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1098E+01 EXCESS= .0000E+00 OUTFLOW= .1098E+01 BASIN STORAGE= .7690E-04 PERCENT ERROR=    .0

        FOR STORM = 5  STORM AREA (SQ MI) =       50.00
   R24_P  MANE           .49     10.64    725.40       .96       5.00     10.63    725.00         .96

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1086E+01 EXCESS= .0000E+00 OUTFLOW= .1086E+01 BASIN STORAGE= .7763E-04 PERCENT ERROR=    .0

        FOR STORM = 1  STORM AREA (SQ MI) =         .01
   R24_O  MANE          2.36     11.37    729.11      1.03       5.00     11.23    730.00        1.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1165E+01 EXCESS= .0000E+00 OUTFLOW= .1164E+01 BASIN STORAGE= .9545E-03 PERCENT ERROR=    .0

        FOR STORM = 2  STORM AREA (SQ MI) =       14.00
   R24_O  MANE          2.34     10.94    730.35      1.00       5.00     10.93    730.00        1.00
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CONTINUITY SUMMARY (AC-FT) - INFLOW= .1132E+01 EXCESS= .0000E+00 OUTFLOW= .1131E+01 BASIN STORAGE= .1102E-02 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
             R24_O  MANE         2.33     10.78    728.46       .99      5.00     10.70    730.00         .99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1115E+01 EXCESS= .0000E+00 OUTFLOW= .1114E+01 BASIN STORAGE= .9726E-03 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
             R24_O  MANE         2.40     10.69    729.56       .97      5.00     10.60    730.00         .97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1098E+01 EXCESS= .0000E+00 OUTFLOW= .1098E+01 BASIN STORAGE= .9713E-03 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
             R24_O  MANE         2.40     10.55    729.97       .96      5.00     10.54    730.00         .96

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1087E+01 EXCESS= .0000E+00 OUTFLOW= .1086E+01 BASIN STORAGE= .1087E-02 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
             R25_O  MANE         5.00      .01    755.21       .00      5.00       .01    755.00         .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8323E-03 EXCESS= .0000E+00 OUTFLOW= .8349E-03 BASIN STORAGE= .1458E-04 PERCENT ERROR=  -2.1

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
             R25_O  MANE         5.00      .01    757.03       .00      5.00       .01    755.00         .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8085E-03 EXCESS= .0000E+00 OUTFLOW= .8374E-03 BASIN STORAGE= .1558E-04 PERCENT ERROR=  -5.5

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
             R25_O  MANE         5.00      .01    757.64       .00      5.00       .01    755.00         .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7966E-03 EXCESS= .0000E+00 OUTFLOW= .8236E-03 BASIN STORAGE= .1579E-04 PERCENT ERROR=  -5.4

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
             R25_O  MANE         5.00      .01    755.80       .00      5.00       .01    760.00         .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7847E-03 EXCESS= .0000E+00 OUTFLOW= .7871E-03 BASIN STORAGE= .1546E-04 PERCENT ERROR=  -2.3

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
             R25_O  MANE         4.72      .01    754.59       .00      5.00       .01    755.00         .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7764E-03 EXCESS= .0000E+00 OUTFLOW= .7891E-03 BASIN STORAGE= .1462E-04 PERCENT ERROR=  -3.5

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
             R25_P  MANE         3.72      .01    765.56       .00      5.00       .01    765.00         .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8333E-03 EXCESS= .0000E+00 OUTFLOW= .8360E-03 BASIN STORAGE= .2203E-05 PERCENT ERROR=  -.6

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
             R25_P  MANE         3.80      .01    763.53       .00      5.00       .01    765.00         .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8358E-03 EXCESS= .0000E+00 OUTFLOW= .8363E-03 BASIN STORAGE= .2176E-05 PERCENT ERROR=  -.3

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
             R25_P  MANE         3.77      .01    765.56       .00      5.00       .01    765.00         .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8230E-03 EXCESS= .0000E+00 OUTFLOW= .8221E-03 BASIN STORAGE= .2156E-05 PERCENT ERROR=  -.2

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
             R25_P  MANE         3.76      .01    767.13       .00      5.00       .01    765.00         .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7854E-03 EXCESS= .0000E+00 OUTFLOW= .7874E-03 BASIN STORAGE= .2137E-05 PERCENT ERROR=  -.5

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
             R25_P  MANE         3.69      .01    766.15       .00      5.00       .01    765.00         .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7863E-03 EXCESS= .0000E+00 OUTFLOW= .7855E-03 BASIN STORAGE= .2124E-05 PERCENT ERROR=  -.2

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
             R_14a  MANE         3.57    175.14    728.31      1.41      5.00    170.21    725.00        1.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1159E+02 EXCESS= .0000E+00 OUTFLOW= .1163E+02 BASIN STORAGE= .1245E-01 PERCENT ERROR=  -.4

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
             R_14a  MANE         3.52    172.67    728.12      1.37      5.00    164.48    725.00        1.37

NTINUITY SUMMARY (AC-FT) - INFLOW= .1132E+02 EXCESS= .0000E+00 OUTFLOW= .1136E+02 BASIN STORAGE= .9390E-02 PERCENT ERROR=  -.5
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          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
            R_14a  MANE          3.64    175.67    727.23      1.36      5.00    164.95    725.00        1.36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1118E+02 EXCESS= .0000E+00 OUTFLOW= .1122E+02 BASIN STORAGE= .9246E-02 PERCENT ERROR=   -.4

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
            R_14a  MANE          3.56    165.68    725.50      1.34      5.00    162.30    725.00        1.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1105E+02 EXCESS= .0000E+00 OUTFLOW= .1108E+02 BASIN STORAGE= .9855E-02 PERCENT ERROR=   -.4

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
            R_14a  MANE          3.70    167.26    726.34      1.33      5.00    160.98    725.00        1.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1095E+02 EXCESS= .0000E+00 OUTFLOW= .1099E+02 BASIN STORAGE= .8732E-02 PERCENT ERROR=   -.4

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
               R_5  MANE          5.08      1.82    849.43       .11      5.00      1.82    850.00         .11

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3198E+00 EXCESS= .0000E+00 OUTFLOW= .3612E+00 BASIN STORAGE= .1304E-01 PERCENT ERROR= -17.0

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
               R_5  MANE          5.05      1.46    855.42       .09      5.00      1.41    860.00         .09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2639E+00 EXCESS= .0000E+00 OUTFLOW= .2884E+00 BASIN STORAGE= .1312E-01 PERCENT ERROR= -14.2

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
               R_5  MANE          5.00      1.29    861.63       .08      5.00      1.29    860.00         .08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2421E+00 EXCESS= .0000E+00 OUTFLOW= .2671E+00 BASIN STORAGE= .1298E-01 PERCENT ERROR= -15.7

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
               R_5  MANE          4.98      1.15    864.29       .08      5.00      1.15    865.00         .08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2221E+00 EXCESS= .0000E+00 OUTFLOW= .2442E+00 BASIN STORAGE= .1302E-01 PERCENT ERROR= -15.8

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
               R_5  MANE          5.08      1.06    867.65       .07      5.00      1.05    865.00         .07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2086E+00 EXCESS= .0000E+00 OUTFLOW= .2275E+00 BASIN STORAGE= .1279E-01 PERCENT ERROR= -15.2

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
             R_I3_O  MANE          2.00    569.83    794.05       .53      5.00    568.88    790.00         .53

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1472E+03 EXCESS= .0000E+00 OUTFLOW= .1472E+03 BASIN STORAGE= .5336E-01 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
             R_I3_O  MANE          2.03    533.13    794.68       .50      5.00    532.88    795.00         .50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1405E+03 EXCESS= .0000E+00 OUTFLOW= .1404E+03 BASIN STORAGE= .5117E-01 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
             R_I3_O  MANE          2.16    519.57    781.25       .49      5.00    519.36    780.00         .49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1371E+03 EXCESS= .0000E+00 OUTFLOW= .1370E+03 BASIN STORAGE= .5135E-01 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
             R_I3_O  MANE          2.20    507.81    780.98       .48      5.00    507.42    780.00         .48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1337E+03 EXCESS= .0000E+00 OUTFLOW= .1336E+03 BASIN STORAGE= .5386E-01 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
             R_I3_O  MANE          2.17    499.56    781.20       .47      5.00    499.28    780.00         .47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1313E+03 EXCESS= .0000E+00 OUTFLOW= .1312E+03 BASIN STORAGE= .5185E-01 PERCENT ERROR=    .0


*** NORMAL END OF HEC-1 ***
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1*****************************************
*                                       *
*     FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*               JUN  1998               *
*             VERSION 4.1               *
*                                       *
*  RUN DATE   27APR09  TIME  12:59:05   *
*                                       *
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*                                     *
*    U.S. ARMY CORPS OF ENGINEERS     *
*    HYDROLOGIC ENGINEERING CENTER    *
*          609 SECOND STREET          *
*       DAVIS, CALIFORNIA 95616       *
*           (916) 756-1104            *
*                                     *
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X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX          XXX
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THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM


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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

   1          ID        Grand Junction Regional Airport - Jviation - April 2009
   2          ID        Proposed Conditions Watershed Model
   3          ID        10-Year 24-Hour Storm - NRCS Type II Rainfall Distribution
   4          IT      5                    300
   5          IO      2
   6          IN      6
   7          JD   1.19    0.01
   8          PC      0   0.001   0.002  0.0031  0.0041  0.0051  0.0062  0.0073  0.0083  0.0094
   9          PC 0.0105  0.0116  0.0127  0.0138   0.015  0.0161  0.0173  0.0185  0.0196  0.0208
  10          PC  0.022  0.0232  0.0244  0.0257  0.0269  0.0281  0.0294  0.0307  0.0319  0.0332
  11          PC 0.0345  0.0358  0.0371  0.0384  0.0398  0.0411  0.0425  0.0438  0.0452  0.0466
  12          PC  0.048  0.0494  0.0508  0.0523  0.0538  0.0553  0.0568  0.0583  0.0598  0.0614
  13          PC  0.063  0.0646  0.0662  0.0679  0.0696  0.0712   0.073  0.0747  0.0764  0.0782
  14          PC   0.08  0.0818  0.0836  0.0855  0.0874  0.0892  0.0912  0.0931   0.095   0.097
  15          PC  0.099   0.101   0.103  0.1051  0.1072  0.1093  0.1114  0.1135  0.1156  0.1178
  16          PC   0.12  0.1223  0.1246  0.1271  0.1296  0.1323   0.135  0.1379  0.1408  0.1439
  17          PC  0.147  0.1502  0.1534  0.1566  0.1598   0.163  0.1663  0.1697  0.1733  0.1771
  18          PC  0.181  0.1851  0.1895  0.1941  0.1989   0.204  0.2094  0.2152  0.2214   0.228
  19          PC  0.235  0.2427  0.2513  0.2609  0.2715   0.283  0.3068  0.3544  0.4308  0.5679
  20          PC  0.663   0.682  0.6986   0.713  0.7252   0.735  0.7434  0.7514  0.7588  0.7656
  21          PC  0.772   0.778  0.7836   0.789  0.7942   0.799  0.8036   0.808  0.8122  0.8162
  22          PC   0.82  0.8237  0.8273  0.8308  0.8342  0.8376  0.8409  0.8442  0.8474  0.8505
  23          PC 0.8535  0.8565  0.8594  0.8622  0.8649  0.8676  0.8702  0.8728  0.8753  0.8777
  24          PC   0.88  0.8823  0.8846  0.8868   0.889  0.8912  0.8934  0.8955  0.8976  0.8997
  25          PC 0.9018  0.9038  0.9058  0.9078  0.9098  0.9117  0.9136  0.9155  0.9174  0.9192
  26          PC  0.921  0.9228  0.9246  0.9263   0.928  0.9297  0.9314   0.933  0.9346  0.9362
  27          PC 0.9377  0.9393  0.9408  0.9423  0.9438  0.9452  0.9466   0.948  0.9494  0.9507
  28          PC  0.952  0.9533  0.9546  0.9559  0.9572  0.9584  0.9597   0.961  0.9622  0.9635
  29          PC 0.9648   0.966  0.9672  0.9685  0.9697  0.9709  0.9722  0.9734  0.9746  0.9758
  30          PC  0.977  0.9782  0.9794  0.9806  0.9818  0.9829  0.9841  0.9853  0.9864  0.9876
  31          PC 0.9888  0.9899   0.991  0.9922  0.9933  0.9944  0.9956  0.9967  0.9978  0.9989
  32          PC      1       1       1       1       1       1       1       1       1       1
  33          PC      1       1       1       1       1       1       1       1       1       1
  34          PC      1       1       1       1       1       1       1       1       1       1
  35          PC      1       1       1       1       1       1       1       1       1       1
  36          PC      1       1       1       1       1       1       1       1       1       1
  37          PC      1       1       1       1       1       1       1       1       1       1
  38          JD  1.166      14
  39          JD  1.154      24
  40          JD  1.142    36.5
  41          JD  1.134      50

  42          KK   L11b Leach Creek at Upper Pond
  43          BA 7.4766
  44          LG   0.57  0.5207   1.944   0.070     2.0
  45          US  1.197   0.451

  46          KK  RL11bD Route Hydrograph Through L11a
  47          RK   9500  0.0129   0.035            TRAP      10       6
```



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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  48          KK   L11aU Subbasin at the Proposed Lower Detention Pond
  49          BA  1.0090
  50          LG   0.58  0.5207   1.944   0.070     5.0
  51          US  0.604   0.312

  52          KK  C_11aU Combine Hydrographs at the Proposed Lower Detention Pond
  53          HC      2

  54          KK   D-LPd Divert Flow Into Lower Detention Pond
  55          DT    D-Pd
  56          DI       0    24.8   117.6   285.3   755.6    4100   10000
  57          DQ       0       0      91     257   725.8    2050    4000

  58          KK  SRD-Pd Retrieve Pond Inflow
  59          DR    D-Pd

  60          KK  C_11aD Combine Flow Downstream of the Proposed Lower Detention Pond
  61          HC      2

  62          KK   L11aD Subbasin Downstream of the Proposed Lower Detention Pond
  63          BA 0.0173
  64          LG   0.80  0.6864   1.652   0.143    15.0
```

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 65          US   0.032   0.162

 66          KK   C_L11 Leach Creek at the Government Highline Canal
 67          HC       2

 68          KK   R_L10 Route Hydrograph Through L10
 69          RS       1     STOR       0
 70          SV       0      .88    1.46    1.92    2.35    2.74    3.12    3.85    4.54    5.25
 71          SV    5.84    6.43    7.04    7.63    8.21    8.79
 72          SQ       0     100     200     300     400     500     600     800    1000    1200
 73          SQ    1400    1600    1800    2000    2200    2400

 74          KK    L10u Subbasin Spilt
 75          BA  0.3693
 76          LG    0.49  0.4734   1.767   0.063     2.0
 77          US   0.320   0.288

 78          KK   R_L10u  Detention Pond L10u
 79          RS       1     STOR       0
 80          SV     0.0    0.68    1.71    2.91    4.23    5.72    7.39    9.16   11.11   13.29
 81          SQ     0.0     0.1     0.1     0.1    15.5    55.8    78.2    86.5    94.0   101.0
 82          SE    4760    4761    4762    4763    4764    4765    4766    4767    4768    4769

 83          KK   R_10uO Route Detention L10u to L10d
 84          RK    4500   0.022    0.03             TRAP      10       4

 85          KK    L10d Subbasin Spilt
 86          BA  0.6140
 87          LG    0.38  0.3787   1.414   0.051    23.0
 88          US   0.243   0.317
1                                      HEC-1 INPUT                                          PAGE  3

          LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 89          KK   C_L10 Combine L10d with Upstream Hydrographs
 90          HC       3

 91          KK   R_L9M Route Mainstem Hydrograph Through L9
 92          RS       1     STOR       0
 93          SV       0     1.24    2.23     3.3    4.23    4.86    5.34    6.55    7.57    8.54
 94          SV    9.65   10.61   11.55   12.36   13.09   13.85
 95          SQ       0     100     200     300     400     500     600     800    1000    1200
 96          SQ    1400    1600    1800    2000    2200    2400

 97          KK   L9.1u Split Subbasin L9.1
 98          BA  2.3807
 99          LG    0.42  0.4023   1.502   0.054     2.0
100          US   0.865   0.380

101          KK  R_9.1O Route L9.1u to L9.1d
102          RK    4500   0.022    0.03             TRAP      10       4

103          KK   L9.1d Split Subbasin East of 27.25 Road
104          BA  0.3403
105          LG    0.10  0.1183   0.442   0.016    82.0
106          US   0.169   0.686

107          KK   R_L9T Route Subbasin L9.1 Hydrograph Through L9
108          RK    4100   0.011    0.03             TRAP       5     2.4

109          KK   C_9.1  Combine basin 9.1u and 9.1d
110          HC       2

111          KK  R_L9.1  Detention Pond L9.1
112          RS       1     STOR       0
113          SV     0.0    6.26   12.90   19.76   26.85   34.16   41.71   49.50   57.54   65.82
114          SQ     0.0     0.1     0.1    15.5    43.8    80.5   130.1   220.8   266.1   285.1
115          SE    4770    4772    4773    4774    4775    4776    4777    4778    4779    4780

116          KK      L9 Subbasin
117          BA  0.2051
118          LG    0.74  0.6390   1.826   0.112    21.0
119          US   0.214   0.256

120          KK   C_L9T Combine Subbasins L9.1 and L9
121          KM         Just Upstream of the Mainstem
122          HC       2

123          KK   C_L9M Combine L9 with Upstream Mainstem Hydrograph
124          KM         Just East of 26.5 Road
125          HC       2

126          KK    DB21
127          KM   Subbasin
128          BA  0.1519
129          LG    0.29  0.3077   1.148   0.041    30.0
130          US   0.087   0.302
1                                      HEC-1 INPUT                                          PAGE  4

          LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

131          KK    PD A
132          KM   Route Through Pond A
133          RS       1     STOR       0       0
134          SV     0.0   0.001     1.8     4.7     8.9    11.6
135          SQ     0.0     2.5     7.0     9.0    10.6    11.3
136          SE    4915    4916    4918    4920    4922    4923

137          KK    R21a
138          KM   Route R21 Through R21a
139          RK    2700   0.023    0.05             TRAP      30       6

140          KK   DB21a
141          KM   Subbasin
142          BA  0.3403
143          LG    0.29  0.3077   1.148   0.041    30.0
144          US   0.082   0.339

145          KK     R17 Subbasin
146          BA  0.1623
147          LG    0.41  0.4023   1.502   0.054     2.0
148          US   0.096   0.254
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149          KK   R_17_O Route hydrograph through R15 overland
150          RK    2000   0.018     0.04             TRAP       10        5

151          KK    C21a
152          KM   Combine Routed Basin 21 with Basin 21a and R17
153          HC       3

154          KK  WF_PD1
155          KM   Route Hydrograph Through New Walker Field On Site Pond 1
156          RS       1    STOR        0        0
157          SV     0.0     0.97     6.95    13.63    17.31
158          SQ     0.0     10.7     23.9     32.1     35.5
159          SE    38.5     40.0     42.0     44.0     45.0

160          KK    RPD1
161          KM   Route Hydrograph Through Basin 23b Pipe
162          RK    2550   0.014    0.015             CIRC       3

163          KK   DB23b
164          KM   Subbasin
165          BA  0.0584
166          LG    0.07  0.0947    0.353    0.013     95.0
167          US   0.046   0.548

168          KK     C23
169          KM   Combine Hydrograph Basin 23b with 21 and 21a
170          HC       2
1                                      HEC-1 INPUT                                                    PAGE  5
        LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

171          KK    R23b
172          KM   Route Hydrograph Through Basin 23c Pipe
173          RK    1000   0.014    0.015             CIRC       3

174          KK   DB23c
175          KM   Subbasin
176          BA  0.0783
177          LG    0.07  0.0947    0.353    0.013     95.0
178          US   0.080   0.573

179          KK    R23c
180          KM   Route R23c Through R23c Ditch
181          RK     500    .005    0.045             TRAP      10        4

182          KK   DB23d
183          KM   Subbasin
184          BA  0.0173
185          LG    0.04  0.0473    0.177    0.006    100.0
186          US   0.023   0.462

187          KK    R23d
188          KM   Route Hydrograph Through Basin 23d Pipe
189          RK    1200   0.005    0.015             CIRC       2

190          KK     C23
191          KM   Combine Hydrograph Basins 23c,23d with WF_PD1 and 23b
192          HC       3

193          KK  WF_PD2
194          KM   Route Hydrograph Through New Walker Field On Site Pond 2
195          RS       1    STOR        0        0
196          SV     0.0     0.10     0.70     1.64     3.16     5.34
197          SQ     0.0     23.6     48.1     68.1     83.4     90.1
198          SE  4793.5     4795     4797     4799     4801     4803

199          KK  RWF_P2
200          KM   Route Hydrograph Through Basin 23e Pipe
201          RK    1000   0.010    0.015             CIRC       3

202          KK   DB23e
203          KM   Subasin
204          BA  0.0709
205          LG    0.04  0.0473    0.177    0.006    100.0
206          US   0.067   0.571

207          KK    C23e
208          KM   Combine Hydrograph Basin 23e with WF_PD2
209          HC       2
1                                      HEC-1 INPUT                                                    PAGE  6
        LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

210          KK    R23e
211          KM   Route Hydrograph Through Basin 23a Pipe
212          RK    1500   0.008    0.015             CIRC       4

213          KK   DB23a
214          KM   Subbasin
215          BA  0.0196
216          LG    0.66  0.5917    2.161    0.081     50.0
217          US   0.035   0.348

218          KK    C23a
219          KM   Combine Hydrograph Basin 23a, 23e with WF_PD2
220          HC       2

221          KK  R_PD U
222          KM   Route Hydrograph Through Upper Airport Upper Pond
223          RS       1    STOR        0        0
224          SV     0.0    0.001     0.21     6.09    16.16    26.80     29.4
225          SQ     0.0     10.8     11.4     12.4     13.3     14.2      162
226          SE    4767  4767.01     4768     4770     4772     4774   4774.5

227          KK  D_Pd U
228          KM   Weir Flow Into Lower Pond
229          DT  U_Pipe
230          DI     0.0     14.2     14.3      100     1000
231          DQ     0.0     14.2     14.2     14.2     14.2

232          KK    DB22
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 233          KM   Subbasin
 234          BA  0.2226
 235          LG    0.27  0.2840   1.060   0.038    35.0
 236          US   0.121   0.363

 237          KK   R24_P
 238          KM   Route Hydrograph Through Basin 24 Pipe
 239          RK    3076   0.014   0.015            CIRC     4.5

 240          KK   R24_O
 241          KM   Route Hydrograph Through Basin 24 Overland
 242          RK    1506   0.019    0.03            TRAP      10       12

 243          KK   D824a
 244          KM   Subbasin
 245          BA  0.0212
 246          LG    0.53  0.4970   1.855   0.067    40.0
 247          US   0.094   0.292

 248          KK  B4aDIV
 249          KM   Divert Basin 24a overflow
 250          DT  B4aDIV
 251          DI     0.0    14.0   100.0  1000.0
 252          DQ       0    0.01    86.0   986.0
1                                    HEC-1 INPUT                                                    PAGE  7

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 253          KK   R24_P
 254          KM   Route Hydrograph Through Basin 24 Pipe
 255          RK     800   0.014   0.015            CIRC     4.5

 256          KK   R24_O
 257          KM   Route Hydrograph Through Basin 24 Overland
 258          RK    1506   0.019    0.03            TRAP      10       12

 259          KK    DB24
 260          KM   SUbbasin
 261          BA  0.2318
 262          LG    0.06  0.0710   0.265   0.010    95.0
 263          US   0.152   0.673

 264          KK     C24
 265          KM   Combine Hydrographs (Basin22, Basin 24a, Basin 24)
 266          HC       3

 267          KK   DR24a
 268          KM   Retrieve 24a diversion
 269          DR  B4aDIV

 270          KK   R25_O
 271          KM   Route 24a diversion through Basin 25 overland
 272          RK     800   0.015    0.03            TRAP      30       10

 273          KK   R25_P
 274          KM   Route 24a diversion through Basin 25 pipe
 275          RK    1600   0.013   0.015            CIRC       4

 276          KK    DB25
 277          KM   Subbasin
 278          BA  0.0244
 279          LG    0.53  0.4970   1.855   0.067    40.0
 280          US   0.104   0.300

 281          KK     C25
 282          KM   Combine Hydrograph with 24a diversion
 283          HC       2

 284          KK   B5DIV
 285          KM   Divert Basin 25 storm sewer overflow
 286          DT   B5DIV
 287          DI     0.0    14.0   100.0  1000.0
 288          DQ       0       0    86.0   986.0

 289          KK   DB25a
 290          KM   Subbasin
 291          BA  0.0316
 292          LG    0.85  0.7100   1.595   0.158    12.0
 293          US   0.031   0.173
1                                    HEC-1 INPUT                                                    PAGE  8

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 294          KK     C_6
 295          KM   Combine Basins 25a 25 24a 24 22
 296          HC       3

 297          KK     C_7
 298          KM   Combine all Basins
 299          HC       2

 300          KK  R_PD L
 301          KM   rOute Hydrograph Through Lower Airport East Pond
 302          RS       1    STOR       0       0
 303          SV     0.0     0.05    4.26   13.79   24.65    30.0
 304          SQ     0.0      5.5     7.8     9.6    11.1    14.0
 305          SE  4758.4     4760    4762    4764    4766  4766.2

 306          KK    PR_U
 307          KM   Retrieve Upper Pond Pipe Flow
 308          DR  U_Pipe

 309          KK   C_Out
 310          KM   Combine 2 Outflow Hydrographs at Canal
 311          HC       2

 312          KK     R16
 313          KM   Subbasin
 314          BA  0.1550
 315          LG    0.34  0.3550   1.325   0.048    51.0
 316          US   0.076   0.478
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317          KK   R_14a
318          KM   Route Hydrograph through R14A overland
319          RK    2500   0.005    0.04             TRAP      10      10

320          KK    R14A
321          KM   Subbasin
322          BA  0.0393
323          LG    0.18  0.1893   0.707   0.025    75.0
324          US   0.038   0.480

325          KK   C_14A
326          KM   Combine Hydrographs (R16, R14A)
327          HC       2

328          KK   C_14A
329          KM   Combine Hydrograph with Lower Pond Outfall
330          HC       2

331          KK     R15 Subbasin
332          BA  0.2994
333          LG    0.48  0.4497   1.679   0.060    30.0
334          US   0.141   0.334
1                                      HEC-1 INPUT                                                    PAGE  9
        LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

335          KK   R_R13 Route Hydrograph through R13
336          RS       1    STOR       0
337          RC   0.035    0.03   0.035     971    .018
338          RX    1000    1014    1022    1026    1036    1046    1050    1062
339          RY    4762    4760    4758    4756    4756    4758    4760    4762

340          KK     R13 Subbasin
341          BA  0.0425
342          LG    0.48  0.4497   1.679   0.060     2.0
343          US   0.055   0.208

344          KK   C_R13 Combine Hydrographs
345          HC       2

346          KK  Extra5 Overflow released from Basin 25
347          DR   B5DIV

348          KK     R14 Subbasin
349          BA  0.0602
350          LG    0.58  0.5207   1.944   0.070    35.0
351          US   0.218   0.298

352          KK    C_R5 Combine Hydrographs (R14, Basin 5)
353          HC       2

354          KK     R_5 Route Basin 5 & R14 through R5 overland
355          RK   10500   0.008    0.03             TRAP      10      20

356          KK      R5 Subbasin
357          BA  0.0843
358          LG    0.89  0.7337   1.552   0.173     9.0
359          US   0.118   0.201

360          KK      C3 Corcoran Wash at H Road and 25 Road
361          BA  0.5641
362          LG    0.56  0.5207   1.944   0.070     2.0
363          US   0.254   0.306

364          KK      I5 Start Indian Creek Basin
365          BA  0.7994
366          LG    0.47  0.4497   1.679   0.060     2.0
367          US   0.428   0.323

368          KK    R_I5
369          KM   Route Hydrograph Through Existing Dam
370          RS       1    STOR       0       0
371          SV       0     2.24    4.65    7.24   10.01   12.95   16.08   19.41   22.92   26.63
372          SQ     0.0     0.1     0.1     0.1     0.1     0.1     0.1    93.0   263.0   483.2
373          SE    5190    5191    5192    5193    5194    5195    5196    5197    5198    5199
1                                      HEC-1 INPUT                                                    PAGE 10
        LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

374          KK      I4 Subbasin
375          BA  1.2130
376          LG    0.62  0.5680   2.120   0.076     2.0
377          US   0.768   0.344

378          KK    C_I4 Combine I5 and I4
379          HC       2

380          KK      I3 Subbasin
381          BA  3.2057
382          LG    0.50  0.4734   1.767   0.063     2.0
383          US   1.181   0.398

384          KK    C_I3 Combine I4 and I3
385          HC       2

386          KK  R_I3_O Route hydrograph through I2 overland
387          RK    3300   0.014    0.04             TRAP      10       5

388          KK      I2 Subbasin
389          BA  0.9728
390          LG    0.63  0.5680   2.120   0.076     5.0
391          US   0.517   0.313

392          KK    C_I2 Combine I3 and I2
393          HC       2

394          KK    R_I2
395          KM   Route Hydrograph Through Existing Dam
396          RS       1    STOR       0       0
397          SV       0     3.06    6.67   10.92   15.93   21.81   28.62   36.41   45.21   55.07
398          SV   66.05   78.18   91.52  106.10  121.97  139.16  176.23  235.99  257.34  280.13
399          SQ       0     0.1    13.0    18.4    22.6    26.1    29.1    31.9    34.5    36.9
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 400          SQ    39.1    41.2    43.2    45.2    47.0    48.8    52.1   228.8   234.6   240.4
 401          SE    4890    4892    4894    4896    4898    4900    4902    4904    4906    4908
 402          SE    4910    4912    4914    4916    4918    4920    4924    4930    4932    4934

 403          KK       I1 Subbasin
 404          BA   0.7563
 405          LG     0.72   0.6154   1.964   0.096    12.0
 406          US    0.562    0.278

 407          KK     C_I1 Combine I2 and I1
 408          HC        2

 409          KK     R_I1  Detention Pond I1
 410          RS        1     STOR        0       0
 411          SV        0     2.01     3.60    5.40    7.43    9.68   12.19   14.96   18.01   21.34
 412          SQ      0.0      0.1      0.1     0.1     0.1     0.1     0.1     3.1    31.0    82.0
 413          SE     4860     4862     4863    4864    4865    4866    4867    4868    4869    4870
1                                    HEC-1 INPUT                                          PAGE 11

          LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 414          KK       I7 Subbasin
 415          BA   1.0258
 416          LG     0.45   0.4260   1.590   0.057     3.0
 417          US    0.807    0.329

 418          KK     R_I7
 419          KM    Route Hydrograph Through Existing Dam
 420          RS        1     STOR        0       0
 421          SV        0     0.26     0.60    1.01    1.51    2.11    2.82    3.63    4.57    5.64
 422          SQ      0.0      0.1      0.1     0.1     0.1     0.1     0.1    62.0   175.4   322.2
 423          SE     4820     4821     4822    4823    4824    4825    4826    4827    4828    4829

 424          KK       I6 Subbasin
 425          BA   0.4512
 426          LG     0.43   0.4260   1.590   0.057    40.0
 427          US    0.119    0.464

 428          KK     C_I6 Combine I7 and I6
 429          HC        2

 430          KK     R_I6  Detention Pond I6
 431          RS        1     STOR        0       0
 432          SV        0     2.01     3.60    5.40    7.43    9.68   12.19   14.96   18.01   21.34
 433          SQ      0.0      0.1      3.1     8.8    16.1    44.0    95.0   161.1   179.5   191.1
 434          SE     4870     4872     4873    4874    4875    4876    4877    4878    4879    4880

 435          KK       I8 Subbasin
 436          BA   0.4147
 437          LG     0.61   0.5444   2.032   0.073    10.0
 438          US    0.200    0.252

 439          KK       I9 Subbasin
 440          BA   0.6808
 441          LG     0.52   0.4970   1.855   0.067     2.0
 442          US    0.510    0.315
 443          ZZ
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             JUN   1998                *
*          VERSION 4.1                  *
*                                       *
*  RUN DATE   27APR09  TIME  12:59:05   *
*                                       *
*****************************************

*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*         609 SECOND STREET             *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 756-1104              *
*                                       *
*****************************************

                    Grand Junction Regional Airport - Jviation - April 2009
                    Proposed Conditions Watershed Model
                    10-Year 24-Hour Storm - NRCS Type II Rainfall Distribution

  5 IO          OUTPUT CONTROL VARIABLES
                     IPRNT          2  PRINT CONTROL
                     IPLOT          0  PLOT CONTROL
                     QSCAL         0.  HYDROGRAPH PLOT SCALE

  6 IN          TIME DATA FOR INPUT TIME SERIES
                     JXMIN          6  TIME INTERVAL IN MINUTES
                    JXDATE      1   0  STARTING DATE
                    JXTIME          0  STARTING TIME

    IT          HYDROGRAPH TIME DATA
                     NMIN          5  MINUTES IN COMPUTATION INTERVAL
                    IDATE      1   0  STARTING DATE
                    ITIME       0000  STARTING TIME
                       NQ        300  NUMBER OF HYDROGRAPH ORDINATES
                   NDDATE      2   0  ENDING DATE
                   NDTIME       0055  ENDING TIME
                    ICENT         19  CENTURY MARK

                  COMPUTATION INTERVAL     .08 HOURS
                      TOTAL TIME BASE   24.92 HOURS

        ENGLISH UNITS
            DRAINAGE AREA         SQUARE MILES
            PRECIPITATION DEPTH   INCHES
            LENGTH, ELEVATION     FEET
            FLOW                  CUBIC FEET PER SECOND
            STORAGE VOLUME        ACRE-FEET
            SURFACE AREA          ACRES
            TEMPERATURE           DEGREES FAHRENHEIT

  7 JD          INDEX STORM NO. 1
                     STRM       1.19  PRECIPITATION DEPTH
                     TRDA        .01  TRANSPOSITION DRAINAGE AREA

  8 PI            PRECIPITATION PATTERN
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
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                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
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                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .01       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .02       .04
                .05       .08       .11       .08       .02       .01       .01       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00
```

+	(CFS)	(HR)					
			(CFS)				
	143.	13.08		61.	18.	17.	17.
			(INCHES)	.076	.087	.088	.088
			(AC-FT)	30.	35.	35.	35.

CUMULATIVE AREA = 7.48 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION L11b
TRANSPOSITION AREA 14.0 SQ MI

TOTAL RAINFALL = 1.17, TOTAL LOSS = 1.09, TOTAL EXCESS = .07

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 118.	13.08		51.	15.	14.	14.
		(INCHES)	.064	.074	.074	.074
		(AC-FT)	25.	29.	29.	29.

CUMULATIVE AREA = 7.48 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION L11b
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.15, TOTAL LOSS = 1.09, TOTAL EXCESS = .07

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 106.	13.08		46.	14.	13.	13.
		(INCHES)	.058	.067	.067	.067
		(AC-FT)	23.	27.	27.	27.

CUMULATIVE AREA = 7.48 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION L11b
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.14, TOTAL LOSS = 1.08, TOTAL EXCESS = .06

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)					
		(CFS)				
+ 95.	13.08		42.	12.	12.	12.
		(INCHES)	.052	.061	.061	.061
		(AC-FT)	21.	24.	24.	24.

CUMULATIVE AREA = 7.48 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION L11b
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.13, TOTAL LOSS = 1.08, TOTAL EXCESS = .06

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 88.	13.08		39.	12.	11.	11.
		(INCHES)	.048	.058	.058	.058
		(AC-FT)	19.	23.	23.	23.

CUMULATIVE AREA = 7.48 SQ MI

INTERPOLATED HYDROGRAPH AT L11b

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0515	76	2.	1		1230	151	67.	1		1845	226	9.
1		0005	2	0.	1		0520	77	2.	1		1235	152	79.	1		1850	227	9.
1		0010	3	0.	1		0525	78	2.	1		1240	153	90.	1		1855	228	8.
1		0015	4	0.	1		0530	79	2.	1		1245	154	100.	1		1900	229	8.
1		0020	5	0.	1		0535	80	2.	1		1250	155	108.	1		1905	230	8.
1		0025	6	0.	1		0540	81	2.	1		1255	156	114.	1		1910	231	8.
1		0030	7	0.	1		0545	82	2.	1		1300	157	118.	1		1915	232	7.
1		0035	8	0.	1		0550	83	2.	1		1305	158	120.	1		1920	233	7.
1		0040	9	0.	1		0555	84	2.	1		1310	159	119.	1		1925	234	7.
1		0045	10	0.	1		0700	85	2.	1		1315	160	116.	1		1930	235	7.
1		0050	11	0.	1		0705	86	2.	1		1320	161	112.	1		1935	236	6.
1		0055	12	0.	1		0710	87	2.	1		1325	162	107.	1		1940	237	6.
1		0100	13	0.	1		0715	88	2.	1		1330	163	103.	1		1945	238	6.
1		0105	14	0.	1		0720	89	2.	1		1335	164	99.	1		1950	239	6.
1		0110	15	0.	1		0725	90	2.	1		1340	165	95.	1		1955	240	6.
1		0115	16	0.	1		0730	91	2.	1		1345	166	91.	1		2000	241	5.
1		0120	17	0.	1		0735	92	2.	1		1350	167	87.	1		2005	242	5.
1		0125	18	0.	1		0740	93	2.	1		1355	168	84.	1		2010	243	5.
1		0130	19	0.	1		0745	94	2.	1		1400	169	81.	1		2015	244	5.
1		0135	20	0.	1		0750	95	2.	1		1405	170	77.	1		2020	245	5.
1		0140	21	0.	1		0755	96	2.	1		1410	171	74.	1		2025	246	5.
1		0145	22	1.	1		0800	97	2.	1		1415	172	71.	1		2030	247	5.
1		0150	23	1.	1		0805	98	2.	1		1420	173	68.	1		2035	248	4.
1		0155	24	1.	1		0810	99	2.	1		1425	174	66.	1		2040	249	4.
1		0200	25	1.	1		0815	100	2.	1		1430	175	63.	1		2045	250	4.

```
   1    0205   26        1.   *   1    0820  101        2.   *   1    1435  176       61.   *   1    2050  251        4.
   1    0210   27        1.   *   1    0825  102        2.   *   1    1440  177       58.   *   1    2055  252        4.
   1    0215   28        1.   *   1    0830  103        2.   *   1    1445  178       56.   *   1    2100  253        4.
   1    0220   29        1.   *   1    0835  104        2.   *   1    1450  179       54.   *   1    2105  254        4.
   1    0225   30        1.   *   1    0840  105        2.   *   1    1455  180       52.   *   1    2110  255        4.
   1    0230   31        1.   *   1    0845  106        2.   *   1    1500  181       49.   *   1    2115  256        4.
   1    0235   32        1.   *   1    0850  107        2.   *   1    1505  182       48.   *   1    2120  257        3.
   1    0240   33        1.   *   1    0855  108        2.   *   1    1510  183       46.   *   1    2125  258        3.
   1    0245   34        1.   *   1    0900  109        2.   *   1    1515  184       44.   *   1    2130  259        3.
   1    0250   35        1.   *   1    0905  110        2.   *   1    1520  185       42.   *   1    2135  260        3.
   1    0255   36        1.   *   1    0910  111        2.   *   1    1525  186       40.   *   1    2140  261        3.
   1    0300   37        1.   *   1    0915  112        2.   *   1    1530  187       39.   *   1    2145  262        3.
   1    0305   38        1.   *   1    0920  113        2.   *   1    1535  188       37.   *   1    2150  263        3.
   1    0310   39        1.   *   1    0925  114        2.   *   1    1540  189       36.   *   1    2155  264        3.
   1    0315   40        1.   *   1    0930  115        2.   *   1    1545  190       34.   *   1    2200  265        3.
   1    0320   41        1.   *   1    0935  116        2.   *   1    1550  191       33.   *   1    2205  266        3.
   1    0325   42        1.   *   1    0940  117        3.   *   1    1555  192       32.   *   1    2210  267        3.
   1    0330   43        1.   *   1    0945  118        3.   *   1    1600  193       31.   *   1    2215  268        3.
   1    0335   44        1.   *   1    0950  119        3.   *   1    1605  194       29.   *   1    2220  269        3.
   1    0340   45        1.   *   1    0955  120        3.   *   1    1610  195       28.   *   1    2225  270        3.
   1    0345   46        1.   *   1    1000  121        3.   *   1    1615  196       27.   *   1    2230  271        2.
   1    0350   47        1.   *   1    1005  122        3.   *   1    1620  197       26.   *   1    2235  272        2.
   1    0355   48        1.   *   1    1010  123        3.   *   1    1625  198       25.   *   1    2240  273        2.
   1    0400   49        1.   *   1    1015  124        3.   *   1    1630  199       24.   *   1    2245  274        2.
   1    0405   50        1.   *   1    1020  125        3.   *   1    1635  200       23.   *   1    2250  275        2.
   1    0410   51        1.   *   1    1025  126        3.   *   1    1640  201       22.   *   1    2255  276        2.
   1    0415   52        1.   *   1    1030  127        3.   *   1    1645  202       22.   *   1    2300  277        2.
   1    0420   53        1.   *   1    1035  128        3.   *   1    1650  203       21.   *   1    2305  278        2.
   1    0425   54        1.   *   1    1040  129        3.   *   1    1655  204       20.   *   1    2310  279        2.
   1    0430   55        1.   *   1    1045  130        3.   *   1    1700  205       19.   *   1    2315  280        2.
   1    0435   56        1.   *   1    1050  131        3.   *   1    1705  206       18.   *   1    2320  281        2.
   1    0440   57        1.   *   1    1055  132        3.   *   1    1710  207       18.   *   1    2325  282        2.
   1    0445   58        1.   *   1    1100  133        3.   *   1    1715  208       17.   *   1    2330  283        2.
   1    0450   59        1.   *   1    1105  134        4.   *   1    1720  209       16.   *   1    2335  284        1.
   1    0455   60        1.   *   1    1110  135        4.   *   1    1725  210       16.   *   1    2340  285        1.
   1    0500   61        1.   *   1    1115  136        4.   *   1    1730  211       15.   *   1    2345  286        1.
   1    0505   62        1.   *   1    1120  137        4.   *   1    1735  212       15.   *   1    2350  287        1.
   1    0510   63        1.   *   1    1125  138        4.   *   1    1740  213       14.   *   1    2355  288        1.
   1    0515   64        1.   *   1    1130  139        4.   *   1    1745  214       14.   *   2    0000  289        1.
   1    0520   65        1.   *   1    1135  140        4.   *   1    1750  215       13.   *   2    0005  290        1.
   1    0525   66        1.   *   1    1140  141        5.   *   1    1755  216       13.   *   2    0010  291        1.
   1    0530   67        1.   *   1    1145  142        5.   *   1    1800  217       12.   *   2    0015  292        1.
   1    0535   68        1.   *   1    1150  143        5.   *   1    1805  218       12.   *   2    0020  293        1.
   1    0540   69        1.   *   1    1155  144        7.   *   1    1810  219       11.   *   2    0025  294        1.
   1    0545   70        1.   *   1    1200  145       10.   *   1    1815  220       11.   *   2    0030  295        1.
   1    0550   71        1.   *   1    1205  146       16.   *   1    1820  221       11.   *   2    0035  296        1.
   1    0555   72        1.   *   1    1210  147       24.   *   1    1825  222       10.   *   2    0040  297        1.
   1    0600   73        2.   *   1    1215  148       34.   *   1    1830  223       10.   *   2    0045  298        1.
   1    0605   74        2.   *   1    1220  149       44.   *   1    1835  224       10.   *   2    0050  299        1.
   1    0610   75        2.   *   1    1225  150       56.   *   1    1840  225        9.   *   2    0055  300        1.
                          *                             *                                  *
*****************************************************************************************************************************************************

  PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR          24-HR          72-HR       24.92-HR
+   (CFS)        (HR)
                          (CFS)
+     120.       13.08                     52.           15.            15.           15.
                      (INCHES)            .065          .075           .075          .075
                       (AC-FT)             26.           30.            30.           30.

                     CUMULATIVE AREA =    7.48 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            ***************
            *             *
  46 KK     *    RL11bD   *      Route Hydrograph Through L11a
            *             *
            ***************

               HYDROGRAPH ROUTING DATA

  47 RK          KINEMATIC WAVE STREAM ROUTING
                          L       9500.  CHANNEL LENGTH
                          S       .0129  SLOPE
                          N        .035  CHANNEL ROUGHNESS COEFFICIENT
                         CA         .00  CONTRIBUTING AREA
                      SHAPE        TRAP  CHANNEL SHAPE
                         WD       10.00  BOTTOM WIDTH OR DIAMETER
                          Z        6.00  SIDE SLOPE
                     NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                    ***
                                  COMPUTED KINEMATIC PARAMETERS
                                       VARIABLE TIME STEP
                                    (DT SHOWN IS A MINIMUM)

                        ELEMENT    ALPHA       M         DT         DX        PEAK     TIME TO      VOLUME     MAXIMUM
                                                                                          PEAK                  CELERITY
                                                          (MIN)      (FT)      (CFS)     (MIN)        (IN)       (FPS)

                        MAIN          1.30      1.38       5.00    1900.00    142.22    807.41         .09        6.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3489E+02  EXCESS= .0000E+00 OUTFLOW= .3469E+02 BASIN STORAGE= .1699E+00 PERCENT ERROR=    .1

                                       INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

                        MAIN          1.30      1.38       5.00                142.05    805.00         .09

     ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   RL11bD
                         TRANSPOSITION AREA        .0 SQ MI

  PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR          24-HR          72-HR       24.92-HR
```

+ (CFS)	(HR)		6-HR	24-HR	72-HR	24.92-HR
142.	13.42	(CFS)	61.	17.	17.	17.
		(INCHES)	.076	.087	.087	.087
		(AC-FT)	30.	35.	35.	35.

CUMULATIVE AREA = 7.48 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.30	1.38	5.00	1900.00	117.63	807.38	.07	6.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2946E+02 EXCESS= .0000E+00 OUTFLOW= .2926E+02 BASIN STORAGE= .1686E+00 PERCENT ERROR= .1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.30	1.38	5.00	117.10	805.00	.07
***	***	***	***	***		

HYDROGRAPH AT STATION RL11bD
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW + (CFS)	TIME (HR)		6-HR	24-HR	72-HR	24.92-HR
		(CFS)				
+ 117.	13.42		51.	15.	14.	14.
		(INCHES)	.063	.073	.073	.073
		(AC-FT)	25.	29.	29.	29.

CUMULATIVE AREA = 7.48 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.30	1.38	5.00	1900.00	105.86	808.27	.07	6.00

NTINUITY SUMMARY (AC-FT) - INFLOW= .2689E+02 EXCESS= .0000E+00 OUTFLOW= .2669E+02 BASIN STORAGE= .1669E+00 PERCENT ERROR= .1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.30	1.38	5.00	105.37	810.00	.07
***	***	***	***	***		

HYDROGRAPH AT STATION RL11bD
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW + (CFS)	TIME (HR)		6-HR	24-HR	72-HR	24.92-HR
		(CFS)				
+ 105.	13.50		46.	13.	13.	13.
		(INCHES)	.057	.067	.067	.067
		(AC-FT)	23.	27.	27.	27.

CUMULATIVE AREA = 7.48 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.30	1.38	5.00	1900.00	94.99	807.67	.06	5.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2449E+02 EXCESS= .0000E+00 OUTFLOW= .2430E+02 BASIN STORAGE= .1655E+00 PERCENT ERROR= .1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.30	1.38	5.00	94.65	810.00	.06
***	***	***	***	***		

HYDROGRAPH AT STATION RL11bD
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW + (CFS)	TIME (HR)		6-HR	24-HR	72-HR	24.92-HR
		(CFS)				
95.	13.50		42.	12.	12.	12.
		(INCHES)	.052	.061	.061	.061
		(AC-FT)	21.	24.	24.	24.

CUMULATIVE AREA = 7.48 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.30	1.38	4.64	1583.33	88.13	810.26	.06	5.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2299E+02 EXCESS= .0000E+00 OUTFLOW= .2278E+02 BASIN STORAGE= .1777E+00 PERCENT ERROR= .1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.30	1.38	5.00		88.08	810.00	.06
***	***	***	***	***			

HYDROGRAPH AT STATION RL11bd
TRANSPOSITION AREA 50.0 SQ MI

	PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+	88.	13.50	(CFS)	39.	11.	11.	11.
			(INCHES)	.048	.057	.057	.057
			(AC-FT)	19.	23.	23.	23.

CUMULATIVE AREA = 7.48 SQ MI

****

INTERPOLATED HYDROGRAPH AT RL11bd

****

DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	*	1		0615	76	1.	*	1		1230	151	6.	*	1		1845	226	12.
1		0005	2	0.	*	1		0620	77	1.	*	1		1235	152	10.	*	1		1850	227	11.
1		0010	3	0.	*	1		0625	78	1.	*	1		1240	153	17.	*	1		1855	228	11.
1		0015	4	0.	*	1		0630	79	1.	*	1		1245	154	31.	*	1		1900	229	11.
1		0020	5	0.	*	1		0635	80	1.	*	1		1250	155	49.	*	1		1905	230	10.
1		0025	6	0.	*	1		0640	81	1.	*	1		1255	156	66.	*	1		1910	231	10.
1		0030	7	0.	*	1		0645	82	1.	*	1		1300	157	82.	*	1		1915	232	10.
1		0035	8	0.	*	1		0650	83	1.	*	1		1305	158	95.	*	1		1920	233	9.
1		0040	9	0.	*	1		0655	84	1.	*	1		1310	159	105.	*	1		1925	234	9.
1		0045	10	0.	*	1		0700	85	1.	*	1		1315	160	112.	*	1		1930	235	9.
1		0050	11	0.	*	1		0705	86	1.	*	1		1320	161	117.	*	1		1935	236	9.
1		0055	12	0.	*	1		0710	87	2.	*	1		1325	162	119.	*	1		1940	237	8.
1		0100	13	0.	*	1		0715	88	2.	*	1		1330	163	119.	*	1		1945	238	8.
1		0105	14	0.	*	1		0720	89	2.	*	1		1335	164	116.	*	1		1950	239	8.
1		0110	15	0.	*	1		0725	90	2.	*	1		1340	165	112.	*	1		1955	240	8.
1		0115	16	0.	*	1		0730	91	2.	*	1		1345	166	108.	*	1		2000	241	7.
1		0120	17	0.	*	1		0735	92	2.	*	1		1350	167	104.	*	1		2005	242	7.
1		0125	18	0.	*	1		0740	93	2.	*	1		1355	168	100.	*	1		2010	243	7.
1		0130	19	0.	*	1		0745	94	2.	*	1		1400	169	96.	*	1		2015	244	7.
1		0135	20	0.	*	1		0750	95	2.	*	1		1405	170	93.	*	1		2020	245	6.
1		0140	21	0.	*	1		0755	96	2.	*	1		1410	171	89.	*	1		2025	246	6.
1		0145	22	0.	*	1		0800	97	2.	*	1		1415	172	86.	*	1		2030	247	6.
1		0150	23	0.	*	1		0805	98	2.	*	1		1420	173	82.	*	1		2035	248	6.
1		0155	24	0.	*	1		0810	99	2.	*	1		1425	174	79.	*	1		2040	249	6.
1		0200	25	0.	*	1		0815	100	2.	*	1		1430	175	76.	*	1		2045	250	6.
1		0205	26	0.	*	1		0820	101	2.	*	1		1435	176	73.	*	1		2050	251	5.
1		0210	27	0.	*	1		0825	102	2.	*	1		1440	177	71.	*	1		2055	252	5.
1		0215	28	0.	*	1		0830	103	2.	*	1		1445	178	68.	*	1		2100	253	5.
1		0220	29	0.	*	1		0835	104	2.	*	1		1450	179	65.	*	1		2105	254	5.
1		0225	30	0.	*	1		0840	105	2.	*	1		1455	180	63.	*	1		2110	255	5.
1		0230	31	0.	*	1		0845	106	2.	*	1		1500	181	61.	*	1		2115	256	5.
1		0235	32	0.	*	1		0850	107	2.	*	1		1505	182	58.	*	1		2120	257	5.
1		0240	33	0.	*	1		0855	108	2.	*	1		1510	183	56.	*	1		2125	258	4.
1		0245	34	0.	*	1		0900	109	2.	*	1		1515	184	54.	*	1		2130	259	4.
1		0250	35	0.	*	1		0905	110	2.	*	1		1520	185	52.	*	1		2135	260	4.
1		0255	36	0.	*	1		0910	111	2.	*	1		1525	186	50.	*	1		2140	261	4.
1		0300	37	0.	*	1		0915	112	2.	*	1		1530	187	48.	*	1		2145	262	4.
1		0305	38	0.	*	1		0920	113	2.	*	1		1535	188	46.	*	1		2150	263	4.
1		0310	39	0.	*	1		0925	114	2.	*	1		1540	189	45.	*	1		2155	264	4.
1		0315	40	0.	*	1		0930	115	2.	*	1		1545	190	43.	*	1		2200	265	4.
1		0320	41	0.	*	1		0935	116	2.	*	1		1550	191	41.	*	1		2205	266	4.
1		0325	42	0.	*	1		0940	117	2.	*	1		1555	192	40.	*	1		2210	267	4.
1		0330	43	1.	*	1		0945	118	2.	*	1		1600	193	38.	*	1		2215	268	3.
1		0335	44	1.	*	1		0950	119	2.	*	1		1605	194	37.	*	1		2220	269	3.
1		0340	45	1.	*	1		0955	120	2.	*	1		1610	195	36.	*	1		2225	270	3.
1		0345	46	1.	*	1		1000	121	2.	*	1		1615	196	34.	*	1		2230	271	3.
1		0350	47	1.	*	1		1005	122	2.	*	1		1620	197	33.	*	1		2235	272	3.
1		0355	48	1.	*	1		1010	123	2.	*	1		1625	198	32.	*	1		2240	273	3.
1		0400	49	1.	*	1		1015	124	2.	*	1		1630	199	31.	*	1		2245	274	3.
1		0405	50	1.	*	1		1020	125	2.	*	1		1635	200	30.	*	1		2250	275	3.
1		0410	51	1.	*	1		1025	126	2.	*	1		1640	201	28.	*	1		2255	276	3.
1		0415	52	1.	*	1		1030	127	2.	*	1		1645	202	27.	*	1		2300	277	3.
1		0420	53	1.	*	1		1035	128	2.	*	1		1650	203	26.	*	1		2305	278	3.
1		0425	54	1.	*	1		1040	129	3.	*	1		1655	204	25.	*	1		2310	279	3.
1		0430	55	1.	*	1		1045	130	3.	*	1		1700	205	25.	*	1		2315	280	3.
1		0435	56	1.	*	1		1050	131	3.	*	1		1705	206	24.	*	1		2320	281	3.
1		0440	57	1.	*	1		1055	132	3.	*	1		1710	207	23.	*	1		2325	282	3.
1		0445	58	1.	*	1		1100	133	3.	*	1		1715	208	22.	*	1		2330	283	2.
1		0450	59	1.	*	1		1105	134	3.	*	1		1720	209	21.	*	1		2335	284	2.
1		0455	60	1.	*	1		1110	135	3.	*	1		1725	210	20.	*	1		2340	285	2.
1		0500	61	1.	*	1		1115	136	3.	*	1		1730	211	20.	*	1		2345	286	2.
1		0505	62	1.	*	1		1120	137	3.	*	1		1735	212	19.	*	1		2350	287	2.
1		0510	63	1.	*	1		1125	138	3.	*	1		1740	213	18.	*	1		2355	288	2.
1		0515	64	1.	*	1		1130	139	3.	*	1		1745	214	18.	*	2		0000	289	2.
1		0520	65	1.	*	1		1135	140	3.	*	1		1750	215	17.	*	2		0005	290	2.
1		0525	66	1.	*	1		1140	141	3.	*	1		1755	216	17.	*	2		0010	291	2.
1		0530	67	1.	*	1		1145	142	3.	*	1		1800	217	16.	*	2		0015	292	2.
1		0535	68	1.	*	1		1150	143	3.	*	1		1805	218	15.	*	2		0020	293	2.
1		0540	69	1.	*	1		1155	144	3.	*	1		1810	219	15.	*	2		0025	294	2.
1		0545	70	1.	*	1		1200	145	4.	*	1		1815	220	14.	*	2		0030	295	2.
1		0550	71	1.	*	1		1205	146	4.	*	1		1820	221	14.	*	2		0035	296	2.
1		0555	72	1.	*	1		1210	147	4.	*	1		1825	222	13.	*	2		0040	297	2.
1		0600	73	1.	*	1		1215	148	4.	*	1		1830	223	13.	*	2		0045	298	1.
1		0605	74	1.	*	1		1220	149	4.	*	1		1835	224	13.	*	2		0050	299	1.
1		0610	75	1.	*	1		1225	150	5.	*	1		1840	225	12.	*	2		0055	300	1.

```
                                        *                                       *                                       *
*****************************************************************************************************************************************************

  EAK FLOW     TIME                                    MAXIMUM AVERAGE FLOW
                                          6-HR          24-HR          72-HR       24.92-HR
+   (CFS)      (HR)
                          (CFS)
+     119.     13.42                      52.           15.            14.           14.
                        (INCHES)         .064          .074           .074          .074
                          (AC-FT)          26.           30.            30.           30.

                        CUMULATIVE AREA =     7.48 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            ***************
            *             *
  48 KK     *     L11aU   *      Subbasin at the Proposed Lower Detention Pond
            *             *
            ***************

               SUBBASIN RUNOFF DATA

  49 BA          SUBBASIN CHARACTERISTICS
                       TAREA        1.01  SUBBASIN AREA

  50 LG          GREEN AND AMPT LOSS RATE
                       STRTL         .58  STARTING LOSS
                         DTH         .52  MOISTURE DEFICIT
                        PSIF        1.94  WETTING FRONT SUCTION
                       XKSAT         .07  HYDRAULIC CONDUCTIVITY
                       RTIMP        5.00  PERCENT IMPERVIOUS AREA

  51 US          SNYDER UNITGRAPH
                          TP         .60  LAG
                          CP         .31  PEAKING COEFFICIENT

               SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                     CLARK   TC=    .61 HR,       R=  1.57 HR
                                    SNYDER   TP=    .61 HR,      CP=   .31

                                          UNIT HYDROGRAPH
                                    104 END-OF-PERIOD ORDINATES
                14.       54.      111.      179.      246.      298.      331.      336.      322.      305.
               290.      275.      261.      247.      234.      222.      211.      200.      190.      180.
               171.      162.      153.      146.      138.      131.      124.      118.      112.      106.
               100.       95.       90.       86.       81.       77.       73.       69.       66.       62.
                59.       56.       53.       50.       48.       45.       43.       41.       39.       37.
                35.       33.       31.       30.       28.       27.       25.       24.       23.       22.
                21.       19.       18.       18.       17.       16.       15.       14.       13.       13.
                12.       11.       11.       10.       10.        9.        9.        8.        8.        8.
                 7.        7.        6.        6.        6.        5.        5.        5.        5.        4.
                 4.        4.        4.        4.        3.        3.        3.        3.        3.        3.
                 2.        2.        2.        2.

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    L11aU
                       TRANSPOSITION AREA       .0 SQ MI

     TOTAL RAINFALL =    1.19, TOTAL LOSS =     1.08, TOTAL EXCESS =      .11

  PEAK FLOW     TIME                                    MAXIMUM AVERAGE FLOW
                                          6-HR          24-HR          72-HR       24.92-HR
+   (CFS)      (HR)
                          (CFS)
+      28.     12.50                      10.            3.             3.            3.
                        (INCHES)         .093          .113           .113          .113
                          (AC-FT)           5.            6.             6.            6.

                        CUMULATIVE AREA =     1.01 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    L11aU
                       TRANSPOSITION AREA      14.0 SQ MI

     TOTAL RAINFALL =    1.17, TOTAL LOSS =     1.07, TOTAL EXCESS =      .10

  PEAK FLOW     TIME                                    MAXIMUM AVERAGE FLOW
                                          6-HR          24-HR          72-HR       24.92-HR
+   (CFS)      (HR)
                          (CFS)
+      23.     12.50                       9.            3.             3.            3.
                        (INCHES)         .080          .100           .100          .100
                          (AC-FT)           4.            5.             5.            5.

                        CUMULATIVE AREA =     1.01 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    L11aU
                       TRANSPOSITION AREA      24.0 SQ MI

     TOTAL RAINFALL =    1.15, TOTAL LOSS =     1.06, TOTAL EXCESS =      .09

  PEAK FLOW     TIME                                    MAXIMUM AVERAGE FLOW
                                          6-HR          24-HR          72-HR       24.92-HR
+   (CFS)      (HR)
                          (CFS)
+      21.     12.58                       8.            3.             2.            2.
                        (INCHES)         .074          .094           .094          .094
                          (AC-FT)           4.            5.             5.            5.
```

CUMULATIVE AREA = 1.01 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION L11aU
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.14, TOTAL LOSS = 1.05, TOTAL EXCESS = .09

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)			
20.	12.58	8.	2.	2.	2.
		.069	.088	.088	.088
		4.	5.	5.	5.

(INCHES)
(AC-FT)

CUMULATIVE AREA = 1.01 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION L11aU
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.13, TOTAL LOSS = 1.05, TOTAL EXCESS = .09

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)			
19.	12.58	7.	2.	2.	2.
		.066	.085	.085	.085
		4.	5.	5.	5.

(INCHES)
(AC-FT)

CUMULATIVE AREA = 1.01 SQ MI

INTERPOLATED HYDROGRAPH AT L11aU

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	1.	1		1230	151	25.	1		1845	226	1.
1		0005	2	0.	1		0620	77	1.	1		1235	152	25.	1		1850	227	1.
1		0010	3	0.	1		0625	78	1.	1		1240	153	24.	1		1855	228	1.
1		0015	4	0.	1		0630	79	1.	1		1245	154	23.	1		1900	229	1.
1		0020	5	0.	1		0635	80	1.	1		1250	155	22.	1		1905	230	1.
1		0025	6	0.	1		0640	81	1.	1		1255	156	21.	1		1910	231	1.
1		0030	7	0.	1		0645	82	1.	1		1300	157	20.	1		1915	232	1.
1		0035	8	0.	1		0650	83	1.	1		1305	158	19.	1		1920	233	1.
1		0040	9	0.	1		0655	84	1.	1		1310	159	18.	1		1925	234	1.
1		0045	10	0.	1		0700	85	1.	1		1315	160	18.	1		1930	235	1.
1		0050	11	0.	1		0705	86	1.	1		1320	161	17.	1		1935	236	1.
1		0055	12	0.	1		0710	87	1.	1		1325	162	16.	1		1940	237	1.
1		0100	13	0.	1		0715	88	1.	1		1330	163	15.	1		1945	238	1.
1		0105	14	0.	1		0720	89	1.	1		1335	164	15.	1		1950	239	1.
1		0110	15	0.	1		0725	90	1.	1		1340	165	14.	1		1955	240	1.
1		0115	16	0.	1		0730	91	1.	1		1345	166	13.	1		2000	241	1.
1		0120	17	0.	1		0735	92	1.	1		1350	167	13.	1		2005	242	1.
1		0125	18	0.	1		0740	93	1.	1		1355	168	12.	1		2010	243	1.
1		0130	19	0.	1		0745	94	1.	1		1400	169	12.	1		2015	244	1.
1		0135	20	0.	1		0750	95	1.	1		1405	170	11.	1		2020	245	1.
1		0140	21	0.	1		0755	96	1.	1		1410	171	11.	1		2025	246	1.
1		0145	22	0.	1		0800	97	1.	1		1415	172	10.	1		2030	247	1.
1		0150	23	0.	1		0805	98	1.	1		1420	173	10.	1		2035	248	1.
1		0155	24	0.	1		0810	99	1.	1		1425	174	9.	1		2040	249	1.
1		0200	25	0.	1		0815	100	1.	1		1430	175	9.	1		2045	250	1.
1		0205	26	0.	1		0820	101	1.	1		1435	176	8.	1		2050	251	1.
1		0210	27	0.	1		0825	102	1.	1		1440	177	8.	1		2055	252	1.
1		0215	28	0.	1		0830	103	1.	1		1445	178	8.	1		2100	253	1.
1		0220	29	0.	1		0835	104	1.	1		1450	179	7.	1		2105	254	1.
1		0225	30	0.	1		0840	105	1.	1		1455	180	7.	1		2110	255	1.
1		0230	31	0.	1		0845	106	1.	1		1500	181	7.	1		2115	256	1.
1		0235	32	0.	1		0850	107	1.	1		1505	182	7.	1		2120	257	1.
1		0240	33	0.	1		0855	108	1.	1		1510	183	6.	1		2125	258	1.
1		0245	34	0.	1		0900	109	1.	1		1515	184	6.	1		2130	259	1.
1		0250	35	0.	1		0905	110	1.	1		1520	185	6.	1		2135	260	1.
1		0255	36	0.	1		0910	111	1.	1		1525	186	5.	1		2140	261	1.
1		0300	37	0.	1		0915	112	1.	1		1530	187	5.	1		2145	262	1.
1		0305	38	0.	1		0920	113	1.	1		1535	188	5.	1		2150	263	1.
1		0310	39	0.	1		0925	114	1.	1		1540	189	5.	1		2155	264	1.
1		0315	40	0.	1		0930	115	1.	1		1545	190	5.	1		2200	265	1.
1		0320	41	0.	1		0935	116	1.	1		1550	191	4.	1		2205	266	1.
1		0325	42	0.	1		0940	117	1.	1		1555	192	4.	1		2210	267	1.
1		0330	43	0.	1		0945	118	1.	1		1600	193	4.	1		2215	268	1.
1		0335	44	0.	1		0950	119	1.	1		1605	194	4.	1		2220	269	1.
1		0340	45	0.	1		0955	120	1.	1		1610	195	4.	1		2225	270	1.
1		0345	46	0.	1		1000	121	1.	1		1615	196	4.	1		2230	271	1.
1		0350	47	0.	1		1005	122	1.	1		1620	197	4.	1		2235	272	1.
1		0355	48	0.	1		1010	123	1.	1		1625	198	3.	1		2240	273	1.
1		0400	49	0.	1		1015	124	1.	1		1630	199	3.	1		2245	274	1.
1		0405	50	0.	1		1020	125	1.	1		1635	200	3.	1		2250	275	0.
1		0410	51	0.	1		1025	126	1.	1		1640	201	3.	1		2255	276	0.
1		0415	52	0.	1		1030	127	1.	1		1645	202	3.	1		2300	277	0.
1		0420	53	0.	1		1035	128	1.	1		1650	203	3.	1		2305	278	0.
1		0425	54	0.	1		1040	129	1.	1		1655	204	3.	1		2310	279	0.
1		0430	55	0.	1		1045	130	1.	1		1700	205	3.	1		2315	280	0.
1		0435	56	0.	1		1050	131	1.	1		1705	206	2.	1		2320	281	0.
1		0440	57	0.	1		1055	132	1.	1		1710	207	2.	1		2325	282	0.
1		0445	58	0.	1		1100	133	1.	1		1715	208	2.	1		2330	283	0.
1		0450	59	0.	1		1105	134	1.	1		1720	209	2.	1		2335	284	0.
1		0455	60	0.	1		1110	135	1.	1		1725	210	2.	1		2340	285	0.
1		0500	61	0.	1		1115	136	2.	1		1730	211	2.	1		2345	286	0.
1		0505	62	0.	1		1120	137	2.	1		1735	212	2.	1		2350	287	0.
1		0510	63	1.	1		1125	138	2.	1		1740	213	2.	1		2355	288	0.
1		0515	64	1.	1		1130	139	2.	1		1745	214	2.	2		0000	289	0.
1		0520	65	1.	1		1135	140	2.	1		1750	215	2.	2		0005	290	0.
1		0525	66	1.	1		1140	141	2.	1		1755	216	2.	2		0010	291	0.
1		0530	67	1.	1		1145	142	2.	1		1800	217	2.	2		0015	292	0.

1	0535	68	1.	*	1	1150	143	3.	*	1	1805	218	2.	*	2	0020	293	0.
1	0540	69	1.	*	1	1155	144	3.	*	1	1810	219	2.	*	2	0025	294	0.
1	0545	70	1.	*	1	1200	145	5.	*	1	1815	220	2.	*	2	0030	295	0.
1	0550	71	1.	*	1	1205	146	9.	*	1	1820	221	2.	*	2	0035	296	0.
1	0555	72	1.	*	1	1210	147	13.	*	1	1825	222	1.	*	2	0040	297	0.
1	0600	73	1.	*	1	1215	148	17.	*	1	1830	223	1.	*	2	0045	298	0.
1	0605	74	1.	*	1	1220	149	21.	*	1	1835	224	1.	*	2	0050	299	0.
1	0610	75	1.	*	1	1225	150	23.	*	1	1840	225	1.	*	2	0055	300	0.
				*					*					*				

****

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)			
+ 25.	12.50	9.	3.	3.	3.
		(INCHES) .085	.104	.104	.104
		(AC-FT) 5.	6.	6.	6.

CUMULATIVE AREA = 1.01 SQ MI

*** ***

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* *
52 KK * C_11aU * Combine Hydrographs at the Proposed Lower Detention Pond
* *
****

53 HC HYDROGRAPH COMBINATION
ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE
***

*** *** *** *** ***

HYDROGRAPH AT STATION C_11aU
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)			
+ 160.	13.42	70.	21.	20.	20.
		(INCHES) .077	.090	.090	.090
		(AC-FT) 35.	41.	41.	41.

CUMULATIVE AREA = 8.49 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_11aU
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)			
+ 132.	13.42	59.	17.	17.	17.
		(INCHES) .064	.076	.076	.076
		(AC-FT) 29.	35.	35.	35.

CUMULATIVE AREA = 8.49 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_11aU
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)			
+ 119.	13.42	53.	16.	15.	15.
		(INCHES) .058	.070	.070	.070
		(AC-FT) 26.	32.	32.	32.

CUMULATIVE AREA = 8.49 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_11aU
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)			
+ 107.	13.42	48.	15.	14.	14.
		(INCHES) .053	.064	.064	.064
		(AC-FT) 24.	29.	29.	29.

CUMULATIVE AREA = 8.49 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_11aU
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)			
+ 100.	13.50	45.	14.	13.	13.
		(INCHES) .050	.060	.060	.060
		(AC-FT) 22.	27.	27.	27.

CUMULATIVE AREA = 8.49 SQ MI

INTERPOLATED HYOROGRAPH AT C_11au

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	DRD	FLOW
1		0000	1	0.	1		0615	76	2.	1		1230	151	30.	1		1845	226	13.
1		0005	2	0.	1		0620	77	2.	1		1235	152	33.	1		1850	227	13.
1		0010	3	0.	1		0625	78	2.	1		1240	153	40.	1		1855	228	12.
1		0015	4	0.	1		0630	79	2.	1		1245	154	53.	1		1900	229	12.
1		0020	5	0.	1		0635	80	2.	1		1250	155	69.	1		1905	230	11.
1		0025	6	0.	1		0640	81	2.	1		1255	156	86.	1		1910	231	11.
1		0030	7	0.	1		0645	82	2.	1		1300	157	101.	1		1915	232	11.
1		0035	8	0.	1		0650	83	2.	1		1305	158	113.	1		1920	233	10.
1		0040	9	0.	1		0655	84	2.	1		1310	159	122.	1		1925	234	10.
1		0045	10	0.	1		0700	85	2.	1		1315	160	129.	1		1930	235	10.
1		0050	11	0.	1		0705	86	2.	1		1320	161	133.	1		1935	236	9.
1		0055	12	0.	1		0710	87	2.	1		1325	162	134.	1		1940	237	9.
1		0100	13	0.	1		0715	88	2.	1		1330	163	133.	1		1945	238	9.
1		0105	14	0.	1		0720	89	2.	1		1335	164	130.	1		1950	239	9.
1		0110	15	0.	1		0725	90	2.	1		1340	165	125.	1		1955	240	8.
1		0115	16	0.	1		0730	91	2.	1		1345	166	120.	1		2000	241	8.
1		0120	17	0.	1		0735	92	2.	1		1350	167	116.	1		2005	242	8.
1		0125	18	0.	1		0740	93	2.	1		1355	168	111.	1		2010	243	8.
1		0130	19	0.	1		0745	94	2.	1		1400	169	107.	1		2015	244	7.
1		0135	20	0.	1		0750	95	2.	1		1405	170	103.	1		2020	245	7.
1		0140	21	0.	1		0755	96	2.	1		1410	171	99.	1		2025	246	7.
1		0145	22	0.	1		0800	97	2.	1		1415	172	95.	1		2030	247	7.
1		0150	23	0.	1		0805	98	2.	1		1420	173	91.	1		2035	248	7.
1		0155	24	0.	1		0810	99	2.	1		1425	174	88.	1		2040	249	6.
1		0200	25	0.	1		0815	100	2.	1		1430	175	85.	1		2045	250	6.
1		0205	26	0.	1		0820	101	2.	1		1435	176	81.	1		2050	251	6.
1		0210	27	0.	1		0825	102	3.	1		1440	177	78.	1		2055	252	6.
1		0215	28	0.	1		0830	103	3.	1		1445	178	75.	1		2100	253	6.
1		0220	29	0.	1		0835	104	3.	1		1450	179	72.	1		2105	254	6.
1		0225	30	0.	1		0840	105	3.	1		1455	180	70.	1		2110	255	5.
1		0230	31	0.	1		0845	106	3.	1		1500	181	67.	1		2115	256	5.
1		0235	32	0.	1		0850	107	3.	1		1505	182	64.	1		2120	257	5.
1		0240	33	0.	1		0855	108	3.	1		1510	183	62.	1		2125	258	5.
1		0245	34	0.	1		0900	109	3.	1		1515	184	59.	1		2130	259	5.
1		0250	35	0.	1		0905	110	3.	1		1520	185	57.	1		2135	260	5.
1		0255	36	0.	1		0910	111	3.	1		1525	186	55.	1		2140	261	5.
1		0300	37	1.	1		0915	112	3.	1		1530	187	53.	1		2145	262	5.
1		0305	38	1.	1		0920	113	3.	1		1535	188	51.	1		2150	263	4.
1		0310	39	1.	1		0925	114	3.	1		1540	189	49.	1		2155	264	4.
1		0315	40	1.	1		0930	115	3.	1		1545	190	47.	1		2200	265	4.
1		0320	41	1.	1		0935	116	3.	1		1550	191	45.	1		2205	266	4.
1		0325	42	1.	1		0940	117	3.	1		1555	192	44.	1		2210	267	4.
1		0330	43	1.	1		0945	118	3.	1		1600	193	42.	1		2215	268	4.
1		0335	44	1.	1		0950	119	3.	1		1605	194	41.	1		2220	269	4.
1		0340	45	1.	1		0955	120	3.	1		1610	195	39.	1		2225	270	4.
1		0345	46	1.	1		1000	121	3.	1		1615	196	38.	1		2230	271	4.
1		0350	47	1.	1		1005	122	3.	1		1620	197	36.	1		2235	272	4.
1		0355	48	1.	1		1010	123	3.	1		1625	198	35.	1		2240	273	4.
1		0400	49	1.	1		1015	124	3.	1		1630	199	34.	1		2245	274	4.
1		0405	50	1.	1		1020	125	3.	1		1635	200	32.	1		2250	275	3.
1		0410	51	1.	1		1025	126	3.	1		1640	201	31.	1		2255	276	3.
1		0415	52	1.	1		1030	127	4.	1		1645	202	30.	1		2300	277	3.
1		0420	53	1.	1		1035	128	4.	1		1650	203	29.	1		2305	278	3.
1		0425	54	1.	1		1040	129	4.	1		1655	204	28.	1		2310	279	3.
1		0430	55	1.	1		1045	130	4.	1		1700	205	27.	1		2315	280	3.
1		0435	56	1.	1		1050	131	4.	1		1705	206	26.	1		2320	281	3.
1		0440	57	1.	1		1055	132	4.	1		1710	207	25.	1		2325	282	3.
1		0445	58	2.	1		1100	133	4.	1		1715	208	24.	1		2330	283	3.
1		0450	59	2.	1		1105	134	4.	1		1720	209	23.	1		2335	284	3.
1		0455	60	2.	1		1110	135	4.	1		1725	210	23.	1		2340	285	3.
1		0500	61	2.	1		1115	136	4.	1		1730	211	22.	1		2345	286	2.
1		0505	62	2.	1		1120	137	5.	1		1735	212	21.	1		2350	287	2.
1		0510	63	2.	1		1125	138	5.	1		1740	213	20.	1		2355	288	2.
1		0515	64	2.	1		1130	139	5.	1		1745	214	20.	2		0000	289	2.
1		0520	65	2.	1		1135	140	5.	1		1750	215	19.	2		0005	290	2.
1		0525	66	2.	1		1140	141	5.	1		1755	216	18.	2		0010	291	2.
1		0530	67	2.	1		1145	142	6.	1		1800	217	18.	2		0015	292	2.
1		0535	68	2.	1		1150	143	6.	1		1805	218	17.	2		0020	293	2.
1		0540	69	2.	1		1155	144	7.	1		1810	219	16.	2		0025	294	2.
1		0545	70	2.	1		1200	145	9.	1		1815	220	16.	2		0030	295	2.
1		0550	71	2.	1		1205	146	12.	1		1820	221	15.	2		0035	296	2.
1		0555	72	2.	1		1210	147	16.	1		1825	222	15.	2		0040	297	2.
1		0600	73	2.	1		1215	148	20.	1		1830	223	14.	2		0045	298	2.
1		0605	74	2.	1		1220	149	24.	1		1835	224	14.	2		0050	299	2.
1		0610	75	2.	1		1225	150	27.	1		1840	225	13.	2		0055	300	2.

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
134.	13.42		59.	18.	17.	17.
		(INCHES)	.065	.077	.077	.077
		(AC-FT)	29.	35.	35.	35.

CUMULATIVE AREA = 8.49 SQ MI

54 KK D-LPd Divert Flow Into Lower Detention Pond

DT DIVERSION
ISTAD D-Pd DIVERSION HYDROGRAPH IOENTIFICATION

DI	INFLOW	.00	24.80	117.60	285.30	755.60	4100.00	10000.00
DQ	DIVERTED FLOW	.00	.00	91.00	257.00	725.80	2050.00	4000.00

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DIVERSION HYDROGRAPH D-Pd
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 133.	13.42	45.	11.	11.	11.
		(INCHES) .049	.049	.049	.049
		(AC-FT) 22.	22.	22.	22.

CUMULATIVE AREA = 8.49 SQ MI

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HYDROGRAPH AT STATION D-LPd
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 27.	13.42	25.	9.	9.	9.
		(INCHES) .028	.041	.041	.041
		(AC-FT) 13.	18.	18.	18.

CUMULATIVE AREA = 8.49 SQ MI

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DIVERSION HYDROGRAPH D-Pd
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 105.	13.42	34.	9.	8.	8.
		(INCHES) .037	.037	.037	.037
		(AC-FT) 17.	17.	17.	17.

CUMULATIVE AREA = 8.49 SQ MI

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HYDROGRAPH AT STATION D-LPd
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 27.	13.42	25.	9.	9.	9.
		(INCHES) .027	.039	.039	.039
		(AC-FT) 12.	18.	18.	18.

CUMULATIVE AREA = 8.49 SQ MI

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DIVERSION HYDROGRAPH D-Pd
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 93.	13.42	29.	7.	7.	7.
		(INCHES) .032	.032	.032	.032
		(AC-FT) 14.	14.	14.	14.

CUMULATIVE AREA = 8.49 SQ MI

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HYDROGRAPH AT STATION D-LPd
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 27.	13.42	24.	9.	8.	8.
		(INCHES) .026	.038	.038	.038
		(AC-FT) 12.	17.	17.	17.

CUMULATIVE AREA = 8.49 SQ MI

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DIVERSION HYDROGRAPH D-Pd
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 81.	13.42	25.	6.	6.	6.
		(INCHES) .027	.027	.027	.027

(AC-FT)	12.	12.	12.	12.

CUMULATIVE AREA = 8.49 SQ MI

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HYDROGRAPH AT STATION D-LPd
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 26.	13.42	24.	8.	8.	8.
		(INCHES) .026	.037	.037	.037
		(AC-FT) 12.	17.	17.	17.

CUMULATIVE AREA = 8.49 SQ MI

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DIVERSION HYDROGRAPH D-Pd
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 74.	13.50	22.	5.	5.	5.
		(INCHES) .024	.024	.024	.024
		(AC-FT) 11.	11.	11.	11.

CUMULATIVE AREA = 8.49 SQ MI

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HYDROGRAPH AT STATION D-LPd
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 26.	13.50	23.	8.	8.	8.
		(INCHES) .026	.036	.036	.036
		(AC-FT) 12.	17.	17.	17.

CUMULATIVE AREA = 8.49 SQ MI

INTERPOLATED DIVERSION HYDROGRAPH AT D-Pd

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	5.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	8.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	15.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	28.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	44.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	60.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	75.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	87.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	96.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	102.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	106.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	107.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	106.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	103.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	99.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	94.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	89.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	85.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	81.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	77.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	73.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	69.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	65.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	62.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	59.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	55.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	52.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	49.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	47.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	44.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	41.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	39.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	36.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	34.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	32.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	30.	1		2140	261	0.
1		0300	37	0.	1		0915	112	0.	1		1530	187	28.	1		2145	262	0.
1		0305	38	0.	1		0920	113	0.	1		1535	188	26.	1		2150	263	0.
1		0310	39	0.	1		0925	114	0.	1		1540	189	24.	1		2155	264	0.
1		0315	40	0.	1		0930	115	0.	1		1545	190	22.	1		2200	265	0.
1		0320	41	0.	1		0935	116	0.	1		1550	191	20.	1		2205	266	0.
1		0325	42	0.	1		0940	117	0.	1		1555	192	19.	1		2210	267	0.
1		0330	43	0.	1		0945	118	0.	1		1600	193	17.	1		2215	268	0.
1		0335	44	0.	1		0950	119	0.	1		1605	194	15.	1		2220	269	0.
1		0340	45	0.	1		0955	120	0.	1		1610	195	14.	1		2225	270	0.
1		0345	46	0.	1		1000	121	0.	1		1615	196	13.	1		2230	271	0.
1		0350	47	0.	1		1005	122	0.	1		1620	197	11.	1		2235	272	0.
1		0355	48	0.	1		1010	123	0.	1		1625	198	10.	1		2240	273	0.
1		0400	49	0.	1		1015	124	0.	1		1630	199	9.	1		2245	274	0.
1		0405	50	0.	1		1020	125	0.	1		1635	200	7.	1		2250	275	0.
1		0410	51	0.	1		1025	126	0.	1		1640	201	6.	1		2255	276	0.
1		0415	52	0.	1		1030	127	0.	1		1645	202	5.	1		2300	277	0.
1		0420	53	0.	1		1035	128	0.	1		1650	203	4.	1		2305	278	0.

1	0425	54	0.	*	1	1040	129	0.	*	1	1655	204	3.	*	1	2310	279	0.
1	0430	55	0.	*	1	1045	130	0.	*	1	1700	205	2.	*	1	2315	280	0.
1	0435	56	0.	*	1	1050	131	0.	*	1	1705	206	1.	*	1	2320	281	0.
1	0440	57	0.	*	1	1055	132	0.	*	1	1710	207	0.	*	1	2325	282	0.
1	0445	58	0.	*	1	1100	133	0.	*	1	1715	208	0.	*	1	2330	283	0.
1	0450	59	0.	*	1	1105	134	0.	*	1	1720	209	0.	*	1	2335	284	0.
1	0455	60	0.	*	1	1110	135	0.	*	1	1725	210	0.	*	1	2340	285	0.
1	0500	61	0.	*	1	1115	136	0.	*	1	1730	211	0.	*	1	2345	286	0.
1	0505	62	0.	*	1	1120	137	0.	*	1	1735	212	0.	*	1	2350	287	0.
1	0510	63	0.	*	1	1125	138	0.	*	1	1740	213	0.	*	1	2355	288	0.
1	0515	64	0.	*	1	1130	139	0.	*	1	1745	214	0.	*	2	0000	289	0.
1	0520	65	0.	*	1	1135	140	0.	*	1	1750	215	0.	*	2	0005	290	0.
1	0525	66	0.	*	1	1140	141	0.	*	1	1755	216	0.	*	2	0010	291	0.
1	0530	67	0.	*	1	1145	142	0.	*	1	1800	217	0.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	0.	*	1	1805	218	0.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	0.	*	1	1810	219	0.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	0.	*	1	1815	220	0.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	0.	*	1	1820	221	0.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	0.	*	1	1825	222	0.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	0.	*	1	1830	223	0.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	0.	*	1	1835	224	0.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	2.	*	1	1840	225	0.	*	2	0055	300	0.
				*					*					*				

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
+ 107.	13.42 (CFS)	35.	9.	8.	8.
	(INCHES)	.038	.038	.038	.038
	(AC-FT)	17.	17.	17.	17.

CUMULATIVE AREA = 8.49 SQ MI

INTERPOLATED HYDROGRAPH AT D-LPd

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	2.	1		1230	151	25.	1		1845	226	13.
1		0005	2	0.	1		0620	77	2.	1		1235	152	25.	1		1850	227	13.
1		0010	3	0.	1		0625	78	2.	1		1240	153	25.	1		1855	228	12.
1		0015	4	0.	1		0630	79	2.	1		1245	154	25.	1		1900	229	12.
1		0020	5	0.	1		0635	80	2.	1		1250	155	26.	1		1905	230	11.
1		0025	6	0.	1		0640	81	2.	1		1255	156	26.	1		1910	231	11.
1		0030	7	0.	1		0645	82	2.	1		1300	157	26.	1		1915	232	11.
1		0035	8	0.	1		0650	83	2.	1		1305	158	27.	1		1920	233	10.
1		0040	9	0.	1		0655	84	2.	1		1310	159	27.	1		1925	234	10.
1		0045	10	0.	1		0700	85	2.	1		1315	160	27.	1		1930	235	10.
1		0050	11	0.	1		0705	86	2.	1		1320	161	27.	1		1935	236	9.
1		0055	12	0.	1		0710	87	2.	1		1325	162	27.	1		1940	237	9.
1		0100	13	0.	1		0715	88	2.	1		1330	163	27.	1		1945	238	9.
1		0105	14	0.	1		0720	89	2.	1		1335	164	27.	1		1950	239	9.
1		0110	15	0.	1		0725	90	2.	1		1340	165	27.	1		1955	240	8.
1		0115	16	0.	1		0730	91	2.	1		1345	166	27.	1		2000	241	8.
1		0120	17	0.	1		0735	92	2.	1		1350	167	27.	1		2005	242	8.
1		0125	18	0.	1		0740	93	2.	1		1355	168	26.	1		2010	243	8.
1		0130	19	0.	1		0745	94	2.	1		1400	169	26.	1		2015	244	7.
1		0135	20	0.	1		0750	95	2.	1		1405	170	26.	1		2020	245	7.
1		0140	21	0.	1		0755	96	2.	1		1410	171	26.	1		2025	246	7.
1		0145	22	0.	1		0800	97	2.	1		1415	172	26.	1		2030	247	7.
1		0150	23	0.	1		0805	98	2.	1		1420	173	26.	1		2035	248	7.
1		0155	24	0.	1		0810	99	2.	1		1425	174	26.	1		2040	249	6.
1		0200	25	0.	1		0815	100	2.	1		1430	175	26.	1		2045	250	6.
1		0205	26	0.	1		0820	101	2.	1		1435	176	26.	1		2050	251	6.
1		0210	27	0.	1		0825	102	3.	1		1440	177	26.	1		2055	252	6.
1		0215	28	0.	1		0830	103	3.	1		1445	178	26.	1		2100	253	6.
1		0220	29	0.	1		0835	104	3.	1		1450	179	26.	1		2105	254	6.
1		0225	30	0.	1		0840	105	3.	1		1455	180	26.	1		2110	255	5.
1		0230	31	0.	1		0845	106	3.	1		1500	181	26.	1		2115	256	5.
1		0235	32	0.	1		0850	107	3.	1		1505	182	26.	1		2120	257	5.
1		0240	33	0.	1		0855	108	3.	1		1510	183	26.	1		2125	258	5.
1		0245	34	0.	1		0900	109	3.	1		1515	184	25.	1		2130	259	5.
1		0250	35	0.	1		0905	110	3.	1		1520	185	25.	1		2135	260	5.
1		0255	36	0.	1		0910	111	3.	1		1525	186	25.	1		2140	261	5.
1		0300	37	1.	1		0915	112	3.	1		1530	187	25.	1		2145	262	5.
1		0305	38	1.	1		0920	113	3.	1		1535	188	25.	1		2150	263	4.
1		0310	39	1.	1		0925	114	3.	1		1540	189	25.	1		2155	264	4.
1		0315	40	1.	1		0930	115	3.	1		1545	190	25.	1		2200	265	4.
1		0320	41	1.	1		0935	116	3.	1		1550	191	25.	1		2205	266	4.
1		0325	42	1.	1		0940	117	3.	1		1555	192	25.	1		2210	267	4.
1		0330	43	1.	1		0945	118	3.	1		1600	193	25.	1		2215	268	4.
1		0335	44	1.	1		0950	119	3.	1		1605	194	25.	1		2220	269	4.
1		0340	45	1.	1		0955	120	3.	1		1610	195	25.	1		2225	270	4.
1		0345	46	1.	1		1000	121	3.	1		1615	196	25.	1		2230	271	4.
1		0350	47	1.	1		1005	122	3.	1		1620	197	25.	1		2235	272	4.
1		0355	48	1.	1		1010	123	3.	1		1625	198	25.	1		2240	273	4.
1		0400	49	1.	1		1015	124	3.	1		1630	199	25.	1		2245	274	4.
1		0405	50	1.	1		1020	125	3.	1		1635	200	25.	1		2250	275	3.
1		0410	51	1.	1		1025	126	3.	1		1640	201	25.	1		2255	276	3.
1		0415	52	1.	1		1030	127	4.	1		1645	202	25.	1		2300	277	3.
1		0420	53	1.	1		1035	128	4.	1		1650	203	25.	1		2305	278	3.
1		0425	54	1.	1		1040	129	4.	1		1655	204	25.	1		2310	279	3.
1		0430	55	1.	1		1045	130	4.	1		1700	205	25.	1		2315	280	3.
1		0435	56	1.	1		1050	131	4.	1		1705	206	25.	1		2320	281	3.
1		0440	57	1.	1		1055	132	4.	1		1710	207	25.	1		2325	282	3.
1		0445	58	2.	1		1100	133	4.	1		1715	208	24.	1		2330	283	3.
1		0450	59	2.	1		1105	134	4.	1		1720	209	23.	1		2335	284	3.
1		0455	60	2.	1		1110	135	4.	1		1725	210	22.	1		2340	285	3.
1		0500	61	2.	1		1115	136	4.	1		1730	211	22.	1		2345	286	2.
1		0505	62	2.	1		1120	137	5.	1		1735	212	21.	1		2350	287	2.
1		0510	63	2.	1		1125	138	5.	1		1740	213	20.	1		2355	288	2.
1		0515	64	2.	1		1130	139	5.	1		1745	214	20.	2		0000	289	2.
1		0520	65	2.	1		1135	140	5.	1		1750	215	19.	2		0005	290	2.
1		0525	66	2.	1		1140	141	5.	1		1755	216	18.	2		0010	291	2.
1		0530	67	2.	1		1145	142	6.	1		1800	217	18.	2		0015	292	2.
1		0535	68	2.	1		1150	143	6.	1		1805	218	17.	2		0020	293	2.
1		0540	69	2.	1		1155	144	7.	1		1810	219	16.	2		0025	294	2.
1		0545	70	2.	1		1200	145	9.	1		1815	220	16.	2		0030	295	2.

1	0550	71	2.	*	1	1205	146	12.	*	1	1820	221	15.	*	2	0035	296	2.													
1	0555	72	2.	*	1	1210	147	16.	*	1	1825	222	15.	*	2	0040	297	2.													
1	0600	73	2.	*	1	1215	148	20.	*	1	1830	223	14.	*	2	0045	298	2.													
1	0605	74	2.	*	1	1220	149	24.	*	1	1835	224	14.	*	2	0050	299	2.													
1	0610	75	2.	*	1	1225	150	25.	*	1	1840	225	13.	*	2	0055	300	2.													

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 27.	13.42		25.	9.	9.	9.
		(INCHES)	.027	.039	.039	.039
		(AC-FT)	12.	18.	18.	18.

CUMULATIVE AREA = 8.49 SQ MI

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58 KK SRD-Pd Retrieve Pond Inflow

59 DR RETRIEVE DIVERSION HYDROGRAPH
ISTAD D-Pd DIVERSION HYDROGRAPH IDENTIFICATION

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HYDROGRAPH AT STATION SRD-Pd
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 133.	13.42		45.	11.	11.	11.
		(INCHES)	.049	.049	.049	.049
		(AC-FT)	22.	22.	22.	22.

CUMULATIVE AREA = 8.49 SQ MI

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HYDROGRAPH AT STATION SRD-Pd
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 105.	13.42		34.	9.	8.	8.
		(INCHES)	.037	.037	.037	.037
		(AC-FT)	17.	17.	17.	17.

CUMULATIVE AREA = 8.49 SQ MI

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HYDROGRAPH AT STATION SRD-Pd
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 93.	13.42		29.	7.	7.	7.
		(INCHES)	.032	.032	.032	.032
		(AC-FT)	14.	14.	14.	14.

CUMULATIVE AREA = 8.49 SQ MI

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HYDROGRAPH AT STATION SRD-Pd
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 81.	13.42		25.	6.	6.	6.
		(INCHES)	.027	.027	.027	.027
		(AC-FT)	12.	12.	12.	12.

CUMULATIVE AREA = 8.49 SQ MI

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HYDROGRAPH AT STATION SRD-Pd
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 74.	13.50		22.	5.	5.	5.
		(INCHES)	.024	.024	.024	.024
		(AC-FT)	11.	11.	11.	11.

CUMULATIVE AREA = 8.49 SQ MI

INTERPOLATED HYDROGRAPH AT SRD-Pd

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	5.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	8.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	15.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	28.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	44.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	60.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	75.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	87.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	96.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	102.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	106.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	107.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	106.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	103.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	99.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	94.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	89.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	85.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	81.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	77.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	73.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	69.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	65.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	62.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	59.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	55.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	52.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	49.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	47.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	44.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	41.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	39.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	36.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	34.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	32.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	30.	1		2140	261	0.
1		0300	37	0.	1		0915	112	0.	1		1530	187	28.	1		2145	262	0.
1		0305	38	0.	1		0920	113	0.	1		1535	188	26.	1		2150	263	0.
1		0310	39	0.	1		0925	114	0.	1		1540	189	24.	1		2155	264	0.
1		0315	40	0.	1		0930	115	0.	1		1545	190	22.	1		2200	265	0.
1		0320	41	0.	1		0935	116	0.	1		1550	191	20.	1		2205	266	0.
1		0325	42	0.	1		0940	117	0.	1		1555	192	19.	1		2210	267	0.
1		0330	43	0.	1		0945	118	0.	1		1600	193	17.	1		2215	268	0.
1		0335	44	0.	1		0950	119	0.	1		1605	194	15.	1		2220	269	0.
1		0340	45	0.	1		0955	120	0.	1		1610	195	14.	1		2225	270	0.
1		0345	46	0.	1		1000	121	0.	1		1615	196	13.	1		2230	271	0.
1		0350	47	0.	1		1005	122	0.	1		1620	197	11.	1		2235	272	0.
1		0355	48	0.	1		1010	123	0.	1		1625	198	10.	1		2240	273	0.
1		0400	49	0.	1		1015	124	0.	1		1630	199	9.	1		2245	274	0.
1		0405	50	0.	1		1020	125	0.	1		1635	200	7.	1		2250	275	0.
1		0410	51	0.	1		1025	126	0.	1		1640	201	6.	1		2255	276	0.
1		0415	52	0.	1		1030	127	0.	1		1645	202	5.	1		2300	277	0.
1		0420	53	0.	1		1035	128	0.	1		1650	203	4.	1		2305	278	0.
1		0425	54	0.	1		1040	129	0.	1		1655	204	3.	1		2310	279	0.
1		0430	55	0.	1		1045	130	0.	1		1700	205	2.	1		2315	280	0.
1		0435	56	0.	1		1050	131	0.	1		1705	206	1.	1		2320	281	0.
1		0440	57	0.	1		1055	132	0.	1		1710	207	0.	1		2325	282	0.
1		0445	58	0.	1		1100	133	0.	1		1715	208	0.	1		2330	283	0.
1		0450	59	0.	1		1105	134	0.	1		1720	209	0.	1		2335	284	0.
1		0455	60	0.	1		1110	135	0.	1		1725	210	0.	1		2340	285	0.
1		0500	61	0.	1		1115	136	0.	1		1730	211	0.	1		2345	286	0.
1		0505	62	0.	1		1120	137	0.	1		1735	212	0.	1		2350	287	0.
1		0510	63	0.	1		1125	138	0.	1		1740	213	0.	1		2355	288	0.
1		0515	64	0.	1		1130	139	0.	1		1745	214	0.	2		0000	289	0.
1		0520	65	0.	1		1135	140	0.	1		1750	215	0.	2		0005	290	0.
1		0525	66	0.	1		1140	141	0.	1		1755	216	0.	2		0010	291	0.
1		0530	67	0.	1		1145	142	0.	1		1800	217	0.	2		0015	292	0.
1		0535	68	0.	1		1150	143	0.	1		1805	218	0.	2		0020	293	0.
1		0540	69	0.	1		1155	144	0.	1		1810	219	0.	2		0025	294	0.
1		0545	70	0.	1		1200	145	0.	1		1815	220	0.	2		0030	295	0.
1		0550	71	0.	1		1205	146	0.	1		1820	221	0.	2		0035	296	0.
1		0555	72	0.	1		1210	147	0.	1		1825	222	0.	2		0040	297	0.
1		0600	73	0.	1		1215	148	0.	1		1830	223	0.	2		0045	298	0.
1		0605	74	0.	1		1220	149	0.	1		1835	224	0.	2		0050	299	0.
1		0610	75	0.	1		1225	150	2.	1		1840	225	0.	2		0055	300	0.

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
107.	13.42		35.	9.	8.	8.
		(INCHES)	.038	.038	.038	.038
		(AC-FT)	17.	17.	17.	17.

CUMULATIVE AREA = 8.49 SQ MI

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60 KK       C_11aD       Combine Flow Downstream of the Proposed Lower Detention Pond

61 HC          HYDROGRAPH COMBINATION
                    ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE
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HYDROGRAPH AT STATION C_11aD
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 160.	13.42	70.	21.	20.	20.
		(INCHES) .077	.090	.090	.090
		(AC-FT) 35.	41.	41.	41.

CUMULATIVE AREA = 8.49 SQ MI

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HYDROGRAPH AT STATION C_11aD
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 132.	13.42	59.	17.	17.	17.
		(INCHES) .064	.076	.076	.076
		(AC-FT) 29.	35.	35.	35.

CUMULATIVE AREA = 8.49 SQ MI

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HYDROGRAPH AT STATION C_11aD
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 119.	13.42	53.	16.	15.	15.
		(INCHES) .058	.070	.070	.070
		(AC-FT) 26.	32.	32.	32.

CUMULATIVE AREA = 8.49 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_11aD
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 107.	13.42	48.	15.	14.	14.
		(INCHES) .053	.064	.064	.064
		(AC-FT) 24.	29.	29.	29.

CUMULATIVE AREA = 8.49 SQ MI

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HYDROGRAPH AT STATION C_11aD
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 100.	13.50	45.	14.	13.	13.
		(INCHES) .050	.060	.060	.060
		(AC-FT) 22.	27.	27.	27.

CUMULATIVE AREA = 8.49 SQ MI

INTERPOLATED HYDROGRAPH AT C_11aD

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	2.	1		1230	151	30.	1		1845	226	13.
1		0005	2	0.	1		0620	77	2.	1		1235	152	33.	1		1850	227	13.
1		0010	3	0.	1		0625	78	2.	1		1240	153	40.	1		1855	228	12.
1		0015	4	0.	1		0630	79	2.	1		1245	154	53.	1		1900	229	12.
1		0020	5	0.	1		0635	80	2.	1		1250	155	69.	1		1905	230	11.
1		0025	6	0.	1		0640	81	2.	1		1255	156	86.	1		1910	231	11.
1		0030	7	0.	1		0645	82	2.	1		1300	157	101.	1		1915	232	11.
1		0035	8	0.	1		0650	83	2.	1		1305	158	113.	1		1920	233	10.
1		0040	9	0.	1		0655	84	2.	1		1310	159	122.	1		1925	234	10.
1		0045	10	0.	1		0700	85	2.	1		1315	160	129.	1		1930	235	10.
1		0050	11	0.	1		0705	86	2.	1		1320	161	133.	1		1935	236	9.
1		0055	12	0.	1		0710	87	2.	1		1325	162	134.	1		1940	237	9.
1		0100	13	0.	1		0715	88	2.	1		1330	163	133.	1		1945	238	9.
1		0105	14	0.	1		0720	89	2.	1		1335	164	130.	1		1950	239	9.
1		0110	15	0.	1		0725	90	2.	1		1340	165	125.	1		1955	240	8.
1		0115	16	0.	1		0730	91	2.	1		1345	166	120.	1		2000	241	8.
1		0120	17	0.	1		0735	92	2.	1		1350	167	116.	1		2005	242	8.
1		0125	18	0.	1		0740	93	2.	1		1355	168	111.	1		2010	243	8.
1		0130	19	0.	1		0745	94	2.	1		1400	169	107.	1		2015	244	7.
1		0135	20	0.	1		0750	95	2.	1		1405	170	103.	1		2020	245	7.
1		0140	21	0.	1		0755	96	2.	1		1410	171	99.	1		2025	246	7.
1		0145	22	0.	1		0800	97	2.	1		1415	172	95.	1		2030	247	7.
1		0150	23	0.	1		0805	98	2.	1		1420	173	91.	1		2035	248	7.
1		0155	24	0.	1		0810	99	2.	1		1425	174	88.	1		2040	249	6.
1		0200	25	0.	1		0815	100	2.	1		1430	175	85.	1		2045	250	6.
1		0205	26	0.	1		0820	101	2.	1		1435	176	81.	1		2050	251	6.

1	0210	27	0.	*	1	0825	102	3.	*	1	1440	177	78.	*	1	2055	252	6.
1	0215	28	0.	*	1	0830	103	3.	*	1	1445	178	75.	*	1	2100	253	6.
1	0220	29	0.	*	1	0835	104	3.	*	1	1450	179	72.	*	1	2105	254	6.
1	0225	30	0.	*	1	0840	105	3.	*	1	1455	180	70.	*	1	2110	255	5.
1	0230	31	0.	*	1	0845	106	3.	*	1	1500	181	67.	*	1	2115	256	5.
1	0235	32	0.	*	1	0850	107	3.	*	1	1505	182	64.	*	1	2120	257	5.
1	0240	33	0.	*	1	0855	108	3.	*	1	1510	183	62.	*	1	2125	258	5.
1	0245	34	0.	*	1	0900	109	3.	*	1	1515	184	59.	*	1	2130	259	5.
1	0250	35	0.	*	1	0905	110	3.	*	1	1520	185	57.	*	1	2135	260	5.
1	0255	36	0.	*	1	0910	111	3.	*	1	1525	186	55.	*	1	2140	261	5.
1	0300	37	1.	*	1	0915	112	3.	*	1	1530	187	53.	*	1	2145	262	5.
1	0305	38	1.	*	1	0920	113	3.	*	1	1535	188	51.	*	1	2150	263	4.
1	0310	39	1.	*	1	0925	114	3.	*	1	1540	189	49.	*	1	2155	264	4.
1	0315	40	1.	*	1	0930	115	3.	*	1	1545	190	47.	*	1	2200	265	4.
1	0320	41	1.	*	1	0935	116	3.	*	1	1550	191	45.	*	1	2205	266	4.
1	0325	42	1.	*	1	0940	117	3.	*	1	1555	192	44.	*	1	2210	267	4.
1	0330	43	1.	*	1	0945	118	3.	*	1	1600	193	42.	*	1	2215	268	4.
1	0335	44	1.	*	1	0950	119	3.	*	1	1605	194	41.	*	1	2220	269	4.
1	0340	45	1.	*	1	0955	120	3.	*	1	1610	195	39.	*	1	2225	270	4.
1	0345	46	1.	*	1	1000	121	3.	*	1	1615	196	38.	*	1	2230	271	4.
1	0350	47	1.	*	1	1005	122	3.	*	1	1620	197	36.	*	1	2235	272	4.
1	0355	48	1.	*	1	1010	123	3.	*	1	1625	198	35.	*	1	2240	273	4.
1	0400	49	1.	*	1	1015	124	3.	*	1	1630	199	34.	*	1	2245	274	4.
1	0405	50	1.	*	1	1020	125	3.	*	1	1635	200	32.	*	1	2250	275	3.
1	0410	51	1.	*	1	1025	126	3.	*	1	1640	201	31.	*	1	2255	276	3.
1	0415	52	1.	*	1	1030	127	4.	*	1	1645	202	30.	*	1	2300	277	3.
1	0420	53	1.	*	1	1035	128	4.	*	1	1650	203	29.	*	1	2305	278	3.
1	0425	54	1.	*	1	1040	129	4.	*	1	1655	204	28.	*	1	2310	279	3.
1	0430	55	1.	*	1	1045	130	4.	*	1	1700	205	27.	*	1	2315	280	3.
1	0435	56	1.	*	1	1050	131	4.	*	1	1705	206	26.	*	1	2320	281	3.
1	0440	57	1.	*	1	1055	132	4.	*	1	1710	207	25.	*	1	2325	282	3.
1	0445	58	2.	*	1	1100	133	4.	*	1	1715	208	24.	*	1	2330	283	3.
1	0450	59	2.	*	1	1105	134	4.	*	1	1720	209	23.	*	1	2335	284	3.
1	0455	60	2.	*	1	1110	135	4.	*	1	1725	210	23.	*	1	2340	285	3.
1	0500	61	2.	*	1	1115	136	4.	*	1	1730	211	22.	*	1	2345	286	2.
1	0505	62	2.	*	1	1120	137	5.	*	1	1735	212	21.	*	1	2350	287	2.
1	0510	63	2.	*	1	1125	138	5.	*	1	1740	213	20.	*	1	2355	288	2.
1	0515	64	2.	*	1	1130	139	5.	*	1	1745	214	20.	*	2	0000	289	2.
1	0520	65	2.	*	1	1135	140	5.	*	1	1750	215	19.	*	2	0005	290	2.
1	0525	66	2.	*	1	1140	141	5.	*	1	1755	216	18.	*	2	0010	291	2.
1	0530	67	2.	*	1	1145	142	6.	*	1	1800	217	18.	*	2	0015	292	2.
1	0535	68	2.	*	1	1150	143	6.	*	1	1805	218	17.	*	2	0020	293	2.
1	0540	69	2.	*	1	1155	144	7.	*	1	1810	219	16.	*	2	0025	294	2.
1	0545	70	2.	*	1	1200	145	9.	*	1	1815	220	16.	*	2	0030	295	2.
1	0550	71	2.	*	1	1205	146	12.	*	1	1820	221	15.	*	2	0035	296	2.
1	0555	72	2.	*	1	1210	147	16.	*	1	1825	222	15.	*	2	0040	297	2.
1	0600	73	2.	*	1	1215	148	20.	*	1	1830	223	14.	*	2	0045	298	2.
1	0605	74	2.	*	1	1220	149	24.	*	1	1835	224	14.	*	2	0050	299	2.
1	0610	75	2.	*	1	1225	150	27.	*	1	1840	225	13.	*	2	0055	300	2.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
+ 134.	13.42		59.	18.	17.	17.
		(INCHES)	.065	.077	.077	.077
		(AC-FT)	29.	35.	35.	35.

CUMULATIVE AREA = 8.49 SQ MI

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          *             *
62 KK     *     L11aD   *      Subbasin Downstream of the Proposed Lower Detention Pond
          *             *
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             SUBBASIN RUNOFF DATA

63 BA          SUBBASIN CHARACTERISTICS
                     TAREA         .02  SUBBASIN AREA

64 LG          GREEN AND AMPT LOSS RATE
                     STRTL         .80  STARTING LOSS
                       DTH         .69  MOISTURE DEFICIT
                      PSIF        1.65  WETTING FRONT SUCTION
                     XKSAT         .14  HYDRAULIC CONDUCTIVITY
                     RTIMP       15.00  PERCENT IMPERVIOUS AREA

65 US          SNYDER UNITGRAPH
                       TP          .03  LAG
                       CP          .16  PEAKING COEFFICIENT

               SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                    ***
R INCREASED TO MINIMUM OF 0.5

                                        UNIT HYDROGRAPH PARAMETERS
                                  CLARK   TC=   .08 HR,       R=   .90 HR
                                SNYDER   TP=   .14 HR,      CP=   .16

                                             UNIT HYDROGRAPH
                                        58 END-OF-PERIOD ORDINATES
               6.       11.       10.        9.        8.        7.        6.        5.
               5.        4.        4.        4.        3.        3.        3.        2.        2.
               2.        2.        2.        1.        1.        1.        1.        1.        1.
               1.        1.        1.        1.        1.        0.        0.        0.        0.
               0.        0.        0.        0.        0.        0.        0.        0.        0.
               0.        0.        0.        0.        0.        0.        0.

     ***             ***              ***              ***              ***

                       HYDROGRAPH AT STATION    L11aD
                     TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    1.19, TOTAL LOSS =    1.01, TOTAL EXCESS =     .18
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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)					
		(CFS)				
1.	12.08		0.	0.	0.	0.
		(INCHES)	.124	.176	.177	.177
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

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HYDROGRAPH AT STATION L11aD
TRANSPOSITION AREA 14.0 SQ MI

TOTAL RAINFALL = 1.17, TOTAL LOSS = .99, TOTAL EXCESS = .17

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)					
		(CFS)				
1.	12.08		0.	0.	0.	0.
		(INCHES)	.122	.173	.173	.173
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

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HYDROGRAPH AT STATION L11aD
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.15, TOTAL LOSS = .98, TOTAL EXCESS = .17

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)					
		(CFS)				
1.	12.08		0.	0.	0.	0.
		(INCHES)	.120	.171	.172	.172
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

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HYDROGRAPH AT STATION L11aD
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.14, TOTAL LOSS = .97, TOTAL EXCESS = .17

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)					
		(CFS)				
1.	12.08		0.	0.	0.	0.
		(INCHES)	.119	.169	.170	.170
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

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HYDROGRAPH AT STATION L11aD
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.13, TOTAL LOSS = .96, TOTAL EXCESS = .17

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)					
		(CFS)				
1.	12.08		0.	0.	0.	0.
		(INCHES)	.118	.168	.169	.169
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

INTERPOLATED HYDROGRAPH AT L11aD

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	1.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	1.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	1.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	0.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	0.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	0.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	0.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	0.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	0.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	0.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	0.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	0.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	0.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	0.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	0.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	0.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	0.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	0.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	0.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	0.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	0.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	0.	1		2030	247	0.

1	0150	23	0.	*	1	0805	98	0.	*	1	1420	173	0.	*	1	2035	248	0.
1	0155	24	0.	*	1	0810	99	0.	*	1	1425	174	0.	*	1	2040	249	0.
1	0200	25	0.	*	1	0815	100	0.	*	1	1430	175	0.	*	1	2045	250	0.
1	0205	26	0.	*	1	0820	101	0.	*	1	1435	176	0.	*	1	2050	251	0.
1	0210	27	0.	*	1	0825	102	0.	*	1	1440	177	0.	*	1	2055	252	0.
1	0215	28	0.	*	1	0830	103	0.	*	1	1445	178	0.	*	1	2100	253	0.
1	0220	29	0.	*	1	0835	104	0.	*	1	1450	179	0.	*	1	2105	254	0.
1	0225	30	0.	*	1	0840	105	0.	*	1	1455	180	0.	*	1	2110	255	0.
1	0230	31	0.	*	1	0845	106	0.	*	1	1500	181	0.	*	1	2115	256	0.
1	0235	32	0.	*	1	0850	107	0.	*	1	1505	182	0.	*	1	2120	257	0.
1	0240	33	0.	*	1	0855	108	0.	*	1	1510	183	0.	*	1	2125	258	0.
1	0245	34	0.	*	1	0900	109	0.	*	1	1515	184	0.	*	1	2130	259	0.
1	0250	35	0.	*	1	0905	110	0.	*	1	1520	185	0.	*	1	2135	260	0.
1	0255	36	0.	*	1	0910	111	0.	*	1	1525	186	0.	*	1	2140	261	0.
1	0300	37	0.	*	1	0915	112	0.	*	1	1530	187	0.	*	1	2145	262	0.
1	0305	38	0.	*	1	0920	113	0.	*	1	1535	188	0.	*	1	2150	263	0.
1	0310	39	0.	*	1	0925	114	0.	*	1	1540	189	0.	*	1	2155	264	0.
1	0315	40	0.	*	1	0930	115	0.	*	1	1545	190	0.	*	1	2200	265	0.
1	0320	41	0.	*	1	0935	116	0.	*	1	1550	191	0.	*	1	2205	266	0.
1	0325	42	0.	*	1	0940	117	0.	*	1	1555	192	0.	*	1	2210	267	0.
1	0330	43	0.	*	1	0945	118	0.	*	1	1600	193	0.	*	1	2215	268	0.
1	0335	44	0.	*	1	0950	119	0.	*	1	1605	194	0.	*	1	2220	269	0.
1	0340	45	0.	*	1	0955	120	0.	*	1	1610	195	0.	*	1	2225	270	0.
1	0345	46	0.	*	1	1000	121	0.	*	1	1615	196	0.	*	1	2230	271	0.
1	0350	47	0.	*	1	1005	122	0.	*	1	1620	197	0.	*	1	2235	272	0.
1	0355	48	0.	*	1	1010	123	0.	*	1	1625	198	0.	*	1	2240	273	0.
1	0400	49	0.	*	1	1015	124	0.	*	1	1630	199	0.	*	1	2245	274	0.
1	0405	50	0.	*	1	1020	125	0.	*	1	1635	200	0.	*	1	2250	275	0.
1	0410	51	0.	*	1	1025	126	0.	*	1	1640	201	0.	*	1	2255	276	0.
1	0415	52	0.	*	1	1030	127	0.	*	1	1645	202	0.	*	1	2300	277	0.
1	0420	53	0.	*	1	1035	128	0.	*	1	1650	203	0.	*	1	2305	278	0.
1	0425	54	0.	*	1	1040	129	0.	*	1	1655	204	0.	*	1	2310	279	0.
1	0430	55	0.	*	1	1045	130	0.	*	1	1700	205	0.	*	1	2315	280	0.
1	0435	56	0.	*	1	1050	131	0.	*	1	1705	206	0.	*	1	2320	281	0.
1	0440	57	0.	*	1	1055	132	0.	*	1	1710	207	0.	*	1	2325	282	0.
1	0445	58	0.	*	1	1100	133	0.	*	1	1715	208	0.	*	1	2330	283	0.
1	0450	59	0.	*	1	1105	134	0.	*	1	1720	209	0.	*	1	2335	284	0.
1	0455	60	0.	*	1	1110	135	0.	*	1	1725	210	0.	*	1	2340	285	0.
1	0500	61	0.	*	1	1115	136	0.	*	1	1730	211	0.	*	1	2345	286	0.
1	0505	62	0.	*	1	1120	137	0.	*	1	1735	212	0.	*	1	2350	287	0.
1	0510	63	0.	*	1	1125	138	0.	*	1	1740	213	0.	*	1	2355	288	0.
1	0515	64	0.	*	1	1130	139	0.	*	1	1745	214	0.	*	2	0000	289	0.
1	0520	65	0.	*	1	1135	140	0.	*	1	1750	215	0.	*	2	0005	290	0.
1	0525	66	0.	*	1	1140	141	0.	*	1	1755	216	0.	*	2	0010	291	0.
1	0530	67	0.	*	1	1145	142	0.	*	1	1800	217	0.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	0.	*	1	1805	218	0.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	1.	*	1	1810	219	0.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	1.	*	1	1815	220	0.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	1.	*	1	1820	221	0.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	1.	*	1	1825	222	0.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	1.	*	1	1830	223	0.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	1.	*	1	1835	224	0.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	1.	*	1	1840	225	0.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 1.	12.08		0.	0.	0.	0.
		(INCHES)	.124	.176	.177	.177
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

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66 KK — C_L11 — Leach Creek at the Government Highline Canal

67 HC — HYDROGRAPH COMBINATION
ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

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HYDROGRAPH AT STATION C_L11
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 160.	13.42		70.	21.	20.	20.
		(INCHES)	.077	.090	.090	.090
		(AC-FT)	35.	41.	41.	41.

CUMULATIVE AREA = 8.50 SQ MI

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HYDROGRAPH AT STATION C_L11
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)					
		(CFS)				
+ 132.	13.42		59.	18.	17.	17.
		(INCHES)	.064	.077	.077	.077
		(AC-FT)	29.	35.	35.	35.

CUMULATIVE AREA = 8.50 SQ MI

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HYDROGRAPH AT STATION C_L11
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
119.	13.42	(CFS) 53.	16.	15.	15.
		(INCHES) .058	.070	.070	.070
		(AC-FT) 27.	32.	32.	32.

CUMULATIVE AREA = 8.50 SQ MI

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HYDROGRAPH AT STATION C_L11
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
107.	13.42	(CFS) 49.	15.	14.	14.
		(INCHES) .053	.064	.064	.064
		(AC-FT) 24.	29.	29.	29.

CUMULATIVE AREA = 8.50 SQ MI

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HYDROGRAPH AT STATION C_L11
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
100.	13.50	(CFS) 45.	14.	13.	13.
		(INCHES) .050	.061	.061	.061
		(AC-FT) 23.	28.	28.	28.

CUMULATIVE AREA = 8.50 SQ MI

INTERPOLATED HYDROGRAPH AT C_L11

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	2.	1		1230	151	30.	1		1845	226	13.
1		0005	2	0.	1		0620	77	2.	1		1235	152	34.	1		1850	227	13.
1		0010	3	0.	1		0625	78	2.	1		1240	153	41.	1		1855	228	12.
1		0015	4	0.	1		0630	79	2.	1		1245	154	53.	1		1900	229	12.
1		0020	5	0.	1		0635	80	2.	1		1250	155	70.	1		1905	230	11.
1		0025	6	0.	1		0640	81	2.	1		1255	156	87.	1		1910	231	11.
1		0030	7	0.	1		0645	82	2.	1		1300	157	101.	1		1915	232	11.
1		0035	8	0.	1		0650	83	2.	1		1305	158	114.	1		1920	233	10.
1		0040	9	0.	1		0655	84	2.	1		1310	159	123.	1		1925	234	10.
1		0045	10	0.	1		0700	85	2.	1		1315	160	129.	1		1930	235	10.
1		0050	11	0.	1		0705	86	2.	1		1320	161	133.	1		1935	236	10.
1		0055	12	0.	1		0710	87	2.	1		1325	162	134.	1		1940	237	9.
1		0100	13	0.	1		0715	88	2.	1		1330	163	133.	1		1945	238	9.
1		0105	14	0.	1		0720	89	2.	1		1335	164	130.	1		1950	239	9.
1		0110	15	0.	1		0725	90	2.	1		1340	165	125.	1		1955	240	8.
1		0115	16	0.	1		0730	91	2.	1		1345	166	121.	1		2000	241	8.
1		0120	17	0.	1		0735	92	2.	1		1350	167	116.	1		2005	242	8.
1		0125	18	0.	1		0740	93	2.	1		1355	168	111.	1		2010	243	8.
1		0130	19	0.	1		0745	94	2.	1		1400	169	107.	1		2015	244	8.
1		0135	20	0.	1		0750	95	2.	1		1405	170	103.	1		2020	245	7.
1		0140	21	0.	1		0755	96	2.	1		1410	171	99.	1		2025	246	7.
1		0145	22	0.	1		0800	97	2.	1		1415	172	95.	1		2030	247	7.
1		0150	23	0.	1		0805	98	2.	1		1420	173	92.	1		2035	248	7.
1		0155	24	0.	1		0810	99	2.	1		1425	174	88.	1		2040	249	6.
1		0200	25	0.	1		0815	100	3.	1		1430	175	85.	1		2045	250	6.
1		0205	26	0.	1		0820	101	3.	1		1435	176	81.	1		2050	251	6.
1		0210	27	0.	1		0825	102	3.	1		1440	177	78.	1		2055	252	6.
1		0215	28	0.	1		0830	103	3.	1		1445	178	75.	1		2100	253	6.
1		0220	29	0.	1		0835	104	3.	1		1450	179	72.	1		2105	254	6.
1		0225	30	0.	1		0840	105	3.	1		1455	180	70.	1		2110	255	6.
1		0230	31	0.	1		0845	106	3.	1		1500	181	67.	1		2115	256	5.
1		0235	32	0.	1		0850	107	3.	1		1505	182	64.	1		2120	257	5.
1		0240	33	0.	1		0855	108	3.	1		1510	183	62.	1		2125	258	5.
1		0245	34	0.	1		0900	109	3.	1		1515	184	60.	1		2130	259	5.
1		0250	35	0.	1		0905	110	3.	1		1520	185	57.	1		2135	260	5.
1		0255	36	0.	1		0910	111	3.	1		1525	186	55.	1		2140	261	5.
1		0300	37	1.	1		0915	112	3.	1		1530	187	53.	1		2145	262	5.
1		0305	38	1.	1		0920	113	3.	1		1535	188	51.	1		2150	263	4.
1		0310	39	1.	1		0925	114	3.	1		1540	189	49.	1		2155	264	4.
1		0315	40	1.	1		0930	115	3.	1		1545	190	47.	1		2200	265	4.
1		0320	41	1.	1		0935	116	3.	1		1550	191	46.	1		2205	266	4.
1		0325	42	1.	1		0940	117	3.	1		1555	192	44.	1		2210	267	4.
1		0330	43	1.	1		0945	118	3.	1		1600	193	42.	1		2215	268	4.
1		0335	44	1.	1		0950	119	3.	1		1605	194	41.	1		2220	269	4.
1		0340	45	1.	1		0955	120	3.	1		1610	195	39.	1		2225	270	4.
1		0345	46	1.	1		1000	121	3.	1		1615	196	38.	1		2230	271	4.
1		0350	47	1.	1		1005	122	3.	1		1620	197	36.	1		2235	272	4.
1		0355	48	1.	1		1010	123	3.	1		1625	198	35.	1		2240	273	4.
1		0400	49	1.	1		1015	124	3.	1		1630	199	34.	1		2245	274	4.
1		0405	50	1.	1		1020	125	3.	1		1635	200	32.	1		2250	275	3.
1		0410	51	1.	1		1025	126	4.	1		1640	201	31.	1		2255	276	3.
1		0415	52	1.	1		1030	127	4.	1		1645	202	30.	1		2300	277	3.
1		0420	53	1.	1		1035	128	4.	1		1650	203	29.	1		2305	278	3.
1		0425	54	1.	1		1040	129	4.	1		1655	204	28.	1		2310	279	3.
1		0430	55	1.	1		1045	130	4.	1		1700	205	27.	1		2315	280	3.
1		0435	56	1.	1		1050	131	4.	1		1705	206	26.	1		2320	281	3.
1		0440	57	2.	1		1055	132	4.	1		1710	207	25.	1		2325	282	3.

1	0445	58	2.	*	1	1100	133	4.	*	1	1715	208	24.	*	1	2330	283	3.
1	0450	59	2.	*	1	1105	134	4.	*	1	1720	209	23.	*	1	2335	284	3.
1	0455	60	2.	*	1	1110	135	4.	*	1	1725	210	23.	*	1	2340	285	3.
1	0500	61	2.	*	1	1115	136	5.	*	1	1730	211	22.	*	1	2345	286	2.
1	0505	62	2.	*	1	1120	137	5.	*	1	1735	212	21.	*	1	2350	287	2.
1	0510	63	2.	*	1	1125	138	5.	*	1	1740	213	20.	*	1	2355	288	2.
1	0515	64	2.	*	1	1130	139	5.	*	1	1745	214	20.	*	2	0000	289	2.
1	0520	65	2.	*	1	1135	140	5.	*	1	1750	215	19.	*	2	0005	290	2.
1	0525	66	2.	*	1	1140	141	5.	*	1	1755	216	18.	*	2	0010	291	2.
1	0530	67	2.	*	1	1145	142	6.	*	1	1800	217	18.	*	2	0015	292	2.
1	0535	68	2.	*	1	1150	143	6.	*	1	1805	218	17.	*	2	0020	293	2.
1	0540	69	2.	*	1	1155	144	7.	*	1	1810	219	16.	*	2	0025	294	2.
1	0545	70	2.	*	1	1200	145	9.	*	1	1815	220	16.	*	2	0030	295	2.
1	0550	71	2.	*	1	1205	146	13.	*	1	1820	221	15.	*	2	0035	296	2.
1	0555	72	2.	*	1	1210	147	17.	*	1	1825	222	15.	*	2	0040	297	2.
1	0600	73	2.	*	1	1215	148	21.	*	1	1830	223	14.	*	2	0045	298	2.
1	0605	74	2.	*	1	1220	149	25.	*	1	1835	224	14.	*	2	0050	299	2.
1	0610	75	2.	*	1	1225	150	28.	*	1	1840	225	14.	*	2	0055	300	2.
				*					*					*				

****

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 134.	13.42		60.	18.	17.	17.
		(INCHES)	.065	.078	.078	.078
		(AC-FT)	30.	35.	35.	35.

CUMULATIVE AREA = 8.50 SQ MI

*** ***

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              ***************
              *             *
 68 KK        *     R_L10   *      Route Hydrograph Through L10
              *             *
              ***************
```

HYDROGRAPH ROUTING DATA

```
 69 RS          STORAGE ROUTING
                     NSTPS          1  NUMBER OF SUBREACHES
                      ITYP       STOR  TYPE OF INITIAL CONDITION
                    RSVRIC         .00  INITIAL CONDITION
                         X         .00 WORKING R AND O COEFFICIENT

 70 SV            STORAGE          .0       .9      1.5      1.9      2.3      2.7      3.1      3.8      4.5      5.3
                                  5.8      6.4      7.0      7.6      8.2      8.8

  2 SQ            DISCHARGE        0.     100.     200.     300.     400.     500.     600.     800.    1000.    1200.
                                1400.    1600.    1800.    2000.    2200.    2400.
                                                                      ***
```

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN 1200. TO 2400.
THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

*** *** *** *** ***

HYDROGRAPH AT STATION R_L10
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 159.	13.50		70.	21.	20.	20.
		(INCHES)	.077	.090	.090	.090
		(AC-FT)	35.	41.	41.	41.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
1.	13.50	1.	0.	0.	0.

CUMULATIVE AREA = 8.50 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R_L10
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 132.	13.50		59.	18.	17.	17.
		(INCHES)	.064	.077	.077	.077
		(AC-FT)	29.	35.	35.	35.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
1.	13.50	1.	0.	0.	0.

CUMULATIVE AREA = 8.50 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R_L10
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				

+ 119.	13.50		53.	16.	15.	15.
		(INCHES)	.058	.070	.070	.070
		(AC-FT)	26.	32.	32.	32.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
1.	13.50	0.	0.	0.	0.

CUMULATIVE AREA = 8.50 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R_L10
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)			
+ 107.	13.50	48.	15.	14.	14.
		(INCHES) .053	.064	.064	.064
		(AC-FT) 24.	29.	29.	29.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
1.	13.50	0.	0.	0.	0.

CUMULATIVE AREA = 8.50 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R_L10
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)			
+ 99.	13.58	45.	14.	13.	13.
		(INCHES) .050	.061	.061	.061
		(AC-FT) 22.	27.	27.	27.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
1.	13.58	0.	0.	0.	0.

CUMULATIVE AREA = 8.50 SQ MI

****

INTERPOLATED HYDROGRAPH AT R_L10

****

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	2.	1		1230	151	27.	1		1845	226	14.
1		0005	2	0.	1		0620	77	2.	1		1235	152	30.	1		1850	227	13.
1		0010	3	0.	1		0625	78	2.	1		1240	153	34.	1		1855	228	13.
1		0015	4	0.	1		0630	79	2.	1		1245	154	41.	1		1900	229	12.
1		0020	5	0.	1		0635	80	2.	1		1250	155	53.	1		1905	230	12.
1		0025	6	0.	1		0640	81	2.	1		1255	156	67.	1		1910	231	12.
1		0030	7	0.	1		0645	82	2.	1		1300	157	82.	1		1915	232	11.
1		0035	8	0.	1		0650	83	2.	1		1305	158	97.	1		1920	233	11.
1		0040	9	0.	1		0655	84	2.	1		1310	159	111.	1		1925	234	11.
1		0045	10	0.	1		0700	85	2.	1		1315	160	122.	1		1930	235	10.
1		0050	11	0.	1		0705	86	2.	1		1320	161	129.	1		1935	236	10.
1		0055	12	0.	1		0710	87	2.	1		1325	162	132.	1		1940	237	10.
1		0100	13	0.	1		0715	88	2.	1		1330	163	133.	1		1945	238	9.
1		0105	14	0.	1		0720	89	2.	1		1335	164	132.	1		1950	239	9.
1		0110	15	0.	1		0725	90	2.	1		1340	165	129.	1		1955	240	9.
1		0115	16	0.	1		0730	91	2.	1		1345	166	124.	1		2000	241	9.
1		0120	17	0.	1		0735	92	2.	1		1350	167	120.	1		2005	242	8.
1		0125	18	0.	1		0740	93	2.	1		1355	168	115.	1		2010	243	8.
1		0130	19	0.	1		0745	94	2.	1		1400	169	111.	1		2015	244	8.
1		0135	20	0.	1		0750	95	2.	1		1405	170	107.	1		2020	245	8.
1		0140	21	0.	1		0755	96	2.	1		1410	171	103.	1		2025	246	7.
1		0145	22	0.	1		0800	97	2.	1		1415	172	99.	1		2030	247	7.
1		0150	23	0.	1		0805	98	2.	1		1420	173	96.	1		2035	248	7.
1		0155	24	0.	1		0810	99	2.	1		1425	174	92.	1		2040	249	7.
1		0200	25	0.	1		0815	100	2.	1		1430	175	89.	1		2045	250	6.
1		0205	26	0.	1		0820	101	2.	1		1435	176	86.	1		2050	251	6.
1		0210	27	0.	1		0825	102	3.	1		1440	177	82.	1		2055	252	6.
1		0215	28	0.	1		0830	103	3.	1		1445	178	79.	1		2100	253	6.
1		0220	29	0.	1		0835	104	3.	1		1450	179	76.	1		2105	254	6.
1		0225	30	0.	1		0840	105	3.	1		1455	180	73.	1		2110	255	6.
1		0230	31	0.	1		0845	106	3.	1		1500	181	70.	1		2115	256	6.
1		0235	32	0.	1		0850	107	3.	1		1505	182	68.	1		2120	257	5.
1		0240	33	0.	1		0855	108	3.	1		1510	183	65.	1		2125	258	5.
1		0245	34	0.	1		0900	109	3.	1		1515	184	63.	1		2130	259	5.
1		0250	35	0.	1		0905	110	3.	1		1520	185	60.	1		2135	260	5.
1		0255	36	0.	1		0910	111	3.	1		1525	186	58.	1		2140	261	5.
1		0300	37	0.	1		0915	112	3.	1		1530	187	56.	1		2145	262	5.
1		0305	38	1.	1		0920	113	3.	1		1535	188	54.	1		2150	263	5.
1		0310	39	1.	1		0925	114	3.	1		1540	189	52.	1		2155	264	5.
1		0315	40	1.	1		0930	115	3.	1		1545	190	50.	1		2200	265	4.
1		0320	41	1.	1		0935	116	3.	1		1550	191	48.	1		2205	266	4.
1		0325	42	1.	1		0940	117	3.	1		1555	192	46.	1		2210	267	4.
1		0330	43	1.	1		0945	118	3.	1		1600	193	44.	1		2215	268	4.
1		0335	44	1.	1		0950	119	3.	1		1605	194	43.	1		2220	269	4.
1		0340	45	1.	1		0955	120	3.	1		1610	195	41.	1		2225	270	4.
1		0345	46	1.	1		1000	121	3.	1		1615	196	40.	1		2230	271	4.
1		0350	47	1.	1		1005	122	3.	1		1620	197	38.	1		2235	272	4.
1		0355	48	1.	1		1010	123	3.	1		1625	198	37.	1		2240	273	4.
1		0400	49	1.	1		1015	124	3.	1		1630	199	35.	1		2245	274	4.
1		0405	50	1.	1		1020	125	3.	1		1635	200	34.	1		2250	275	4.
1		0410	51	1.	1		1025	126	3.	1		1640	201	33.	1		2255	276	3.
1		0415	52	1.	1		1030	127	4.	1		1645	202	32.	1		2300	277	3.

1	0420	53	1.	*	1	1035	128	4.	*	1	1650	203	31.	*	1	2305	278	3.
1	0425	54	1.	*	1	1040	129	4.	*	1	1655	204	29.	*	1	2310	279	3.
1	0430	55	1.	*	1	1045	130	4.	*	1	1700	205	28.	*	1	2315	280	3.
1	0435	56	1.	*	1	1050	131	4.	*	1	1705	206	27.	*	1	2320	281	3.
1	0440	57	1.	*	1	1055	132	4.	*	1	1710	207	26.	*	1	2325	282	3.
1	0445	58	1.	*	1	1100	133	4.	*	1	1715	208	25.	*	1	2330	283	3.
1	0450	59	2.	*	1	1105	134	4.	*	1	1720	209	25.	*	1	2335	284	3.
1	0455	60	2.	*	1	1110	135	4.	*	1	1725	210	24.	*	1	2340	285	3.
1	0500	61	2.	*	1	1115	136	4.	*	1	1730	211	23.	*	1	2345	286	3.
1	0505	62	2.	*	1	1120	137	4.	*	1	1735	212	22.	*	1	2350	287	2.
1	0510	63	2.	*	1	1125	138	5.	*	1	1740	213	21.	*	1	2355	288	2.
1	0515	64	2.	*	1	1130	139	5.	*	1	1745	214	21.	*	2	0000	289	2.
1	0520	65	2.	*	1	1135	140	5.	*	1	1750	215	20.	*	2	0005	290	2.
1	0525	66	2.	*	1	1140	141	5.	*	1	1755	216	19.	*	2	0010	291	2.
1	0530	67	2.	*	1	1145	142	5.	*	1	1800	217	18.	*	2	0015	292	2.
1	0535	68	2.	*	1	1150	143	6.	*	1	1805	218	18.	*	2	0020	293	2.
1	0540	69	2.	*	1	1155	144	6.	*	1	1810	219	17.	*	2	0025	294	2.
1	0545	70	2.	*	1	1200	145	8.	*	1	1815	220	17.	*	2	0030	295	2.
1	0550	71	2.	*	1	1205	146	10.	*	1	1820	221	16.	*	2	0035	296	2.
1	0555	72	2.	*	1	1210	147	12.	*	1	1825	222	16.	*	2	0040	297	2.
1	0600	73	2.	*	1	1215	148	16.	*	1	1830	223	15.	*	2	0045	298	2.
1	0605	74	2.	*	1	1220	149	20.	*	1	1835	224	15.	*	2	0050	299	2.
1	0610	75	2.	*	1	1225	150	23.	*	1	1840	225	14.	*	2	0055	300	2.
				*					*					*					

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 133.	13.50		60.	18.	17.	17.
		(INCHES)	.065	.078	.078	.078
		(AC-FT)	30.	35.	35.	35.

CUMULATIVE AREA = 8.50 SQ MI

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          ***************
          *             *
74 KK     *     L10u    *     Subbasin Spilt
          *             *
          ***************
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SUBBASIN RUNOFF DATA

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75 BA       SUBBASIN CHARACTERISTICS
                 TAREA          .37  SUBBASIN AREA

76 LG       GREEN AND AMPT LOSS RATE
                 STRTL          .49  STARTING LOSS
                   DTH          .47  MOISTURE DEFICIT
                  PSIF         1.77  WETTING FRONT SUCTION
                 XKSAT          .06  HYDRAULIC CONDUCTIVITY
                 RTIMP         2.00  PERCENT IMPERVIOUS AREA

77 US       SNYDER UNITGRAPH
                    TP          .32  LAG
                    CP          .29  PEAKING COEFFICIENT

            SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                  ***
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UNIT HYDROGRAPH PARAMETERS
CLARK TC= .31 HR, R= .93 HR
SNYDER TP= .32 HR, CP= .29

UNIT HYDROGRAPH
61 END-OF-PERIOD ORDINATES

25.	92.	168.	208.	204.	186.	170.	155.	142.	130.
119.	108.	99.	91.	83.	76.	69.	63.	58.	53.
48.	44.	40.	37.	34.	31.	28.	26.	24.	21.
20.	18.	16.	15.	14.	13.	11.	10.	10.	9.
8.	7.	7.	6.	6.	5.	5.	4.	4.	4.
3.	3.	3.	2.	2.	2.	2.	2.	2.	1.
1.									

*** *** *** *** ***

HYDROGRAPH AT STATION L10u
TRANSPOSITION AREA .0 SQ MI

TOTAL RAINFALL = 1.19, TOTAL LOSS = 1.03, TOTAL EXCESS = .16

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 30.	12.25		6.	2.	2.	2.
		(INCHES)	.151	.158	.158	.158
		(AC-FT)	3.	3.	3.	3.

CUMULATIVE AREA = .37 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION L10u
TRANSPOSITION AREA 14.0 SQ MI

TOTAL RAINFALL = 1.17, TOTAL LOSS = 1.02, TOTAL EXCESS = .15

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 28.	12.25		6.	1.	1.	1.
		(INCHES)	.140	.147	.147	.147
		(AC-FT)	3.	3.	3.	3.

CUMULATIVE AREA = .37 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION L10u
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.15, TOTAL LOSS = 1.01, TOTAL EXCESS = .14

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
26.	12.25	(CFS) 5.	1.	1.	1.
		(INCHES) .135	.142	.142	.142
		(AC-FT) 3.	3.	3.	3.

CUMULATIVE AREA = .37 SQ MI

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HYDROGRAPH AT STATION L10u
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.14, TOTAL LOSS = 1.01, TOTAL EXCESS = .14

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
25.	12.25	(CFS) 5.	1.	1.	1.
		(INCHES) .129	.136	.136	.136
		(AC-FT) 3.	3.	3.	3.

CUMULATIVE AREA = .37 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION L10u
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.13, TOTAL LOSS = 1.00, TOTAL EXCESS = .13

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
25.	12.25	(CFS) 5.	1.	1.	1.
		(INCHES) .125	.132	.132	.132
		(AC-FT) 2.	3.	3.	3.

CUMULATIVE AREA = .37 SQ MI

INTERPOLATED HYDROGRAPH AT L10u

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	23.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	21.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	19.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	18.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	16.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	15.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	13.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	12.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	11.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	10.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	10.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	9.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	8.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	7.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	7.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	6.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	6.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	5.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	5.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	4.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	4.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	4.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	3.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	3.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	3.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	3.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	2.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	2.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	2.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	2.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	2.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	2.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	1.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	1.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	1.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	1.	1		2140	261	0.
1		0300	37	0.	1		0915	112	0.	1		1530	187	1.	1		2145	262	0.
1		0305	38	0.	1		0920	113	0.	1		1535	188	1.	1		2150	263	0.
1		0310	39	0.	1		0925	114	0.	1		1540	189	1.	1		2155	264	0.
1		0315	40	0.	1		0930	115	0.	1		1545	190	1.	1		2200	265	0.
1		0320	41	0.	1		0935	116	0.	1		1550	191	1.	1		2205	266	0.
1		0325	42	0.	1		0940	117	0.	1		1555	192	1.	1		2210	267	0.
1		0330	43	0.	1		0945	118	0.	1		1600	193	1.	1		2215	268	0.
1		0335	44	0.	1		0950	119	0.	1		1605	194	1.	1		2220	269	0.
1		0340	45	0.	1		0955	120	0.	1		1610	195	1.	1		2225	270	0.
1		0345	46	0.	1		1000	121	0.	1		1615	196	1.	1		2230	271	0.
1		0350	47	0.	1		1005	122	0.	1		1620	197	1.	1		2235	272	0.
1		0355	48	0.	1		1010	123	0.	1		1625	198	0.	1		2240	273	0.

1	0400	49	0.	*	1	1015	124	0.	*	1	1630	199	0.	*	1	2245	274	0.
1	0405	50	0.	*	1	1020	125	0.	*	1	1635	200	0.	*	1	2250	275	0.
1	0410	51	0.	*	1	1025	126	0.	*	1	1640	201	0.	*	1	2255	276	0.
1	0415	52	0.	*	1	1030	127	0.	*	1	1645	202	0.	*	1	2300	277	0.
1	0420	53	0.	*	1	1035	128	0.	*	1	1650	203	0.	*	1	2305	278	0.
1	0425	54	0.	*	1	1040	129	0.	*	1	1655	204	0.	*	1	2310	279	0.
1	0430	55	0.	*	1	1045	130	0.	*	1	1700	205	0.	*	1	2315	280	0.
1	0435	56	0.	*	1	1050	131	0.	*	1	1705	206	0.	*	1	2320	281	0.
1	0440	57	0.	*	1	1055	132	0.	*	1	1710	207	0.	*	1	2325	282	0.
1	0445	58	0.	*	1	1100	133	0.	*	1	1715	208	0.	*	1	2330	283	0.
1	0450	59	0.	*	1	1105	134	0.	*	1	1720	209	0.	*	1	2335	284	0.
1	0455	60	0.	*	1	1110	135	0.	*	1	1725	210	0.	*	1	2340	285	0.
1	0500	61	0.	*	1	1115	136	0.	*	1	1730	211	0.	*	1	2345	286	0.
1	0505	62	0.	*	1	1120	137	0.	*	1	1735	212	0.	*	1	2350	287	0.
1	0510	63	0.	*	1	1125	138	0.	*	1	1740	213	0.	*	1	2355	288	0.
1	0515	64	0.	*	1	1130	139	0.	*	1	1745	214	0.	*	2	0000	289	0.
1	0520	65	0.	*	1	1135	140	0.	*	1	1750	215	0.	*	2	0005	290	0.
1	0525	66	0.	*	1	1140	141	0.	*	1	1755	216	0.	*	2	0010	291	0.
1	0530	67	0.	*	1	1145	142	1.	*	1	1800	217	0.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	1.	*	1	1805	218	0.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	3.	*	1	1810	219	0.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	10.	*	1	1815	220	0.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	19.	*	1	1820	221	0.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	27.	*	1	1825	222	0.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	29.	*	1	1830	223	0.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	27.	*	1	1835	224	0.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	25.	*	1	1840	225	0.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 29.	12.25		6.	2.	1.	1.
		(INCHES)	.146	.153	.153	.153
		(AC-FT)	3.	3.	3.	3.

CUMULATIVE AREA = .37 SQ MI

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              *            *
78 KK         *   R_L10u   *      Detention Pond L10u
              *            *
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HYDROGRAPH ROUTING DATA

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79 RS           STORAGE ROUTING
                     NSTPS          1  NUMBER OF SUBREACHES
                      ITYP       STOR  TYPE OF INITIAL CONDITION
                    RSVRIC        .00  INITIAL CONDITION
                         X        .00 WORKING R AND D COEFFICIENT

80 SV             STORAGE          .0        .7       1.7       2.9       4.2       5.7       7.4       9.2      11.1      13.3

81 SQ           DISCHARGE          0.        0.        0.        0.       16.       56.       78.       87.       94.      101.

82 SE           ELEVATION     4760.00   4761.00   4762.00   4763.00   4764.00   4765.00   4766.00   4767.00   4768.00   4769.00
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HYDROGRAPH AT STATION R_L10u
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 1.	16.08		0.	0.	0.	0.
		(INCHES)	.008	.011	.011	.011
		(AC-FT)	0.	0.	0.	0.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
3.	15.92	3.	1.	1.	1.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
4763.04	16.00	4763.01	4761.55	4761.50	4761.50

CUMULATIVE AREA = .37 SQ MI

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HYDROGRAPH AT STATION R_L10u
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)					
		(CFS)				
0.	12.33		0.	0.	0.	0.
		(INCHES)	.003	.006	.006	.006
		(AC-FT)	0.	0.	0.	0.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
3.	18.67	3.	1.	1.	1.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR	
+ (FEET)	(HR)					
4762.91	18.67	4762.91	4761.48	4761.43	4761.43	

CUMULATIVE AREA = .37 SQ MI

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HYDROGRAPH AT STATION R_L10u
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR	
+ (CFS)	(HR)					
		(CFS)				
+ 0.	12.33	0.	0.	0.	0.	
		(INCHES) .003	.006	.006	.006	
		(AC-FT) 0.	0.	0.	0.	

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR	
+ (AC-FT)	(HR)					
3.	17.83	3.	1.	1.	1.	

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR	
+ (FEET)	(HR)					
4762.82	18.92	4762.81	4761.45	4761.40	4761.40	

CUMULATIVE AREA = .37 SQ MI

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HYDROGRAPH AT STATION R_L10u
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR	
+ (CFS)	(HR)					
		(CFS)				
+ 0.	12.33	0.	0.	0.	0.	
		(INCHES) .003	.006	.006	.006	
		(AC-FT) 0.	0.	0.	0.	

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR	
+ (AC-FT)	(HR)					
3.	17.92	3.	1.	1.	1.	

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR	
+ (FEET)	(HR)					
4762.73	18.17	4762.72	4761.41	4761.36	4761.36	

CUMULATIVE AREA = .37 SQ MI

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HYDROGRAPH AT STATION R_L10u
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR	
+ (CFS)	(HR)					
		(CFS)				
+ 0.	12.33	0.	0.	0.	0.	
		(INCHES) .003	.006	.006	.006	
		(AC-FT) 0.	0.	0.	0.	

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR	
+ (AC-FT)	(HR)					
3.	17.92	3.	1.	1.	1.	

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR	
+ (FEET)	(HR)					
4762.66	18.42	4762.66	4761.36	4761.31	4761.31	

CUMULATIVE AREA = .37 SQ MI

INTERPOLATED HYDROGRAPH AT R_L10u

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	0.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	0.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	0.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	0.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	0.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	0.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	0.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	0.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	0.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	0.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	0.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	0.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	0.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	0.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	0.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	0.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	0.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	0.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	0.	1		2015	244	0.

1	0135	20	0.	*	1	0750	95	0.	*	1	1405	170	0.	*	1	2020	245	0.
1	0140	21	0.	*	1	0755	96	0.	*	1	1410	171	0.	*	1	2025	246	0.
1	0145	22	0.	*	1	0800	97	0.	*	1	1415	172	0.	*	1	2030	247	0.
1	0150	23	0.	*	1	0805	98	0.	*	1	1420	173	0.	*	1	2035	248	0.
1	0155	24	0.	*	1	0810	99	0.	*	1	1425	174	0.	*	1	2040	249	0.
1	0200	25	0.	*	1	0815	100	0.	*	1	1430	175	0.	*	1	2045	250	0.
1	0205	26	0.	*	1	0820	101	0.	*	1	1435	176	0.	*	1	2050	251	0.
1	0210	27	0.	*	1	0825	102	0.	*	1	1440	177	0.	*	1	2055	252	0.
1	0215	28	0.	*	1	0830	103	0.	*	1	1445	178	0.	*	1	2100	253	0.
1	0220	29	0.	*	1	0835	104	0.	*	1	1450	179	0.	*	1	2105	254	0.
1	0225	30	0.	*	1	0840	105	0.	*	1	1455	180	0.	*	1	2110	255	0.
1	0230	31	0.	*	1	0845	106	0.	*	1	1500	181	0.	*	1	2115	256	0.
1	0235	32	0.	*	1	0850	107	0.	*	1	1505	182	0.	*	1	2120	257	0.
1	0240	33	0.	*	1	0855	108	0.	*	1	1510	183	0.	*	1	2125	258	0.
1	0245	34	0.	*	1	0900	109	0.	*	1	1515	184	0.	*	1	2130	259	0.
1	0250	35	0.	*	1	0905	110	0.	*	1	1520	185	0.	*	1	2135	260	0.
1	0255	36	0.	*	1	0910	111	0.	*	1	1525	186	0.	*	1	2140	261	0.
1	0300	37	0.	*	1	0915	112	0.	*	1	1530	187	0.	*	1	2145	262	0.
1	0305	38	0.	*	1	0920	113	0.	*	1	1535	188	0.	*	1	2150	263	0.
1	0310	39	0.	*	1	0925	114	0.	*	1	1540	189	0.	*	1	2155	264	0.
1	0315	40	0.	*	1	0930	115	0.	*	1	1545	190	0.	*	1	2200	265	0.
1	0320	41	0.	*	1	0935	116	0.	*	1	1550	191	0.	*	1	2205	266	0.
1	0325	42	0.	*	1	0940	117	0.	*	1	1555	192	0.	*	1	2210	267	0.
1	0330	43	0.	*	1	0945	118	0.	*	1	1600	193	0.	*	1	2215	268	0.
1	0335	44	0.	*	1	0950	119	0.	*	1	1605	194	0.	*	1	2220	269	0.
1	0340	45	0.	*	1	0955	120	0.	*	1	1610	195	0.	*	1	2225	270	0.
1	0345	46	0.	*	1	1000	121	0.	*	1	1615	196	0.	*	1	2230	271	0.
1	0350	47	0.	*	1	1005	122	0.	*	1	1620	197	0.	*	1	2235	272	0.
1	0355	48	0.	*	1	1010	123	0.	*	1	1625	198	0.	*	1	2240	273	0.
1	0400	49	0.	*	1	1015	124	0.	*	1	1630	199	0.	*	1	2245	274	0.
1	0405	50	0.	*	1	1020	125	0.	*	1	1635	200	0.	*	1	2250	275	0.
1	0410	51	0.	*	1	1025	126	0.	*	1	1640	201	0.	*	1	2255	276	0.
1	0415	52	0.	*	1	1030	127	0.	*	1	1645	202	0.	*	1	2300	277	0.
1	0420	53	0.	*	1	1035	128	0.	*	1	1650	203	0.	*	1	2305	278	0.
1	0425	54	0.	*	1	1040	129	0.	*	1	1655	204	0.	*	1	2310	279	0.
1	0430	55	0.	*	1	1045	130	0.	*	1	1700	205	0.	*	1	2315	280	0.
1	0435	56	0.	*	1	1050	131	0.	*	1	1705	206	0.	*	1	2320	281	0.
1	0440	57	0.	*	1	1055	132	0.	*	1	1710	207	0.	*	1	2325	282	0.
1	0445	58	0.	*	1	1100	133	0.	*	1	1715	208	0.	*	1	2330	283	0.
1	0450	59	0.	*	1	1105	134	0.	*	1	1720	209	0.	*	1	2335	284	0.
1	0455	60	0.	*	1	1110	135	0.	*	1	1725	210	0.	*	1	2340	285	0.
1	0500	61	0.	*	1	1115	136	0.	*	1	1730	211	0.	*	1	2345	286	0.
1	0505	62	0.	*	1	1120	137	0.	*	1	1735	212	0.	*	1	2350	287	0.
1	0510	63	0.	*	1	1125	138	0.	*	1	1740	213	0.	*	1	2355	288	0.
1	0515	64	0.	*	1	1130	139	0.	*	1	1745	214	0.	*	2	0000	289	0.
1	0520	65	0.	*	1	1135	140	0.	*	1	1750	215	0.	*	2	0005	290	0.
1	0525	66	0.	*	1	1140	141	0.	*	1	1755	216	0.	*	2	0010	291	0.
1	0530	67	0.	*	1	1145	142	0.	*	1	1800	217	0.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	0.	*	1	1805	218	0.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	0.	*	1	1810	219	0.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	0.	*	1	1815	220	0.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	0.	*	1	1820	221	0.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	0.	*	1	1825	222	0.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	0.	*	1	1830	223	0.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	0.	*	1	1835	224	0.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	0.	*	1	1840	225	0.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 0.	16.08		0.	0.	0.	0.
		(INCHES)	.005	.008	.008	.008
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .37 SQ MI

*** ***

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          **************
          *            *
83 KK     *   R_10uO   *     ROUte Detention L10u to L10d
          *            *
          **************
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HYDROGRAPH ROUTING DATA

84 RK KINEMATIC WAVE STREAM ROUTING

L	4500.	CHANNEL LENGTH
S	.0220	SLOPE
N	.030	CHANNEL ROUGHNESS COEFFICIENT
CA	.00	CONTRIBUTING AREA
SHAPE	TRAP	CHANNEL SHAPE
WD	10.00	BOTTOM WIDTH OR DIAMETER
Z	4.00	SIDE SLOPE
NDXMIN	2	MINIMUM NUMBER OF DX INTERVALS

***

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	2.03	1.40	5.00	642.86	.66	996.27	.01	2.06

VTINUITY SUMMARY (AC-FT) - INFLOW= .2207E+00 EXCESS= .0000E+00 OUTFLOW= .2110E+00 BASIN STORAGE= .1014E-01 PERCENT ERROR= -.2

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	2.03	1.40	5.00		.66	995.00	.01

*** *** *** *** ***

HYDROGRAPH AT STATION R_10uO
TRANSPOSITION AREA .0 SQ MI

	PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+	1.	16.58	(CFS)	0.	0.	0.	0.
			(INCHES)	.008	.011	.011	.011
			(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .37 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	2.03	1.40	5.00	375.00	.10	798.54	.01	1.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1107E+00 EXCESS= .0000E+00 OUTFLOW= .1001E+00 BASIN STORAGE= .1091E-01 PERCENT ERROR= -.3

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

	MAIN	2.03	1.40	5.00	.10	800.00	.01
***	***	***	***	***			

HYDROGRAPH AT STATION R_10uO
TRANSPOSITION AREA 14.0 SQ MI

	PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+	0.	13.33	(CFS)	0.	0.	0.	0.
			(INCHES)	.003	.005	.005	.005
			(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .37 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	2.03	1.40	5.00	375.00	.10	799.45	.01	1.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1106E+00 EXCESS= .0000E+00 OUTFLOW= .9996E-01 BASIN STORAGE= .1091E-01 PERCENT ERROR= -.3

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

	MAIN	2.03	1.40	5.00	.10	800.00	.01
***	***	***	***	***			

HYDROGRAPH AT STATION R_10uO
TRANSPOSITION AREA 24.0 SQ MI

	PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+	0.	13.33	(CFS)	0.	0.	0.	0.
			(INCHES)	.003	.005	.005	.005
			(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .37 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	2.03	1.40	5.00	375.00	.10	799.09	.01	1.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1105E+00 EXCESS= .0000E+00 OUTFLOW= .1000E+00 BASIN STORAGE= .1091E-01 PERCENT ERROR= -.4

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

	MAIN	2.03	1.40	5.00	.10	800.00	.01
***	***	***	***	***			

HYDROGRAPH AT STATION R_10uO
TRANSPOSITION AREA 36.5 SQ MI

	PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+	0.	13.33	(CFS)	0.	0.	0.	0.
			(INCHES)	.003	.005	.005	.005
			(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .37 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	2.03	1.40	5.00	375.00	.10	801.98	.01	1.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1104E+00 EXCESS= .0000E+00 OUTFLOW= .1004E+00 BASIN STORAGE= .1089E-01 PERCENT ERROR= -.8

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	2.03	1.40	5.00	.10	805.00	.01
***	***	***	***	***		

HYDROGRAPH AT STATION R_10uO
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	24.92-HR
0.	13.42	(CFS)	0.	0.	0.	0.
		(INCHES)	.003	.005	.005	.005
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .37 SQ MI

INTERPOLATED HYDROGRAPH AT R_10uO

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	0.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	0.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	0.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	0.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	0.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	0.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	0.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	0.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	0.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	0.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	0.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	0.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	0.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	0.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	0.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	0.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	0.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	0.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	0.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	0.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	0.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	0.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	0.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	0.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	0.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	0.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	0.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	0.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	0.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	0.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	0.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	0.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	0.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	0.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	0.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	0.	1		2140	261	0.
1		0300	37	0.	1		0915	112	0.	1		1530	187	0.	1		2145	262	0.
1		0305	38	0.	1		0920	113	0.	1		1535	188	0.	1		2150	263	0.
1		0310	39	0.	1		0925	114	0.	1		1540	189	0.	1		2155	264	0.
1		0315	40	0.	1		0930	115	0.	1		1545	190	0.	1		2200	265	0.
1		0320	41	0.	1		0935	116	0.	1		1550	191	0.	1		2205	266	0.
1		0325	42	0.	1		0940	117	0.	1		1555	192	0.	1		2210	267	0.
1		0330	43	0.	1		0945	118	0.	1		1600	193	0.	1		2215	268	0.
1		0335	44	0.	1		0950	119	0.	1		1605	194	0.	1		2220	269	0.
1		0340	45	0.	1		0955	120	0.	1		1610	195	0.	1		2225	270	0.
1		0345	46	0.	1		1000	121	0.	1		1615	196	0.	1		2230	271	0.
1		0350	47	0.	1		1005	122	0.	1		1620	197	0.	1		2235	272	0.
1		0355	48	0.	1		1010	123	0.	1		1625	198	0.	1		2240	273	0.
1		0400	49	0.	1		1015	124	0.	1		1630	199	0.	1		2245	274	0.
1		0405	50	0.	1		1020	125	0.	1		1635	200	0.	1		2250	275	0.
1		0410	51	0.	1		1025	126	0.	1		1640	201	0.	1		2255	276	0.
1		0415	52	0.	1		1030	127	0.	1		1645	202	0.	1		2300	277	0.
1		0420	53	0.	1		1035	128	0.	1		1650	203	0.	1		2305	278	0.
1		0425	54	0.	1		1040	129	0.	1		1655	204	0.	1		2310	279	0.
1		0430	55	0.	1		1045	130	0.	1		1700	205	0.	1		2315	280	0.
1		0435	56	0.	1		1050	131	0.	1		1705	206	0.	1		2320	281	0.
1		0440	57	0.	1		1055	132	0.	1		1710	207	0.	1		2325	282	0.
1		0445	58	0.	1		1100	133	0.	1		1715	208	0.	1		2330	283	0.
1		0450	59	0.	1		1105	134	0.	1		1720	209	0.	1		2335	284	0.
1		0455	60	0.	1		1110	135	0.	1		1725	210	0.	1		2340	285	0.
1		0500	61	0.	1		1115	136	0.	1		1730	211	0.	1		2345	286	0.
1		0505	62	0.	1		1120	137	0.	1		1735	212	0.	1		2350	287	0.
1		0510	63	0.	1		1125	138	0.	1		1740	213	0.	1		2355	288	0.
1		0515	64	0.	1		1130	139	0.	1		1745	214	0.	2		0000	289	0.
1		0520	65	0.	1		1135	140	0.	1		1750	215	0.	2		0005	290	0.
1		0525	66	0.	1		1140	141	0.	1		1755	216	0.	2		0010	291	0.
1		0530	67	0.	1		1145	142	0.	1		1800	217	0.	2		0015	292	0.
1		0535	68	0.	1		1150	143	0.	1		1805	218	0.	2		0020	293	0.
1		0540	69	0.	1		1155	144	0.	1		1810	219	0.	2		0025	294	0.

```
     1    0545   70        0.   *    1     1200  145        0.   *    1     1815  220        0.   *    2     0030  295        0.
     1    0550   71        0.   *    1     1205  146        0.   *    1     1820  221        0.   *    2     0035  296        0.
     1    0555   72        0.   *    1     1210  147        0.   *    1     1825  222        0.   *    2     0040  297        0.
     1    0600   73        0.   *    1     1215  148        0.   *    1     1830  223        0.   *    2     0045  298        0.
     1    0605   74        0.   *    1     1220  149        0.   *    1     1835  224        0.   *    2     0050  299        0.
     1    0610   75        0.   *    1     1225  150        0.   *    1     1840  225        0.   *    2     0055  300        0.
                            *                                          *                                    *
 ************************************************************************************************************************************************************

   PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR          24-HR          72-HR       24.92-HR
+    (CFS)       (HR)          (CFS)
+       0.      16.58                      0.             0.             0.             0.
                             (INCHES)      .005           .008           .008           .008
                              (AC-FT)        0.             0.             0.             0.

                            CUMULATIVE AREA =      .37 SQ MI


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *             *
   85 KK    *      L10d   *      Subbasin Spilt
            *             *
            ***************

              SUBBASIN RUNOFF DATA

   86 BA        SUBBASIN CHARACTERISTICS
                      TAREA          .61  SUBBASIN AREA

   87 LG        GREEN AND AMPT LOSS RATE
                     STRTL          .38  STARTING LOSS
                       DTH          .38  MOISTURE DEFICIT
                      PSIF         1.41  WETTING FRONT SUCTION
                     XKSAT          .05  HYDRAULIC CONDUCTIVITY
                     RTIMP        23.00  PERCENT IMPERVIOUS AREA

   88 US        SNYDER UNITGRAPH
                       TP          .24  LAG
                       CP          .32  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                    ***

                                              UNIT HYDROGRAPH PARAMETERS
                                      CLARK   TC=    .23 HR,       R=    .61 HR
                                    SNYDER    TP=    .24 HR,      CP=    .32

                                              UNIT HYDROGRAPH
                                        41 END-OF-PERIOD ORDINATES
                       91.      317.      490.      494.      431.      376.      328.      286.      249.      217.
                      189.      165.      144.      125.      109.       95.       83.       72.       63.       55.
                       48.       42.       36.       32.       28.       24.       21.       18.       16.       14.
                       12.       11.        9.        8.        7.        6.        5.        5.        4.        4.
                        3.

        ***             ***             ***             ***             ***

                      HYDROGRAPH AT STATION     L10d
                     TRANSPOSITION AREA        .0 SQ MI

      TOTAL RAINFALL =    1.19, TOTAL LOSS =     .72, TOTAL EXCESS =     .47

   PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR          24-HR          72-HR       24.92-HR
+    (CFS)       (HR)          (CFS)
+     145.      12.17                     26.             8.             8.             8.
                             (INCHES)      .392           .472           .472           .472
                              (AC-FT)       13.            15.            15.            15.

                            CUMULATIVE AREA =      .61 SQ MI

        ***             ***             ***             ***             ***

                      HYDROGRAPH AT STATION     L10d
                     TRANSPOSITION AREA      14.0 SQ MI

      TOTAL RAINFALL =    1.17, TOTAL LOSS =     .71, TOTAL EXCESS =     .46

   PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR          24-HR          72-HR       24.92-HR
+    (CFS)       (HR)          (CFS)
+     140.      12.17                     25.             8.             7.             7.
                             (INCHES)      .378           .456           .457           .457
                              (AC-FT)       12.            15.            15.            15.

                            CUMULATIVE AREA =      .61 SQ MI

        ***             ***             ***             ***             ***

                      HYDROGRAPH AT STATION     L10d
                     TRANSPOSITION AREA      24.0 SQ MI

      TOTAL RAINFALL =    1.15, TOTAL LOSS =     .70, TOTAL EXCESS =     .45

   PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR          24-HR          72-HR       24.92-HR
+    (CFS)       (HR)          (CFS)
+     137.      12.17                     25.             7.             7.             7.
                             (INCHES)      .371           .448           .449           .449
                              (AC-FT)       12.            15.            15.            15.
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CUMULATIVE AREA = .61 SQ MI

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HYDROGRAPH AT STATION L10d
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.14, TOTAL LOSS = .70, TOTAL EXCESS = .44

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
		(CFS)			
134.	12.17	24.	7.	7.	7.
		(INCHES) .364	.440	.441	.441
		(AC-FT) 12.	14.	14.	14.

CUMULATIVE AREA = .61 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION L10d
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.13, TOTAL LOSS = .70, TOTAL EXCESS = .44

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
		(CFS)			
132.	12.17	24.	7.	7.	7.
		(INCHES) .359	.435	.436	.436
		(AC-FT) 12.	14.	14.	14.

CUMULATIVE AREA = .61 SQ MI

INTERPOLATED HYDROGRAPH AT L10d

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	2.	1		1230	151	92.	1		1845	226	2.
1		0005	2	0.	1		0620	77	2.	1		1235	152	82.	1		1850	227	2.
1		0010	3	0.	1		0625	78	2.	1		1240	153	72.	1		1855	228	2.
1		0015	4	0.	1		0630	79	2.	1		1245	154	64.	1		1900	229	2.
1		0020	5	0.	1		0635	80	2.	1		1250	155	57.	1		1905	230	2.
1		0025	6	0.	1		0640	81	2.	1		1255	156	51.	1		1910	231	2.
1		0030	7	1.	1		0645	82	2.	1		1300	157	45.	1		1915	232	2.
1		0035	8	1.	1		0650	83	2.	1		1305	158	40.	1		1920	233	2.
1		0040	9	1.	1		0655	84	2.	1		1310	159	36.	1		1925	234	2.
1		0045	10	1.	1		0700	85	2.	1		1315	160	32.	1		1930	235	2.
1		0050	11	1.	1		0705	86	2.	1		1320	161	29.	1		1935	236	2.
1		0055	12	1.	1		0710	87	2.	1		1325	162	26.	1		1940	237	2.
1		0100	13	1.	1		0715	88	2.	1		1330	163	23.	1		1945	238	2.
1		0105	14	1.	1		0720	89	2.	1		1335	164	21.	1		1950	239	2.
1		0110	15	1.	1		0725	90	2.	1		1340	165	19.	1		1955	240	2.
1		0115	16	1.	1		0730	91	2.	1		1345	166	17.	1		2000	241	2.
1		0120	17	1.	1		0735	92	2.	1		1350	167	16.	1		2005	242	2.
1		0125	18	1.	1		0740	93	2.	1		1355	168	14.	1		2010	243	2.
1		0130	19	1.	1		0745	94	2.	1		1400	169	13.	1		2015	244	2.
1		0135	20	1.	1		0750	95	2.	1		1405	170	12.	1		2020	245	1.
1		0140	21	1.	1		0755	96	2.	1		1410	171	11.	1		2025	246	1.
1		0145	22	1.	1		0800	97	2.	1		1415	172	10.	1		2030	247	1.
1		0150	23	1.	1		0805	98	2.	1		1420	173	9.	1		2035	248	1.
1		0155	24	1.	1		0810	99	2.	1		1425	174	8.	1		2040	249	1.
1		0200	25	1.	1		0815	100	2.	1		1430	175	8.	1		2045	250	1.
1		0205	26	1.	1		0820	101	2.	1		1435	176	7.	1		2050	251	1.
1		0210	27	1.	1		0825	102	2.	1		1440	177	7.	1		2055	252	1.
1		0215	28	1.	1		0830	103	2.	1		1445	178	6.	1		2100	253	1.
1		0220	29	1.	1		0835	104	2.	1		1450	179	6.	1		2105	254	1.
1		0225	30	1.	1		0840	105	3.	1		1455	180	6.	1		2110	255	1.
1		0230	31	1.	1		0845	106	3.	1		1500	181	5.	1		2115	256	1.
1		0235	32	1.	1		0850	107	3.	1		1505	182	5.	1		2120	257	1.
1		0240	33	1.	1		0855	108	3.	1		1510	183	5.	1		2125	258	1.
1		0245	34	1.	1		0900	109	3.	1		1515	184	4.	1		2130	259	1.
1		0250	35	1.	1		0905	110	3.	1		1520	185	4.	1		2135	260	1.
1		0255	36	1.	1		0910	111	3.	1		1525	186	4.	1		2140	261	1.
1		0300	37	1.	1		0915	112	3.	1		1530	187	3.	1		2145	262	1.
1		0305	38	1.	1		0920	113	3.	1		1535	188	3.	1		2150	263	1.
1		0310	39	1.	1		0925	114	3.	1		1540	189	3.	1		2155	264	1.
1		0315	40	1.	1		0930	115	3.	1		1545	190	3.	1		2200	265	1.
1		0320	41	1.	1		0935	116	3.	1		1550	191	3.	1		2205	266	1.
1		0325	42	1.	1		0940	117	3.	1		1555	192	3.	1		2210	267	1.
1		0330	43	1.	1		0945	118	3.	1		1600	193	3.	1		2215	268	1.
1		0335	44	1.	1		0950	119	3.	1		1605	194	3.	1		2220	269	1.
1		0340	45	1.	1		0955	120	3.	1		1610	195	3.	1		2225	270	1.
1		0345	46	1.	1		1000	121	3.	1		1615	196	3.	1		2230	271	1.
1		0350	47	1.	1		1005	122	4.	1		1620	197	3.	1		2235	272	1.
1		0355	48	1.	1		1010	123	4.	1		1625	198	3.	1		2240	273	1.
1		0400	49	1.	1		1015	124	4.	1		1630	199	3.	1		2245	274	1.
1		0405	50	1.	1		1020	125	4.	1		1635	200	3.	1		2250	275	1.
1		0410	51	1.	1		1025	126	4.	1		1640	201	3.	1		2255	276	1.
1		0415	52	1.	1		1030	127	4.	1		1645	202	3.	1		2300	277	1.
1		0420	53	1.	1		1035	128	4.	1		1650	203	3.	1		2305	278	1.
1		0425	54	1.	1		1040	129	4.	1		1655	204	2.	1		2310	279	1.
1		0430	55	1.	1		1045	130	5.	1		1700	205	2.	1		2315	280	1.
1		0435	56	2.	1		1050	131	5.	1		1705	206	2.	1		2320	281	1.
1		0440	57	2.	1		1055	132	5.	1		1710	207	2.	1		2325	282	1.
1		0445	58	2.	1		1100	133	5.	1		1715	208	2.	1		2330	283	1.
1		0450	59	2.	1		1105	134	6.	1		1720	209	2.	1		2335	284	1.
1		0455	60	2.	1		1110	135	6.	1		1725	210	2.	1		2340	285	1.
1		0500	61	2.	1		1115	136	6.	1		1730	211	2.	1		2345	286	1.
1		0505	62	2.	1		1120	137	7.	1		1735	212	2.	1		2350	287	1.
1		0510	63	2.	1		1125	138	7.	1		1740	213	2.	1		2355	288	1.
1		0515	64	2.	1		1130	139	8.	1		1745	214	2.	2		0000	289	1.
1		0520	65	2.	1		1135	140	8.	1		1750	215	2.	2		0005	290	1.
1		0525	66	2.	1		1140	141	10.	1		1755	216	2.	2		0010	291	1.
1		0530	67	2.	1		1145	142	15.	1		1800	217	2.	2		0015	292	1.

```
     1     0535   68        2.   *    1     1150  143       28.   *    1     1805  218        2.   *    2     0020  293        1.
     1     0540   69        2.   *    1     1155  144       57.   *    1     1810  219        2.   *    2     0025  294        1.
     1     0545   70        2.   *    1     1200  145      100.   *    1     1815  220        2.   *    2     0030  295        1.
     1     0550   71        2.   *    1     1205  146      134.   *    1     1820  221        2.   *    2     0035  296        1.
     1     0555   72        2.   *    1     1210  147      142.   *    1     1825  222        2.   *    2     0040  297        0.
     1     0600   73        2.   *    1     1215  148      131.   *    1     1830  223        2.   *    2     0045  298        0.
     1     0605   74        2.   *    1     1220  149      116.   *    1     1835  224        2.   *    2     0050  299        0.
     1     0610   75        2.   *    1     1225  150      103.   *    1     1840  225        2.   *    2     0055  300        0.
                             *                                  *                                  *
*************************************************************************************************************************************

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                  6-HR          24-HR          72-HR       24.92-HR
+   (CFS)       (HR)
                          (CFS)
+     142.      12.17          25.            8.             7.             7.
                       (INCHES)  .384          .463           .463           .463
                         (AC-FT)  13.           15.            15.            15.

                        CUMULATIVE AREA =     .61 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *             *
  89 KK     *     C_L10   *      Combine L10d with Upstream Hydrographs
            *             *
            ***************

  90 HC          HYDROGRAPH COMBINATION
                      ICOMP           3  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                    ***
       ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION    C_L10
                        TRANSPOSITION AREA        .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                  6-HR          24-HR          72-HR       24.92-HR
+   (CFS)       (HR)
                          (CFS)
+     185.      13.42          94.           28.            27.            27.
                       (INCHES)  .093          .112           .112           .112
                         (AC-FT)  47.           57.            57.            57.

                        CUMULATIVE AREA =    9.49 SQ MI

       ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION    C_L10
                        TRANSPOSIIION AREA     14.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                  6-HR          24-HR          72-HR       24.92-HR
+   (CFS)       (HR)
                          (CFS)
+     156.      13.42          82.           25.            24.            24.
                       (INCHES)  .081          .098           .098           .098
                         (AC-FT)  41.           50.            50.            50.

                        CUMULATIVE AREA =    9.49 SQ MI

       ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION    C_L10
                        TRANSPOSITION AREA     24.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                  6-HR          24-HR          72-HR       24.92-HR
+   (CFS)       (HR)
                          (CFS)
+     149.      12.17          76.           23.            23.            23.
                       (INCHES)  .075          .092           .092           .092
                         (AC-FT)  38.           47.            47.            47.

                        CUMULATIVE AREA =    9.49 SQ MI

       ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION    C_L10
                        TRANSPOSITION AREA     36.5 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                  6-HR          24-HR          72-HR       24.92-HR
+   (CFS)       (HR)
                          (CFS)
+     145.      12.17          71.           22.            21.            21.
                       (INCHES)  .070          .086           .086           .086
                         (AC-FT)  35.           44.            44.            44.

                        CUMULATIVE AREA =    9.49 SQ MI

       ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION    C_L10
                        TRANSPOSITION AREA     50.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                  6-HR          24-HR          72-HR       24.92-HR
+   (CFS)       (HR)
                          (CFS)
+     143.      12.17          68.           21.            20.            20.
                       (INCHES)  .066          .083           .083           .083
                         (AC-FT)  34.           42.            42.            42.
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CUMULATIVE AREA = 9.49 SQ MI

INTERPOLATED HYDROGRAPH AT C_L10

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	4.	1		1230	151	117.	1		1845	226	16.
1		0005	2	0.	1		0620	77	4.	1		1235	152	110.	1		1850	227	15.
1		0010	3	0.	1		0625	78	4.	1		1240	153	105.	1		1855	228	15.
1		0015	4	0.	1		0630	79	4.	1		1245	154	105.	1		1900	229	14.
1		0020	5	0.	1		0635	80	4.	1		1250	155	109.	1		1905	230	14.
1		0025	6	0.	1		0640	81	4.	1		1255	156	117.	1		1910	231	13.
1		0030	7	1.	1		0645	82	4.	1		1300	157	127.	1		1915	232	13.
1		0035	8	1.	1		0650	83	4.	1		1305	158	136.	1		1920	233	13.
1		0040	9	1.	1		0655	84	4.	1		1310	159	146.	1		1925	234	12.
1		0045	10	1.	1		0700	85	4.	1		1315	160	153.	1		1930	235	12.
1		0050	11	1.	1		0705	86	4.	1		1320	161	157.	1		1935	236	12.
1		0055	12	1.	1		0710	87	4.	1		1325	162	158.	1		1940	237	11.
1		0100	13	1.	1		0715	88	4.	1		1330	163	156.	1		1945	238	11.
1		0105	14	1.	1		0720	89	4.	1		1335	164	153.	1		1950	239	11.
1		0110	15	1.	1		0725	90	4.	1		1340	165	147.	1		1955	240	10.
1		0115	16	1.	1		0730	91	4.	1		1345	166	141.	1		2000	241	10.
1		0120	17	1.	1		0735	92	4.	1		1350	167	135.	1		2005	242	10.
1		0125	18	1.	1		0740	93	4.	1		1355	168	129.	1		2010	243	10.
1		0130	19	1.	1		0745	94	4.	1		1400	169	123.	1		2015	244	9.
1		0135	20	1.	1		0750	95	4.	1		1405	170	118.	1		2020	245	9.
1		0140	21	1.	1		0755	96	5.	1		1410	171	113.	1		2025	246	9.
1		0145	22	1.	1		0800	97	5.	1		1415	172	109.	1		2030	247	9.
1		0150	23	1.	1		0805	98	5.	1		1420	173	105.	1		2035	248	8.
1		0155	24	1.	1		0810	99	5.	1		1425	174	101.	1		2040	249	8.
1		0200	25	1.	1		0815	100	5.	1		1430	175	97.	1		2045	250	8.
1		0205	26	1.	1		0820	101	5.	1		1435	176	93.	1		2050	251	8.
1		0210	27	1.	1		0825	102	5.	1		1440	177	89.	1		2055	252	8.
1		0215	28	2.	1		0830	103	5.	1		1445	178	85.	1		2100	253	7.
1		0220	29	2.	1		0835	104	5.	1		1450	179	82.	1		2105	254	7.
1		0225	30	2.	1		0840	105	5.	1		1455	180	79.	1		2110	255	7.
1		0230	31	2.	1		0845	106	5.	1		1500	181	76.	1		2115	256	7.
1		0235	32	2.	1		0850	107	5.	1		1505	182	73.	1		2120	257	7.
1		0240	33	2.	1		0855	108	5.	1		1510	183	70.	1		2125	258	7.
1		0245	34	2.	1		0900	109	5.	1		1515	184	67.	1		2130	259	7.
1		0250	35	2.	1		0905	110	6.	1		1520	185	64.	1		2135	260	6.
1		0255	36	2.	1		0910	111	6.	1		1525	186	62.	1		2140	261	6.
1		0300	37	2.	1		0915	112	6.	1		1530	187	59.	1		2145	262	6.
1		0305	38	2.	1		0920	113	6.	1		1535	188	57.	1		2150	263	6.
1		0310	39	2.	1		0925	114	6.	1		1540	189	55.	1		2155	264	6.
1		0315	40	2.	1		0930	115	6.	1		1545	190	53.	1		2200	265	6.
1		0320	41	2.	1		0935	116	6.	1		1550	191	51.	1		2205	266	6.
1		0325	42	2.	1		0940	117	6.	1		1555	192	49.	1		2210	267	6.
1		0330	43	2.	1		0945	118	6.	1		1600	193	47.	1		2215	268	6.
1		0335	44	2.	1		0950	119	6.	1		1605	194	46.	1		2220	269	5.
1		0340	45	2.	1		0955	120	7.	1		1610	195	44.	1		2225	270	5.
1		0345	46	2.	1		1000	121	7.	1		1615	196	42.	1		2230	271	5.
1		0350	47	2.	1		1005	122	7.	1		1620	197	41.	1		2235	272	5.
1		0355	48	3.	1		1010	123	7.	1		1625	198	39.	1		2240	273	5.
1		0400	49	3.	1		1015	124	7.	1		1630	199	38.	1		2245	274	5.
1		0405	50	3.	1		1020	125	7.	1		1635	200	37.	1		2250	275	5.
1		0410	51	3.	1		1025	126	7.	1		1640	201	35.	1		2255	276	5.
1		0415	52	3.	1		1030	127	8.	1		1645	202	34.	1		2300	277	5.
1		0420	53	3.	1		1035	128	8.	1		1650	203	33.	1		2305	278	5.
1		0425	54	3.	1		1040	129	8.	1		1655	204	32.	1		2310	279	5.
1		0430	55	3.	1		1045	130	8.	1		1700	205	31.	1		2315	280	5.
1		0435	56	3.	1		1050	131	9.	1		1705	206	30.	1		2320	281	4.
1		0440	57	3.	1		1055	132	9.	1		1710	207	29.	1		2325	282	4.
1		0445	58	3.	1		1100	133	9.	1		1715	208	28.	1		2330	283	4.
1		0450	59	3.	1		1105	134	10.	1		1720	209	27.	1		2335	284	4.
1		0455	60	3.	1		1110	135	10.	1		1725	210	26.	1		2340	285	4.
1		0500	61	3.	1		1115	136	11.	1		1730	211	25.	1		2345	286	4.
1		0505	62	3.	1		1120	137	11.	1		1735	212	24.	1		2350	287	4.
1		0510	63	3.	1		1125	138	12.	1		1740	213	24.	1		2355	288	4.
1		0515	64	3.	1		1130	139	12.	1		1745	214	23.	2		0000	289	4.
1		0520	65	3.	1		1135	140	13.	1		1750	215	22.	2		0005	290	3.
1		0525	66	3.	1		1140	141	15.	1		1755	216	21.	2		0010	291	3.
1		0530	67	3.	1		1145	142	20.	1		1800	217	21.	2		0015	292	3.
1		0535	68	3.	1		1150	143	33.	1		1805	218	20.	2		0020	293	3.
1		0540	69	3.	1		1155	144	63.	1		1810	219	19.	2		0025	294	3.
1		0545	70	3.	1		1200	145	106.	1		1815	220	19.	2		0030	295	3.
1		0550	71	4.	1		1205	146	142.	1		1820	221	18.	2		0035	296	3.
1		0555	72	4.	1		1210	147	152.	1		1825	222	18.	2		0040	297	3.
1		0600	73	4.	1		1215	148	145.	1		1830	223	17.	2		0045	298	2.
1		0605	74	4.	1		1220	149	134.	1		1835	224	17.	2		0050	299	2.
1		0610	75	4.	1		1225	150	125.	1		1840	225	16.	2		0055	300	2.

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
158.	13.42	(CFS) 83.	25.	24.	24.
		(INCHES) .081	.099	.099	.099
		(AC-FT) 41.	50.	50.	50.

CUMULATIVE AREA = 9.49 SQ MI

91 KK R_L9M Route Mainstem Hydrograph Through L9

HYDROGRAPH ROUTING DATA

```
   92 RS          STORAGE ROUTING
                       NSTPS          1  NUMBER OF SUBREACHES
                        ITYP       STOR  TYPE OF INITIAL CONDITION
                      RSVRIC        .00  INITIAL CONDITION
                           X        .00 WORKING R AND D COEFFICIENT

   93 SV            STORAGE          .0       1.2       2.2       3.3       4.2       4.9       5.3       6.6       7.6       8.5
                                    9.6      10.6      11.6      12.4      13.1      13.9

   95 SQ            DISCHARGE        0.      100.      200.      300.      400.      500.      600.      800.     1000.     1200.
                                 1400.     1600.     1800.     2000.     2200.     2400.
                                                                                    ***

        ***              ***              ***              ***              ***

                          HYDROGRAPH AT STATION    R_L9M
                         TRANSPOSITION AREA       .0 SQ MI

    PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR         24-HR         72-HR      24.92-HR
+     (CFS)       (HR)
                    (CFS)
+      182.      13.50                     94.           28.           27.           27.
                (INCHES)                  .092          .112          .112          .112
                  (AC-FT)                  47.           57.           57.           57.

  PEAK STORAGE   TIME                             MAXIMUM AVERAGE STORAGE
                                          6-HR         24-HR         72-HR      24.92-HR
+  (AC-FT)       (HR)
         2.      13.50                      1.            0.            0.            0.

                         CUMULATIVE AREA =    9.49 SQ MI

        ***              ***              ***              ***              ***

                          HYDROGRAPH AT STATION    R_L9M
                         TRANSPOSITION AREA      14.0 SQ MI

    PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR         24-HR         72-HR      24.92-HR
+     (CFS)       (HR)
                    (CFS)
+      153.      13.50                     82.           25.           24.           24.
                (INCHES)                  .080          .098          .098          .098
                  (AC-FT)                  41.           50.           50.           50.

  PEAK STORAGE   TIME                             MAXIMUM AVERAGE STORAGE
                                          6-HR         24-HR         72-HR      24.92-HR
+  (AC-FT)       (HR)
         2.      13.50                      1.            0.            0.            0.

                         CUMULATIVE AREA =    9.49 SQ MI

        ***              ***              ***              ***              ***

                          HYDROGRAPH AT STATION    R_L9M
                         TRANSPOSITION AREA      24.0 SQ MI

    PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR         24-HR         72-HR      24.92-HR
+     (CFS)       (HR)
                    (CFS)
+      140.      13.58                     76.           23.           23.           23.
                (INCHES)                  .075          .092          .092          .092
                  (AC-FT)                  38.           47.           47.           47.

  PEAK STORAGE   TIME                             MAXIMUM AVERAGE STORAGE
                                          6-HR         24-HR         72-HR      24.92-HR
+  (AC-FT)       (HR)
         2.      13.50                      1.            0.            0.            0.

                         CUMULATIVE AREA =    9.49 SQ MI

        ***              ***              ***              ***              ***

                          HYDROGRAPH AT STATION    R_L9M
                         TRANSPOSITION AREA      36.5 SQ MI

    PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR         24-HR         72-HR      24.92-HR
+     (CFS)       (HR)
                    (CFS)
+      129.      12.33                     71.           22.           21.           21.
                (INCHES)                  .070          .086          .086          .086
                  (AC-FT)                  35.           44.           44.           44.

  PEAK STORAGE   TIME                             MAXIMUM AVERAGE STORAGE
                                          6-HR         24-HR         72-HR      24.92-HR
+  (AC-FT)       (HR)
         2.      12.33                      1.            0.            0.            0.

                         CUMULATIVE AREA =    9.49 SQ MI

        ***              ***              ***              ***              ***

                          HYDROGRAPH AT STATION    R_L9M
                         TRANSPOSITION AREA      50.0 SQ MI

    PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR         24-HR         72-HR      24.92-HR
+     (CFS)       (HR)
                    (CFS)
+      127.      12.33                     68.           21.           20.           20.
                (INCHES)                  .066          .083          .083          .083
                  (AC-FT)                  34.           42.           42.           42.

  PEAK STORAGE   TIME                             MAXIMUM AVERAGE STORAGE
                                          6-HR         24-HR         72-HR      24.92-HR
+  (AC-FT)       (HR)
```

2. 12.33 1. 0. 0. 0.

CUMULATIVE AREA = 9.49 SQ MI

INTERPOLATED HYDROGRAPH AT R_L9M

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	4.	1		1230	151	127.	1		1845	226	17.
1		0005	2	0.	1		0620	77	4.	1		1235	152	120.	1		1850	227	16.
1		0010	3	0.	1		0625	78	4.	1		1240	153	114.	1		1855	228	16.
1		0015	4	0.	1		0630	79	4.	1		1245	154	109.	1		1900	229	15.
1		0020	5	0.	1		0635	80	4.	1		1250	155	108.	1		1905	230	15.
1		0025	6	0.	1		0640	81	4.	1		1255	156	110.	1		1910	231	14.
1		0030	7	0.	1		0645	82	4.	1		1300	157	116.	1		1915	232	14.
1		0035	8	0.	1		0650	83	4.	1		1305	158	124.	1		1920	233	13.
1		0040	9	1.	1		0655	84	4.	1		1310	159	133.	1		1925	234	13.
1		0045	10	1.	1		0700	85	4.	1		1315	160	142.	1		1930	235	13.
1		0050	11	1.	1		0705	86	4.	1		1320	161	149.	1		1935	236	12.
1		0055	12	1.	1		0710	87	4.	1		1325	162	153.	1		1940	237	12.
1		0100	13	1.	1		0715	88	4.	1		1330	163	155.	1		1945	238	12.
1		0105	14	1.	1		0720	89	4.	1		1335	164	155.	1		1950	239	11.
1		0110	15	1.	1		0725	90	4.	1		1340	165	152.	1		1955	240	11.
1		0115	16	1.	1		0730	91	4.	1		1345	166	148.	1		2000	241	11.
1		0120	17	1.	1		0735	92	4.	1		1350	167	143.	1		2005	242	10.
1		0125	18	1.	1		0740	93	4.	1		1355	168	137.	1		2010	243	10.
1		0130	19	1.	1		0745	94	4.	1		1400	169	132.	1		2015	244	10.
1		0135	20	1.	1		0750	95	4.	1		1405	170	126.	1		2020	245	10.
1		0140	21	1.	1		0755	96	4.	1		1410	171	121.	1		2025	246	9.
1		0145	22	1.	1		0800	97	5.	1		1415	172	116.	1		2030	247	9.
1		0150	23	1.	1		0805	98	5.	1		1420	173	111.	1		2035	248	9.
1		0155	24	1.	1		0810	99	5.	1		1425	174	107.	1		2040	249	9.
1		0200	25	1.	1		0815	100	5.	1		1430	175	103.	1		2045	250	8.
1		0205	26	1.	1		0820	101	5.	1		1435	176	99.	1		2050	251	8.
1		0210	27	1.	1		0825	102	5.	1		1440	177	95.	1		2055	252	8.
1		0215	28	1.	1		0830	103	5.	1		1445	178	92.	1		2100	253	8.
1		0220	29	1.	1		0835	104	5.	1		1450	179	88.	1		2105	254	8.
1		0225	30	2.	1		0840	105	5.	1		1455	180	85.	1		2110	255	7.
1		0230	31	2.	1		0845	106	5.	1		1500	181	82.	1		2115	256	7.
1		0235	32	2.	1		0850	107	5.	1		1505	182	78.	1		2120	257	7.
1		0240	33	2.	1		0855	108	5.	1		1510	183	75.	1		2125	258	7.
1		0245	34	2.	1		0900	109	5.	1		1515	184	72.	1		2130	259	7.
1		0250	35	2.	1		0905	110	5.	1		1520	185	69.	1		2135	260	7.
1		0255	36	2.	1		0910	111	6.	1		1525	186	66.	1		2140	261	7.
1		0300	37	2.	1		0915	112	6.	1		1530	187	64.	1		2145	262	6.
1		0305	38	2.	1		0920	113	6.	1		1535	188	61.	1		2150	263	6.
1		0310	39	2.	1		0925	114	6.	1		1540	189	59.	1		2155	264	6.
1		0315	40	2.	1		0930	115	6.	1		1545	190	57.	1		2200	265	6.
1		0320	41	2.	1		0935	116	6.	1		1550	191	55.	1		2205	266	6.
1		0325	42	2.	1		0940	117	6.	1		1555	192	53.	1		2210	267	6.
1		0330	43	2.	1		0945	118	6.	1		1600	193	51.	1		2215	268	6.
1		0335	44	2.	1		0950	119	6.	1		1605	194	49.	1		2220	269	6.
1		0340	45	2.	1		0955	120	6.	1		1610	195	47.	1		2225	270	5.
1		0345	46	2.	1		1000	121	6.	1		1615	196	45.	1		2230	271	5.
1		0350	47	2.	1		1005	122	7.	1		1620	197	44.	1		2235	272	5.
1		0355	48	2.	1		1010	123	7.	1		1625	198	42.	1		2240	273	5.
1		0400	49	3.	1		1015	124	7.	1		1630	199	41.	1		2245	274	5.
1		0405	50	3.	1		1020	125	7.	1		1635	200	39.	1		2250	275	5.
1		0410	51	3.	1		1025	126	7.	1		1640	201	38.	1		2255	276	5.
1		0415	52	3.	1		1030	127	7.	1		1645	202	37.	1		2300	277	5.
1		0420	53	3.	1		1035	128	8.	1		1650	203	35.	1		2305	278	5.
1		0425	54	3.	1		1040	129	8.	1		1655	204	34.	1		2310	279	5.
1		0430	55	3.	1		1045	130	8.	1		1700	205	33.	1		2315	280	5.
1		0435	56	3.	1		1050	131	8.	1		1705	206	32.	1		2320	281	5.
1		0440	57	3.	1		1055	132	9.	1		1710	207	31.	1		2325	282	5.
1		0445	58	3.	1		1100	133	9.	1		1715	208	30.	1		2330	283	4.
1		0450	59	3.	1		1105	134	9.	1		1720	209	29.	1		2335	284	4.
1		0455	60	3.	1		1110	135	9.	1		1725	210	28.	1		2340	285	4.
1		0500	61	3.	1		1115	136	10.	1		1730	211	27.	1		2345	286	4.
1		0505	62	3.	1		1120	137	10.	1		1735	212	26.	1		2350	287	4.
1		0510	63	3.	1		1125	138	11.	1		1740	213	25.	1		2355	288	4.
1		0515	64	3.	1		1130	139	11.	1		1745	214	24.	2		0000	289	4.
1		0520	65	3.	1		1135	140	12.	1		1750	215	23.	2		0005	290	4.
1		0525	66	3.	1		1140	141	13.	1		1755	216	23.	2		0010	291	4.
1		0530	67	3.	1		1145	142	15.	1		1800	217	22.	2		0015	292	3.
1		0535	68	3.	1		1150	143	20.	1		1805	218	21.	2		0020	293	3.
1		0540	69	3.	1		1155	144	32.	1		1810	219	21.	2		0025	294	3.
1		0545	70	3.	1		1200	145	55.	1		1815	220	20.	2		0030	295	3.
1		0550	71	3.	1		1205	146	85.	1		1820	221	19.	2		0035	296	3.
1		0555	72	3.	1		1210	147	114.	1		1825	222	19.	2		0040	297	3.
1		0600	73	4.	1		1215	148	132.	1		1830	223	18.	2		0045	298	3.
1		0605	74	4.	1		1220	149	136.	1		1835	224	18.	2		0050	299	3.
1		0610	75	4.	1		1225	150	133.	1		1840	225	17.	2		0055	300	2.

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
155.	13.50		83.	25.	24.	24.
		(INCHES)	.081	.099	.099	.099
		(AC-FT)	41.	50.	50.	50.

CUMULATIVE AREA = 9.49 SQ MI

97 KK L9.1u Split Subbasin L9.1

SUBBASIN RUNOFF DATA

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  98 BA          SUBBASIN CHARACTERISTICS
                      TAREA        2.38  SUBBASIN AREA

  99 LG          GREEN AND AMPT LOSS RATE
                     STRTL         .42  STARTING LOSS
                       DTH         .40  MOISTURE DEFICIT
                      PSIF        1.50  WETTING FRONT SUCTION
                     XKSAT         .05  HYDRAULIC CONDUCTIVITY
                     RTIMP        2.00  PERCENT IMPERVIOUS AREA

 100 US          SNYDER UNITGRAPH
                        TP         .87  LAG
                        CP         .38  PEAKING COEFFICIENT

                 SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                    ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=   .89 HR,       R=  1.73 HR
                                         SNYDER   TP=   .87 HR,      CP=   .38

                                                UNIT HYDROGRAPH
                                          116 END-OF-PERIOD ORDINATES
                   17.      66.     136.     220.     314.     414.     507.     584.     642.     680.
                  688.     666.     635.     605.     576.     549.     524.     499.     475.     453.
                  432.     412.     392.     374.     356.     339.     323.     308.     294.     280.
                  267.     254.     242.     231.     220.     210.     200.     190.     182.     173.
                  165.     157.     150.     143.     136.     130.     123.     118.     112.     107.
                  102.      97.      93.      88.      84.      80.      76.      73.      69.      66.
                   63.      60.      57.      54.      52.      49.      47.      45.      43.      41.
                   39.      37.      35.      34.      32.      31.      29.      28.      26.      25.
                   24.      23.      22.      21.      20.      19.      18.      17.      16.      16.
                   15.      14.      13.      13.      12.      12.      11.      11.      10.      10.
                    9.       9.       8.       8.       8.       7.       7.       7.       6.       6.
                    6.       5.       5.       5.       5.       4.

       ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION    L9.1u
                        TRANSPOSITION AREA       .0 SQ MI

          TOTAL RAINFALL =    1.19, TOTAL LOSS =     .95, TOTAL EXCESS =     .24

     PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     24.92-HR
+      (CFS)       (HR)
                     (CFS)
+       157.     12.75          58.          15.          15.          15.
                 (INCHES)       .225         .241         .241         .241
                  (AC-FT)         29.          31.          31.          31.

                         CUMULATIVE AREA =    2.38 SQ MI

       ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION    L9.1u
                        TRANSPOSITION AREA      14.0 SQ MI

          TOTAL RAINFALL =    1.17, TOTAL LOSS =     .94, TOTAL EXCESS =     .23

     PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     24.92-HR
+      (CFS)       (HR)
                     (CFS)
+       148.     12.75          55.          15.          14.          14.
                 (INCHES)       .213         .228         .228         .228
                  (AC-FT)         27.          29.          29.          29.

                         CUMULATIVE AREA =    2.38 SQ MI

       ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION    L9.1u
                        TRANSPOSITION AREA      24.0 SQ MI

          TOTAL RAINFALL =    1.15, TOTAL LOSS =     .93, TOTAL EXCESS =     .22

     PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     24.92-HR
+      (CFS)       (HR)
                     (CFS)
+       144.     12.75          53.          14.          14.          14.
                 (INCHES)       .207         .221         .221         .221
                  (AC-FT)         26.          28.          28.          28.

                         CUMULATIVE AREA =    2.38 SQ MI

       ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION    L9.1u
                        TRANSPOSITION AREA      36.5 SQ MI

          TOTAL RAINFALL =    1.14, TOTAL LOSS =     .93, TOTAL EXCESS =     .22

     PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     24.92-HR
+      (CFS)       (HR)
                     (CFS)
+       139.     12.75          51.          14.          13.          13.
                 (INCHES)       .200         .214         .214         .214
                  (AC-FT)         25.          27.          27.          27.

                         CUMULATIVE AREA =    2.38 SQ MI

       ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION    L9.1u
                        TRANSPOSITION AREA      50.0 SQ MI
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TOTAL RAINFALL = 1.13, TOTAL LOSS = .92, TOTAL EXCESS = .21

PEAK FLOW (CFS)	TIME (HR)		6-HR	MAXIMUM AVERAGE FLOW 24-HR	72-HR	24.92-HR
136.	12.75	(CFS)	50.	13.	13.	13.
		(INCHES)	.196	.210	.210	.210
		(AC-FT)	25.	27.	27.	27.

CUMULATIVE AREA = 2.38 SQ MI

INTERPOLATED HYDROGRAPH AT L9.1u

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	1.	1		1230	151	127.	1		1845	226	6.
1		0005	2	0.	1		0620	77	1.	1		1235	152	140.	1		1850	227	5.
1		0010	3	0.	1		0625	78	1.	1		1240	153	148.	1		1855	228	5.
1		0015	4	0.	1		0630	79	1.	1		1245	154	150.	1		1900	229	5.
1		0020	5	0.	1		0635	80	1.	1		1250	155	147.	1		1905	230	5.
1		0025	6	0.	1		0640	81	1.	1		1255	156	141.	1		1910	231	5.
1		0030	7	0.	1		0645	82	1.	1		1300	157	135.	1		1915	232	4.
1		0035	8	0.	1		0650	83	1.	1		1305	158	128.	1		1920	233	4.
1		0040	9	0.	1		0655	84	1.	1		1310	159	122.	1		1925	234	4.
1		0045	10	0.	1		0700	85	1.	1		1315	160	117.	1		1930	235	4.
1		0050	11	0.	1		0705	86	1.	1		1320	161	111.	1		1935	236	4.
1		0055	12	0.	1		0710	87	1.	1		1325	162	106.	1		1940	237	4.
1		0100	13	0.	1		0715	88	1.	1		1330	163	101.	1		1945	238	3.
1		0105	14	0.	1		0720	89	1.	1		1335	164	97.	1		1950	239	3.
1		0110	15	0.	1		0725	90	1.	1		1340	165	92.	1		1955	240	3.
1		0115	16	0.	1		0730	91	1.	1		1345	166	88.	1		2000	241	3.
1		0120	17	0.	1		0735	92	1.	1		1350	167	84.	1		2005	242	3.
1		0125	18	0.	1		0740	93	1.	1		1355	168	80.	1		2010	243	3.
1		0130	19	0.	1		0745	94	1.	1		1400	169	76.	1		2015	244	3.
1		0135	20	0.	1		0750	95	1.	1		1405	170	73.	1		2020	245	3.
1		0140	21	0.	1		0755	96	1.	1		1410	171	70.	1		2025	246	2.
1		0145	22	0.	1		0800	97	1.	1		1415	172	66.	1		2030	247	2.
1		0150	23	0.	1		0805	98	1.	1		1420	173	63.	1		2035	248	2.
1		0155	24	0.	1		0810	99	1.	1		1425	174	60.	1		2040	249	2.
1		0200	25	0.	1		0815	100	1.	1		1430	175	58.	1		2045	250	2.
1		0205	26	0.	1		0820	101	1.	1		1435	176	55.	1		2050	251	2.
1		0210	27	0.	1		0825	102	1.	1		1440	177	52.	1		2055	252	2.
1		0215	28	0.	1		0830	103	1.	1		1445	178	50.	1		2100	253	2.
1		0220	29	0.	1		0835	104	1.	1		1450	179	48.	1		2105	254	2.
1		0225	30	0.	1		0840	105	1.	1		1455	180	46.	1		2110	255	2.
1		0230	31	0.	1		0845	106	1.	1		1500	181	43.	1		2115	256	2.
1		0235	32	0.	1		0850	107	1.	1		1505	182	42.	1		2120	257	2.
1		0240	33	0.	1		0855	108	1.	1		1510	183	40.	1		2125	258	2.
1		0245	34	0.	1		0900	109	1.	1		1515	184	38.	1		2130	259	1.
1		0250	35	0.	1		0905	110	1.	1		1520	185	36.	1		2135	260	1.
1		0255	36	0.	1		0910	111	1.	1		1525	186	34.	1		2140	261	1.
1		0300	37	0.	1		0915	112	1.	1		1530	187	33.	1		2145	262	1.
1		0305	38	0.	1		0920	113	1.	1		1535	188	31.	1		2150	263	1.
1		0310	39	0.	1		0925	114	1.	1		1540	189	30.	1		2155	264	1.
1		0315	40	0.	1		0930	115	1.	1		1545	190	29.	1		2200	265	1.
1		0320	41	0.	1		0935	116	1.	1		1550	191	27.	1		2205	266	1.
1		0325	42	0.	1		0940	117	1.	1		1555	192	26.	1		2210	267	1.
1		0330	43	0.	1		0945	118	1.	1		1600	193	25.	1		2215	268	1.
1		0335	44	0.	1		0950	119	1.	1		1605	194	24.	1		2220	269	1.
1		0340	45	0.	1		0955	120	1.	1		1610	195	23.	1		2225	270	1.
1		0345	46	0.	1		1000	121	1.	1		1615	196	22.	1		2230	271	1.
1		0350	47	0.	1		1005	122	1.	1		1620	197	21.	1		2235	272	0.
1		0355	48	0.	1		1010	123	1.	1		1625	198	20.	1		2240	273	0.
1		0400	49	0.	1		1015	124	1.	1		1630	199	19.	1		2245	274	0.
1		0405	50	0.	1		1020	125	1.	1		1635	200	18.	1		2250	275	0.
1		0410	51	0.	1		1025	126	1.	1		1640	201	17.	1		2255	276	0.
1		0415	52	0.	1		1030	127	1.	1		1645	202	16.	1		2300	277	0.
1		0420	53	0.	1		1035	128	1.	1		1650	203	16.	1		2305	278	0.
1		0425	54	0.	1		1040	129	1.	1		1655	204	15.	1		2310	279	0.
1		0430	55	0.	1		1045	130	1.	1		1700	205	14.	1		2315	280	0.
1		0435	56	0.	1		1050	131	1.	1		1705	206	14.	1		2320	281	0.
1		0440	57	0.	1		1055	132	1.	1		1710	207	13.	1		2325	282	0.
1		0445	58	0.	1		1100	133	1.	1		1715	208	12.	1		2330	283	0.
1		0450	59	0.	1		1105	134	1.	1		1720	209	12.	1		2335	284	0.
1		0455	60	0.	1		1110	135	1.	1		1725	210	11.	1		2340	285	0.
1		0500	61	0.	1		1115	136	1.	1		1730	211	11.	1		2345	286	0.
1		0505	62	0.	1		1120	137	1.	1		1735	212	10.	1		2350	287	0.
1		0510	63	0.	1		1125	138	1.	1		1740	213	10.	1		2355	288	0.
1		0515	64	0.	1		1130	139	2.	1		1745	214	10.	2		0000	289	0.
1		0520	65	0.	1		1135	140	2.	1		1750	215	9.	2		0005	290	0.
1		0525	66	0.	1		1140	141	2.	1		1755	216	9.	2		0010	291	0.
1		0530	67	0.	1		1145	142	2.	1		1800	217	8.	2		0015	292	0.
1		0535	68	0.	1		1150	143	3.	1		1805	218	8.	2		0020	293	0.
1		0540	69	0.	1		1155	144	7.	1		1810	219	8.	2		0025	294	0.
1		0545	70	0.	1		1200	145	17.	1		1815	220	7.	2		0030	295	0.
1		0550	71	0.	1		1205	146	32.	1		1820	221	7.	2		0035	296	0.
1		0555	72	0.	1		1210	147	49.	1		1825	222	7.	2		0040	297	0.
1		0600	73	1.	1		1215	148	69.	1		1830	223	6.	2		0045	298	0.
1		0605	74	1.	1		1220	149	90.	1		1835	224	6.	2		0050	299	0.
1		0610	75	1.	1		1225	150	110.	1		1840	225	6.	2		0055	300	0.

PEAK FLOW (CFS)	TIME (HR)		6-HR	MAXIMUM AVERAGE FLOW 24-HR	72-HR	24.92-HR
150.	12.75	(CFS)	55.	15.	14.	14.
		(INCHES)	.216	.231	.231	.231
		(AC-FT)	27.	29.	29.	29.

CUMULATIVE AREA = 2.38 SQ MI

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          **************
          *            *
101 KK    *   R_9.1o   *      Route L9.1u to L9.1d
          *            *
          **************

   HYDROGRAPH ROUTING DATA

102 RK       KINEMATIC WAVE STREAM ROUTING
                    L      4500.  CHANNEL LENGTH
                    S      .0220  SLOPE
                    N       .030  CHANNEL ROUGHNESS COEFFICIENT
                   CA        .00  CONTRIBUTING AREA
                SHAPE       TRAP  CHANNEL SHAPE
                   WD      10.00  BOTTOM WIDTH OR DIAMETER
                    Z       4.00  SIDE SLOPE
               NDXMIN          2  MINIMUM NUMBER OF DX INTERVALS
                                                    ***
                                  COMPUTED KINEMATIC PARAMETERS
                                       VARIABLE TIME STEP
                                    (DT SHOWN IS A MINIMUM)

                    ELEMENT    ALPHA       M         DT        DX       PEAK    TIME TO      VOLUME    MAXIMUM
                                                                                    PEAK                 CELERITY
                                                     (MIN)      (FT)     (CFS)     (MIN)        (IN)      (FPS)
                    MAIN          2.03     1.40       2.63   1500.00    156.02    770.86         .24       9.84

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .3055E+02  EXCESS= .0000E+00 OUTFLOW= .3052E+02 BASIN STORAGE= .1856E-01 PERCENT ERROR=     .0

                                       INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

                    MAIN          2.03     1.40       5.00              155.91    770.00         .24
      ***             ***             ***             ***             ***

                                    HYOROGRAPH AT STATION   R_9.1O
                                   TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                                  MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR        72-HR      24.92-HR
+   (CFS)       (HR)          (CFS)
+     156.      12.83                       58.          15.          15.          15.
                             (INCHES)       .225         .240         .240         .240
                              (AC-FT)       29.          31.          31.          31.

                                    CUMULATIVE AREA =     2.38 SQ MI

                                  COMPUTED KINEMATIC PARAMETERS
                                       VARIABLE TIME STEP
                                    (DT SHOWN IS A MINIMUM)

                    ELEMENT    ALPHA       M         DT        DX       PEAK    TIME TO      VOLUME    MAXIMUM
                                                                                    PEAK                 CELERITY
                                                     (MIN)      (FT)     (CFS)     (MIN)        (IN)      (FPS)
                    MAIN          2.03     1.40       2.69   1500.00    147.71    770.03         .23       9.69

 CONTINUITY SUMMARY (AC-FI) - INFLOW= .2892E+02  EXCESS= .0000E+00 OUTFLOW= .2889E+02 BASIN STORAGE= .1892E-01 PERCENT ERROR=     .0

                                       INTERPOLATED TO SPECIFIEO COMPUTATION INTERVAL

                    MAIN          2.03     1.40       5.00              147.70    770.00         .23
      ***             ***             ***             ***             ***

                                    HYDROGRAPH AT STATION   R_9.1o
                                   TRANSPOSITION AREA      14.0 SQ MI

  PEAK FLOW     TIME                                  MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR        72-HR      24.92-HR
+   (CFS)       (HR)          (CFS)
+     148.      12.83                       54.          15.          14.          14.
                             (INCHES)       .213         .228         .228         .228
                              (AC-FT)       27.          29.          29.          29.

                                    CUMULATIVE AREA =     2.38 SQ MI

                                  COMPUTED KINEMATIC PARAMETERS
                                       VARIABLE TIME STEP
                                    (DT SHOWN IS A MINIMUM)

                    ELEMENT    ALPHA       M         DT        DX       PEAK    TIME TO      VOLUME    MAXIMUM
                                                                                    PEAK                 CELERITY
                                                     (MIN)      (FT)     (CFS)     (MIN)        (IN)      (FPS)
                    MAIN          2.03     1.40       2.75   1500.00    142.98    771.16         .22       9.60

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2808E+02  EXCESS= .0000E+00 OUTFLOW= .2804E+02 BASIN STORAGE= .1818E-01 PERCENT ERROR=     .1

                                       INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

                    MAIN          2.03     1.40       5.00              142.84    770.00         .22
      ***             ***             ***             ***             ***

                                    HYDROGRAPH AT STATION   R_9.1o
                                   TRANSPOSITION AREA      24.0 SQ MI

  PEAK FLOW     TIME                                  MAXIMUM AVERAGE FLOW
```

			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)					
		(CFS)				
143.	12.83		53.	14.	14.	14.
		(INCHES)	.206	.221	.221	.221
		(AC-FT)	26.	28.	28.	28.

CUMULATIVE AREA = 2.38 SQ MI

COMPUTED KINEMATIC PARAMEIERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	2.03	1.40	2.71	1500.00	138.39	769.12	.21	9.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2721E+02 EXCESS= .0000E+00 OUTFLOW= .2717E+02 BASIN STORAGE= .1795E-01 PERCENT ERROR= .1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	2.03	1.40	5.00		138.31	770.00	.21
***	***	***	***	***			

HYDROGRAPH AT STATION R_9.1o
TRANSPOSITION AREA 36.5 SQ MI

	PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)					
			(CFS)				
+	138.	12.83		51.	14.	13.	13.
			(INCHES)	.200	.214	.214	.214
			(AC-FT)	25.	27.	27.	27.

CUMULATIVE AREA = 2.38 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	2.03	1.40	2.81	1500.00	135.66	770.22	.21	9.45

NTINUITY SUMMARY (AC-FT) - INFLOW= .2663E+02 EXCESS= .0000E+00 OUTFLOW= .2659E+02 BASIN STORAGE= .1871E-01 PERCENT ERROR= .1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	2.03	1.40	5.00		135.58	770.00	.21
***	***	***	***	***			

HYDROGRAPH AT STATION R_9.1o
TRANSPOSITION AREA 50.0 SQ MI

	PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)					
			(CFS)				
+	136.	12.83		50.	13.	13.	13.
			(INCHES)	.195	.209	.209	.209
			(AC-FT)	25.	27.	27.	27.

CUMULATIVE AREA = 2.38 SQ MI

INTERPOLATED HYDROGRAPH AT R_9.1o

DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	*	1		0615	76	0.	*	1		1230	151	108.	*	1		1845	226	6.
1		0005	2	0.	*	1		0620	77	0.	*	1		1235	152	125.	*	1		1850	227	6.
1		0010	3	0.	*	1		0625	78	1.	*	1		1240	153	139.	*	1		1855	228	6.
1		0015	4	0.	*	1		0630	79	1.	*	1		1245	154	147.	*	1		1900	229	6.
1		0020	5	0.	*	1		0635	80	1.	*	1		1250	155	150.	*	1		1905	230	5.
1		0025	6	0.	*	1		0640	81	1.	*	1		1255	156	147.	*	1		1910	231	5.
1		0030	7	0.	*	1		0645	82	1.	*	1		1300	157	141.	*	1		1915	232	5.
1		0035	8	0.	*	1		0650	83	1.	*	1		1305	158	135.	*	1		1920	233	5.
1		0040	9	0.	*	1		0655	84	1.	*	1		1310	159	129.	*	1		1925	234	5.
1		0045	10	0.	*	1		0700	85	1.	*	1		1315	160	123.	*	1		1930	235	4.
1		0050	11	0.	*	1		0705	86	1.	*	1		1320	161	117.	*	1		1935	236	4.
1		0055	12	0.	*	1		0710	87	1.	*	1		1325	162	112.	*	1		1940	237	4.
1		0100	13	0.	*	1		0715	88	1.	*	1		1330	163	107.	*	1		1945	238	4.
1		0105	14	0.	*	1		0720	89	1.	*	1		1335	164	102.	*	1		1950	239	4.
1		0110	15	0.	*	1		0725	90	1.	*	1		1340	165	98.	*	1		1955	240	4.
1		0115	16	0.	*	1		0730	91	1.	*	1		1345	166	93.	*	1		2000	241	3.
1		0120	17	0.	*	1		0735	92	1.	*	1		1350	167	89.	*	1		2005	242	3.
1		0125	18	0.	*	1		0740	93	1.	*	1		1355	168	85.	*	1		2010	243	3.
1		0130	19	0.	*	1		0745	94	1.	*	1		1400	169	81.	*	1		2015	244	3.
1		0135	20	0.	*	1		0750	95	1.	*	1		1405	170	77.	*	1		2020	245	3.
1		0140	21	0.	*	1		0755	96	1.	*	1		1410	171	74.	*	1		2025	246	3.
1		0145	22	0.	*	1		0800	97	1.	*	1		1415	172	71.	*	1		2030	247	3.
1		0150	23	0.	*	1		0805	98	1.	*	1		1420	173	67.	*	1		2035	248	3.
1		0155	24	0.	*	1		0810	99	1.	*	1		1425	174	64.	*	1		2040	249	3.
1		0200	25	0.	*	1		0815	100	1.	*	1		1430	175	61.	*	1		2045	250	2.
1		0205	26	0.	*	1		0820	101	1.	*	1		1435	176	59.	*	1		2050	251	2.
1		0210	27	0.	*	1		0825	102	1.	*	1		1440	177	56.	*	1		2055	252	2.
1		0215	28	0.	*	1		0830	103	1.	*	1		1445	178	53.	*	1		2100	253	2.

1	0220	29	0.	*	1	0835	104	1.	*	1	1450	179	51.	*	1	2105	254	2.
1	0225	30	0.	*	1	0840	105	1.	*	1	1455	180	49.	*	1	2110	255	2.
1	0230	31	0.	*	1	0845	106	1.	*	1	1500	181	47.	*	1	2115	256	2.
1	0235	32	0.	*	1	0850	107	1.	*	1	1505	182	44.	*	1	2120	257	2.
1	0240	33	0.	*	1	0855	108	1.	*	1	1510	183	42.	*	1	2125	258	2.
1	0245	34	0.	*	1	0900	109	1.	*	1	1515	184	41.	*	1	2130	259	2.
1	0250	35	0.	*	1	0905	110	1.	*	1	1520	185	39.	*	1	2135	260	2.
1	0255	36	0.	*	1	0910	111	1.	*	1	1525	186	37.	*	1	2140	261	2.
1	0300	37	0.	*	1	0915	112	1.	*	1	1530	187	35.	*	1	2145	262	1.
1	0305	38	0.	*	1	0920	113	1.	*	1	1535	188	34.	*	1	2150	263	1.
1	0310	39	0.	*	1	0925	114	1.	*	1	1540	189	32.	*	1	2155	264	1.
1	0315	40	0.	*	1	0930	115	1.	*	1	1545	190	31.	*	1	2200	265	1.
1	0320	41	0.	*	1	0935	116	1.	*	1	1550	191	29.	*	1	2205	266	1.
1	0325	42	0.	*	1	0940	117	1.	*	1	1555	192	28.	*	1	2210	267	1.
1	0330	43	0.	*	1	0945	118	1.	*	1	1600	193	27.	*	1	2215	268	1.
1	0335	44	0.	*	1	0950	119	1.	*	1	1605	194	26.	*	1	2220	269	1.
1	0340	45	0.	*	1	0955	120	1.	*	1	1610	195	25.	*	1	2225	270	1.
1	0345	46	0.	*	1	1000	121	1.	*	1	1615	196	23.	*	1	2230	271	1.
1	0350	47	0.	*	1	1005	122	1.	*	1	1620	197	22.	*	1	2235	272	1.
1	0355	48	0.	*	1	1010	123	1.	*	1	1625	198	21.	*	1	2240	273	1.
1	0400	49	0.	*	1	1015	124	1.	*	1	1630	199	21.	*	1	2245	274	1.
1	0405	50	0.	*	1	1020	125	1.	*	1	1635	200	20.	*	1	2250	275	1.
1	0410	51	0.	*	1	1025	126	1.	*	1	1640	201	19.	*	1	2255	276	1.
1	0415	52	0.	*	1	1030	127	1.	*	1	1645	202	18.	*	1	2300	277	0.
1	0420	53	0.	*	1	1035	128	1.	*	1	1650	203	17.	*	1	2305	278	0.
1	0425	54	0.	*	1	1040	129	1.	*	1	1655	204	16.	*	1	2310	279	0.
1	0430	55	0.	*	1	1045	130	1.	*	1	1700	205	16.	*	1	2315	280	0.
1	0435	56	0.	*	1	1050	131	1.	*	1	1705	206	15.	*	1	2320	281	0.
1	0440	57	0.	*	1	1055	132	1.	*	1	1710	207	14.	*	1	2325	282	0.
1	0445	58	0.	*	1	1100	133	1.	*	1	1715	208	14.	*	1	2330	283	0.
1	0450	59	0.	*	1	1105	134	1.	*	1	1720	209	13.	*	1	2335	284	0.
1	0455	60	0.	*	1	1110	135	1.	*	1	1725	210	13.	*	1	2340	285	0.
1	0500	61	0.	*	1	1115	136	1.	*	1	1730	211	12.	*	1	2345	286	0.
1	0505	62	0.	*	1	1120	137	1.	*	1	1735	212	12.	*	1	2350	287	0.
1	0510	63	0.	*	1	1125	138	1.	*	1	1740	213	11.	*	1	2355	288	0.
1	0515	64	0.	*	1	1130	139	1.	*	1	1745	214	11.	*	2	0000	289	0.
1	0520	65	0.	*	1	1135	140	1.	*	1	1750	215	10.	*	2	0005	290	0.
1	0525	66	0.	*	1	1140	141	1.	*	1	1755	216	10.	*	2	0010	291	0.
1	0530	67	0.	*	1	1145	142	1.	*	1	1800	217	9.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	2.	*	1	1805	218	9.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	2.	*	1	1810	219	8.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	2.	*	1	1815	220	8.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	6.	*	1	1820	221	8.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	17.	*	1	1825	222	7.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	38.	*	1	1830	223	7.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	62.	*	1	1835	224	7.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	86.	*	1	1840	225	7.	*	2	0055	300	0.
				*					*					*				

****

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 150.	12.83		55.	15.	14.	14.
		(INCHES)	.216	.231	.231	.231
		(AC-FT)	27.	29.	29.	29.

CUMULATIVE AREA = 2.38 SQ MI

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          ***************
          *             *
103 KK    *     L9.1d   *     Split Subbasin East of 27.25 Road
          *             *
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SUBBASIN RUNOFF DATA

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104 BA      SUBBASIN CHARACTERISTICS
                 TAREA          .34  SUBBASIN AREA

105 LG      GREEN AND AMPT LOSS RATE
                 STRTL          .10  STARTING LOSS
                   DTH          .12  MOISTURE DEFICIT
                  PSIF          .44  WETTING FRONT SUCTION
                 XKSAT          .02  HYDRAULIC CONDUCTIVITY
                 RTIMP        82.00  PERCENT IMPERVIOUS AREA

106 US      SNYDER UNITGRAPH
                    TP          .17  LAG
                    CP          .69  PEAKING COEFFICIENT

            SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=   .23 HR,       R=   .10 HR
                                   SNYDER   TP=   .17 HR,      CP=   .69

                                          UNIT HYDROGRAPH
                                       8 END-OF-PERIOD ORDINATES
              234.      702.      826.      507.      213.       89.       38.       16.
       ***             ***             ***             ***             ***

                 HYDROGRAPH AT STATION    L9.1d
                TRANSPOSITION AREA        .0 SQ MI
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TOTAL RAINFALL = 1.19, TOTAL LOSS = .08, TOTAL EXCESS = 1.11

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 244.	12.08		30.	10.	10.	10.
		(INCHES)	.813	1.102	1.103	1.103
		(AC-FT)	15.	20.	20.	20.

CUMULATIVE AREA = .34 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION L9.1d
TRANSPOSITION AREA 14.0 SQ MI

TOTAL RAINFALL = 1.17, TOTAL LOSS = .08, TOTAL EXCESS = 1.08

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
239.	12.08	29.	10.	10.	10.
		(INCHES) .796	1.079	1.080	1.080
		(AC-FT) 14.	20.	20.	20.

CUMULATIVE AREA = .34 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION L9.1d
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.15, TOTAL LOSS = .08, TOTAL EXCESS = 1.07

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
237.	12.08	29.	10.	9.	9.
		(INCHES) .787	1.067	1.068	1.068
		(AC-FT) 14.	19.	19.	19.

CUMULATIVE AREA = .34 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION L9.1d
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.14, TOTAL LOSS = .08, TOTAL EXCESS = 1.06

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
234.	12.08	29.	10.	9.	9.
		(INCHES) .779	1.055	1.056	1.056
		(AC-FT) 14.	19.	19.	19.

CUMULATIVE AREA = .34 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION L9.1d
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.13, TOTAL LOSS = .08, TOTAL EXCESS = 1.05

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
233.	12.08	28.	10.	9.	9.
		(INCHES) .773	1.048	1.049	1.049
		(AC-FT) 14.	19.	19.	19.

CUMULATIVE AREA = .34 SQ MI

INTERPOLATED HYDROGRAPH AT L9.1d

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	4.	1		1230	151	39.	1		1845	226	4.
1		0005	2	0.	1		0620	77	4.	1		1235	152	31.	1		1850	227	3.
1		0010	3	1.	1		0625	78	4.	1		1240	153	26.	1		1855	228	3.
1		0015	4	1.	1		0630	79	4.	1		1245	154	23.	1		1900	229	3.
1		0020	5	2.	1		0635	80	4.	1		1250	155	21.	1		1905	230	3.
1		0025	6	2.	1		0640	81	4.	1		1255	156	19.	1		1910	231	3.
1		0030	7	2.	1		0645	82	4.	1		1300	157	18.	1		1915	232	3.
1		0035	8	2.	1		0650	83	4.	1		1305	158	17.	1		1920	233	3.
1		0040	9	2.	1		0655	84	4.	1		1310	159	16.	1		1925	234	3.
1		0045	10	2.	1		0700	85	4.	1		1315	160	15.	1		1930	235	3.
1		0050	11	2.	1		0705	86	4.	1		1320	161	14.	1		1935	236	3.
1		0055	12	2.	1		0710	87	4.	1		1325	162	13.	1		1940	237	3.
1		0100	13	2.	1		0715	88	4.	1		1330	163	13.	1		1945	238	3.
1		0105	14	2.	1		0720	89	4.	1		1335	164	12.	1		1950	239	3.
1		0110	15	2.	1		0725	90	4.	1		1340	165	12.	1		1955	240	3.
1		0115	16	2.	1		0730	91	4.	1		1345	166	11.	1		2000	241	3.
1		0120	17	2.	1		0735	92	4.	1		1350	167	11.	1		2005	242	3.
1		0125	18	2.	1		0740	93	4.	1		1355	168	10.	1		2010	243	3.
1		0130	19	2.	1		0745	94	4.	1		1400	169	10.	1		2015	244	3.
1		0135	20	2.	1		0750	95	4.	1		1405	170	9.	1		2020	245	3.
1		0140	21	2.	1		0755	96	4.	1		1410	171	9.	1		2025	246	3.
1		0145	22	2.	1		0800	97	5.	1		1415	172	9.	1		2030	247	3.
1		0150	23	2.	1		0805	98	5.	1		1420	173	9.	1		2035	248	3.
1		0155	24	2.	1		0810	99	5.	1		1425	174	8.	1		2040	249	3.
1		0200	25	2.	1		0815	100	5.	1		1430	175	8.	1		2045	250	3.
1		0205	26	2.	1		0820	101	5.	1		1435	176	8.	1		2050	251	3.
1		0210	27	3.	1		0825	102	5.	1		1440	177	8.	1		2055	252	3.
1		0215	28	3.	1		0830	103	5.	1		1445	178	8.	1		2100	253	3.
1		0220	29	3.	1		0835	104	5.	1		1450	179	8.	1		2105	254	3.
1		0225	30	3.	1		0840	105	6.	1		1455	180	8.	1		2110	255	3.

1	0230	31	3.	*	1	0845	106	6.	*	1	1500	181	7.	*	1	2115	256	3.
1	0235	32	3.	*	1	0850	107	6.	*	1	1505	182	7.	*	1	2120	257	3.
1	0240	33	3.	*	1	0855	108	6.	*	1	1510	183	7.	*	1	2125	258	3.
1	0245	34	3.	*	1	0900	109	7.	*	1	1515	184	7.	*	1	2130	259	3.
1	0250	35	3.	*	1	0905	110	7.	*	1	1520	185	7.	*	1	2135	260	3.
1	0255	36	3.	*	1	0910	111	7.	*	1	1525	186	7.	*	1	2140	261	3.
1	0300	37	3.	*	1	0915	112	7.	*	1	1530	187	6.	*	1	2145	262	3.
1	0305	38	3.	*	1	0920	113	7.	*	1	1535	188	6.	*	1	2150	263	3.
1	0310	39	3.	*	1	0925	114	7.	*	1	1540	189	6.	*	1	2155	264	3.
1	0315	40	3.	*	1	0930	115	7.	*	1	1545	190	6.	*	1	2200	265	3.
1	0320	41	3.	*	1	0935	116	7.	*	1	1550	191	6.	*	1	2205	266	3.
1	0325	42	3.	*	1	0940	117	7.	*	1	1555	192	6.	*	1	2210	267	3.
1	0330	43	3.	*	1	0945	118	8.	*	1	1600	193	6.	*	1	2215	268	3.
1	0335	44	3.	*	1	0950	119	8.	*	1	1605	194	5.	*	1	2220	269	3.
1	0340	45	3.	*	1	0955	120	8.	*	1	1610	195	5.	*	1	2225	270	3.
1	0345	46	3.	*	1	1000	121	8.	*	1	1615	196	5.	*	1	2230	271	3.
1	0350	47	3.	*	1	1005	122	9.	*	1	1620	197	5.	*	1	2235	272	2.
1	0355	48	3.	*	1	1010	123	9.	*	1	1625	198	5.	*	1	2240	273	2.
1	0400	49	3.	*	1	1015	124	10.	*	1	1630	199	5.	*	1	2245	274	2.
1	0405	50	3.	*	1	1020	125	10.	*	1	1635	200	5.	*	1	2250	275	2.
1	0410	51	3.	*	1	1025	126	11.	*	1	1640	201	5.	*	1	2255	276	2.
1	0415	52	3.	*	1	1030	127	11.	*	1	1645	202	5.	*	1	2300	277	2.
1	0420	53	3.	*	1	1035	128	12.	*	1	1650	203	5.	*	1	2305	278	2.
1	0425	54	3.	*	1	1040	129	12.	*	1	1655	204	5.	*	1	2310	279	2.
1	0430	55	3.	*	1	1045	130	13.	*	1	1700	205	5.	*	1	2315	280	2.
1	0435	56	3.	*	1	1050	131	14.	*	1	1705	206	5.	*	1	2320	281	2.
1	0440	57	3.	*	1	1055	132	15.	*	1	1710	207	5.	*	1	2325	282	2.
1	0445	58	3.	*	1	1100	133	15.	*	1	1715	208	4.	*	1	2330	283	2.
1	0450	59	3.	*	1	1105	134	16.	*	1	1720	209	4.	*	1	2335	284	2.
1	0455	60	3.	*	1	1110	135	17.	*	1	1725	210	4.	*	1	2340	285	2.
1	0500	61	3.	*	1	1115	136	19.	*	1	1730	211	4.	*	1	2345	286	2.
1	0505	62	3.	*	1	1120	137	21.	*	1	1735	212	4.	*	1	2350	287	2.
1	0510	63	3.	*	1	1125	138	23.	*	1	1740	213	4.	*	1	2355	288	2.
1	0515	64	3.	*	1	1130	139	25.	*	1	1745	214	4.	*	2	0000	289	2.
1	0520	65	3.	*	1	1135	140	29.	*	1	1750	215	4.	*	2	0005	290	2.
1	0525	66	3.	*	1	1140	141	43.	*	1	1755	216	4.	*	2	0010	291	1.
1	0530	67	4.	*	1	1145	142	72.	*	1	1800	217	4.	*	2	0015	292	1.
1	0535	68	4.	*	1	1150	143	117.	*	1	1805	218	4.	*	2	0020	293	0.
1	0540	69	4.	*	1	1155	144	179.	*	1	1810	219	4.	*	2	0025	294	0.
1	0545	70	4.	*	1	1200	145	235.	*	1	1815	220	4.	*	2	0030	295	0.
1	0550	71	4.	*	1	1205	146	242.	*	1	1820	221	4.	*	2	0035	296	0.
1	0555	72	4.	*	1	1210	147	186.	*	1	1825	222	4.	*	2	0040	297	0.
1	0600	73	4.	*	1	1215	148	116.	*	1	1830	223	4.	*	2	0045	298	0.
1	0605	74	4.	*	1	1220	149	72.	*	1	1835	224	4.	*	2	0050	299	0.
1	0610	75	4.	*	1	1225	150	51.	*	1	1840	225	4.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 242.	12.08		29.	10.	10.	10.
		(INCHES)	.805	1.090	1.091	1.091
		(AC-FT)	15.	20.	20.	20.

CUMULATIVE AREA = .34 SQ MI

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          **************
          *            *
107 KK    *    R_L9T   *    Route Subbasin L9.1 Hydrograph Through L9
          *            *
          **************
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HYDROGRAPH ROUTING DATA

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108 RK      KINEMATIC WAVE STREAM ROUTING
                  L      4100.  CHANNEL LENGTH
                  S      .0110  SLOPE
                  N       .030  CHANNEL ROUGHNESS COEFFICIENT
                 CA        .00  CONTRIBUTING AREA
              SHAPE       TRAP  CHANNEL SHAPE
                 WD       5.00  BOTTOM WIDTH OR DIAMETER
                  Z       2.40  SIDE SLOPE
             NDXMIN          2  MINIMUM NUMBER OF DX INTERVALS
                                                    ***
                          COMPUTED KINEMATIC PARAMETERS
                              VARIABLE TIME STEP
                            (DT SHOWN IS A MINIMUM)
```

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.86	1.38	2.40	1366.67	241.57	728.12	1.10	9.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2001E+02 EXCESS= .0000E+00 OUTFLOW= .2004E+02 BASIN STORAGE= .1029E-01 PERCENT ERROR= -.2

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.86	1.38	5.00	236.50	730.00	1.10

*** *** *** *** ***

HYDROGRAPH AT STATION R_L9T
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 237.	12.17		30.	10.	10.	10.
		(INCHES)	.815	1.103	1.104	1.104
		(AC-FT)	15.	20.	20.	20.

CUMULATIVE AREA = .34 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.86	1.38	2.41	1366.67	237.79	729.58	1.08	9.88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1959E+02 EXCESS= .0000E+00 OUTFLOW= .1964E+02 BASIN STORAGE= .8895E-02 PERCENT ERROR= -.3

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.86	1.38	5.00		233.91	730.00	1.08
***	***	***	***		***		

HYDROGRAPH AT STATION R_L9T
TRANSPOSITION AREA 14.0 SQ MI

	PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)				
			(CFS)			
+	234.	12.17	29.	10.	10.	10.
			(INCHES) .799	1.081	1.083	1.083
			(AC-FT) 15.	20.	20.	20.

CUMULATIVE AREA = .34 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.86	1.38	2.42	1366.67	234.17	728.04	1.07	9.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1938E+02 EXCESS= .0000E+00 OUTFLOW= .1941E+02 BASIN STORAGE= .1016E-01 PERCENT ERROR= -.2

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.86	1.38	5.00		229.99	730.00	1.07
***	***	***	***		***		

HYDROGRAPH AT STATION R_L9T
TRANSPOSITION AREA 24.0 SQ MI

	PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)				
			(CFS)			
+	230.	12.17	29.	10.	9.	9.
			(INCHES) .789	1.068	1.069	1.069
			(AC-FT) 14.	19.	19.	19.

CUMULATIVE AREA = .34 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	.ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.86	1.38	2.39	1366.67	232.40	728.62	1.06	9.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1917E+02 EXCESS= .0000E+00 OUTFLOW= .1920E+02 BASIN STORAGE= .7581E-02 PERCENT ERROR= -.2

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.86	1.38	5.00		225.95	730.00	1.06
***	***	***	***		***		

HYDROGRAPH AT STATION R_L9T
TRANSPOSITION AREA 36.5 SQ MI

	PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)				
			(CFS)			
+	226.	12.17	29.	10.	9.	9.
			(INCHES) .781	1.057	1.058	1.058
			(AC-FT) 14.	19.	19.	19.

CUMULATIVE AREA = .34 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.86	1.38	2.44	1366.67	230.82	729.40	1.05	9.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1903E+02 EXCESS= .0000E+00 OUTFLOW= .1906E+02 BASIN STORAGE= .9390E-02 PERCENT ERROR= -.2

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.86	1.38	5.00	226.06	730.00	1.05
***	***	***	***	***		

HYDROGRAPH AT STATION R_L9T
TRANSPOSITION AREA 50.0 SQ MI

	PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)	(CFS)			
+	226.	12.17	28.	10.	9.	9.
			.775	1.049	1.050	1.050
			14.	19.	19.	19.

(INCHES)
(AC-FT)

CUMULATIVE AREA = .34 SQ MI

INTERPOLATED HYDROGRAPH AT R_L9T

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	4.	1		1230	151	60.	1		1845	226	4.
1		0005	2	0.	1		0620	77	4.	1		1235	152	45.	1		1850	227	4.
1		0010	3	0.	1		0625	78	4.	1		1240	153	36.	1		1855	228	4.
1		0015	4	0.	1		0630	79	4.	1		1245	154	30.	1		1900	229	4.
1		0020	5	0.	1		0635	80	4.	1		1250	155	25.	1		1905	230	3.
1		0025	6	0.	1		0640	81	4.	1		1255	156	22.	1		1910	231	3.
1		0030	7	0.	1		0645	82	4.	1		1300	157	20.	1		1915	232	3.
1		0035	8	1.	1		0650	83	4.	1		1305	158	19.	1		1920	233	3.
1		0040	9	1.	1		0655	84	4.	1		1310	159	18.	1		1925	234	3.
1		0045	10	2.	1		0700	85	4.	1		1315	160	17.	1		1930	235	3.
1		0050	11	2.	1		0705	86	4.	1		1320	161	16.	1		1935	236	3.
1		0055	12	2.	1		0710	87	4.	1		1325	162	15.	1		1940	237	3.
1		0100	13	2.	1		0715	88	4.	1		1330	163	14.	1		1945	238	3.
1		0105	14	2.	1		0720	89	4.	1		1335	164	14.	1		1950	239	3.
1		0110	15	2.	1		0725	90	4.	1		1340	165	13.	1		1955	240	3.
1		0115	16	2.	1		0730	91	4.	1		1345	166	12.	1		2000	241	3.
1		0120	17	2.	1		0735	92	4.	1		1350	167	12.	1		2005	242	3.
1		0125	18	2.	1		0740	93	4.	1		1355	168	11.	1		2010	243	3.
1		0130	19	2.	1		0745	94	4.	1		1400	169	11.	1		2015	244	3.
1		0135	20	2.	1		0750	95	4.	1		1405	170	10.	1		2020	245	3.
1		0140	21	2.	1		0755	96	4.	1		1410	171	10.	1		2025	246	3.
1		0145	22	2.	1		0800	97	4.	1		1415	172	10.	1		2030	247	3.
1		0150	23	2.	1		0805	98	4.	1		1420	173	9.	1		2035	248	3.
1		0155	24	2.	1		0810	99	4.	1		1425	174	9.	1		2040	249	3.
1		0200	25	2.	1		0815	100	5.	1		1430	175	9.	1		2045	250	3.
1		0205	26	2.	1		0820	101	5.	1		1435	176	8.	1		2050	251	3.
1		0210	27	2.	1		0825	102	5.	1		1440	177	8.	1		2055	252	3.
1		0215	28	2.	1		0830	103	5.	1		1445	178	8.	1		2100	253	3.
1		0220	29	2.	1		0835	104	5.	1		1450	179	8.	1		2105	254	3.
1		0225	30	3.	1		0840	105	5.	1		1455	180	8.	1		2110	255	3.
1		0230	31	3.	1		0845	106	5.	1		1500	181	8.	1		2115	256	3.
1		0235	32	3.	1		0850	107	6.	1		1505	182	8.	1		2120	257	3.
1		0240	33	3.	1		0855	108	6.	1		1510	183	7.	1		2125	258	3.
1		0245	34	3.	1		0900	109	6.	1		1515	184	7.	1		2130	259	3.
1		0250	35	3.	1		0905	110	6.	1		1520	185	7.	1		2135	260	3.
1		0255	36	3.	1		0910	111	6.	1		1525	186	7.	1		2140	261	3.
1		0300	37	3.	1		0915	112	7.	1		1530	187	7.	1		2145	262	3.
1		0305	38	3.	1		0920	113	7.	1		1535	188	7.	1		2150	263	3.
1		0310	39	3.	1		0925	114	7.	1		1540	189	6.	1		2155	264	3.
1		0315	40	3.	1		0930	115	7.	1		1545	190	6.	1		2200	265	3.
1		0320	41	3.	1		0935	116	7.	1		1550	191	6.	1		2205	266	3.
1		0325	42	3.	1		0940	117	7.	1		1555	192	6.	1		2210	267	3.
1		0330	43	3.	1		0945	118	7.	1		1600	193	6.	1		2215	268	3.
1		0335	44	3.	1		0950	119	7.	1		1605	194	6.	1		2220	269	3.
1		0340	45	3.	1		0955	120	7.	1		1610	195	6.	1		2225	270	3.
1		0345	46	3.	1		1000	121	8.	1		1615	196	5.	1		2230	271	3.
1		0350	47	3.	1		1005	122	8.	1		1620	197	5.	1		2235	272	3.
1		0355	48	3.	1		1010	123	8.	1		1625	198	5.	1		2240	273	3.
1		0400	49	3.	1		1015	124	9.	1		1630	199	5.	1		2245	274	3.
1		0405	50	3.	1		1020	125	9.	1		1635	200	5.	1		2250	275	2.
1		0410	51	3.	1		1025	126	10.	1		1640	201	5.	1		2255	276	2.
1		0415	52	3.	1		1030	127	10.	1		1645	202	5.	1		2300	277	2.
1		0420	53	3.	1		1035	128	11.	1		1650	203	5.	1		2305	278	2.
1		0425	54	3.	1		1040	129	11.	1		1655	204	5.	1		2310	279	2.
1		0430	55	3.	1		1045	130	12.	1		1700	205	5.	1		2315	280	2.
1		0435	56	3.	1		1050	131	12.	1		1705	206	5.	1		2320	281	2.
1		0440	57	3.	1		1055	132	13.	1		1710	207	5.	1		2325	282	2.
1		0445	58	3.	1		1100	133	14.	1		1715	208	5.	1		2330	283	2.
1		0450	59	3.	1		1105	134	15.	1		1720	209	5.	1		2335	284	2.
1		0455	60	3.	1		1110	135	15.	1		1725	210	5.	1		2340	285	2.
1		0500	61	3.	1		1115	136	16.	1		1730	211	4.	1		2345	286	2.
1		0505	62	3.	1		1120	137	18.	1		1735	212	4.	1		2350	287	2.
1		0510	63	3.	1		1125	138	19.	1		1740	213	4.	1		2355	288	2.
1		0515	64	3.	1		1130	139	21.	1		1745	214	4.	2		0000	289	2.
1		0520	65	3.	1		1135	140	23.	1		1750	215	4.	2		0005	290	2.
1		0525	66	3.	1		1140	141	26.	1		1755	216	4.	2		0010	291	2.
1		0530	67	3.	1		1145	142	36.	1		1800	217	4.	2		0015	292	2.
1		0535	68	3.	1		1150	143	61.	1		1805	218	4.	2		0020	293	2.
1		0540	69	3.	1		1155	144	109.	1		1810	219	4.	2		0025	294	2.
1		0545	70	4.	1		1200	145	177.	1		1815	220	4.	2		0030	295	1.
1		0550	71	4.	1		1205	146	233.	1		1820	221	4.	2		0035	296	1.
1		0555	72	4.	1		1210	147	235.	1		1825	222	4.	2		0040	297	1.
1		0600	73	4.	1		1215	148	184.	1		1830	223	4.	2		0045	298	1.
1		0605	74	4.	1		1220	149	126.	1		1835	224	4.	2		0050	299	0.
1		0610	75	4.	1		1225	150	85.	1		1840	225	4.	2		0055	300	0.

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR

+	(CFS)	(HR)					
			(CFS)				
	235.	12.17		30.	10.	10.	10.
			(INCHES)	.807	1.093	1.094	1.094
			(AC-FT)	15.	20.	20.	20.

CUMULATIVE AREA = .34 SQ MI

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109 KK C_9.1 Combine basin 9.1u and 9.1d

110 HC HYDROGRAPH COMBINATION

ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

*** *** *** *** *** ***

HYDROGRAPH AT STATION C_9.1
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 255.	12.17		85.	25.	25.	25.
		(INCHES)	.289	.348	.348	.348
		(AC-FT)	42.	51.	51.	51.

CUMULATIVE AREA = 2.72 SQ MI

*** *** *** *** *** ***

HYDROGRAPH AT STATION C_9.1
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 251.	12.17		81.	24.	24.	24.
		(INCHES)	.277	.334	.334	.334
		(AC-FT)	40.	49.	49.	49.

CUMULATIVE AREA = 2.72 SQ MI

*** *** *** *** *** ***

HYDROGRAPH AT STATION C_9.1
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 246.	12.17		79.	24.	23.	23.
		(INCHES)	.270	.327	.327	.327
		(AC-FT)	39.	47.	47.	47.

CUMULATIVE AREA = 2.72 SQ MI

*** *** *** *** *** ***

HYDROGRAPH AT STATION C_9.1
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 241.	12.17		77.	23.	23.	23.
		(INCHES)	.264	.319	.320	.320
		(AC-FT)	38.	46.	46.	46.

CUMULATIVE AREA = 2.72 SQ MI

*** *** *** *** *** ***

HYDROGRAPH AT STATION C_9.1
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 240.	12.17		76.	23.	22.	22.
		(INCHES)	.259	.314	.315	.315
		(AC-FT)	38.	46.	46.	46.

CUMULATIVE AREA = 2.72 SQ MI

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INTERPOLATED HYDROGRAPH AT C_9.1

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DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	4.	1		1230	151	167.	1		1845	226	10.

1	0005	2	0.	*	1	0620	77	4.	*	1	1235	152	170.	*	1	1850	227	10.
1	0010	3	0.	*	1	0625	78	4.	*	1	1240	153	175.	*	1	1855	228	9.
1	0015	4	0.	*	1	0630	79	4.	*	1	1245	154	176.	*	1	1900	229	9.
1	0020	5	0.	*	1	0635	80	4.	*	1	1250	155	175.	*	1	1905	230	9.
1	0025	6	0.	*	1	0640	81	4.	*	1	1255	156	169.	*	1	1910	231	9.
1	0030	7	0.	*	1	0645	82	4.	*	1	1300	157	161.	*	1	1915	232	8.
1	0035	8	1.	*	1	0650	83	4.	*	1	1305	158	154.	*	1	1920	233	8.
1	0040	9	1.	*	1	0655	84	5.	*	1	1310	159	146.	*	1	1925	234	8.
1	0045	10	2.	*	1	0700	85	5.	*	1	1315	160	139.	*	1	1930	235	8.
1	0050	11	2.	*	1	0705	86	5.	*	1	1320	161	133.	*	1	1935	236	7.
1	0055	12	2.	*	1	0710	87	5.	*	1	1325	162	127.	*	1	1940	237	7.
1	0100	13	2.	*	1	0715	88	5.	*	1	1330	163	121.	*	1	1945	238	7.
1	0105	14	2.	*	1	0720	89	5.	*	1	1335	164	116.	*	1	1950	239	7.
1	0110	15	2.	*	1	0725	90	5.	*	1	1340	165	110.	*	1	1955	240	7.
1	0115	16	2.	*	1	0730	91	5.	*	1	1345	166	105.	*	1	2000	241	6.
1	0120	17	2.	*	1	0735	92	5.	*	1	1350	167	101.	*	1	2005	242	6.
1	0125	18	2.	*	1	0740	93	5.	*	1	1355	168	96.	*	1	2010	243	6.
1	0130	19	2.	*	1	0745	94	5.	*	1	1400	169	92.	*	1	2015	244	6.
1	0135	20	2.	*	1	0750	95	5.	*	1	1405	170	88.	*	1	2020	245	6.
1	0140	21	2.	*	1	0755	96	5.	*	1	1410	171	84.	*	1	2025	246	6.
1	0145	22	2.	*	1	0800	97	5.	*	1	1415	172	80.	*	1	2030	247	5.
1	0150	23	2.	*	1	0805	98	5.	*	1	1420	173	76.	*	1	2035	248	5.
1	0155	24	3.	*	1	0810	99	5.	*	1	1425	174	73.	*	1	2040	249	5.
1	0200	25	3.	*	1	0815	100	5.	*	1	1430	175	70.	*	1	2045	250	5.
1	0205	26	3.	*	1	0820	101	5.	*	1	1435	176	67.	*	1	2050	251	5.
1	0210	27	3.	*	1	0825	102	5.	*	1	1440	177	64.	*	1	2055	252	5.
1	0215	28	3.	*	1	0830	103	5.	*	1	1445	178	61.	*	1	2100	253	5.
1	0220	29	3.	*	1	0835	104	6.	*	1	1450	179	59.	*	1	2105	254	5.
1	0225	30	3.	*	1	0840	105	6.	*	1	1455	180	56.	*	1	2110	255	5.
1	0230	31	3.	*	1	0845	106	6.	*	1	1500	181	54.	*	1	2115	256	5.
1	0235	32	3.	*	1	0850	107	6.	*	1	1505	182	52.	*	1	2120	257	5.
1	0240	33	3.	*	1	0855	108	6.	*	1	1510	183	50.	*	1	2125	258	4.
1	0245	34	3.	*	1	0900	109	7.	*	1	1515	184	48.	*	1	2130	259	4.
1	0250	35	3.	*	1	0905	110	7.	*	1	1520	185	46.	*	1	2135	260	4.
1	0255	36	3.	*	1	0910	111	7.	*	1	1525	186	44.	*	1	2140	261	4.
1	0300	37	3.	*	1	0915	112	7.	*	1	1530	187	42.	*	1	2145	262	4.
1	0305	38	3.	*	1	0920	113	8.	*	1	1535	188	40.	*	1	2150	263	4.
1	0310	39	3.	*	1	0925	114	8.	*	1	1540	189	39.	*	1	2155	264	4.
1	0315	40	3.	*	1	0930	115	8.	*	1	1545	190	37.	*	1	2200	265	3.
1	0320	41	3.	*	1	0935	116	8.	*	1	1550	191	36.	*	1	2205	266	3.
1	0325	42	3.	*	1	0940	117	8.	*	1	1555	192	34.	*	1	2210	267	3.
1	0330	43	3.	*	1	0945	118	8.	*	1	1600	193	33.	*	1	2215	268	3.
1	0335	44	3.	*	1	0950	119	8.	*	1	1605	194	31.	*	1	2220	269	3.
1	0340	45	3.	*	1	0955	120	8.	*	1	1610	195	30.	*	1	2225	270	3.
1	0345	46	3.	*	1	1000	121	8.	*	1	1615	196	29.	*	1	2230	271	3.
1	0350	47	3.	*	1	1005	122	9.	*	1	1620	197	28.	*	1	2235	272	3.
1	0355	48	3.	*	1	1010	123	9.	*	1	1625	198	27.	*	1	2240	273	3.
1	0400	49	3.	*	1	1015	124	9.	*	1	1630	199	26.	*	1	2245	274	3.
1	0405	50	3.	*	1	1020	125	10.	*	1	1635	200	25.	*	1	2250	275	3.
1	0410	51	3.	*	1	1025	126	10.	*	1	1640	201	24.	*	1	2255	276	3.
1	0415	52	3.	*	1	1030	127	11.	*	1	1645	202	23.	*	1	2300	277	3.
1	0420	53	3.	*	1	1035	128	11.	*	1	1650	203	22.	*	1	2305	278	3.
1	0425	54	3.	*	1	1040	129	12.	*	1	1655	204	21.	*	1	2310	279	3.
1	0430	55	3.	*	1	1045	130	12.	*	1	1700	205	20.	*	1	2315	280	3.
1	0435	56	3.	*	1	1050	131	13.	*	1	1705	206	20.	*	1	2320	281	3.
1	0440	57	3.	*	1	1055	132	14.	*	1	1710	207	19.	*	1	2325	282	3.
1	0445	58	3.	*	1	1100	133	15.	*	1	1715	208	18.	*	1	2330	283	3.
1	0450	59	4.	*	1	1105	134	16.	*	1	1720	209	18.	*	1	2335	284	3.
1	0455	60	4.	*	1	1110	135	16.	*	1	1725	210	17.	*	1	2340	285	3.
1	0500	61	4.	*	1	1115	136	17.	*	1	1730	211	16.	*	1	2345	286	3.
1	0505	62	4.	*	1	1120	137	19.	*	1	1735	212	16.	*	1	2350	287	3.
1	0510	63	4.	*	1	1125	138	20.	*	1	1740	213	15.	*	1	2355	288	3.
1	0515	64	4.	*	1	1130	139	22.	*	1	1745	214	15.	*	2	0000	289	3.
1	0520	65	4.	*	1	1135	140	24.	*	1	1750	215	14.	*	2	0005	290	3.
1	0525	66	4.	*	1	1140	141	27.	*	1	1755	216	14.	*	2	0010	291	3.
1	0530	67	4.	*	1	1145	142	37.	*	1	1800	217	13.	*	2	0015	292	3.
1	0535	68	4.	*	1	1150	143	62.	*	1	1805	218	13.	*	2	0020	293	3.
1	0540	69	4.	*	1	1155	144	110.	*	1	1810	219	13.	*	2	0025	294	2.
1	0545	70	4.	*	1	1200	145	178.	*	1	1815	220	12.	*	2	0030	295	2.
1	0550	71	4.	*	1	1205	146	239.	*	1	1820	221	12.	*	2	0035	296	1.
1	0555	72	4.	*	1	1210	147	252.	*	1	1825	222	11.	*	2	0040	297	1.
1	0600	73	4.	*	1	1215	148	221.	*	1	1830	223	11.	*	2	0045	298	1.
1	0605	74	4.	*	1	1220	149	187.	*	1	1835	224	11.	*	2	0050	299	1.
1	0610	75	4.	*	1	1225	150	169.	*	1	1840	225	10.	*	2	0055	300	1.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 252.	12.17		82.	25.	24.	24.
		(INCHES)	.280	.337	.338	.338
		(AC-FT)	41.	49.	49.	49.

CUMULATIVE AREA = 2.72 SQ MI

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          *             *
111 KK    *    R_L9.1   *       Detention Pond L9.1
          *             *
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HYDROGRAPH ROUTING DATA

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112 RS          STORAGE ROUTING
                     NSTPS          1  NUMBER OF SUBREACHES
                      ITYP       STOR  TYPE OF INITIAL CONDITION
                    RSVRIC         .00  INITIAL CONDITION
                         X         .00 WORKING R AND D COEFFICIENT

113 SV            STORAGE          .0       6.3      12.9      19.8      26.9      34.2      41.7      49.5      57.5      65.8

114 SQ          DISCHARGE          0.       0.        0.       16.       44.       81.      130.      221.      266.      285.

115 SE          ELEVATION     4770.00   4772.00   4773.00   4774.00   4775.00   4776.00   4777.00   4778.00   4779.00   4780.00
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HYDROGRAPH AT STATION R_L9.1
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 63.	14.75		49.	17.	16.	16.
		(INCHES)	.167	.230	.230	.230
		(AC-FT)	24.	33.	33.	33.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
31.	14.75	28.	13.	13.	13.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
4775.52	14.75	4775.12	4772.68	4772.58	4772.58

CUMULATIVE AREA = 2.72 SQ MI

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HYDROGRAPH AT STATION R_L9.1
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 59.	14.83		46.	16.	15.	15.
		(INCHES)	.156	.216	.216	.216
		(AC-FT)	23.	31.	31.	31.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
30.	14.83	27.	13.	13.	13.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
4775.41	14.83	4775.03	4772.65	4772.55	4772.55

CUMULATIVE AREA = 2.72 SQ MI

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HYDROGRAPH AT STATION R_L9.1
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 56.	14.83		44.	15.	15.	15.
		(INCHES)	.151	.209	.209	.209
		(AC-FT)	22.	30.	30.	30.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
29.	14.83	27.	13.	12.	12.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
4775.34	14.83	4774.98	4772.62	4772.53	4772.53

CUMULATIVE AREA = 2.72 SQ MI

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HYOROGRAPH AT STATION R_L9.1
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 54.	14.83		43.	15.	14.	14.
		(INCHES)	.145	.202	.202	.202
		(AC-FT)	21.	29.	29.	29.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
29.	14.83	26.	13.	12.	12.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
4775.28	14.83	4774.93	4772.60	4772.51	4772.51

CUMULATIVE AREA = 2.72 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R_L9.1
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW

			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 53.	14.92		41.	14.	14.	14.
		(INCHES)	.142	.198	.198	.198
		(AC-FT)	21.	29.	29.	29.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
29.	14.92	26.	13.	12.	12.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
4775.24	14.83	4774.90	4772.59	4772.50	4772.50

CUMULATIVE AREA = 2.72 SQ MI

INTERPOLATED HYDROGRAPH AT R_L9.1

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	7.	1		1845	226	31.
1		0005	2	0.	1		0620	77	0.	1		1235	152	9.	1		1850	227	30.
1		0010	3	0.	1		0625	78	0.	1		1240	153	12.	1		1855	228	30.
1		0015	4	0.	1		0630	79	0.	1		1245	154	14.	1		1900	229	29.
1		0020	5	0.	1		0635	80	0.	1		1250	155	17.	1		1905	230	29.
1		0025	6	0.	1		0640	81	0.	1		1255	156	22.	1		1910	231	28.
1		0030	7	0.	1		0645	82	0.	1		1300	157	25.	1		1915	232	27.
1		0035	8	0.	1		0650	83	0.	1		1305	158	29.	1		1920	233	27.
1		0040	9	0.	1		0655	84	0.	1		1310	159	32.	1		1925	234	26.
1		0045	10	0.	1		0700	85	0.	1		1315	160	35.	1		1930	235	26.
1		0050	11	0.	1		0705	86	0.	1		1320	161	38.	1		1935	236	25.
1		0055	12	0.	1		0710	87	0.	1		1325	162	41.	1		1940	237	25.
1		0100	13	0.	1		0715	88	0.	1		1330	163	43.	1		1945	238	24.
1		0105	14	0.	1		0720	89	0.	1		1335	164	45.	1		1950	239	24.
1		0110	15	0.	1		0725	90	0.	1		1340	165	47.	1		1955	240	24.
1		0115	16	0.	1		0730	91	0.	1		1345	166	49.	1		2000	241	23.
1		0120	17	0.	1		0735	92	0.	1		1350	167	51.	1		2005	242	23.
1		0125	18	0.	1		0740	93	0.	1		1355	168	53.	1		2010	243	22.
1		0130	19	0.	1		0745	94	0.	1		1400	169	54.	1		2015	244	22.
1		0135	20	0.	1		0750	95	0.	1		1405	170	55.	1		2020	245	21.
1		0140	21	0.	1		0755	96	0.	1		1410	171	56.	1		2025	246	21.
1		0145	22	0.	1		0800	97	0.	1		1415	172	57.	1		2030	247	20.
1		0150	23	0.	1		0805	98	0.	1		1420	173	58.	1		2035	248	20.
1		0155	24	0.	1		0810	99	0.	1		1425	174	59.	1		2040	249	20.
1		0200	25	0.	1		0815	100	0.	1		1430	175	59.	1		2045	250	19.
1		0205	26	0.	1		0820	101	0.	1		1435	176	59.	1		2050	251	19.
1		0210	27	0.	1		0825	102	0.	1		1440	177	60.	1		2055	252	18.
1		0215	28	0.	1		0830	103	0.	1		1445	178	60.	1		2100	253	18.
1		0220	29	0.	1		0835	104	0.	1		1450	179	60.	1		2105	254	18.
1		0225	30	0.	1		0840	105	0.	1		1455	180	60.	1		2110	255	17.
1		0230	31	0.	1		0845	106	0.	1		1500	181	59.	1		2115	256	17.
1		0235	32	0.	1		0850	107	0.	1		1505	182	59.	1		2120	257	17.
1		0240	33	0.	1		0855	108	0.	1		1510	183	59.	1		2125	258	16.
1		0245	34	0.	1		0900	109	0.	1		1515	184	59.	1		2130	259	16.
1		0250	35	0.	1		0905	110	0.	1		1520	185	58.	1		2135	260	16.
1		0255	36	0.	1		0910	111	0.	1		1525	186	58.	1		2140	261	16.
1		0300	37	0.	1		0915	112	0.	1		1530	187	57.	1		2145	262	15.
1		0305	38	0.	1		0920	113	0.	1		1535	188	57.	1		2150	263	15.
1		0310	39	0.	1		0925	114	0.	1		1540	189	56.	1		2155	264	15.
1		0315	40	0.	1		0930	115	0.	1		1545	190	56.	1		2200	265	15.
1		0320	41	0.	1		0935	116	0.	1		1550	191	55.	1		2205	266	15.
1		0325	42	0.	1		0940	117	0.	1		1555	192	54.	1		2210	267	14.
1		0330	43	0.	1		0945	118	0.	1		1600	193	53.	1		2215	268	14.
1		0335	44	0.	1		0950	119	0.	1		1605	194	53.	1		2220	269	14.
1		0340	45	0.	1		0955	120	0.	1		1610	195	52.	1		2225	270	14.
1		0345	46	0.	1		1000	121	0.	1		1615	196	51.	1		2230	271	14.
1		0350	47	0.	1		1005	122	0.	1		1620	197	50.	1		2235	272	14.
1		0355	48	0.	1		1010	123	0.	1		1625	198	50.	1		2240	273	13.
1		0400	49	0.	1		1015	124	0.	1		1630	199	49.	1		2245	274	13.
1		0405	50	0.	1		1020	125	0.	1		1635	200	48.	1		2250	275	13.
1		0410	51	0.	1		1025	126	0.	1		1640	201	47.	1		2255	276	13.
1		0415	52	0.	1		1030	127	0.	1		1645	202	46.	1		2300	277	13.
1		0420	53	0.	1		1035	128	0.	1		1650	203	46.	1		2305	278	13.
1		0425	54	0.	1		1040	129	0.	1		1655	204	45.	1		2310	279	12.
1		0430	55	0.	1		1045	130	0.	1		1700	205	44.	1		2315	280	12.
1		0435	56	0.	1		1050	131	0.	1		1705	206	43.	1		2320	281	12.
1		0440	57	0.	1		1055	132	0.	1		1710	207	43.	1		2325	282	12.
1		0445	58	0.	1		1100	133	0.	1		1715	208	42.	1		2330	283	12.
1		0450	59	0.	1		1105	134	0.	1		1720	209	41.	1		2335	284	12.
1		0455	60	0.	1		1110	135	0.	1		1725	210	41.	1		2340	285	12.
1		0500	61	0.	1		1115	136	0.	1		1730	211	40.	1		2345	286	12.
1		0505	62	0.	1		1120	137	0.	1		1735	212	39.	1		2350	287	11.
1		0510	63	0.	1		1125	138	0.	1		1740	213	39.	1		2355	288	11.
1		0515	64	0.	1		1130	139	0.	1		1745	214	38.	2		0000	289	11.
1		0520	65	0.	1		1135	140	0.	1		1750	215	37.	2		0005	290	11.
1		0525	66	0.	1		1140	141	0.	1		1755	216	37.	2		0010	291	11.
1		0530	67	0.	1		1145	142	0.	1		1800	217	36.	2		0015	292	11.
1		0535	68	0.	1		1150	143	0.	1		1805	218	36.	2		0020	293	11.
1		0540	69	0.	1		1155	144	0.	1		1810	219	35.	2		0025	294	10.
1		0545	70	0.	1		1200	145	0.	1		1815	220	34.	2		0030	295	10.
1		0550	71	0.	1		1205	146	0.	1		1820	221	34.	2		0035	296	10.
1		0555	72	0.	1		1210	147	0.	1		1825	222	33.	2		0040	297	10.
1		0600	73	0.	1		1215	148	0.	1		1830	223	33.	2		0045	298	10.
1		0605	74	0.	1		1220	149	1.	1		1835	224	32.	2		0050	299	10.
1		0610	75	0.	1		1225	150	4.	1		1840	225	31.	2		0055	300	10.

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
+ 60.	14.83	(CFS) 46.	16.	15.	15.
		(INCHES) .159	.219	.219	.219
		(AC-FT) 23.	32.	32.	32.

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                    CUMULATIVE AREA =    2.72 SQ MI


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          *             *
116 KK    *       L9    *      Subbasin
          *             *
          ***************

            SUBBASIN RUNOFF DATA

117 BA        SUBBASIN CHARACTERISTICS
                  TAREA         .21  SUBBASIN AREA

118 LG        GREEN AND AMPT LOSS RATE
                  STRTL         .74  STARTING LOSS
                    DTH         .64  MOISTURE DEFICIT
                   PSIF        1.83  WETTING FRONT SUCTION
                  XKSAT         .11  HYDRAULIC CONDUCTIVITY
                  RTIMP       21.00  PERCENT IMPERVIOUS AREA

119 US        SNYDER UNITGRAPH
                     TP         .21  LAG
                     CP         .26  PEAKING COEFFICIENT

              SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                    ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=   .16 HR,       R=   .76 HR
                                   SNYDER   TP=   .22 HR,      CP=   .25

                                          UNIT HYDROGRAPH
                                    50 END-OF-PERIOD ORDINATES
              42.     120.     148.     133.     119.     107.      96.      86.      77.      69.
              62.      55.      49.      44.      40.      36.      32.      29.      26.      23.
              21.      18.      17.      15.      13.      12.      11.      10.       9.       8.
               7.       6.       6.       5.       4.       4.       4.       3.       3.       3.
               2.       2.       2.       2.       1.       1.       1.       1.       1.       1.

      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION       L9
                   TRANSPOSITION AREA       .0 SQ MI

     TOTAL RAINFALL =   1.19, TOTAL LOSS =     .94, TOTAL EXCESS =     .25

    PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR     24.92-HR
      (CFS)       (HR)
                    (CFS)
+       14.     12.08                4.           1.           1.           1.
                (INCHES)          .175         .247         .248         .248
                (AC-FT)              2.           3.           3.           3.

                 CUMULATIVE AREA =     .21 SQ MI

      ***             ***             ***             ***             ***

                    HYOROGRAPH AT STATION       L9
                   TRANSPOSITION AREA     14.0 SQ MI

     TOTAL RAINFALL =   1.17, TOTAL LOSS =     .92, TOTAL EXCESS =     .24

    PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR     24.92-HR
+     (CFS)       (HR)
                    (CFS)
+       13.     12.08                4.           1.           1.           1.
                (INCHES)          .171         .242         .243         .243
                (AC-FT)              2.           3.           3.           3.

                 CUMULATIVE AREA =     .21 SQ MI

      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION       L9
                   TRANSPOSITION AREA     24.0 SQ MI

     TOTAL RAINFALL =   1.15, TOTAL LOSS =     .91, TOTAL EXCESS =     .24

    PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR     24.92-HR
+     (CFS)       (HR)
                    (CFS)
+       13.     12.08                4.           1.           1.           1.
                (INCHES)          .169         .240         .241         .241
                (AC-FT)              2.           3.           3.           3.

                 CUMULATIVE AREA =     .21 SQ MI

      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION       L9
                   TRANSPOSITION AREA     36.5 SQ MI

     TOTAL RAINFALL =   1.14, TOTAL LOSS =     .90, TOTAL EXCESS =     .24

    PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR     24.92-HR
+     (CFS)       (HR)
                    (CFS)
+       13.     12.08                4.           1.           1.           1.
                (INCHES)          .168         .237         .238         .238
                (AC-FT)              2.           3.           3.           3.
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CUMULATIVE AREA = .21 SQ MI

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HYDROGRAPH AT STATION L9
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.13, TOTAL LOSS = .90, TOTAL EXCESS = .24

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
13.	12.08	4.	1.	1.	1.
		(INCHES) .166	.236	.236	.236
		(AC-FT) 2.	3.	3.	3.

CUMULATIVE AREA = .21 SQ MI

INTERPOLATED HYDROGRAPH AT L9

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	1.	1		1230	151	10.	1		1845	226	1.
1		0005	2	0.	1		0620	77	1.	1		1235	152	10.	1		1850	227	1.
1		0010	3	0.	1		0625	78	1.	1		1240	153	9.	1		1855	228	1.
1		0015	4	0.	1		0630	79	1.	1		1245	154	8.	1		1900	229	1.
1		0020	5	0.	1		0635	80	1.	1		1250	155	8.	1		1905	230	1.
1		0025	6	0.	1		0640	81	1.	1		1255	156	7.	1		1910	231	1.
1		0030	7	0.	1		0645	82	1.	1		1300	157	7.	1		1915	232	1.
1		0035	8	0.	1		0650	83	1.	1		1305	158	6.	1		1920	233	1.
1		0040	9	0.	1		0655	84	1.	1		1310	159	6.	1		1925	234	1.
1		0045	10	0.	1		0700	85	1.	1		1315	160	5.	1		1930	235	1.
1		0050	11	0.	1		0705	86	1.	1		1320	161	5.	1		1935	236	1.
1		0055	12	0.	1		0710	87	1.	1		1325	162	5.	1		1940	237	1.
1		0100	13	0.	1		0715	88	1.	1		1330	163	4.	1		1945	238	1.
1		0105	14	0.	1		0720	89	1.	1		1335	164	4.	1		1950	239	1.
1		0110	15	0.	1		0725	90	1.	1		1340	165	4.	1		1955	240	0.
1		0115	16	0.	1		0730	91	1.	1		1345	166	3.	1		2000	241	0.
1		0120	17	0.	1		0735	92	1.	1		1350	167	3.	1		2005	242	0.
1		0125	18	0.	1		0740	93	1.	1		1355	168	3.	1		2010	243	0.
1		0130	19	0.	1		0745	94	1.	1		1400	169	3.	1		2015	244	0.
1		0135	20	0.	1		0750	95	1.	1		1405	170	3.	1		2020	245	0.
1		0140	21	0.	1		0755	96	1.	1		1410	171	3.	1		2025	246	0.
1		0145	22	0.	1		0800	97	1.	1		1415	172	2.	1		2030	247	0.
1		0150	23	0.	1		0805	98	1.	1		1420	173	2.	1		2035	248	0.
1		0155	24	0.	1		0810	99	1.	1		1425	174	2.	1		2040	249	0.
1		0200	25	0.	1		0815	100	1.	1		1430	175	2.	1		2045	250	0.
1		0205	26	0.	1		0820	101	1.	1		1435	176	2.	1		2050	251	0.
1		0210	27	0.	1		0825	102	1.	1		1440	177	2.	1		2055	252	0.
1		0215	28	0.	1		0830	103	1.	1		1445	178	2.	1		2100	253	0.
1		0220	29	0.	1		0835	104	1.	1		1450	179	2.	1		2105	254	0.
1		0225	30	0.	1		0840	105	1.	1		1455	180	2.	1		2110	255	0.
1		0230	31	0.	1		0845	106	1.	1		1500	181	2.	1		2115	256	0.
1		0235	32	0.	1		0850	107	1.	1		1505	182	2.	1		2120	257	0.
1		0240	33	0.	1		0855	108	1.	1		1510	183	1.	1		2125	258	0.
1		0245	34	0.	1		0900	109	1.	1		1515	184	1.	1		2130	259	0.
1		0250	35	0.	1		0905	110	1.	1		1520	185	1.	1		2135	260	0.
1		0255	36	0.	1		0910	111	1.	1		1525	186	1.	1		2140	261	0.
1		0300	37	0.	1		0915	112	1.	1		1530	187	1.	1		2145	262	0.
1		0305	38	0.	1		0920	113	1.	1		1535	188	1.	1		2150	263	0.
1		0310	39	0.	1		0925	114	1.	1		1540	189	1.	1		2155	264	0.
1		0315	40	0.	1		0930	115	1.	1		1545	190	1.	1		2200	265	0.
1		0320	41	0.	1		0935	116	1.	1		1550	191	1.	1		2205	266	0.
1		0325	42	0.	1		0940	117	1.	1		1555	192	1.	1		2210	267	0.
1		0330	43	0.	1		0945	118	1.	1		1600	193	1.	1		2215	268	0.
1		0335	44	0.	1		0950	119	1.	1		1605	194	1.	1		2220	269	0.
1		0340	45	0.	1		0955	120	1.	1		1610	195	1.	1		2225	270	0.
1		0345	46	0.	1		1000	121	1.	1		1615	196	1.	1		2230	271	0.
1		0350	47	0.	1		1005	122	1.	1		1620	197	1.	1		2235	272	0.
1		0355	48	0.	1		1010	123	1.	1		1625	198	1.	1		2240	273	0.
1		0400	49	0.	1		1015	124	1.	1		1630	199	1.	1		2245	274	0.
1		0405	50	0.	1		1020	125	1.	1		1635	200	1.	1		2250	275	0.
1		0410	51	0.	1		1025	126	1.	1		1640	201	1.	1		2255	276	0.
1		0415	52	0.	1		1030	127	1.	1		1645	202	1.	1		2300	277	0.
1		0420	53	0.	1		1035	128	1.	1		1650	203	1.	1		2305	278	0.
1		0425	54	0.	1		1040	129	1.	1		1655	204	1.	1		2310	279	0.
1		0430	55	0.	1		1045	130	1.	1		1700	205	1.	1		2315	280	0.
1		0435	56	0.	1		1050	131	1.	1		1705	206	1.	1		2320	281	0.
1		0440	57	0.	1		1055	132	2.	1		1710	207	1.	1		2325	282	0.
1		0445	58	0.	1		1100	133	2.	1		1715	208	1.	1		2330	283	0.
1		0450	59	0.	1		1105	134	2.	1		1720	209	1.	1		2335	284	0.
1		0455	60	0.	1		1110	135	2.	1		1725	210	1.	1		2340	285	0.
1		0500	61	0.	1		1115	136	2.	1		1730	211	1.	1		2345	286	0.
1		0505	62	0.	1		1120	137	2.	1		1735	212	1.	1		2350	287	0.
1		0510	63	0.	1		1125	138	2.	1		1740	213	1.	1		2355	288	0.
1		0515	64	0.	1		1130	139	2.	1		1745	214	1.	2		0000	289	0.
1		0520	65	0.	1		1135	140	3.	1		1750	215	1.	2		0005	290	0.
1		0525	66	1.	1		1140	141	3.	1		1755	216	1.	2		0010	291	0.
1		0530	67	1.	1		1145	142	4.	1		1800	217	1.	2		0015	292	0.
1		0535	68	1.	1		1150	143	6.	1		1805	218	1.	2		0020	293	0.
1		0540	69	1.	1		1155	144	9.	1		1810	219	1.	2		0025	294	0.
1		0545	70	1.	1		1200	145	12.	1		1815	220	1.	2		0030	295	0.
1		0550	71	1.	1		1205	146	13.	1		1820	221	1.	2		0035	296	0.
1		0555	72	1.	1		1210	147	13.	1		1825	222	1.	2		0040	297	0.
1		0600	73	1.	1		1215	148	13.	1		1830	223	1.	2		0045	298	0.
1		0605	74	1.	1		1220	149	12.	1		1835	224	1.	2		0050	299	0.
1		0610	75	1.	1		1225	150	11.	1		1840	225	1.	2		0055	300	0.

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
13.	12.08	4.	1.	1.	1.
		(INCHES) .173	.245	.246	.246

```
                    (AC-FT)        2.          3.          3.          3.
                    CUMULATIVE AREA =     .21 SQ MI

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
 120 KK   *     C_L9T   *      Combine Subbasins L9.1 and L9
          *             *
          ***************
                              Just Upstream of the Mainstem

 122 HC          HYDROGRAPH COMBINATION
                 ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                          ***
      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION    C_L9T
                     TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)
                          (CFS)
+      65.     14.67          51.          18.          18.          18.
                       (INCHES)        .161         .231         .231         .231
                        (AC-FT)          25.          36.          36.          36.

                       CUMULATIVE AREA =    2.93 SQ MI

      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION    C_L9T
                     TRANSPOSITION AREA     14.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)
                          (CFS)
+      60.     14.75          47.          17.          17.          17.
                       (INCHES)        .151         .218         .218         .218
                        (AC-FT)          24.          34.          34.          34.

                       CUMULATIVE AREA =    2.93 SQ MI

      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION    C_L9T
                     TRANSPOSITION AREA     24.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)
                          (CFS)
+      58.     14.75          46.          17.          16.          16.
                       (INCHES)        .145         .211         .211         .211
                        (AC-FT)          23.          33.          33.          33.

                       CUMULATIVE AREA =    2.93 SQ MI

      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION    C_L9T
                     TRANSPOSITION AREA     36.5 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)
                          (CFS)
+      56.     14.83          44.          16.          16.          16.
                       (INCHES)        .140         .205         .205         .205
                        (AC-FT)          22.          32.          32.          32.

                       CUMULATIVE AREA =    2.93 SQ MI

      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION    C_L9T
                     TRANSPOSITION AREA     50.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)
                          (CFS)
+      54.     14.83          43.          16.          15.          15.
                       (INCHES)        .137         .200         .200         .200
                        (AC-FT)          21.          31.          31.          31.

                       CUMULATIVE AREA =    2.93 SQ MI

*************************************************************************************************************************************************

                                                INTERPOLATED HYDROGRAPH AT     C_L9T

.************************************************************************************************************************************************
    DA MON HRMN  ORD      FLOW    *  DA MON HRMN  ORD      FLOW    *  DA MON HRMN  ORD      FLOW    *  DA MON HRMN  ORD      FLOW
                                  *                                 *                                 *
     1     0000    1        0.    *   1     0615   76        1.    *   1     1230  151       17.    *   1     1845  226       31.
     1     0005    2        0.    *   1     0620   77        1.    *   1     1235  152       18.    *   1     1850  227       31.
     1     0010    3        0.    *   1     0625   78        1.    *   1     1240  153       20.    *   1     1855  228       30.
     1     0015    4        0.    *   1     0630   79        1.    *   1     1245  154       22.    *   1     1900  229       30.
```

1	0020	5	0.	*	1	0635	80	1.	*	1	1250	155	25.	*	1	1905	230	29.
1	0025	6	0.	*	1	0640	81	1.	*	1	1255	156	28.	*	1	1910	231	29.
1	0030	7	0.	*	1	0645	82	1.	*	1	1300	157	32.	*	1	1915	232	28.
1	0035	8	0.	*	1	0650	83	1.	*	1	1305	158	35.	*	1	1920	233	28.
1	0040	9	0.	*	1	0655	84	1.	*	1	1310	159	38.	*	1	1925	234	27.
1	0045	10	0.	*	1	0700	85	1.	*	1	1315	160	40.	*	1	1930	235	26.
1	0050	11	0.	*	1	0705	86	1.	*	1	1320	161	43.	*	1	1935	236	26.
1	0055	12	0.	*	1	0710	87	1.	*	1	1325	162	45.	*	1	1940	237	25.
1	0100	13	0.	*	1	0715	88	1.	*	1	1330	163	47.	*	1	1945	238	25.
1	0105	14	0.	*	1	0720	89	1.	*	1	1335	164	49.	*	1	1950	239	24.
1	0110	15	0.	*	1	0725	90	1.	*	1	1340	165	51.	*	1	1955	240	24.
1	0115	16	0.	*	1	0730	91	1.	*	1	1345	166	53.	*	1	2000	241	24.
1	0120	17	0.	*	1	0735	92	1.	*	1	1350	167	54.	*	1	2005	242	23.
1	0125	18	0.	*	1	0740	93	1.	*	1	1355	168	56.	*	1	2010	243	23.
1	0130	19	0.	*	1	0745	94	1.	*	1	1400	169	57.	*	1	2015	244	22.
1	0135	20	0.	*	1	0750	95	1.	*	1	1405	170	58.	*	1	2020	245	22.
1	0140	21	0.	*	1	0755	96	1.	*	1	1410	171	59.	*	1	2025	246	21.
1	0145	22	0.	*	1	0800	97	1.	*	1	1415	172	60.	*	1	2030	247	21.
1	0150	23	0.	*	1	0805	98	1.	*	1	1420	173	60.	*	1	2035	248	20.
1	0155	24	0.	*	1	0810	99	1.	*	1	1425	174	61.	*	1	2040	249	20.
1	0200	25	0.	*	1	0815	100	1.	*	1	1430	175	61.	*	1	2045	250	20.
1	0205	26	0.	*	1	0820	101	1.	*	1	1435	176	61.	*	1	2050	251	19.
1	0210	27	0.	*	1	0825	102	1.	*	1	1440	177	61.	*	1	2055	252	19.
1	0215	28	0.	*	1	0830	103	1.	*	1	1445	178	61.	*	1	2100	253	19.
1	0220	29	0.	*	1	0835	104	1.	*	1	1450	179	61.	*	1	2105	254	18.
1	0225	30	0.	*	1	0840	105	1.	*	1	1455	180	61.	*	1	2110	255	18.
1	0230	31	0.	*	1	0845	106	1.	*	1	1500	181	61.	*	1	2115	256	17.
1	0235	32	0.	*	1	0850	107	1.	*	1	1505	182	61.	*	1	2120	257	17.
1	0240	33	0.	*	1	0855	108	1.	*	1	1510	183	60.	*	1	2125	258	17.
1	0245	34	0.	*	1	0900	109	1.	*	1	1515	184	60.	*	1	2130	259	16.
1	0250	35	0.	*	1	0905	110	1.	*	1	1520	185	60.	*	1	2135	260	16.
1	0255	36	0.	*	1	0910	111	1.	*	1	1525	186	59.	*	1	2140	261	16.
1	0300	37	0.	*	1	0915	112	1.	*	1	1530	187	58.	*	1	2145	262	16.
1	0305	38	0.	*	1	0920	113	1.	*	1	1535	188	58.	*	1	2150	263	16.
1	0310	39	0.	*	1	0925	114	1.	*	1	1540	189	57.	*	1	2155	264	15.
1	0315	40	0.	*	1	0930	115	1.	*	1	1545	190	57.	*	1	2200	265	15.
1	0320	41	0.	*	1	0935	116	1.	*	1	1550	191	56.	*	1	2205	266	15.
1	0325	42	0.	*	1	0940	117	1.	*	1	1555	192	55.	*	1	2210	267	15.
1	0330	43	0.	*	1	0945	118	1.	*	1	1600	193	54.	*	1	2215	268	15.
1	0335	44	0.	*	1	0950	119	1.	*	1	1605	194	54.	*	1	2220	269	14.
1	0340	45	0.	*	1	0955	120	1.	*	1	1610	195	53.	*	1	2225	270	14.
1	0345	46	0.	*	1	1000	121	1.	*	1	1615	196	52.	*	1	2230	271	14.
1	0350	47	0.	*	1	1005	122	1.	*	1	1620	197	51.	*	1	2235	272	14.
1	0355	48	0.	*	1	1010	123	1.	*	1	1625	198	51.	*	1	2240	273	14.
1	0400	49	0.	*	1	1015	124	1.	*	1	1630	199	50.	*	1	2245	274	14.
1	0405	50	0.	*	1	1020	125	1.	*	1	1635	200	49.	*	1	2250	275	13.
1	0410	51	0.	*	1	1025	126	1.	*	1	1640	201	48.	*	1	2255	276	13.
1	0415	52	0.	*	1	1030	127	1.	*	1	1645	202	47.	*	1	2300	277	13.
1	0420	53	0.	*	1	1035	128	1.	*	1	1650	203	46.	*	1	2305	278	13.
1	0425	54	0.	*	1	1040	129	1.	*	1	1655	204	46.	*	1	2310	279	13.
1	0430	55	0.	*	1	1045	130	1.	*	1	1700	205	45.	*	1	2315	280	13.
1	0435	56	0.	*	1	1050	131	2.	*	1	1705	206	44.	*	1	2320	281	13.
1	0440	57	0.	*	1	1055	132	2.	*	1	1710	207	43.	*	1	2325	282	12.
1	0445	58	0.	*	1	1100	133	2.	*	1	1715	208	43.	*	1	2330	283	12.
1	0450	59	0.	*	1	1105	134	2.	*	1	1720	209	42.	*	1	2335	284	12.
1	0455	60	0.	*	1	1110	135	2.	*	1	1725	210	41.	*	1	2340	285	12.
1	0500	61	0.	*	1	1115	136	2.	*	1	1730	211	41.	*	1	2345	286	12.
1	0505	62	0.	*	1	1120	137	2.	*	1	1735	212	40.	*	1	2350	287	12.
1	0510	63	0.	*	1	1125	138	2.	*	1	1740	213	39.	*	1	2355	288	12.
1	0515	64	1.	*	1	1130	139	2.	*	1	1745	214	39.	*	2	0000	289	11.
1	0520	65	1.	*	1	1135	140	3.	*	1	1750	215	38.	*	2	0005	290	11.
1	0525	66	1.	*	1	1140	141	3.	*	1	1755	216	37.	*	2	0010	291	11.
1	0530	67	1.	*	1	1145	142	4.	*	1	1800	217	37.	*	2	0015	292	11.
1	0535	68	1.	*	1	1150	143	6.	*	1	1805	218	36.	*	2	0020	293	11.
1	0540	69	1.	*	1	1155	144	9.	*	1	1810	219	36.	*	2	0025	294	11.
1	0545	70	1.	*	1	1200	145	12.	*	1	1815	220	35.	*	2	0030	295	11.
1	0550	71	1.	*	1	1205	146	13.	*	1	1820	221	34.	*	2	0035	296	10.
1	0555	72	1.	*	1	1210	147	13.	*	1	1825	222	34.	*	2	0040	297	10.
1	0600	73	1.	*	1	1215	148	13.	*	1	1830	223	33.	*	2	0045	298	10.
1	0605	74	1.	*	1	1220	149	13.	*	1	1835	224	33.	*	2	0050	299	10.
1	0610	75	1.	*	1	1225	150	15.	*	1	1840	225	32.	*	2	0055	300	10.

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 61.	14.75		48.	17.	17.	17.
		(INCHES)	.153	.221	.221	.221
		(AC-FT)	24.	34.	34.	34.

CUMULATIVE AREA = 2.93 SQ MI

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          ***************
          *             *
123 KK    *     C_L9M   *      Combine L9 with Upstream Mainstem Hydrograph
          *             *
          ***************
                              Just East of 26.5 Road

125 HC          HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                        ***
      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION    C_L9M
                   TRANSPDSITION AREA        .0 SQ MI
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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 234.	13.58		142.	47.	45.	45.
		(INCHES)	.106	.140	.140	.140
		(AC-FT)	70.	93.	93.	93.

CUMULATIVE AREA = 12.41 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_L9M
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
201.	13.58	127.	42.	41.	41.
		(INCHES) .095	.127	.127	.127
		(AC-FT) 63.	84.	84.	84.

CUMULATIVE AREA = 12.41 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_L9M
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
186.	13.58	119.	40.	39.	39.
		(INCHES) .089	.120	.120	.120
		(AC-FT) 59.	80.	80.	80.

CUMULATIVE AREA = 12.41 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_L9M
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
171.	13.67	112.	38.	37.	37.
		(INCHES) .084	.114	.114	.114
		(AC-FT) 56.	76.	76.	76.

CUMULATIVE AREA = 12.41 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_L9M
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
162.	13.67	108.	37.	35.	35.
		(INCHES) .081	.110	.110	.110
		(AC-FT) 53.	73.	73.	73.

CUMULATIVE AREA = 12.41 SQ MI

INTERPOLATED HYDROGRAPH AT C_L9M

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	4.	1		1230	151	143.	1		1845	226	48.
1		0005	2	0.	1		0620	77	4.	1		1235	152	138.	1		1850	227	46.
1		0010	3	0.	1		0625	78	4.	1		1240	153	133.	1		1855	228	45.
1		0015	4	0.	1		0630	79	4.	1		1245	154	131.	1		1900	229	44.
1		0020	5	0.	1		0635	80	4.	1		1250	155	132.	1		1905	230	43.
1		0025	6	0.	1		0640	81	4.	1		1255	156	138.	1		1910	231	42.
1		0030	7	0.	1		0645	82	4.	1		1300	157	147.	1		1915	232	42.
1		0035	8	1.	1		0650	83	5.	1		1305	158	158.	1		1920	233	41.
1		0040	9	1.	1		0655	84	5.	1		1310	159	169.	1		1925	234	40.
1		0045	10	1.	1		0700	85	5.	1		1315	160	180.	1		1930	235	39.
1		0050	11	1.	1		0705	86	5.	1		1320	161	190.	1		1935	236	38.
1		0055	12	1.	1		0710	87	5.	1		1325	162	196.	1		1940	237	37.
1		0100	13	1.	1		0715	88	5.	1		1330	163	200.	1		1945	238	36.
1		0105	14	1.	1		0720	89	5.	1		1335	164	202.	1		1950	239	36.
1		0110	15	1.	1		0725	90	5.	1		1340	165	201.	1		1955	240	35.
1		0115	16	1.	1		0730	91	5.	1		1345	166	199.	1		2000	241	34.
1		0120	17	1.	1		0735	92	5.	1		1350	167	196.	1		2005	242	33.
1		0125	18	1.	1		0740	93	5.	1		1355	168	191.	1		2010	243	33.
1		0130	19	1.	1		0745	94	5.	1		1400	169	187.	1		2015	244	32.
1		0135	20	2.	1		0750	95	5.	1		1405	170	182.	1		2020	245	31.
1		0140	21	2.	1		0755	96	5.	1		1410	171	178.	1		2025	246	30.
1		0145	22	2.	1		0800	97	5.	1		1415	172	174.	1		2030	247	30.
1		0150	23	2.	1		0805	98	5.	1		1420	173	170.	1		2035	248	29.
1		0155	24	2.	1		0810	99	5.	1		1425	174	166.	1		2040	249	29.
1		0200	25	2.	1		0815	100	5.	1		1430	175	162.	1		2045	250	28.
1		0205	26	2.	1		0820	101	5.	1		1435	176	159.	1		2050	251	27.
1		0210	27	2.	1		0825	102	5.	1		1440	177	155.	1		2055	252	27.
1		0215	28	2.	1		0830	103	6.	1		1445	178	152.	1		2100	253	26.
1		0220	29	2.	1		0835	104	6.	1		1450	179	148.	1		2105	254	26.
1		0225	30	2.	1		0840	105	6.	1		1455	180	145.	1		2110	255	25.
1		0230	31	2.	1		0845	106	6.	1		1500	181	141.	1		2115	256	25.
1		0235	32	2.	1		0850	107	6.	1		1505	182	138.	1		2120	257	24.
1		0240	33	2.	1		0855	108	6.	1		1510	183	134.	1		2125	258	24.
1		0245	34	2.	1		0900	109	6.	1		1515	184	131.	1		2130	259	23.
1		0250	35	2.	1		0905	110	6.	1		1520	185	128.	1		2135	260	23.
1		0255	36	2.	1		0910	111	6.	1		1525	186	124.	1		2140	261	22.
1		0300	37	2.	1		0915	112	7.	1		1530	187	121.	1		2145	262	22.
1		0305	38	2.	1		0920	113	7.	1		1535	188	118.	1		2150	263	22.

1	0310	39	2.	*	1	0925	114	7.	*	1	1540	189	115.	*	1	2155	264	21.
1	0315	40	2.	*	1	0930	115	7.	*	1	1545	190	112.	*	1	2200	265	21.
1	0320	41	2.	*	1	0935	116	7.	*	1	1550	191	110.	*	1	2205	266	21.
1	0325	42	2.	*	1	0940	117	7.	*	1	1555	192	107.	*	1	2210	267	21.
1	0330	43	2.	*	1	0945	118	7.	*	1	1600	193	104.	*	1	2215	268	20.
1	0335	44	3.	*	1	0950	119	7.	*	1	1605	194	102.	*	1	2220	269	20.
1	0340	45	3.	*	1	0955	120	7.	*	1	1610	195	99.	*	1	2225	270	20.
1	0345	46	3.	*	1	1000	121	8.	*	1	1615	196	97.	*	1	2230	271	19.
1	0350	47	3.	*	1	1005	122	8.	*	1	1620	197	94.	*	1	2235	272	19.
1	0355	48	3.	*	1	1010	123	8.	*	1	1625	198	92.	*	1	2240	273	19.
1	0400	49	3.	*	1	1015	124	8.	*	1	1630	199	90.	*	1	2245	274	19.
1	0405	50	3.	*	1	1020	125	8.	*	1	1635	200	87.	*	1	2250	275	18.
1	0410	51	3.	*	1	1025	126	8.	*	1	1640	201	85.	*	1	2255	276	18.
1	0415	52	3.	*	1	1030	127	9.	*	1	1645	202	83.	*	1	2300	277	18.
1	0420	53	3.	*	1	1035	128	9.	*	1	1650	203	81.	*	1	2305	278	18.
1	0425	54	3.	*	1	1040	129	9.	*	1	1655	204	79.	*	1	2310	279	18.
1	0430	55	3.	*	1	1045	130	9.	*	1	1700	205	77.	*	1	2315	280	17.
1	0435	56	3.	*	1	1050	131	10.	*	1	1705	206	75.	*	1	2320	281	17.
1	0440	57	3.	*	1	1055	132	10.	*	1	1710	207	73.	*	1	2325	282	17.
1	0445	58	3.	*	1	1100	133	10.	*	1	1715	208	72.	*	1	2330	283	17.
1	0450	59	3.	*	1	1105	134	11.	*	1	1720	209	70.	*	1	2335	284	16.
1	0455	60	3.	*	1	1110	135	11.	*	1	1725	210	69.	*	1	2340	285	16.
1	0500	61	4.	*	1	1115	136	12.	*	1	1730	211	67.	*	1	2345	286	16.
1	0505	62	4.	*	1	1120	137	12.	*	1	1735	212	65.	*	1	2350	287	16.
1	0510	63	4.	*	1	1125	138	13.	*	1	1740	213	64.	*	1	2355	288	15.
1	0515	64	4.	*	1	1130	139	14.	*	1	1745	214	62.	*	2	0000	289	15.
1	0520	65	4.	*	1	1135	140	15.	*	1	1750	215	61.	*	2	0005	290	15.
1	0525	66	4.	*	1	1140	141	16.	*	1	1755	216	60.	*	2	0010	291	15.
1	0530	67	4.	*	1	1145	142	19.	*	1	1800	217	58.	*	2	0015	292	14.
1	0535	68	4.	*	1	1150	143	26.	*	1	1805	218	57.	*	2	0020	293	14.
1	0540	69	4.	*	1	1155	144	41.	*	1	1810	219	56.	*	2	0025	294	14.
1	0545	70	4.	*	1	1200	145	66.	*	1	1815	220	54.	*	2	0030	295	13.
1	0550	71	4.	*	1	1205	146	98.	*	1	1820	221	53.	*	2	0035	296	13.
1	0555	72	4.	*	1	1210	147	127.	*	1	1825	222	52.	*	2	0040	297	13.
1	0600	73	4.	*	1	1215	148	144.	*	1	1830	223	51.	*	2	0045	298	13.
1	0605	74	4.	*	1	1220	149	148.	*	1	1835	224	50.	*	2	0050	299	12.
1	0610	75	4.	*	1	1225	150	147.	*	1	1840	225	49.	*	2	0055	300	12.
				*					*					*				

****

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 202.	13.58		127.	42.	41.	41.
		(INCHES)	.095	.127	.127	.127
		(AC-FT)	63.	84.	84.	84.

CUMULATIVE AREA = 12.41 SQ MI

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126 KK      ***************
            *             *
            *      DB21   *
            *             *
            ***************
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Subbasin

SUBBASIN RUNOFF DATA

128 BA SUBBASIN CHARACTERISTICS

TAREA	.15	SUBBASIN AREA

129 LG GREEN AND AMPT LOSS RATE

STRTL	.29	STARTING LOSS
DTH	.31	MOISTURE DEFICIT
PSIF	1.15	WETTING FRONT SUCTION
XKSAT	.04	HYDRAULIC CONDUCTIVITY
RTIMP	30.00	PERCENT IMPERVIOUS AREA

130 US SNYDER UNITGRAPH

TP	.09	LAG
CP	.30	PEAKING COEFFICIENT

SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

***

UNIT HYDROGRAPH PARAMETERS

CLARK TC= .08 HR, R= .40 HR
SNYDER TP= .13 HR, CP= .30

UNIT HYDROGRAPH
27 END-OF-PERIOD ORDINATES

110.	199.	162.	132.	107.	87.	71.	58.	47.	38.
31.	25.	20.	17.	14.	11.	9.	7.	6.	5.
4.	3.	3.	2.	2.	1.	1.			

*** *** *** *** ***

HYDROGRAPH AT STATION DB21
TRANSPOSITION AREA .0 SQ MI

TOTAL RAINFALL = 1.19, TOTAL LOSS = .57, TOTAL EXCESS = .62

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 59.	12.00		8.	3.	2.	2.
		(INCHES)	.515	.618	.619	.619
		(AC-FT)	4.	5.	5.	5.

CUMULATIVE AREA = .15 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB21

TRANSPOSITION AREA 14.0 SQ MI

TOTAL RAINFALL = 1.17, TOTAL LOSS = .56, TOTAL EXCESS = .60

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
58.	12.00	(CFS)	8.	2.	2.	2.
		(INCHES)	.499	.601	.602	.602
		(AC-FT)	4.	5.	5.	5.

CUMULATIVE AREA = .15 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB21
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.15, TOTAL LOSS = .56, TOTAL EXCESS = .60

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
57.	12.00	(CFS)	8.	2.	2.	2.
		(INCHES)	.492	.592	.593	.593
		(AC-FT)	4.	5.	5.	5.

CUMULATIVE AREA = .15 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB21
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.14, TOTAL LOSS = .55, TOTAL EXCESS = .59

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
56.	12.00	(CFS)	8.	2.	2.	2.
		(INCHES)	.484	.584	.585	.585
		(AC-FT)	4.	5.	5.	5.

CUMULATIVE AREA = .15 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB21
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.13, TOTAL LOSS = .55, TOTAL EXCESS = .58

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
55.	12.00	(CFS)	8.	2.	2.	2.
		(INCHES)	.479	.578	.579	.579
		(AC-FT)	4.	5.	5.	5.

CUMULATIVE AREA = .15 SQ MI

INTERPOLATED HYDROGRAPH AT DB21

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	1.	1		1230	151	26.	1		1845	226	1.
1		0005	2	0.	1		0620	77	1.	1		1235	152	21.	1		1850	227	1.
1		0010	3	0.	1		0625	78	1.	1		1240	153	18.	1		1855	228	1.
1		0015	4	0.	1		0630	79	1.	1		1245	154	15.	1		1900	229	1.
1		0020	5	0.	1		0635	80	1.	1		1250	155	13.	1		1905	230	1.
1		0025	6	0.	1		0640	81	1.	1		1255	156	11.	1		1910	231	1.
1		0030	7	0.	1		0645	82	1.	1		1300	157	9.	1		1915	232	1.
1		0035	8	0.	1		0650	83	1.	1		1305	158	8.	1		1920	233	1.
1		0040	9	0.	1		0655	84	1.	1		1310	159	7.	1		1925	234	1.
1		0045	10	0.	1		0700	85	1.	1		1315	160	6.	1		1930	235	1.
1		0050	11	0.	1		0705	86	1.	1		1320	161	5.	1		1935	236	1.
1		0055	12	0.	1		0710	87	1.	1		1325	162	5.	1		1940	237	1.
1		0100	13	0.	1		0715	88	1.	1		1330	163	4.	1		1945	238	1.
1		0105	14	0.	1		0720	89	1.	1		1335	164	4.	1		1950	239	1.
1		0110	15	0.	1		0725	90	1.	1		1340	165	3.	1		1955	240	0.
1		0115	16	0.	1		0730	91	1.	1		1345	166	3.	1		2000	241	0.
1		0120	17	0.	1		0735	92	1.	1		1350	167	3.	1		2005	242	0.
1		0125	18	0.	1		0740	93	1.	1		1355	168	2.	1		2010	243	0.
1		0130	19	0.	1		0745	94	1.	1		1400	169	2.	1		2015	244	0.
1		0135	20	0.	1		0750	95	1.	1		1405	170	2.	1		2020	245	0.
1		0140	21	0.	1		0755	96	1.	1		1410	171	2.	1		2025	246	0.
1		0145	22	0.	1		0800	97	1.	1		1415	172	1.	1		2030	247	0.
1		0150	23	0.	1		0805	98	1.	1		1420	173	1.	1		2035	248	0.
1		0155	24	0.	1		0810	99	1.	1		1425	174	1.	1		2040	249	0.
1		0200	25	0.	1		0815	100	1.	1		1430	175	1.	1		2045	250	0.
1		0205	26	0.	1		0820	101	1.	1		1435	176	1.	1		2050	251	0.
1		0210	27	0.	1		0825	102	1.	1		1440	177	1.	1		2055	252	0.
1		0215	28	0.	1		0830	103	1.	1		1445	178	1.	1		2100	253	0.
1		0220	29	0.	1		0835	104	1.	1		1450	179	1.	1		2105	254	0.
1		0225	30	0.	1		0840	105	1.	1		1455	180	1.	1		2110	255	0.
1		0230	31	0.	1		0845	106	1.	1		1500	181	1.	1		2115	256	0.
1		0235	32	0.	1		0850	107	1.	1		1505	182	1.	1		2120	257	0.
1		0240	33	0.	1		0855	108	1.	1		1510	183	1.	1		2125	258	0.
1		0245	34	0.	1		0900	109	1.	1		1515	184	1.	1		2130	259	0.
1		0250	35	0.	1		0905	110	1.	1		1520	185	1.	1		2135	260	0.
1		0255	36	0.	1		0910	111	1.	1		1525	186	1.	1		2140	261	0.
1		0300	37	0.	1		0915	112	1.	1		1530	187	1.	1		2145	262	0.

```
     1     0305   38        0.   *    1     0920  113        1.   *    1     1535  188        1.   *    1     2150  263        0.
     1     0310   39        0.   *    1     0925  114        1.   *    1     1540  189        1.   *    1     2155  264        0.
     1     0315   40        0.   *    1     0930  115        1.   *    1     1545  190        1.   *    1     2200  265        0.
     1     0320   41        0.   *    1     0935  116        1.   *    1     1550  191        1.   *    1     2205  266        0.
     1     0325   42        0.   *    1     0940  117        1.   *    1     1555  192        1.   *    1     2210  267        0.
     1     0330   43        0.   *    1     0945  118        1.   *    1     1600  193        1.   *    1     2215  268        0.
     1     0335   44        0.   *    1     0950  119        1.   *    1     1605  194        1.   *    1     2220  269        0.
     1     0340   45        0.   *    1     0955  120        1.   *    1     1610  195        1.   *    1     2225  270        0.
     1     0345   46        0.   *    1     1000  121        1.   *    1     1615  196        1.   *    1     2230  271        0.
     1     0350   47        0.   *    1     1005  122        1.   *    1     1620  197        1.   *    1     2235  272        0.
     1     0355   48        0.   *    1     1010  123        1.   *    1     1625  198        1.   *    1     2240  273        0.
     1     0400   49        0.   *    1     1015  124        1.   *    1     1630  199        1.   *    1     2245  274        0.
     1     0405   50        0.   *    1     1020  125        1.   *    1     1635  200        1.   *    1     2250  275        0.
     1     0410   51        0.   *    1     1025  126        1.   *    1     1640  201        1.   *    1     2255  276        0.
     1     0415   52        0.   *    1     1030  127        1.   *    1     1645  202        1.   *    1     2300  277        0.
     1     0420   53        0.   *    1     1035  128        2.   *    1     1650  203        1.   *    1     2305  278        0.
     1     0425   54        0.   *    1     1040  129        2.   *    1     1655  204        1.   *    1     2310  279        0.
     1     0430   55        0.   *    1     1045  130        2.   *    1     1700  205        1.   *    1     2315  280        0.
     1     0435   56        1.   *    1     1050  131        2.   *    1     1705  206        1.   *    1     2320  281        0.
     1     0440   57        1.   *    1     1055  132        2.   *    1     1710  207        1.   *    1     2325  282        0.
     1     0445   58        1.   *    1     1100  133        2.   *    1     1715  208        1.   *    1     2330  283        0.
     1     0450   59        1.   *    1     1105  134        2.   *    1     1720  209        1.   *    1     2335  284        0.
     1     0455   60        1.   *    1     1110  135        2.   *    1     1725  210        1.   *    1     2340  285        0.
     1     0500   61        1.   *    1     1115  136        2.   *    1     1730  211        1.   *    1     2345  286        0.
     1     0505   62        1.   *    1     1120  137        3.   *    1     1735  212        1.   *    1     2350  287        0.
     1     0510   63        1.   *    1     1125  138        3.   *    1     1740  213        1.   *    1     2355  288        0.
     1     0515   64        1.   *    1     1130  139        3.   *    1     1745  214        1.   *    2     0000  289        0.
     1     0520   65        1.   *    1     1135  140        4.   *    1     1750  215        1.   *    2     0005  290        0.
     1     0525   66        1.   *    1     1140  141        7.   *    1     1755  216        1.   *    2     0010  291        0.
     1     0530   67        1.   *    1     1145  142       15.   *    1     1800  217        1.   *    2     0015  292        0.
     1     0535   68        1.   *    1     1150  143       27.   *    1     1805  218        1.   *    2     0020  293        0.
     1     0540   69        1.   *    1     1155  144       45.   *    1     1810  219        1.   *    2     0025  294        0.
     1     0545   70        1.   *    1     1200  145       59.   *    1     1815  220        1.   *    2     0030  295        0.
     1     0550   71        1.   *    1     1205  146       58.   *    1     1820  221        1.   *    2     0035  296        0.
     1     0555   72        1.   *    1     1210  147       50.   *    1     1825  222        1.   *    2     0040  297        0.
     1     0600   73        1.   *    1     1215  148       42.   *    1     1830  223        1.   *    2     0045  298        0.
     1     0605   74        1.   *    1     1220  149       36.   *    1     1835  224        1.   *    2     0050  299        0.
     1     0610   75        1.   *    1     1225  150       30.   *    1     1840  225        1.   *    2     0055  300        0.
                              *                                  *                                   *
 ********************************************************************************************************************************************************

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)          (CFS)
+      59.     12.00                      8.           2.           2.           2.
                           (INCHES)      .509         .612         .613         .613
                             (AC-FT)        4.           5.           5.           5.

                           CUMULATIVE AREA =      .15 SQ MI


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *             *
  131 KK    *      PD A   *
            *             *
            ***************
                        Route Through Pond A

               HYDROGRAPH ROUTING DATA

  133 RS         STORAGE ROUTING
                      NSTPS          1  NUMBER OF SUBREACHES
                       ITYP       STOR  TYPE OF INITIAL CONDIIION
                     RSVRIC         .00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

  134 SV           STORAGE          .0        .0       1.8       4.7       8.9      11.6

  135 SQ          DISCHARGE         0.        3.        7.        9.       11.       11.

  136 SE          ELEVATION     4915.00   4916.00   4918.00   4920.00   4922.00   4923.00
                                                                  ***

 *** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN        0. TO        3.
                 THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                 THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

       ***              ***              ***              ***              ***

                          HYDROGRAPH AT STATION     PD A
                        TRANSPOSITION AREA        .0 SQ MI

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)          (CFS)
+       8.     13.08                      6.           3.           2.           2.
                           (INCHES)      .397         .619         .620         .620
                             (AC-FT)        3.           5.           5.           5.

  PEAK STORAGE  TIME                      MAXIMUM AVERAGE STORAGE
                                        6-HR        24-HR        72-HR     24.92-HR
+  (AC-FT)      (HR)
        3.     13.08                      2.           0.           0.           0.

  PEAK STAGE    TIME                      MAXIMUM AVERAGE STAGE
                                        6-HR        24-HR        72-HR     24.92-HR
+   (FEET)      (HR)
    4918.60     13.08                4917.87     4916.08     4916.04     4916.04

                          CUMULATIVE AREA =      .15 SQ MI

       ***              ***              ***              ***              ***

                          HYDROGRAPH AT STATION     PO A
                        TRANSPOSITION AREA      14.0 SQ MI
```

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)					
		(CFS)				
+ 8.	13.08		6.	2.	2.	2.
		(INCHES)	.389	.601	.602	.602
		(AC-FT)	3.	5.	5.	5.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
3.	13.08	2.	0.	0.	0.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
4918.53	13.08	4917.80	4916.04	4916.01	4916.01

CUMULATIVE AREA = .15 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION PD A
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 7.	13.08		6.	2.	2.	2.
		(INCHES)	.385	.592	.593	.593
		(AC-FT)	3.	5.	5.	5.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
3.	13.08	2.	0.	0.	0.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
4918.50	13.08	4917.76	4916.03	4915.99	4915.99

CUMULATIVE AREA = .15 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION PD A
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 7.	13.08		6.	2.	2.	2.
		(INCHES)	.381	.584	.585	.585
		(AC-FT)	3.	5.	5.	5.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
2.	13.08	2.	0.	0.	0.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
4918.46	13.08	4917.72	4916.01	4915.97	4915.97

CUMULATIVE AREA = .15 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION PD A
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 7.	13.08		6.	2.	2.	2.
		(INCHES)	.378	.578	.579	.579
		(AC-FT)	3.	5.	5.	5.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
2.	13.08	2.	0.	0.	0.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
4918.44	13.08	4917.70	4916.00	4915.96	4915.96

CUMULATIVE AREA = .15 SQ MI

INTERPOLATED HYDROGRAPH AT PD A

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	1.	1		1230	151	7.	1		1845	226	4.
1		0005	2	0.	1		0620	77	1.	1		1235	152	7.	1		1850	227	4.
1		0010	3	0.	1		0625	78	1.	1		1240	153	7.	1		1855	228	4.
1		0015	4	0.	1		0630	79	1.	1		1245	154	8.	1		1900	229	4.
1		0020	5	0.	1		0635	80	1.	1		1250	155	8.	1		1905	230	4.
1		0025	6	0.	1		0640	81	1.	1		1255	156	8.	1		1910	231	3.

1	0030	7	0.	*	1	0645	82	1.	*	1	1300	157	8.	*	1	1915	232	3.
1	0035	8	0.	*	1	0650	83	1.	*	1	1305	158	8.	*	1	1920	233	3.
1	0040	9	0.	*	1	0655	84	1.	*	1	1310	159	8.	*	1	1925	234	3.
1	0045	10	0.	*	1	0700	85	1.	*	1	1315	160	8.	*	1	1930	235	3.
1	0050	11	0.	*	1	0705	86	1.	*	1	1320	161	8.	*	1	1935	236	3.
1	0055	12	0.	*	1	0710	87	1.	*	1	1325	162	8.	*	1	1940	237	3.
1	0100	13	0.	*	1	0715	88	1.	*	1	1330	163	8.	*	1	1945	238	3.
1	0105	14	0.	*	1	0720	89	1.	*	1	1335	164	8.	*	1	1950	239	3.
1	0110	15	0.	*	1	0725	90	1.	*	1	1340	165	7.	*	1	1955	240	3.
1	0115	16	0.	*	1	0730	91	1.	*	1	1345	166	7.	*	1	2000	241	3.
1	0120	17	0.	*	1	0735	92	1.	*	1	1350	167	7.	*	1	2005	242	3.
1	0125	18	0.	*	1	0740	93	1.	*	1	1355	168	7.	*	1	2010	243	3.
1	0130	19	0.	*	1	0745	94	1.	*	1	1400	169	7.	*	1	2015	244	3.
1	0135	20	0.	*	1	0750	95	1.	*	1	1405	170	7.	*	1	2020	245	3.
1	0140	21	0.	*	1	0755	96	1.	*	1	1410	171	7.	*	1	2025	246	3.
1	0145	22	0.	*	1	0800	97	1.	*	1	1415	172	7.	*	1	2030	247	3.
1	0150	23	0.	*	1	0805	98	1.	*	1	1420	173	7.	*	1	2035	248	3.
1	0155	24	0.	*	1	0810	99	1.	*	1	1425	174	7.	*	1	2040	249	3.
1	0200	25	0.	*	1	0815	100	1.	*	1	1430	175	7.	*	1	2045	250	3.
1	0205	26	0.	*	1	0820	101	1.	*	1	1435	176	7.	*	1	2050	251	3.
1	0210	27	0.	*	1	0825	102	1.	*	1	1440	177	7.	*	1	2055	252	3.
1	0215	28	0.	*	1	0830	103	1.	*	1	1445	178	7.	*	1	2100	253	2.
1	0220	29	0.	*	1	0835	104	1.	*	1	1450	179	7.	*	1	2105	254	2.
1	0225	30	0.	*	1	0840	105	1.	*	1	1455	180	7.	*	1	2110	255	2.
1	0230	31	0.	*	1	0845	106	1.	*	1	1500	181	7.	*	1	2115	256	0.
1	0235	32	0.	*	1	0850	107	1.	*	1	1505	182	7.	*	1	2120	257	1.
1	0240	33	0.	*	1	0855	108	1.	*	1	1510	183	7.	*	1	2125	258	0.
1	0245	34	0.	*	1	0900	109	1.	*	1	1515	184	7.	*	1	2130	259	1.
1	0250	35	0.	*	1	0905	110	1.	*	1	1520	185	7.	*	1	2135	260	0.
1	0255	36	0.	*	1	0910	111	1.	*	1	1525	186	7.	*	1	2140	261	1.
1	0300	37	0.	*	1	0915	112	1.	*	1	1530	187	7.	*	1	2145	262	0.
1	0305	38	0.	*	1	0920	113	1.	*	1	1535	188	7.	*	1	2150	263	0.
1	0310	39	0.	*	1	0925	114	1.	*	1	1540	189	6.	*	1	2155	264	0.
1	0315	40	0.	*	1	0930	115	1.	*	1	1545	190	6.	*	1	2200	265	0.
1	0320	41	0.	*	1	0935	116	1.	*	1	1550	191	6.	*	1	2205	266	0.
1	0325	42	0.	*	1	0940	117	1.	*	1	1555	192	6.	*	1	2210	267	0.
1	0330	43	0.	*	1	0945	118	1.	*	1	1600	193	6.	*	1	2215	268	0.
1	0335	44	0.	*	1	0950	119	1.	*	1	1605	194	6.	*	1	2220	269	0.
1	0340	45	0.	*	1	0955	120	1.	*	1	1610	195	6.	*	1	2225	270	0.
1	0345	46	0.	*	1	1000	121	1.	*	1	1615	196	6.	*	1	2230	271	0.
1	0350	47	0.	*	1	1005	122	1.	*	1	1620	197	6.	*	1	2235	272	0.
1	0355	48	0.	*	1	1010	123	1.	*	1	1625	198	6.	*	1	2240	273	0.
1	0400	49	0.	*	1	1015	124	1.	*	1	1630	199	6.	*	1	2245	274	0.
1	0405	50	0.	*	1	1020	125	1.	*	1	1635	200	5.	*	1	2250	275	0.
1	0410	51	0.	*	1	1025	126	1.	*	1	1640	201	5.	*	1	2255	276	0.
1	0415	52	0.	*	1	1030	127	1.	*	1	1645	202	5.	*	1	2300	277	0.
1	0420	53	0.	*	1	1035	128	2.	*	1	1650	203	5.	*	1	2305	278	0.
1	0425	54	0.	*	1	1040	129	2.	*	1	1655	204	5.	*	1	2310	279	0.
1	0430	55	0.	*	1	1045	130	2.	*	1	1700	205	5.	*	1	2315	280	0.
1	0435	56	1.	*	1	1050	131	2.	*	1	1705	206	5.	*	1	2320	281	0.
1	0440	57	1.	*	1	1055	132	2.	*	1	1710	207	5.	*	1	2325	282	0.
1	0445	58	1.	*	1	1100	133	2.	*	1	1715	208	5.	*	1	2330	283	0.
1	0450	59	1.	*	1	1105	134	2.	*	1	1720	209	5.	*	1	2335	284	0.
1	0455	60	1.	*	1	1110	135	2.	*	1	1725	210	5.	*	1	2340	285	0.
1	0500	61	1.	*	1	1115	136	2.	*	1	1730	211	5.	*	1	2345	286	0.
1	0505	62	1.	*	1	1120	137	3.	*	1	1735	212	5.	*	1	2350	287	0.
1	0510	63	1.	*	1	1125	138	3.	*	1	1740	213	5.	*	1	2355	288	0.
1	0515	64	1.	*	1	1130	139	3.	*	1	1745	214	4.	*	2	0000	289	0.
1	0520	65	1.	*	1	1135	140	3.	*	1	1750	215	4.	*	2	0005	290	0.
1	0525	66	1.	*	1	1140	141	3.	*	1	1755	216	4.	*	2	0010	291	0.
1	0530	67	1.	*	1	1145	142	3.	*	1	1800	217	4.	*	2	0015	292	0.
1	0535	68	1.	*	1	1150	143	3.	*	1	1805	218	4.	*	2	0020	293	0.
1	0540	69	1.	*	1	1155	144	4.	*	1	1810	219	4.	*	2	0025	294	0.
1	0545	70	1.	*	1	1200	145	4.	*	1	1815	220	4.	*	2	0030	295	0.
1	0550	71	1.	*	1	1205	146	5.	*	1	1820	221	4.	*	2	0035	296	0.
1	0555	72	1.	*	1	1210	147	6.	*	1	1825	222	4.	*	2	0040	297	0.
1	0600	73	1.	*	1	1215	148	7.	*	1	1830	223	4.	*	2	0045	298	0.
1	0605	74	1.	*	1	1220	149	7.	*	1	1835	224	4.	*	2	0050	299	0.
1	0610	75	1.	*	1	1225	150	7.	*	1	1840	225	4.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 8.	13.08		6.	3.	2.	2.
		(INCHES)	.394	.612	.613	.613
		(AC-FT)	3.	5.	5.	5.

CUMULATIVE AREA = .15 SQ MI

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          *             *
137 KK    *     R21a    *
          *             *
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Route R21 Through R21a

HYDROGRAPH ROUTING DATA

139 RK KINEMATIC WAVE STREAM ROUTING

L	2700.	CHANNEL LENGTH
S	.0230	SLOPE
N	.050	CHANNEL ROUGHNESS COEFFICIENT
CA	.00	CONTRIBUTING AREA
SHAPE	TRAP	CHANNEL SHAPE
WD	30.00	BOTTOM WIDTH OR DIAMETER
Z	6.00	SIDE SLOPE
NDXMIN	2	MINIMUM NUMBER OF DX INTERVALS

***

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT	DX	PEAK	TIME TO PEAK	VOLUME	MAXIMUM CELERITY

			(MIN)	(FT)	(CFS)	(MIN)	(IN)	(FPS)
	MAIN	.75	1.45	5.00	675.00	7.60	803.83	.62	2.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5022E+01 EXCESS= .0000E+00 OUTFLOW= .5014E+01 BASIN STORAGE= .1346E-01 PERCENT ERROR= -.1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

	MAIN	.75	1.45	5.00		7.60	800.00	.62
	***	***	***	***		***		

HYDROGRAPH AT STATION R21a
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)					
		(CFS)	6.	3.	2.	2.
8.	13.33	(INCHES)	.396	.618	.618	.618
		(AC-FT)	3.	5.	5.	5.

CUMULATIVE AREA = .15 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT	DX	PEAK	TIME TO PEAK	VOLUME	MAXIMUM CELERITY
			(MIN)	(FT)	(CFS)	(MIN)	(IN)	(FPS)
MAIN	.75	1.45	5.00	675.00	7.53	799.13	.60	2.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4878E+01 EXCESS= .0000E+00 OUTFLOW= .4870E+01 BASIN STORAGE= .1236E-01 PERCENT ERROR= -.1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

	MAIN	.75	1.45	5.00		7.53	800.00	.60
	***	***	***	***		***		

HYDROGRAPH AT STATION R21a
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)					
		(CFS)	6.	2.	2.	2.
8.	13.33	(INCHES)	.388	.601	.601	.601
		(AC-FT)	3.	5.	5.	5.

CUMULATIVE AREA = .15 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT	DX	PEAK	TIME TO PEAK	VOLUME	MAXIMUM CELERITY
			(MIN)	(FT)	(CFS)	(MIN)	(IN)	(FPS)
MAIN	.75	1.45	5.00	675.00	7.50	800.27	.59	2.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4806E+01 EXCESS= .0000E+00 OUTFLOW= .4800E+01 BASIN STORAGE= .1253E-01 PERCENT ERROR= -.1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

	MAIN	.75	1.45	5.00		7.50	800.00	.59
	***	***	***	***		***		

HYDROGRAPH AT STATION R21a
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)					
		(CFS)	6.	2.	2.	2.
7.	13.33	(INCHES)	.384	.592	.592	.592
		(AC-FT)	3.	5.	5.	5.

CUMULATIVE AREA = .15 SQ MI

COMPUTED KINEMATIC PARAMEIERS
VARIABLE TIME SIEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT	DX	PEAK	TIME TO PEAK	VOLUME	MAXIMUM CELERITY
			(MIN)	(FT)	(CFS)	(MIN)	(IN)	(FPS)
MAIN	.75	1.45	5.19	675.00	7.46	798.93	.58	2.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4736E+01 EXCESS= .0000E+00 OUTFLOW= .4728E+01 BASIN STORAGE= .1261E-01 PERCENT ERROR= -.1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

	MAIN	.75	1.45	5.00		7.46	800.00	.58

*** *** *** *** ***

HYDROGRAPH AT STATION R21a
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
7.	13.33	(CFS)	6.	2.	2.	2.
		(INCHES)	.380	.583	.583	.583
		(AC-FT)	3.	5.	5.	5.

CUMULATIVE AREA = .15 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	.75	1.45	5.18	675.00	7.44	799.71	.58	2.23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4690E+01 EXCESS= .0000E+00 OUTFLOW= .4678E+01 BASIN STORAGE= .1403E-01 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	.75	1.45	5.00	7.44	800.00	.58

*** *** *** *** ***

HYDROGRAPH AT STATION R21a
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
7.	13.33	(CFS)	6.	2.	2.	2.
		(INCHES)	.377	.577	.577	.577
		(AC-FT)	3.	5.	5.	5.

CUMULATIVE AREA = .15 SQ MI

INTERPOLATED HYDROGRAPH AT R21a

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	1.	1		1230	151	7.	1		1845	226	4.
1		0005	2	0.	1		0620	77	1.	1		1235	152	7.	1		1850	227	4.
1		0010	3	0.	1		0625	78	1.	1		1240	153	7.	1		1855	228	4.
1		0015	4	0.	1		0630	79	1.	1		1245	154	7.	1		1900	229	4.
1		0020	5	0.	1		0635	80	1.	1		1250	155	7.	1		1905	230	4.
1		0025	6	0.	1		0640	81	1.	1		1255	156	7.	1		1910	231	4.
1		0030	7	0.	1		0645	82	1.	1		1300	157	8.	1		1915	232	4.
1		0035	8	0.	1		0650	83	1.	1		1305	158	8.	1		1920	233	4.
1		0040	9	0.	1		0655	84	1.	1		1310	159	8.	1		1925	234	4.
1		0045	10	0.	1		0700	85	1.	1		1315	160	8.	1		1930	235	3.
1		0050	11	0.	1		0705	86	1.	1		1320	161	8.	1		1935	236	3.
1		0055	12	0.	1		0710	87	1.	1		1325	162	8.	1		1940	237	3.
1		0100	13	0.	1		0715	88	1.	1		1330	163	8.	1		1945	238	3.
1		0105	14	0.	1		0720	89	1.	1		1335	164	8.	1		1950	239	3.
1		0110	15	0.	1		0725	90	1.	1		1340	165	8.	1		1955	240	3.
1		0115	16	0.	1		0730	91	1.	1		1345	166	8.	1		2000	241	3.
1		0120	17	0.	1		0735	92	1.	1		1350	167	8.	1		2005	242	3.
1		0125	18	0.	1		0740	93	1.	1		1355	168	7.	1		2010	243	3.
1		0130	19	0.	1		0745	94	1.	1		1400	169	7.	1		2015	244	3.
1		0135	20	0.	1		0750	95	1.	1		1405	170	7.	1		2020	245	3.
1		0140	21	0.	1		0755	96	1.	1		1410	171	7.	1		2025	246	3.
1		0145	22	0.	1		0800	97	1.	1		1415	172	7.	1		2030	247	3.
1		0150	23	0.	1		0805	98	1.	1		1420	173	7.	1		2035	248	3.
1		0155	24	0.	1		0810	99	1.	1		1425	174	7.	1		2040	249	3.
1		0200	25	0.	1		0815	100	1.	1		1430	175	7.	1		2045	250	3.
1		0205	26	0.	1		0820	101	1.	1		1435	176	7.	1		2050	251	3.
1		0210	27	0.	1		0825	102	1.	1		1440	177	7.	1		2055	252	3.
1		0215	28	0.	1		0830	103	1.	1		1445	178	7.	1		2100	253	3.
1		0220	29	0.	1		0835	104	1.	1		1450	179	7.	1		2105	254	3.
1		0225	30	0.	1		0840	105	1.	1		1455	180	7.	1		2110	255	3.
1		0230	31	0.	1		0845	106	1.	1		1500	181	7.	1		2115	256	3.
1		0235	32	0.	1		0850	107	1.	1		1505	182	7.	1		2120	257	2.
1		0240	33	0.	1		0855	108	1.	1		1510	183	7.	1		2125	258	2.
1		0245	34	0.	1		0900	109	1.	1		1515	184	7.	1		2130	259	2.
1		0250	35	0.	1		0905	110	1.	1		1520	185	7.	1		2135	260	1.
1		0255	36	0.	1		0910	111	1.	1		1525	186	7.	1		2140	261	1.
1		0300	37	0.	1		0915	112	1.	1		1530	187	7.	1		2145	262	1.
1		0305	38	0.	1		0920	113	1.	1		1535	188	7.	1		2150	263	1.
1		0310	39	0.	1		0925	114	1.	1		1540	189	7.	1		2155	264	1.
1		0315	40	0.	1		0930	115	1.	1		1545	190	7.	1		2200	265	1.
1		0320	41	0.	1		0935	116	1.	1		1550	191	7.	1		2205	266	1.
1		0325	42	0.	1		0940	117	1.	1		1555	192	6.	1		2210	267	1.
1		0330	43	0.	1		0945	118	1.	1		1600	193	6.	1		2215	268	0.
1		0335	44	0.	1		0950	119	1.	1		1605	194	6.	1		2220	269	0.
1		0340	45	0.	1		0955	120	1.	1		1610	195	6.	1		2225	270	0.
1		0345	46	0.	1		1000	121	1.	1		1615	196	6.	1		2230	271	0.
1		0350	47	0.	1		1005	122	1.	1		1620	197	6.	1		2235	272	0.
1		0355	48	0.	1		1010	123	1.	1		1625	198	6.	1		2240	273	0.
1		0400	49	0.	1		1015	124	1.	1		1630	199	6.	1		2245	274	0.
1		0405	50	0.	1		1020	125	1.	1		1635	200	6.	1		2250	275	0.
1		0410	51	0.	1		1025	126	1.	1		1640	201	6.	1		2255	276	0.
1		0415	52	0.	1		1030	127	1.	1		1645	202	6.	1		2300	277	0.
1		0420	53	0.	1		1035	128	1.	1		1650	203	6.	1		2305	278	0.
1		0425	54	0.	1		1040	129	1.	1		1655	204	5.	1		2310	279	0.
1		0430	55	0.	1		1045	130	1.	1		1700	205	5.	1		2315	280	0.

```
   1    0435   56        0.   *   1    1050  131        1.   *   1    1705  206        5.   *   1    2320  281        0.
   1    0440   57        0.   *   1    1055  132        1.   *   1    1710  207        5.   *   1    2325  282        0.
   1    0445   58        0.   *   1    1100  133        2.   *   1    1715  208        5.   *   1    2330  283        0.
   1    0450   59        0.   *   1    1105  134        2.   *   1    1720  209        5.   *   1    2335  284        0.
   1    0455   60        0.   *   1    1110  135        2.   *   1    1725  210        5.   *   1    2340  285        0.
   1    0500   61        0.   *   1    1115  136        2.   *   1    1730  211        5.   *   1    2345  286        0.
   1    0505   62        0.   *   1    1120  137        2.   *   1    1735  212        5.   *   1    2350  287        0.
   1    0510   63        0.   *   1    1125  138        2.   *   1    1740  213        5.   *   1    2355  288        0.
   1    0515   64        1.   *   1    1130  139        2.   *   1    1745  214        5.   *   2    0000  289        0.
   1    0520   65        1.   *   1    1135  140        2.   *   1    1750  215        5.   *   2    0005  290        0.
   1    0525   66        1.   *   1    1140  141        2.   *   1    1755  216        5.   *   2    0010  291        0.
   1    0530   67        1.   *   1    1145  142        3.   *   1    1800  217        5.   *   2    0015  292        0.
   1    0535   68        1.   *   1    1150  143        3.   *   1    1805  218        4.   *   2    0020  293        0.
   1    0540   69        1.   *   1    1155  144        3.   *   1    1810  219        4.   *   2    0025  294        0.
   1    0545   70        1.   *   1    1200  145        3.   *   1    1815  220        4.   *   2    0030  295        0.
   1    0550   71        1.   *   1    1205  146        3.   *   1    1820  221        4.   *   2    0035  296        0.
   1    0555   72        1.   *   1    1210  147        3.   *   1    1825  222        4.   *   2    0040  297        0.
   1    0600   73        1.   *   1    1215  148        4.   *   1    1830  223        4.   *   2    0045  298        0.
   1    0605   74        1.   *   1    1220  149        5.   *   1    1835  224        4.   *   2    0050  299        0.
   1    0610   75        1.   *   1    1225  150        6.   *   1    1840  225        4.   *   2    0055  300        0.
                         *                              *                              *
*****************************************************************************************************************************

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)
                          (CFS)
+       8.     13.33          6.           2.           2.           2.
                       (INCHES)        .393         .612         .612         .612
                         (AC-FT)          3.           5.           5.

                       CUMULATIVE AREA =      .15 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            ***************
            *             *
  140 KK    *     DB21a   *
            *             *
            ***************
                        Subbasin

               SUBBASIN RUNOFF DATA

  142 BA          SUBBASIN CHARACTERISTICS
                       TAREA          .34  SUBBASIN AREA

  143 LG          GREEN AND AMPT LOSS RATE
                       STRTL          .29  STARTING LOSS
                         DTH          .31  MOISTURE DEFICIT
                        PSIF         1.15  WETTING FRONT SUCTION
                       XKSAT          .04  HYDRAULIC CONDUCTIVITY
                       RTIMP        30.00  PERCENT IMPERVIOUS AREA

  144 US          SNYDER UNITGRAPH
                         TP          .08  LAG
                         CP          .34  PEAKING COEFFICIENT

               SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=   .08 HR,      R=   .34 HR
                                   SNYDER   TP=   .13 HR,     CP=   .34

                                          UNIT HYDROGRAPH
                                    23 END-OF-PERIOD ORDINATES
                288.      512.      401.      313.      245.      191.      150.      117.       91.       71.
                 56.       44.       34.       27.       21.       16.       13.       10.        8.        6.
                  5.        4.        3.

      ***              ***              ***              ***              ***

                     HYDROGRAPH AT STATION    DB21a
                    TRANSPOSITION AREA        .0 SQ MI

    TOTAL RAINFALL =    1.19, TOTAL LOSS =      .57, TOTAL EXCESS =      .62

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)
                          (CFS)
+     149.     12.00         19.           6.           5.           5.
                       (INCHES)        .515         .619         .620         .620
                         (AC-FT)          9.          11.          11.          11.

                       CUMULATIVE AREA =      .34 SQ MI

      ***              ***              ***              ***              ***

                     HYDROGRAPH AT STATION    DB21a
                    TRANSPOSITION AREA       14.0 SQ MI

    TOTAL RAINFALL =    1.17, TOTAL LOSS =      .56, TOTAL EXCESS =      .60

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR     24.92-HR
    (CFS)       (HR)
                          (CFS)
     144.     12.00         18.           6.           5.           5.
                       (INCHES)        .500         .601         .602         .602
                         (AC-FT)          9.          11.          11.          11.

                       CUMULATIVE AREA =      .34 SQ MI

      ***              ***              ***              ***              ***
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HYDROGRAPH AT STATION DB21a
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.15, TOTAL LOSS = .56, TOTAL EXCESS = .60

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
142.	12.00	18.	5.	5.	5.
		.492	.593	.593	.593
		9.	11.	11.	11.

(CFS)
(INCHES)
(AC-FT)

CUMULATIVE AREA = .34 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB21a
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.14, TOTAL LOSS = .55, TOTAL EXCESS = .59

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
140.	12.00	18.	5.	5.	5.
		.485	.584	.585	.585
		9.	11.	11.	11.

(CFS)
(INCHES)
(AC-FT)

CUMULATIVE AREA = .34 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB21a
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.13, TOTAL LOSS = .55, TOTAL EXCESS = .58

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
139.	12.00	18.	5.	5.	5.
		.479	.578	.579	.579
		9.	10.	11.	11.

(CFS)
(INCHES)
(AC-FT)

CUMULATIVE AREA = .34 SQ MI

INTERPOLATED HYDROGRAPH AT DB21a

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	1.	1		1230	151	53.	1		1845	226	1.
1		0005	2	0.	1		0620	77	1.	1		1235	152	43.	1		1850	227	1.
1		0010	3	0.	1		0625	78	1.	1		1240	153	35.	1		1855	228	1.
1		0015	4	0.	1		0630	79	1.	1		1245	154	29.	1		1900	229	1.
1		0020	5	0.	1		0635	80	1.	1		1250	155	24.	1		1905	230	1.
1		0025	6	1.	1		0640	81	1.	1		1255	156	20.	1		1910	231	1.
1		0030	7	1.	1		0645	82	1.	1		1300	157	16.	1		1915	232	1.
1		0035	8	1.	1		0650	83	1.	1		1305	158	14.	1		1920	233	1.
1		0040	9	1.	1		0655	84	1.	1		1310	159	12.	1		1925	234	1.
1		0045	10	1.	1		0700	85	1.	1		1315	160	10.	1		1930	235	1.
1		0050	11	1.	1		0705	86	2.	1		1320	161	9.	1		1935	236	1.
1		0055	12	1.	1		0710	87	2.	1		1325	162	8.	1		1940	237	1.
1		0100	13	1.	1		0715	88	2.	1		1330	163	7.	1		1945	238	1.
1		0105	14	1.	1		0720	89	2.	1		1335	164	6.	1		1950	239	1.
1		0110	15	1.	1		0725	90	2.	1		1340	165	5.	1		1955	240	1.
1		0115	16	1.	1		0730	91	2.	1		1345	166	5.	1		2000	241	1.
1		0120	17	1.	1		0735	92	2.	1		1350	167	4.	1		2005	242	1.
1		0125	18	1.	1		0740	93	2.	1		1355	168	4.	1		2010	243	1.
1		0130	19	1.	1		0745	94	2.	1		1400	169	4.	1		2015	244	1.
1		0135	20	1.	1		0750	95	2.	1		1405	170	3.	1		2020	245	1.
1		0140	21	1.	1		0755	96	2.	1		1410	171	3.	1		2025	246	1.
1		0145	22	1.	1		0800	97	2.	1		1415	172	3.	1		2030	247	1.
1		0150	23	1.	1		0805	98	2.	1		1420	173	3.	1		2035	248	1.
1		0155	24	1.	1		0810	99	2.	1		1425	174	3.	1		2040	249	1.
1		0200	25	1.	1		0815	100	2.	1		1430	175	3.	1		2045	250	1.
1		0205	26	1.	1		0820	101	2.	1		1435	176	3.	1		2050	251	1.
1		0210	27	1.	1		0825	102	2.	1		1440	177	3.	1		2055	252	1.
1		0215	28	1.	1		0830	103	2.	1		1445	178	3.	1		2100	253	1.
1		0220	29	1.	1		0835	104	2.	1		1450	179	3.	1		2105	254	1.
1		0225	30	1.	1		0840	105	2.	1		1455	180	3.	1		2110	255	1.
1		0230	31	1.	1		0845	106	2.	1		1500	181	3.	1		2115	256	1.
1		0235	32	1.	1		0850	107	2.	1		1505	182	2.	1		2120	257	1.
1		0240	33	1.	1		0855	108	2.	1		1510	183	2.	1		2125	258	1.
1		0245	34	1.	1		0900	109	2.	1		1515	184	2.	1		2130	259	1.
1		0250	35	1.	1		0905	110	2.	1		1520	185	2.	1		2135	260	1.
1		0255	36	1.	1		0910	111	2.	1		1525	186	2.	1		2140	261	1.
1		0300	37	1.	1		0915	112	2.	1		1530	187	2.	1		2145	262	1.
1		0305	38	1.	1		0920	113	2.	1		1535	188	2.	1		2150	263	1.
1		0310	39	1.	1		0925	114	2.	1		1540	189	2.	1		2155	264	1.
1		0315	40	1.	1		0930	115	2.	1		1545	190	2.	1		2200	265	1.
1		0320	41	1.	1		0935	116	2.	1		1550	191	2.	1		2205	266	1.
1		0325	42	1.	1		0940	117	2.	1		1555	192	2.	1		2210	267	1.
1		0330	43	1.	1		0945	118	3.	1		1600	193	2.	1		2215	268	1.
1		0335	44	1.	1		0950	119	3.	1		1605	194	2.	1		2220	269	1.
1		0340	45	1.	1		0955	120	3.	1		1610	195	2.	1		2225	270	1.
1		0345	46	1.	1		1000	121	3.	1		1615	196	2.	1		2230	271	1.
1		0350	47	1.	1		1005	122	3.	1		1620	197	2.	1		2235	272	1.
1		0355	48	1.	1		1010	123	3.	1		1625	198	2.	1		2240	273	1.
1		0400	49	1.	1		1015	124	3.	1		1630	199	2.	1		2245	274	1.
1		0405	50	1.	1		1020	125	3.	1		1635	200	2.	1		2250	275	1.
1		0410	51	1.	1		1025	126	3.	1		1640	201	2.	1		2255	276	1.
1		0415	52	1.	1		1030	127	3.	1		1645	202	2.	1		2300	277	1.
1		0420	53	1.	1		1035	128	4.	1		1650	203	2.	1		2305	278	1.
1		0425	54	1.	1		1040	129	4.	1		1655	204	2.	1		2310	279	1.

```
    1    0430   55        1.   *    1    1045  130        4.   *    1    1700  205        2.   *    1    2315  280        1.
    1    0435   56        1.   *    1    1050  131        4.   *    1    1705  206        2.   *    1    2320  281        1.
    1    0440   57        1.   *    1    1055  132        4.   *    1    1710  207        2.   *    1    2325  282        1.
    1    0445   58        1.   *    1    1100  133        5.   *    1    1715  208        2.   *    1    2330  283        1.
    1    0450   59        1.   *    1    1105  134        5.   *    1    1720  209        2.   *    1    2335  284        1.
    1    0455   60        1.   *    1    1110  135        5.   *    1    1725  210        2.   *    1    2340  285        1.
    1    0500   61        1.   *    1    1115  136        5.   *    1    1730  211        2.   *    1    2345  286        1.
    1    0505   62        1.   *    1    1120  137        6.   *    1    1735  212        2.   *    1    2350  287        1.
    1    0510   63        1.   *    1    1125  138        6.   *    1    1740  213        2.   *    1    2355  288        1.
    1    0515   64        1.   *    1    1130  139        7.   *    1    1745  214        2.   *    2    0000  289        1.
    1    0520   65        1.   *    1    1135  140        8.   *    1    1750  215        1.   *    2    0005  290        1.
    1    0525   66        1.   *    1    1140  141       17.   *    1    1755  216        1.   *    2    0010  291        1.
    1    0530   67        1.   *    1    1145  142       36.   *    1    1800  217        1.   *    2    0015  292        0.
    1    0535   68        1.   *    1    1150  143       69.   *    1    1805  218        1.   *    2    0020  293        0.
    1    0540   69        1.   *    1    1155  144      113.   *    1    1810  219        1.   *    2    0025  294        0.
    1    0545   70        1.   *    1    1200  145      147.   *    1    1815  220        1.   *    2    0030  295        0.
    1    0550   71        1.   *    1    1205  146      142.   *    1    1820  221        1.   *    2    0035  296        0.
    1    0555   72        1.   *    1    1210  147      117.   *    1    1825  222        1.   *    2    0040  297        0.
    1    0600   73        1.   *    1    1215  148       96.   *    1    1830  223        1.   *    2    0045  298        0.
    1    0605   74        1.   *    1    1220  149       79.   *    1    1835  224        1.   *    2    0050  299        0.
    1    0610   75        1.   *    1    1225  150       65.   *    1    1840  225        1.   *    2    0055  300        0.
                             *                                   *                                   *
 ************************************************************************************************************************************************************

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                  6-HR          24-HR          72-HR         24.92-HR
+   (CFS)       (HR)
                          (CFS)
+     147.     12.00                19.            6.             5.             5.
                       (INCHES)     .508          .610           .611           .611
                        (AC-FT)       9.            11.            11.            11.

                       CUMULATIVE AREA =      .34 SQ MI


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *             *
  145 KK    *       R17   *      Subbasin
            *             *
            ***************

               SUBBASIN RUNOFF DATA

  146 BA         SUBBASIN CHARACTERISTICS
                      TAREA         .16  SUBBASIN AREA

  147 LG         GREEN AND AMPT LOSS RATE
                      STRTL         .41  STARTING LOSS
                        DTH         .40  MOISTURE DEFICIT
                       PSIF        1.50  WETTING FRONT SUCTION
                      XKSAT         .05  HYDRAULIC CONDUCTIVITY
                      RTIMP        2.00  PERCENT IMPERVIOUS AREA

  148 US         SNYDER UNITGRAPH
                      TP            .10  LAG
                      CP            .25  PEAKING COEFFICIENT

                 SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .08 HR,       R=    .51 HR
                                   SNYDER   TP=    .14 HR,      CP=    .26

                                          UNIT HYDROGRAPH
                                    34 END-OF-PERIOD ORDINATES
                94.      175.      148.      126.      107.       91.       77.       66.       56.       47.
                40.       34.       29.       25.       21.       18.       15.       13.       11.        9.
                 8.        7.        6.        5.        4.        4.        3.        3.        2.        2.
                 2.        1.        1.        1.

       ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION      R17
                      TRANSPOSITION AREA       .0 SQ MI

     TOTAL RAINFALL =    1.19, TOTAL LOSS =     .94, TOTAL EXCESS =     .25

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                  6-HR          24-HR          72-HR         24.92-HR
+   (CFS)       (HR)
                          (CFS)
+       35.     12.08                4.            1.             1.             1.
                       (INCHES)     .240          .247           .247           .247
                        (AC-FT)       2.            2.             2.             2.

                       CUMULATIVE AREA =      .16 SQ MI

       ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION      R17
                      TRANSPOSITION AREA     14.0 SQ MI

     TOTAL RAINFALL =    1.17, TOTAL LOSS =     .93, TOTAL EXCESS =     .24

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                  6-HR          24-HR          72-HR         24.92-HR
    (CFS)       (HR)
                          (CFS)
       33.     12.08                4.            1.             1.             1.
                       (INCHES)     .228          .235           .235           .235
                        (AC-FT)       2.            2.             2.             2.

                       CUMULATIVE AREA =      .16 SQ MI

       ***             ***             ***             ***             ***
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HYDROGRAPH AT STATION R17
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.15, TOTAL LOSS = .92, TOTAL EXCESS = .23

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
32.	12.08	4.	1.	1.	1.
		(INCHES) .222	.228	.228	.228
		(AC-FT) 2.	2.	2.	2.

CUMULATIVE AREA = .16 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R17
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.14, TOTAL LOSS = .92, TOTAL EXCESS = .22

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
32.	12.08	4.	1.	1.	1.
		(INCHES) .215	.222	.222	.222
		(AC-FT) 2.	2.	2.	2.

CUMULATIVE AREA = .16 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R17
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.13, TOTAL LOSS = .92, TOTAL EXCESS = .22

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
31.	12.08	4.	1.	1.	1.
		(INCHES) .211	.217	.217	.217
		(AC-FT) 2.	2.	2.	2.

CUMULATIVE AREA = .16 SQ MI

INTERPOLATED HYDROGRAPH AT R17

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	15.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	13.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	11.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	10.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	8.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	7.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	6.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	5.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	4.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	4.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	3.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	3.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	2.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	2.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	2.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	1.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	1.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	1.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	1.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	1.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	1.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	1.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	1.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	0.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	0.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	0.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	0.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	0.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	0.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	0.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	0.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	0.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	0.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	0.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	0.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	0.	1		2140	261	0.
1		0300	37	0.	1		0915	112	0.	1		1530	187	0.	1		2145	262	0.
1		0305	38	0.	1		0920	113	0.	1		1535	188	0.	1		2150	263	0.
1		0310	39	0.	1		0925	114	0.	1		1540	189	0.	1		2155	264	0.
1		0315	40	0.	1		0930	115	0.	1		1545	190	0.	1		2200	265	0.
1		0320	41	0.	1		0935	116	0.	1		1550	191	0.	1		2205	266	0.
1		0325	42	0.	1		0940	117	0.	1		1555	192	0.	1		2210	267	0.
1		0330	43	0.	1		0945	118	0.	1		1600	193	0.	1		2215	268	0.
1		0335	44	0.	1		0950	119	0.	1		1605	194	0.	1		2220	269	0.
1		0340	45	0.	1		0955	120	0.	1		1610	195	0.	1		2225	270	0.
1		0345	46	0.	1		1000	121	0.	1		1615	196	0.	1		2230	271	0.
1		0350	47	0.	1		1005	122	0.	1		1620	197	0.	1		2235	272	0.
1		0355	48	0.	1		1010	123	0.	1		1625	198	0.	1		2240	273	0.
1		0400	49	0.	1		1015	124	0.	1		1630	199	0.	1		2245	274	0.
1		0405	50	0.	1		1020	125	0.	1		1635	200	0.	1		2250	275	0.
1		0410	51	0.	1		1025	126	0.	1		1640	201	0.	1		2255	276	0.
1		0415	52	0.	1		1030	127	0.	1		1645	202	0.	1		2300	277	0.
1		0420	53	0.	1		1035	128	0.	1		1650	203	0.	1		2305	278	0.

1	0425	54	0.	*	1	1040	129	0.	*	1	1655	204	0.	*	1	2310	279	0.
1	0430	55	0.	*	1	1045	130	0.	*	1	1700	205	0.	*	1	2315	280	0.
1	0435	56	0.	*	1	1050	131	0.	*	1	1705	206	0.	*	1	2320	281	0.
1	0440	57	0.	*	1	1055	132	0.	*	1	1710	207	0.	*	1	2325	282	0.
1	0445	58	0.	*	1	1100	133	0.	*	1	1715	208	0.	*	1	2330	283	0.
1	0450	59	0.	*	1	1105	134	0.	*	1	1720	209	0.	*	1	2335	284	0.
1	0455	60	0.	*	1	1110	135	0.	*	1	1725	210	0.	*	1	2340	285	0.
1	0500	61	0.	*	1	1115	136	0.	*	1	1730	211	0.	*	1	2345	286	0.
1	0505	62	0.	*	1	1120	137	0.	*	1	1735	212	0.	*	1	2350	287	0.
1	0510	63	0.	*	1	1125	138	0.	*	1	1740	213	0.	*	1	2355	288	0.
1	0515	64	0.	*	1	1130	139	0.	*	1	1745	214	0.	*	2	0000	289	0.
1	0520	65	0.	*	1	1135	140	0.	*	1	1750	215	0.	*	2	0005	290	0.
1	0525	66	0.	*	1	1140	141	0.	*	1	1755	216	0.	*	2	0010	291	0.
1	0530	67	0.	*	1	1145	142	0.	*	1	1800	217	0.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	6.	*	1	1805	218	0.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	20.	*	1	1810	219	0.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	33.	*	1	1815	220	0.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	34.	*	1	1820	221	0.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	29.	*	1	1825	222	0.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	25.	*	1	1830	223	0.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	21.	*	1	1835	224	0.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	18.	*	1	1840	225	0.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 34.	12.08		4.	1.	1.	1.
		(INCHES)	.235	.242	.242	.242
		(AC-FT)	2.	2.	2.	2.

CUMULATIVE AREA = .16 SQ MI

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* *
149 KK * R_17_ * O Route hydrograph through R15 overland
* *
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HYDROGRAPH ROUTING DATA

150 RK KINEMATIC WAVE STREAM ROUTING

L	2000.	CHANNEL LENGTH
S	.0180	SLOPE
N	.040	CHANNEL ROUGHNESS COEFFICIENT
CA	.00	CONTRIBUTING AREA
SHAPE	TRAP	CHANNEL SHAPE
WD	10.00	BOTTOM WIDTH OR DIAMETER
Z	5.00	SIDE SLOPE
NDXMIN	2	MINIMUM NUMBER OF DX INTERVALS

***

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.36	1.39	2.49	666.67	34.53	728.43	.25	4.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2139E+01 EXCESS= .0000E+00 OUTFLOW= .2137E+01 BASIN STORAGE= .9941E-03 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.36	1.39	5.00	34.17	730.00	.25

*** *** *** *** ***

HYDROGRAPH AT STATION R_17_
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 34.	12.17		4.	1.	1.	1.
		(INCHES)	.240	.247	.247	.247
		(AC-FT)	2.	2.	2.	2.

CUMULATIVE AREA = .16 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.36	1.39	2.47	666.67	33.08	729.29	.23	4.62

NTINUITY SUMMARY (AC-FT) - INFLOW= .2031E+01 EXCESS= .0000E+00 OUTFLOW= .2032E+01 BASIN STORAGE= .7968E-03 PERCENT ERROR= -.1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.36	1.39	5.00	32.65	730.00	.24

*** *** *** *** ***

HYDROGRAPH AT STATION R_17_
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)	4.	1.	1.	1.
+ 33.	12.17	(INCHES)	.228	.235	.235	.235
		(AC-FT)	2.	2.	2.	2.

CUMULATIVE AREA = .16 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.36	1.39	2.47	666.67	32.42	729.86	.23	4.59

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1976E+01 EXCESS= .0000E+00 OUTFLOW= .1977E+01 BASIN STORAGE= .9220E-03 PERCENT ERROR= -.1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.36	1.39	5.00	32.30	730.00	.23
***	***	***	***	***		

HYDROGRAPH AT STATION R_17_
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)	4.	1.	1.	1.
+ 32.	12.17	(INCHES)	.223	.230	.230	.230
		(AC-FT)	2.	2.	2.	2.

CUMULATIVE AREA = .16 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.36	1.39	2.48	666.67	31.06	730.51	.22	4.55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1920E+01 EXCESS= .0000E+00 OUTFLOW= .1917E+01 BASIN STORAGE= .7367E-03 PERCENT ERROR= .1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.36	1.39	5.00	31.03	730.00	.22
***	***	***	***	***		

HYDROGRAPH AT STATION R_17_
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)	4.	1.	1.	1.
+ 31.	12.17	(INCHES)	.215	.222	.222	.222
		(AC-FI)	2.	2.	2.	2.

CUMULATIVE AREA = .16 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.36	1.39	2.55	666.67	30.63	729.35	.22	4.53

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1882E+01 EXCESS= .0000E+00 OUTFLOW= .1883E+01 BASIN STORAGE= .8732E-03 PERCENT ERROR= -.1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.36	1.39	5.00	30.28	730.00	.22
***	***	***	***	***		

HYDROGRAPH AT STATION R_17_
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)	4.	1.	1.	1.
+ 30.	12.17	(INCHES)	.211	.218	.218	.218
		(AC-FT)	2.	2.	2.	2.

CUMULATIVE AREA = .16 SQ MI

INTERPOLATED HYDROGRAPH AT R_17_

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	19.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	16.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	14.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	12.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	10.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	9.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	8.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	6.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	6.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	5.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	4.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	4.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	3.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	3.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	2.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	2.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	2.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	2.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	1.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	1.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	1.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	1.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	1.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	1.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	1.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	1.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	0.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	0.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	0.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	0.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	0.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	0.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	0.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	0.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	0.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	0.	1		2140	261	0.
1		0300	37	0.	1		0915	112	0.	1		1530	187	0.	1		2145	262	0.
1		0305	38	0.	1		0920	113	0.	1		1535	188	0.	1		2150	263	0.
1		0310	39	0.	1		0925	114	0.	1		1540	189	0.	1		2155	264	0.
1		0315	40	0.	1		0930	115	0.	1		1545	190	0.	1		2200	265	0.
1		0320	41	0.	1		0935	116	0.	1		1550	191	0.	1		2205	266	0.
1		0325	42	0.	1		0940	117	0.	1		1555	192	0.	1		2210	267	0.
1		0330	43	0.	1		0945	118	0.	1		1600	193	0.	1		2215	268	0.
1		0335	44	0.	1		0950	119	0.	1		1605	194	0.	1		2220	269	0.
1		0340	45	0.	1		0955	120	0.	1		1610	195	0.	1		2225	270	0.
1		0345	46	0.	1		1000	121	0.	1		1615	196	0.	1		2230	271	0.
1		0350	47	0.	1		1005	122	0.	1		1620	197	0.	1		2235	272	0.
1		0355	48	0.	1		1010	123	0.	1		1625	198	0.	1		2240	273	0.
1		0400	49	0.	1		1015	124	0.	1		1630	199	0.	1		2245	274	0.
1		0405	50	0.	1		1020	125	0.	1		1635	200	0.	1		2250	275	0.
1		0410	51	0.	1		1025	126	0.	1		1640	201	0.	1		2255	276	0.
1		0415	52	0.	1		1030	127	0.	1		1645	202	0.	1		2300	277	0.
1		0420	53	0.	1		1035	128	0.	1		1650	203	0.	1		2305	278	0.
1		0425	54	0.	1		1040	129	0.	1		1655	204	0.	1		2310	279	0.
1		0430	55	0.	1		1045	130	0.	1		1700	205	0.	1		2315	280	0.
1		0435	56	0.	1		1050	131	0.	1		1705	206	0.	1		2320	281	0.
1		0440	57	0.	1		1055	132	0.	1		1710	207	0.	1		2325	282	0.
1		0445	58	0.	1		1100	133	0.	1		1715	208	0.	1		2330	283	0.
1		0450	59	0.	1		1105	134	0.	1		1720	209	0.	1		2335	284	0.
1		0455	60	0.	1		1110	135	0.	1		1725	210	0.	1		2340	285	0.
1		0500	61	0.	1		1115	136	0.	1		1730	211	0.	1		2345	286	0.
1		0505	62	0.	1		1120	137	0.	1		1735	212	0.	1		2350	287	0.
1		0510	63	0.	1		1125	138	0.	1		1740	213	0.	1		2355	288	0.
1		0515	64	0.	1		1130	139	0.	1		1745	214	0.	2		0000	289	0.
1		0520	65	0.	1		1135	140	0.	1		1750	215	0.	2		0005	290	0.
1		0525	66	0.	1		1140	141	0.	1		1755	216	0.	2		0010	291	0.
1		0530	67	0.	1		1145	142	0.	1		1800	217	0.	2		0015	292	0.
1		0535	68	0.	1		1150	143	0.	1		1805	218	0.	2		0020	293	0.
1		0540	69	0.	1		1155	144	2.	1		1810	219	0.	2		0025	294	0.
1		0545	70	0.	1		1200	145	15.	1		1815	220	0.	2		0030	295	0.
1		0550	71	0.	1		1205	146	32.	1		1820	221	0.	2		0035	296	0.
1		0555	72	0.	1		1210	147	34.	1		1825	222	0.	2		0040	297	0.
1		0600	73	0.	1		1215	148	29.	1		1830	223	0.	2		0045	298	0.
1		0605	74	0.	1		1220	149	25.	1		1835	224	0.	2		0050	299	0.
1		0610	75	0.	1		1225	150	22.	1		1840	225	0.	2		0055	300	0.

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)					
		(CFS)	4.	1.	1.	1.
34.	12.17	(INCHES)	.235	.242	.242	.242
		(AC-FT)	2.	2.	2.	2.

CUMULATIVE AREA = .16 SQ MI

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151 KK      ***************
            *             *
            *      C21a   *
            *             *
            ***************
                  Combine Routed Basin 21 with Basin 21a and R17

153 HC          HYDROGRAPH COMBINATION
                     ICOMP          3  NUMBER OF HYDROGRAPHS TO COMBINE
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HYDROGRAPH AT STATION C21a
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
179.	12.08	(CFS) 29.	9.	9.	9.
		(INCHES) .407	.526	.527	.527
		(AC-FT) 14.	18.	18.	18.

CUMULATIVE AREA = .65 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C21a
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
173.	12.08	(CFS) 28.	9.	9.	9.
		(INCHES) .395	.510	.511	.511
		(AC-FT) 14.	18.	18.	18.

CUMULATIVE AREA = .65 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C21a
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
171.	12.08	(CFS) 27.	9.	9.	9.
		(INCHES) .389	.502	.503	.503
		(AC-FT) 14.	18.	18.	18.

CUMULATIVE AREA = .65 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C21a
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
167.	12.08	(CFS) 27.	9.	8.	8.
		(INCHES) .382	.494	.494	.494
		(AC-FT) 13.	17.	17.	17.

CUMULATIVE AREA = .65 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C21a
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
165.	12.08	(CFS) 27.	9.	8.	8.
		(INCHES) .378	.488	.489	.489
		(AC-FT) 13.	17.	17.	17.

CUMULATIVE AREA = .65 SQ MI

INTERPOLATED HYDROGRAPH AT C21a

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	2.	1		1230	151	78.	1		1845	226	5.
1		0005	2	0.	1		0620	77	2.	1		1235	152	66.	1		1850	227	5.
1		0010	3	0.	1		0625	78	2.	1		1240	153	56.	1		1855	228	5.
1		0015	4	0.	1		0630	79	2.	1		1245	154	48.	1		1900	229	5.
1		0020	5	0.	1		0635	80	2.	1		1250	155	41.	1		1905	230	5.
1		0025	6	1.	1		0640	81	2.	1		1255	156	36.	1		1910	231	5.
1		0030	7	1.	1		0645	82	2.	1		1300	157	31.	1		1915	232	5.
1		0035	8	1.	1		0650	83	2.	1		1305	158	28.	1		1920	233	5.
1		0040	9	1.	1		0655	84	2.	1		1310	159	25.	1		1925	234	5.
1		0045	10	1.	1		0700	85	2.	1		1315	160	23.	1		1930	235	5.
1		0050	11	1.	1		0705	86	2.	1		1320	161	21.	1		1935	236	5.
1		0055	12	1.	1		0710	87	2.	1		1325	162	19.	1		1940	237	5.
1		0100	13	1.	1		0715	88	2.	1		1330	163	18.	1		1945	238	4.
1		0105	14	1.	1		0720	89	2.	1		1335	164	16.	1		1950	239	4.
1		0110	15	1.	1		0725	90	2.	1		1340	165	15.	1		1955	240	4.
1		0115	16	1.	1		0730	91	2.	1		1345	166	14.	1		2000	241	4.
1		0120	17	1.	1		0735	92	2.	1		1350	167	13.	1		2005	242	4.
1		0125	18	1.	1		0740	93	2.	1		1355	168	13.	1		2010	243	4.
1		0130	19	1.	1		0745	94	2.	1		1400	169	12.	1		2015	244	4.
1		0135	20	1.	1		0750	95	2.	1		1405	170	12.	1		2020	245	4.
1		0140	21	1.	1		0755	96	2.	1		1410	171	12.	1		2025	246	4.
1		0145	22	1.	1		0800	97	2.	1		1415	172	11.	1		2030	247	4.
1		0150	23	1.	1		0805	98	2.	1		1420	173	11.	1		2035	248	4.

1	0155	24	1.	*	1	0810	99	2.	*	1	1425	174	11.	*	1	2040	249	4.
1	0200	25	1.	*	1	0815	100	2.	*	1	1430	175	11.	*	1	2045	250	4.
1	0205	26	1.	*	1	0820	101	3.	*	1	1435	176	11.	*	1	2050	251	4.
1	0210	27	1.	*	1	0825	102	3.	*	1	1440	177	10.	*	1	2055	252	4.
1	0215	28	1.	*	1	0830	103	3.	*	1	1445	178	10.	*	1	2100	253	4.
1	0220	29	1.	*	1	0835	104	3.	*	1	1450	179	10.	*	1	2105	254	4.
1	0225	30	1.	*	1	0840	105	3.	*	1	1455	180	10.	*	1	2110	255	4.
1	0230	31	1.	*	1	0845	106	3.	*	1	1500	181	10.	*	1	2115	256	4.
1	0235	32	1.	*	1	0850	107	3.	*	1	1505	182	10.	*	1	2120	257	3.
1	0240	33	1.	*	1	0855	108	3.	*	1	1510	183	10.	*	1	2125	258	3.
1	0245	34	1.	*	1	0900	109	3.	*	1	1515	184	10.	*	1	2130	259	2.
1	0250	35	1.	*	1	0905	110	3.	*	1	1520	185	9.	*	1	2135	260	2.
1	0255	36	1.	*	1	0910	111	3.	*	1	1525	186	9.	*	1	2140	261	2.
1	0300	37	1.	*	1	0915	112	3.	*	1	1530	187	9.	*	1	2145	262	2.
1	0305	38	1.	*	1	0920	113	3.	*	1	1535	188	9.	*	1	2150	263	2.
1	0310	39	1.	*	1	0925	114	3.	*	1	1540	189	9.	*	1	2155	264	2.
1	0315	40	1.	*	1	0930	115	3.	*	1	1545	190	9.	*	1	2200	265	1.
1	0320	41	1.	*	1	0935	116	3.	*	1	1550	191	9.	*	1	2205	266	1.
1	0325	42	1.	*	1	0940	117	4.	*	1	1555	192	9.	*	1	2210	267	1.
1	0330	43	1.	*	1	0945	118	4.	*	1	1600	193	8.	*	1	2215	268	1.
1	0335	44	1.	*	1	0950	119	4.	*	1	1605	194	8.	*	1	2220	269	1.
1	0340	45	1.	*	1	0955	120	4.	*	1	1610	195	8.	*	1	2225	270	1.
1	0345	46	1.	*	1	1000	121	4.	*	1	1615	196	8.	*	1	2230	271	1.
1	0350	47	2.	*	1	1005	122	4.	*	1	1620	197	8.	*	1	2235	272	1.
1	0355	48	2.	*	1	1010	123	4.	*	1	1625	198	8.	*	1	2240	273	1.
1	0400	49	2.	*	1	1015	124	4.	*	1	1630	199	8.	*	1	2245	274	1.
1	0405	50	2.	*	1	1020	125	4.	*	1	1635	200	8.	*	1	2250	275	1.
1	0410	51	2.	*	1	1025	126	5.	*	1	1640	201	7.	*	1	2255	276	1.
1	0415	52	2.	*	1	1030	127	5.	*	1	1645	202	7.	*	1	2300	277	1.
1	0420	53	2.	*	1	1035	128	5.	*	1	1650	203	7.	*	1	2305	278	1.
1	0425	54	2.	*	1	1040	129	5.	*	1	1655	204	7.	*	1	2310	279	1.
1	0430	55	2.	*	1	1045	130	5.	*	1	1700	205	7.	*	1	2315	280	1.
1	0435	56	2.	*	1	1050	131	6.	*	1	1705	206	7.	*	1	2320	281	1.
1	0440	57	2.	*	1	1055	132	6.	*	1	1710	207	7.	*	1	2325	282	1.
1	0445	58	2.	*	1	1100	133	6.	*	1	1715	208	7.	*	1	2330	283	1.
1	0450	59	2.	*	1	1105	134	6.	*	1	1720	209	7.	*	1	2335	284	1.
1	0455	60	2.	*	1	1110	135	7.	*	1	1725	210	7.	*	1	2340	285	1.
1	0500	61	2.	*	1	1115	136	7.	*	1	1730	211	6.	*	1	2345	286	1.
1	0505	62	2.	*	1	1120	137	8.	*	1	1735	212	6.	*	1	2350	287	1.
1	0510	63	2.	*	1	1125	138	8.	*	1	1740	213	6.	*	1	2355	288	1.
1	0515	64	2.	*	1	1130	139	9.	*	1	1745	214	6.	*	2	0000	289	1.
1	0520	65	2.	*	1	1135	140	11.	*	1	1750	215	6.	*	2	0005	290	1.
1	0525	66	2.	*	1	1140	141	19.	*	1	1755	216	6.	*	2	0010	291	1.
1	0530	67	2.	*	1	1145	142	39.	*	1	1800	217	6.	*	2	0015	292	1.
1	0535	68	2.	*	1	1150	143	72.	*	1	1805	218	6.	*	2	0020	293	1.
1	0540	69	2.	*	1	1155	144	117.	*	1	1810	219	6.	*	2	0025	294	1.
1	0545	70	2.	*	1	1200	145	163.	*	1	1815	220	6.	*	2	0030	295	1.
1	0550	71	2.	*	1	1205	146	176.	*	1	1820	221	6.	*	2	0035	296	1.
1	0555	72	2.	*	1	1210	147	153.	*	1	1825	222	6.	*	2	0040	297	1.
1	0600	73	2.	*	1	1215	148	129.	*	1	1830	223	6.	*	2	0045	298	0.
1	0605	74	2.	*	1	1220	149	109.	*	1	1835	224	5.	*	2	0050	299	0.
1	0610	75	2.	*	1	1225	150	92.	*	1	1840	225	5.	*	2	0055	300	0.

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 176.	12.08		28.	9.	9.	9.
		(INCHES)	.400	.517	.518	.518
		(AC-FT)	14.	18.	18.	18.

CUMULATIVE AREA = .65 SQ MI

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          *            *
154 KK    *    WF_PD1  *
          *            *
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Route Hydrograph Through New Walker Field On Site Pond 1

HYDROGRAPH ROUTING DATA

156 RS	STORAGE ROUTING			
	NSTPS	1	NUMBER OF SUBREACHES	
	ITYP	STOR	TYPE OF INITIAL CONDITION	
	RSVRIC	.00	INITIAL CONDITION	
	X	.00	WORKING R AND D COEFFICIENT	
157 SV	STORAGE	.0	1.0	6.9	13.6	17.3
158 SQ	DISCHARGE	0.	11.	24.	32.	36.
159 SE	ELEVATION	38.50	40.00	42.00	44.00	45.00

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HYDROGRAPH AT STATION WF_PD1
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
26.	13.17		22.	9.	9.	9.
		(INCHES)	.312	.523	.523	.523
		(AC-FT)	11.	18.	18.	18.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
8.	13.17	6.	2.	2.	2.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR

+ (FEET)	(HR)					
42.40	13.17		41.74	39.84	39.79	39.79

CUMULATIVE AREA = .65 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION WF_PD1
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 25.	13.17		21.	9.	9.	9.
		(INCHES)	.305	.507	.507	.507
		(AC-FT)	11.	18.	18.	18.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
8.	13.17	6.	2.	2.	2.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
42.31	13.17	41.66	39.79	39.74	39.74

CUMULATIVE AREA = .65 SQ MI

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HYDROGRAPH AT STATION WF_PD1
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 25.	13.17		21.	9.	8.	8.
		(INCHES)	.302	.499	.500	.500
		(AC-FT)	11.	17.	17.	17.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
8.	13.17	6.	2.	2.	2.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
42.26	13.17	41.62	39.77	39.72	39.72

CUMULATIVE AREA = .65 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION WF_PD1
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 25.	13.17		21.	9.	8.	8.
		(INCHES)	.298	.491	.491	.491
		(AC-FT)	10.	17.	17.	17.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
8.	13.17	6.	2.	2.	2.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
42.21	13.17	41.57	39.75	39.70	39.70

CUMULATIVE AREA = .65 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION WF_PD1
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 25.	13.17		21.	9.	8.	8.
		(INCHES)	.296	.486	.486	.486
		(AC-FT)	10.	17.	17.	17.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
8.	13.17	6.	2.	2.	2.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
42.18	13.17	41.54	39.73	39.69	39.69

CUMULATIVE AREA = .65 SQ MI

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INTERPOLATED HYDROGRAPH AT WF_PD1

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	2.	1		1230	151	24.	1		1845	226	15.
1		0005	2	0.	1		0620	77	2.	1		1235	152	24.	1		1850	227	15.
1		0010	3	0.	1		0625	78	2.	1		1240	153	25.	1		1855	228	15.
1		0015	4	0.	1		0630	79	2.	1		1245	154	25.	1		1900	229	15.
1		0020	5	0.	1		0635	80	2.	1		1250	155	25.	1		1905	230	14.
1		0025	6	0.	1		0640	81	2.	1		1255	156	25.	1		1910	231	14.
1		0030	7	0.	1		0645	82	2.	1		1300	157	25.	1		1915	232	14.
1		0035	8	0.	1		0650	83	2.	1		1305	158	25.	1		1920	233	14.
1		0040	9	0.	1		0655	84	2.	1		1310	159	25.	1		1925	234	14.
1		0045	10	0.	1		0700	85	2.	1		1315	160	25.	1		1930	235	14.
1		0050	11	0.	1		0705	86	2.	1		1320	161	25.	1		1935	236	14.
1		0055	12	0.	1		0710	87	2.	1		1325	162	25.	1		1940	237	13.
1		0100	13	0.	1		0715	88	2.	1		1330	163	25.	1		1945	238	13.
1		0105	14	0.	1		0720	89	2.	1		1335	164	25.	1		1950	239	13.
1		0110	15	0.	1		0725	90	2.	1		1340	165	25.	1		1955	240	13.
1		0115	16	0.	1		0730	91	2.	1		1345	166	25.	1		2000	241	13.
1		0120	17	0.	1		0735	92	2.	1		1350	167	25.	1		2005	242	13.
1		0125	18	1.	1		0740	93	2.	1		1355	168	25.	1		2010	243	13.
1		0130	19	1.	1		0745	94	2.	1		1400	169	25.	1		2015	244	13.
1		0135	20	1.	1		0750	95	2.	1		1405	170	25.	1		2020	245	12.
1		0140	21	1.	1		0755	96	2.	1		1410	171	24.	1		2025	246	12.
1		0145	22	1.	1		0800	97	2.	1		1415	172	24.	1		2030	247	12.
1		0150	23	1.	1		0805	98	2.	1		1420	173	24.	1		2035	248	12.
1		0155	24	1.	1		0810	99	2.	1		1425	174	24.	1		2040	249	12.
1		0200	25	1.	1		0815	100	2.	1		1430	175	24.	1		2045	250	12.
1		0205	26	1.	1		0820	101	2.	1		1435	176	24.	1		2050	251	12.
1		0210	27	1.	1		0825	102	2.	1		1440	177	24.	1		2055	252	12.
1		0215	28	1.	1		0830	103	2.	1		1445	178	23.	1		2100	253	11.
1		0220	29	1.	1		0835	104	2.	1		1450	179	23.	1		2105	254	11.
1		0225	30	1.	1		0840	105	2.	1		1455	180	23.	1		2110	255	11.
1		0230	31	1.	1		0845	106	2.	1		1500	181	23.	1		2115	256	11.
1		0235	32	1.	1		0850	107	2.	1		1505	182	23.	1		2120	257	11.
1		0240	33	1.	1		0855	108	2.	1		1510	183	22.	1		2125	258	11.
1		0245	34	1.	1		0900	109	2.	1		1515	184	22.	1		2130	259	11.
1		0250	35	1.	1		0905	110	3.	1		1520	185	22.	1		2135	260	10.
1		0255	36	1.	1		0910	111	3.	1		1525	186	22.	1		2140	261	10.
1		0300	37	1.	1		0915	112	3.	1		1530	187	22.	1		2145	262	9.
1		0305	38	1.	1		0920	113	3.	1		1535	188	22.	1		2150	263	9.
1		0310	39	1.	1		0925	114	3.	1		1540	189	21.	1		2155	264	8.
1		0315	40	1.	1		0930	115	3.	1		1545	190	21.	1		2200	265	8.
1		0320	41	1.	1		0935	116	3.	1		1550	191	21.	1		2205	266	7.
1		0325	42	1.	1		0940	117	3.	1		1555	192	21.	1		2210	267	7.
1		0330	43	1.	1		0945	118	3.	1		1600	193	21.	1		2215	268	6.
1		0335	44	1.	1		0950	119	3.	1		1605	194	20.	1		2220	269	6.
1		0340	45	1.	1		0955	120	3.	1		1610	195	20.	1		2225	270	6.
1		0345	46	1.	1		1000	121	3.	1		1615	196	20.	1		2230	271	5.
1		0350	47	1.	1		1005	122	3.	1		1620	197	20.	1		2235	272	5.
1		0355	48	1.	1		1010	123	3.	1		1625	198	20.	1		2240	273	5.
1		0400	49	1.	1		1015	124	3.	1		1630	199	19.	1		2245	274	5.
1		0405	50	1.	1		1020	125	3.	1		1635	200	19.	1		2250	275	4.
1		0410	51	1.	1		1025	126	3.	1		1640	201	19.	1		2255	276	4.
1		0415	52	1.	1		1030	127	4.	1		1645	202	19.	1		2300	277	4.
1		0420	53	1.	1		1035	128	4.	1		1650	203	19.	1		2305	278	4.
1		0425	54	1.	1		1040	129	4.	1		1655	204	19.	1		2310	279	4.
1		0430	55	1.	1		1045	130	4.	1		1700	205	18.	1		2315	280	3.
1		0435	56	1.	1		1050	131	4.	1		1705	206	18.	1		2320	281	3.
1		0440	57	1.	1		1055	132	4.	1		1710	207	18.	1		2325	282	3.
1		0445	58	1.	1		1100	133	4.	1		1715	208	18.	1		2330	283	3.
1		0450	59	1.	1		1105	134	4.	1		1720	209	18.	1		2335	284	3.
1		0455	60	1.	1		1110	135	5.	1		1725	210	18.	1		2340	285	3.
1		0500	61	2.	1		1115	136	5.	1		1730	211	17.	1		2345	286	3.
1		0505	62	2.	1		1120	137	5.	1		1735	212	17.	1		2350	287	3.
1		0510	63	2.	1		1125	138	5.	1		1740	213	17.	1		2355	288	2.
1		0515	64	2.	1		1130	139	5.	1		1745	214	17.	2		0000	289	2.
1		0520	65	2.	1		1135	140	6.	1		1750	215	17.	2		0005	290	2.
1		0525	66	2.	1		1140	141	6.	1		1755	216	17.	2		0010	291	2.
1		0530	67	2.	1		1145	142	8.	1		1800	217	16.	2		0015	292	2.
1		0535	68	2.	1		1150	143	11.	1		1805	218	16.	2		0020	293	2.
1		0540	69	2.	1		1155	144	12.	1		1810	219	16.	2		0025	294	2.
1		0545	70	2.	1		1200	145	14.	1		1815	220	16.	2		0030	295	2.
1		0550	71	2.	1		1205	146	16.	1		1820	221	16.	2		0035	296	2.
1		0555	72	2.	1		1210	147	19.	1		1825	222	16.	2		0040	297	2.
1		0600	73	2.	1		1215	148	20.	1		1830	223	16.	2		0045	298	2.
1		0605	74	2.	1		1220	149	22.	1		1835	224	15.	2		0050	299	1.
1		0610	75	2.	1		1225	150	23.	1		1840	225	15.	2		0055	300	1.

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 25.	13.17		22.	9.	9.	9.
		(INCHES)	.308	.514	.514	.514
		(AC-FT)	11.	18.	18.	18.

CUMULATIVE AREA = .65 SQ MI

160 KK RPD1

Route Hydrograph Through Basin 23b Pipe

HYDROGRAPH ROUTING DATA

162 RK KINEMATIC WAVE STREAM ROUTING

L	2550.	CHANNEL LENGTH
S	.0140	SLOPE
N	.015	CHANNEL ROUGHNESS COEFFICIENT
CA	.00	CONTRIBUTING AREA
SHAPE	CIRC	CHANNEL SHAPE
WD	3.00	BOTTOM WIDTH OR DIAMETER

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      Z          .00  SIDE SLOPE
  NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS

                                                ***
                  COMPUTED KINEMATIC PARAMETERS
                       VARIABLE TIME STEP
                    (DT SHOWN IS A MINIMUM)

 ELEMENT    ALPHA       M         DT         DX        PEAK     TIME TO      VOLUME     MAXIMUM
                                                                   PEAK                  CELERITY
                                   (MIN)      (FT)      (CFS)    (MIN)        (IN)       (FPS)
 MAIN         7.62      1.25       1.19     850.00      25.55    792.39        .52       12.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1826E+02  EXCESS= .0000E+00 OUTFLOW= .1825E+02 BASIN STORAGE= .8975E-02 PERCENT ERROR=    .0

                              INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

 MAIN         7.62      1.25       5.00                 25.54    790.00        .52
  ***          ***        ***        ***                  ***

                HYDROGRAPH AT STATION     RPD1
               TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                              6-HR        24-HR        72-HR      24.92-HR
+   (CFS)       (HR)
                 (CFS)
+     26.      13.17          22.           9.           9.           9.
               (INCHES)       .312         .523         .523         .523
                (AC-FT)       11.          18.          18.          18.

                CUMULATIVE AREA =     .65 SQ MI

  *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

                  COMPUTED KINEMATIC PARAMETERS
                       VARIABLE TIME STEP
                    (DT SHOWN IS A MINIMUM)

 ELEMENT    ALPHA       M         DT         DX        PEAK     TIME TO      VOLUME     MAXIMUM
                                                                   PEAK                  CELERITY
                                   (MIN)      (FT)      (CFS)    (MIN)        (IN)       (FPS)
 MAIN         7.62      1.25       1.18     850.00      25.16    792.11        .51       12.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1771E+02  EXCESS= .0000E+00 OUTFLOW= .1770E+02 BASIN STORAGE= .8415E-02 PERCENT ERROR=    .0

                              INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

 MAIN         7.62      1.25       5.00                 25.16    790.00        .51
  ***          ***        ***        ***                  ***

                HYDROGRAPH AT STATION     RPD1
               TRANSPOSITION AREA     14.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                              6-HR        24-HR        72-HR      24.92-HR
+   (CFS)       (HR)
                 (CFS)
+     25.      13.17          21.           9.           9.           9.
               (INCHES)       .305         .507         .507         .507
                (AC-FT)       11.          18.          18.          18.

                CUMULATIVE AREA =     .65 SQ MI

  *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

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*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	7.62	1.25	1.34	850.00	24.98	792.02	.50	12.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1744E+02 EXCESS= .0000E+00 OUTFLOW= .1743E+02 BASIN STORAGE= .8224E-02 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	7.62	1.25	5.00		24.98	790.00	.50
***	***	***	***	***			

HYDROGRAPH AT STATION RPD1
TRANSPOSITION AREA 24.0 SQ MI

	PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)	(CFS)			
+	25.	13.17	21.	9.	8.	8.
			(INCHES) .302	.499	.499	.499
			(AC-FT) 11.	17.	17.	17.

CUMULATIVE AREA = .65 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	7.62	1.25	1.19	850.00	24.77	791.66	.49	12.05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1714E+02 EXCESS= .0000E+00 OUTFLOW= .1714E+02 BASIN STORAGE= .7958E-02 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	7.62	1.25	5.00		24.77	790.00	.49
***	***	***	***	***			

HYDROGRAPH AT STATION RPD1
TRANSPOSITION AREA 36.5 SQ MI

	PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)	(CFS)			
+	25.	13.17	21.	9.	8.	8.
			(INCHES) .298	.491	.491	.491
			(AC-FT) 10.	17.	17.	17.

CUMULATIVE AREA = .65 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	7.62	1.25	1.20	850.00	24.65	792.13	.49	12.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1696E+02 EXCESS= .0000E+00 OUTFLOW= .1695E+02 BASIN STORAGE= .7854E-02 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	7.62	1.25	5.00		24.64	790.00	.49
***	***	***	***	***			

HYDROGRAPH AT STATION RPD1
TRANSPOSITION AREA 50.0 SQ MI

	PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)	(CFS)			
+	25.	13.17	21.	9.	8.	8.
			(INCHES) .296	.485	.486	.486
			(AC-FT) 10.	17.	17.	17.

CUMULATIVE AREA = .65 SQ MI

INTERPOLATED HYDROGRAPH AT RPD1

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	2.	1		1230	151	24.	1		1845	226	15.
1		0005	2	0.	1		0620	77	2.	1		1235	152	24.	1		1850	227	15.
1		0010	3	0.	1		0625	78	2.	1		1240	153	25.	1		1855	228	15.
1		0015	4	0.	1		0630	79	2.	1		1245	154	25.	1		1900	229	15.
1		0020	5	0.	1		0635	80	2.	1		1250	155	25.	1		1905	230	15.
1		0025	6	0.	1		0640	81	2.	1		1255	156	25.	1		1910	231	14.
1		0030	7	0.	1		0645	82	2.	1		1300	157	25.	1		1915	232	14.
1		0035	8	0.	1		0650	83	2.	1		1305	158	25.	1		1920	233	14.
1		0040	9	0.	1		0655	84	2.	1		1310	159	25.	1		1925	234	14.
1		0045	10	0.	1		0700	85	2.	1		1315	160	25.	1		1930	235	14.
1		0050	11	0.	1		0705	86	2.	1		1320	161	25.	1		1935	236	14.
1		0055	12	0.	1		0710	87	2.	1		1325	162	25.	1		1940	237	14.
1		0100	13	0.	1		0715	88	2.	1		1330	163	25.	1		1945	238	13.
1		0105	14	0.	1		0720	89	2.	1		1335	164	25.	1		1950	239	13.
1		0110	15	0.	1		0725	90	2.	1		1340	165	25.	1		1955	240	13.
1		0115	16	0.	1		0730	91	2.	1		1345	166	25.	1		2000	241	13.
1		0120	17	0.	1		0735	92	2.	1		1350	167	25.	1		2005	242	13.
1		0125	18	0.	1		0740	93	2.	1		1355	168	25.	1		2010	243	13.
1		0130	19	1.	1		0745	94	2.	1		1400	169	25.	1		2015	244	13.
1		0135	20	1.	1		0750	95	2.	1		1405	170	25.	1		2020	245	13.
1		0140	21	1.	1		0755	96	2.	1		1410	171	24.	1		2025	246	12.
1		0145	22	1.	1		0800	97	2.	1		1415	172	24.	1		2030	247	12.
1		0150	23	1.	1		0805	98	2.	1		1420	173	24.	1		2035	248	12.
1		0155	24	1.	1		0810	99	2.	1		1425	174	24.	1		2040	249	12.
1		0200	25	1.	1		0815	100	2.	1		1430	175	24.	1		2045	250	12.
1		0205	26	1.	1		0820	101	2.	1		1435	176	24.	1		2050	251	12.
1		0210	27	1.	1		0825	102	2.	1		1440	177	24.	1		2055	252	12.
1		0215	28	1.	1		0830	103	2.	1		1445	178	24.	1		2100	253	12.
1		0220	29	1.	1		0835	104	2.	1		1450	179	23.	1		2105	254	11.
1		0225	30	1.	1		0840	105	2.	1		1455	180	23.	1		2110	255	11.
1		0230	31	1.	1		0845	106	2.	1		1500	181	23.	1		2115	256	11.
1		0235	32	1.	1		0850	107	2.	1		1505	182	23.	1		2120	257	11.
1		0240	33	1.	1		0855	108	2.	1		1510	183	23.	1		2125	258	11.
1		0245	34	1.	1		0900	109	2.	1		1515	184	22.	1		2130	259	11.
1		0250	35	1.	1		0905	110	2.	1		1520	185	22.	1		2135	260	10.
1		0255	36	1.	1		0910	111	3.	1		1525	186	22.	1		2140	261	10.
1		0300	37	1.	1		0915	112	3.	1		1530	187	22.	1		2145	262	9.
1		0305	38	1.	1		0920	113	3.	1		1535	188	22.	1		2150	263	9.
1		0310	39	1.	1		0925	114	3.	1		1540	189	21.	1		2155	264	8.
1		0315	40	1.	1		0930	115	3.	1		1545	190	21.	1		2200	265	8.
1		0320	41	1.	1		0935	116	3.	1		1550	191	21.	1		2205	266	7.
1		0325	42	1.	1		0940	117	3.	1		1555	192	21.	1		2210	267	7.
1		0330	43	1.	1		0945	118	3.	1		1600	193	21.	1		2215	268	7.
1		0335	44	1.	1		0950	119	3.	1		1605	194	20.	1		2220	269	6.
1		0340	45	1.	1		0955	120	3.	1		1610	195	20.	1		2225	270	6.
1		0345	46	1.	1		1000	121	3.	1		1615	196	20.	1		2230	271	6.
1		0350	47	1.	1		1005	122	3.	1		1620	197	20.	1		2235	272	5.
1		0355	48	1.	1		1010	123	3.	1		1625	198	20.	1		2240	273	5.
1		0400	49	1.	1		1015	124	3.	1		1630	199	20.	1		2245	274	5.
1		0405	50	1.	1		1020	125	3.	1		1635	200	19.	1		2250	275	4.
1		0410	51	1.	1		1025	126	3.	1		1640	201	19.	1		2255	276	4.
1		0415	52	1.	1		1030	127	3.	1		1645	202	19.	1		2300	277	4.
1		0420	53	1.	1		1035	128	4.	1		1650	203	19.	1		2305	278	4.
1		0425	54	1.	1		1040	129	4.	1		1655	204	19.	1		2310	279	4.
1		0430	55	1.	1		1045	130	4.	1		1700	205	19.	1		2315	280	3.
1		0435	56	1.	1		1050	131	4.	1		1705	206	18.	1		2320	281	3.
1		0440	57	1.	1		1055	132	4.	1		1710	207	18.	1		2325	282	3.
1		0445	58	1.	1		1100	133	4.	1		1715	208	18.	1		2330	283	3.
1		0450	59	1.	1		1105	134	4.	1		1720	209	18.	1		2335	284	3.
1		0455	60	1.	1		1110	135	4.	1		1725	210	18.	1		2340	285	3.
1		0500	61	1.	1		1115	136	5.	1		1730	211	18.	1		2345	286	3.
1		0505	62	2.	1		1120	137	5.	1		1735	212	17.	1		2350	287	3.
1		0510	63	2.	1		1125	138	5.	1		1740	213	17.	1		2355	288	3.
1		0515	64	2.	1		1130	139	5.	1		1745	214	17.	2		0000	289	2.
1		0520	65	2.	1		1135	140	6.	1		1750	215	17.	2		0005	290	2.
1		0525	66	2.	1		1140	141	6.	1		1755	216	17.	2		0010	291	2.
1		0530	67	2.	1		1145	142	7.	1		1800	217	17.	2		0015	292	2.
1		0535	68	2.	1		1150	143	9.	1		1805	218	16.	2		0020	293	2.
1		0540	69	2.	1		1155	144	11.	1		1810	219	16.	2		0025	294	2.
1		0545	70	2.	1		1200	145	13.	1		1815	220	16.	2		0030	295	2.
1		0550	71	2.	1		1205	146	15.	1		1820	221	16.	2		0035	296	2.
1		0555	72	2.	1		1210	147	18.	1		1825	222	16.	2		0040	297	2.
1		0600	73	2.	1		1215	148	20.	1		1830	223	16.	2		0045	298	2.
1		0605	74	2.	1		1220	149	21.	1		1835	224	15.	2		0050	299	2.
1		0610	75	2.	1		1225	150	23.	1		1840	225	15.	2		0055	300	1.

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
		(CFS)	22.	9.	9.	9.
25.	13.17	(INCHES)	.308	.513	.514	.514
		(AC-FT)	11.	18.	18.	18.

CUMULATIVE AREA = .65 SQ MI

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          ***************
          *             *
 163 KK   *     DB23b   *
          *             *
          ***************
                    Subbasin

            SUBBASIN RUNOFF DATA

 165 BA          SUBBASIN CHARACTERISTICS
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                    TAREA          .06  SUBBASIN AREA

  166 LG          GREEN AND AMPT LOSS RATE
                    STRTL          .07  STARTING LOSS
                      DTH          .09  MOISTURE DEFICIT
                     PSIF          .35  WETTING FRONT SUCTION
                    XKSAT          .01  HYDRAULIC CONDUCTIVITY
                    RTIMP        95.00  PERCENT IMPERVIOUS AREA

  167 US          SNYDER UNITGRAPH
                      TP           .05  LAG
                      CP           .55  PEAKING COEFFICIENT

                  SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                                ***

                                                  UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=    .08 HR,       R=    .04 HR
                                          SNYDER  TP=    .07 HR,      CP=    .50

                                                    UNIT HYDROGRAPH
                                                2 END-OF-PERIOD ORDINATES
                 226.      226.

       ***              ***              ***              ***              ***

                        HYDROGRAPH AT STATION    DB23b
                       TRANSPOSITION AREA        .0 SQ MI

     TOTAL RAINFALL =    1.19, TOTAL LOSS =      .02, TOTAL EXCESS =    1.17

   PEAK FLOW      TIME                              MAXIMUM AVERAGE FLOW
                                          6-HR         24-HR         72-HR      24.92-HR
+    (CFS)         (HR)
                    (CFS)
+       51.      11.92                    5.           2.            2.            2.
                 (INCHES)                .836         1.170         1.171         1.171
                  (AC-FT)                 3.           4.            4.            4.

                        CUMULATIVE AREA =      .06 SQ MI

       ***              ***              ***              ***              ***

                        HYDROGRAPH AT STATION    DB23b
                       TRANSPOSITION AREA       14.0 SQ MI

     TOTAL RAINFALL =    1.17, TOTAL LOSS =      .02, TOTAL EXCESS =    1.15

   PEAK FLOW      TIME                              MAXIMUM AVERAGE FLOW
                                          6-HR         24-HR         72-HR      24.92-HR
+    (CFS)         (HR)
                    (CFS)
+       50.      11.92                    5.           2.            2.            2.
                 (INCHES)                .819         1.146         1.147         1.147
                  (AC-FT)                 3.           4.            4.            4.

                        CUMULATIVE AREA =      .06 SQ MI

       ***              ***              ***              ***              ***

                        HYDROGRAPH AT STATION    DB23b
                       TRANSPOSITION AREA       24.0 SQ MI

     TOTAL RAINFALL =    1.15, TOTAL LOSS =      .02, TOTAL EXCESS =    1.13

   PEAK FLOW      TIME                              MAXIMUM AVERAGE FLOW
                                          6-HR         24-HR         72-HR      24.92-HR
+    (CFS)         (HR)
                    (CFS)
+       50.      11.92                    5.           2.            2.            2.
                 (INCHES)                .810         1.134         1.135         1.135
                  (AC-FT)                 3.           4.            4.            4.

                        CUMULATIVE AREA =      .06 SQ MI

       ***              ***              ***              ***              ***

                        HYDROGRAPH AT STATION    DB23b
                       TRANSPOSITION AREA       36.5 SQ MI

     TOTAL RAINFALL =    1.14, TOTAL LOSS =      .02, TOTAL EXCESS =    1.12

   PEAK FLOW      TIME                              MAXIMUM AVERAGE FLOW
                                          6-HR         24-HR         72-HR      24.92-HR
+    (CFS)         (HR)
                    (CFS)
+       49.      11.92                    5.           2.            2.            2.
                 (INCHES)                .802         1.122         1.123         1.123
                  (AC-FT)                 2.           3.            3.            3.

                        CUMULATIVE AREA =      .06 SQ MI

       ***              ***              ***              ***              ***

                        HYDROGRAPH AT STATION    DB23b
                       TRANSPOSITION AREA       50.0 SQ MI

     TOTAL RAINFALL =    1.13, TOTAL LOSS =      .02, TOTAL EXCESS =    1.11

   PEAK FLOW      TIME                              MAXIMUM AVERAGE FLOW
                                          6-HR         24-HR         72-HR      24.92-HR
+    (CFS)         (HR)
                    (CFS)
+       49.      11.92                    5.           2.            2.            2.
                 (INCHES)                .796         1.115         1.115         1.115
                  (AC-FT)                 2.           3.            3.            3.

                        CUMULATIVE AREA =      .06 SQ MI
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INTERPOLATED HYDROGRAPH AT DB23b

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	1.	1		1230	151	5.	1		1845	226	1.
1		0005	2	0.	1		0620	77	1.	1		1235	152	4.	1		1850	227	1.
1		0010	3	0.	1		0625	78	1.	1		1240	153	4.	1		1855	228	1.
1		0015	4	0.	1		0630	79	1.	1		1245	154	3.	1		1900	229	1.
1		0020	5	0.	1		0635	80	1.	1		1250	155	3.	1		1905	230	1.
1		0025	6	0.	1		0640	81	1.	1		1255	156	3.	1		1910	231	1.
1		0030	7	0.	1		0645	82	1.	1		1300	157	3.	1		1915	232	1.
1		0035	8	0.	1		0650	83	1.	1		1305	158	3.	1		1920	233	1.
1		0040	9	0.	1		0655	84	1.	1		1310	159	3.	1		1925	234	1.
1		0045	10	0.	1		0700	85	1.	1		1315	160	2.	1		1930	235	1.
1		0050	11	0.	1		0705	86	1.	1		1320	161	2.	1		1935	236	1.
1		0055	12	0.	1		0710	87	1.	1		1325	162	2.	1		1940	237	1.
1		0100	13	0.	1		0715	88	1.	1		1330	163	2.	1		1945	238	1.
1		0105	14	0.	1		0720	89	1.	1		1335	164	2.	1		1950	239	1.
1		0110	15	0.	1		0725	90	1.	1		1340	165	2.	1		1955	240	1.
1		0115	16	0.	1		0730	91	1.	1		1345	166	2.	1		2000	241	1.
1		0120	17	0.	1		0735	92	1.	1		1350	167	2.	1		2005	242	1.
1		0125	18	0.	1		0740	93	1.	1		1355	168	2.	1		2010	243	1.
1		0130	19	0.	1		0745	94	1.	1		1400	169	2.	1		2015	244	1.
1		0135	20	0.	1		0750	95	1.	1		1405	170	2.	1		2020	245	1.
1		0140	21	1.	1		0755	96	1.	1		1410	171	2.	1		2025	246	1.
1		0145	22	0.	1		0800	97	1.	1		1415	172	2.	1		2030	247	1.
1		0150	23	0.	1		0805	98	1.	1		1420	173	2.	1		2035	248	1.
1		0155	24	0.	1		0810	99	1.	1		1425	174	2.	1		2040	249	1.
1		0200	25	1.	1		0815	100	1.	1		1430	175	1.	1		2045	250	1.
1		0205	26	1.	1		0820	101	1.	1		1435	176	1.	1		2050	251	1.
1		0210	27	1.	1		0825	102	1.	1		1440	177	1.	1		2055	252	1.
1		0215	28	1.	1		0830	103	1.	1		1445	178	1.	1		2100	253	1.
1		0220	29	1.	1		0835	104	1.	1		1450	179	1.	1		2105	254	1.
1		0225	30	1.	1		0840	105	1.	1		1455	180	1.	1		2110	255	1.
1		0230	31	1.	1		0845	106	1.	1		1500	181	1.	1		2115	256	1.
1		0235	32	1.	1		0850	107	1.	1		1505	182	1.	1		2120	257	1.
1		0240	33	1.	1		0855	108	1.	1		1510	183	1.	1		2125	258	1.
1		0245	34	1.	1		0900	109	1.	1		1515	184	1.	1		2130	259	1.
1		0250	35	1.	1		0905	110	1.	1		1520	185	1.	1		2135	260	1.
1		0255	36	1.	1		0910	111	1.	1		1525	186	1.	1		2140	261	1.
1		0300	37	1.	1		0915	112	1.	1		1530	187	1.	1		2145	262	1.
1		0305	38	1.	1		0920	113	1.	1		1535	188	1.	1		2150	263	1.
1		0310	39	1.	1		0925	114	1.	1		1540	189	1.	1		2155	264	1.
1		0315	40	1.	1		0930	115	1.	1		1545	190	1.	1		2200	265	1.
1		0320	41	1.	1		0935	116	1.	1		1550	191	1.	1		2205	266	1.
1		0325	42	1.	1		0940	117	1.	1		1555	192	1.	1		2210	267	1.
1		0330	43	1.	1		0945	118	2.	1		1600	193	1.	1		2215	268	1.
1		0335	44	1.	1		0950	119	2.	1		1605	194	1.	1		2220	269	1.
1		0340	45	1.	1		0955	120	2.	1		1610	195	1.	1		2225	270	1.
1		0345	46	1.	1		1000	121	2.	1		1615	196	1.	1		2230	271	0.
1		0350	47	1.	1		1005	122	2.	1		1620	197	1.	1		2235	272	0.
1		0355	48	1.	1		1010	123	2.	1		1625	198	1.	1		2240	273	1.
1		0400	49	1.	1		1015	124	2.	1		1630	199	1.	1		2245	274	0.
1		0405	50	1.	1		1020	125	2.	1		1635	200	1.	1		2250	275	0.
1		0410	51	1.	1		1025	126	2.	1		1640	201	1.	1		2255	276	0.
1		0415	52	1.	1		1030	127	2.	1		1645	202	1.	1		2300	277	1.
1		0420	53	1.	1		1035	128	2.	1		1650	203	1.	1		2305	278	0.
1		0425	54	1.	1		1040	129	2.	1		1655	204	1.	1		2310	279	0.
1		0430	55	1.	1		1045	130	3.	1		1700	205	1.	1		2315	280	0.
1		0435	56	1.	1		1050	131	3.	1		1705	206	1.	1		2320	281	0.
1		0440	57	1.	1		1055	132	3.	1		1710	207	1.	1		2325	282	0.
1		0445	58	1.	1		1100	133	3.	1		1715	208	1.	1		2330	283	0.
1		0450	59	1.	1		1105	134	3.	1		1720	209	1.	1		2335	284	0.
1		0455	60	1.	1		1110	135	4.	1		1725	210	1.	1		2340	285	0.
1		0500	61	1.	1		1115	136	4.	1		1730	211	1.	1		2345	286	0.
1		0505	62	1.	1		1120	137	4.	1		1735	212	1.	1		2350	287	0.
1		0510	63	1.	1		1125	138	5.	1		1740	213	1.	1		2355	288	0.
1		0515	64	1.	1		1130	139	5.	1		1745	214	1.	2		0000	289	0.
1		0520	65	1.	1		1135	140	8.	1		1750	215	1.	2		0005	290	0.
1		0525	66	1.	1		1140	141	15.	1		1755	216	1.	2		0010	291	0.
1		0530	67	1.	1		1145	142	24.	1		1800	217	1.	2		0015	292	0.
1		0535	68	1.	1		1150	143	37.	1		1805	218	1.	2		0020	293	0.
1		0540	69	1.	1		1155	144	51.	1		1810	219	1.	2		0025	294	0.
1		0545	70	1.	1		1200	145	50.	1		1815	220	1.	2		0030	295	0.
1		0550	71	1.	1		1205	146	25.	1		1820	221	1.	2		0035	296	0.
1		0555	72	1.	1		1210	147	8.	1		1825	222	1.	2		0040	297	0.
1		0600	73	1.	1		1215	148	7.	1		1830	223	1.	2		0045	298	0.
1		0605	74	1.	1		1220	149	6.	1		1835	224	1.	2		0050	299	0.
1		0610	75	1.	1		1225	150	6.	1		1840	225	1.	2		0055	300	0.

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 51.	11.92		5.	2.	2.	2.
		(INCHES)	.832	1.164	1.165	1.165
		(AC-FT)	3.	4.	4.	4.

CUMULATIVE AREA = .06 SQ MI

68 KK C23

Combine Hydrograph Basin 23b with 21 and 21a

170 HC HYDROGRAPH COMBINATION

ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

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HYDROGRAPH AT STATION C23
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 63.	12.00	26.	11.	11.	11.
		(INCHES) .339	.575	.576	.576
		(AC-FT) 13.	22.	22.	22.

CUMULATIVE AREA = .71 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C23
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 62.	12.00	25.	11.	10.	10.
		(INCHES) .332	.558	.559	.559
		(AC-FT) 13.	21.	21.	21.

CUMULATIVE AREA = .71 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C23
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 62.	12.00	25.	11.	10.	10.
		(INCHES) .328	.550	.551	.551
		(AC-FT) 12.	21.	21.	21.

CUMULATIVE AREA = .71 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C23
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 61.	12.00	25.	10.	10.	10.
		(INCHES) .325	.542	.543	.543
		(AC-FT) 12.	21.	21.	21.

CUMULATIVE AREA = .71 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C23
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 61.	12.00	25.	10.	10.	10.
		(INCHES) .322	.536	.537	.537
		(AC-FT) 12.	20.	20.	20.

CUMULATIVE AREA = .71 SQ MI

INTERPOLATED HYDROGRAPH AT C23

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	3.	1		1230	151	28.	1		1845	226	16.
1		0005	2	0.	1		0620	77	3.	1		1235	152	28.	1		1850	227	16.
1		0010	3	0.	1		0625	78	3.	1		1240	153	28.	1		1855	228	16.
1		0015	4	0.	1		0630	79	3.	1		1245	154	28.	1		1900	229	15.
1		0020	5	0.	1		0635	80	3.	1		1250	155	28.	1		1905	230	15.
1		0025	6	0.	1		0640	81	3.	1		1255	156	28.	1		1910	231	15.
1		0030	7	0.	1		0645	82	3.	1		1300	157	28.	1		1915	232	15.
1		0035	8	1.	1		0650	83	3.	1		1305	158	28.	1		1920	233	15.
1		0040	9	1.	1		0655	84	3.	1		1310	159	28.	1		1925	234	15.
1		0045	10	1.	1		0700	85	3.	1		1315	160	28.	1		1930	235	14.
1		0050	11	1.	1		0705	86	3.	1		1320	161	28.	1		1935	236	14.
1		0055	12	1.	1		0710	87	3.	1		1325	162	28.	1		1940	237	14.
1		0100	13	1.	1		0715	88	3.	1		1330	163	27.	1		1945	238	14.
1		0105	14	1.	1		0720	89	3.	1		1335	164	27.	1		1950	239	14.
1		0110	15	1.	1		0725	90	3.	1		1340	165	27.	1		1955	240	14.
1		0115	16	1.	1		0730	91	3.	1		1345	166	27.	1		2000	241	14.
1		0120	17	1.	1		0735	92	3.	1		1350	167	27.	1		2005	242	13.
1		0125	18	1.	1		0740	93	3.	1		1355	168	27.	1		2010	243	13.
1		0130	19	1.	1		0745	94	3.	1		1400	169	26.	1		2015	244	13.
1		0135	20	1.	1		0750	95	3.	1		1405	170	26.	1		2020	245	13.
1		0140	21	1.	1		0755	96	3.	1		1410	171	26.	1		2025	246	13.
1		0145	22	1.	1		0800	97	3.	1		1415	172	26.	1		2030	247	13.
1		0150	23	1.	1		0805	98	3.	1		1420	173	26.	1		2035	248	13.
1		0155	24	1.	1		0810	99	3.	1		1425	174	26.	1		2040	249	13.
1		0200	25	1.	1		0815	100	3.	1		1430	175	26.	1		2045	250	12.

1	0205	26	1.	*	1	0820	101	3.	*	1	1435	176	25.	*	1	2050	251	12.
1	0210	27	1.	*	1	0825	102	3.	*	1	1440	177	25.	*	1	2055	252	12.
1	0215	28	1.	*	1	0830	103	3.	*	1	1445	178	25.	*	1	2100	253	12.
1	0220	29	1.	*	1	0835	104	3.	*	1	1450	179	25.	*	1	2105	254	12.
1	0225	30	1.	*	1	0840	105	3.	*	1	1455	180	25.	*	1	2110	255	12.
1	0230	31	1.	*	1	0845	106	4.	*	1	1500	181	24.	*	1	2115	256	12.
1	0235	32	2.	*	1	0850	107	4.	*	1	1505	182	24.	*	1	2120	257	12.
1	0240	33	2.	*	1	0855	108	4.	*	1	1510	183	24.	*	1	2125	258	11.
1	0245	34	2.	*	1	0900	109	4.	*	1	1515	184	24.	*	1	2130	259	11.
1	0250	35	2.	*	1	0905	110	4.	*	1	1520	185	23.	*	1	2135	260	11.
1	0255	36	2.	*	1	0910	111	4.	*	1	1525	186	23.	*	1	2140	261	10.
1	0300	37	2.	*	1	0915	112	4.	*	1	1530	187	23.	*	1	2145	262	10.
1	0305	38	2.	*	1	0920	113	4.	*	1	1535	188	23.	*	1	2150	263	9.
1	0310	39	2.	*	1	0925	114	4.	*	1	1540	189	23.	*	1	2155	264	9.
1	0315	40	2.	*	1	0930	115	4.	*	1	1545	190	22.	*	1	2200	265	8.
1	0320	41	2.	*	1	0935	116	4.	*	1	1550	191	22.	*	1	2205	266	8.
1	0325	42	2.	*	1	0940	117	4.	*	1	1555	192	22.	*	1	2210	267	7.
1	0330	43	2.	*	1	0945	118	4.	*	1	1600	193	22.	*	1	2215	268	7.
1	0335	44	2.	*	1	0950	119	5.	*	1	1605	194	21.	*	1	2220	269	7.
1	0340	45	2.	*	1	0955	120	5.	*	1	1610	195	21.	*	1	2225	270	6.
1	0345	46	2.	*	1	1000	121	5.	*	1	1615	196	21.	*	1	2230	271	6.
1	0350	47	2.	*	1	1005	122	5.	*	1	1620	197	21.	*	1	2235	272	6.
1	0355	48	2.	*	1	1010	123	5.	*	1	1625	198	21.	*	1	2240	273	5.
1	0400	49	2.	*	1	1015	124	5.	*	1	1630	199	21.	*	1	2245	274	5.
1	0405	50	2.	*	1	1020	125	5.	*	1	1635	200	20.	*	1	2250	275	5.
1	0410	51	2.	*	1	1025	126	5.	*	1	1640	201	20.	*	1	2255	276	5.
1	0415	52	2.	*	1	1030	127	6.	*	1	1645	202	20.	*	1	2300	277	5.
1	0420	53	2.	*	1	1035	128	6.	*	1	1650	203	20.	*	1	2305	278	4.
1	0425	54	2.	*	1	1040	129	6.	*	1	1655	204	20.	*	1	2310	279	4.
1	0430	55	2.	*	1	1045	130	6.	*	1	1700	205	19.	*	1	2315	280	4.
1	0435	56	2.	*	1	1050	131	7.	*	1	1705	206	19.	*	1	2320	281	4.
1	0440	57	2.	*	1	1055	132	7.	*	1	1710	207	19.	*	1	2325	282	4.
1	0445	58	2.	*	1	1100	133	7.	*	1	1715	208	19.	*	1	2330	283	4.
1	0450	59	2.	*	1	1105	134	7.	*	1	1720	209	19.	*	1	2335	284	3.
1	0455	60	2.	*	1	1110	135	8.	*	1	1725	210	19.	*	1	2340	285	3.
1	0500	61	2.	*	1	1115	136	8.	*	1	1730	211	18.	*	1	2345	286	3.
1	0505	62	2.	*	1	1120	137	9.	*	1	1735	212	18.	*	1	2350	287	3.
1	0510	63	2.	*	1	1125	138	10.	*	1	1740	213	18.	*	1	2355	288	3.
1	0515	64	2.	*	1	1130	139	10.	*	1	1745	214	18.	*	2	0000	289	3.
1	0520	65	2.	*	1	1135	140	13.	*	1	1750	215	18.	*	2	0005	290	3.
1	0525	66	2.	*	1	1140	141	21.	*	1	1755	216	17.	*	2	0010	291	2.
1	0530	67	2.	*	1	1145	142	31.	*	1	1800	217	17.	*	2	0015	292	2.
1	0535	68	2.	*	1	1150	143	46.	*	1	1805	218	17.	*	2	0020	293	2.
1	0540	69	2.	*	1	1155	144	62.	*	1	1810	219	17.	*	2	0025	294	2.
1	0545	70	2.	*	1	1200	145	63.	*	1	1815	220	17.	*	2	0030	295	2.
1	0550	71	2.	*	1	1205	146	40.	*	1	1820	221	17.	*	2	0035	296	2.
1	0555	72	2.	*	1	1210	147	25.	*	1	1825	222	16.	*	2	0040	297	2.
1	0600	73	2.	*	1	1215	148	27.	*	1	1830	223	16.	*	2	0045	298	2.
1	0605	74	2.	*	1	1220	149	28.	*	1	1835	224	16.	*	2	0050	299	2.
1	0610	75	2.	*	1	1225	150	28.	*	1	1840	225	16.	*	2	0055	300	1.
				*					*					*				

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**********************************************************************************************************************************************************

   AK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR      24.92-HR
.    (CFS)      (HR)
                          (CFS)
+      63.     12.00         26.          11.          10.          10.
                       (INCHES)        .335         .565         .566         .566
                         (AC-FT)         13.          21.          22.          22.

                       CUMULATIVE AREA =      .71 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            ***************
            *               *
 171 KK     *      R23b     *
            *               *
            ***************
                        Route Hydrograph Through Basin 23c Pipe

               HYDROGRAPH ROUTING DATA

 173 RK           KINEMATIC WAVE STREAM ROUTING
                            L       1000.  CHANNEL LENGTH
                            S       .0140  SLOPE
                            N        .015  CHANNEL ROUGHNESS COEFFICIENT
                           CA         .00  CONTRIBUTING AREA
                        SHAPE        CIRC  CHANNEL SHAPE
                           WD        3.00  BOTTOM WIDTH OR DIAMETER
                            Z         .00  SIDE SLOPE
                       NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                    ***
                                    COMPUTED KINEMATIC PARAMETERS
                                         VARIABLE TIME STEP
                                      (DT SHOWN IS A MINIMUM)

                         ELEMENT    ALPHA       M         DT        DX       PEAK    TIME TO      VOLUME    MAXIMUM
                                                                                        PEAK                  CELERITY
                                                                    (MIN)      (FT)     (CFS)     (MIN)        (IN)      (FPS)

                         MAIN          7.62      1.25        .39    333.33     63.26    720.38        .58     14.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2190E+02  EXCESS= .0000E+00 OUTFLOW= .2189E+02 BASIN STORAGE= .3623E-02 PERCENT ERROR=     .0

                                        INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

                         MAIN          7.62      1.25       5.00                63.23    720.00        .58

          ***             ***             ***             ***             ***

                            HYDROGRAPH AT STATION     R23b
                          TRANSPOSITION AREA        .0 SQ MI

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
```

+	PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+	63.	12.00	(CFS)	26.	11.	11.	11.
			(INCHES)	.339	.575	.576	.576
			(AC-FT)	13.	22.	22.	22.

CUMULATIVE AREA = .71 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	7.62	1.25	.40	333.33	62.09	720.37	.56	14.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2127E+02 EXCESS= .0000E+00 OUTFLOW= .2127E+02 BASIN STORAGE= .3407E-02 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	7.62	1.25	5.00		62.07	720.00	.56
***	***	***	***		***		

HYDROGRAPH AT STATION R23b
TRANSPOSITION AREA 14.0 SQ MI

+	PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+	62.	12.00	(CFS)	25.	11.	10.	10.
			(INCHES)	.332	.558	.559	.559
			(AC-FT)	13.	21.	21.	21.

CUMULATIVE AREA = .71 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	7.62	1.25	.40	333.33	61.49	720.21	.55	14.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2096E+02 EXCESS= .0000E+00 OUTFLOW= .2096E+02 BASIN STORAGE= .3306E-02 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	7.62	1.25	5.00		61.48	720.00	.55
***	***	***	***		***		

HYDROGRAPH AT STATION R23b
TRANSPOSITION AREA 24.0 SQ MI

+	PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+	61.	12.00	(CFS)	25.	11.	10.	10.
			(INCHES)	.328	.550	.551	.551
			(AC-FT)	12.	21.	21.	21.

CUMULATIVE AREA = .71 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	7.62	1.25	.40	333.33	60.90	720.48	.54	14.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2063E+02 EXCESS= .0000E+00 OUTFLOW= .2063E+02 BASIN STORAGE= .3218E-02 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	7.62	1.25	5.00		60.90	720.00	.54
***	***	***	***		***		

HYDROGRAPH AT STATION R23b
TRANSPOSITION AREA 36.5 SQ MI

+	PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+	61.	12.00	(CFS)	25.	10.	10.	10.
			(INCHES)	.325	.542	.543	.543
			(AC-FT)	12.	21.	21.	21.

CUMULATIVE AREA = .71 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	7.62	1.25	.40	333.33	60.52	720.08	.54	14.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2042E+02 EXCESS= .0000E+00 OUTFLOW= .2042E+02 BASIN STORAGE= .3167E-02 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	7.62	1.25	5.00		60.51	720.00	.54
***	***	***	***	***			

HYDROGRAPH AT STATION R23b
TRANSPOSITION AREA 50.0 SQ MI

	PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+	61.	12.00	(CFS) 25.	10.	10.	10.
			(INCHES) .322	.536	.537	.537
			(AC-FT) 12.	20.	20.	20.

CUMULATIVE AREA = .71 SQ MI

****

INTERPOLATED HYDROGRAPH AT R23b

****

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	2.	1		1230	151	28.	1		1845	226	16.
1		0005	2	0.	1		0620	77	3.	1		1235	152	28.	1		1850	227	16.
1		0010	3	0.	1		0625	78	3.	1		1240	153	28.	1		1855	228	16.
1		0015	4	0.	1		0630	79	3.	1		1245	154	28.	1		1900	229	15.
1		0020	5	0.	1		0635	80	3.	1		1250	155	28.	1		1905	230	15.
1		0025	6	0.	1		0640	81	3.	1		1255	156	28.	1		1910	231	15.
1		0030	7	0.	1		0645	82	3.	1		1300	157	28.	1		1915	232	15.
1		0035	8	1.	1		0650	83	3.	1		1305	158	28.	1		1920	233	15.
1		0040	9	1.	1		0655	84	3.	1		1310	159	28.	1		1925	234	15.
1		0045	10	1.	1		0700	85	3.	1		1315	160	28.	1		1930	235	14.
1		0050	11	1.	1		0705	86	3.	1		1320	161	28.	1		1935	236	14.
1		0055	12	1.	1		0710	87	3.	1		1325	162	28.	1		1940	237	14.
1		0100	13	1.	1		0715	88	3.	1		1330	163	27.	1		1945	238	14.
1		0105	14	1.	1		0720	89	3.	1		1335	164	27.	1		1950	239	14.
1		0110	15	1.	1		0725	90	3.	1		1340	165	27.	1		1955	240	14.
1		0115	16	1.	1		0730	91	3.	1		1345	166	27.	1		2000	241	14.
1		0120	17	1.	1		0735	92	3.	1		1350	167	27.	1		2005	242	13.
1		0125	18	1.	1		0740	93	3.	1		1355	168	27.	1		2010	243	13.
1		0130	19	1.	1		0745	94	3.	1		1400	169	26.	1		2015	244	13.
1		0135	20	1.	1		0750	95	3.	1		1405	170	26.	1		2020	245	13.
1		0140	21	1.	1		0755	96	3.	1		1410	171	26.	1		2025	246	13.
1		0145	22	1.	1		0800	97	3.	1		1415	172	26.	1		2030	247	13.
1		0150	23	1.	1		0805	98	3.	1		1420	173	26.	1		2035	248	13.
1		0155	24	1.	1		0810	99	3.	1		1425	174	26.	1		2040	249	13.
1		0200	25	1.	1		0815	100	3.	1		1430	175	26.	1		2045	250	12.
1		0205	26	1.	1		0820	101	3.	1		1435	176	25.	1		2050	251	12.
1		0210	27	1.	1		0825	102	3.	1		1440	177	25.	1		2055	252	12.
1		0215	28	1.	1		0830	103	3.	1		1445	178	25.	1		2100	253	12.
1		0220	29	1.	1		0835	104	3.	1		1450	179	25.	1		2105	254	12.
1		0225	30	1.	1		0840	105	3.	1		1455	180	25.	1		2110	255	12.
1		0230	31	1.	1		0845	106	4.	1		1500	181	24.	1		2115	256	12.
1		0235	32	2.	1		0850	107	4.	1		1505	182	24.	1		2120	257	12.
1		0240	33	2.	1		0855	108	4.	1		1510	183	24.	1		2125	258	11.
1		0245	34	2.	1		0900	109	4.	1		1515	184	24.	1		2130	259	11.
1		0250	35	2.	1		0905	110	4.	1		1520	185	23.	1		2135	260	11.
1		0255	36	2.	1		0910	111	4.	1		1525	186	23.	1		2140	261	11.
1		0300	37	2.	1		0915	112	4.	1		1530	187	23.	1		2145	262	10.
1		0305	38	2.	1		0920	113	4.	1		1535	188	23.	1		2150	263	10.
1		0310	39	2.	1		0925	114	4.	1		1540	189	23.	1		2155	264	9.
1		0315	40	2.	1		0930	115	4.	1		1545	190	22.	1		2200	265	9.
1		0320	41	2.	1		0935	116	4.	1		1550	191	22.	1		2205	266	8.
1		0325	42	2.	1		0940	117	4.	1		1555	192	22.	1		2210	267	8.
1		0330	43	2.	1		0945	118	4.	1		1600	193	22.	1		2215	268	7.
1		0335	44	2.	1		0950	119	4.	1		1605	194	22.	1		2220	269	7.
1		0340	45	2.	1		0955	120	5.	1		1610	195	21.	1		2225	270	6.
1		0345	46	2.	1		1000	121	5.	1		1615	196	21.	1		2230	271	6.
1		0350	47	2.	1		1005	122	5.	1		1620	197	21.	1		2235	272	6.
1		0355	48	2.	1		1010	123	5.	1		1625	198	21.	1		2240	273	6.
1		0400	49	2.	1		1015	124	5.	1		1630	199	21.	1		2245	274	5.
1		0405	50	2.	1		1020	125	5.	1		1635	200	20.	1		2250	275	5.
1		0410	51	2.	1		1025	126	5.	1		1640	201	20.	1		2255	276	5.
1		0415	52	2.	1		1030	127	6.	1		1645	202	20.	1		2300	277	5.
1		0420	53	2.	1		1035	128	6.	1		1650	203	20.	1		2305	278	4.
1		0425	54	2.	1		1040	129	6.	1		1655	204	20.	1		2310	279	4.
1		0430	55	2.	1		1045	130	6.	1		1700	205	19.	1		2315	280	4.
1		0435	56	2.	1		1050	131	7.	1		1705	206	19.	1		2320	281	4.
1		0440	57	2.	1		1055	132	7.	1		1710	207	19.	1		2325	282	4.
1		0445	58	2.	1		1100	133	7.	1		1715	208	19.	1		2330	283	4.
1		0450	59	2.	1		1105	134	7.	1		1720	209	19.	1		2335	284	3.
1		0455	60	2.	1		1110	135	8.	1		1725	210	19.	1		2340	285	3.
1		0500	61	2.	1		1115	136	8.	1		1730	211	18.	1		2345	286	3.
1		0505	62	2.	1		1120	137	9.	1		1735	212	18.	1		2350	287	3.
1		0510	63	2.	1		1125	138	9.	1		1740	213	18.	1		2355	288	3.
1		0515	64	2.	1		1130	139	10.	1		1745	214	18.	2		0000	289	3.
1		0520	65	2.	1		1135	140	13.	1		1750	215	18.	2		0005	290	3.
1		0525	66	2.	1		1140	141	19.	1		1755	216	17.	2		0010	291	2.
1		0530	67	2.	1		1145	142	29.	1		1800	217	17.	2		0015	292	2.
1		0535	68	2.	1		1150	143	44.	1		1805	218	17.	2		0020	293	2.
1		0540	69	2.	1		1155	144	60.	1		1810	219	17.	2		0025	294	2.
1		0545	70	2.	1		1200	145	63.	1		1815	220	17.	2		0030	295	2.
1		0550	71	2.	1		1205	146	44.	1		1820	221	17.	2		0035	296	2.
1		0555	72	2.	1		1210	147	28.	1		1825	222	16.	2		0040	297	2.
1		0600	73	2.	1		1215	148	26.	1		1830	223	16.	2		0045	298	2.
1		0605	74	2.	1		1220	149	27.	1		1835	224	16.	2		0050	299	2.

```
    1     0610   75        2.   *    1     1225  150       28.   *    1     1840  225       16.   *    2     0055  300        1.
                                 *                                                                                              *
```

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
63.	12.00		26.	11.	10.	10.
		(INCHES)	.335	.565	.566	.566
		(AC-FT)	13.	21.	22.	22.

CUMULATIVE AREA = .71 SQ MI

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174 KK      ***************
            *             *
            *     DB23c   *
            *             *
            ***************
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Subbasin

SUBBASIN RUNOFF DATA

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176 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .08  SUBBASIN AREA

177 LG          GREEN AND AMPT LOSS RATE
                      STRTL         .07  STARTING LOSS
                        DTH         .09  MOISTURE DEFICIT
                       PSIF         .35  WETTING FRONT SUCTION
                      XKSAT         .01  HYDRAULIC CONDUCTIVITY
                      RTIMP       95.00  PERCENT IMPERVIOUS AREA

178 US          SNYDER UNITGRAPH
                        TP          .08  LAG
                        CP          .57  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
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UNIT HYDROGRAPH PARAMETERS
CLARK TC= .11 HR, R= .05 HR
SNYDER TP= .08 HR, CP= .57

UNIT HYDROGRAPH
4 END-OF-PERIOD ORDINATES
226. 297. 77. 6.

*** *** *** *** ***

HYDROGRAPH AT STATION DB23c
TRANSPOSITION AREA .0 SQ MI

TOTAL RAINFALL = 1.19, TOTAL LOSS = .02, TOTAL EXCESS = 1.17

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
67.	12.00		7.	2.	2.	2.
		(INCHES)	.835	1.169	1.170	1.170
		(AC-FT)	3.	5.	5.	5.

CUMULATIVE AREA = .08 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB23c
TRANSPOSITION AREA 14.0 SQ MI

TOTAL RAINFALL = 1.17, TOTAL LOSS = .02, TOTAL EXCESS = 1.15

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
66.	12.00		7.	2.	2.	2.
		(INCHES)	.818	1.145	1.146	1.146
		(AC-FT)	3.	5.	5.	5.

CUMULATIVE AREA = .08 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB23c
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.15, TOTAL LOSS = .02, TOTAL EXCESS = 1.13

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
65.	12.00		7.	2.	2.	2.
		(INCHES)	.810	1.133	1.134	1.134
		(AC-FT)	3.	5.	5.	5.

CUMULATIVE AREA = .08 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB23c
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.14, TOTAL LOSS = .02, TOTAL EXCESS = 1.12

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
65.	12.00	7.	2.	2.	2.
		(INCHES) .801	1.121	1.122	1.122
		(AC-FT) 3.	5.	5.	5.

CUMULATIVE AREA = .08 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB23C
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.13, TOTAL LOSS = .02, TOTAL EXCESS = 1.11

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
64.	12.00	7.	2.	2.	2.
		(INCHES) .796	1.114	1.114	1.114
		(AC-FT) 3.	5.	5.	5.

CUMULATIVE AREA = .08 SQ MI

INTERPOLATED HYDROGRAPH AT DB23C

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	1.	1		1230	151	7.	1		1845	226	1.
1		0005	2	0.	1		0620	77	1.	1		1235	152	6.	1		1850	227	1.
1		0010	3	0.	1		0625	78	1.	1		1240	153	5.	1		1855	228	1.
1		0015	4	1.	1		0630	79	1.	1		1245	154	5.	1		1900	229	1.
1		0020	5	1.	1		0635	80	1.	1		1250	155	4.	1		1905	230	1.
1		0025	6	1.	1		0640	81	1.	1		1255	156	4.	1		1910	231	1.
1		0030	7	1.	1		0645	82	1.	1		1300	157	4.	1		1915	232	1.
1		0035	8	1.	1		0650	83	1.	1		1305	158	4.	1		1920	233	1.
1		0040	9	1.	1		0655	84	1.	1		1310	159	4.	1		1925	234	1.
1		0045	10	1.	1		0700	85	1.	1		1315	160	3.	1		1930	235	1.
1		0050	11	1.	1		0705	86	1.	1		1320	161	3.	1		1935	236	1.
1		0055	12	1.	1		0710	87	1.	1		1325	162	3.	1		1940	237	1.
1		0100	13	1.	1		0715	88	1.	1		1330	163	3.	1		1945	238	1.
1		0105	14	1.	1		0720	89	1.	1		1335	164	3.	1		1950	239	1.
1		0110	15	1.	1		0725	90	1.	1		1340	165	3.	1		1955	240	1.
1		0115	16	1.	1		0730	91	1.	1		1345	166	3.	1		2000	241	1.
1		0120	17	1.	1		0735	92	1.	1		1350	167	2.	1		2005	242	1.
1		0125	18	1.	1		0740	93	1.	1		1355	168	2.	1		2010	243	1.
1		0130	19	1.	1		0745	94	1.	1		1400	169	2.	1		2015	244	1.
1		0135	20	1.	1		0750	95	1.	1		1405	170	2.	1		2020	245	1.
1		0140	21	1.	1		0755	96	1.	1		1410	171	2.	1		2025	246	1.
1		0145	22	1.	1		0800	97	1.	1		1415	172	2.	1		2030	247	1.
1		0150	23	1.	1		0805	98	1.	1		1420	173	2.	1		2035	248	1.
1		0155	24	1.	1		0810	99	1.	1		1425	174	2.	1		2040	249	1.
1		0200	25	1.	1		0815	100	1.	1		1430	175	2.	1		2045	250	1.
1		0205	26	1.	1		0820	101	1.	1		1435	176	2.	1		2050	251	1.
1		0210	27	1.	1		0825	102	1.	1		1440	177	2.	1		2055	252	1.
1		0215	28	1.	1		0830	103	2.	1		1445	178	2.	1		2100	253	1.
1		0220	29	1.	1		0835	104	2.	1		1450	179	2.	1		2105	254	1.
1		0225	30	1.	1		0840	105	2.	1		1455	180	2.	1		2110	255	1.
1		0230	31	1.	1		0845	106	2.	1		1500	181	2.	1		2115	256	1.
1		0235	32	1.	1		0850	107	2.	1		1505	182	2.	1		2120	257	1.
1		0240	33	1.	1		0855	108	2.	1		1510	183	2.	1		2125	258	1.
1		0245	34	1.	1		0900	109	2.	1		1515	184	2.	1		2130	259	1.
1		0250	35	1.	1		0905	110	2.	1		1520	185	2.	1		2135	260	1.
1		0255	36	1.	1		0910	111	2.	1		1525	186	2.	1		2140	261	1.
1		0300	37	1.	1		0915	112	2.	1		1530	187	2.	1		2145	262	1.
1		0305	38	1.	1		0920	113	2.	1		1535	188	2.	1		2150	263	1.
1		0310	39	1.	1		0925	114	2.	1		1540	189	2.	1		2155	264	1.
1		0315	40	1.	1		0930	115	2.	1		1545	190	2.	1		2200	265	1.
1		0320	41	1.	1		0935	116	2.	1		1550	191	1.	1		2205	266	1.
1		0325	42	1.	1		0940	117	2.	1		1555	192	1.	1		2210	267	1.
1		0330	43	1.	1		0945	118	2.	1		1600	193	1.	1		2215	268	1.
1		0335	44	1.	1		0950	119	2.	1		1605	194	1.	1		2220	269	1.
1		0340	45	1.	1		0955	120	2.	1		1610	195	1.	1		2225	270	1.
1		0345	46	1.	1		1000	121	2.	1		1615	196	1.	1		2230	271	1.
1		0350	47	1.	1		1005	122	2.	1		1620	197	1.	1		2235	272	1.
1		0355	48	1.	1		1010	123	2.	1		1625	198	1.	1		2240	273	1.
1		0400	49	1.	1		1015	124	3.	1		1630	199	1.	1		2245	274	1.
1		0405	50	1.	1		1020	125	3.	1		1635	200	1.	1		2250	275	1.
1		0410	51	1.	1		1025	126	3.	1		1640	201	1.	1		2255	276	1.
1		0415	52	1.	1		1030	127	3.	1		1645	202	1.	1		2300	277	1.
1		0420	53	1.	1		1035	128	3.	1		1650	203	1.	1		2305	278	1.
1		0425	54	1.	1		1040	129	3.	1		1655	204	1.	1		2310	279	1.
1		0430	55	1.	1		1045	130	3.	1		1700	205	1.	1		2315	280	1.
1		0435	56	1.	1		1050	131	4.	1		1705	206	1.	1		2320	281	1.
1		0440	57	1.	1		1055	132	4.	1		1710	207	1.	1		2325	282	1.
1		0445	58	1.	1		1100	133	4.	1		1715	208	1.	1		2330	283	1.
1		0450	59	1.	1		1105	134	4.	1		1720	209	1.	1		2335	284	1.
1		0455	60	1.	1		1110	135	5.	1		1725	210	1.	1		2340	285	1.
1		0500	61	1.	1		1115	136	5.	1		1730	211	1.	1		2345	286	1.
1		0505	62	1.	1		1120	137	6.	1		1735	212	1.	1		2350	287	1.
1		0510	63	1.	1		1125	138	6.	1		1740	213	1.	1		2355	288	1.
1		0515	64	1.	1		1130	139	6.	1		1745	214	1.	2		0000	289	1.
1		0520	65	1.	1		1135	140	10.	1		1750	215	1.	2		0005	290	0.
1		0525	66	1.	1		1140	141	17.	1		1755	216	1.	2		0010	291	0.
1		0530	67	1.	1		1145	142	29.	1		1800	217	1.	2		0015	292	0.
1		0535	68	1.	1		1150	143	45.	1		1805	218	1.	2		0020	293	0.
1		0540	69	1.	1		1155	144	63.	1		1810	219	1.	2		0025	294	0.
1		0545	70	1.	1		1200	145	67.	1		1815	220	1.	2		0030	295	0.
1		0550	71	1.	1		1205	146	42.	1		1820	221	1.	2		0035	296	0.
1		0555	72	1.	1		1210	147	17.	1		1825	222	1.	2		0040	297	0.
1		0600	73	1.	1		1215	148	10.	1		1830	223	1.	2		0045	298	0.
1		0605	74	1.	1		1220	149	9.	1		1835	224	1.	2		0050	299	0.
1		0610	75	1.	1		1225	150	8.	1		1840	225	1.	2		0055	300	0.

```
                                        *                                   *                                   *
*****************************************************************************************************************************************************

  PEAK FLOW     TIME                                    MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)
                     (CFS)
+      67.     12.00          7.           2.           2.           2.
                  (INCHES)   .830        1.162        1.163        1.163
                  (AC-FT)      3.           5.           5.           5.

                  CUMULATIVE AREA =      .08 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            ***************
            *             *
  179 KK    *      R23c   *
            *             *
            ***************
                        Route R23c Through R23c Ditch

               HYDROGRAPH ROUTING DATA

  181 RK          KINEMATIC WAVE STREAM ROUTING
                        L        500.  CHANNEL LENGTH
                        S       .0050  SLOPE
                        N        .045  CHANNEL ROUGHNESS COEFFICIENT
                       CA         .00  CONTRIBUTING AREA
                    SHAPE        TRAP  CHANNEL SHAPE
                       WD       10.00  BOTTOM WIDTH OR DIAMETER
                        Z        4.00  SIDE SLOPE
                   NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                    ***
                                  COMPUTED KINEMATIC PARAMETERS
                                      VARIABLE TIME STEP
                                   (DT SHOWN IS A MINIMUM)

                    ELEMENT    ALPHA       M         DT         DX       PEAK    TIME TO      VOLUME    MAXIMUM
                                                                                     PEAK                 CELERITY
                                                      (MIN)      (FT)     (CFS)    (MIN)        (IN)      (FPS)

                    MAIN           .65      1.40        .93    166.67     66.51   721.25        1.17      3.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4885E+01  EXCESS= .0000E+00 OUTFLOW= .4890E+01 BASIN STORAGE= .9375E-04 PERCENT ERROR=   -.1

                                  INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

                    MAIN           .65      1.40       5.00                66.06    720.00        1.17
          ***           ***             ***           ***             ***

                       HYDROGRAPH AT STATION     R23c
                     TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                                    MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)
                     (CFS)
+      66.     12.00          7.           2.           2.           2.
                  (INCHES)   .837        1.170        1.171        1.171
                  (AC-FT)      3.           5.           5.           5.

                  CUMULATIVE AREA =      .08 SQ MI

                                  COMPUTED KINEMATIC PARAMETERS
                                      VARIABLE TIME STEP
                                   (DT SHOWN IS A MINIMUM)

                    ELEMENT    ALPHA       M         DT         DX       PEAK    TIME TO      VOLUME    MAXIMUM
                                                                                     PEAK                 CELERITY
                                                      (MIN)      (FT)     (CFS)    (MIN)        (IN)      (FPS)

                    MAIN           .65      1.40        .89    166.67     65.32   721.27        1.15      3.39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4785E+01  EXCESS= .0000E+00 OUTFLOW= .4791E+01 BASIN STORAGE= .1167E-03 PERCENT ERROR=   -.1

                                  INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

                    MAIN           .65      1.40       5.00                64.73    720.00        1.15
          ***           ***             ***           ***             ***

                       HYDROGRAPH AT STATION     R23c
                     TRANSPOSITION AREA     14.0 SQ MI

  PEAK FLOW     TIME                                    MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)
                     (CFS)
+      65.     12.00          7.           2.           2.           2.
                  (INCHES)   .820        1.147        1.148        1.148
                  (AC-FT)      3.           5.           5.           5.

                  CUMULATIVE AREA =      .08 SQ MI

                                  COMPUTED KINEMATIC PARAMETERS
                                      VARIABLE TIME STEP
                                   (DT SHOWN IS A MINIMUM)

                    ELEMENT    ALPHA       M         DT         DX       PEAK    TIME TO      VOLUME    MAXIMUM
                                                                                     PEAK                 CELERITY
                                                      (MIN)      (FT)     (CFS)    (MIN)        (IN)      (FPS)
```

```
                    MAIN           .65      1.40        .90     166.67     64.64    721.15      1.14      3.38

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .4736E+01  EXCESS= .0000E+00 OUTFLOW= .4741E+01 BASIN STORAGE= .1316E-03 PERCENT ERROR=   -.1

                                          INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

                    MAIN           .65      1.40       5.00              64.07    720.00      1.14
       ***             ***             ***             ***             ***

                      HYDROGRAPH AT STATION     R23c
                    TRANSPOSITION AREA     24.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR     24.92-HR
+   (CFS)       (HR)          (CFS)
+      64.     12.00                 7.          2.          2.          2.
                             (INCHES)       .811       1.135       1.136       1.136
                               (AC-FT)         3.          5.          5.          5.

                      CUMULATIVE AREA =     .08 SQ MI

                                   COMPUTED KINEMATIC PARAMETERS
                                        VARIABLE TIME STEP
                                   (DT SHOWN IS A MINIMUM)

                     ELEMENT    ALPHA       M         DT        DX       PEAK    TIME TO      VOLUME    MAXIMUM
                                                                                     PEAK                 CELERITY
                                                     (MIN)      (FT)     (CFS)     (MIN)        (IN)      (FPS)

                    MAIN           .65      1.40        .94     166.67     63.79    721.31      1.12      3.37

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .4686E+01  EXCESS= .0000E+00 OUTFLOW= .4690E+01 BASIN STORAGE= .1070E-03 PERCENT ERROR=   -.1

                                          INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

                    MAIN           .65      1.40       5.00              63.38    720.00      1.12
       ***             ***             ***             ***             ***

                      HYDROGRAPH AT STATION     R23c
                    TRANSPOSITION AREA     36.5 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR     24.92-HR
    (CFS)       (HR)          (CFS)
      63.     12.00                 7.          2.          2.          2.
                             (INCHES)       .803       1.123       1.124       1.124
                               (AC-FT)         3.          5.          5.          5.

                      CUMULATIVE AREA =     .08 SQ MI

                                   COMPUTED KINEMATIC PARAMETERS
                                        VARIABLE TIME STEP
                                   (DT SHOWN IS A MINIMUM)

                     ELEMENT    ALPHA       M         DT        DX       PEAK    TIME TO      VOLUME    MAXIMUM
                                                                                     PEAK                 CELERITY
                                                     (MIN)      (FT)     (CFS)     (MIN)        (IN)      (FPS)

                    MAIN           .65      1.40        .89     166.67     63.55    721.56      1.12      3.36

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .4653E+01  EXCESS= .0000E+00 OUTFLOW= .4658E+01 BASIN STORAGE= .1365E-03 PERCENT ERROR=   -.1

                                          INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

                    MAIN           .65      1.40       5.00              62.95    720.00      1.12
       ***             ***             ***             ***             ***

                      HYDROGRAPH AT STATION     R23c
                    TRANSPOSITION AREA     50.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR     24.92-HR
+   (CFS)       (HR)          (CFS)
+      63.     12.00                 7.          2.          2.          2.
                             (INCHES)       .797       1.114       1.115       1.115
                               (AC-FT)         3.          5.          5.          5.

                      CUMULATIVE AREA =     .08 SQ MI

*****************************************************************************************************************************************************

                                          INTERPOLATED HYDROGRAPH AT     R23c

*****************************************************************************************************************************************************

   DA MON HRMN  ORD     FLOW    *   DA MON HRMN  ORD     FLOW    *   DA MON HRMN  ORD     FLOW    *   DA MON HRMN  ORD     FLOW
                                *                                *                                *
    1     0000    1       0.   *    1     0615   76       1.   *    1     1230  151       7.   *    1     1845  226       1.
    1     0005    2       0.   *    1     0620   77       1.   *    1     1235  152       6.   *    1     1850  227       1.
    1     0010    3       0.   *    1     0625   78       1.   *    1     1240  153       5.   *    1     1855  228       1.
    1     0015    4       0.   *    1     0630   79       1.   *    1     1245  154       5.   *    1     1900  229       1.
    1     0020    5       1.   *    1     0635   80       1.   *    1     1250  155       5.   *    1     1905  230       1.
    1     0025    6       1.   *    1     0640   81       1.   *    1     1255  156       4.   *    1     1910  231       1.
    1     0030    7       1.   *    1     0645   82       1.   *    1     1300  157       4.   *    1     1915  232       1.
    1     0035    8       1.   *    1     0650   83       1.   *    1     1305  158       4.   *    1     1920  233       1.
    1     0040    9       1.   *    1     0655   84       1.   *    1     1310  159       4.   *    1     1925  234       1.
    1     0045   10       1.   *    1     0700   85       1.   *    1     1315  160       3.   *    1     1930  235       1.
```

1	0050	11	1.	*	1	0705	86	1.	*	1	1320	161	3.	*	1	1935	236	1.
1	0055	12	1.	*	1	0710	87	1.	*	1	1325	162	3.	*	1	1940	237	1.
1	0100	13	1.	*	1	0715	88	1.	*	1	1330	163	3.	*	1	1945	238	1.
1	0105	14	1.	*	1	0720	89	1.	*	1	1335	164	3.	*	1	1950	239	1.
1	0110	15	1.	*	1	0725	90	1.	*	1	1340	165	3.	*	1	1955	240	1.
1	0115	16	1.	*	1	0730	91	1.	*	1	1345	166	3.	*	1	2000	241	1.
1	0120	17	1.	*	1	0735	92	1.	*	1	1350	167	3.	*	1	2005	242	1.
1	0125	18	1.	*	1	0740	93	1.	*	1	1355	168	2.	*	1	2010	243	1.
1	0130	19	1.	*	1	0745	94	1.	*	1	1400	169	2.	*	1	2015	244	1.
1	0135	20	1.	*	1	0750	95	1.	*	1	1405	170	2.	*	1	2020	245	1.
1	0140	21	1.	*	1	0755	96	1.	*	1	1410	171	2.	*	1	2025	246	1.
1	0145	22	1.	*	1	0800	97	1.	*	1	1415	172	2.	*	1	2030	247	1.
1	0150	23	1.	*	1	0805	98	1.	*	1	1420	173	2.	*	1	2035	248	1.
1	0155	24	1.	*	1	0810	99	1.	*	1	1425	174	2.	*	1	2040	249	1.
1	0200	25	1.	*	1	0815	100	1.	*	1	1430	175	2.	*	1	2045	250	1.
1	0205	26	1.	*	1	0820	101	1.	*	1	1435	176	2.	*	1	2050	251	1.
1	0210	27	1.	*	1	0825	102	1.	*	1	1440	177	2.	*	1	2055	252	1.
1	0215	28	1.	*	1	0830	103	1.	*	1	1445	178	2.	*	1	2100	253	1.
1	0220	29	1.	*	1	0835	104	2.	*	1	1450	179	2.	*	1	2105	254	1.
1	0225	30	1.	*	1	0840	105	2.	*	1	1455	180	2.	*	1	2110	255	1.
1	0230	31	1.	*	1	0845	106	2.	*	1	1500	181	2.	*	1	2115	256	1.
1	0235	32	1.	*	1	0850	107	2.	*	1	1505	182	2.	*	1	2120	257	1.
1	0240	33	1.	*	1	0855	108	2.	*	1	1510	183	2.	*	1	2125	258	1.
1	0245	34	1.	*	1	0900	109	2.	*	1	1515	184	2.	*	1	2130	259	1.
1	0250	35	1.	*	1	0905	110	2.	*	1	1520	185	2.	*	1	2135	260	1.
1	0255	36	1.	*	1	0910	111	2.	*	1	1525	186	2.	*	1	2140	261	1.
1	0300	37	1.	*	1	0915	112	2.	*	1	1530	187	2.	*	1	2145	262	1.
1	0305	38	1.	*	1	0920	113	2.	*	1	1535	188	2.	*	1	2150	263	1.
1	0310	39	1.	*	1	0925	114	2.	*	1	1540	189	2.	*	1	2155	264	1.
1	0315	40	1.	*	1	0930	115	2.	*	1	1545	190	2.	*	1	2200	265	1.
1	0320	41	1.	*	1	0935	116	2.	*	1	1550	191	1.	*	1	2205	266	1.
1	0325	42	1.	*	1	0940	117	2.	*	1	1555	192	1.	*	1	2210	267	1.
1	0330	43	1.	*	1	0945	118	2.	*	1	1600	193	1.	*	1	2215	268	1.
1	0335	44	1.	*	1	0950	119	2.	*	1	1605	194	1.	*	1	2220	269	1.
1	0340	45	1.	*	1	0955	120	2.	*	1	1610	195	1.	*	1	2225	270	1.
1	0345	46	1.	*	1	1000	121	2.	*	1	1615	196	1.	*	1	2230	271	1.
1	0350	47	1.	*	1	1005	122	2.	*	1	1620	197	1.	*	1	2235	272	1.
1	0355	48	1.	*	1	1010	123	2.	*	1	1625	198	1.	*	1	2240	273	1.
1	0400	49	1.	*	1	1015	124	2.	*	1	1630	199	1.	*	1	2245	274	1.
1	0405	50	1.	*	1	1020	125	3.	*	1	1635	200	1.	*	1	2250	275	1.
1	0410	51	1.	*	1	1025	126	3.	*	1	1640	201	1.	*	1	2255	276	1.
1	0415	52	1.	*	1	1030	127	3.	*	1	1645	202	1.	*	1	2300	277	1.
1	0420	53	1.	*	1	1035	128	3.	*	1	1650	203	1.	*	1	2305	278	1.
1	0425	54	1.	*	1	1040	129	3.	*	1	1655	204	1.	*	1	2310	279	1.
1	0430	55	1.	*	1	1045	130	3.	*	1	1700	205	1.	*	1	2315	280	1.
1	0435	56	1.	*	1	1050	131	3.	*	1	1705	206	1.	*	1	2320	281	1.
1	0440	57	1.	*	1	1055	132	4.	*	1	1710	207	1.	*	1	2325	282	1.
1	0445	58	1.	*	1	1100	133	4.	*	1	1715	208	1.	*	1	2330	283	1.
1	0450	59	1.	*	1	1105	134	4.	*	1	1720	209	1.	*	1	2335	284	1.
1	0455	60	1.	*	1	1110	135	4.	*	1	1725	210	1.	*	1	2340	285	1.
1	0500	61	1.	*	1	1115	136	5.	*	1	1730	211	1.	*	1	2345	286	1.
1	0505	62	1.	*	1	1120	137	5.	*	1	1735	212	1.	*	1	2350	287	1.
1	0510	63	1.	*	1	1125	138	6.	*	1	1740	213	1.	*	1	2355	288	1.
1	0515	64	1.	*	1	1130	139	6.	*	1	1745	214	1.	*	2	0000	289	1.
1	0520	65	1.	*	1	1135	140	8.	*	1	1750	215	1.	*	2	0005	290	1.
1	0525	66	1.	*	1	1140	141	13.	*	1	1755	216	1.	*	2	0010	291	0.
1	0530	67	1.	*	1	1145	142	24.	*	1	1800	217	1.	*	2	0015	292	0.
1	0535	68	1.	*	1	1150	143	39.	*	1	1805	218	1.	*	2	0020	293	0.
1	0540	69	1.	*	1	1155	144	57.	*	1	1810	219	1.	*	2	0025	294	0.
1	0545	70	1.	*	1	1200	145	66.	*	1	1815	220	1.	*	2	0030	295	0.
1	0550	71	1.	*	1	1205	146	51.	*	1	1820	221	1.	*	2	0035	296	0.
1	0555	72	1.	*	1	1210	147	28.	*	1	1825	222	1.	*	2	0040	297	0.
1	0600	73	1.	*	1	1215	148	14.	*	1	1830	223	1.	*	2	0045	298	0.
1	0605	74	1.	*	1	1220	149	10.	*	1	1835	224	1.	*	2	0050	299	0.
1	0610	75	1.	*	1	1225	150	8.	*	1	1840	225	1.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 66.	12.00		7.	2.	2.	2.
		(INCHES)	.832	1.164	1.165	1.165
		(AC-FT)	3.	5.	5.	5.

CUMULATIVE AREA = .08 SQ MI

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          ***************
          *             *
182 KK    *     DB23d   *
          *             *
          ***************
                  Subbasin

             SUBBASIN RUNOFF DATA

184 BA          SUBBASIN CHARACTERISTICS
                      TAREA          .02  SUBBASIN AREA

185 LG          GREEN AND AMPT LOSS RATE
                      STRTL          .04  STARTING LOSS
                       DTH           .05  MOISTURE DEFICIT
                      PSIF           .18  WETTING FRONT SUCTION
                      XKSAT          .01  HYDRAULIC CONDUCTIVITY
                      RTIMP       100.00  PERCENT IMPERVIOUS AREA

186 US          SNYDER UNITGRAPH
                        TP           .02  LAG
                        CP           .46  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                    ***
R INCREASED TO MINIMUM OF 0.5

                                  UNIT HYDROGRAPH PARAMETERS
                              CLARK   TC=    .08 HR,       R=   .17 HR
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SNYDER TP= .11 HR, CP= .47

UNIT HYDROGRAPH
12 END-OF-PERIOD ORDINATES

26. 42. 26. 16. 10. 6. 4. 2. 1. 1.
0. 0.

*** *** *** *** ***

HYDROGRAPH AT STATION DB23d
TRANSPOSITION AREA .0 SQ MI

TOTAL RAINFALL = 1.19, TOTAL LOSS = .00, TOTAL EXCESS = 1.19

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
12.	12.00	2.	1.	1.	1.
		(INCHES) .838	1.184	1.186	1.186
		(AC-FT) 1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB23d
TRANSPOSITION AREA 14.0 SQ MI

TOTAL RAINFALL = 1.17, TOTAL LOSS = .00, TOTAL EXCESS = 1.17

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
12.	12.00	2.	1.	1.	1.
		(INCHES) .821	1.160	1.162	1.162
		(AC-FT) 1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB23d
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.15, TOTAL LOSS = .00, TOTAL EXCESS = 1.15

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
12.	12.00	2.	1.	1.	1.
		(INCHES) .812	1.148	1.150	1.150
		(AC-FT) 1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB23d
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.14, TOTAL LOSS = .00, TOTAL EXCESS = 1.14

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
12.	12.00	1.	1.	1.	1.
		(INCHES) .804	1.136	1.138	1.138
		(AC-FT) 1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB23d
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.13, TOTAL LOSS = .00, TOTAL EXCESS = 1.13

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
11.	12.00	1.	1.	1.	1.
		(INCHES) .798	1.129	1.130	1.130
		(AC-FT) 1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

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INTERPOLATED HYDROGRAPH AT DB23d

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DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	*	1		0615	76	0.	*	1		1230	151	2.	*	1		1845	226	0.
1		0005	2	0.	*	1		0620	77	0.	*	1		1235	152	2.	*	1		1850	227	0.
1		0010	3	0.	*	1		0625	78	0.	*	1		1240	153	2.	*	1		1855	228	0.
1		0015	4	0.	*	1		0630	79	0.	*	1		1245	154	1.	*	1		1900	229	0.
1		0020	5	0.	*	1		0635	80	0.	*	1		1250	155	1.	*	1		1905	230	0.
1		0025	6	0.	*	1		0640	81	0.	*	1		1255	156	1.	*	1		1910	231	0.
1		0030	7	0.	*	1		0645	82	0.	*	1		1300	157	1.	*	1		1915	232	0.
1		0035	8	0.	*	1		0650	83	0.	*	1		1305	158	1.	*	1		1920	233	0.
1		0040	9	0.	*	1		0655	84	0.	*	1		1310	159	1.	*	1		1925	234	0.

1	0045	10	0.	*	1	0700	85	0.	*	1	1315	160	1.	*	1	1930	235	0.
1	0050	11	0.	*	1	0705	86	0.	*	1	1320	161	1.	*	1	1935	236	0.
1	0055	12	0.	*	1	0710	87	0.	*	1	1325	162	1.	*	1	1940	237	0.
1	0100	13	0.	*	1	0715	88	0.	*	1	1330	163	1.	*	1	1945	238	0.
1	0105	14	0.	*	1	0720	89	0.	*	1	1335	164	1.	*	1	1950	239	0.
1	0110	15	0.	*	1	0725	90	0.	*	1	1340	165	1.	*	1	1955	240	0.
1	0115	16	0.	*	1	0730	91	0.	*	1	1345	166	1.	*	1	2000	241	0.
1	0120	17	0.	*	1	0735	92	0.	*	1	1350	167	1.	*	1	2005	242	0.
1	0125	18	0.	*	1	0740	93	0.	*	1	1355	168	1.	*	1	2010	243	0.
1	0130	19	0.	*	1	0745	94	0.	*	1	1400	169	1.	*	1	2015	244	0.
1	0135	20	0.	*	1	0750	95	0.	*	1	1405	170	1.	*	1	2020	245	0.
1	0140	21	0.	*	1	0755	96	0.	*	1	1410	171	1.	*	1	2025	246	0.
1	0145	22	0.	*	1	0800	97	0.	*	1	1415	172	0.	*	1	2030	247	0.
1	0150	23	0.	*	1	0805	98	0.	*	1	1420	173	0.	*	1	2035	248	0.
1	0155	24	0.	*	1	0810	99	0.	*	1	1425	174	0.	*	1	2040	249	0.
1	0200	25	0.	*	1	0815	100	0.	*	1	1430	175	0.	*	1	2045	250	0.
1	0205	26	0.	*	1	0820	101	0.	*	1	1435	176	0.	*	1	2050	251	0.
1	0210	27	0.	*	1	0825	102	0.	*	1	1440	177	0.	*	1	2055	252	0.
1	0215	28	0.	*	1	0830	103	0.	*	1	1445	178	0.	*	1	2100	253	0.
1	0220	29	0.	*	1	0835	104	0.	*	1	1450	179	0.	*	1	2105	254	0.
1	0225	30	0.	*	1	0840	105	0.	*	1	1455	180	0.	*	1	2110	255	0.
1	0230	31	0.	*	1	0845	106	0.	*	1	1500	181	0.	*	1	2115	256	0.
1	0235	32	0.	*	1	0850	107	0.	*	1	1505	182	0.	*	1	2120	257	0.
1	0240	33	0.	*	1	0855	108	0.	*	1	1510	183	0.	*	1	2125	258	0.
1	0245	34	0.	*	1	0900	109	0.	*	1	1515	184	0.	*	1	2130	259	0.
1	0250	35	0.	*	1	0905	110	0.	*	1	1520	185	0.	*	1	2135	260	0.
1	0255	36	0.	*	1	0910	111	0.	*	1	1525	186	0.	*	1	2140	261	0.
1	0300	37	0.	*	1	0915	112	0.	*	1	1530	187	0.	*	1	2145	262	0.
1	0305	38	0.	*	1	0920	113	0.	*	1	1535	188	0.	*	1	2150	263	0.
1	0310	39	0.	*	1	0925	114	0.	*	1	1540	189	0.	*	1	2155	264	0.
1	0315	40	0.	*	1	0930	115	0.	*	1	1545	190	0.	*	1	2200	265	0.
1	0320	41	0.	*	1	0935	116	0.	*	1	1550	191	0.	*	1	2205	266	0.
1	0325	42	0.	*	1	0940	117	0.	*	1	1555	192	0.	*	1	2210	267	0.
1	0330	43	0.	*	1	0945	118	0.	*	1	1600	193	0.	*	1	2215	268	0.
1	0335	44	0.	*	1	0950	119	0.	*	1	1605	194	0.	*	1	2220	269	0.
1	0340	45	0.	*	1	0955	120	0.	*	1	1610	195	0.	*	1	2225	270	0.
1	0345	46	0.	*	1	1000	121	0.	*	1	1615	196	0.	*	1	2230	271	0.
1	0350	47	0.	*	1	1005	122	1.	*	1	1620	197	0.	*	1	2235	272	0.
1	0355	48	0.	*	1	1010	123	1.	*	1	1625	198	0.	*	1	2240	273	0.
1	0400	49	0.	*	1	1015	124	1.	*	1	1630	199	0.	*	1	2245	274	0.
1	0405	50	0.	*	1	1020	125	1.	*	1	1635	200	0.	*	1	2250	275	0.
1	0410	51	0.	*	1	1025	126	1.	*	1	1640	201	0.	*	1	2255	276	0.
1	0415	52	0.	*	1	1030	127	1.	*	1	1645	202	0.	*	1	2300	277	0.
1	0420	53	0.	*	1	1035	128	1.	*	1	1650	203	0.	*	1	2305	278	0.
1	0425	54	0.	*	1	1040	129	1.	*	1	1655	204	0.	*	1	2310	279	0.
1	0430	55	0.	*	1	1045	130	1.	*	1	1700	205	0.	*	1	2315	280	0.
1	0435	56	0.	*	1	1050	131	1.	*	1	1705	206	0.	*	1	2320	281	0.
1	0440	57	0.	*	1	1055	132	1.	*	1	1710	207	0.	*	1	2325	282	0.
1	0445	58	0.	*	1	1100	133	1.	*	1	1715	208	0.	*	1	2330	283	0.
1	0450	59	0.	*	1	1105	134	1.	*	1	1720	209	0.	*	1	2335	284	0.
1	0455	60	0.	*	1	1110	135	1.	*	1	1725	210	0.	*	1	2340	285	0.
1	0500	61	0.	*	1	1115	136	1.	*	1	1730	211	0.	*	1	2345	286	0.
1	0505	62	0.	*	1	1120	137	1.	*	1	1735	212	0.	*	1	2350	287	0.
1	0510	63	0.	*	1	1125	138	1.	*	1	1740	213	0.	*	1	2355	288	0.
1	0515	64	0.	*	1	1130	139	1.	*	1	1745	214	0.	*	2	0000	289	0.
1	0520	65	0.	*	1	1135	140	2.	*	1	1750	215	0.	*	2	0005	290	0.
1	0525	66	0.	*	1	1140	141	3.	*	1	1755	216	0.	*	2	0010	291	0.
1	0530	67	0.	*	1	1145	142	4.	*	1	1800	217	0.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	7.	*	1	1805	218	0.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	10.	*	1	1810	219	0.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	12.	*	1	1815	220	0.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	10.	*	1	1820	221	0.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	7.	*	1	1825	222	0.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	5.	*	1	1830	223	0.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	4.	*	1	1835	224	0.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	3.	*	1	1840	225	0.	*	2	0055	300	0.

****

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 12.	12.00		2.	1.	1.	1.
		(INCHES)	.836	1.182	1.184	1.184
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

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          ***************
          *             *
187 KK    *     R23d    *
          *             *
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Route Hydrograph Through Basin 23d Pipe

HYDROGRAPH ROUTING DATA

189 RK KINEMATIC WAVE STREAM ROUTING

L	1200.	CHANNEL LENGTH
S	.0050	SLOPE
N	.015	CHANNEL ROUGHNESS COEFFICIENT
CA	.00	CONTRIBUTING AREA
SHAPE	CIRC	CHANNEL SHAPE
WD	2.00	BOTTOM WIDTH OR DIAMETER
Z	.00	SIDE SLOPE
NDXMIN	2	MINIMUM NUMBER OF DX INTERVALS

***

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	4.25	1.25	1.08	400.00	11.84	721.68	1.19	6.55

NTINUITY SUMMARY (AC-FT) - INFLOW= .1094E+01 EXCESS= .0000E+00 OUTFLOW= .1095E+01 BASIN STORAGE= .2405E-04 PERCENT ERROR= -.1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

	MAIN	4.25	1.25	5.00	11.28	720.00	1.19
	***	***	***	***	***		

HYDROGRAPH AT STATION R23d
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)			
+ 11.	12.00	2.	1.	1.	1.
		(INCHES) .838	1.185	1.186	1.186
		(AC-FT) 1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	4.25	1.25	1.18	400.00	11.56	721.75	1.16	6.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1072E+01 EXCESS= .0000E+00 OUTFLOW= .1072E+01 BASIN STORAGE= .1903E-04 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

	MAIN	4.25	1.25	5.00	11.04	720.00	1.16
	***	***	***	***	***		

HYDROGRAPH AT STATION R23d
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)			
11.	12.00	2.	1.	1.	1.
		(INCHES) .821	1.161	1.162	1.162
		(AC-FT) 1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	4.25	1.25	1.03	400.00	11.55	721.77	1.15	6.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1061E+01 EXCESS= .0000E+00 OUTFLOW= .1062E+01 BASIN STORAGE= .2347E-04 PERCENT ERROR= -.1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

	MAIN	4.25	1.25	5.00	10.93	720.00	1.15
	***	***	***	***	***		

HYDROGRAPH AT STATION R23d
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)			
+ 11.	12.00	2.	1.	1.	1.
		(INCHES) .813	1.149	1.150	1.150
		(AC-FT) 1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	4.25	1.25	1.08	400.00	11.50	722.16	1.14	6.49

ONTINUITY SUMMARY (AC-FT) - INFLOW= .1050E+01 EXCESS= .0000E+00 OUTFLOW= .1050E+01 BASIN STORAGE= .1941E-04 PERCENT ERROR= -.1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

	MAIN	4.25	1.25	5.00	10.82	720.00	1.14
	***	***	***	***	***		

HYDROGRAPH AT STATION R23d
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
11.	12.00	1.	1.	1.	1.
		(INCHES) .804	1.137	1.138	1.138
		(AC-FT) 1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	4.25	1.25	1.04	400.00	11.38	721.85	1.13	6.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1043E+01 EXCESS= .0000E+00 OUTFLOW= .1043E+01 BASIN STORAGE= .1945E-04 PERCENT ERROR= -.1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	4.25	1.25	5.00	10.74	720.00	1.13
***	***	***	***	***		

HYDROGRAPH AT STATION R23d
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
11.	12.00	1.	1.	1.	1.
		(INCHES) .799	1.129	1.131	1.131
		(AC-FT) 1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

INTERPOLATED HYDROGRAPH AT R23d

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	3.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	2.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	2.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	2.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	1.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	1.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	1.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	1.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	1.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	1.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	1.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	1.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	1.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	1.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	1.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	1.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	1.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	1.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	1.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	1.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	1.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	1.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	0.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	0.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	0.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	0.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	0.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	0.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	0.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	0.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	0.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	0.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	0.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	0.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	0.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	0.	1		2140	261	0.
1		0300	37	0.	1		0915	112	0.	1		1530	187	0.	1		2145	262	0.
1		0305	38	0.	1		0920	113	0.	1		1535	188	0.	1		2150	263	0.
1		0310	39	0.	1		0925	114	0.	1		1540	189	0.	1		2155	264	0.
1		0315	40	0.	1		0930	115	0.	1		1545	190	0.	1		2200	265	0.
1		0320	41	0.	1		0935	116	0.	1		1550	191	0.	1		2205	266	0.
1		0325	42	0.	1		0940	117	0.	1		1555	192	0.	1		2210	267	0.
1		0330	43	0.	1		0945	118	0.	1		1600	193	0.	1		2215	268	0.
1		0335	44	0.	1		0950	119	0.	1		1605	194	0.	1		2220	269	0.
1		0340	45	0.	1		0955	120	0.	1		1610	195	0.	1		2225	270	0.
1		0345	46	0.	1		1000	121	0.	1		1615	196	0.	1		2230	271	0.
1		0350	47	0.	1		1005	122	0.	1		1620	197	0.	1		2235	272	0.
1		0355	48	0.	1		1010	123	1.	1		1625	198	0.	1		2240	273	0.
1		0400	49	0.	1		1015	124	1.	1		1630	199	0.	1		2245	274	0.
1		0405	50	0.	1		1020	125	1.	1		1635	200	0.	1		2250	275	0.
1		0410	51	0.	1		1025	126	1.	1		1640	201	0.	1		2255	276	0.
1		0415	52	0.	1		1030	127	1.	1		1645	202	0.	1		2300	277	0.
1		0420	53	0.	1		1035	128	1.	1		1650	203	0.	1		2305	278	0.
1		0425	54	0.	1		1040	129	1.	1		1655	204	0.	1		2310	279	0.
1		0430	55	0.	1		1045	130	1.	1		1700	205	0.	1		2315	280	0.
1		0435	56	0.	1		1050	131	1.	1		1705	206	0.	1		2320	281	0.
1		0440	57	0.	1		1055	132	1.	1		1710	207	0.	1		2325	282	0.
1		0445	58	0.	1		1100	133	1.	1		1715	208	0.	1		2330	283	0.

1	0450	59	0.	*	1	1105	134	1.	*	1	1720	209	0.	*	1	2335	284	0.
1	0455	60	0.	*	1	1110	135	1.	*	1	1725	210	0.	*	1	2340	285	0.
1	0500	61	0.	*	1	1115	136	1.	*	1	1730	211	0.	*	1	2345	286	0.
1	0505	62	0.	*	1	1120	137	1.	*	1	1735	212	0.	*	1	2350	287	0.
1	0510	63	0.	*	1	1125	138	1.	*	1	1740	213	0.	*	1	2355	288	0.
1	0515	64	0.	*	1	1130	139	1.	*	1	1745	214	0.	*	2	0000	289	0.
1	0520	65	0.	*	1	1135	140	1.	*	1	1750	215	0.	*	2	0005	290	0.
1	0525	66	0.	*	1	1140	141	2.	*	1	1755	216	0.	*	2	0010	291	0.
1	0530	67	0.	*	1	1145	142	4.	*	1	1800	217	0.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	6.	*	1	1805	218	0.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	9.	*	1	1810	219	0.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	11.	*	1	1815	220	0.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	11.	*	1	1820	221	0.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	9.	*	1	1825	222	0.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	6.	*	1	1830	223	0.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	5.	*	1	1835	224	0.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	4.	*	1	1840	225	0.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 11.	12.00		2.	1.	1.	1.
		(INCHES)	.837	1.183	1.184	1.184
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

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          ***************
          *             *
190 KK    *       C23   *
          *             *
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Combine Hydrograph Basins 23c,23d with WF_PD1 and 23b

192 HC HYDROGRAPH COMBINATION
ICOMP 3 NUMBER OF HYDROGRAPHS TO COMBINE

*** *** *** *** ***

HYDROGRAPH AT STATION C23
TRANSPOSITION AREA .0 SQ MI

AK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)					
		(CFS)				
+ 141.	12.00		34.	14.	14.	14.
		(INCHES)	.388	.645	.647	.647
		(AC-FT)	17.	28.	28.	28.

CUMULATIVE AREA = .81 SQ MI

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HYDROGRAPH AT STATION C23
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 138.	12.00		33.	14.	13.	13.
		(INCHES)	.380	.628	.629	.629
		(AC-FT)	16.	27.	27.	27.

CUMULATIVE AREA = .81 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C23
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 136.	12.00		33.	13.	13.	13.
		(INCHES)	.376	.619	.621	.621
		(AC-FT)	16.	27.	27.	27.

CUMULATIVE AREA = .81 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C23
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)					
		(CFS)				
135.	12.00		32.	13.	13.	13.
		(INCHES)	.372	.610	.612	.612
		(AC-FT)	16.	26.	26.	26.

CUMULATIVE AREA = .81 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C23
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
134.	12.00	(CFS)	32.	13.	13.	13.
		(INCHES)	.369	.604	.606	.606
		(AC-FT)	16.	26.	26.	26.

CUMULATIVE AREA = .81 SQ MI

INTERPOLATED HYDROGRAPH AT C23

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	4.	1		1230	151	38.	1		1845	226	17.
1		0005	2	0.	1		0620	77	4.	1		1235	152	37.	1		1850	227	17.
1		0010	3	0.	1		0625	78	4.	1		1240	153	35.	1		1855	228	17.
1		0015	4	1.	1		0630	79	4.	1		1245	154	35.	1		1900	229	16.
1		0020	5	1.	1		0635	80	4.	1		1250	155	34.	1		1905	230	16.
1		0025	6	1.	1		0640	81	4.	1		1255	156	34.	1		1910	231	16.
1		0030	7	1.	1		0645	82	4.	1		1300	157	33.	1		1915	232	16.
1		0035	8	1.	1		0650	83	4.	1		1305	158	33.	1		1920	233	16.
1		0040	9	1.	1		0655	84	4.	1		1310	159	32.	1		1925	234	16.
1		0045	10	1.	1		0700	85	4.	1		1315	160	32.	1		1930	235	16.
1		0050	11	1.	1		0705	86	4.	1		1320	161	32.	1		1935	236	15.
1		0055	12	1.	1		0710	87	4.	1		1325	162	31.	1		1940	237	15.
1		0100	13	1.	1		0715	88	4.	1		1330	163	31.	1		1945	238	15.
1		0105	14	2.	1		0720	89	4.	1		1335	164	31.	1		1950	239	15.
1		0110	15	2.	1		0725	90	4.	1		1340	165	30.	1		1955	240	15.
1		0115	16	2.	1		0730	91	4.	1		1345	166	30.	1		2000	241	15.
1		0120	17	2.	1		0735	92	4.	1		1350	167	30.	1		2005	242	14.
1		0125	18	2.	1		0740	93	4.	1		1355	168	30.	1		2010	243	14.
1		0130	19	2.	1		0745	94	4.	1		1400	169	29.	1		2015	244	14.
1		0135	20	2.	1		0750	95	4.	1		1405	170	29.	1		2020	245	14.
1		0140	21	2.	1		0755	96	4.	1		1410	171	29.	1		2025	246	14.
1		0145	22	2.	1		0800	97	5.	1		1415	172	29.	1		2030	247	14.
1		0150	23	2.	1		0805	98	5.	1		1420	173	28.	1		2035	248	14.
1		0155	24	2.	1		0810	99	5.	1		1425	174	28.	1		2040	249	13.
1		0200	25	2.	1		0815	100	5.	1		1430	175	28.	1		2045	250	13.
1		0205	26	2.	1		0820	101	5.	1		1435	176	28.	1		2050	251	13.
1		0210	27	2.	1		0825	102	5.	1		1440	177	28.	1		2055	252	13.
1		0215	28	2.	1		0830	103	5.	1		1445	178	27.	1		2100	253	13.
1		0220	29	2.	1		0835	104	5.	1		1450	179	27.	1		2105	254	13.
1		0225	30	2.	1		0840	105	5.	1		1455	180	27.	1		2110	255	13.
1		0230	31	2.	1		0845	106	5.	1		1500	181	27.	1		2115	256	13.
1		0235	32	2.	1		0850	107	6.	1		1505	182	26.	1		2120	257	12.
1		0240	33	2.	1		0855	108	6.	1		1510	183	26.	1		2125	258	12.
1		0245	34	2.	1		0900	109	6.	1		1515	184	26.	1		2130	259	12.
1		0250	35	2.	1		0905	110	6.	1		1520	185	25.	1		2135	260	12.
1		0255	36	2.	1		0910	111	6.	1		1525	186	25.	1		2140	261	11.
1		0300	37	3.	1		0915	112	6.	1		1530	187	25.	1		2145	262	11.
1		0305	38	3.	1		0920	113	6.	1		1535	188	25.	1		2150	263	10.
1		0310	39	3.	1		0925	114	6.	1		1540	189	24.	1		2155	264	10.
1		0315	40	3.	1		0930	115	6.	1		1545	190	24.	1		2200	265	9.
1		0320	41	3.	1		0935	116	6.	1		1550	191	24.	1		2205	266	9.
1		0325	42	3.	1		0940	117	7.	1		1555	192	24.	1		2210	267	8.
1		0330	43	3.	1		0945	118	7.	1		1600	193	23.	1		2215	268	8.
1		0335	44	3.	1		0950	119	7.	1		1605	194	23.	1		2220	269	8.
1		0340	45	3.	1		0955	120	7.	1		1610	195	23.	1		2225	270	7.
1		0345	46	3.	1		1000	121	7.	1		1615	196	23.	1		2230	271	7.
1		0350	47	3.	1		1005	122	8.	1		1620	197	23.	1		2235	272	7.
1		0355	48	3.	1		1010	123	8.	1		1625	198	22.	1		2240	273	6.
1		0400	49	3.	1		1015	124	8.	1		1630	199	22.	1		2245	274	6.
1		0405	50	3.	1		1020	125	8.	1		1635	200	22.	1		2250	275	6.
1		0410	51	3.	1		1025	126	9.	1		1640	201	22.	1		2255	276	6.
1		0415	52	3.	1		1030	127	9.	1		1645	202	22.	1		2300	277	5.
1		0420	53	3.	1		1035	128	9.	1		1650	203	21.	1		2305	278	5.
1		0425	54	3.	1		1040	129	10.	1		1655	204	21.	1		2310	279	5.
1		0430	55	3.	1		1045	130	10.	1		1700	205	21.	1		2315	280	5.
1		0435	56	3.	1		1050	131	11.	1		1705	206	21.	1		2320	281	5.
1		0440	57	3.	1		1055	132	11.	1		1710	207	21.	1		2325	282	4.
1		0445	58	3.	1		1100	133	12.	1		1715	208	20.	1		2330	283	4.
1		0450	59	3.	1		1105	134	12.	1		1720	209	20.	1		2335	284	4.
1		0455	60	3.	1		1110	135	13.	1		1725	210	20.	1		2340	285	4.
1		0500	61	3.	1		1115	136	14.	1		1730	211	20.	1		2345	286	4.
1		0505	62	3.	1		1120	137	15.	1		1735	212	20.	1		2350	287	4.
1		0510	63	3.	1		1125	138	16.	1		1740	213	19.	1		2355	288	4.
1		0515	64	3.	1		1130	139	17.	1		1745	214	19.	2		0000	289	4.
1		0520	65	3.	1		1135	140	22.	1		1750	215	19.	2		0005	290	3.
1		0525	66	3.	1		1140	141	35.	1		1755	216	19.	2		0010	291	3.
1		0530	67	3.	1		1145	142	56.	1		1800	217	19.	2		0015	292	3.
1		0535	68	3.	1		1150	143	88.	1		1805	218	18.	2		0020	293	2.
1		0540	69	4.	1		1155	144	125.	1		1810	219	18.	2		0025	294	2.
1		0545	70	4.	1		1200	145	139.	1		1815	220	18.	2		0030	295	2.
1		0550	71	4.	1		1205	146	106.	1		1820	221	18.	2		0035	296	2.
1		0555	72	4.	1		1210	147	65.	1		1825	222	18.	2		0040	297	2.
1		0600	73	4.	1		1215	148	47.	1		1830	223	18.	2		0045	298	2.
1		0605	74	4.	1		1220	149	42.	1		1835	224	17.	2		0050	299	2.
1		0610	75	4.	1		1225	150	40.	1		1840	225	17.	2		0055	300	1.

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
139.	12.00	(CFS)	33.	14.	13.	13.
		(INCHES)	.383	.634	.636	.636
		(AC-FT)	17.	27.	27.	27.

CUMULATIVE AREA = .81 SQ MI

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193 KK      **********
            *        *
            *  WF_PD2*
            *        *
            **********
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Route Hydrograph Through New Walker Field On Site Pond 2

HYDROGRAPH ROUTING DATA

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195 RS      STORAGE ROUTING
                 NSTPS          1  NUMBER OF SUBREACHES
                  ITYP       STOR  TYPE OF INITIAL CONDITION
                 RSVRIC        .00  INITIAL CONDITION
                     X         .00 WORKING R AND D COEFFICIENT

196 SV        STORAGE          .0        .1        .7       1.6       3.2       5.3
197 SQ        DISCHARGE        0.       24.       48.       68.       83.       90.
198 SE        ELEVATION    4793.50   4795.00   4797.00   4799.00   4801.00   4803.00
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HYDROGRAPH AT STATIDN WF_PD2
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
71.	12.17	(CFS)	34.	14.	14.	14.
		(INCHES)	.388	.645	.646	.646
		(AC-FT)	17.	28.	28.	28.

PEAK STORAGE (AC-FT)	TIME (HR)	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
2.	12.17	0.	0.	0.	0.

PEAK STAGE (FEET)	TIME (HR)	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
4799.41	12.17	4795.88	4794.45	4794.42	4794.42

CUMULATIVE AREA = .81 SQ MI

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HYDROGRAPH AT STATION WF_PD2
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
71.	12.17	(CFS)	33.	14.	13.	13.
		(INCHES)	.380	.628	.629	.629
		(AC-FT)	16.	27.	27.	27.

PEAK STORAGE (AC-FT)	TIME (HR)	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
2.	12.17	0.	0.	0.	0.

PEAK STAGE (FEET)	TIME (HR)	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
4799.33	12.17	4795.82	4794.42	4794.39	4794.39

CUMULATIVE AREA = .81 SQ MI

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HYDROGRAPH AT STATION WF_PD2
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
70.	12.17	(CFS)	33.	13.	13.	13.
		(INCHES)	.376	.619	.621	.621
		(AC-FT)	16.	27.	27.	27.

PEAK STORAGE (AC-FT)	TIME (HR)	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
2.	12.17	0.	0.	0.	0.

PEAK STAGE (FEET)	TIME (HR)	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
4799.29	12.17	4795.79	4794.41	4794.38	4794.38

CUMULATIVE AREA = .81 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION WF_PD2
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
70.	12.17	(CFS)	32.	13.	13.	13.
		(INCHES)	.372	.610	.612	.612

(AC-FT)	16.	26.	26.	26.	

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
2.	12.17	0.	0.	0.	0.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
4799.25	12.17	4795.76	4794.40	4794.37	4794.37

CUMULATIVE AREA = .81 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION WF_PD2
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
+ 70.	12.17	(CFS) 32.	13.	13.	13.
		(INCHES) .369	.604	.606	.606
		(AC-FT) 16.	26.	26.	26.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
2.	12.17	0.	0.	0.	0.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
4799.22	12.17	4795.74	4794.39	4794.36	4794.36

CUMULATIVE AREA = .81 SQ MI

INTERPOLATED HYDROGRAPH AT WF_PD2

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	4.	1		1230	151	61.	1		1845	226	17.
1		0005	2	0.	1		0620	77	4.	1		1235	152	58.	1		1850	227	17.
1		0010	3	0.	1		0625	78	4.	1		1240	153	55.	1		1855	228	17.
1		0015	4	1.	1		0630	79	4.	1		1245	154	52.	1		1900	229	17.
1		0020	5	1.	1		0635	80	4.	1		1250	155	50.	1		1905	230	16.
1		0025	6	1.	1		0640	81	4.	1		1255	156	47.	1		1910	231	16.
1		0030	7	1.	1		0645	82	4.	1		1300	157	44.	1		1915	232	16.
1		0035	8	1.	1		0650	83	4.	1		1305	158	41.	1		1920	233	16.
1		0040	9	1.	1		0655	84	4.	1		1310	159	39.	1		1925	234	16.
1		0045	10	1.	1		0700	85	4.	1		1315	160	37.	1		1930	235	16.
1		0050	11	1.	1		0705	86	4.	1		1320	161	36.	1		1935	236	15.
1		0055	12	1.	1		0710	87	4.	1		1325	162	35.	1		1940	237	15.
1		0100	13	1.	1		0715	88	4.	1		1330	163	34.	1		1945	238	15.
1		0105	14	2.	1		0720	89	4.	1		1335	164	33.	1		1950	239	15.
1		0110	15	2.	1		0725	90	4.	1		1340	165	33.	1		1955	240	15.
1		0115	16	2.	1		0730	91	4.	1		1345	166	32.	1		2000	241	15.
1		0120	17	2.	1		0735	92	4.	1		1350	167	32.	1		2005	242	14.
1		0125	18	2.	1		0740	93	4.	1		1355	168	31.	1		2010	243	14.
1		0130	19	2.	1		0745	94	4.	1		1400	169	31.	1		2015	244	14.
1		0135	20	2.	1		0750	95	4.	1		1405	170	30.	1		2020	245	14.
1		0140	21	2.	1		0755	96	4.	1		1410	171	30.	1		2025	246	14.
1		0145	22	2.	1		0800	97	5.	1		1415	172	30.	1		2030	247	14.
1		0150	23	2.	1		0805	98	5.	1		1420	173	29.	1		2035	248	14.
1		0155	24	2.	1		0810	99	5.	1		1425	174	29.	1		2040	249	14.
1		0200	25	2.	1		0815	100	5.	1		1430	175	29.	1		2045	250	13.
1		0205	26	2.	1		0820	101	5.	1		1435	176	29.	1		2050	251	13.
1		0210	27	2.	1		0825	102	5.	1		1440	177	28.	1		2055	252	13.
1		0215	28	2.	1		0830	103	5.	1		1445	178	28.	1		2100	253	13.
1		0220	29	2.	1		0835	104	5.	1		1450	179	28.	1		2105	254	13.
1		0225	30	2.	1		0840	105	5.	1		1455	180	28.	1		2110	255	13.
1		0230	31	2.	1		0845	106	5.	1		1500	181	27.	1		2115	256	13.
1		0235	32	2.	1		0850	107	6.	1		1505	182	27.	1		2120	257	13.
1		0240	33	2.	1		0855	108	6.	1		1510	183	27.	1		2125	258	12.
1		0245	34	2.	1		0900	109	6.	1		1515	184	27.	1		2130	259	12.
1		0250	35	2.	1		0905	110	6.	1		1520	185	26.	1		2135	260	12.
1		0255	36	2.	1		0910	111	6.	1		1525	186	26.	1		2140	261	12.
1		0300	37	3.	1		0915	112	6.	1		1530	187	26.	1		2145	262	11.
1		0305	38	3.	1		0920	113	6.	1		1535	188	26.	1		2150	263	11.
1		0310	39	3.	1		0925	114	6.	1		1540	189	25.	1		2155	264	10.
1		0315	40	3.	1		0930	115	6.	1		1545	190	25.	1		2200	265	10.
1		0320	41	3.	1		0935	116	6.	1		1550	191	25.	1		2205	266	9.
1		0325	42	3.	1		0940	117	6.	1		1555	192	25.	1		2210	267	9.
1		0330	43	3.	1		0945	118	7.	1		1600	193	24.	1		2215	268	8.
1		0335	44	3.	1		0950	119	7.	1		1605	194	24.	1		2220	269	8.
1		0340	45	3.	1		0955	120	7.	1		1610	195	24.	1		2225	270	7.
1		0345	46	3.	1		1000	121	7.	1		1615	196	23.	1		2230	271	7.
1		0350	47	3.	1		1005	122	7.	1		1620	197	23.	1		2235	272	7.
1		0355	48	3.	1		1010	123	8.	1		1625	198	23.	1		2240	273	6.
1		0400	49	3.	1		1015	124	8.	1		1630	199	22.	1		2245	274	6.
1		0405	50	3.	1		1020	125	8.	1		1635	200	22.	1		2250	275	6.
1		0410	51	3.	1		1025	126	8.	1		1640	201	22.	1		2255	276	6.
1		0415	52	3.	1		1030	127	9.	1		1645	202	22.	1		2300	277	6.
1		0420	53	3.	1		1035	128	9.	1		1650	203	21.	1		2305	278	5.
1		0425	54	3.	1		1040	129	9.	1		1655	204	21.	1		2310	279	5.
1		0430	55	3.	1		1045	130	10.	1		1700	205	21.	1		2315	280	5.
1		0435	56	3.	1		1050	131	10.	1		1705	206	21.	1		2320	281	5.
1		0440	57	3.	1		1055	132	11.	1		1710	207	21.	1		2325	282	5.
1		0445	58	3.	1		1100	133	11.	1		1715	208	20.	1		2330	283	4.
1		0450	59	3.	1		1105	134	12.	1		1720	209	20.	1		2335	284	4.
1		0455	60	3.	1		1110	135	13.	1		1725	210	20.	1		2340	285	4.
1		0500	61	3.	1		1115	136	14.	1		1730	211	20.	1		2345	286	4.
1		0505	62	3.	1		1120	137	15.	1		1735	212	20.	1		2350	287	4.
1		0510	63	3.	1		1125	138	16.	1		1740	213	19.	1		2355	288	4.
1		0515	64	3.	1		1130	139	17.	1		1745	214	19.	2		0000	289	4.
1		0520	65	3.	1		1135	140	19.	1		1750	215	19.	2		0005	290	4.

```
   1     0525   66        3.   *    1     1140  141        25.   *    1     1755  216        19.   *    2     0010  291         3.
   1     0530   67        3.   *    1     1145  142        30.   *    1     1800  217        19.   *    2     0015  292         3.
   1     0535   68        3.   *    1     1150  143        40.   *    1     1805  218        19.   *    2     0020  293         2.
   1     0540   69        3.   *    1     1155  144        53.   *    1     1810  219        18.   *    2     0025  294         2.
   1     0545   70        4.   *    1     1200  145        64.   *    1     1815  220        18.   *    2     0030  295         2.
   1     0550   71        4.   *    1     1205  146        70.   *    1     1820  221        18.   *    2     0035  296         2.
   1     0555   72        4.   *    1     1210  147        71.   *    1     1825  222        18.   *    2     0040  297         2.
   1     0600   73        4.   *    1     1215  148        70.   *    1     1830  223        18.   *    2     0045  298         2.
   1     0605   74        4.   *    1     1220  149        68.   *    1     1835  224        17.   *    2     0050  299         2.
   1     0610   75        4.   *    1     1225  150        64.   *    1     1840  225        17.   *    2     0055  300         2.
                             *                               *                                     *
*************************************************************************************************************************************

  PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                      6-HR          24-HR          72-HR       24.92-HR
+   (CFS)        (HR)          (CFS)
+      71.      12.17                    33.            14.            13.            13.
                             (INCHES)   .383           .634           .636           .636
                              (AC-FT)    17.            27.            27.            27.

                             CUMULATIVE AREA =      .81 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *               *
199 KK      *     RWF_P2    *
            *               *
            ***************
                        Route Hydrograph Through Basin 23e Pipe

               HYDROGRAPH ROUTING DATA

201 RK            KINEMATIC WAVE STREAM ROUTING
                        L       1000.  CHANNEL LENGTH
                        S       .0100  SLOPE
                        N        .015  CHANNEL ROUGHNESS COEFFICIENT
                       CA         .00  CONTRIBUTING AREA
                    SHAPE        CIRC  CHANNEL SHAPE
                       WD        3.00  BOTTOM WIDTH OR DIAMEIER
                        Z         .00  SIDE SLOPE
                   NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                    ***
                                  COMPUTED KINEMATIC PARAMETERS
                                       VARIABLE TIME STEP
                                    (DT SHOWN IS A MINIMUM)

                        ELEMENT    ALPHA       M         DT        DX       PEAK    TIME TO      VOLUME    MAXIMUM
                                                                                       PEAK                 CELERITY
                                                          (MIN)     (FT)     (CFS)    (MIN)       (IN)      (FPS)

                        MAIN          6.44      1.25        .47    333.33    71.16   731.06        .65      13.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2787E+02  EXCESS= .0000E+00 OUTFLOW= .2787E+02 BASIN STORAGE= .4353E-02 PERCENT ERROR=     .0

                                          INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

                        MAIN          6.44      1.25       5.00               71.02   730.00        .65
            ***           ***           ***           ***           ***

                          HYDROGRAPH AT STATION   RWF_P2
                        TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                      6-HR          24-HR          72-HR       24.92-HR
+   (CFS)        (HR)          (CFS)
+      71.      12.17                    34.            14.            14.            14.
                             (INCHES)   .388           .645           .646           .646
                              (AC-FT)    17.            28.            28.            28.

                             CUMULATIVE AREA =      .81 SQ MI


         *** FDKRUT - NEWTON RAPHSON FAILEDFIXEO POINT ITERATION USED - ITERATION=  1

                                  COMPUTED KINEMATIC PARAMETERS
                                       VARIABLE TIME STEP
                                    (DT SHOWN IS A MINIMUM)

                        ELEMENT    ALPHA       M         DT        DX       PEAK    TIME TO      VOLUME    MAXIMUM
                                                                                       PEAK                 CELERITY
                                                          (MIN)     (FT)     (CFS)    (MIN)       (IN)      (FPS)

                        MAIN          6.44      1.25        .48    333.33    70.56   730.70        .63      12.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2713E+02  EXCESS= .0000E+00 OUTFLOW= .2712E+02 BASIN STORAGE= .4100E-02 PERCENT ERROR=     .0

                                          INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

                        MAIN          6.44      1.25       5.00               70.44   730.00        .63
            ***           ***           ***           ***           ***

                          HYDROGRAPH AT STATION   RWF_P2
                        TRANSPOSITION AREA      14.0 SQ MI

  PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                      6-HR          24-HR          72-HR       24.92-HR
```

+ (CFS)	(HR)					
		(CFS)				
+ 70.	12.17		33.	14.	13.	13.
		(INCHES)	.380	.628	.629	.629
		(AC-FT)	16.	27.	27.	27.

CUMULATIVE AREA = .81 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	6.44	1.25	.48	333.33	70.26	731.12	.62	12.98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2676E+02 EXCESS= .0000E+00 OUTFLOW= .2675E+02 BASIN STORAGE= .3969E-02 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	6.44	1.25	5.00		70.14	730.00	.62
***	***	***	***	***			

HYDROGRAPH AT STATION RWF_P2
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 70.	12.17		33.	13.	13.	13.
		(INCHES)	.376	.619	.620	.620
		(AC-FT)	16.	27.	27.	27.

CUMULATIVE AREA = .81 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	6.44	1.25	.49	333.33	69.99	730.93	.61	12.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2637E+02 EXCESS= .0000E+00 OUTFLOW= .2636E+02 BASIN STORAGE= .3863E-02 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	6.44	1.25	5.00		69.86	730.00	.61
***	***	***	***	***			

HYDROGRAPH AT STATION RWF_P2
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 70.	12.17		32.	13.	13.	13.
		(INCHES)	.372	.610	.611	.611
		(AC-FT)	16.	26.	26.	26.

CUMULATIVE AREA = .81 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	6.44	1.25	.49	333.33	69.77	731.04	.61	12.96

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2612E+02 EXCESS= .0000E+00 OUTFLOW= .2611E+02 BASIN STORAGE= .3794E-02 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	6.44	1.25	5.00		69.65	730.00	.61
***	***	***	***	***			

HYDROGRAPH AT STATION RWF_P2
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 70.	12.17		32.	13.	13.	13.
		(INCHES)	.369	.604	.606	.606
		(AC-FT)	16.	26.	26.	26.

CUMULATIVE AREA = .81 SQ MI

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INTERPOLATED HYDROGRAPH AT RWF_P2

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	4.	1		1230	151	62.	1		1845	226	17.
1		0005	2	0.	1		0620	77	4.	1		1235	152	58.	1		1850	227	17.
1		0010	3	0.	1		0625	78	4.	1		1240	153	55.	1		1855	228	17.
1		0015	4	0.	1		0630	79	4.	1		1245	154	53.	1		1900	229	17.
1		0020	5	1.	1		0635	80	4.	1		1250	155	50.	1		1905	230	16.
1		0025	6	1.	1		0640	81	4.	1		1255	156	48.	1		1910	231	16.
1		0030	7	1.	1		0645	82	4.	1		1300	157	44.	1		1915	232	16.
1		0035	8	1.	1		0650	83	4.	1		1305	158	42.	1		1920	233	16.
1		0040	9	1.	1		0655	84	4.	1		1310	159	39.	1		1925	234	16.
1		0045	10	1.	1		0700	85	4.	1		1315	160	38.	1		1930	235	16.
1		0050	11	1.	1		0705	86	4.	1		1320	161	36.	1		1935	236	15.
1		0055	12	1.	1		0710	87	4.	1		1325	162	35.	1		1940	237	15.
1		0100	13	1.	1		0715	88	4.	1		1330	163	34.	1		1945	238	15.
1		0105	14	1.	1		0720	89	4.	1		1335	164	33.	1		1950	239	15.
1		0110	15	2.	1		0725	90	4.	1		1340	165	33.	1		1955	240	15.
1		0115	16	2.	1		0730	91	4.	1		1345	166	32.	1		2000	241	15.
1		0120	17	2.	1		0735	92	4.	1		1350	167	32.	1		2005	242	15.
1		0125	18	2.	1		0740	93	4.	1		1355	168	31.	1		2010	243	14.
1		0130	19	2.	1		0745	94	4.	1		1400	169	31.	1		2015	244	14.
1		0135	20	2.	1		0750	95	4.	1		1405	170	30.	1		2020	245	14.
1		0140	21	2.	1		0755	96	4.	1		1410	171	30.	1		2025	246	14.
1		0145	22	2.	1		0800	97	5.	1		1415	172	30.	1		2030	247	14.
1		0150	23	2.	1		0805	98	5.	1		1420	173	29.	1		2035	248	14.
1		0155	24	2.	1		0810	99	5.	1		1425	174	29.	1		2040	249	14.
1		0200	25	2.	1		0815	100	5.	1		1430	175	29.	1		2045	250	13.
1		0205	26	2.	1		0820	101	5.	1		1435	176	29.	1		2050	251	13.
1		0210	27	2.	1		0825	102	5.	1		1440	177	28.	1		2055	252	13.
1		0215	28	2.	1		0830	103	5.	1		1445	178	28.	1		2100	253	13.
1		0220	29	2.	1		0835	104	5.	1		1450	179	28.	1		2105	254	13.
1		0225	30	2.	1		0840	105	5.	1		1455	180	28.	1		2110	255	13.
1		0230	31	2.	1		0845	106	5.	1		1500	181	28.	1		2115	256	13.
1		0235	32	2.	1		0850	107	6.	1		1505	182	27.	1		2120	257	13.
1		0240	33	2.	1		0855	108	6.	1		1510	183	27.	1		2125	258	12.
1		0245	34	2.	1		0900	109	6.	1		1515	184	27.	1		2130	259	12.
1		0250	35	2.	1		0905	110	6.	1		1520	185	26.	1		2135	260	12.
1		0255	36	2.	1		0910	111	6.	1		1525	186	26.	1		2140	261	12.
1		0300	37	3.	1		0915	112	6.	1		1530	187	26.	1		2145	262	11.
1		0305	38	3.	1		0920	113	6.	1		1535	188	26.	1		2150	263	11.
1		0310	39	3.	1		0925	114	6.	1		1540	189	25.	1		2155	264	10.
1		0315	40	3.	1		0930	115	6.	1		1545	190	25.	1		2200	265	10.
1		0320	41	3.	1		0935	116	6.	1		1550	191	25.	1		2205	266	9.
1		0325	42	3.	1		0940	117	6.	1		1555	192	25.	1		2210	267	9.
1		0330	43	3.	1		0945	118	7.	1		1600	193	24.	1		2215	268	8.
1		0335	44	3.	1		0950	119	7.	1		1605	194	24.	1		2220	269	8.
1		0340	45	3.	1		0955	120	7.	1		1610	195	24.	1		2225	270	8.
1		0345	46	3.	1		1000	121	7.	1		1615	196	23.	1		2230	271	7.
1		0350	47	3.	1		1005	122	7.	1		1620	197	23.	1		2235	272	7.
1		0355	48	3.	1		1010	123	8.	1		1625	198	23.	1		2240	273	7.
1		0400	49	3.	1		1015	124	8.	1		1630	199	22.	1		2245	274	6.
1		0405	50	3.	1		1020	125	8.	1		1635	200	22.	1		2250	275	6.
1		0410	51	3.	1		1025	126	8.	1		1640	201	22.	1		2255	276	6.
1		0415	52	3.	1		1030	127	9.	1		1645	202	22.	1		2300	277	6.
1		0420	53	3.	1		1035	128	9.	1		1650	203	21.	1		2305	278	5.
1		0425	54	3.	1		1040	129	9.	1		1655	204	21.	1		2310	279	5.
1		0430	55	3.	1		1045	130	10.	1		1700	205	21.	1		2315	280	5.
1		0435	56	3.	1		1050	131	10.	1		1705	206	21.	1		2320	281	5.
1		0440	57	3.	1		1055	132	11.	1		1710	207	21.	1		2325	282	5.
1		0445	58	3.	1		1100	133	11.	1		1715	208	20.	1		2330	283	4.
1		0450	59	3.	1		1105	134	12.	1		1720	209	20.	1		2335	284	4.
1		0455	60	3.	1		1110	135	12.	1		1725	210	20.	1		2340	285	4.
1		0500	61	3.	1		1115	136	13.	1		1730	211	20.	1		2345	286	4.
1		0505	62	3.	1		1120	137	14.	1		1735	212	20.	1		2350	287	4.
1		0510	63	3.	1		1125	138	15.	1		1740	213	20.	1		2355	288	4.
1		0515	64	3.	1		1130	139	16.	1		1745	214	19.	2		0000	289	4.
1		0520	65	3.	1		1135	140	19.	1		1750	215	19.	2		0005	290	4.
1		0525	66	3.	1		1140	141	23.	1		1755	216	19.	2		0010	291	3.
1		0530	67	3.	1		1145	142	29.	1		1800	217	19.	2		0015	292	3.
1		0535	68	3.	1		1150	143	38.	1		1805	218	19.	2		0020	293	3.
1		0540	69	3.	1		1155	144	50.	1		1810	219	18.	2		0025	294	2.
1		0545	70	4.	1		1200	145	62.	1		1815	220	18.	2		0030	295	2.
1		0550	71	4.	1		1205	146	69.	1		1820	221	18.	2		0035	296	2.
1		0555	72	4.	1		1210	147	71.	1		1825	222	18.	2		0040	297	2.
1		0600	73	4.	1		1215	148	70.	1		1830	223	18.	2		0045	298	2.
1		0605	74	4.	1		1220	149	68.	1		1835	224	18.	2		0050	299	2.
1		0610	75	4.	1		1225	150	65.	1		1840	225	17.	2		0055	300	2.

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)					
		(CFS)				
71.	12.17		33.	14.	13.	13.
		(INCHES)	.383	.634	.636	.636
		(AC-FT)	17.	27.	27.	27.

CUMULATIVE AREA = .81 SQ MI

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202 KK      ***************
            *             *
            *     DB23e   *
            *             *
            ***************
                        Subasin

               SUBBASIN RUNOFF DATA

204 BA           SUBBASIN CHARACTERISTICS
                       TAREA         .07  SUBBASIN AREA

205 LG           GREEN AND AMPT LOSS RATE
                       STRTL         .04  STARTING LOSS
                         DTH         .05  MOISTURE DEFICIT
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                    PSIF          .18  WETTING FRONT SUCTION
                    XKSAT         .01  HYDRAULIC CONDUCTIVITY
                    RTIMP      100.00  PERCENT IMPERVIOUS AREA

206 US          SNYDER UNITGRAPH
                    TP            .07  LAG
                    CP            .57  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                        ***

                                                  UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=    .09 HR,       R=    .04 HR
                                          SNYDER  TP=    .07 HR,      CP=    .51

                                                  UNIT HYDROGRAPH
                                              3 END-OF-PERIOD ORDINATES
                    268.      275.        6.

      ***           ***           ***           ***           ***

                    HYDROGRAPH AT STATION    DB23e
                   TRANSPOSITION AREA        .0 SQ MI

     TOTAL RAINFALL =   1.19, TOTAL LOSS =     .00, TOTAL EXCESS =    1.19

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)
                              (CFS)
+      62.      11.92                       6.           2.           2.           2.
                          (INCHES)       .841        1.189        1.190        1.190
                            (AC-FT)         3.           4.           4.           4.

                    CUMULATIVE AREA =     .07 SQ MI

      ***           ***           ***           ***           ***

                    HYDROGRAPH AT STATION    DB23e
                   TRANSPOSITION AREA      14.0 SQ MI

     TOTAL RAINFALL =   1.17, TOTAL LOSS =     .00, TOTAL EXCESS =    1.17

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)
                              (CFS)
+      61.      11.92                       6.           2.           2.           2.
                          (INCHES)       .824        1.165        1.166        1.166
                            (AC-FT)         3.           4.           4.           4.

                    CUMULATIVE AREA =     .07 SQ MI

      ***           ***           ***           ***           ***

                    HYDROGRAPH AT STATION    DB23e
                   TRANSPOSITION AREA      24.0 SQ MI

     TOTAL RAINFALL =   1.15, TOTAL LOSS =     .00, TOTAL EXCESS =    1.15

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)
                              (CFS)
+      60.      11.92                       6.           2.           2.           2.
                          (INCHES)       .815        1.153        1.154        1.154
                            (AC-FT)         3.           4.           4.           4.

                    CUMULATIVE AREA =     .07 SQ MI

      ***           ***           ***           ***           ***

                    HYDROGRAPH AT STATION    OB23e
                   TRANSPOSITION AREA      36.5 SQ MI

     TOTAL RAINFALL =   1.14, TOTAL LOSS =     .00, TOTAL EXCESS =    1.14

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)
                              (CFS)
+      60.      11.92                       6.           2.           2.           2.
                          (INCHES)       .807        1.141        1.142        1.142
                            (AC-FT)         3.           4.           4.           4.

                    CUMULATIVE AREA =     .07 SQ MI

      ***           ***           ***           ***           ***

                    HYDROGRAPH AT STATION    DB23e
                   TRANSPOSITION AREA      50.0 SQ MI

     TOTAL RAINFALL =   1.13, TOTAL LOSS =     .00, TOTAL EXCESS =    1.13

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)
                              (CFS)
+      59.      11.92                       6.           2.           2.           2.
                          (INCHES)       .801        1.133        1.134        1.134
                            (AC-FT)         3.           4.           4.           4.

                    CUMULATIVE AREA =     .07 SQ MI

*********************************************************************************************************************************************************

                    INTERPOLATED HYDROGRAPH AT     DB23e
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DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	1.	1		1230	151	6.	1		1845	226	1.
1		0005	2	0.	1		0620	77	1.	1		1235	152	5.	1		1850	227	1.
1		0010	3	1.	1		0625	78	1.	1		1240	153	4.	1		1855	228	1.
1		0015	4	1.	1		0630	79	1.	1		1245	154	4.	1		1900	229	1.
1		0020	5	1.	1		0635	80	1.	1		1250	155	4.	1		1905	230	1.
1		0025	6	1.	1		0640	81	1.	1		1255	156	4.	1		1910	231	1.
1		0030	7	1.	1		0645	82	1.	1		1300	157	4.	1		1915	232	1.
1		0035	8	1.	1		0650	83	1.	1		1305	158	3.	1		1920	233	1.
1		0040	9	1.	1		0655	84	1.	1		1310	159	3.	1		1925	234	1.
1		0045	10	1.	1		0700	85	1.	1		1315	160	3.	1		1930	235	1.
1		0050	11	1.	1		0705	86	1.	1		1320	161	3.	1		1935	236	1.
1		0055	12	1.	1		0710	87	1.	1		1325	162	3.	1		1940	237	1.
1		0100	13	1.	1		0715	88	1.	1		1330	163	3.	1		1945	238	1.
1		0105	14	1.	1		0720	89	1.	1		1335	164	3.	1		1950	239	1.
1		0110	15	1.	1		0725	90	1.	1		1340	165	2.	1		1955	240	1.
1		0115	16	1.	1		0730	91	1.	1		1345	166	2.	1		2000	241	1.
1		0120	17	1.	1		0735	92	1.	1		1350	167	2.	1		2005	242	1.
1		0125	18	1.	1		0740	93	1.	1		1355	168	2.	1		2010	243	1.
1		0130	19	1.	1		0745	94	1.	1		1400	169	2.	1		2015	244	1.
1		0135	20	1.	1		0750	95	1.	1		1405	170	2.	1		2020	245	1.
1		0140	21	1.	1		0755	96	1.	1		1410	171	2.	1		2025	246	1.
1		0145	22	1.	1		0800	97	1.	1		1415	172	2.	1		2030	247	1.
1		0150	23	1.	1		0805	98	1.	1		1420	173	2.	1		2035	248	1.
1		0155	24	1.	1		0810	99	1.	1		1425	174	2.	1		2040	249	1.
1		0200	25	1.	1		0815	100	1.	1		1430	175	2.	1		2045	250	1.
1		0205	26	1.	1		0820	101	1.	1		1435	176	2.	1		2050	251	1.
1		0210	27	1.	1		0825	102	1.	1		1440	177	2.	1		2055	252	1.
1		0215	28	1.	1		0830	103	1.	1		1445	178	2.	1		2100	253	1.
1		0220	29	1.	1		0835	104	1.	1		1450	179	2.	1		2105	254	1.
1		0225	30	1.	1		0840	105	2.	1		1455	180	2.	1		2110	255	1.
1		0230	31	1.	1		0845	106	2.	1		1500	181	2.	1		2115	256	1.
1		0235	32	1.	1		0850	107	2.	1		1505	182	2.	1		2120	257	1.
1		0240	33	1.	1		0855	108	2.	1		1510	183	2.	1		2125	258	1.
1		0245	34	1.	1		0900	109	2.	1		1515	184	2.	1		2130	259	1.
1		0250	35	1.	1		0905	110	2.	1		1520	185	2.	1		2135	260	1.
1		0255	36	1.	1		0910	111	2.	1		1525	186	1.	1		2140	261	1.
1		0300	37	1.	1		0915	112	2.	1		1530	187	1.	1		2145	262	1.
1		0305	38	1.	1		0920	113	2.	1		1535	188	1.	1		2150	263	1.
1		0310	39	1.	1		0925	114	2.	1		1540	189	1.	1		2155	264	1.
1		0315	40	1.	1		0930	115	2.	1		1545	190	1.	1		2200	265	1.
1		0320	41	1.	1		0935	116	2.	1		1550	191	1.	1		2205	266	1.
1		0325	42	1.	1		0940	117	2.	1		1555	192	1.	1		2210	267	1.
1		0330	43	1.	1		0945	118	2.	1		1600	193	1.	1		2215	268	1.
1		0335	44	1.	1		0950	119	2.	1		1605	194	1.	1		2220	269	1.
1		0340	45	1.	1		0955	120	2.	1		1610	195	1.	1		2225	270	1.
1		0345	46	1.	1		1000	121	2.	1		1615	196	1.	1		2230	271	1.
1		0350	47	1.	1		1005	122	2.	1		1620	197	1.	1		2235	272	1.
1		0355	48	1.	1		1010	123	2.	1		1625	198	1.	1		2240	273	1.
1		0400	49	1.	1		1015	124	2.	1		1630	199	1.	1		2245	274	1.
1		0405	50	1.	1		1020	125	2.	1		1635	200	1.	1		2250	275	1.
1		0410	51	1.	1		1025	126	3.	1		1640	201	1.	1		2255	276	1.
1		0415	52	1.	1		1030	127	3.	1		1645	202	1.	1		2300	277	1.
1		0420	53	1.	1		1035	128	3.	1		1650	203	1.	1		2305	278	1.
1		0425	54	1.	1		1040	129	3.	1		1655	204	1.	1		2310	279	1.
1		0430	55	1.	1		1045	130	3.	1		1700	205	1.	1		2315	280	1.
1		0435	56	1.	1		1050	131	3.	1		1705	206	1.	1		2320	281	1.
1		0440	57	1.	1		1055	132	4.	1		1710	207	1.	1		2325	282	1.
1		0445	58	1.	1		1100	133	4.	1		1715	208	1.	1		2330	283	1.
1		0450	59	1.	1		1105	134	4.	1		1720	209	1.	1		2335	284	1.
1		0455	60	1.	1		1110	135	4.	1		1725	210	1.	1		2340	285	1.
1		0500	61	1.	1		1115	136	5.	1		1730	211	1.	1		2345	286	1.
1		0505	62	1.	1		1120	137	5.	1		1735	212	1.	1		2350	287	1.
1		0510	63	1.	1		1125	138	6.	1		1740	213	1.	1		2355	288	1.
1		0515	64	1.	1		1130	139	6.	1		1745	214	1.	2		0000	289	1.
1		0520	65	1.	1		1135	140	9.	1		1750	215	1.	2		0005	290	0.
1		0525	66	1.	1		1140	141	18.	1		1755	216	1.	2		0010	291	0.
1		0530	67	1.	1		1145	142	29.	1		1800	217	1.	2		0015	292	0.
1		0535	68	1.	1		1150	143	44.	1		1805	218	1.	2		0020	293	0.
1		0540	69	1.	1		1155	144	62.	1		1810	219	1.	2		0025	294	0.
1		0545	70	1.	1		1200	145	61.	1		1815	220	1.	2		0030	295	0.
1		0550	71	1.	1		1205	146	32.	1		1820	221	1.	2		0035	296	0.
1		0555	72	1.	1		1210	147	10.	1		1825	222	1.	2		0040	297	0.
1		0600	73	1.	1		1215	148	9.	1		1830	223	1.	2		0045	298	0.
1		0605	74	1.	1		1220	149	8.	1		1835	224	1.	2		0050	299	0.
1		0610	75	1.	1		1225	150	7.	1		1840	225	1.	2		0055	300	0.

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 62.	11.92		6.	2.	2.	2.
		(INCHES)	.836	1.183	1.184	1.184
		(AC-FT)	3.	4.	4.	4.

CUMULATIVE AREA = .07 SQ MI

207 KK C23e

Combine Hydrograph Basin 23e with WF_PD2

09 HC HYDROGRAPH COMBINATION
ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

HYOROGRAPH AT STATION C23e
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 123.	12.00		39.	16.	16.	16.
		(INCHES)	.417	.688	.690	.690
		(AC-FT)	20.	32.	32.	32.

CUMULATIVE AREA = .88 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C23e
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 121.	12.00		39.	16.	15.	15.
		(INCHES)	.409	.670	.672	.672
		(AC-FT)	19.	31.	32.	32.

CUMULATIVE AREA = .88 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C23e
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 120.	12.00		38.	16.	15.	15.
		(INCHES)	.405	.662	.664	.664
		(AC-FT)	19.	31.	31.	31.

CUMULATIVE AREA = .88 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C23e
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 119.	12.00		38.	15.	15.	15.
		(INCHES)	.400	.652	.654	.654
		(AC-FT)	19.	31.	31.	31.

CUMULATIVE AREA = .88 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C23e
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 118.	12.00		38.	15.	15.	15.
		(INCHES)	.397	.646	.648	.648
		(AC-FT)	19.	30.	30.	30.

CUMULATIVE AREA = .88 SQ MI

INTERPOLATED HYDROGRAPH AT C23e

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	5.	1		1230	151	67.	1		1845	226	18.
1		0005	2	0.	1		0620	77	5.	1		1235	152	63.	1		1850	227	18.
1		0010	3	1.	1		0625	78	5.	1		1240	153	60.	1		1855	228	18.
1		0015	4	1.	1		0630	79	5.	1		1245	154	57.	1		1900	229	17.
1		0020	5	1.	1		0635	80	5.	1		1250	155	54.	1		1905	230	17.
1		0025	6	2.	1		0640	81	5.	1		1255	156	51.	1		1910	231	17.
1		0030	7	2.	1		0645	82	5.	1		1300	157	48.	1		1915	232	17.
1		0035	8	2.	1		0650	83	5.	1		1305	158	45.	1		1920	233	17.
1		0040	9	2.	1		0655	84	5.	1		1310	159	43.	1		1925	234	17.
1		0045	10	2.	1		0700	85	5.	1		1315	160	41.	1		1930	235	16.
1		0050	11	2.	1		0705	86	5.	1		1320	161	39.	1		1935	236	16.
1		0055	12	2.	1		0710	87	5.	1		1325	162	38.	1		1940	237	16.
1		0100	13	2.	1		0715	88	5.	1		1330	163	37.	1		1945	238	16.
1		0105	14	2.	1		0720	89	5.	1		1335	164	36.	1		1950	239	16.
1		0110	15	2.	1		0725	90	5.	1		1340	165	35.	1		1955	240	16.
1		0115	16	2.	1		0730	91	5.	1		1345	166	35.	1		2000	241	15.
1		0120	17	2.	1		0735	92	5.	1		1350	167	34.	1		2005	242	15.
1		0125	18	2.	1		0740	93	6.	1		1355	168	33.	1		2010	243	15.
1		0130	19	2.	1		0745	94	6.	1		1400	169	33.	1		2015	244	15.
1		0135	20	2.	1		0750	95	6.	1		1405	170	32.	1		2020	245	15.
1		0140	21	2.	1		0755	96	6.	1		1410	171	32.	1		2025	246	15.
1		0145	22	3.	1		0800	97	6.	1		1415	172	32.	1		2030	247	14.
1		0150	23	3.	1		0805	98	6.	1		1420	173	31.	1		2035	248	14.
1		0155	24	3.	1		0810	99	6.	1		1425	174	31.	1		2040	249	14.
1		0200	25	3.	1		0815	100	6.	1		1430	175	31.	1		2045	250	14.
1		0205	26	3.	1		0820	101	6.	1		1435	176	30.	1		2050	251	14.
1		0210	27	3.	1		0825	102	6.	1		1440	177	30.	1		2055	252	14.
1		0215	28	3.	1		0830	103	6.	1		1445	178	30.	1		2100	253	14.
1		0220	29	3.	1		0835	104	7.	1		1450	179	30.	1		2105	254	14.
1		0225	30	3.	1		0840	105	7.	1		1455	180	29.	1		2110	255	13.

1	0230	31	3.	*	1	0845	106	7.	*	1	1500	181	29.	*	1	2115	256	13.
1	0235	32	3.	*	1	0850	107	7.	*	1	1505	182	29.	*	1	2120	257	13.
1	0240	33	3.	*	1	0855	108	7.	*	1	1510	183	29.	*	1	2125	258	13.
1	0245	34	3.	*	1	0900	109	7.	*	1	1515	184	28.	*	1	2130	259	13.
1	0250	35	3.	*	1	0905	110	8.	*	1	1520	185	28.	*	1	2135	260	13.
1	0255	36	3.	*	1	0910	111	8.	*	1	1525	186	28.	*	1	2140	261	12.
1	0300	37	3.	*	1	0915	112	8.	*	1	1530	187	27.	*	1	2145	262	12.
1	0305	38	3.	*	1	0920	113	8.	*	1	1535	188	27.	*	1	2150	263	11.
1	0310	39	3.	*	1	0925	114	8.	*	1	1540	189	27.	*	1	2155	264	11.
1	0315	40	3.	*	1	0930	115	8.	*	1	1545	190	27.	*	1	2200	265	10.
1	0320	41	3.	*	1	0935	116	8.	*	1	1550	191	26.	*	1	2205	266	10.
1	0325	42	3.	*	1	0940	117	8.	*	1	1555	192	26.	*	1	2210	267	9.
1	0330	43	3.	*	1	0945	118	8.	*	1	1600	193	26.	*	1	2215	268	9.
1	0335	44	3.	*	1	0950	119	9.	*	1	1605	194	25.	*	1	2220	269	9.
1	0340	45	3.	*	1	0955	120	9.	*	1	1610	195	25.	*	1	2225	270	8.
1	0345	46	3.	*	1	1000	121	9.	*	1	1615	196	25.	*	1	2230	271	8.
1	0350	47	4.	*	1	1005	122	10.	*	1	1620	197	24.	*	1	2235	272	7.
1	0355	48	4.	*	1	1010	123	10.	*	1	1625	198	24.	*	1	2240	273	7.
1	0400	49	4.	*	1	1015	124	10.	*	1	1630	199	24.	*	1	2245	274	7.
1	0405	50	4.	*	1	1020	125	11.	*	1	1635	200	23.	*	1	2250	275	7.
1	0410	51	4.	*	1	1025	126	11.	*	1	1640	201	23.	*	1	2255	276	6.
1	0415	52	4.	*	1	1030	127	11.	*	1	1645	202	23.	*	1	2300	277	6.
1	0420	53	4.	*	1	1035	128	12.	*	1	1650	203	23.	*	1	2305	278	6.
1	0425	54	4.	*	1	1040	129	12.	*	1	1655	204	22.	*	1	2310	279	6.
1	0430	55	4.	*	1	1045	130	13.	*	1	1700	205	22.	*	1	2315	280	6.
1	0435	56	4.	*	1	1050	131	14.	*	1	1705	206	22.	*	1	2320	281	5.
1	0440	57	4.	*	1	1055	132	14.	*	1	1710	207	22.	*	1	2325	282	5.
1	0445	58	4.	*	1	1100	133	15.	*	1	1715	208	22.	*	1	2330	283	5.
1	0450	59	4.	*	1	1105	134	16.	*	1	1720	209	21.	*	1	2335	284	5.
1	0455	60	4.	*	1	1110	135	17.	*	1	1725	210	21.	*	1	2340	285	5.
1	0500	61	4.	*	1	1115	136	18.	*	1	1730	211	21.	*	1	2345	286	5.
1	0505	62	4.	*	1	1120	137	19.	*	1	1735	212	21.	*	1	2350	287	5.
1	0510	63	4.	*	1	1125	138	21.	*	1	1740	213	21.	*	1	2355	288	4.
1	0515	64	4.	*	1	1130	139	22.	*	1	1745	214	20.	*	2	0000	289	4.
1	0520	65	4.	*	1	1135	140	28.	*	1	1750	215	20.	*	2	0005	290	4.
1	0525	66	4.	*	1	1140	141	41.	*	1	1755	216	20.	*	2	0010	291	3.
1	0530	67	4.	*	1	1145	142	57.	*	1	1800	217	20.	*	2	0015	292	3.
1	0535	68	4.	*	1	1150	143	82.	*	1	1805	218	20.	*	2	0020	293	3.
1	0540	69	4.	*	1	1155	144	112.	*	1	1810	219	19.	*	2	0025	294	2.
1	0545	70	4.	*	1	1200	145	122.	*	1	1815	220	19.	*	2	0030	295	2.
1	0550	71	4.	*	1	1205	146	100.	*	1	1820	221	19.	*	2	0035	296	2.
1	0555	72	5.	*	1	1210	147	81.	*	1	1825	222	19.	*	2	0040	297	2.
1	0600	73	5.	*	1	1215	148	79.	*	1	1830	223	19.	*	2	0045	298	2.
1	0605	74	5.	*	1	1220	149	76.	*	1	1835	224	18.	*	2	0050	299	2.
1	0610	75	5.	*	1	1225	150	72.	*	1	1840	225	18.	*	2	0055	300	2.

****

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
122.	12.00		39.	16.	15.	15.
		(INCHES)	.412	.677	.679	.679
		(AC-FT)	19.	32.	32.	32.

CUMULATIVE AREA = .88 SQ MI

*** *** *** *

(AC-FT) 20. 32. 32. 32.

CUMULATIVE AREA = .88 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	6.04	1.25	.76	500.00	119.86	721.16	.67	13.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3153E+02 EXCESS= .0000E+00 OUTFLOW= .3152E+02 BASIN STORAGE= .6617E-02 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	6.04	1.25	5.00	118.57	720.00	.67
***	***	***	***	***		

HYDROGRAPH AT STATION R23e
TRANSPOSITION AREA 14.0 SQ MI

	PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+			(CFS)			
+	119.	12.00	39.	16.	15.	15.
			(INCHES) .409	.670	.672	.672
			(AC-FT) 19.	31.	32.	32.

CUMULATIVE AREA = .88 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	6.04	1.25	.77	500.00	118.75	720.65	.66	13.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3112E+02 EXCESS= .0000E+00 OUTFLOW= .3111E+02 BASIN STORAGE= .6435E-02 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	6.04	1.25	5.00	117.59	720.00	.66
***	***	***	***	***		

HYDROGRAPH AT STATION R23e
TRANSPOSITION AREA 24.0 SQ MI

	PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+			(CFS)			
+	118.	12.00	38.	16.	15.	15.
			(INCHES) .405	.662	.663	.663
			(AC-FT) 19.	31.	31.	31.

CUMULATIVE AREA = .88 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	6.04	1.25	.77	500.00	117.96	720.82	.65	13.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3068E+02 EXCESS= .0000E+00 OUTFLOW= .3068E+02 BASIN STORAGE= .6216E-02 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	6.04	1.25	5.00	116.64	720.00	.65
***	***	***	***	***		

HYDROGRAPH AT STATION R23e
TRANSPOSITION AREA 36.5 SQ MI

	PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+			(CFS)			
+	117.	12.00	38.	15.	15.	15.
			(INCHES) .400	.652	.654	.654
			(AC-FT) 19.	31.	31.	31.

CUMULATIVE AREA = .88 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)

MAIN	6.04	1.25	.77	500.00	117.06	721.42	.65	13.69

NTINUITY SUMMARY (AC-FT) - INFLOW= .3040E+02 EXCESS= .0000E+00 OUTFLOW= .3039E+02 BASIN STORAGE= .6129E-02 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	6.04	1.25	5.00		115.92	720.00	.65
***	***	***	***	***			

HYDROGRAPH AT STATION R23e
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
116.	12.00	(CFS)	38.	15.	15.	15.
		(INCHES)	.397	.646	.648	.648
		(AC-FT)	19.	30.	30.	30.

CUMULATIVE AREA = .88 SQ MI

INTERPOLATED HYDROGRAPH AT R23e

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	5.	1		1230	151	69.	1		1845	226	18.
1		0005	2	0.	1		0620	77	5.	1		1235	152	64.	1		1850	227	18.
1		0010	3	0.	1		0625	78	5.	1		1240	153	61.	1		1855	228	18.
1		0015	4	1.	1		0630	79	5.	1		1245	154	58.	1		1900	229	18.
1		0020	5	1.	1		0635	80	5.	1		1250	155	55.	1		1905	230	17.
1		0025	6	1.	1		0640	81	5.	1		1255	156	52.	1		1910	231	17.
1		0030	7	2.	1		0645	82	5.	1		1300	157	49.	1		1915	232	17.
1		0035	8	2.	1		0650	83	5.	1		1305	158	46.	1		1920	233	17.
1		0040	9	2.	1		0655	84	5.	1		1310	159	43.	1		1925	234	17.
1		0045	10	2.	1		0700	85	5.	1		1315	160	41.	1		1930	235	16.
1		0050	11	2.	1		0705	86	5.	1		1320	161	40.	1		1935	236	16.
1		0055	12	2.	1		0710	87	5.	1		1325	162	38.	1		1940	237	16.
1		0100	13	2.	1		0715	88	5.	1		1330	163	37.	1		1945	238	16.
1		0105	14	2.	1		0720	89	5.	1		1335	164	36.	1		1950	239	16.
1		0110	15	2.	1		0725	90	5.	1		1340	165	35.	1		1955	240	16.
1		0115	16	2.	1		0730	91	5.	1		1345	166	35.	1		2000	241	15.
1		0120	17	2.	1		0735	92	5.	1		1350	167	34.	1		2005	242	15.
1		0125	18	2.	1		0740	93	5.	1		1355	168	34.	1		2010	243	15.
1		0130	19	2.	1		0745	94	6.	1		1400	169	33.	1		2015	244	15.
1		0135	20	2.	1		0750	95	6.	1		1405	170	33.	1		2020	245	15.
1		0140	21	2.	1		0755	96	6.	1		1410	171	32.	1		2025	246	15.
1		0145	22	2.	1		0800	97	6.	1		1415	172	32.	1		2030	247	15.
1		0150	23	3.	1		0805	98	6.	1		1420	173	31.	1		2035	248	14.
1		0155	24	3.	1		0810	99	6.	1		1425	174	31.	1		2040	249	14.
1		0200	25	3.	1		0815	100	6.	1		1430	175	31.	1		2045	250	14.
1		0205	26	3.	1		0820	101	6.	1		1435	176	31.	1		2050	251	14.
1		0210	27	3.	1		0825	102	6.	1		1440	177	30.	1		2055	252	14.
1		0215	28	3.	1		0830	103	6.	1		1445	178	30.	1		2100	253	14.
1		0220	29	3.	1		0835	104	7.	1		1450	179	30.	1		2105	254	14.
1		0225	30	3.	1		0840	105	7.	1		1455	180	30.	1		2110	255	14.
1		0230	31	3.	1		0845	106	7.	1		1500	181	29.	1		2115	256	13.
1		0235	32	3.	1		0850	107	7.	1		1505	182	29.	1		2120	257	13.
1		0240	33	3.	1		0855	108	7.	1		1510	183	29.	1		2125	258	13.
1		0245	34	3.	1		0900	109	7.	1		1515	184	28.	1		2130	259	13.
1		0250	35	3.	1		0905	110	8.	1		1520	185	28.	1		2135	260	13.
1		0255	36	3.	1		0910	111	8.	1		1525	186	28.	1		2140	261	13.
1		0300	37	3.	1		0915	112	8.	1		1530	187	27.	1		2145	262	12.
1		0305	38	3.	1		0920	113	8.	1		1535	188	27.	1		2150	263	12.
1		0310	39	3.	1		0925	114	8.	1		1540	189	27.	1		2155	264	11.
1		0315	40	3.	1		0930	115	8.	1		1545	190	27.	1		2200	265	11.
1		0320	41	3.	1		0935	116	8.	1		1550	191	26.	1		2205	266	10.
1		0325	42	3.	1		0940	117	8.	1		1555	192	26.	1		2210	267	10.
1		0330	43	3.	1		0945	118	8.	1		1600	193	26.	1		2215	268	9.
1		0335	44	3.	1		0950	119	9.	1		1605	194	25.	1		2220	269	9.
1		0340	45	3.	1		0955	120	9.	1		1610	195	25.	1		2225	270	8.
1		0345	46	3.	1		1000	121	9.	1		1615	196	25.	1		2230	271	8.
1		0350	47	4.	1		1005	122	9.	1		1620	197	24.	1		2235	272	8.
1		0355	48	4.	1		1010	123	10.	1		1625	198	24.	1		2240	273	7.
1		0400	49	4.	1		1015	124	10.	1		1630	199	24.	1		2245	274	7.
1		0405	50	4.	1		1020	125	10.	1		1635	200	23.	1		2250	275	7.
1		0410	51	4.	1		1025	126	11.	1		1640	201	23.	1		2255	276	7.
1		0415	52	4.	1		1030	127	11.	1		1645	202	23.	1		2300	277	6.
1		0420	53	4.	1		1035	128	12.	1		1650	203	23.	1		2305	278	6.
1		0425	54	4.	1		1040	129	12.	1		1655	204	22.	1		2310	279	6.
1		0430	55	4.	1		1045	130	13.	1		1700	205	22.	1		2315	280	6.
1		0435	56	4.	1		1050	131	13.	1		1705	206	22.	1		2320	281	5.
1		0440	57	4.	1		1055	132	14.	1		1710	207	22.	1		2325	282	5.
1		0445	58	4.	1		1100	133	15.	1		1715	208	22.	1		2330	283	5.
1		0450	59	4.	1		1105	134	15.	1		1720	209	21.	1		2335	284	5.
1		0455	60	4.	1		1110	135	16.	1		1725	210	21.	1		2340	285	5.
1		0500	61	4.	1		1115	136	18.	1		1730	211	21.	1		2345	286	5.
1		0505	62	4.	1		1120	137	19.	1		1735	212	21.	1		2350	287	5.
1		0510	63	4.	1		1125	138	20.	1		1740	213	21.	1		2355	288	5.
1		0515	64	4.	1		1130	139	22.	1		1745	214	20.	2		0000	289	4.
1		0520	65	4.	1		1135	140	26.	1		1750	215	20.	2		0005	290	4.
1		0525	66	4.	1		1140	141	37.	1		1755	216	20.	2		0010	291	4.
1		0530	67	4.	1		1145	142	53.	1		1800	217	20.	2		0015	292	3.
1		0535	68	4.	1		1150	143	76.	1		1805	218	20.	2		0020	293	3.
1		0540	69	4.	1		1155	144	104.	1		1810	219	19.	2		0025	294	2.
1		0545	70	4.	1		1200	145	119.	1		1815	220	19.	2		0030	295	2.
1		0550	71	4.	1		1205	146	106.	1		1820	221	19.	2		0035	296	2.
1		0555	72	4.	1		1210	147	86.	1		1825	222	19.	2		0040	297	2.
1		0600	73	5.	1		1215	148	79.	1		1830	223	19.	2		0045	298	2.
1		0605	74	5.	1		1220	149	77.	1		1835	224	18.	2		0050	299	2.
1		0610	75	5.	1		1225	150	73.	1		1840	225	18.	2		0055	300	2.

PEAK FLOW TIME MAXIMUM AVERAGE FLOW

```
                                        6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)
                          (CFS)
+     119.     12.00                      39.          16.          15.          15.
                        (INCHES)        .412         .677         .679         .679
                        (AC-FT)          19.          32.          32.          32.

                        CUMULATIVE AREA =     .88 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            ***************
            *             *
  213 KK    *     DB23a   *
            *             *
            ***************
                        Subbasin

               SUBBASIN RUNOFF DATA

  215 BA          SUBBASIN CHARACTERISTICS
                        TAREA         .02  SUBBASIN AREA

  216 LG          GREEN AND AMPT LOSS RATE
                        STRTL         .66  STARTING LOSS
                          OTH         .59  MOISTURE DEFICIT
                         PSIF        2.16  WETTING FRONT SUCTION
                        XKSAT         .08  HYDRAULIC CONDUCTIVITY
                        RTIMP       50.00  PERCENT IMPERVIOUS AREA

  217 US          SNYDER UNITGRAPH
                          TP          .04  LAG
                          CP          .35  PEAKING COEFFICIENT

                  SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                                  ***
 R INCREASED TO MINIMUM OF 0.5

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=    .08 HR,       R=    .33 HR
                                         SNYDER   TP=    .13 HR,      CP=    .35

                                                   UNIT HYDROGRAPH
                                               22 END-OF-PERIOD ORDINATES
                    17.       30.       24.       18.       14.       11.        8.        7.        5.        4.
                     3.        2.        2.        1.        1.        1.        1.        1.        0.        0.
                     0.        0.

       ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION    DB23a
                        TRANSPOSITION AREA       .0 SQ MI

     TOTAL RAINFALL =    1.19, TOTAL LOSS =     .59, TOTAL EXCESS =     .60

   PEAK FLOW     TIME                               MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)
                          (CFS)
+       5.     12.00                       1.           0.           0.           0.
                        (INCHES)        .420         .593         .594         .594
                        (AC-FT)          0.           1.           1.           1.

                        CUMULATIVE AREA =     .02 SQ MI


       ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION    DB23a
                        TRANSPOSITION AREA     14.0 SQ MI

     TOTAL RAINFALL =    1.17, TOTAL LOSS =     .58, TOTAL EXCESS =     .58

   PEAK FLOW     TIME                               MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)
                          (CFS)
+       5.     12.00                       1.           0.           0.           0.
                        (INCHES)        .410         .580         .581         .581
                        (AC-FT)          0.           1.           1.           1.

                        CUMULATIVE AREA =     .02 SQ MI


       ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION    DB23a
                        TRANSPOSITION AREA     24.0 SQ MI

     TOTAL RAINFALL =    1.15, TOTAL LOSS =     .58, TOTAL EXCESS =     .58

   PEAK FLOW     TIME                               MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)
                          (CFS)
+       5.     12.00                       1.           0.           0.           0.
                        (INCHES)        .406         .573         .575         .575
                        (AC-FT)          0.           1.           1.           1.

                        CUMULATIVE AREA =     .02 SQ MI


       ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION    DB23a
                        TRANSPOSITION AREA     36.5 SQ MI

     TOTAL RAINFALL =    1.14, TOTAL LOSS =     .57, TOTAL EXCESS =     .57
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PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+ 5.	12.00	(CFS)	1.	0.	0.	0.
		(INCHES)	.401	.567	.569	.569
		(AC-FT)	0.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB23a
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.13, TOTAL LOSS = .57, TOTAL EXCESS = .57

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+ 5.	12.00	(CFS)	1.	0.	0.	0.
		(INCHES)	.399	.563	.565	.565
		(AC-FT)	0.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

INTERPOLATED HYDROGRAPH AT DB23a

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	2.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	2.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	2.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	1.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	1.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	1.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	1.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	1.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	1.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	1.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	1.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	1.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	1.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	0.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	0.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	0.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	0.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	0.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	0.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	0.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	0.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	0.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	0.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	0.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	0.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	0.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	0.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	0.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	0.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	0.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	0.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	0.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	0.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	0.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	0.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	0.	1		2140	261	0.
1		0300	37	0.	1		0915	112	0.	1		1530	187	0.	1		2145	262	0.
1		0305	38	0.	1		0920	113	0.	1		1535	188	0.	1		2150	263	0.
1		0310	39	0.	1		0925	114	0.	1		1540	189	0.	1		2155	264	0.
1		0315	40	0.	1		0930	115	0.	1		1545	190	0.	1		2200	265	0.
1		0320	41	0.	1		0935	116	0.	1		1550	191	0.	1		2205	266	0.
1		0325	42	0.	1		0940	117	0.	1		1555	192	0.	1		2210	267	0.
1		0330	43	0.	1		0945	118	0.	1		1600	193	0.	1		2215	268	0.
1		0335	44	0.	1		0950	119	0.	1		1605	194	0.	1		2220	269	0.
1		0340	45	0.	1		0955	120	0.	1		1610	195	0.	1		2225	270	0.
1		0345	46	0.	1		1000	121	0.	1		1615	196	0.	1		2230	271	0.
1		0350	47	0.	1		1005	122	0.	1		1620	197	0.	1		2235	272	0.
1		0355	48	0.	1		1010	123	0.	1		1625	198	0.	1		2240	273	0.
1		0400	49	0.	1		1015	124	0.	1		1630	199	0.	1		2245	274	0.
1		0405	50	0.	1		1020	125	0.	1		1635	200	0.	1		2250	275	0.
1		0410	51	0.	1		1025	126	0.	1		1640	201	0.	1		2255	276	0.
1		0415	52	0.	1		1030	127	0.	1		1645	202	0.	1		2300	277	0.
1		0420	53	0.	1		1035	128	0.	1		1650	203	0.	1		2305	278	0.
1		0425	54	0.	1		1040	129	0.	1		1655	204	0.	1		2310	279	0.
1		0430	55	0.	1		1045	130	0.	1		1700	205	0.	1		2315	280	0.
1		0435	56	0.	1		1050	131	0.	1		1705	206	0.	1		2320	281	0.
1		0440	57	0.	1		1055	132	0.	1		1710	207	0.	1		2325	282	0.
1		0445	58	0.	1		1100	133	0.	1		1715	208	0.	1		2330	283	0.
1		0450	59	0.	1		1105	134	0.	1		1720	209	0.	1		2335	284	0.
1		0455	60	0.	1		1110	135	0.	1		1725	210	0.	1		2340	285	0.
1		0500	61	0.	1		1115	136	1.	1		1730	211	0.	1		2345	286	0.
1		0505	62	0.	1		1120	137	1.	1		1735	212	0.	1		2350	287	0.
1		0510	63	0.	1		1125	138	1.	1		1740	213	0.	1		2355	288	0.
1		0515	64	0.	1		1130	139	1.	1		1745	214	0.	2		0000	289	0.
1		0520	65	0.	1		1135	140	1.	1		1750	215	0.	2		0005	290	0.
1		0525	66	0.	1		1140	141	1.	1		1755	216	0.	2		0010	291	0.
1		0530	67	0.	1		1145	142	2.	1		1800	217	0.	2		0015	292	0.
1		0535	68	0.	1		1150	143	3.	1		1805	218	0.	2		0020	293	0.
1		0540	69	0.	1		1155	144	4.	1		1810	219	0.	2		0025	294	0.
1		0545	70	0.	1		1200	145	5.	1		1815	220	0.	2		0030	295	0.
1		0550	71	0.	1		1205	146	5.	1		1820	221	0.	2		0035	296	0.
1		0555	72	0.	1		1210	147	4.	1		1825	222	0.	2		0040	297	0.
1		0600	73	0.	1		1215	148	3.	1		1830	223	0.	2		0045	298	0.
1		0605	74	0.	1		1220	149	3.	1		1835	224	0.	2		0050	299	0.
1		0610	75	0.	1		1225	150	2.	1		1840	225	0.	2		0055	300	0.

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 5.	12.00		1.	0.	0.	0.
		(INCHES)	.419	.592	.593	.593
		(AC-FT)	0.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

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DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	5.	1		1230	151	71.	1		1845	226	18.
1		0005	2	0.	1		0620	77	5.	1		1235	152	66.	1		1850	227	18.
1		0010	3	0.	1		0625	78	5.	1		1240	153	62.	1		1855	228	18.
1		0015	4	1.	1		0630	79	5.	1		1245	154	59.	1		1900	229	18.
1		0020	5	1.	1		0635	80	5.	1		1250	155	56.	1		1905	230	17.
1		0025	6	1.	1		0640	81	5.	1		1255	156	53.	1		1910	231	17.
1		0030	7	2.	1		0645	82	5.	1		1300	157	50.	1		1915	232	17.
1		0035	8	2.	1		0650	83	5.	1		1305	158	47.	1		1920	233	17.
1		0040	9	2.	1		0655	84	5.	1		1310	159	44.	1		1925	234	17.
1		0045	10	2.	1		0700	85	5.	1		1315	160	42.	1		1930	235	17.
1		0050	11	2.	1		0705	86	5.	1		1320	161	40.	1		1935	236	16.
1		0055	12	2.	1		0710	87	5.	1		1325	162	39.	1		1940	237	16.
1		0100	13	2.	1		0715	88	5.	1		1330	163	38.	1		1945	238	16.
1		0105	14	2.	1		0720	89	5.	1		1335	164	37.	1		1950	239	16.
1		0110	15	2.	1		0725	90	6.	1		1340	165	36.	1		1955	240	16.
1		0115	16	2.	1		0730	91	6.	1		1345	166	35.	1		2000	241	16.
1		0120	17	2.	1		0735	92	6.	1		1350	167	34.	1		2005	242	15.
1		0125	18	2.	1		0740	93	6.	1		1355	168	34.	1		2010	243	15.
1		0130	19	2.	1		0745	94	6.	1		1400	169	33.	1		2015	244	15.
1		0135	20	2.	1		0750	95	6.	1		1405	170	33.	1		2020	245	15.
1		0140	21	3.	1		0755	96	6.	1		1410	171	32.	1		2025	246	15.
1		0145	22	3.	1		0800	97	6.	1		1415	172	32.	1		2030	247	15.
1		0150	23	3.	1		0805	98	6.	1		1420	173	32.	1		2035	248	14.
1		0155	24	3.	1		0810	99	6.	1		1425	174	31.	1		2040	249	14.
1		0200	25	3.	1		0815	100	6.	1		1430	175	31.	1		2045	250	14.
1		0205	26	3.	1		0820	101	6.	1		1435	176	31.	1		2050	251	14.
1		0210	27	3.	1		0825	102	6.	1		1440	177	31.	1		2055	252	14.
1		0215	28	3.	1		0830	103	7.	1		1445	178	30.	1		2100	253	14.
1		0220	29	3.	1		0835	104	7.	1		1450	179	30.	1		2105	254	14.
1		0225	30	3.	1		0840	105	7.	1		1455	180	30.	1		2110	255	14.
1		0230	31	3.	1		0845	106	7.	1		1500	181	29.	1		2115	256	13.
1		0235	32	3.	1		0850	107	7.	1		1505	182	29.	1		2120	257	13.
1		0240	33	3.	1		0855	108	7.	1		1510	183	29.	1		2125	258	13.
1		0245	34	3.	1		0900	109	8.	1		1515	184	29.	1		2130	259	13.
1		0250	35	3.	1		0905	110	8.	1		1520	185	28.	1		2135	260	13.
1		0255	36	3.	1		0910	111	8.	1		1525	186	28.	1		2140	261	13.
1		0300	37	3.	1		0915	112	8.	1		1530	187	28.	1		2145	262	12.
1		0305	38	3.	1		0920	113	8.	1		1535	188	27.	1		2150	263	12.
1		0310	39	3.	1		0925	114	8.	1		1540	189	27.	1		2155	264	11.
1		0315	40	3.	1		0930	115	8.	1		1545	190	27.	1		2200	265	11.
1		0320	41	3.	1		0935	116	8.	1		1550	191	27.	1		2205	266	10.
1		0325	42	3.	1		0940	117	8.	1		1555	192	26.	1		2210	267	10.
1		0330	43	3.	1		0945	118	9.	1		1600	193	26.	1		2215	268	9.
1		0335	44	4.	1		0950	119	9.	1		1605	194	26.	1		2220	269	9.
1		0340	45	4.	1		0955	120	9.	1		1610	195	25.	1		2225	270	8.
1		0345	46	4.	1		1000	121	9.	1		1615	196	25.	1		2230	271	8.
1		0350	47	4.	1		1005	122	10.	1		1620	197	25.	1		2235	272	8.
1		0355	48	4.	1		1010	123	10.	1		1625	198	24.	1		2240	273	7.
1		0400	49	4.	1		1015	124	10.	1		1630	199	24.	1		2245	274	7.
1		0405	50	4.	1		1020	125	11.	1		1635	200	24.	1		2250	275	7.
1		0410	51	4.	1		1025	126	11.	1		1640	201	23.	1		2255	276	7.
1		0415	52	4.	1		1030	127	12.	1		1645	202	23.	1		2300	277	6.
1		0420	53	4.	1		1035	128	12.	1		1650	203	23.	1		2305	278	6.
1		0425	54	4.	1		1040	129	13.	1		1655	204	23.	1		2310	279	6.
1		0430	55	4.	1		1045	130	13.	1		1700	205	22.	1		2315	280	6.
1		0435	56	4.	1		1050	131	14.	1		1705	206	22.	1		2320	281	6.
1		0440	57	4.	1		1055	132	14.	1		1710	207	22.	1		2325	282	5.
1		0445	58	4.	1		1100	133	15.	1		1715	208	22.	1		2330	283	5.
1		0450	59	4.	1		1105	134	16.	1		1720	209	22.	1		2335	284	5.
1		0455	60	4.	1		1110	135	17.	1		1725	210	21.	1		2340	285	5.
1		0500	61	4.	1		1115	136	18.	1		1730	211	21.	1		2345	286	5.
1		0505	62	4.	1		1120	137	19.	1		1735	212	21.	1		2350	287	5.
1		0510	63	4.	1		1125	138	21.	1		1740	213	21.	1		2355	288	5.
1		0515	64	4.	1		1130	139	23.	1		1745	214	21.	2		0000	289	4.
1		0520	65	4.	1		1135	140	27.	1		1750	215	20.	2		0005	290	4.
1		0525	66	4.	1		1140	141	38.	1		1755	216	20.	2		0010	291	4.
1		0530	67	4.	1		1145	142	55.	1		1800	217	20.	2		0015	292	3.
1		0535	68	4.	1		1150	143	78.	1		1805	218	20.	2		0020	293	3.
1		0540	69	5.	1		1155	144	108.	1		1810	219	20.	2		0025	294	2.
1		0545	70	5.	1		1200	145	124.	1		1815	220	19.	2		0030	295	2.
1		0550	71	5.	1		1205	146	110.	1		1820	221	19.	2		0035	296	2.
1		0555	72	5.	1		1210	147	90.	1		1825	222	19.	2		0040	297	2.
1		0600	73	5.	1		1215	148	83.	1		1830	223	19.	2		0045	298	2.
1		0605	74	5.	1		1220	149	80.	1		1835	224	19.	2		0050	299	2.
1		0610	75	5.	1		1225	150	75.	1		1840	225	18.	2		0055	300	2.

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PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
		(CFS)				
124.	12.00		40.	16.	16.	16.
		(INCHES)	.412	.675	.677	.677
		(AC-FT)	20.	32.	32.	32.

CUMULATIVE AREA = .90 SQ MI

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          **************
          *            *
221 KK    *    R_PD U  *
          *            *
          **************
                    Route Hydrograph Through Upper Airport Upper Pond

            HYDROGRAPH ROUTING DATA

223 RS          STORAGE ROUTING
                     NSTPS          1  NUMBER OF SUBREACHES
                      ITYP       STOR  TYPE OF INITIAL CONDITION
                    RSVRIC        .00  INITIAL CONDITION
                         X        .00 WORKING R AND D COEFFICIENT

224 SV            STORAGE          .0       .0       .2       6.1      16.2      26.8      29.4
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225 SQ	DISCHARGE	0.	11.	11.	12.	13.	14.	162.
226 SE	ELEVATION	4767.00	4767.01	4768.00	4770.00	4772.00	4774.00	4774.50

***

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN 0. TO 11.
THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

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HYDROGRAPH AT STATION R_PD U
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 13.	21.25	13.	10.	9.	9.
		(INCHES) .137	.403	.405	.405
		(AC-FT) 7.	19.	19.	19.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
15.	21.50	15.	7.	7.	7.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
4771.85	21.50	4771.78	4769.40	4769.32	4769.32

CUMULATIVE AREA = .90 SQ MI

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HYDROGRAPH AT STATION R_PD U
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 13.	21.08	13.	10.	9.	9.
		(INCHES) .136	.400	.402	.402
		(AC-FT) 7.	19.	19.	19.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
15.	21.25	14.	7.	7.	7.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
4771.73	21.25	4771.67	4769.35	4769.27	4769.27

CUMULATIVE AREA = .90 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R_PD U
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 13.	21.00	13.	10.	9.	9.
		(INCHES) .136	.399	.401	.401
		(AC-FT) 7.	19.	19.	19.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
15.	21.17	14.	7.	6.	6.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
4771.68	21.08	4771.62	4769.32	4769.24	4769.24

CUMULATIVE AREA = .90 SQ MI

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HYDROGRAPH AT STATION R_PD U
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 13.	20.83	13.	10.	9.	9.
		(INCHES) .135	.397	.399	.399
		(AC-FT) 6.	19.	19.	19.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
14.	21.08	14.	7.	6.	6.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
4771.62	21.08	4771.56	4769.30	4769.22	4769.22

CUMULATIVE AREA = .90 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R_PD U
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
13.	20.83	(CFS)	13.	10.	9.	9.
		(INCHES)	.135	.396	.398	.398
		(AC-FT)	6.	19.	19.	19.

PEAK STORAGE (AC-FT)	TIME (HR)	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
14.	21.00	14.	6.	6.	6.

PEAK STAGE (FEET)	TIME (HR)	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
4771.59	21.00	4771.52	4769.28	4769.20	4769.20

CUMULATIVE AREA = .90 SQ MI

INTERPOLATED HYDROGRAPH AT R_PD U

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	5.	1		1230	151	12.	1		1845	226	13.
1		0005	2	0.	1		0620	77	5.	1		1235	152	12.	1		1850	227	13.
1		0010	3	0.	1		0625	78	5.	1		1240	153	12.	1		1855	228	13.
1		0015	4	1.	1		0630	79	5.	1		1245	154	12.	1		1900	229	13.
1		0020	5	1.	1		0635	80	5.	1		1250	155	12.	1		1905	230	13.
1		0025	6	1.	1		0640	81	5.	1		1255	156	13.	1		1910	231	13.
1		0030	7	2.	1		0645	82	5.	1		1300	157	13.	1		1915	232	13.
1		0035	8	2.	1		0650	83	5.	1		1305	158	13.	1		1920	233	13.
1		0040	9	2.	1		0655	84	5.	1		1310	159	13.	1		1925	234	13.
1		0045	10	2.	1		0700	85	5.	1		1315	160	13.	1		1930	235	13.
1		0050	11	2.	1		0705	86	5.	1		1320	161	13.	1		1935	236	13.
1		0055	12	2.	1		0710	87	5.	1		1325	162	13.	1		1940	237	13.
1		0100	13	2.	1		0715	88	5.	1		1330	163	13.	1		1945	238	13.
1		0105	14	2.	1		0720	89	5.	1		1335	164	13.	1		1950	239	13.
1		0110	15	2.	1		0725	90	5.	1		1340	165	13.	1		1955	240	13.
1		0115	16	2.	1		0730	91	6.	1		1345	166	13.	1		2000	241	13.
1		0120	17	2.	1		0735	92	6.	1		1350	167	13.	1		2005	242	13.
1		0125	18	2.	1		0740	93	6.	1		1355	168	13.	1		2010	243	13.
1		0130	19	2.	1		0745	94	6.	1		1400	169	13.	1		2015	244	13.
1		0135	20	2.	1		0750	95	6.	1		1405	170	13.	1		2020	245	13.
1		0140	21	3.	1		0755	96	6.	1		1410	171	13.	1		2025	246	13.
1		0145	22	3.	1		0800	97	6.	1		1415	172	13.	1		2030	247	13.
1		0150	23	3.	1		0805	98	6.	1		1420	173	13.	1		2035	248	13.
1		0155	24	3.	1		0810	99	6.	1		1425	174	13.	1		2040	249	13.
1		0200	25	3.	1		0815	100	6.	1		1430	175	13.	1		2045	250	13.
1		0205	26	3.	1		0820	101	6.	1		1435	176	13.	1		2050	251	13.
1		0210	27	3.	1		0825	102	6.	1		1440	177	13.	1		2055	252	13.
1		0215	28	3.	1		0830	103	7.	1		1445	178	13.	1		2100	253	13.
1		0220	29	3.	1		0835	104	7.	1		1450	179	13.	1		2105	254	13.
1		0225	30	3.	1		0840	105	7.	1		1455	180	13.	1		2110	255	13.
1		0230	31	3.	1		0845	106	7.	1		1500	181	13.	1		2115	256	13.
1		0235	32	3.	1		0850	107	7.	1		1505	182	13.	1		2120	257	13.
1		0240	33	3.	1		0855	108	7.	1		1510	183	13.	1		2125	258	13.
1		0245	34	3.	1		0900	109	8.	1		1515	184	13.	1		2130	259	13.
1		0250	35	3.	1		0905	110	8.	1		1520	185	13.	1		2135	260	13.
1		0255	36	3.	1		0910	111	8.	1		1525	186	13.	1		2140	261	13.
1		0300	37	3.	1		0915	112	8.	1		1530	187	13.	1		2145	262	13.
1		0305	38	3.	1		0920	113	8.	1		1535	188	13.	1		2150	263	13.
1		0310	39	3.	1		0925	114	8.	1		1540	189	13.	1		2155	264	13.
1		0315	40	3.	1		0930	115	8.	1		1545	190	13.	1		2200	265	13.
1		0320	41	3.	1		0935	116	8.	1		1550	191	13.	1		2205	266	13.
1		0325	42	3.	1		0940	117	8.	1		1555	192	13.	1		2210	267	13.
1		0330	43	3.	1		0945	118	9.	1		1600	193	13.	1		2215	268	13.
1		0335	44	4.	1		0950	119	9.	1		1605	194	13.	1		2220	269	13.
1		0340	45	4.	1		0955	120	9.	1		1610	195	13.	1		2225	270	13.
1		0345	46	4.	1		1000	121	9.	1		1615	196	13.	1		2230	271	13.
1		0350	47	4.	1		1005	122	10.	1		1620	197	13.	1		2235	272	13.
1		0355	48	4.	1		1010	123	10.	1		1625	198	13.	1		2240	273	13.
1		0400	49	4.	1		1015	124	10.	1		1630	199	13.	1		2245	274	13.
1		0405	50	4.	1		1020	125	11.	1		1635	200	13.	1		2250	275	13.
1		0410	51	4.	1		1025	126	11.	1		1640	201	13.	1		2255	276	13.
1		0415	52	4.	1		1030	127	11.	1		1645	202	13.	1		2300	277	13.
1		0420	53	4.	1		1035	128	11.	1		1650	203	13.	1		2305	278	13.
1		0425	54	4.	1		1040	129	11.	1		1655	204	13.	1		2310	279	13.
1		0430	55	4.	1		1045	130	11.	1		1700	205	13.	1		2315	280	13.
1		0435	56	4.	1		1050	131	11.	1		1705	206	13.	1		2320	281	13.
1		0440	57	4.	1		1055	132	11.	1		1710	207	13.	1		2325	282	13.
1		0445	58	4.	1		1100	133	11.	1		1715	208	13.	1		2330	283	13.
1		0450	59	4.	1		1105	134	11.	1		1720	209	13.	1		2335	284	13.
1		0455	60	4.	1		1110	135	11.	1		1725	210	13.	1		2340	285	13.
1		0500	61	4.	1		1115	136	11.	1		1730	211	13.	1		2345	286	13.
1		0505	62	4.	1		1120	137	11.	1		1735	212	13.	1		2350	287	13.
1		0510	63	4.	1		1125	138	11.	1		1740	213	13.	1		2355	288	13.
1		0515	64	4.	1		1130	139	11.	1		1745	214	13.	2		0000	289	13.
1		0520	65	4.	1		1135	140	11.	1		1750	215	13.	2		0005	290	13.
1		0525	66	4.	1		1140	141	11.	1		1755	216	13.	2		0010	291	13.
1		0530	67	4.	1		1145	142	12.	1		1800	217	13.	2		0015	292	13.
1		0535	68	4.	1		1150	143	12.	1		1805	218	13.	2		0020	293	13.
1		0540	69	5.	1		1155	144	12.	1		1810	219	13.	2		0025	294	13.
1		0545	70	5.	1		1200	145	12.	1		1815	220	13.	2		0030	295	13.
1		0550	71	5.	1		1205	146	12.	1		1820	221	13.	2		0035	296	13.
1		0555	72	5.	1		1210	147	12.	1		1825	222	13.	2		0040	297	13.
1		0600	73	5.	1		1215	148	12.	1		1830	223	13.	2		0045	298	13.
1		0605	74	5.	1		1220	149	12.	1		1835	224	13.	2		0050	299	13.
1		0610	75	5.	1		1225	150	12.	1		1840	225	13.	2		0055	300	13.

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR

```
+   (CFS)       (HR)
                  (CFS)
+      13.      21.17          13.          10.           9.           9.
                (INCHES)       .136         .401         .403         .403
                 (AC-FT)         7.          19.          19.          19.

                CUMULATIVE AREA =      .90 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *               *
  227 KK    *    D_Pd U     *
            *               *
            ***************
                        Weir Flow Into Lower Pond

      DT          DIVERSION
                       ISTAD      U_Pipe  DIVERSION HYDROGRAPH IDENTIFICATION

      DI              INFLOW         .00      14.20      14.30      100.00   1000.00

      DQ       DIVERTED FLOW         .00      14.20      14.20       14.20     14.20
                                                                       ***

       ***             ***             ***             ***             ***

                         DIVERSION HYDROGRAPH   U_Pipe
                        TRANSPOSITION AREA       .0 SQ MI

   PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR          24-HR          72-HR     24.92-HR
+   (CFS)        (HR)
                  (CFS)
+      13.      21.25          13.          10.           9.           9.
                (INCHES)       .137         .403         .405         .405
                 (AC-FT)         7.          19.          19.          19.

                CUMULATIVE AREA =      .90 SQ MI

       ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION   D_Pd U
                        TRANSPOSITION AREA       .0 SQ MI

   PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR          24-HR          72-HR     24.92-HR
+   (CFS)        (HR)
                  (CFS)
+       0.        .00           0.           0.           0.           0.
                (INCHES)       .000         .000         .000         .000
                 (AC-FT)         0.           0.           0.           0.

                CUMULATIVE AREA =      .90 SQ MI

       ***             ***             ***             ***             ***

                         DIVERSION HYDROGRAPH   U_Pipe
                        TRANSPOSITION AREA      14.0 SQ MI

   PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR          24-HR          72-HR     24.92-HR
+   (CFS)        (HR)
                  (CFS)
+      13.      21.08          13.          10.           9.           9.
                (INCHES)       .136         .400         .402         .402
                 (AC-FT)         7.          19.          19.          19.

                CUMULATIVE AREA =      .90 SQ MI

       ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION   D_Pd U
                        TRANSPOSITION AREA      14.0 SQ MI

   PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR          24-HR          72-HR     24.92-HR
+   (CFS)        (HR)
                  (CFS)
+       0.        .00           0.           0.           0.           0.
                (INCHES)       .000         .000         .000         .000
                 (AC-FT)         0.           0.           0.           0.

                CUMULATIVE AREA =      .90 SQ MI

       ***             ***             ***             ***             ***

                         DIVERSION HYDROGRAPH   U_Pipe
                        TRANSPOSITION AREA      24.0 SQ MI

   PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR          24-HR          72-HR     24.92-HR
+   (CFS)        (HR)
                  (CFS)
+      13.      21.00          13.          10.           9.           9.
                (INCHES)       .136         .399         .401         .401
                 (AC-FT)         7.          19.          19.          19.

                CUMULATIVE AREA =      .90 SQ MI

       ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION   D_Pd U
                        TRANSPOSITION AREA      24.0 SQ MI
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PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
		(CFS)				
+ 0.	.00		0.	0.	0.	0.
		(INCHES)	.000	.000	.000	.000
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .90 SQ MI

*** *** *** *** ***

DIVERSION HYDROGRAPH U_Pipe
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
		(CFS)				
+ 13.	20.83		13.	10.	9.	9.
		(INCHES)	.135	.397	.399	.399
		(AC-FT)	6.	19.	19.	19.

CUMULATIVE AREA = .90 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION D_Pd U
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
		(CFS)				
+ 0.	.00		0.	0.	0.	0.
		(INCHES)	.000	.000	.000	.000
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .90 SQ MI

*** *** *** *** ***

DIVERSION HYDROGRAPH U_Pipe
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
		(CFS)				
+ 13.	20.83		13.	10.	9.	9.
		(INCHES)	.135	.396	.398	.398
		(AC-FT)	6.	19.	19.	19.

CUMULATIVE AREA = .90 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION D_Pd U
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
		(CFS)				
+ 0.	.00		0.	0.	0.	0.
		(INCHES)	.000	.000	.000	.000
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .90 SQ MI

INTERPOLATED DIVERSION HYDROGRAPH AT U_Pipe

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	5.	1		1230	151	12.	1		1845	226	13.
1		0005	2	0.	1		0620	77	5.	1		1235	152	12.	1		1850	227	13.
1		0010	3	0.	1		0625	78	5.	1		1240	153	12.	1		1855	228	13.
1		0015	4	1.	1		0630	79	5.	1		1245	154	12.	1		1900	229	13.
1		0020	5	1.	1		0635	80	5.	1		1250	155	12.	1		1905	230	13.
1		0025	6	1.	1		0640	81	5.	1		1255	156	13.	1		1910	231	13.
1		0030	7	2.	1		0645	82	5.	1		1300	157	13.	1		1915	232	13.
1		0035	8	2.	1		0650	83	5.	1		1305	158	13.	1		1920	233	13.
1		0040	9	2.	1		0655	84	5.	1		1310	159	13.	1		1925	234	13.
1		0045	10	2.	1		0700	85	5.	1		1315	160	13.	1		1930	235	13.
1		0050	11	2.	1		0705	86	5.	1		1320	161	13.	1		1935	236	13.
1		0055	12	2.	1		0710	87	5.	1		1325	162	13.	1		1940	237	13.
1		0100	13	2.	1		0715	88	5.	1		1330	163	13.	1		1945	238	13.
1		0105	14	2.	1		0720	89	5.	1		1335	164	13.	1		1950	239	13.
1		0110	15	2.	1		0725	90	5.	1		1340	165	13.	1		1955	240	13.
1		0115	16	2.	1		0730	91	6.	1		1345	166	13.	1		2000	241	13.
1		0120	17	2.	1		0735	92	6.	1		1350	167	13.	1		2005	242	13.
1		0125	18	2.	1		0740	93	6.	1		1355	168	13.	1		2010	243	13.
1		0130	19	2.	1		0745	94	6.	1		1400	169	13.	1		2015	244	13.
1		0135	20	2.	1		0750	95	6.	1		1405	170	13.	1		2020	245	13.
1		0140	21	3.	1		0755	96	6.	1		1410	171	13.	1		2025	246	13.
1		0145	22	3.	1		0800	97	6.	1		1415	172	13.	1		2030	247	13.
1		0150	23	3.	1		0805	98	6.	1		1420	173	13.	1		2035	248	13.
1		0155	24	3.	1		0810	99	6.	1		1425	174	13.	1		2040	249	13.
1		0200	25	3.	1		0815	100	6.	1		1430	175	13.	1		2045	250	13.
1		0205	26	3.	1		0820	101	6.	1		1435	176	13.	1		2050	251	13.
1		0210	27	3.	1		0825	102	6.	1		1440	177	13.	1		2055	252	13.
1		0215	28	3.	1		0830	103	7.	1		1445	178	13.	1		2100	253	13.
1		0220	29	3.	1		0835	104	7.	1		1450	179	13.	1		2105	254	13.
1		0225	30	3.	1		0840	105	7.	1		1455	180	13.	1		2110	255	13.

1	0230	31	3.	*	1	0845	106	7.	*	1	1500	181	13.	*	1	2115	256	13.
1	0235	32	3.	*	1	0850	107	7.	*	1	1505	182	13.	*	1	2120	257	13.
1	0240	33	3.	*	1	0855	108	7.	*	1	1510	183	13.	*	1	2125	258	13.
1	0245	34	3.	*	1	0900	109	8.	*	1	1515	184	13.	*	1	2130	259	13.
1	0250	35	3.	*	1	0905	110	8.	*	1	1520	185	13.	*	1	2135	260	13.
1	0255	36	3.	*	1	0910	111	8.	*	1	1525	186	13.	*	1	2140	261	13.
1	0300	37	3.	*	1	0915	112	8.	*	1	1530	187	13.	*	1	2145	262	13.
1	0305	38	3.	*	1	0920	113	8.	*	1	1535	188	13.	*	1	2150	263	13.
1	0310	39	3.	*	1	0925	114	8.	*	1	1540	189	13.	*	1	2155	264	13.
1	0315	40	3.	*	1	0930	115	8.	*	1	1545	190	13.	*	1	2200	265	13.
1	0320	41	3.	*	1	0935	116	8.	*	1	1550	191	13.	*	1	2205	266	13.
1	0325	42	3.	*	1	0940	117	8.	*	1	1555	192	13.	*	1	2210	267	13.
1	0330	43	3.	*	1	0945	118	9.	*	1	1600	193	13.	*	1	2215	268	13.
1	0335	44	4.	*	1	0950	119	9.	*	1	1605	194	13.	*	1	2220	269	13.
1	0340	45	4.	*	1	0955	120	9.	*	1	1610	195	13.	*	1	2225	270	13.
1	0345	46	4.	*	1	1000	121	9.	*	1	1615	196	13.	*	1	2230	271	13.
1	0350	47	4.	*	1	1005	122	10.	*	1	1620	197	13.	*	1	2235	272	13.
1	0355	48	4.	*	1	1010	123	10.	*	1	1625	198	13.	*	1	2240	273	13.
1	0400	49	4.	*	1	1015	124	10.	*	1	1630	199	13.	*	1	2245	274	13.
1	0405	50	4.	*	1	1020	125	11.	*	1	1635	200	13.	*	1	2250	275	13.
1	0410	51	4.	*	1	1025	126	11.	*	1	1640	201	13.	*	1	2255	276	13.
1	0415	52	4.	*	1	1030	127	11.	*	1	1645	202	13.	*	1	2300	277	13.
1	0420	53	4.	*	1	1035	128	11.	*	1	1650	203	13.	*	1	2305	278	13.
1	0425	54	4.	*	1	1040	129	11.	*	1	1655	204	13.	*	1	2310	279	13.
1	0430	55	4.	*	1	1045	130	11.	*	1	1700	205	13.	*	1	2315	280	13.
1	0435	56	4.	*	1	1050	131	11.	*	1	1705	206	13.	*	1	2320	281	13.
1	0440	57	4.	*	1	1055	132	11.	*	1	1710	207	13.	*	1	2325	282	13.
1	0445	58	4.	*	1	1100	133	11.	*	1	1715	208	13.	*	1	2330	283	13.
1	0450	59	4.	*	1	1105	134	11.	*	1	1720	209	13.	*	1	2335	284	13.
1	0455	60	4.	*	1	1110	135	11.	*	1	1725	210	13.	*	1	2340	285	13.
1	0500	61	4.	*	1	1115	136	11.	*	1	1730	211	13.	*	1	2345	286	13.
1	0505	62	4.	*	1	1120	137	11.	*	1	1735	212	13.	*	1	2350	287	13.
1	0510	63	4.	*	1	1125	138	11.	*	1	1740	213	13.	*	1	2355	288	13.
1	0515	64	4.	*	1	1130	139	11.	*	1	1745	214	13.	*	2	0000	289	13.
1	0520	65	4.	*	1	1135	140	11.	*	1	1750	215	13.	*	2	0005	290	13.
1	0525	66	4.	*	1	1140	141	11.	*	1	1755	216	13.	*	2	0010	291	13.
1	0530	67	4.	*	1	1145	142	12.	*	1	1800	217	13.	*	2	0015	292	13.
1	0535	68	4.	*	1	1150	143	12.	*	1	1805	218	13.	*	2	0020	293	13.
1	0540	69	5.	*	1	1155	144	12.	*	1	1810	219	13.	*	2	0025	294	13.
1	0545	70	5.	*	1	1200	145	12.	*	1	1815	220	13.	*	2	0030	295	13.
1	0550	71	5.	*	1	1205	146	12.	*	1	1820	221	13.	*	2	0035	296	13.
1	0555	72	5.	*	1	1210	147	12.	*	1	1825	222	13.	*	2	0040	297	13.
1	0600	73	5.	*	1	1215	148	12.	*	1	1830	223	13.	*	2	0045	298	13.
1	0605	74	5.	*	1	1220	149	12.	*	1	1835	224	13.	*	2	0050	299	13.
1	0610	75	5.	*	1	1225	150	12.	*	1	1840	225	13.	*	2	0055	300	13.

****

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 13.	21.17		13.	10.	9.	9.
		(INCHES)	.136	.401	.403	.403
		(AC-FT)	7.	19.	19.	19.

CUMULATIVE AREA = .90 SQ MI

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INTERPOLATED HYDROGRAPH AT D_Pd U

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DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORO	FLOW
1		0000	1	0.	*	1		0615	76	0.	*	1		1230	151	0.	*	1		1845	226	0.
1		0005	2	0.	*	1		0620	77	0.	*	1		1235	152	0.	*	1		1850	227	0.
1		0010	3	0.	*	1		0625	78	0.	*	1		1240	153	0.	*	1		1855	228	0.
1		0015	4	0.	*	1		0630	79	0.	*	1		1245	154	0.	*	1		1900	229	0.
1		0020	5	0.	*	1		0635	80	0.	*	1		1250	155	0.	*	1		1905	230	0.
1		0025	6	0.	*	1		0640	81	0.	*	1		1255	156	0.	*	1		1910	231	0.
1		0030	7	0.	*	1		0645	82	0.	*	1		1300	157	0.	*	1		1915	232	0.
1		0035	8	0.	*	1		0650	83	0.	*	1		1305	158	0.	*	1		1920	233	0.
1		0040	9	0.	*	1		0655	84	0.	*	1		1310	159	0.	*	1		1925	234	0.
1		0045	10	0.	*	1		0700	85	0.	*	1		1315	160	0.	*	1		1930	235	0.
1		0050	11	0.	*	1		0705	86	0.	*	1		1320	161	0.	*	1		1935	236	0.
1		0055	12	0.	*	1		0710	87	0.	*	1		1325	162	0.	*	1		1940	237	0.
1		0100	13	0.	*	1		0715	88	0.	*	1		1330	163	0.	*	1		1945	238	0.
1		0105	14	0.	*	1		0720	89	0.	*	1		1335	164	0.	*	1		1950	239	0.
1		0110	15	0.	*	1		0725	90	0.	*	1		1340	165	0.	*	1		1955	240	0.
1		0115	16	0.	*	1		0730	91	0.	*	1		1345	166	0.	*	1		2000	241	0.
1		0120	17	0.	*	1		0735	92	0.	*	1		1350	167	0.	*	1		2005	242	0.
1		0125	18	0.	*	1		0740	93	0.	*	1		1355	168	0.	*	1		2010	243	0.
1		0130	19	0.	*	1		0745	94	0.	*	1		1400	169	0.	*	1		2015	244	0.
1		0135	20	0.	*	1		0750	95	0.	*	1		1405	170	0.	*	1		2020	245	0.
1		0140	21	0.	*	1		0755	96	0.	*	1		1410	171	0.	*	1		2025	246	0.
1		0145	22	0.	*	1		0800	97	0.	*	1		1415	172	0.	*	1		2030	247	0.
1		0150	23	0.	*	1		0805	98	0.	*	1		1420	173	0.	*	1		2035	248	0.
1		0155	24	0.	*	1		0810	99	0.	*	1		1425	174	0.	*	1		2040	249	0.
1		0200	25	0.	*	1		0815	100	0.	*	1		1430	175	0.	*	1		2045	250	0.
1		0205	26	0.	*	1		0820	101	0.	*	1		1435	176	0.	*	1		2050	251	0.
1		0210	27	0.	*	1		0825	102	0.	*	1		1440	177	0.	*	1		2055	252	0.
1		0215	28	0.	*	1		0830	103	0.	*	1		1445	178	0.	*	1		2100	253	0.
1		0220	29	0.	*	1		0835	104	0.	*	1		1450	179	0.	*	1		2105	254	0.
1		0225	30	0.	*	1		0840	105	0.	*	1		1455	180	0.	*	1		2110	255	0.
1		0230	31	0.	*	1		0845	106	0.	*	1		1500	181	0.	*	1		2115	256	0.
1		0235	32	0.	*	1		0850	107	0.	*	1		1505	182	0.	*	1		2120	257	0.
1		0240	33	0.	*	1		0855	108	0.	*	1		1510	183	0.	*	1		2125	258	0.
1		0245	34	0.	*	1		0900	109	0.	*	1		1515	184	0.	*	1		2130	259	0.
1		0250	35	0.	*	1		0905	110	0.	*	1		1520	185	0.	*	1		2135	260	0.
1		0255	36	0.	*	1		0910	111	0.	*	1		1525	186	0.	*	1		2140	261	0.
1		0300	37	0.	*	1		0915	112	0.	*	1		1530	187	0.	*	1		2145	262	0.
1		0305	38	0.	*	1		0920	113	0.	*	1		1535	188	0.	*	1		2150	263	0.
1		0310	39	0.	*	1		0925	114	0.	*	1		1540	189	0.	*	1		2155	264	0.
1		0315	40	0.	*	1		0930	115	0.	*	1		1545	190	0.	*	1		2200	265	0.
1		0320	41	0.	*	1		0935	116	0.	*	1		1550	191	0.	*	1		2205	266	0.
1		0325	42	0.	*	1		0940	117	0.	*	1		1555	192	0.	*	1		2210	267	0.
1		0330	43	0.	*	1		0945	118	0.	*	1		1600	193	0.	*	1		2215	268	0.
1		0335	44	0.	*	1		0950	119	0.	*	1		1605	194	0.	*	1		2220	269	0.
1		0340	45	0.	*	1		0955	120	0.	*	1		1610	195	0.	*	1		2225	270	0.
1		0345	46	0.	*	1		1000	121	0.	*	1		1615	196	0.	*	1		2230	271	0.
1		0350	47	0.	*	1		1005	122	0.	*	1		1620	197	0.	*	1		2235	272	0.

```
    1    0355   48        0.   *    1    1010  123        0.   *    1    1625  198        0.   *    1    2240  273        0.
    1    0400   49        0.   *    1    1015  124        0.   *    1    1630  199        0.   *    1    2245  274        0.
    1    0405   50        0.   *    1    1020  125        0.   *    1    1635  200        0.   *    1    2250  275        0.
    1    0410   51        0.   *    1    1025  126        0.   *    1    1640  201        0.   *    1    2255  276        0.
    1    0415   52        0.   *    1    1030  127        0.   *    1    1645  202        0.   *    1    2300  277        0.
    1    0420   53        0.   *    1    1035  128        0.   *    1    1650  203        0.   *    1    2305  278        0.
    1    0425   54        0.   *    1    1040  129        0.   *    1    1655  204        0.   *    1    2310  279        0.
    1    0430   55        0.   *    1    1045  130        0.   *    1    1700  205        0.   *    1    2315  280        0.
    1    0435   56        0.   *    1    1050  131        0.   *    1    1705  206        0.   *    1    2320  281        0.
    1    0440   57        0.   *    1    1055  132        0.   *    1    1710  207        0.   *    1    2325  282        0.
    1    0445   58        0.   *    1    1100  133        0.   *    1    1715  208        0.   *    1    2330  283        0.
    1    0450   59        0.   *    1    1105  134        0.   *    1    1720  209        0.   *    1    2335  284        0.
    1    0455   60        0.   *    1    1110  135        0.   *    1    1725  210        0.   *    1    2340  285        0.
    1    0500   61        0.   *    1    1115  136        0.   *    1    1730  211        0.   *    1    2345  286        0.
    1    0505   62        0.   *    1    1120  137        0.   *    1    1735  212        0.   *    1    2350  287        0.
    1    0510   63        0.   *    1    1125  138        0.   *    1    1740  213        0.   *    1    2355  288        0.
    1    0515   64        0.   *    1    1130  139        0.   *    1    1745  214        0.   *    2    0000  289        0.
    1    0520   65        0.   *    1    1135  140        0.   *    1    1750  215        0.   *    2    0005  290        0.
    1    0525   66        0.   *    1    1140  141        0.   *    1    1755  216        0.   *    2    0010  291        0.
    1    0530   67        0.   *    1    1145  142        0.   *    1    1800  217        0.   *    2    0015  292        0.
    1    0535   68        0.   *    1    1150  143        0.   *    1    1805  218        0.   *    2    0020  293        0.
    1    0540   69        0.   *    1    1155  144        0.   *    1    1810  219        0.   *    2    0025  294        0.
    1    0545   70        0.   *    1    1200  145        0.   *    1    1815  220        0.   *    2    0030  295        0.
    1    0550   71        0.   *    1    1205  146        0.   *    1    1820  221        0.   *    2    0035  296        0.
    1    0555   72        0.   *    1    1210  147        0.   *    1    1825  222        0.   *    2    0040  297        0.
    1    0600   73        0.   *    1    1215  148        0.   *    1    1830  223        0.   *    2    0045  298        0.
    1    0605   74        0.   *    1    1220  149        0.   *    1    1835  224        0.   *    2    0050  299        0.
    1    0610   75        0.   *    1    1225  150        0.   *    1    1840  225        0.   *    2    0055  300        0.
                             *                                                                  *
*****************************************************************************************************************************

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                  6-HR          24-HR          72-HR       24.92-HR
+   (CFS)       (HR)
                        (CFS)
+       0.       .00                0.             0.             0.             0.
                     (INCHES)      .000           .000           .000           .000
                      (AC-FT)        0.             0.             0.             0.

                     CUMULATIVE AREA =      .90 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            ***************
            *             *
  232 KK    *      DB22   *
            *             *
            ***************
                        Subbasin

               SUBBASIN RUNOFF DATA

  234 BA         SUBBASIN CHARACTERISTICS
                      TAREA         .22  SUBBASIN AREA

  235 LG         GREEN AND AMPT LOSS RATE
                      STRTL         .27  STARTING LOSS
                        DTH         .28  MOISTURE DEFICIT
                       PSIF        1.06  WETTING FRONT SUCTION
                      XKSAT         .04  HYDRAULIC CONDUCTIVITY
                      RTIMP       35.00  PERCENT IMPERVIOUS AREA

  236 US         SNYDER UNITGRAPH
                        TP          .12  LAG
                        CP          .36  PEAKING COEFFICIENT

                  SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                    ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .08 HR,       R=    .30 HR
                                  SNYDER    TP=    .13 HR,      CP=    .36

                                          UNIT HYDROGRAPH
                                    20 END-OF-PERIOD ORDINATES
                 208.      366.      277.      211.      160.      121.       92.       70.       53.       40.
                  30.       23.       18.       13.       10.        8.        6.        4.        3.        3.

       ***              ***              ***              ***              ***

                         HYDROGRAPH AT STATION     DB22
                        TRANSPOSITION AREA        .0 SQ MI

     TOTAL RAINFALL =    1.19, TOTAL LOSS =      .51, TOTAL EXCESS =      .68

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                  6-HR          24-HR          72-HR       24.92-HR
+   (CFS)       (HR)
                        (CFS)
+     108.     12.00              13.             4.             4.             4.
                     (INCHES)      .558           .679           .680           .680
                      (AC-FT)        7.             8.             8.             8.

                     CUMULATIVE AREA =      .22 SQ MI


       ***              ***              ***              ***              ***

                         HYDROGRAPH AT STATION     DB22
                        TRANSPOSITION AREA      14.0 SQ MI

     TOTAL RAINFALL =    1.17, TOTAL LOSS =      .50, TOTAL EXCESS =      .67

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                  6-HR          24-HR          72-HR       24.92-HR
+   (CFS)       (HR)
                        (CFS)
+     105.     12.00              13.             4.             4.             4.
                     (INCHES)      .543           .661           .662           .662
```

(AC-FT) 6. 8. 8. 8.

CUMULATIVE AREA = .22 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB22
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.15, TOTAL LOSS = .50, TOTAL EXCESS = .66

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)			
104.	12.00	13.	4.	4.	4.
		(INCHES) .535	.652	.653	.653
		(AC-FT) 6.	8.	8.	8.

CUMULATIVE AREA = .22 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB22
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.14, TOTAL LOSS = .49, TOTAL EXCESS = .65

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)			
102.	12.00	13.	4.	4.	4.
		(INCHES) .527	.643	.644	.644
		(AC-FT) 6.	8.	8.	8.

CUMULATIVE AREA = .22 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB22
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.13, TOTAL LOSS = .49, TOTAL EXCESS = .64

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)			
102.	12.00	12.	4.	4.	4.
		(INCHES) .522	.637	.638	.638
		(AC-FT) 6.	8.	8.	8.

CUMULATIVE AREA = .22 SQ MI

INTERPOLATED HYDROGRAPH AT DB22

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	1.	1		1230	151	35.	1		1845	226	1.
1		0005	2	0.	1		0620	77	1.	1		1235	152	28.	1		1850	227	1.
1		0010	3	0.	1		0625	78	1.	1		1240	153	23.	1		1855	228	1.
1		0015	4	0.	1		0630	79	1.	1		1245	154	18.	1		1900	229	1.
1		0020	5	0.	1		0635	80	1.	1		1250	155	15.	1		1905	230	1.
1		0025	6	0.	1		0640	81	1.	1		1255	156	12.	1		1910	231	1.
1		0030	7	0.	1		0645	82	1.	1		1300	157	10.	1		1915	232	1.
1		0035	8	1.	1		0650	83	1.	1		1305	158	9.	1		1920	233	1.
1		0040	9	1.	1		0655	84	1.	1		1310	159	7.	1		1925	234	1.
1		0045	10	1.	1		0700	85	1.	1		1315	160	6.	1		1930	235	1.
1		0050	11	1.	1		0705	86	1.	1		1320	161	6.	1		1935	236	1.
1		0055	12	1.	1		0710	87	1.	1		1325	162	5.	1		1940	237	1.
1		0100	13	1.	1		0715	88	1.	1		1330	163	4.	1		1945	238	1.
1		0105	14	1.	1		0720	89	1.	1		1335	164	4.	1		1950	239	1.
1		0110	15	1.	1		0725	90	1.	1		1340	165	3.	1		1955	240	1.
1		0115	16	1.	1		0730	91	1.	1		1345	166	3.	1		2000	241	1.
1		0120	17	1.	1		0735	92	1.	1		1350	167	3.	1		2005	242	1.
1		0125	18	1.	1		0740	93	1.	1		1355	168	3.	1		2010	243	1.
1		0130	19	1.	1		0745	94	1.	1		1400	169	3.	1		2015	244	1.
1		0135	20	1.	1		0750	95	1.	1		1405	170	3.	1		2020	245	1.
1		0140	21	1.	1		0755	96	1.	1		1410	171	2.	1		2025	246	1.
1		0145	22	1.	1		0800	97	1.	1		1415	172	2.	1		2030	247	1.
1		0150	23	1.	1		0805	98	1.	1		1420	173	2.	1		2035	248	1.
1		0155	24	1.	1		0810	99	1.	1		1425	174	2.	1		2040	249	1.
1		0200	25	1.	1		0815	100	1.	1		1430	175	2.	1		2045	250	1.
1		0205	26	1.	1		0820	101	1.	1		1435	176	2.	1		2050	251	1.
1		0210	27	1.	1		0825	102	1.	1		1440	177	2.	1		2055	252	1.
1		0215	28	1.	1		0830	103	1.	1		1445	178	2.	1		2100	253	1.
1		0220	29	1.	1		0835	104	1.	1		1450	179	2.	1		2105	254	1.
1		0225	30	1.	1		0840	105	2.	1		1455	180	2.	1		2110	255	1.
1		0230	31	1.	1		0845	106	2.	1		1500	181	2.	1		2115	256	1.
1		0235	32	1.	1		0850	107	2.	1		1505	182	2.	1		2120	257	1.
1		0240	33	1.	1		0855	108	2.	1		1510	183	2.	1		2125	258	1.
1		0245	34	1.	1		0900	109	2.	1		1515	184	2.	1		2130	259	1.
1		0250	35	1.	1		0905	110	2.	1		1520	185	2.	1		2135	260	1.
1		0255	36	1.	1		0910	111	2.	1		1525	186	2.	1		2140	261	1.
1		0300	37	1.	1		0915	112	2.	1		1530	187	2.	1		2145	262	1.
1		0305	38	1.	1		0920	113	2.	1		1535	188	2.	1		2150	263	1.
1		0310	39	1.	1		0925	114	2.	1		1540	189	2.	1		2155	264	1.
1		0315	40	1.	1		0930	115	2.	1		1545	190	2.	1		2200	265	1.
1		0320	41	1.	1		0935	116	2.	1		1550	191	2.	1		2205	266	1.
1		0325	42	1.	1		0940	117	2.	1		1555	192	2.	1		2210	267	1.
1		0330	43	1.	1		0945	118	2.	1		1600	193	1.	1		2215	268	1.
1		0335	44	1.	1		0950	119	2.	1		1605	194	1.	1		2220	269	1.
1		0340	45	1.	1		0955	120	2.	1		1610	195	1.	1		2225	270	1.
1		0345	46	1.	1		1000	121	2.	1		1615	196	1.	1		2230	271	1.
1		0350	47	1.	1		1005	122	2.	1		1620	197	1.	1		2235	272	1.

1	0355	48	1.	*	1	1010	123	2.	*	1	1625	198	1.	*	1	2240	273	1.		
1	0400	49	1.	*	1	1015	124	2.	*	1	1630	199	1.	*	1	2245	274	1.		
1	0405	50	1.	*	1	1020	125	2.	*	1	1635	200	1.	*	1	2250	275	1.		
1	0410	51	1.	*	1	1025	126	3.	*	1	1640	201	1.	*	1	2255	276	1.		
1	0415	52	1.	*	1	1030	127	3.	*	1	1645	202	1.	*	1	2300	277	1.		
1	0420	53	1.	*	1	1035	128	3.	*	1	1650	203	1.	*	1	2305	278	1.		
1	0425	54	1.	*	1	1040	129	3.	*	1	1655	204	1.	*	1	2310	279	1.		
1	0430	55	1.	*	1	1045	130	3.	*	1	1700	205	1.	*	1	2315	280	1.		
1	0435	56	1.	*	1	1050	131	3.	*	1	1705	206	1.	*	1	2320	281	1.		
1	0440	57	1.	*	1	1055	132	3.	*	1	1710	207	1.	*	1	2325	282	1.		
1	0445	58	1.	*	1	1100	133	4.	*	1	1715	208	1.	*	1	2330	283	1.		
1	0450	59	1.	*	1	1105	134	4.	*	1	1720	209	1.	*	1	2335	284	1.		
1	0455	60	1.	*	1	1110	135	4.	*	1	1725	210	1.	*	1	2340	285	1.		
1	0500	61	1.	*	1	1115	136	4.	*	1	1730	211	1.	*	1	2345	286	1.		
1	0505	62	1.	*	1	1120	137	5.	*	1	1735	212	1.	*	1	2350	287	1.		
1	0510	63	1.	*	1	1125	138	5.	*	1	1740	213	1.	*	1	2355	288	1.		
1	0515	64	1.	*	1	1130	139	5.	*	1	1745	214	1.	*	2	0000	289	1.		
1	0520	65	1.	*	1	1135	140	8.	*	1	1750	215	1.	*	2	0005	290	1.		
1	0525	66	1.	*	1	1140	141	15.	*	1	1755	216	1.	*	2	0010	291	0.		
1	0530	67	1.	*	1	1145	142	30.	*	1	1800	217	1.	*	2	0015	292	0.		
1	0535	68	1.	*	1	1150	143	53.	*	1	1805	218	1.	*	2	0020	293	0.		
1	0540	69	1.	*	1	1155	144	84.	*	1	1810	219	1.	*	2	0025	294	0.		
1	0545	70	1.	*	1	1200	145	107.	*	1	1815	220	1.	*	2	0030	295	0.		
1	0550	71	1.	*	1	1205	146	102.	*	1	1820	221	1.	*	2	0035	296	0.		
1	0555	72	1.	*	1	1210	147	82.	*	1	1825	222	1.	*	2	0040	297	0.		
1	0600	73	1.	*	1	1215	148	66.	*	1	1830	223	1.	*	2	0045	298	0.		
1	0605	74	1.	*	1	1220	149	54.	*	1	1835	224	1.	*	2	0050	299	0.		
1	0610	75	1.	*	1	1225	150	44.	*	1	1840	225	1.	*	2	0055	300	0.		
				*					*					*						

****

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 107.	12.00		13.	4.	4.	4.
		(INCHES)	.552	.672	.672	.672
		(AC-FT)	7.	8.	8.	8.

CUMULATIVE AREA = .22 SQ MI

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237 KK

****
* *
* R24_P *
* *
****

Route Hydrograph Through Basin 24 Pipe

HYDROGRAPH ROUTING DATA

239 RK KINEMATIC WAVE STREAM ROUTING

L	3076.	CHANNEL LENGTH
S	.0140	SLOPE
N	.015	CHANNEL ROUGHNESS COEFFICIENT
CA	.00	CONTRIBUTING AREA
SHAPE	CIRC	CHANNEL SHAPE
WD	4.50	BOTTOM WIDTH OR DIAMETER
Z	.00	SIDE SLOPE
NDXMIN	2	MINIMUM NUMBER OF DX INTERVALS

***

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	8.15	1.25	1.15	1025.33	107.46	722.55	.68	17.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8076E+01 EXCESS= .0000E+00 OUTFLOW= .8079E+01 BASIN STORAGE= .6568E-03 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	8.15	1.25	5.00		104.90	725.00	.68

*** *** *** *** ***

HYDROGRAPH AT STATION R24_P
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 105.	12.08		13.	4.	4.	4.
		(INCHES)	.559	.680	.680	.680
		(AC-FT)	7.	8.	8.	8.

CUMULATIVE AREA = .22 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	8.15	1.25	1.03	1025.33	105.01	722.02	.66	16.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7861E+01 EXCESS= .0000E+00 OUTFLOW= .7866E+01 BASIN STORAGE= .5827E-03 PERCENT ERROR= -.1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	8.15	1.25	5.00	102.24	725.00	.66
***	***	***	***	***		

HYDROGRAPH AT STATION R24_P
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	24.92-HR
102.	12.08	(CFS)	13.	4.	4.	4.
		(INCHES)	.543	.662	.663	.663
		(AC-FT)	6.	8.	8.	8.

CUMULATIVE AREA = .22 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	8.15	1.25	1.04	1025.33	103.15	722.75	.65	16.95

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7754E+01 EXCESS= .0000E+00 OUTFLOW= .7758E+01 BASIN STORAGE= .6449E-03 PERCENT ERROR= -.1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	8.15	1.25	5.00	100.90	725.00	.65
***	***	***	***	***		

HYDROGRAPH AT STATION R24_P
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	24.92-HR
101.	12.08	(CFS)	13.	4.	4.	4.
		(INCHES)	.535	.653	.654	.654
		(AC-FT)	6.	8.	8.	8.

CUMULATIVE AREA = .22 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	8.15	1.25	1.05	1025.33	102.02	722.49	.64	16.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7646E+01 EXCESS= .0000E+00 OUTFLOW= .7650E+01 BASIN STORAGE= .5744E-03 PERCENT ERROR= -.1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	8.15	1.25	5.00	99.56	725.00	.64
***	***	***	***	***		

HYDROGRAPH AT STATION R24_P
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	24.92-HR
100.	12.08	(CFS)	13.	4.	4.	4.
		(INCHES)	.528	.644	.644	.644
		(AC-FT)	6.	8.	8.	8.

CUMULATIVE AREA = .22 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	8.15	1.25	1.08	1025.33	100.78	722.82	.64	16.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7575E+01 EXCESS= .0000E+00 OUTFLOW= .7579E+01 BASIN STORAGE= .5677E-03 PERCENT ERROR= -.1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	8.15	1.25	5.00	98.66	725.00	.64
***	***	***	***	***		

HYDROGRAPH AT STATION R24_P
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW

PEAK FLOW (CFS)	TIME (HR)		6-HR	24-HR	72-HR	24.92-HR
		MAXIMUM AVERAGE FLOW (CFS)	13.	4.	4.	4.
99.	12.08	(INCHES)	.522	.638	.638	.638
		(AC-FT)	6.	8.	8.	8.

CUMULATIVE AREA = .22 SQ MI

INTERPOLATED HYDROGRAPH AT R24_P

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	1.	1		1230	151	39.	1		1845	226	1.
1		0005	2	0.	1		0620	77	1.	1		1235	152	32.	1		1850	227	1.
1		0010	3	0.	1		0625	78	1.	1		1240	153	26.	1		1855	228	1.
1		0015	4	0.	1		0630	79	1.	1		1245	154	21.	1		1900	229	1.
1		0020	5	0.	1		0635	80	1.	1		1250	155	17.	1		1905	230	1.
1		0025	6	0.	1		0640	81	1.	1		1255	156	14.	1		1910	231	1.
1		0030	7	0.	1		0645	82	1.	1		1300	157	12.	1		1915	232	1.
1		0035	8	0.	1		0650	83	1.	1		1305	158	10.	1		1920	233	1.
1		0040	9	1.	1		0655	84	1.	1		1310	159	8.	1		1925	234	1.
1		0045	10	1.	1		0700	85	1.	1		1315	160	7.	1		1930	235	1.
1		0050	11	1.	1		0705	86	1.	1		1320	161	6.	1		1935	236	1.
1		0055	12	1.	1		0710	87	1.	1		1325	162	5.	1		1940	237	1.
1		0100	13	1.	1		0715	88	1.	1		1330	163	5.	1		1945	238	1.
1		0105	14	1.	1		0720	89	1.	1		1335	164	4.	1		1950	239	1.
1		0110	15	1.	1		0725	90	1.	1		1340	165	4.	1		1955	240	1.
1		0115	16	1.	1		0730	91	1.	1		1345	166	3.	1		2000	241	1.
1		0120	17	1.	1		0735	92	1.	1		1350	167	3.	1		2005	242	1.
1		0125	18	1.	1		0740	93	1.	1		1355	168	3.	1		2010	243	1.
1		0130	19	1.	1		0745	94	1.	1		1400	169	3.	1		2015	244	1.
1		0135	20	1.	1		0750	95	1.	1		1405	170	3.	1		2020	245	1.
1		0140	21	1.	1		0755	96	1.	1		1410	171	3.	1		2025	246	1.
1		0145	22	1.	1		0800	97	1.	1		1415	172	2.	1		2030	247	1.
1		0150	23	1.	1		0805	98	1.	1		1420	173	2.	1		2035	248	1.
1		0155	24	1.	1		0810	99	1.	1		1425	174	2.	1		2040	249	1.
1		0200	25	1.	1		0815	100	1.	1		1430	175	2.	1		2045	250	1.
1		0205	26	1.	1		0820	101	1.	1		1435	176	2.	1		2050	251	1.
1		0210	27	1.	1		0825	102	1.	1		1440	177	2.	1		2055	252	1.
1		0215	28	1.	1		0830	103	1.	1		1445	178	2.	1		2100	253	1.
1		0220	29	1.	1		0835	104	1.	1		1450	179	2.	1		2105	254	1.
1		0225	30	1.	1		0840	105	1.	1		1455	180	2.	1		2110	255	1.
1		0230	31	1.	1		0845	106	2.	1		1500	181	2.	1		2115	256	1.
1		0235	32	1.	1		0850	107	2.	1		1505	182	2.	1		2120	257	1.
1		0240	33	1.	1		0855	108	2.	1		1510	183	2.	1		2125	258	1.
1		0245	34	1.	1		0900	109	2.	1		1515	184	2.	1		2130	259	1.
1		0250	35	1.	1		0905	110	2.	1		1520	185	2.	1		2135	260	1.
1		0255	36	1.	1		0910	111	2.	1		1525	186	2.	1		2140	261	1.
1		0300	37	1.	1		0915	112	2.	1		1530	187	2.	1		2145	262	1.
1		0305	38	1.	1		0920	113	2.	1		1535	188	2.	1		2150	263	1.
1		0310	39	1.	1		0925	114	2.	1		1540	189	2.	1		2155	264	1.
1		0315	40	1.	1		0930	115	2.	1		1545	190	2.	1		2200	265	1.
1		0320	41	1.	1		0935	116	2.	1		1550	191	2.	1		2205	266	1.
1		0325	42	1.	1		0940	117	2.	1		1555	192	2.	1		2210	267	1.
1		0330	43	1.	1		0945	118	2.	1		1600	193	2.	1		2215	268	1.
1		0335	44	1.	1		0950	119	2.	1		1605	194	1.	1		2220	269	1.
1		0340	45	1.	1		0955	120	2.	1		1610	195	1.	1		2225	270	1.
1		0345	46	1.	1		1000	121	2.	1		1615	196	1.	1		2230	271	1.
1		0350	47	1.	1		1005	122	2.	1		1620	197	1.	1		2235	272	1.
1		0355	48	1.	1		1010	123	2.	1		1625	198	1.	1		2240	273	1.
1		0400	49	1.	1		1015	124	2.	1		1630	199	1.	1		2245	274	1.
1		0405	50	1.	1		1020	125	2.	1		1635	200	1.	1		2250	275	1.
1		0410	51	1.	1		1025	126	2.	1		1640	201	1.	1		2255	276	1.
1		0415	52	1.	1		1030	127	3.	1		1645	202	1.	1		2300	277	1.
1		0420	53	1.	1		1035	128	3.	1		1650	203	1.	1		2305	278	1.
1		0425	54	1.	1		1040	129	3.	1		1655	204	1.	1		2310	279	1.
1		0430	55	1.	1		1045	130	3.	1		1700	205	1.	1		2315	280	1.
1		0435	56	1.	1		1050	131	3.	1		1705	206	1.	1		2320	281	1.
1		0440	57	1.	1		1055	132	3.	1		1710	207	1.	1		2325	282	1.
1		0445	58	1.	1		1100	133	3.	1		1715	208	1.	1		2330	283	1.
1		0450	59	1.	1		1105	134	4.	1		1720	209	1.	1		2335	284	1.
1		0455	60	1.	1		1110	135	4.	1		1725	210	1.	1		2340	285	1.
1		0500	61	1.	1		1115	136	4.	1		1730	211	1.	1		2345	286	1.
1		0505	62	1.	1		1120	137	4.	1		1735	212	1.	1		2350	287	1.
1		0510	63	1.	1		1125	138	5.	1		1740	213	1.	1		2355	288	1.
1		0515	64	1.	1		1130	139	5.	1		1745	214	1.	2		0000	289	1.
1		0520	65	1.	1		1135	140	6.	1		1750	215	1.	2		0005	290	1.
1		0525	66	1.	1		1140	141	10.	1		1755	216	1.	2		0010	291	1.
1		0530	67	1.	1		1145	142	22.	1		1800	217	1.	2		0015	292	0.
1		0535	68	1.	1		1150	143	42.	1		1805	218	1.	2		0020	293	0.
1		0540	69	1.	1		1155	144	71.	1		1810	219	1.	2		0025	294	0.
1		0545	70	1.	1		1200	145	98.	1		1815	220	1.	2		0030	295	0.
1		0550	71	1.	1		1205	146	104.	1		1820	221	1.	2		0035	296	0.
1		0555	72	1.	1		1210	147	90.	1		1825	222	1.	2		0040	297	0.
1		0600	73	1.	1		1215	148	73.	1		1830	223	1.	2		0045	298	0.
1		0605	74	1.	1		1220	149	59.	1		1835	224	1.	2		0050	299	0.
1		0610	75	1.	1		1225	150	48.	1		1840	225	1.	2		0055	300	0.

+ PEAK FLOW (CFS)	TIME (HR)		6-HR	24-HR	72-HR	24.92-HR
		MAXIMUM AVERAGE FLOW (CFS)	13.	4.	4.	4.
+ 104.	12.08	(INCHES)	.552	.672	.673	.673
		(AC-FT)	7.	8.	8.	8.

CUMULATIVE AREA = .22 SQ MI

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240 KK      *      R24_O  *
            *             *
            ***************
                        Route Hydrograph Through Basin 24 Overland

               HYDROGRAPH ROUTING DATA

242 RK           KINEMATIC WAVE STREAM ROUTING
                        L       1506.  CHANNEL LENGTH
                        S       .0190  SLOPE
                        N        .030  CHANNEL ROUGHNESS COEFFICIENT
                       CA         .00  CONTRIBUTING AREA
                    SHAPE        TRAP  CHANNEL SHAPE
                       WD       10.00  BOTTOM WIDTH OR DIAMETER
                        Z       12.00  SIDE SLOPE
                   NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                          ***
                                    COMPUTED KINEMATIC PARAMETERS
                                        VARIABLE TIME STEP
                                     (DT SHOWN IS A MINIMUM)

                     ELEMENT    ALPHA       M         DT        DX       PEAK    TIME TO      VOLUME    MAXIMUM
                                                                                     PEAK                 CELERITY
                                                       (MIN)     (FT)     (CFS)    (MIN)       (IN)      (FPS)

                     MAIN          1.67      1.35       1.39    502.00    104.04   727.46        .68       6.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8079E+01  EXCESS= .0000E+00 OUTFLOW= .8081E+01 BASIN STORAGE= .2443E-02 PERCENT ERROR=   -.1

                                    INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

                     MAIN          1.67      1.35       5.00                101.80   725.00        .68
          ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION    R24_O
                      TRANSPOSITION AREA       .0 SQ MI

   PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR       72-HR      24.92-HR
+    (CFS)       (HR)
                          (CFS)
+      102.     12.08                      13.          4.          4.          4.
                (INCHES)                  .558        .679        .680        .680
                 (AC-FT)                     7.          8.          8.          8.

                  CUMULATIVE AREA =      .22 SQ MI

                                    COMPUTED KINEMATIC PARAMETERS
                                        VARIABLE TIME STEP
                                     (DT SHOWN IS A MINIMUM)

                     ELEMENT    ALPHA       M         DT        DX       PEAK    TIME TO      VOLUME    MAXIMUM
                                                                                     PEAK                 CELERITY
                                                       (MIN)     (FT)     (CFS)    (MIN)       (IN)      (FPS)

                     MAIN          1.67      1.35       1.38    502.00    101.36   727.26        .66       6.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7867E+01  EXCESS= .0000E+00 OUTFLOW= .7868E+01 BASIN STORAGE= .2435E-02 PERCENT ERROR=   -.1

                                    INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

                     MAIN          1.67      1.35       5.00                 99.14   725.00        .66
          ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION    R24_O
                      TRANSPOSITION AREA     14.0 SQ MI

   PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR       72-HR      24.92-HR
+    (CFS)       (HR)
                          (CFS)
+       99.     12.08                      13.          4.          4.          4.
                (INCHES)                  .543        .662        .662        .662
                 (AC-FT)                     6.          8.          8.          8.

                  CUMULATIVE AREA =      .22 SQ MI

                                    COMPUTED KINEMATIC PARAMETERS
                                        VARIABLE TIME STEP
                                     (DT SHOWN IS A MINIMUM)

                     ELEMENT    ALPHA       M         DT        DX       PEAK    TIME TO      VOLUME    MAXIMUM
                                                                                     PEAK                 CELERITY
                                                       (MIN)     (FT)     (CFS)    (MIN)       (IN)      (FPS)

                     MAIN          1.67      1.35       1.32    502.00    100.50   727.50        .65       6.59

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7759E+01  EXCESS= .0000E+00 OUTFLOW= .7764E+01 BASIN STORAGE= .2710E-02 PERCENT ERROR=   -.1

                                    INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

                     MAIN          1.67      1.35       5.00                 97.81   725.00        .65
          ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION    R24_O
                      TRANSPOSITION AREA     24.0 SQ MI

   PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR       72-HR      24.92-HR
+    (CFS)       (HR)
                          (CFS)
```

98.	12.08		13.	4.	4.	4.
		(INCHES)	.535	.653	.653	.653
		(AC-FT)	6.	8.	8.	8.

CUMULATIVE AREA = .22 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.67	1.35	1.43	502.00	98.62	727.53	.64	6.57

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7651E+01 EXCESS= .0000E+00 OUTFLOW= .7653E+01 BASIN STORAGE= .2584E-02 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.67	1.35	5.00		96.44	725.00	.64	
***	***	***	***		***			

HYDROGRAPH AT STATION R24_O
TRANSPOSITION AREA 36.5 SQ MI

+	PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+	96.	12.08	(CFS)	13.	4.	4.	4.
			(INCHES)	.527	.643	.644	.644
			(AC-FT)	6.	8.	8.	8.

CUMULATIVE AREA = .22 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.67	1.35	1.31	502.00	97.98	727.12	.64	6.55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7579E+01 EXCESS= .0000E+00 OUTFLOW= .7583E+01 BASIN STORAGE= .2299E-02 PERCENT ERROR= -.1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.67	1.35	5.00		95.55	725.00	.64	
***	***	***	***		***			

HYDROGRAPH AT STATION R24_O
TRANSPOSITION AREA 50.0 SQ MI

+	PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+	96.	12.08	(CFS)	12.	4.	4.	4.
			(INCHES)	.522	.637	.638	.638
			(AC-FT)	6.	8.	8.	8.

CUMULATIVE AREA = .22 SQ MI

INTERPOLATED HYDROGRAPH AT R24_O

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	1.	1		1230	151	45.	1		1845	226	1.
1		0005	2	0.	1		0620	77	1.	1		1235	152	37.	1		1850	227	1.
1		0010	3	0.	1		0625	78	1.	1		1240	153	30.	1		1855	228	1.
1		0015	4	0.	1		0630	79	1.	1		1245	154	24.	1		1900	229	1.
1		0020	5	0.	1		0635	80	1.	1		1250	155	20.	1		1905	230	1.
1		0025	6	0.	1		0640	81	1.	1		1255	156	16.	1		1910	231	1.
1		0030	7	0.	1		0645	82	1.	1		1300	157	14.	1		1915	232	1.
1		0035	8	0.	1		0650	83	1.	1		1305	158	11.	1		1920	233	1.
1		0040	9	0.	1		0655	84	1.	1		1310	159	10.	1		1925	234	1.
1		0045	10	0.	1		0700	85	1.	1		1315	160	8.	1		1930	235	1.
1		0050	11	0.	1		0705	86	1.	1		1320	161	7.	1		1935	236	1.
1		0055	12	1.	1		0710	87	1.	1		1325	162	6.	1		1940	237	1.
1		0100	13	1.	1		0715	88	1.	1		1330	163	5.	1		1945	238	1.
1		0105	14	1.	1		0720	89	1.	1		1335	164	5.	1		1950	239	1.
1		0110	15	1.	1		0725	90	1.	1		1340	165	4.	1		1955	240	1.
1		0115	16	1.	1		0730	91	1.	1		1345	166	4.	1		2000	241	1.
1		0120	17	1.	1		0735	92	1.	1		1350	167	3.	1		2005	242	1.
1		0125	18	1.	1		0740	93	1.	1		1355	168	3.	1		2010	243	1.
1		0130	19	1.	1		0745	94	1.	1		1400	169	3.	1		2015	244	1.
1		0135	20	1.	1		0750	95	1.	1		1405	170	3.	1		2020	245	1.
1		0140	21	1.	1		0755	96	1.	1		1410	171	3.	1		2025	246	1.
1		0145	22	1.	1		0800	97	1.	1		1415	172	3.	1		2030	247	1.
1		0150	23	1.	1		0805	98	1.	1		1420	173	2.	1		2035	248	1.
1		0155	24	1.	1		0810	99	1.	1		1425	174	2.	1		2040	249	1.
1		0200	25	1.	1		0815	100	1.	1		1430	175	2.	1		2045	250	1.
1		0205	26	1.	1		0820	101	1.	1		1435	176	2.	1		2050	251	1.
1		0210	27	1.	1		0825	102	1.	1		1440	177	2.	1		2055	252	1.
1		0215	28	1.	1		0830	103	1.	1		1445	178	2.	1		2100	253	1.
1		0220	29	1.	1		0835	104	1.	1		1450	179	2.	1		2105	254	1.
1		0225	30	1.	1		0840	105	1.	1		1455	180	2.	1		2110	255	1.
1		0230	31	1.	1		0845	106	1.	1		1500	181	2.	1		2115	256	1.

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   1    0235   32        1.   *    1    0850  107        1.   *    1    1505  182        2.   *    1    2120  257        1.
   1    0240   33        1.   *    1    0855  108        2.   *    1    1510  183        2.   *    1    2125  258        1.
   1    0245   34        1.   *    1    0900  109        2.   *    1    1515  184        2.   *    1    2130  259        1.
   1    0250   35        1.   *    1    0905  110        2.   *    1    1520  185        2.   *    1    2135  260        1.
   1    0255   36        1.   *    1    0910  111        2.   *    1    1525  186        2.   *    1    2140  261        1.
   1    0300   37        1.   *    1    0915  112        2.   *    1    1530  187        2.   *    1    2145  262        1.
   1    0305   38        1.   *    1    0920  113        2.   *    1    1535  188        2.   *    1    2150  263        1.
   1    0310   39        1.   *    1    0925  114        2.   *    1    1540  189        2.   *    1    2155  264        1.
   1    0315   40        1.   *    1    0930  115        2.   *    1    1545  190        2.   *    1    2200  265        1.
   1    0320   41        1.   *    1    0935  116        2.   *    1    1550  191        2.   *    1    2205  266        1.
   1    0325   42        1.   *    1    0940  117        2.   *    1    1555  192        2.   *    1    2210  267        1.
   1    0330   43        1.   *    1    0945  118        2.   *    1    1600  193        2.   *    1    2215  268        1.
   1    0335   44        1.   *    1    0950  119        2.   *    1    1605  194        2.   *    1    2220  269        1.
   1    0340   45        1.   *    1    0955  120        2.   *    1    1610  195        2.   *    1    2225  270        1.
   1    0345   46        1.   *    1    1000  121        2.   *    1    1615  196        1.   *    1    2230  271        1.
   1    0350   47        1.   *    1    1005  122        2.   *    1    1620  197        1.   *    1    2235  272        1.
   1    0355   48        1.   *    1    1010  123        2.   *    1    1625  198        1.   *    1    2240  273        1.
   1    0400   49        1.   *    1    1015  124        2.   *    1    1630  199        1.   *    1    2245  274        1.
   1    0405   50        1.   *    1    1020  125        2.   *    1    1635  200        1.   *    1    2250  275        1.
   1    0410   51        1.   *    1    1025  126        2.   *    1    1640  201        1.   *    1    2255  276        1.
   1    0415   52        1.   *    1    1030  127        2.   *    1    1645  202        1.   *    1    2300  277        1.
   1    0420   53        1.   *    1    1035  128        3.   *    1    1650  203        1.   *    1    2305  278        1.
   1    0425   54        1.   *    1    1040  129        3.   *    1    1655  204        1.   *    1    2310  279        1.
   1    0430   55        1.   *    1    1045  130        3.   *    1    1700  205        1.   *    1    2315  280        1.
   1    0435   56        1.   *    1    1050  131        3.   *    1    1705  206        1.   *    1    2320  281        1.
   1    0440   57        1.   *    1    1055  132        3.   *    1    1710  207        1.   *    1    2325  282        1.
   1    0445   58        1.   *    1    1100  133        3.   *    1    1715  208        1.   *    1    2330  283        1.
   1    0450   59        1.   *    1    1105  134        3.   *    1    1720  209        1.   *    1    2335  284        1.
   1    0455   60        1.   *    1    1110  135        4.   *    1    1725  210        1.   *    1    2340  285        1.
   1    0500   61        1.   *    1    1115  136        4.   *    1    1730  211        1.   *    1    2345  286        1.
   1    0505   62        1.   *    1    1120  137        4.   *    1    1735  212        1.   *    1    2350  287        1.
   1    0510   63        1.   *    1    1125  138        4.   *    1    1740  213        1.   *    1    2355  288        1.
   1    0515   64        1.   *    1    1130  139        5.   *    1    1745  214        1.   *    2    0000  289        1.
   1    0520   65        1.   *    1    1135  140        5.   *    1    1750  215        1.   *    2    0005  290        1.
   1    0525   66        1.   *    1    1140  141        6.   *    1    1755  216        1.   *    2    0010  291        1.
   1    0530   67        1.   *    1    1145  142       12.   *    1    1800  217        1.   *    2    0015  292        1.
   1    0535   68        1.   *    1    1150  143       27.   *    1    1805  218        1.   *    2    0020  293        1.
   1    0540   69        1.   *    1    1155  144       54.   *    1    1810  219        1.   *    2    0025  294        0.
   1    0545   70        1.   *    1    1200  145       84.   *    1    1815  220        1.   *    2    0030  295        0.
   1    0550   71        1.   *    1    1205  146      101.   *    1    1820  221        1.   *    2    0035  296        0.
   1    0555   72        1.   *    1    1210  147       97.   *    1    1825  222        1.   *    2    0040  297        0.
   1    0600   73        1.   *    1    1215  148       82.   *    1    1830  223        1.   *    2    0045  298        0.
   1    0605   74        1.   *    1    1220  149       67.   *    1    1835  224        1.   *    2    0050  299        0.
   1    0610   75        1.   *    1    1225  150       55.   *    1    1840  225        1.   *    2    0055  300        0.
                          *                                  *                                  *
*****************************************************************************************************************************************************

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR      24.92-HR
+   (CFS)       (HR)
                          (CFS)
+     101.     12.08          13.          4.          4.          4.
                       (INCHES)        .552        .672        .672        .672
                         (AC-FT)          7.          8.          8.          8.

                       CUMULATIVE AREA =      .22 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *             *
  243 KK    *     DB24a   *
            *             *
            ***************
                        Subbasin

               SUBBASIN RUNOFF DATA

  245 BA         SUBBASIN CHARACTERISTICS
                      TAREA          .02  SUBBASIN AREA

  246 LG         GREEN AND AMPT LOSS RATE
                      STRTL          .53  STARTING LOSS
                        DTH          .50  MOISTURE DEFICIT
                       PSIF         1.86  WETTING FRONT SUCTION
                      XKSAT          .07  HYDRAULIC CONDUCTIVITY
                      RTIMP        40.00  PERCENT IMPERVIOUS AREA

  247 US         SNYDER UNITGRAPH
                        TP           .09  LAG
                        CP           .29  PEAKING COEFFICIENT

                 SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                      ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .08 HR,       R=    .42 HR
                                   SNYDER   TP=    .14 HR,      CP=    .29

                                              UNIT HYDROGRAPH
                                          28 END-OF-PERIOD ORDINATES
                      15.       27.       22.       18.       15.       12.       10.        8.        7.        5.
                       5.        4.        3.        2.        2.        2.        1.        1.        1.        1.
                       1.        1.        0.        0.        0.        0.        0.        0.

       ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    DB24a
                       TRANSPOSITION AREA        .0 SQ MI

     TOTAL RAINFALL =    1.19, TOTAL LOSS =      .65, TOTAL EXCESS =      .54

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR      24.92-HR
+   (CFS)       (HR)
                          (CFS)
+       5.     12.08           1.          0.          0.          0.
                       (INCHES)        .396        .534        .535        .535
                         (AC-FT)          0.          1.          1.          1.
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CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB24a
TRANSPOSITION AREA 14.0 SQ MI

TOTAL RAINFALL = 1.17, TOTAL LOSS = .65, TOTAL EXCESS = .52

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
5.	12.08	1.	0.	0.	0.
		(INCHES) .382	.517	.518	.518
		(AC-FT) 0.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB24a
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.15, TOTAL LOSS = .64, TOTAL EXCESS = .51

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
5.	12.08	1.	0.	0.	0.
		(INCHES) .375	.509	.510	.510
		(AC-FT) 0.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB24a
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.14, TOTAL LOSS = .64, TOTAL EXCESS = .50

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
5.	12.08	1.	0.	0.	0.
		(INCHES) .368	.500	.502	.502
		(AC-FT) 0.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB24a
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.13, TOTAL LOSS = .64, TOTAL EXCESS = .50

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
5.	12.08	1.	0.	0.	0.
		(INCHES) .363	.495	.496	.496
		(AC-FT) 0.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

INTERPOLATED HYDROGRAPH AT DB24a

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	3.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	2.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	2.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	2.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	1.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	1.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	1.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	1.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	1.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	1.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	1.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	1.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	1.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	1.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	0.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	0.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	0.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	0.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	0.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	0.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	0.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	0.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	0.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	0.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	0.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	0.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	0.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	0.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	0.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	0.	1		2110	255	0.

1	0230	31	0.	*	1	0845	106	0.	*	1	1500	181	0.	*	1	2115	256	0.
1	0235	32	0.	*	1	0850	107	0.	*	1	1505	182	0.	*	1	2120	257	0.
1	0240	33	0.	*	1	0855	108	0.	*	1	1510	183	0.	*	1	2125	258	0.
1	0245	34	0.	*	1	0900	109	0.	*	1	1515	184	0.	*	1	2130	259	0.
1	0250	35	0.	*	1	0905	110	0.	*	1	1520	185	0.	*	1	2135	260	0.
1	0255	36	0.	*	1	0910	111	0.	*	1	1525	186	0.	*	1	2140	261	0.
1	0300	37	0.	*	1	0915	112	0.	*	1	1530	187	0.	*	1	2145	262	0.
1	0305	38	0.	*	1	0920	113	0.	*	1	1535	188	0.	*	1	2150	263	0.
1	0310	39	0.	*	1	0925	114	0.	*	1	1540	189	0.	*	1	2155	264	0.
1	0315	40	0.	*	1	0930	115	0.	*	1	1545	190	0.	*	1	2200	265	0.
1	0320	41	0.	*	1	0935	116	0.	*	1	1550	191	0.	*	1	2205	266	0.
1	0325	42	0.	*	1	0940	117	0.	*	1	1555	192	0.	*	1	2210	267	0.
1	0330	43	0.	*	1	0945	118	0.	*	1	1600	193	0.	*	1	2215	268	0.
1	0335	44	0.	*	1	0950	119	0.	*	1	1605	194	0.	*	1	2220	269	0.
1	0340	45	0.	*	1	0955	120	0.	*	1	1610	195	0.	*	1	2225	270	0.
1	0345	46	0.	*	1	1000	121	0.	*	1	1615	196	0.	*	1	2230	271	0.
1	0350	47	0.	*	1	1005	122	0.	*	1	1620	197	0.	*	1	2235	272	0.
1	0355	48	0.	*	1	1010	123	0.	*	1	1625	198	0.	*	1	2240	273	0.
1	0400	49	0.	*	1	1015	124	0.	*	1	1630	199	0.	*	1	2245	274	0.
1	0405	50	0.	*	1	1020	125	0.	*	1	1635	200	0.	*	1	2250	275	0.
1	0410	51	0.	*	1	1025	126	0.	*	1	1640	201	0.	*	1	2255	276	0.
1	0415	52	0.	*	1	1030	127	0.	*	1	1645	202	0.	*	1	2300	277	0.
1	0420	53	0.	*	1	1035	128	0.	*	1	1650	203	0.	*	1	2305	278	0.
1	0425	54	0.	*	1	1040	129	0.	*	1	1655	204	0.	*	1	2310	279	0.
1	0430	55	0.	*	1	1045	130	0.	*	1	1700	205	0.	*	1	2315	280	0.
1	0435	56	0.	*	1	1050	131	0.	*	1	1705	206	0.	*	1	2320	281	0.
1	0440	57	0.	*	1	1055	132	0.	*	1	1710	207	0.	*	1	2325	282	0.
1	0445	58	0.	*	1	1100	133	0.	*	1	1715	208	0.	*	1	2330	283	0.
1	0450	59	0.	*	1	1105	134	0.	*	1	1720	209	0.	*	1	2335	284	0.
1	0455	60	0.	*	1	1110	135	0.	*	1	1725	210	0.	*	1	2340	285	0.
1	0500	61	0.	*	1	1115	136	0.	*	1	1730	211	0.	*	1	2345	286	0.
1	0505	62	0.	*	1	1120	137	0.	*	1	1735	212	0.	*	1	2350	287	0.
1	0510	63	0.	*	1	1125	138	1.	*	1	1740	213	0.	*	1	2355	288	0.
1	0515	64	0.	*	1	1130	139	1.	*	1	1745	214	0.	*	2	0000	289	0.
1	0520	65	0.	*	1	1135	140	1.	*	1	1750	215	0.	*	2	0005	290	0.
1	0525	66	0.	*	1	1140	141	1.	*	1	1755	216	0.	*	2	0010	291	0.
1	0530	67	0.	*	1	1145	142	1.	*	1	1800	217	0.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	2.	*	1	1805	218	0.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	4.	*	1	1810	219	0.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	5.	*	1	1815	220	0.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	5.	*	1	1820	221	0.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	5.	*	1	1825	222	0.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	4.	*	1	1830	223	0.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	3.	*	1	1835	224	0.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	3.	*	1	1840	225	0.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW TIME — MAXIMUM AVERAGE FLOW

+	(CFS)	(HR)		6-HR	24-HR	72-HR	24.92-HR
+	5.	12.08	(CFS)	1.	0.	0.	0.
			(INCHES)	.394	.532	.533	.533
			(AC-FT)	0.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

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248 KK — B4aDIV

Divert Basin 24a overflow

DT DIVERSION ISTAD B4aDIV DIVERSION HYDROGRAPH IDENTIFICATION

DI	INFLOW	.00	14.00	100.00	1000.00
DQ	DIVERTED FLOW	.00	.01	86.00	986.00

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DIVERSION HYDROGRAPH B4aDIV
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW TIME — MAXIMUM AVERAGE FLOW

+	(CFS)	(HR)		6-HR	24-HR	72-HR	24.92-HR
+	0.	12.00	(CFS)	0.	0.	0.	0.
			(INCHES)	.000	.000	.000	.000
			(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION B4aDIV
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW TIME — MAXIMUM AVERAGE FLOW

+	(CFS)	(HR)		6-HR	24-HR	72-HR	24.92-HR
+	5.	12.08	(CFS)	1.	0.	0.	0.
			(INCHES)	.396	.534	.535	.535
			(AC-FT)	0.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

DIVERSION HYDROGRAPH B4aDIV
TRANSPOSITION AREA 14.0 SQ MI

EAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
0.	12.00	(CFS)	0.	0.	0.	0.
		(INCHES)	.000	.000	.000	.000
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION B4aDIV
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
5.	12.08	(CFS)	1.	0.	0.	0.
		(INCHES)	.381	.517	.518	.518
		(AC-FT)	0.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

DIVERSION HYDROGRAPH B4aDIV
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
0.	12.00	(CFS)	0.	0.	0.	0.
		(INCHES)	.000	.000	.000	.000
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION B4aDIV
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
5.	12.08	(CFS)	1.	0.	0.	0.
		(INCHES)	.374	.508	.510	.510
		(AC-FT)	0.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

DIVERSION HYDROGRAPH B4aDIV
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
0.	12.00	(CFS)	0.	0.	0.	0.
		(INCHES)	.000	.000	.000	.000
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION B4aDIV
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
5.	12.08	(CFS)	1.	0.	0.	0.
		(INCHES)	.368	.500	.501	.501
		(AC-FT)	0.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

DIVERSION HYDROGRAPH B4aDIV
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
0.	12.00	(CFS)	0.	0.	0.	0.
		(INCHES)	.000	.000	.000	.000
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION B4aDIV
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
		(CFS)	1.	0.	0.	0.
5.	12.08	(INCHES)	.363	.494	.496	.496
		(AC-FT)	0.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

INTERPOLATED DIVERSION HYDROGRAPH AT B4aDIV

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	0.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	0.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	0.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	0.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	0.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	0.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	0.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	0.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	0.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	0.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	0.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	0.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	0.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	0.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	0.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	0.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	0.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	0.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	0.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	0.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	0.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	0.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	0.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	0.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	0.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	0.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	0.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	0.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	0.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	0.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	0.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	0.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	0.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	0.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	0.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	0.	1		2140	261	0.
1		0300	37	0.	1		0915	112	0.	1		1530	187	0.	1		2145	262	0.
1		0305	38	0.	1		0920	113	0.	1		1535	188	0.	1		2150	263	0.
1		0310	39	0.	1		0925	114	0.	1		1540	189	0.	1		2155	264	0.
1		0315	40	0.	1		0930	115	0.	1		1545	190	0.	1		2200	265	0.
1		0320	41	0.	1		0935	116	0.	1		1550	191	0.	1		2205	266	0.
1		0325	42	0.	1		0940	117	0.	1		1555	192	0.	1		2210	267	0.
1		0330	43	0.	1		0945	118	0.	1		1600	193	0.	1		2215	268	0.
1		0335	44	0.	1		0950	119	0.	1		1605	194	0.	1		2220	269	0.
1		0340	45	0.	1		0955	120	0.	1		1610	195	0.	1		2225	270	0.
1		0345	46	0.	1		1000	121	0.	1		1615	196	0.	1		2230	271	0.
1		0350	47	0.	1		1005	122	0.	1		1620	197	0.	1		2235	272	0.
1		0355	48	0.	1		1010	123	0.	1		1625	198	0.	1		2240	273	0.
1		0400	49	0.	1		1015	124	0.	1		1630	199	0.	1		2245	274	0.
1		0405	50	0.	1		1020	125	0.	1		1635	200	0.	1		2250	275	0.
1		0410	51	0.	1		1025	126	0.	1		1640	201	0.	1		2255	276	0.
1		0415	52	0.	1		1030	127	0.	1		1645	202	0.	1		2300	277	0.
1		0420	53	0.	1		1035	128	0.	1		1650	203	0.	1		2305	278	0.
1		0425	54	0.	1		1040	129	0.	1		1655	204	0.	1		2310	279	0.
1		0430	55	0.	1		1045	130	0.	1		1700	205	0.	1		2315	280	0.
1		0435	56	0.	1		1050	131	0.	1		1705	206	0.	1		2320	281	0.
1		0440	57	0.	1		1055	132	0.	1		1710	207	0.	1		2325	282	0.
1		0445	58	0.	1		1100	133	0.	1		1715	208	0.	1		2330	283	0.
1		0450	59	0.	1		1105	134	0.	1		1720	209	0.	1		2335	284	0.
1		0455	60	0.	1		1110	135	0.	1		1725	210	0.	1		2340	285	0.
1		0500	61	0.	1		1115	136	0.	1		1730	211	0.	1		2345	286	0.
1		0505	62	0.	1		1120	137	0.	1		1735	212	0.	1		2350	287	0.
1		0510	63	0.	1		1125	138	0.	1		1740	213	0.	1		2355	288	0.
1		0515	64	0.	1		1130	139	0.	1		1745	214	0.	2		0000	289	0.
1		0520	65	0.	1		1135	140	0.	1		1750	215	0.	2		0005	290	0.
1		0525	66	0.	1		1140	141	0.	1		1755	216	0.	2		0010	291	0.
1		0530	67	0.	1		1145	142	0.	1		1800	217	0.	2		0015	292	0.
1		0535	68	0.	1		1150	143	0.	1		1805	218	0.	2		0020	293	0.
1		0540	69	0.	1		1155	144	0.	1		1810	219	0.	2		0025	294	0.
1		0545	70	0.	1		1200	145	0.	1		1815	220	0.	2		0030	295	0.
1		0550	71	0.	1		1205	146	0.	1		1820	221	0.	2		0035	296	0.
1		0555	72	0.	1		1210	147	0.	1		1825	222	0.	2		0040	297	0.
1		0600	73	0.	1		1215	148	0.	1		1830	223	0.	2		0045	298	0.
1		0605	74	0.	1		1220	149	0.	1		1835	224	0.	2		0050	299	0.
1		0610	75	0.	1		1225	150	0.	1		1840	225	0.	2		0055	300	0.

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
		(CFS)	0.	0.	0.	0.
0.	12.00	(INCHES)	.000	.000	.000	.000
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

INTERPOLATEO HYDROGRAPH AT B4aDIV

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	3.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	2.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	2.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	2.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	1.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	1.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	1.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	1.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	1.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	1.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	1.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	1.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	1.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	1.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	0.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	0.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	0.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	0.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	0.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	0.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	0.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	0.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	0.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	0.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	0.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	0.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	0.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	0.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	0.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	0.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	0.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	0.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	0.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	0.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	0.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	0.	1		2140	261	0.
1		0300	37	0.	1		0915	112	0.	1		1530	187	0.	1		2145	262	0.
1		0305	38	0.	1		0920	113	0.	1		1535	188	0.	1		2150	263	0.
1		0310	39	0.	1		0925	114	0.	1		1540	189	0.	1		2155	264	0.
1		0315	40	0.	1		0930	115	0.	1		1545	190	0.	1		2200	265	0.
1		0320	41	0.	1		0935	116	0.	1		1550	191	0.	1		2205	266	0.
1		0325	42	0.	1		0940	117	0.	1		1555	192	0.	1		2210	267	0.
1		0330	43	0.	1		0945	118	0.	1		1600	193	0.	1		2215	268	0.
1		0335	44	0.	1		0950	119	0.	1		1605	194	0.	1		2220	269	0.
1		0340	45	0.	1		0955	120	0.	1		1610	195	0.	1		2225	270	0.
1		0345	46	0.	1		1000	121	0.	1		1615	196	0.	1		2230	271	0.
1		0350	47	0.	1		1005	122	0.	1		1620	197	0.	1		2235	272	0.
1		0355	48	0.	1		1010	123	0.	1		1625	198	0.	1		2240	273	0.
1		0400	49	0.	1		1015	124	0.	1		1630	199	0.	1		2245	274	0.
1		0405	50	0.	1		1020	125	0.	1		1635	200	0.	1		2250	275	0.
1		0410	51	0.	1		1025	126	0.	1		1640	201	0.	1		2255	276	0.
1		0415	52	0.	1		1030	127	0.	1		1645	202	0.	1		2300	277	0.
1		0420	53	0.	1		1035	128	0.	1		1650	203	0.	1		2305	278	0.
1		0425	54	0.	1		1040	129	0.	1		1655	204	0.	1		2310	279	0.
1		0430	55	0.	1		1045	130	0.	1		1700	205	0.	1		2315	280	0.
1		0435	56	0.	1		1050	131	0.	1		1705	206	0.	1		2320	281	0.
1		0440	57	0.	1		1055	132	0.	1		1710	207	0.	1		2325	282	0.
1		0445	58	0.	1		1100	133	0.	1		1715	208	0.	1		2330	283	0.
1		0450	59	0.	1		1105	134	0.	1		1720	209	0.	1		2335	284	0.
1		0455	60	0.	1		1110	135	0.	1		1725	210	0.	1		2340	285	0.
1		0500	61	0.	1		1115	136	0.	1		1730	211	0.	1		2345	286	0.
1		0505	62	0.	1		1120	137	0.	1		1735	212	0.	1		2350	287	0.
1		0510	63	0.	1		1125	138	1.	1		1740	213	0.	1		2355	288	0.
1		0515	64	0.	1		1130	139	1.	1		1745	214	0.	2		0000	289	0.
1		0520	65	0.	1		1135	140	1.	1		1750	215	0.	2		0005	290	0.
1		0525	66	0.	1		1140	141	1.	1		1755	216	0.	2		0010	291	0.
1		0530	67	0.	1		1145	142	1.	1		1800	217	0.	2		0015	292	0.
1		0535	68	0.	1		1150	143	2.	1		1805	218	0.	2		0020	293	0.
1		0540	69	0.	1		1155	144	4.	1		1810	219	0.	2		0025	294	0.
1		0545	70	0.	1		1200	145	5.	1		1815	220	0.	2		0030	295	0.
1		0550	71	0.	1		1205	146	5.	1		1820	221	0.	2		0035	296	0.
1		0555	72	0.	1		1210	147	5.	1		1825	222	0.	2		0040	297	0.
1		0600	73	0.	1		1215	148	4.	1		1830	223	0.	2		0045	298	0.
1		0605	74	0.	1		1220	149	3.	1		1835	224	0.	2		0050	299	0.
1		0610	75	0.	1		1225	150	3.	1		1840	225	0.	2		0055	300	0.

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
5.	12.08	1.	0.	0.	0.
		(INCHES) .394	.532	.533	.533
		(AC-FT) 0.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

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253 KK    *     R24_P  *
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Route Hydrograph Through Basin 24 Pipe

HYDROGRAPH ROUTING DATA

255 RK KINEMATIC WAVE STREAM ROUTING

L	800.	CHANNEL LENGTH
S	.0140	SLOPE
N	.015	CHANNEL ROUGHNESS COEFFICIENT
CA	.00	CONTRIBUTING AREA
SHAPE	CIRC	CHANNEL SHAPE
WD	4.50	BOTTOM WIDTH OR DIAMETER
Z	.00	SIDE SLOPE

NDXMIN 2 MINIMUM NUMBER OF DX INTERVALS

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*** FDKRUT WARNING TIME SIEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

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COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	OT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	8.15	1.25	.59	266.67	5.29	725.79	.53	9.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6047E+00 EXCESS= .0000E+00 OUTFLOW= .6047E+00 BASIN STORAGE= .4557E-04 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	8.15	1.25	5.00	5.28	725.00	.54

*** *** *** *** ***

HYDROGRAPH AT STATION R24_P
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
5.	12.08	(CFS)	1.	0.	0.	0.
		(INCHES)	.396	.534	.535	.535
		(AC-FT)	0.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

*** FOKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

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COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	8.15	1.25	.60	266.67	5.05	725.52	.52	9.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5856E+00 EXCESS= .0000E+00 OUTFLOW= .5856E+00 BASIN STORAGE= .4582E-04 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	8.15	1.25	5.00		5.03	725.00	.52

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HYDROGRAPH AT STATION R24_P
TRANSPOSITION AREA 14.0 SQ MI

	PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+	5.	12.08	(CFS)	1.	0.	0.	0.
			(INCHES)	.382	.517	.518	.518
			(AC-FT)	0.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

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*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	8.15	1.25	.60	266.67	4.92	725.69	.51	9.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5761E+00 EXCESS= .0000E+00 OUTFLOW= .5761E+00 BASIN STORAGE= .4583E-04 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	8.15	1.25	5.00	4.90	725.00	.51

*** *** *** *** ***

HYDROGRAPH AT STATION R24_P
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)				
+ 5.	12.08		1.	0.	0.	0.
		(INCHES)	.375	.509	.510	.510
		(AC-FT)	0.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

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*** FDKRUT WARNING TIME STEP CALCULATION FAILEO TO CONVERGE. STABILITY PROBLEMS MAY RESULT

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*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	8.15	1.25	.61	266.67	4.80	725.39	.50	9.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5667E+00 EXCESS= .0000E+00 OUTFLOW= .5666E+00 BASIN STORAGE= .4578E-04 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	8.15	1.25	5.00		4.78	725.00	.50

*** *** *** *** ***

HYDROGRAPH AT STATION R24_P
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
		(CFS)	1.	0.	0.	0.
5.	12.08	(INCHES)	.368	.500	.501	.501
		(AC-FT)	0.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

*** FDKRUT WARNING TIME STEP CALCULATION FAILEO TO CONVERGE. STABILITY PROBLEMS MAY RESULT

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*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	8.15	1.25	.61	266.67	4.71	725.37	.50	9.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5604E+00 EXCESS= .0000E+00 OUTFLOW= .5603E+00 BASIN STORAGE= .4488E-04 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	8.15	1.25	5.00	4.70	725.00	.50

*** *** *** *** ***

HYDROGRAPH AT STATION R24_P
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)				
+ 5.	12.08		1.	0.	0.	0.
		(INCHES)	.363	.495	.496	.496
		(AC-FT)	0.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

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INTERPOLATED HYDROGRAPH AT R24_P

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DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	*	1		0615	76	0.	*	1		1230	151	3.	*	1		1845	226	0.
1		0005	2	0.	*	1		0620	77	0.	*	1		1235	152	2.	*	1		1850	227	0.
1		0010	3	0.	*	1		0625	78	0.	*	1		1240	153	2.	*	1		1855	228	0.
1		0015	4	0.	*	1		0630	79	0.	*	1		1245	154	2.	*	1		1900	229	0.
1		0020	5	0.	*	1		0635	80	0.	*	1		1250	155	1.	*	1		1905	230	0.
1		0025	6	0.	*	1		0640	81	0.	*	1		1255	156	1.	*	1		1910	231	0.
1		0030	7	0.	*	1		0645	82	0.	*	1		1300	157	1.	*	1		1915	232	0.
1		0035	8	0.	*	1		0650	83	0.	*	1		1305	158	1.	*	1		1920	233	0.
1		0040	9	0.	*	1		0655	84	0.	*	1		1310	159	1.	*	1		1925	234	0.
1		0045	10	0.	*	1		0700	85	0.	*	1		1315	160	1.	*	1		1930	235	0.
1		0050	11	0.	*	1		0705	86	0.	*	1		1320	161	1.	*	1		1935	236	0.
1		0055	12	0.	*	1		0710	87	0.	*	1		1325	162	1.	*	1		1940	237	0.
1		0100	13	0.	*	1		0715	88	0.	*	1		1330	163	1.	*	1		1945	238	0.
1		0105	14	0.	*	1		0720	89	0.	*	1		1335	164	1.	*	1		1950	239	0.
1		0110	15	0.	*	1		0725	90	0.	*	1		1340	165	0.	*	1		1955	240	0.
1		0115	16	0.	*	1		0730	91	0.	*	1		1345	166	0.	*	1		2000	241	0.
1		0120	17	0.	*	1		0735	92	0.	*	1		1350	167	0.	*	1		2005	242	0.
1		0125	18	0.	*	1		0740	93	0.	*	1		1355	168	0.	*	1		2010	243	0.
1		0130	19	0.	*	1		0745	94	0.	*	1		1400	169	0.	*	1		2015	244	0.
1		0135	20	0.	*	1		0750	95	0.	*	1		1405	170	0.	*	1		2020	245	0.
1		0140	21	0.	*	1		0755	96	0.	*	1		1410	171	0.	*	1		2025	246	0.
1		0145	22	0.	*	1		0800	97	0.	*	1		1415	172	0.	*	1		2030	247	0.
1		0150	23	0.	*	1		0805	98	0.	*	1		1420	173	0.	*	1		2035	248	0.
1		0155	24	0.	*	1		0810	99	0.	*	1		1425	174	0.	*	1		2040	249	0.
1		0200	25	0.	*	1		0815	100	0.	*	1		1430	175	0.	*	1		2045	250	0.
1		0205	26	0.	*	1		0820	101	0.	*	1		1435	176	0.	*	1		2050	251	0.
1		0210	27	0.	*	1		0825	102	0.	*	1		1440	177	0.	*	1		2055	252	0.
1		0215	28	0.	*	1		0830	103	0.	*	1		1445	178	0.	*	1		2100	253	0.
1		0220	29	0.	*	1		0835	104	0.	*	1		1450	179	0.	*	1		2105	254	0.
1		0225	30	0.	*	1		0840	105	0.	*	1		1455	180	0.	*	1		2110	255	0.
1		0230	31	0.	*	1		0845	106	0.	*	1		1500	181	0.	*	1		2115	256	0.
1		0235	32	0.	*	1		0850	107	0.	*	1		1505	182	0.	*	1		2120	257	0.
1		0240	33	0.	*	1		0855	108	0.	*	1		1510	183	0.	*	1		2125	258	0.
1		0245	34	0.	*	1		0900	109	0.	*	1		1515	184	0.	*	1		2130	259	0.
1		0250	35	0.	*	1		0905	110	0.	*	1		1520	185	0.	*	1		2135	260	0.
1		0255	36	0.	*	1		0910	111	0.	*	1		1525	186	0.	*	1		2140	261	0.
1		0300	37	0.	*	1		0915	112	0.	*	1		1530	187	0.	*	1		2145	262	0.
1		0305	38	0.	*	1		0920	113	0.	*	1		1535	188	0.	*	1		2150	263	0.
1		0310	39	0.	*	1		0925	114	0.	*	1		1540	189	0.	*	1		2155	264	0.
1		0315	40	0.	*	1		0930	115	0.	*	1		1545	190	0.	*	1		2200	265	0.
1		0320	41	0.	*	1		0935	116	0.	*	1		1550	191	0.	*	1		2205	266	0.
1		0325	42	0.	*	1		0940	117	0.	*	1		1555	192	0.	*	1		2210	267	0.
1		0330	43	0.	*	1		0945	118	0.	*	1		1600	193	0.	*	1		2215	268	0.
1		0335	44	0.	*	1		0950	119	0.	*	1		1605	194	0.	*	1		2220	269	0.

1	0340	45	0.	*	1	0955	120	0.	*	1	1610	195	0.	*	1	2225	270	0.
1	0345	46	0.	*	1	1000	121	0.	*	1	1615	196	0.	*	1	2230	271	0.
1	0350	47	0.	*	1	1005	122	0.	*	1	1620	197	0.	*	1	2235	272	0.
1	0355	48	0.	*	1	1010	123	0.	*	1	1625	198	0.	*	1	2240	273	0.
1	0400	49	0.	*	1	1015	124	0.	*	1	1630	199	0.	*	1	2245	274	0.
1	0405	50	0.	*	1	1020	125	0.	*	1	1635	200	0.	*	1	2250	275	0.
1	0410	51	0.	*	1	1025	126	0.	*	1	1640	201	0.	*	1	2255	276	0.
1	0415	52	0.	*	1	1030	127	0.	*	1	1645	202	0.	*	1	2300	277	0.
1	0420	53	0.	*	1	1035	128	0.	*	1	1650	203	0.	*	1	2305	278	0.
1	0425	54	0.	*	1	1040	129	0.	*	1	1655	204	0.	*	1	2310	279	0.
1	0430	55	0.	*	1	1045	130	0.	*	1	1700	205	0.	*	1	2315	280	0.
1	0435	56	0.	*	1	1050	131	0.	*	1	1705	206	0.	*	1	2320	281	0.
1	0440	57	0.	*	1	1055	132	0.	*	1	1710	207	0.	*	1	2325	282	0.
1	0445	58	0.	*	1	1100	133	0.	*	1	1715	208	0.	*	1	2330	283	0.
1	0450	59	0.	*	1	1105	134	0.	*	1	1720	209	0.	*	1	2335	284	0.
1	0455	60	0.	*	1	1110	135	0.	*	1	1725	210	0.	*	1	2340	285	0.
1	0500	61	0.	*	1	1115	136	0.	*	1	1730	211	0.	*	1	2345	286	0.
1	0505	62	0.	*	1	1120	137	0.	*	1	1735	212	0.	*	1	2350	287	0.
1	0510	63	0.	*	1	1125	138	0.	*	1	1740	213	0.	*	1	2355	288	0.
1	0515	64	0.	*	1	1130	139	1.	*	1	1745	214	0.	*	2	0000	289	0.
1	0520	65	0.	*	1	1135	140	1.	*	1	1750	215	0.	*	2	0005	290	0.
1	0525	66	0.	*	1	1140	141	1.	*	1	1755	216	0.	*	2	0010	291	0.
1	0530	67	0.	*	1	1145	142	1.	*	1	1800	217	0.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	2.	*	1	1805	218	0.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	3.	*	1	1810	219	0.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	5.	*	1	1815	220	0.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	5.	*	1	1820	221	0.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	5.	*	1	1825	222	0.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	4.	*	1	1830	223	0.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	3.	*	1	1835	224	0.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	3.	*	1	1840	225	0.	*	2	0055	300	0.
				*					*					*				

****

PEAK FLOW TIME MAXIMUM AVERAGE FLOW

		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)			
+ 5.	12.08	1.	0.	0.	0.
		(INCHES) .394	.532	.533	.533
		(AC-FT) 0.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

*** ***

256 KK R24_O

Route Hydrograph Through Basin 24 Overland

HYDROGRAPH ROUTING DATA

258 RK KINEMATIC WAVE STREAM ROUTING

L	1506.	CHANNEL LENGTH
S	.0190	SLOPE
N	.030	CHANNEL ROUGHNESS COEFFICIENT
CA	.00	CONTRIBUTING AREA
SHAPE	TRAP	CHANNEL SHAPE
WD	10.00	BOTTOM WIDTH OR DIAMETER
Z	12.00	SIDE SLOPE
NDXMIN	2	MINIMUM NUMBER OF DX INTERVALS

***

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.67	1.35	2.74	502.00	5.16	729.27	.54	3.05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6049E+00 EXCESS= .0000E+00 OUTFLOW= .6049E+00 BASIN STORAGE= .6528E-03 PERCENT ERROR= -.1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.67	1.35	5.00	5.15	730.00	.53

*** *** *** *** ***

HYDROGRAPH AT STATION R24_O
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW TIME MAXIMUM AVERAGE FLOW

		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)			
+ 5.	12.17	1.	0.	0.	0.
		(INCHES) .396	.534	.535	.535
		(AC-FT) 0.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	OT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.67	1.35	2.84	502.00	4.91	731.73	.52	3.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5858E+00 EXCESS= .0000E+00 OUTFLOW= .5850E+00 BASIN STORAGE= .7099E-03 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.67	1.35	5.00		4.89	730.00	.52
***	***	***	***		***		

HYDROGRAPH AT STATION R24_O
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	24.92-HR
+ 5.	12.17	(CFS)	1.	0.	0.	0.
		(INCHES)	.381	.517	.517	.517
		(AC-FT)	0.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(OT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.67	1.35	2.92	502.00	4.87	731.01	.51	3.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5763E+00 EXCESS= .0000E+00 OUTFLOW= .5759E+00 BASIN STORAGE= .6698E-03 PERCENT ERROR= -.1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.67	1.35	5.00		4.80	730.00	.51
***	***	***	***		***		

HYDROGRAPH AT STATION R24_O
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	24.92-HR
+ 5.	12.17	(CFS)	1.	0.	0.	0.
		(INCHES)	.375	.509	.510	.510
		(AC-FT)	0.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.67	1.35	2.88	502.00	4.67	731.83	.50	2.98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5668E+00 EXCESS= .0000E+00 OUTFLOW= .5664E+00 BASIN STORAGE= .7388E-03 PERCENT ERROR= -.1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.67	1.35	5.00		4.64	730.00	.50
***	***	***	***		***		

HYDROGRAPH AT STATION R24_O
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	24.92-HR
+ 5.	12.17	(CFS)	1.	0.	0.	0.
		(INCHES)	.368	.500	.501	.501
		(AC-FT)	0.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(OT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.67	1.35	2.98	502.00	4.66	730.74	.50	2.96

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5606E+00 EXCESS= .0000E+00 OUTFLOW= .5600E+00 BASIN STORAGE= .7438E-03 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIEO COMPUTATION INTERVAL

MAIN	1.67	1.35	5.00		4.61	730.00	.50
***	***	***	***		***		

HYDROGRAPH AT STATION R24_O

TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+ 5.	12.17	(CFS)	1.	0.	0.	0.
		(INCHES)	.364	.495	.496	.496
		(AC-FT)	0.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

INTERPOLATED HYDROGRAPH AT R24_O

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	3.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	3.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	2.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	2.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	2.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	2.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	1.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	1.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	1.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	1.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	1.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	1.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	1.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	1.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	1.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	1.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	1.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	0.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	0.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	0.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	0.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	0.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	0.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	0.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	0.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	0.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	0.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	0.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	0.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	0.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	0.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	0.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	0.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	0.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	0.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	0.	1		2140	261	0.
1		0300	37	0.	1		0915	112	0.	1		1530	187	0.	1		2145	262	0.
1		0305	38	0.	1		0920	113	0.	1		1535	188	0.	1		2150	263	0.
1		0310	39	0.	1		0925	114	0.	1		1540	189	0.	1		2155	264	0.
1		0315	40	0.	1		0930	115	0.	1		1545	190	0.	1		2200	265	0.
1		0320	41	0.	1		0935	116	0.	1		1550	191	0.	1		2205	266	0.
1		0325	42	0.	1		0940	117	0.	1		1555	192	0.	1		2210	267	0.
1		0330	43	0.	1		0945	118	0.	1		1600	193	0.	1		2215	268	0.
1		0335	44	0.	1		0950	119	0.	1		1605	194	0.	1		2220	269	0.
1		0340	45	0.	1		0955	120	0.	1		1610	195	0.	1		2225	270	0.
1		0345	46	0.	1		1000	121	0.	1		1615	196	0.	1		2230	271	0.
1		0350	47	0.	1		1005	122	0.	1		1620	197	0.	1		2235	272	0.
1		0355	48	0.	1		1010	123	0.	1		1625	198	0.	1		2240	273	0.
1		0400	49	0.	1		1015	124	0.	1		1630	199	0.	1		2245	274	0.
1		0405	50	0.	1		1020	125	0.	1		1635	200	0.	1		2250	275	0.
1		0410	51	0.	1		1025	126	0.	1		1640	201	0.	1		2255	276	0.
1		0415	52	0.	1		1030	127	0.	1		1645	202	0.	1		2300	277	0.
1		0420	53	0.	1		1035	128	0.	1		1650	203	0.	1		2305	278	0.
1		0425	54	0.	1		1040	129	0.	1		1655	204	0.	1		2310	279	0.
1		0430	55	0.	1		1045	130	0.	1		1700	205	0.	1		2315	280	0.
1		0435	56	0.	1		1050	131	0.	1		1705	206	0.	1		2320	281	0.
1		0440	57	0.	1		1055	132	0.	1		1710	207	0.	1		2325	282	0.
1		0445	58	0.	1		1100	133	0.	1		1715	208	0.	1		2330	283	0.
1		0450	59	0.	1		1105	134	0.	1		1720	209	0.	1		2335	284	0.
1		0455	60	0.	1		1110	135	0.	1		1725	210	0.	1		2340	285	0.
1		0500	61	0.	1		1115	136	0.	1		1730	211	0.	1		2345	286	0.
1		0505	62	0.	1		1120	137	0.	1		1735	212	0.	1		2350	287	0.
1		0510	63	0.	1		1125	138	0.	1		1740	213	0.	1		2355	288	0.
1		0515	64	0.	1		1130	139	0.	1		1745	214	0.	2		0000	289	0.
1		0520	65	0.	1		1135	140	0.	1		1750	215	0.	2		0005	290	0.
1		0525	66	0.	1		1140	141	1.	1		1755	216	0.	2		0010	291	0.
1		0530	67	0.	1		1145	142	1.	1		1800	217	0.	2		0015	292	0.
1		0535	68	0.	1		1150	143	1.	1		1805	218	0.	2		0020	293	0.
1		0540	69	0.	1		1155	144	2.	1		1810	219	0.	2		0025	294	0.
1		0545	70	0.	1		1200	145	3.	1		1815	220	0.	2		0030	295	0.
1		0550	71	0.	1		1205	146	4.	1		1820	221	0.	2		0035	296	0.
1		0555	72	0.	1		1210	147	5.	1		1825	222	0.	2		0040	297	0.
1		0600	73	0.	1		1215	148	5.	1		1830	223	0.	2		0045	298	0.
1		0605	74	0.	1		1220	149	4.	1		1835	224	0.	2		0050	299	0.
1		0610	75	0.	1		1225	150	4.	1		1840	225	0.	2		0055	300	0.

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+ 5.	12.17	(CFS)	1.	0.	0.	0.
		(INCHES)	.395	.532	.533	.533
		(AC-FT)	0.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

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          ***************
          *             *
259 KK    *     DB24    *
          *             *
          ***************
                    Subbasin

               SUBBASIN RUNOFF DATA

261 BA           SUBBASIN CHARACTERISTICS
                       TAREA          .23  SUBBASIN AREA

262 LG           GREEN AND AMPT LOSS RATE
                       STRTL          .06  STARTING LOSS
                         DTH          .07  MOISTURE DEFICIT
                        PSIF          .26  WETTING FRONT SUCTION
                       XKSAT          .01  HYDRAULIC CONDUCTIVITY
                       RTIMP        95.00  PERCENT IMPERVIOUS AREA

263 US           SNYDER UNITGRAPH
                         TP           .15  LAG
                         CP           .67  PEAKING COEFFICIENT

                 SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                                ***

                                                    UNIT HYDROGRAPH PARAMETERS
                                              CLARK   TC=    .21 HR,       R=    .08 HR
                                             SNYDER   TP=    .15 HR,      CP=    .67

                                                        UNIT HYDROGRAPH
                                                   7 END-OF-PERIOD ORDINATES
                      220.      607.      586.      262.       82.       26.        8.

       ***              ***              ***              ***              ***

                          HYDROGRAPH AT STATION     DB24
                        TRANSPOSITION AREA       .0 SQ MI

     TOTAL RAINFALL =    1.19, TOTAL LOSS =     .02, TOTAL EXCESS =    1.17

   PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR        72-HR     24.92-HR
+    (CFS)        (HR)
                                (CFS)
+      178.      12.00                     21.          7.           7.           7.
                                (INCHES)   .835        1.171        1.172        1.172
                                (AC-FT)     10.          14.          14.          14.

                          CUMULATIVE AREA =     .23 SQ MI

       ***              ***              ***              ***              ***

                          HYDROGRAPH AT STATION     DB24
                        TRANSPOSITION AREA      14.0 SQ MI

     TOTAL RAINFALL =    1.17, TOTAL LOSS =     .02, TOTAL EXCESS =    1.15

   PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR        72-HR     24.92-HR
+    (CFS)        (HR)
                                (CFS)
+      174.      12.00                     20.          7.           7.           7.
                                (INCHES)   .819        1.148        1.149        1.149
                                (AC-FT)     10.          14.          14.          14.

                          CUMULATIVE AREA =     .23 SQ MI

       ***              ***              ***              ***              ***

                          HYDROGRAPH AT STATION     DB24
                        TRANSPOSITION AREA      24.0 SQ MI

     TOTAL RAINFALL =    1.15, TOTAL LOSS =     .02, TOTAL EXCESS =    1.14

   PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR        72-HR     24.92-HR
+    (CFS)        (HR)
                                (CFS)
+      172.      12.00                     20.          7.           7.           7.
                                (INCHES)   .810        1.136        1.137        1.137
                                (AC-FT)     10.          14.          14.          14.

                          CUMULATIVE AREA =     .23 SQ MI

       ***              ***              ***              ***              ***

                          HYDROGRAPH AT STATION     DB24
                        TRANSPOSITION AREA      36.5 SQ MI

     TOTAL RAINFALL =    1.14, TOTAL LOSS =     .02, TOTAL EXCESS =    1.13

   PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR        72-HR     24.92-HR
+    (CFS)        (HR)
                                (CFS)
+      171.      12.00                     20.          7.           7.           7.
                                (INCHES)   .802        1.124        1.125        1.125
                                (AC-FT)     10.          14.          14.          14.

                          CUMULATIVE AREA =     .23 SQ MI

       ***              ***              ***              ***              ***

                          HYDROGRAPH AT STATION     DB24
                        TRANSPOSITION AREA      50.0 SQ MI

     TOTAL RAINFALL =    1.13, TOTAL LOSS =     .02, TOTAL EXCESS =    1.12
```

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+ 169.	12.00	(CFS)	20.	7.	7.	7.
		(INCHES)	.796	1.116	1.117	1.117
		(AC-FT)	10.	14.	14.	14.

CUMULATIVE AREA = .23 SQ MI

INTERPOLATED HYDROGRAPH AT DB24

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	3.	1		1230	151	23.	1		1845	226	3.
1		0005	2	0.	1		0620	77	3.	1		1235	152	20.	1		1850	227	3.
1		0010	3	1.	1		0625	78	3.	1		1240	153	17.	1		1855	228	3.
1		0015	4	1.	1		0630	79	3.	1		1245	154	15.	1		1900	229	3.
1		0020	5	2.	1		0635	80	3.	1		1250	155	14.	1		1905	230	3.
1		0025	6	2.	1		0640	81	3.	1		1255	156	13.	1		1910	231	3.
1		0030	7	2.	1		0645	82	3.	1		1300	157	12.	1		1915	232	3.
1		0035	8	2.	1		0650	83	3.	1		1305	158	12.	1		1920	233	3.
1		0040	9	2.	1		0655	84	3.	1		1310	159	11.	1		1925	234	3.
1		0045	10	2.	1		0700	85	3.	1		1315	160	10.	1		1930	235	3.
1		0050	11	2.	1		0705	86	3.	1		1320	161	10.	1		1935	236	2.
1		0055	12	2.	1		0710	87	3.	1		1325	162	10.	1		1940	237	2.
1		0100	13	2.	1		0715	88	3.	1		1330	163	9.	1		1945	238	2.
1		0105	14	2.	1		0720	89	3.	1		1335	164	9.	1		1950	239	2.
1		0110	15	2.	1		0725	90	4.	1		1340	165	8.	1		1955	240	2.
1		0115	16	2.	1		0730	91	4.	1		1345	166	8.	1		2000	241	2.
1		0120	17	2.	1		0735	92	4.	1		1350	167	8.	1		2005	242	2.
1		0125	18	2.	1		0740	93	4.	1		1355	168	7.	1		2010	243	2.
1		0130	19	2.	1		0745	94	4.	1		1400	169	7.	1		2015	244	2.
1		0135	20	2.	1		0750	95	4.	1		1405	170	7.	1		2020	245	2.
1		0140	21	2.	1		0755	96	4.	1		1410	171	7.	1		2025	246	2.
1		0145	22	2.	1		0800	97	4.	1		1415	172	6.	1		2030	247	2.
1		0150	23	2.	1		0805	98	4.	1		1420	173	6.	1		2035	248	2.
1		0155	24	2.	1		0810	99	4.	1		1425	174	6.	1		2040	249	2.
1		0200	25	2.	1		0815	100	4.	1		1430	175	6.	1		2045	250	2.
1		0205	26	2.	1		0820	101	4.	1		1435	176	6.	1		2050	251	2.
1		0210	27	2.	1		0825	102	4.	1		1440	177	6.	1		2055	252	2.
1		0215	28	2.	1		0830	103	4.	1		1445	178	6.	1		2100	253	2.
1		0220	29	2.	1		0835	104	4.	1		1450	179	6.	1		2105	254	2.
1		0225	30	2.	1		0840	105	5.	1		1455	180	6.	1		2110	255	2.
1		0230	31	2.	1		0845	106	5.	1		1500	181	5.	1		2115	256	2.
1		0235	32	2.	1		0850	107	5.	1		1505	182	5.	1		2120	257	2.
1		0240	33	2.	1		0855	108	5.	1		1510	183	5.	1		2125	258	2.
1		0245	34	2.	1		0900	109	5.	1		1515	184	5.	1		2130	259	2.
1		0250	35	2.	1		0905	110	5.	1		1520	185	5.	1		2135	260	2.
1		0255	36	2.	1		0910	111	5.	1		1525	186	5.	1		2140	261	2.
1		0300	37	2.	1		0915	112	5.	1		1530	187	5.	1		2145	262	2.
1		0305	38	2.	1		0920	113	6.	1		1535	188	5.	1		2150	263	2.
1		0310	39	2.	1		0925	114	6.	1		1540	189	5.	1		2155	264	2.
1		0315	40	2.	1		0930	115	6.	1		1545	190	5.	1		2200	265	2.
1		0320	41	2.	1		0935	116	6.	1		1550	191	4.	1		2205	266	2.
1		0325	42	2.	1		0940	117	6.	1		1555	192	4.	1		2210	267	2.
1		0330	43	2.	1		0945	118	6.	1		1600	193	4.	1		2215	268	2.
1		0335	44	2.	1		0950	119	6.	1		1605	194	4.	1		2220	269	2.
1		0340	45	2.	1		0955	120	6.	1		1610	195	4.	1		2225	270	2.
1		0345	46	2.	1		1000	121	6.	1		1615	196	4.	1		2230	271	2.
1		0350	47	2.	1		1005	122	7.	1		1620	197	4.	1		2235	272	2.
1		0355	48	2.	1		1010	123	7.	1		1625	198	4.	1		2240	273	2.
1		0400	49	2.	1		1015	124	7.	1		1630	199	4.	1		2245	274	2.
1		0405	50	2.	1		1020	125	8.	1		1635	200	4.	1		2250	275	2.
1		0410	51	2.	1		1025	126	8.	1		1640	201	4.	1		2255	276	2.
1		0415	52	2.	1		1030	127	8.	1		1645	202	4.	1		2300	277	2.
1		0420	53	2.	1		1035	128	9.	1		1650	203	4.	1		2305	278	2.
1		0425	54	2.	1		1040	129	9.	1		1655	204	4.	1		2310	279	2.
1		0430	55	2.	1		1045	130	10.	1		1700	205	4.	1		2315	280	2.
1		0435	56	3.	1		1050	131	10.	1		1705	206	4.	1		2320	281	2.
1		0440	57	3.	1		1055	132	11.	1		1710	207	4.	1		2325	282	2.
1		0445	58	3.	1		1100	133	11.	1		1715	208	3.	1		2330	283	2.
1		0450	59	3.	1		1105	134	12.	1		1720	209	3.	1		2335	284	2.
1		0455	60	3.	1		1110	135	13.	1		1725	210	3.	1		2340	285	2.
1		0500	61	3.	1		1115	136	14.	1		1730	211	3.	1		2345	286	2.
1		0505	62	3.	1		1120	137	15.	1		1735	212	3.	1		2350	287	2.
1		0510	63	3.	1		1125	138	17.	1		1740	213	3.	1		2355	288	2.
1		0515	64	3.	1		1130	139	18.	1		1745	214	3.	2		0000	289	2.
1		0520	65	3.	1		1135	140	22.	1		1750	215	3.	2		0005	290	2.
1		0525	66	3.	1		1140	141	34.	1		1755	216	3.	2		0010	291	1.
1		0530	67	3.	1		1145	142	57.	1		1800	217	3.	2		0015	292	0.
1		0535	68	3.	1		1150	143	92.	1		1805	218	3.	2		0020	293	0.
1		0540	69	3.	1		1155	144	139.	1		1810	219	3.	2		0025	294	0.
1		0545	70	3.	1		1200	145	176.	1		1815	220	3.	2		0030	295	0.
1		0550	71	3.	1		1205	146	167.	1		1820	221	3.	2		0035	296	0.
1		0555	72	3.	1		1210	147	113.	1		1825	222	3.	2		0040	297	0.
1		0600	73	3.	1		1215	148	62.	1		1830	223	3.	2		0045	298	0.
1		0605	74	3.	1		1220	149	38.	1		1835	224	3.	2		0050	299	0.
1		0610	75	3.	1		1225	150	29.	1		1840	225	3.	2		0055	300	0.

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+ 176.	12.00	(CFS)	21.	7.	7.	7.
		(INCHES)	.828	1.161	1.162	1.162
		(AC-FT)	10.	14.	14.	14.

CUMULATIVE AREA = .23 SQ MI

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          ***************
          *             *
264 KK    *       C24   *
          *             *
          ***************
                    Combine Hydrographs (Basin22, Basin 24a, Basin 24)

266 HC          HYDROGRAPH COMBINATION
                     ICOMP          3  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                  ***
      ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION      C24
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                              MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)
                          (CFS)
+    275.      12.08                  35.          12.          11.          11.
                       (INCHES)      .686         .912         .913         .913
                        (AC-FT)      17.          23.          23.          23.

                       CUMULATIVE AREA =     .48 SQ MI

      ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION      C24
                      TRANSPOSITION AREA     14.0 SQ MI

  PEAK FLOW     TIME                              MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)
                          (CFS)
+    269.      12.08                  34.          11.          11.          11.
                       (INCHES)      .670         .891         .893         .893
                        (AC-FT)      17.          23.          23.          23.

                       CUMULATIVE AREA =     .48 SQ MI

      ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION      C24
                      TRANSPOSITION AREA     24.0 SQ MI

  PEAK FLOW     TIME                              MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)
                          (CFS)
+    266.      12.08                  34.          11.          11.          11.
                       (INCHES)      .662         .881         .882         .882
                        (AC-FT)      17.          22.          22.          22.

                       CUMULATIVE AREA =     .48 SQ MI

      ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION      C24
                      TRANSPOSITION AREA     36.5 SQ MI

  PEAK FLOW     TIME                              MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)
                          (CFS)
+    263.      12.08                  33.          11.          11.          11.
                       (INCHES)      .654         .871         .872         .872
                        (AC-FT)      17.          22.          22.          22.

                       CUMULATIVE AREA =     .48 SQ MI

      ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION      C24
                      TRANSPOSITION AREA     50.0 SQ MI

  PEAK FLOW     TIME                              MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)
                          (CFS)
+    260.      12.08                  33.          11.          11.          11.
                       (INCHES)      .648         .863         .865         .865
                        (AC-FT)      16.          22.          22.          22.

                       CUMULATIVE AREA =     .48 SQ MI

********************************************************************************************************************************************************

                                    INTERPOLATED HYDROGRAPH AT      C24

********************************************************************************************************************************************************

    DA MON HRMN   ORD      FLOW    *    DA MON HRMN   ORD      FLOW    *    DA MON HRMN   ORD      FLOW    *    DA MON HRMN   ORD      FLOW
                                   *                                   *                                   *                                   *
     1     0000     1        0.    *     1     0615    76        4.    *     1     1230   151       71.    *     1     1845   226        4.
     1     0005     2        0.    *     1     0620    77        4.    *     1     1235   152       59.    *     1     1850   227        4.
     1     0010     3        1.    *     1     0625    78        4.    *     1     1240   153       49.    *     1     1855   228        4.
     1     0015     4        1.    *     1     0630    79        4.    *     1     1245   154       42.    *     1     1900   229        4.
     1     0020     5        2.    *     1     0635    80        4.    *     1     1250   155       36.    *     1     1905   230        4.
     1     0025     6        2.    *     1     0640    81        4.    *     1     1255   156       31.    *     1     1910   231        4.
     1     0030     7        2.    *     1     0645    82        4.    *     1     1300   157       27.    *     1     1915   232        4.
     1     0035     8        2.    *     1     0650    83        4.    *     1     1305   158       24.    *     1     1920   233        4.
     1     0040     9        2.    *     1     0655    84        5.    *     1     1310   159       22.    *     1     1925   234        4.
     1     0045    10        2.    *     1     0700    85        5.    *     1     1315   160       20.    *     1     1930   235        4.
     1     0050    11        2.    *     1     0705    86        5.    *     1     1320   161       18.    *     1     1935   236        3.
     1     0055    12        2.    *     1     0710    87        5.    *     1     1325   162       16.    *     1     1940   237        3.
     1     0100    13        2.    *     1     0715    88        5.    *     1     1330   163       15.    *     1     1945   238        3.
     1     0105    14        2.    *     1     0720    89        5.    *     1     1335   164       14.    *     1     1950   239        3.
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    1    0110   15        2.   *    1    0725   90        5.   *    1    1340  165       13.   *    1    1955  240        3.
    1    0115   16        2.   *    1    0730   91        5.   *    1    1345  166       12.   *    1    2000  241        3.
    1    0120   17        3.   *    1    0735   92        5.   *    1    1350  167       11.   *    1    2005  242        3.
    1    0125   18        3.   *    1    0740   93        5.   *    1    1355  168       11.   *    1    2010  243        3.
    1    0130   19        3.   *    1    0745   94        5.   *    1    1400  169       10.   *    1    2015  244        3.
    1    0135   20        3.   *    1    0750   95        5.   *    1    1405  170       10.   *    1    2020  245        3.
    1    0140   21        3.   *    1    0755   96        5.   *    1    1410  171       10.   *    1    2025  246        3.
    1    0145   22        3.   *    1    0800   97        5.   *    1    1415  172        9.   *    1    2030  247        3.
    1    0150   23        3.   *    1    0805   98        5.   *    1    1420  173        9.   *    1    2035  248        3.
    1    0155   24        3.   *    1    0810   99        5.   *    1    1425  174        9.   *    1    2040  249        3.
    1    0200   25        3.   *    1    0815  100        5.   *    1    1430  175        9.   *    1    2045  250        3.
    1    0205   26        3.   *    1    0820  101        5.   *    1    1435  176        8.   *    1    2050  251        3.
    1    0210   27        3.   *    1    0825  102        6.   *    1    1440  177        8.   *    1    2055  252        3.
    1    0215   28        3.   *    1    0830  103        6.   *    1    1445  178        8.   *    1    2100  253        3.
    1    0220   29        3.   *    1    0835  104        6.   *    1    1450  179        8.   *    1    2105  254        3.
    1    0225   30        3.   *    1    0840  105        6.   *    1    1455  180        8.   *    1    2110  255        3.
    1    0230   31        3.   *    1    0845  106        6.   *    1    1500  181        8.   *    1    2115  256        3.
    1    0235   32        3.   *    1    0850  107        7.   *    1    1505  182        7.   *    1    2120  257        3.
    1    0240   33        3.   *    1    0855  108        7.   *    1    1510  183        7.   *    1    2125  258        3.
    1    0245   34        3.   *    1    0900  109        7.   *    1    1515  184        7.   *    1    2130  259        3.
    1    0250   35        3.   *    1    0905  110        7.   *    1    1520  185        7.   *    1    2135  260        3.
    1    0255   36        3.   *    1    0910  111        7.   *    1    1525  186        7.   *    1    2140  261        3.
    1    0300   37        3.   *    1    0915  112        7.   *    1    1530  187        7.   *    1    2145  262        3.
    1    0305   38        3.   *    1    0920  113        7.   *    1    1535  188        7.   *    1    2150  263        3.
    1    0310   39        3.   *    1    0925  114        7.   *    1    1540  189        6.   *    1    2155  264        3.
    1    0315   40        3.   *    1    0930  115        8.   *    1    1545  190        6.   *    1    2200  265        3.
    1    0320   41        3.   *    1    0935  116        8.   *    1    1550  191        6.   *    1    2205  266        3.
    1    0325   42        3.   *    1    0940  117        8.   *    1    1555  192        6.   *    1    2210  267        3.
    1    0330   43        3.   *    1    0945  118        8.   *    1    1600  193        6.   *    1    2215  268        3.
    1    0335   44        3.   *    1    0950  119        8.   *    1    1605  194        6.   *    1    2220  269        3.
    1    0340   45        3.   *    1    0955  120        8.   *    1    1610  195        6.   *    1    2225  270        3.
    1    0345   46        3.   *    1    1000  121        9.   *    1    1615  196        6.   *    1    2230  271        3.
    1    0350   47        3.   *    1    1005  122        9.   *    1    1620  197        6.   *    1    2235  272        3.
    1    0355   48        3.   *    1    1010  123        9.   *    1    1625  198        5.   *    1    2240  273        3.
    1    0400   49        3.   *    1    1015  124       10.   *    1    1630  199        5.   *    1    2245  274        3.
    1    0405   50        3.   *    1    1020  125       10.   *    1    1635  200        5.   *    1    2250  275        3.
    1    0410   51        3.   *    1    1025  126       10.   *    1    1640  201        5.   *    1    2255  276        3.
    1    0415   52        3.   *    1    1030  127       11.   *    1    1645  202        5.   *    1    2300  277        3.
    1    0420   53        3.   *    1    1035  128       11.   *    1    1650  203        5.   *    1    2305  278        3.
    1    0425   54        3.   *    1    1040  129       12.   *    1    1655  204        5.   *    1    2310  279        3.
    1    0430   55        3.   *    1    1045  130       13.   *    1    1700  205        5.   *    1    2315  280        3.
    1    0435   56        3.   *    1    1050  131       13.   *    1    1705  206        5.   *    1    2320  281        3.
    1    0440   57        3.   *    1    1055  132       14.   *    1    1710  207        5.   *    1    2325  282        3.
    1    0445   58        3.   *    1    1100  133       15.   *    1    1715  208        5.   *    1    2330  283        3.
    1    0450   59        3.   *    1    1105  134       16.   *    1    1720  209        5.   *    1    2335  284        3.
    1    0455   60        4.   *    1    1110  135       17.   *    1    1725  210        5.   *    1    2340  285        3.
    1    0500   61        4.   *    1    1115  136       18.   *    1    1730  211        5.   *    1    2345  286        3.
    1    0505   62        4.   *    1    1120  137       20.   *    1    1735  212        5.   *    1    2350  287        3.
    1    0510   63        4.   *    1    1125  138       21.   *    1    1740  213        5.   *    1    2355  288        3.
    1    0515   64        4.   *    1    1130  139       23.   *    1    1745  214        5.   *    2    0000  289        3.
    1    0520   65        4.   *    1    1135  140       27.   *    1    1750  215        5.   *    2    0005  290        2.
    1    0525   66        4.   *    1    1140  141       41.   *    1    1755  216        4.   *    2    0010  291        2.
    1    0530   67        4.   *    1    1145  142       70.   *    1    1800  217        4.   *    2    0015  292        1.
    1    0535   68        4.   *    1    1150  143      120.   *    1    1805  218        4.   *    2    0020  293        1.
    1    0540   69        4.   *    1    1155  144      193.   *    1    1810  219        4.   *    2    0025  294        1.
    1    0545   70        4.   *    1    1200  145      262.   *    1    1815  220        4.   *    2    0030  295        0.
    1    0550   71        4.   *    1    1205  146      272.   *    1    1820  221        4.   *    2    0035  296        0.
    1    0555   72        4.   *    1    1210  147      215.   *    1    1825  222        4.   *    2    0040  297        0.
    1    0600   73        4.   *    1    1215  148      149.   *    1    1830  223        4.   *    2    0045  298        0.
    1    0605   74        4.   *    1    1220  149      109.   *    1    1835  224        4.   *    2    0050  299        0.
    1    0610   75        4.   *    1    1225  150       87.   *    1    1840  225        4.   *    2    0055  300        0.
                            *                                    *                                    *
 ********************************************************************************************************************************************************

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                              6-HR        24-HR        72-HR      24.92-HR
+   (CFS)       (HR)
                 (CFS)
+     272.     12.08           35.          12.          11.          11.
               (INCHES)        .677         .901         .902         .902
                (AC-FT)        17.          23.          23.          23.

                CUMULATIVE AREA =      .48 SQ MI


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            ***************
            *             *
  267 KK    *     DR24a   *
            *             *
            ***************
                      Retrieve 24a diversion

  269 DR          RETRIEVE DIVERSION HYDROGRAPH
                        ISTAD      B4aDIV  DIVERSION HYDROGRAPH IDENTIFICATION
                                                                  ***
       ***              ***              ***              ***              ***

                          HYDROGRAPH AT STATION    DR24a
                        TRANSPOSITION AREA        .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                              6-HR        24-HR        72-HR      24.92-HR
+   (CFS)       (HR)
                 (CFS)
+       0.     12.00            0.           0.           0.           0.
               (INCHES)        .000         .000         .000         .000
                (AC-FT)        0.           0.           0.           0.

                CUMULATIVE AREA =      .02 SQ MI

       ***              ***              ***              ***              ***

                          HYDROGRAPH AT STATION    DR24a
                        TRANSPOSITION AREA      14.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
```

+	PEAK FLOW (CFS)	TIME (HR)		6-HR	24-HR	72-HR	24.92-HR
			MAXIMUM AVERAGE FLOW (CFS)				
+	0.	12.00		0.	0.	0.	0.
			(INCHES)	.000	.000	.000	.000
			(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DR24a
TRANSPOSITION AREA 24.0 SQ MI

+	PEAK FLOW (CFS)	TIME (HR)		6-HR	24-HR	72-HR	24.92-HR
			MAXIMUM AVERAGE FLOW (CFS)				
+	0.	12.00		0.	0.	0.	0.
			(INCHES)	.000	.000	.000	.000
			(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DR24a
TRANSPOSITION AREA 36.5 SQ MI

+	PEAK FLOW (CFS)	TIME (HR)		6-HR	24-HR	72-HR	24.92-HR
			MAXIMUM AVERAGE FLOW (CFS)				
+	0.	12.00		0.	0.	0.	0.
			(INCHES)	.000	.000	.000	.000
			(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DR24a
TRANSPOSITION AREA 50.0 SQ MI

+	PEAK FLOW (CFS)	TIME (HR)		6-HR	24-HR	72-HR	24.92-HR
			MAXIMUM AVERAGE FLOW (CFS)				
+	0.	12.00		0.	0.	0.	0.
			(INCHES)	.000	.000	.000	.000
			(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

INTERPOLATED HYDROGRAPH AT DR24a

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	0.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	0.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	0.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	0.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	0.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	0.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	0.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	0.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	0.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	0.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	0.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	0.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	0.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	0.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	0.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	0.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	0.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	0.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	0.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	0.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	0.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	0.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	0.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	0.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	0.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	0.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	0.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	0.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	0.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	0.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	0.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	0.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	0.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	0.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	0.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	0.	1		2140	261	0.
1		0300	37	0.	1		0915	112	0.	1		1530	187	0.	1		2145	262	0.
1		0305	38	0.	1		0920	113	0.	1		1535	188	0.	1		2150	263	0.
1		0310	39	0.	1		0925	114	0.	1		1540	189	0.	1		2155	264	0.
1		0315	40	0.	1		0930	115	0.	1		1545	190	0.	1		2200	265	0.
1		0320	41	0.	1		0935	116	0.	1		1550	191	0.	1		2205	266	0.
1		0325	42	0.	1		0940	117	0.	1		1555	192	0.	1		2210	267	0.
1		0330	43	0.	1		0945	118	0.	1		1600	193	0.	1		2215	268	0.
1		0335	44	0.	1		0950	119	0.	1		1605	194	0.	1		2220	269	0.
1		0340	45	0.	1		0955	120	0.	1		1610	195	0.	1		2225	270	0.
1		0345	46	0.	1		1000	121	0.	1		1615	196	0.	1		2230	271	0.
1		0350	47	0.	1		1005	122	0.	1		1620	197	0.	1		2235	272	0.
1		0355	48	0.	1		1010	123	0.	1		1625	198	0.	1		2240	273	0.

1	0400	49	0.	*	1	1015	124	0.	*	1	1630	199	0.	*	1	2245	274	0.
1	0405	50	0.	*	1	1020	125	0.	*	1	1635	200	0.	*	1	2250	275	0.
1	0410	51	0.	*	1	1025	126	0.	*	1	1640	201	0.	*	1	2255	276	0.
1	0415	52	0.	*	1	1030	127	0.	*	1	1645	202	0.	*	1	2300	277	0.
1	0420	53	0.	*	1	1035	128	0.	*	1	1650	203	0.	*	1	2305	278	0.
1	0425	54	0.	*	1	1040	129	0.	*	1	1655	204	0.	*	1	2310	279	0.
1	0430	55	0.	*	1	1045	130	0.	*	1	1700	205	0.	*	1	2315	280	0.
1	0435	56	0.	*	1	1050	131	0.	*	1	1705	206	0.	*	1	2320	281	0.
1	0440	57	0.	*	1	1055	132	0.	*	1	1710	207	0.	*	1	2325	282	0.
1	0445	58	0.	*	1	1100	133	0.	*	1	1715	208	0.	*	1	2330	283	0.
1	0450	59	0.	*	1	1105	134	0.	*	1	1720	209	0.	*	1	2335	284	0.
1	0455	60	0.	*	1	1110	135	0.	*	1	1725	210	0.	*	1	2340	285	0.
1	0500	61	0.	*	1	1115	136	0.	*	1	1730	211	0.	*	1	2345	286	0.
1	0505	62	0.	*	1	1120	137	0.	*	1	1735	212	0.	*	1	2350	287	0.
1	0510	63	0.	*	1	1125	138	0.	*	1	1740	213	0.	*	1	2355	288	0.
1	0515	64	0.	*	1	1130	139	0.	*	1	1745	214	0.	*	2	0000	289	0.
1	0520	65	0.	*	1	1135	140	0.	*	1	1750	215	0.	*	2	0005	290	0.
1	0525	66	0.	*	1	1140	141	0.	*	1	1755	216	0.	*	2	0010	291	0.
1	0530	67	0.	*	1	1145	142	0.	*	1	1800	217	0.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	0.	*	1	1805	218	0.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	0.	*	1	1810	219	0.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	0.	*	1	1815	220	0.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	0.	*	1	1820	221	0.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	0.	*	1	1825	222	0.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	0.	*	1	1830	223	0.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	0.	*	1	1835	224	0.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	0.	*	1	1840	225	0.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 0.	12.00		0.	0.	0.	0.
		(INCHES)	.000	.000	.000	.000
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

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***************
*             *
*     R25_O   *
*             *
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270 KK

Route 24a diversion through Basin 25 overland

HYDROGRAPH ROUTING DATA

272 RK KINEMATIC WAVE STREAM ROUTING

L	800.	CHANNEL LENGTH
S	.0150	SLOPE
N	.030	CHANNEL ROUGHNESS COEFFICIENT
CA	.00	CONTRIBUTING AREA
SHAPE	THAP	CHANNEL SHAPE
WD	30.00	BOTTOM WIDTH OR DIAMETER
Z	10.00	SIDE SLOPE
NDXMIN	2	MINIMUM NUMBER OF DX INTERVALS

***

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.07	1.42	5.00	88.89	.00	766.61	.00	.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4323E-03 EXCESS= .0000E+00 OUTFLOW= .4448E-03 BASIN STORAGE= .1224E-04 PERCENT ERROR= -5.7

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.07	1.42	5.00	.00	765.00	.00	

*** *** *** *** ***

HYDROGRAPH AT STATION R25_O
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 0.	12.67		0.	0.	0.	0.
		(INCHES)	.000	.000	.000	.000
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.07	1.42	5.00	88.89	.00	768.07	.00	.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4186E-03 EXCESS= .0000E+00 OUTFLOW= .4134E-03 BASIN STORAGE= .1164E-04 PERCENT ERROR= -1.5

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.07	1.42	5.00		.00	770.00	.00
***	***	***	***	***			

HYDROGRAPH AT STATION R25_O
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
		(CFS)			
0.	12.83	0.	0.	0.	0.
		(INCHES) .000	.000	.000	.000
		(AC-FT) 0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.07	1.42	5.00	88.89	.00	768.11	.00	.28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4118E-03 EXCESS= .0000E+00 OUTFLOW= .4228E-03 BASIN STORAGE= .1166E-04 PERCENT ERROR= -5.5

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.07	1.42	5.00		.00	765.00	.00
***	***	***	***	***			

HYDROGRAPH AT STATION R25_O
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
		(CFS)			
0.	12.75	0.	0.	0.	0.
		(INCHES) .000	.000	.000	.000
		(AC-FT) 0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	OT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.07	1.42	5.00	88.89	.00	768.01	.00	.28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4051E-03 EXCESS= .0000E+00 OUTFLOW= .4167E-03 BASIN STORAGE= .1165E-04 PERCENT ERROR= -5.8

INTERPOLATEO TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.07	1.42	5.00		.00	765.00	.00
***	***	***	***	***			

HYDROGRAPH AT STATION R25_O
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
		(CFS)			
0.	12.75	0.	0.	0.	0.
		(INCHES) .000	.000	.000	.000
		(AC-FT) 0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.07	1.42	4.82	80.00	.00	768.86	.00	.28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4006E-03 EXCESS= .0000E+00 OUTFLOW= .3941E-03 BASIN STORAGE= .1215E-04 PERCENT ERROR= -1.4

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.07	1.42	5.00		.00	770.00	.00
***	***	***	***	***			

HYDROGRAPH AT STATION R25_O
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR

+	(CFS)	(HR)					
			(CFS)				
	0.	12.83		0.	0.	0.	0.
			(INCHES)	.000	.000	.000	.000
			(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

INTERPOLATED HYDROGRAPH AT R25_O

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	0.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	0.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	0.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	0.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	0.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	0.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	0.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	0.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	0.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	0.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	0.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	0.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	0.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	0.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	0.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	0.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	0.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	0.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	0.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	0.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	0.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	0.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	0.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	0.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	0.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	0.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	0.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	0.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	0.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	0.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	0.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	0.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	0.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	0.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	0.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	0.	1		2140	261	0.
1		0300	37	0.	1		0915	112	0.	1		1530	187	0.	1		2145	262	0.
1		0305	38	0.	1		0920	113	0.	1		1535	188	0.	1		2150	263	0.
1		0310	39	0.	1		0925	114	0.	1		1540	189	0.	1		2155	264	0.
1		0315	40	0.	1		0930	115	0.	1		1545	190	0.	1		2200	265	0.
1		0320	41	0.	1		0935	116	0.	1		1550	191	0.	1		2205	266	0.
1		0325	42	0.	1		0940	117	0.	1		1555	192	0.	1		2210	267	0.
1		0330	43	0.	1		0945	118	0.	1		1600	193	0.	1		2215	268	0.
1		0335	44	0.	1		0950	119	0.	1		1605	194	0.	1		2220	269	0.
1		0340	45	0.	1		0955	120	0.	1		1610	195	0.	1		2225	270	0.
1		0345	46	0.	1		1000	121	0.	1		1615	196	0.	1		2230	271	0.
1		0350	47	0.	1		1005	122	0.	1		1620	197	0.	1		2235	272	0.
1		0355	48	0.	1		1010	123	0.	1		1625	198	0.	1		2240	273	0.
1		0400	49	0.	1		1015	124	0.	1		1630	199	0.	1		2245	274	0.
1		0405	50	0.	1		1020	125	0.	1		1635	200	0.	1		2250	275	0.
1		0410	51	0.	1		1025	126	0.	1		1640	201	0.	1		2255	276	0.
1		0415	52	0.	1		1030	127	0.	1		1645	202	0.	1		2300	277	0.
1		0420	53	0.	1		1035	128	0.	1		1650	203	0.	1		2305	278	0.
1		0425	54	0.	1		1040	129	0.	1		1655	204	0.	1		2310	279	0.
1		0430	55	0.	1		1045	130	0.	1		1700	205	0.	1		2315	280	0.
1		0435	56	0.	1		1050	131	0.	1		1705	206	0.	1		2320	281	0.
1		0440	57	0.	1		1055	132	0.	1		1710	207	0.	1		2325	282	0.
1		0445	58	0.	1		1100	133	0.	1		1715	208	0.	1		2330	283	0.
1		0450	59	0.	1		1105	134	0.	1		1720	209	0.	1		2335	284	0.
1		0455	60	0.	1		1110	135	0.	1		1725	210	0.	1		2340	285	0.
1		0500	61	0.	1		1115	136	0.	1		1730	211	0.	1		2345	286	0.
1		0505	62	0.	1		1120	137	0.	1		1735	212	0.	1		2350	287	0.
1		0510	63	0.	1		1125	138	0.	1		1740	213	0.	1		2355	288	0.
1		0515	64	0.	1		1130	139	0.	1		1745	214	0.	2		0000	289	0.
1		0520	65	0.	1		1135	140	0.	1		1750	215	0.	2		0005	290	0.
1		0525	66	0.	1		1140	141	0.	1		1755	216	0.	2		0010	291	0.
1		0530	67	0.	1		1145	142	0.	1		1800	217	0.	2		0015	292	0.
1		0535	68	0.	1		1150	143	0.	1		1805	218	0.	2		0020	293	0.
1		0540	69	0.	1		1155	144	0.	1		1810	219	0.	2		0025	294	0.
1		0545	70	0.	1		1200	145	0.	1		1815	220	0.	2		0030	295	0.
1		0550	71	0.	1		1205	146	0.	1		1820	221	0.	2		0035	296	0.
1		0555	72	0.	1		1210	147	0.	1		1825	222	0.	2		0040	297	0.
1		0600	73	0.	1		1215	148	0.	1		1830	223	0.	2		0045	298	0.
1		0605	74	0.	1		1220	149	0.	1		1835	224	0.	2		0050	299	0.
1		0610	75	0.	1		1225	150	0.	1		1840	225	0.	2		0055	300	0.

PEAK FLOW		TIME		MAXIMUM AVERAGE FLOW			
				6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)					
			(CFS)				
+	0.	12.67		0.	0.	0.	0.
			(INCHES)	.000	.000	.000	.000
			(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

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Route 24a diversion through Basin 25 pipe

HYDROGRAPH ROUTING DATA

275 RK KINEMATIC WAVE STREAM ROUTING

L	1600.	CHANNEL LENGTH
S	.0130	SLOPE
N	.015	CHANNEL ROUGHNESS COEFFICIENT
CA	.00	CONTRIBUTING AREA
SHAPE	CIRC	CHANNEL SHAPE
WD	4.00	BOTTOM WIDTH OR DIAMETER
Z	.00	SIDE SLOPE
NDXMIN	2	MINIMUM NUMBER OF DX INTERVALS

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COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	7.70	1.25	4.28	533.33	.00	773.25	.00	2.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4438E-03 EXCESS= .0000E+00 OUTFLOW= .4439E-03 BASIN STORAGE= .1605E-05 PERCENT ERROR= -.4

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	7.70	1.25	5.00	.00	775.00	.00

*** *** *** *** ***

HYDROGRAPH AT STATION R25_P
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	24.92-HR
0.	12.92	(CFS)	0.	0.	0.	0.
		(INCHES)	.000	.000	.000	.000
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	7.70	1.25	4.48	533.33	.00	781.16	.00	2.05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4122E-03 EXCESS= .0000E+00 OUTFLOW= .4114E-03 BASIN STORAGE= .1586E-05 PERCENT ERROR= -.2

INTERPOLATEO TO SPECIFIED COMPUTATION INTERVAL

MAIN	7.70	1.25	5.00	.00	780.00	.00

*** *** *** *** ***

HYDROGRAPH AT STATION R25_P
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	24.92-HR
0.	12.92	(CFS)	0.	0.	0.	0.
		(INCHES)	.000	.000	.000	.000
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	7.70	1.25	4.32	533.33	.00	776.13	.00	2.06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4217E-03 EXCESS= .0000E+00 OUTFLOW= .4199E-03 BASIN STORAGE= .1572E-05 PERCENT ERROR= .1

INTERPOLATEO TO SPECIFIED COMPUTATION INTERVAL

MAIN	7.70	1.25	5.00	.00	780.00	.00

*** *** *** *** ***

HYDROGRAPH AT STATION R25_P
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	24.92-HR
0.	12.92	(CFS)	0.	0.	0.	0.

(INCHES)	.000	.000	.000	.000
(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	7.70	1.25	4.43	533.33	.00	777.37	.00	2.05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4157E-03 EXCESS= .0000E+00 OUTFLOW= .4155E-03 BASIN STORAGE= .1555E-05 PERCENT ERROR= -.3

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	7.70	1.25	5.00		.00	775.00	.00
***	***	***	***	***			

HYDROGRAPH AT STATION R25_P
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)			
+ 0.	12.92	0.	0.	0.	0.
		(INCHES) .000	.000	.000	.000
		(AC-FT) 0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	7.70	1.25	4.36	533.33	.00	778.85	.00	2.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3933E-03 EXCESS= .0000E+00 OUTFLOW= .3930E-03 BASIN STORAGE= .1548E-05 PERCENT ERROR= -.3

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	7.70	1.25	5.00		.00	780.00	.00
***	***	***	***	***			

HYDROGRAPH AT STATION R25_P
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)			
+ 0.	13.00	0.	0.	0.	0.
		(INCHES) .000	.000	.000	.000
		(AC-FT) 0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

INTERPOLATED HYDROGRAPH AT R25_P

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	0.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	0.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	0.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	0.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	0.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	0.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	0.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	0.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	0.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	0.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	0.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	0.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	0.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	0.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	0.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	0.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	0.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	0.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	0.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	0.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	0.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	0.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	0.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	0.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	0.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	0.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	0.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	0.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	0.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	0.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	0.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	0.	1		2120	257	0.

```
    1    0240   33        0.   *    1     0855  108        0.   *    1     1510  183        0.   *    1     2125  258        0.
    1    0245   34        0.   *    1     0900  109        0.   *    1     1515  184        0.   *    1     2130  259        0.
    1    0250   35        0.   *    1     0905  110        0.   *    1     1520  185        0.   *    1     2135  260        0.
    1    0255   36        0.   *    1     0910  111        0.   *    1     1525  186        0.   *    1     2140  261        0.
    1    0300   37        0.   *    1     0915  112        0.   *    1     1530  187        0.   *    1     2145  262        0.
    1    0305   38        0.   *    1     0920  113        0.   *    1     1535  188        0.   *    1     2150  263        0.
    1    0310   39        0.   *    1     0925  114        0.   *    1     1540  189        0.   *    1     2155  264        0.
    1    0315   40        0.   *    1     0930  115        0.   *    1     1545  190        0.   *    1     2200  265        0.
    1    0320   41        0.   *    1     0935  116        0.   *    1     1550  191        0.   *    1     2205  266        0.
    1    0325   42        0.   *    1     0940  117        0.   *    1     1555  192        0.   *    1     2210  267        0.
    1    0330   43        0.   *    1     0945  118        0.   *    1     1600  193        0.   *    1     2215  268        0.
    1    0335   44        0.   *    1     0950  119        0.   *    1     1605  194        0.   *    1     2220  269        0.
    1    0340   45        0.   *    1     0955  120        0.   *    1     1610  195        0.   *    1     2225  270        0.
    1    0345   46        0.   *    1     1000  121        0.   *    1     1615  196        0.   *    1     2230  271        0.
    1    0350   47        0.   *    1     1005  122        0.   *    1     1620  197        0.   *    1     2235  272        0.
    1    0355   48        0.   *    1     1010  123        0.   *    1     1625  198        0.   *    1     2240  273        0.
    1    0400   49        0.   *    1     1015  124        0.   *    1     1630  199        0.   *    1     2245  274        0.
    1    0405   50        0.   *    1     1020  125        0.   *    1     1635  200        0.   *    1     2250  275        0.
    1    0410   51        0.   *    1     1025  126        0.   *    1     1640  201        0.   *    1     2255  276        0.
    1    0415   52        0.   *    1     1030  127        0.   *    1     1645  202        0.   *    1     2300  277        0.
    1    0420   53        0.   *    1     1035  128        0.   *    1     1650  203        0.   *    1     2305  278        0.
    1    0425   54        0.   *    1     1040  129        0.   *    1     1655  204        0.   *    1     2310  279        0.
    1    0430   55        0.   *    1     1045  130        0.   *    1     1700  205        0.   *    1     2315  280        0.
    1    0435   56        0.   *    1     1050  131        0.   *    1     1705  206        0.   *    1     2320  281        0.
    1    0440   57        0.   *    1     1055  132        0.   *    1     1710  207        0.   *    1     2325  282        0.
    1    0445   58        0.   *    1     1100  133        0.   *    1     1715  208        0.   *    1     2330  283        0.
    1    0450   59        0.   *    1     1105  134        0.   *    1     1720  209        0.   *    1     2335  284        0.
    1    0455   60        0.   *    1     1110  135        0.   *    1     1725  210        0.   *    1     2340  285        0.
    1    0500   61        0.   *    1     1115  136        0.   *    1     1730  211        0.   *    1     2345  286        0.
    1    0505   62        0.   *    1     1120  137        0.   *    1     1735  212        0.   *    1     2350  287        0.
    1    0510   63        0.   *    1     1125  138        0.   *    1     1740  213        0.   *    1     2355  288        0.
    1    0515   64        0.   *    1     1130  139        0.   *    1     1745  214        0.   *    2     0000  289        0.
    1    0520   65        0.   *    1     1135  140        0.   *    1     1750  215        0.   *    2     0005  290        0.
    1    0525   66        0.   *    1     1140  141        0.   *    1     1755  216        0.   *    2     0010  291        0.
    1    0530   67        0.   *    1     1145  142        0.   *    1     1800  217        0.   *    2     0015  292        0.
    1    0535   68        0.   *    1     1150  143        0.   *    1     1805  218        0.   *    2     0020  293        0.
    1    0540   69        0.   *    1     1155  144        0.   *    1     1810  219        0.   *    2     0025  294        0.
    1    0545   70        0.   *    1     1200  145        0.   *    1     1815  220        0.   *    2     0030  295        0.
    1    0550   71        0.   *    1     1205  146        0.   *    1     1820  221        0.   *    2     0035  296        0.
    1    0555   72        0.   *    1     1210  147        0.   *    1     1825  222        0.   *    2     0040  297        0.
    1    0600   73        0.   *    1     1215  148        0.   *    1     1830  223        0.   *    2     0045  298        0.
    1    0605   74        0.   *    1     1220  149        0.   *    1     1835  224        0.   *    2     0050  299        0.
    1    0610   75        0.   *    1     1225  150        0.   *    1     1840  225        0.   *    2     0055  300        0.
                            *                                            *                                            *
 ********************************************************************************************************************************************************************

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR      24.92-HR
+   (CFS)       (HR)
                          (CFS)
+       0.     12.92                  0.           0.           0.           0.
                       (INCHES)      .000         .000         .000         .000
                         (AC-FT)       0.           0.           0.           0.

                       CUMULATIVE AREA =     .02 SQ MI


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
 276 KK     *     DB25   *
            *            *
            **************
                        Subbasin

            SUBBASIN RUNOFF DATA

 278 BA       SUBBASIN CHARACTERISTICS
                    TAREA         .02  SUBBASIN AREA

 279 LG       GREEN AND AMPT LOSS RATE
                    STRTL         .53  STARTING LOSS
                      DTH         .50  MOISTURE DEFICIT
                     PSIF        1.86  WETTING FRONT SUCTION
                    XKSAT         .07  HYDRAULIC CONDUCTIVITY
                    RTIMP       40.00  PERCENT IMPERVIOUS AREA

 280 US       SNYDER UNITGRAPH
                      TP          .10  LAG
                      CP          .30  PEAKING COEFFICIENT

              SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                     CLARK   TC=    .08 HR,       R=    .41 HR
                                    SNYDER   TP=    .13 HR,      CP=    .30

                                          UNIT HYDROGRAPH
                                       27 END-OF-PERIOD ORDINATES
                      18.       32.       26.       21.       17.       14.       11.        9.        8.        6.
                       5.        4.        3.        3.        2.        2.        1.        1.        1.        1.
                       1.        1.        0.        0.        0.        0.        0.

          ***              ***              ***              ***              ***

                        HYDROGRAPH AT STATION     DB25
                       TRANSPOSITION AREA        .0 SQ MI

     TOTAL RAINFALL =    1.19, TOTAL LOSS =      .65, TOTAL EXCESS =      .54

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR      24.92-HR
+   (CFS)       (HR)
                          (CFS)
+       6.     12.08                  1.           0.           0.           0.
                       (INCHES)      .396         .534         .535         .535
                         (AC-FT)       1.           1.           1.           1.
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CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB25
TRANSPOSITION AREA 14.0 SQ MI

TOTAL RAINFALL = 1.17, TOTAL LOSS = .65, TOTAL EXCESS = .52

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
6.	12.08	1.	0.	0.	0.
		(INCHES) .382	.517	.518	.518
		(AC-FT) 0.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB25
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.15, TOTAL LOSS = .64, TOTAL EXCESS = .51

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
6.	12.08	1.	0.	0.	0.
		(INCHES) .375	.509	.510	.510
		(AC-FT) 0.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB25
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.14, TOTAL LOSS = .64, TOTAL EXCESS = .50

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
6.	12.08	1.	0.	0.	0.
		(INCHES) .368	.500	.502	.502
		(AC-FT) 0.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB25
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.13, TOTAL LOSS = .64, TOTAL EXCESS = .50

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
6.	12.08	1.	0.	0.	0.
		(INCHES) .363	.495	.496	.496
		(AC-FT) 0.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

INTERPOLATED HYDROGRAPH AT DB25

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	3.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	2.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	2.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	2.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	2.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	1.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	1.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	1.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	1.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	1.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	1.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	1.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	1.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	1.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	1.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	0.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	0.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	0.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	0.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	0.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	0.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	0.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	0.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	0.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	0.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	0.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	0.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	0.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	0.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	0.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	0.	1		2115	256	0.

1	0235	32	0.	*	1	0850	107	0.	*	1	1505	182	0.	*	1	2120	257	0.
1	0240	33	0.	*	1	0855	108	0.	*	1	1510	183	0.	*	1	2125	258	0.
1	0245	34	0.	*	1	0900	109	0.	*	1	1515	184	0.	*	1	2130	259	0.
1	0250	35	0.	*	1	0905	110	0.	*	1	1520	185	0.	*	1	2135	260	0.
1	0255	36	0.	*	1	0910	111	0.	*	1	1525	186	0.	*	1	2140	261	0.
1	0300	37	0.	*	1	0915	112	0.	*	1	1530	187	0.	*	1	2145	262	0.
1	0305	38	0.	*	1	0920	113	0.	*	1	1535	188	0.	*	1	2150	263	0.
1	0310	39	0.	*	1	0925	114	0.	*	1	1540	189	0.	*	1	2155	264	0.
1	0315	40	0.	*	1	0930	115	0.	*	1	1545	190	0.	*	1	2200	265	0.
1	0320	41	0.	*	1	0935	116	0.	*	1	1550	191	0.	*	1	2205	266	0.
1	0325	42	0.	*	1	0940	117	0.	*	1	1555	192	0.	*	1	2210	267	0.
1	0330	43	0.	*	1	0945	118	0.	*	1	1600	193	0.	*	1	2215	268	0.
1	0335	44	0.	*	1	0950	119	0.	*	1	1605	194	0.	*	1	2220	269	0.
1	0340	45	0.	*	1	0955	120	0.	*	1	1610	195	0.	*	1	2225	270	0.
1	0345	46	0.	*	1	1000	121	0.	*	1	1615	196	0.	*	1	2230	271	0.
1	0350	47	0.	*	1	1005	122	0.	*	1	1620	197	0.	*	1	2235	272	0.
1	0355	48	0.	*	1	1010	123	0.	*	1	1625	198	0.	*	1	2240	273	0.
1	0400	49	0.	*	1	1015	124	0.	*	1	1630	199	0.	*	1	2245	274	0.
1	0405	50	0.	*	1	1020	125	0.	*	1	1635	200	0.	*	1	2250	275	0.
1	0410	51	0.	*	1	1025	126	0.	*	1	1640	201	0.	*	1	2255	276	0.
1	0415	52	0.	*	1	1030	127	0.	*	1	1645	202	0.	*	1	2300	277	0.
1	0420	53	0.	*	1	1035	128	0.	*	1	1650	203	0.	*	1	2305	278	0.
1	0425	54	0.	*	1	1040	129	0.	*	1	1655	204	0.	*	1	2310	279	0.
1	0430	55	0.	*	1	1045	130	0.	*	1	1700	205	0.	*	1	2315	280	0.
1	0435	56	0.	*	1	1050	131	0.	*	1	1705	206	0.	*	1	2320	281	0.
1	0440	57	0.	*	1	1055	132	0.	*	1	1710	207	0.	*	1	2325	282	0.
1	0445	58	0.	*	1	1100	133	0.	*	1	1715	208	0.	*	1	2330	283	0.
1	0450	59	0.	*	1	1105	134	0.	*	1	1720	209	0.	*	1	2335	284	0.
1	0455	60	0.	*	1	1110	135	0.	*	1	1725	210	0.	*	1	2340	285	0.
1	0500	61	0.	*	1	1115	136	1.	*	1	1730	211	0.	*	1	2345	286	0.
1	0505	62	0.	*	1	1120	137	1.	*	1	1735	212	0.	*	1	2350	287	0.
1	0510	63	0.	*	1	1125	138	1.	*	1	1740	213	0.	*	1	2355	288	0.
1	0515	64	0.	*	1	1130	139	1.	*	1	1745	214	0.	*	2	0000	289	0.
1	0520	65	0.	*	1	1135	140	1.	*	1	1750	215	0.	*	2	0005	290	0.
1	0525	66	0.	*	1	1140	141	1.	*	1	1755	216	0.	*	2	0010	291	0.
1	0530	67	0.	*	1	1145	142	2.	*	1	1800	217	0.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	2.	*	1	1805	218	0.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	4.	*	1	1810	219	0.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	6.	*	1	1815	220	0.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	6.	*	1	1820	221	0.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	5.	*	1	1825	222	0.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	5.	*	1	1830	223	0.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	4.	*	1	1835	224	0.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	3.	*	1	1840	225	0.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 6.	12.08		1.	0.	0.	0.
		(INCHES)	.394	.532	.533	.533
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

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281 KK C25

Combine Hydrograph with 24a diversion

283 HC HYDROGRAPH COMBINATION
ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

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*** *** *** *** ***

HYDROGRAPH AT STATION C25
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 6.	12.08		1.	0.	0.	0.
		(INCHES)	.396	.534	.536	.536
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

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HYDROGRAPH AT STATION C25
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 6.	12.08		1.	0.	0.	0.
		(INCHES)	.382	.517	.519	.519
		(AC-FT)	0.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C25
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR

+	(CFS)	(HR)					
			(CFS)				
	6.	12.08		1.	0.	0.	0.
			(INCHES)	.375	.509	.510	.510
			(AC-FT)	0.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C25
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 6.	12.08		1.	0.	0.	0.
		(INCHES)	.368	.501	.502	.502
		(AC-FT)	0.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C25
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 6.	12.08		1.	0.	0.	0.
		(INCHES)	.363	.495	.496	.496
		(AC-FT)	0.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

INTERPOLATED HYDROGRAPH AT C25

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	3.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	2.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	2.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	2.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	2.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	1.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	1.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	1.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	1.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	1.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	1.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	1.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	1.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	1.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	1.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	1.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	0.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	0.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	0.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	0.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	0.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	0.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	0.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	0.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	0.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	0.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	0.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	0.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	0.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	0.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	0.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	0.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	0.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	0.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	0.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	0.	1		2140	261	0.
1		0300	37	0.	1		0915	112	0.	1		1530	187	0.	1		2145	262	0.
1		0305	38	0.	1		0920	113	0.	1		1535	188	0.	1		2150	263	0.
1		0310	39	0.	1		0925	114	0.	1		1540	189	0.	1		2155	264	0.
1		0315	40	0.	1		0930	115	0.	1		1545	190	0.	1		2200	265	0.
1		0320	41	0.	1		0935	116	0.	1		1550	191	0.	1		2205	266	0.
1		0325	42	0.	1		0940	117	0.	1		1555	192	0.	1		2210	267	0.
1		0330	43	0.	1		0945	118	0.	1		1600	193	0.	1		2215	268	0.
1		0335	44	0.	1		0950	119	0.	1		1605	194	0.	1		2220	269	0.
1		0340	45	0.	1		0955	120	0.	1		1610	195	0.	1		2225	270	0.
1		0345	46	0.	1		1000	121	0.	1		1615	196	0.	1		2230	271	0.
1		0350	47	0.	1		1005	122	0.	1		1620	197	0.	1		2235	272	0.
1		0355	48	0.	1		1010	123	0.	1		1625	198	0.	1		2240	273	0.
1		0400	49	0.	1		1015	124	0.	1		1630	199	0.	1		2245	274	0.
1		0405	50	0.	1		1020	125	0.	1		1635	200	0.	1		2250	275	0.
1		0410	51	0.	1		1025	126	0.	1		1640	201	0.	1		2255	276	0.
1		0415	52	0.	1		1030	127	0.	1		1645	202	0.	1		2300	277	0.
1		0420	53	0.	1		1035	128	0.	1		1650	203	0.	1		2305	278	0.
1		0425	54	0.	1		1040	129	0.	1		1655	204	0.	1		2310	279	0.
1		0430	55	0.	1		1045	130	0.	1		1700	205	0.	1		2315	280	0.
1		0435	56	0.	1		1050	131	0.	1		1705	206	0.	1		2320	281	0.
1		0440	57	0.	1		1055	132	0.	1		1710	207	0.	1		2325	282	0.
1		0445	58	0.	1		1100	133	0.	1		1715	208	0.	1		2330	283	0.
1		0450	59	0.	1		1105	134	0.	1		1720	209	0.	1		2335	284	0.
1		0455	60	0.	1		1110	135	0.	1		1725	210	0.	1		2340	285	0.
1		0500	61	0.	1		1115	136	1.	1		1730	211	0.	1		2345	286	0.
1		0505	62	0.	1		1120	137	1.	1		1735	212	0.	1		2350	287	0.
1		0510	63	0.	1		1125	138	1.	1		1740	213	0.	1		2355	288	0.
1		0515	64	0.	1		1130	139	1.	1		1745	214	0.	2		0000	289	0.
1		0520	65	0.	1		1135	140	1.	1		1750	215	0.	2		0005	290	0.

1	0525	66	0.	*	1	1140	141	1.	*	1	1755	216	0.	*	2	0010	291	0.
1	0530	67	0.	*	1	1145	142	2.	*	1	1800	217	0.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	2.	*	1	1805	218	0.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	4.	*	1	1810	219	0.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	6.	*	1	1815	220	0.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	6.	*	1	1820	221	0.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	5.	*	1	1825	222	0.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	5.	*	1	1830	223	0.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	4.	*	1	1835	224	0.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	3.	*	1	1840	225	0.	*	2	0055	300	0.
				*					*					*					

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 6.	12.08		1.	0.	0.	0.
		(INCHES)	.394	.532	.533	.533
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

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          ***************
          *             *
284 KK    *     B5DIV   *
          *             *
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Divert Basin 25 storm sewer overflow

DT	DIVERSION ISTAD	B5DIV	DIVERSION HYDROGRAPH IDENTIFICATION			
DI	INFLOW	.00	14.00	100.00	1000.00	
DQ	OIVERTED FLOW	.00	.00	86.00	986.00	
					***	

*** *** *** *** ***

DIVERSION HYDROGRAPH B5DIV
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 0.	.00		0.	0.	0.	0.
		(INCHES)	.000	.000	.000	.000
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION B5DIV
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 6.	12.08		1.	0.	0.	0.
		(INCHES)	.396	.534	.536	.536
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

DIVERSION HYDROGRAPH B5DIV
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 0.	.00		0.	0.	0.	0.
		(INCHES)	.000	.000	.000	.000
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION B5DIV
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 6.	12.08		1.	0.	0.	0.
		(INCHES)	.382	.517	.519	.519
		(AC-FT)	0.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

DIVERSION HYDROGRAPH B5DIV
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
0.	.00	(CFS)	0.	0.	0.	0.
		(INCHES)	.000	.000	.000	.000
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION B5DIV
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
6.	12.08	(CFS)	1.	0.	0.	0.
		(INCHES)	.375	.509	.510	.510
		(AC-FT)	0.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

DIVERSION HYDROGRAPH B5DIV
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
0.	.00	(CFS)	0.	0.	0.	0.
		(INCHES)	.000	.000	.000	.000
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION B5DIV
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
6.	12.08	(CFS)	1.	0.	0.	0.
		(INCHES)	.368	.501	.502	.502
		(AC-FT)	0.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

DIVERSION HYDROGRAPH B5DIV
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
0.	.00	(CFS)	0.	0.	0.	0.
		(INCHES)	.000	.000	.000	.000
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDRDGRAPH AT STATION B5DIV
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
6.	12.08	(CFS)	1.	0.	0.	0.
		(INCHES)	.363	.495	.496	.496
		(AC-FT)	0.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

INTERPOLATED DIVERSION HYDROGRAPH AT B5DIV

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	0.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	0.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	0.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	0.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	0.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	0.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	0.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	0.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	0.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	0.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	0.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	0.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	0.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	0.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	0.	1		1955	240	0.

1	0115	16	0.	*	1	0730	91	0.	*	1	1345	166	0.	*	1	2000	241	0.
1	0120	17	0.	*	1	0735	92	0.	*	1	1350	167	0.	*	1	2005	242	0.
1	0125	18	0.	*	1	0740	93	0.	*	1	1355	168	0.	*	1	2010	243	0.
1	0130	19	0.	*	1	0745	94	0.	*	1	1400	169	0.	*	1	2015	244	0.
1	0135	20	0.	*	1	0750	95	0.	*	1	1405	170	0.	*	1	2020	245	0.
1	0140	21	0.	*	1	0755	96	0.	*	1	1410	171	0.	*	1	2025	246	0.
1	0145	22	0.	*	1	0800	97	0.	*	1	1415	172	0.	*	1	2030	247	0.
1	0150	23	0.	*	1	0805	98	0.	*	1	1420	173	0.	*	1	2035	248	0.
1	0155	24	0.	*	1	0810	99	0.	*	1	1425	174	0.	*	1	2040	249	0.
1	0200	25	0.	*	1	0815	100	0.	*	1	1430	175	0.	*	1	2045	250	0.
1	0205	26	0.	*	1	0820	101	0.	*	1	1435	176	0.	*	1	2050	251	0.
1	0210	27	0.	*	1	0825	102	0.	*	1	1440	177	0.	*	1	2055	252	0.
1	0215	28	0.	*	1	0830	103	0.	*	1	1445	178	0.	*	1	2100	253	0.
1	0220	29	0.	*	1	0835	104	0.	*	1	1450	179	0.	*	1	2105	254	0.
1	0225	30	0.	*	1	0840	105	0.	*	1	1455	180	0.	*	1	2110	255	0.
1	0230	31	0.	*	1	0845	106	0.	*	1	1500	181	0.	*	1	2115	256	0.
1	0235	32	0.	*	1	0850	107	0.	*	1	1505	182	0.	*	1	2120	257	0.
1	0240	33	0.	*	1	0855	108	0.	*	1	1510	183	0.	*	1	2125	258	0.
1	0245	34	0.	*	1	0900	109	0.	*	1	1515	184	0.	*	1	2130	259	0.
1	0250	35	0.	*	1	0905	110	0.	*	1	1520	185	0.	*	1	2135	260	0.
1	0255	36	0.	*	1	0910	111	0.	*	1	1525	186	0.	*	1	2140	261	0.
1	0300	37	0.	*	1	0915	112	0.	*	1	1530	187	0.	*	1	2145	262	0.
1	0305	38	0.	*	1	0920	113	0.	*	1	1535	188	0.	*	1	2150	263	0.
1	0310	39	0.	*	1	0925	114	0.	*	1	1540	189	0.	*	1	2155	264	0.
1	0315	40	0.	*	1	0930	115	0.	*	1	1545	190	0.	*	1	2200	265	0.
1	0320	41	0.	*	1	0935	116	0.	*	1	1550	191	0.	*	1	2205	266	0.
1	0325	42	0.	*	1	0940	117	0.	*	1	1555	192	0.	*	1	2210	267	0.
1	0330	43	0.	*	1	0945	118	0.	*	1	1600	193	0.	*	1	2215	268	0.
1	0335	44	0.	*	1	0950	119	0.	*	1	1605	194	0.	*	1	2220	269	0.
1	0340	45	0.	*	1	0955	120	0.	*	1	1610	195	0.	*	1	2225	270	0.
1	0345	46	0.	*	1	1000	121	0.	*	1	1615	196	0.	*	1	2230	271	0.
1	0350	47	0.	*	1	1005	122	0.	*	1	1620	197	0.	*	1	2235	272	0.
1	0355	48	0.	*	1	1010	123	0.	*	1	1625	198	0.	*	1	2240	273	0.
1	0400	49	0.	*	1	1015	124	0.	*	1	1630	199	0.	*	1	2245	274	0.
1	0405	50	0.	*	1	1020	125	0.	*	1	1635	200	0.	*	1	2250	275	0.
1	0410	51	0.	*	1	1025	126	0.	*	1	1640	201	0.	*	1	2255	276	0.
1	0415	52	0.	*	1	1030	127	0.	*	1	1645	202	0.	*	1	2300	277	0.
1	0420	53	0.	*	1	1035	128	0.	*	1	1650	203	0.	*	1	2305	278	0.
1	0425	54	0.	*	1	1040	129	0.	*	1	1655	204	0.	*	1	2310	279	0.
1	0430	55	0.	*	1	1045	130	0.	*	1	1700	205	0.	*	1	2315	280	0.
1	0435	56	0.	*	1	1050	131	0.	*	1	1705	206	0.	*	1	2320	281	0.
1	0440	57	0.	*	1	1055	132	0.	*	1	1710	207	0.	*	1	2325	282	0.
1	0445	58	0.	*	1	1100	133	0.	*	1	1715	208	0.	*	1	2330	283	0.
1	0450	59	0.	*	1	1105	134	0.	*	1	1720	209	0.	*	1	2335	284	0.
1	0455	60	0.	*	1	1110	135	0.	*	1	1725	210	0.	*	1	2340	285	0.
1	0500	61	0.	*	1	1115	136	0.	*	1	1730	211	0.	*	1	2345	286	0.
1	0505	62	0.	*	1	1120	137	0.	*	1	1735	212	0.	*	1	2350	287	0.
1	0510	63	0.	*	1	1125	138	0.	*	1	1740	213	0.	*	1	2355	288	0.
1	0515	64	0.	*	1	1130	139	0.	*	1	1745	214	0.	*	2	0000	289	0.
1	0520	65	0.	*	1	1135	140	0.	*	1	1750	215	0.	*	2	0005	290	0.
1	0525	66	0.	*	1	1140	141	0.	*	1	1755	216	0.	*	2	0010	291	0.
1	0530	67	0.	*	1	1145	142	0.	*	1	1800	217	0.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	0.	*	1	1805	218	0.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	0.	*	1	1810	219	0.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	0.	*	1	1815	220	0.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	0.	*	1	1820	221	0.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	0.	*	1	1825	222	0.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	0.	*	1	1830	223	0.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	0.	*	1	1835	224	0.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	0.	*	1	1840	225	0.	*	2	0055	300	0.

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)					
		(CFS)				
0.	.00		0.	0.	0.	0.
		(INCHES)	.000	.000	.000	.000
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

INTERPOLATED HYDROGRAPH AT B5DIV

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	3.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	2.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	2.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	2.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	2.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	1.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	1.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	1.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	1.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	1.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	1.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	1.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	1.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	1.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	1.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	1.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	0.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	0.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	0.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	0.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	0.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	0.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	0.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	0.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	0.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	0.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	0.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	0.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	0.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	0.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	0.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	0.	1		2120	257	0.

1	0240	33	0.	*	1	0855	108	0.	*	1	1510	183	0.	*	1	2125	258	0.
1	0245	34	0.	*	1	0900	109	0.	*	1	1515	184	0.	*	1	2130	259	0.
1	0250	35	0.	*	1	0905	110	0.	*	1	1520	185	0.	*	1	2135	260	0.
1	0255	36	0.	*	1	0910	111	0.	*	1	1525	186	0.	*	1	2140	261	0.
1	0300	37	0.	*	1	0915	112	0.	*	1	1530	187	0.	*	1	2145	262	0.
1	0305	38	0.	*	1	0920	113	0.	*	1	1535	188	0.	*	1	2150	263	0.
1	0310	39	0.	*	1	0925	114	0.	*	1	1540	189	0.	*	1	2155	264	0.
1	0315	40	0.	*	1	0930	115	0.	*	1	1545	190	0.	*	1	2200	265	0.
1	0320	41	0.	*	1	0935	116	0.	*	1	1550	191	0.	*	1	2205	266	0.
1	0325	42	0.	*	1	0940	117	0.	*	1	1555	192	0.	*	1	2210	267	0.
1	0330	43	0.	*	1	0945	118	0.	*	1	1600	193	0.	*	1	2215	268	0.
1	0335	44	0.	*	1	0950	119	0.	*	1	1605	194	0.	*	1	2220	269	0.
1	0340	45	0.	*	1	0955	120	0.	*	1	1610	195	0.	*	1	2225	270	0.
1	0345	46	0.	*	1	1000	121	0.	*	1	1615	196	0.	*	1	2230	271	0.
1	0350	47	0.	*	1	1005	122	0.	*	1	1620	197	0.	*	1	2235	272	0.
1	0355	48	0.	*	1	1010	123	0.	*	1	1625	198	0.	*	1	2240	273	0.
1	0400	49	0.	*	1	1015	124	0.	*	1	1630	199	0.	*	1	2245	274	0.
1	0405	50	0.	*	1	1020	125	0.	*	1	1635	200	0.	*	1	2250	275	0.
1	0410	51	0.	*	1	1025	126	0.	*	1	1640	201	0.	*	1	2255	276	0.
1	0415	52	0.	*	1	1030	127	0.	*	1	1645	202	0.	*	1	2300	277	0.
1	0420	53	0.	*	1	1035	128	0.	*	1	1650	203	0.	*	1	2305	278	0.
1	0425	54	0.	*	1	1040	129	0.	*	1	1655	204	0.	*	1	2310	279	0.
1	0430	55	0.	*	1	1045	130	0.	*	1	1700	205	0.	*	1	2315	280	0.
1	0435	56	0.	*	1	1050	131	0.	*	1	1705	206	0.	*	1	2320	281	0.
1	0440	57	0.	*	1	1055	132	0.	*	1	1710	207	0.	*	1	2325	282	0.
1	0445	58	0.	*	1	1100	133	0.	*	1	1715	208	0.	*	1	2330	283	0.
1	0450	59	0.	*	1	1105	134	0.	*	1	1720	209	0.	*	1	2335	284	0.
1	0455	60	0.	*	1	1110	135	0.	*	1	1725	210	0.	*	1	2340	285	0.
1	0500	61	0.	*	1	1115	136	1.	*	1	1730	211	0.	*	1	2345	286	0.
1	0505	62	0.	*	1	1120	137	1.	*	1	1735	212	0.	*	1	2350	287	0.
1	0510	63	0.	*	1	1125	138	1.	*	1	1740	213	0.	*	1	2355	288	0.
1	0515	64	0.	*	1	1130	139	1.	*	1	1745	214	0.	*	2	0000	289	0.
1	0520	65	0.	*	1	1135	140	1.	*	1	1750	215	0.	*	2	0005	290	0.
1	0525	66	0.	*	1	1140	141	1.	*	1	1755	216	0.	*	2	0010	291	0.
1	0530	67	0.	*	1	1145	142	2.	*	1	1800	217	0.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	2.	*	1	1805	218	0.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	4.	*	1	1810	219	0.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	6.	*	1	1815	220	0.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	6.	*	1	1820	221	0.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	5.	*	1	1825	222	0.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	5.	*	1	1830	223	0.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	4.	*	1	1835	224	0.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	3.	*	1	1840	225	0.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 6.	12.08		1.	0.	0.	0.
		(INCHES)	.394	.532	.533	.533
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

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          ***************
          *             *
289 KK    *     DB25a   *
          *             *
          ***************
                  Subbasin

     SUBBASIN RUNOFF DATA

291 BA          SUBBASIN CHARACTERISTICS
                     TAREA          .03  SUBBASIN AREA

292 LG          GREEN AND AMPT LOSS RATE
                     STRTL          .85  STARTING LOSS
                       DTH          .71  MOISTURE DEFICIT
                      PSIF         1.60  WETTING FRONT SUCTION
                     XKSAT          .16  HYDRAULIC CONDUCTIVITY
                     RTIMP        12.00  PERCENT IMPERVIOUS AREA

293 US          SNYDER UNITGRAPH
                       TP          .03  LAG
                       CP          .17  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                        ***
R INCREASED TO MINIMUM OF 0.5

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .08 HR,       R=    .83 HR
                                  SNYDER    TP=    .14 HR,      CP=    .17

                                          UNIT HYDROGRAPH
                                    53 END-OF-PERIOD ORDINATES
                12.       22.       20.       18.       17.       15.       14.       12.       11.       10.
                 9.        8.        7.        7.        6.        5.        5.        4.        4.        4.
                 3.        3.        3.        2.        2.        2.        2.        2.        1.        1.
                 1.        1.        1.        1.        1.        1.        1.        1.        1.        0.
                 0.        0.        0.        0.        0.        0.        0.        0.        0.        0.
                 0.        0.        0.

      ***              ***               ***               ***               ***

                       HYDROGRAPH AT STATION    DB25a
                      TRANSPOSITION AREA        .0 SQ MI

    TOTAL RAINFALL =    1.19, TOTAL LOSS =    1.05, TOTAL EXCESS =     .14
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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				

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+       1.     12.08                    0.          0.          0.          0.
                                (INCHES)      .100        .141        .142        .142
                                 (AC-FT)        0.          0.          0.          0.

                                CUMULATIVE AREA =     .03 SQ MI

          ***                  ***          ***          ***          ***

                                  HYDROGRAPH AT STATION    DB25a
                                TRANSPOSITION AREA     14.0 SQ MI

     TOTAL RAINFALL =    1.17, TOTAL LOSS =    1.03, TOTAL EXCESS =     .14

   PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     24.92-HR
+    (CFS)        (HR)
                                    (CFS)
+       1.     12.08                    0.          0.          0.          0.
                                (INCHES)      .098        .138        .139        .139
                                 (AC-FT)        0.          0.          0.          0.

                                CUMULATIVE AREA =     .03 SQ MI

          ***                  ***          ***          ***          ***

                                  HYDROGRAPH AT STATION    DB25a
                                TRANSPOSITION AREA     24.0 SQ MI

     TOTAL RAINFALL =    1.15, TOTAL LOSS =    1.02, TOTAL EXCESS =     .14

   PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     24.92-HR
+    (CFS)        (HR)
                                    (CFS)
+       1.     12.08                    0.          0.          0.          0.
                                (INCHES)      .097        .137        .137        .137
                                 (AC-FT)        0.          0.          0.          0.

                                CUMULATIVE AREA =     .03 SQ MI

          ***                  ***          ***          ***          ***

                                  HYDROGRAPH AT STATION    DB25a
                                TRANSPOSITION AREA     36.5 SQ MI

     TOTAL RAINFALL =    1.14, TOTAL LOSS =    1.00, TOTAL EXCESS =     .14

   PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     24.92-HR
+    (CFS)        (HR)
                                    (CFS)
+       1.     12.08                    0.          0.          0.          0.
                                (INCHES)      .096        .136        .136        .136
                                 (AC-FT)        0.          0.          0.          0.

                                CUMULATIVE AREA =     .03 SQ MI

          ***                  ***          ***          ***          ***

                                  HYDROGRAPH AT STATION    DB25a
                                TRANSPOSITION AREA     50.0 SQ MI

     TOTAL RAINFALL =    1.13, TOTAL LOSS =    1.00, TOTAL EXCESS =     .14

   PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     24.92-HR
+    (CFS)        (HR)
                                    (CFS)
+       1.     12.08                    0.          0.          0.          0.
                                (INCHES)      .095        .135        .135        .135
                                 (AC-FT)        0.          0.          0.          0.

                                CUMULATIVE AREA =     .03 SQ MI
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INTERPOLATED HYDROGRAPH AT DB25a

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	1.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	1.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	1.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	1.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	1.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	1.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	1.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	1.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	0.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	0.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	0.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	0.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	0.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	0.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	0.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	0.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	0.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	0.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	0.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	0.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	0.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	0.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	0.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	0.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	0.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	0.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	0.	1		2055	252	0.

1	0215	28	0.	*	1	0830	103	0.	*	1	1445	178	0.	*	1	2100	253	0.
1	0220	29	0.	*	1	0835	104	0.	*	1	1450	179	0.	*	1	2105	254	0.
1	0225	30	0.	*	1	0840	105	0.	*	1	1455	180	0.	*	1	2110	255	0.
1	0230	31	0.	*	1	0845	106	0.	*	1	1500	181	0.	*	1	2115	256	0.
1	0235	32	0.	*	1	0850	107	0.	*	1	1505	182	0.	*	1	2120	257	0.
1	0240	33	0.	*	1	0855	108	0.	*	1	1510	183	0.	*	1	2125	258	0.
1	0245	34	0.	*	1	0900	109	0.	*	1	1515	184	0.	*	1	2130	259	0.
1	0250	35	0.	*	1	0905	110	0.	*	1	1520	185	0.	*	1	2135	260	0.
1	0255	36	0.	*	1	0910	111	0.	*	1	1525	186	0.	*	1	2140	261	0.
1	0300	37	0.	*	1	0915	112	0.	*	1	1530	187	0.	*	1	2145	262	0.
1	0305	38	0.	*	1	0920	113	0.	*	1	1535	188	0.	*	1	2150	263	0.
1	0310	39	0.	*	1	0925	114	0.	*	1	1540	189	0.	*	1	2155	264	0.
1	0315	40	0.	*	1	0930	115	0.	*	1	1545	190	0.	*	1	2200	265	0.
1	0320	41	0.	*	1	0935	116	0.	*	1	1550	191	0.	*	1	2205	266	0.
1	0325	42	0.	*	1	0940	117	0.	*	1	1555	192	0.	*	1	2210	267	0.
1	0330	43	0.	*	1	0945	118	0.	*	1	1600	193	0.	*	1	2215	268	0.
1	0335	44	0.	*	1	0950	119	0.	*	1	1605	194	0.	*	1	2220	269	0.
1	0340	45	0.	*	1	0955	120	0.	*	1	1610	195	0.	*	1	2225	270	0.
1	0345	46	0.	*	1	1000	121	0.	*	1	1615	196	0.	*	1	2230	271	0.
1	0350	47	0.	*	1	1005	122	0.	*	1	1620	197	0.	*	1	2235	272	0.
1	0355	48	0.	*	1	1010	123	0.	*	1	1625	198	0.	*	1	2240	273	0.
1	0400	49	0.	*	1	1015	124	0.	*	1	1630	199	0.	*	1	2245	274	0.
1	0405	50	0.	*	1	1020	125	0.	*	1	1635	200	0.	*	1	2250	275	0.
1	0410	51	0.	*	1	1025	126	0.	*	1	1640	201	0.	*	1	2255	276	0.
1	0415	52	0.	*	1	1030	127	0.	*	1	1645	202	0.	*	1	2300	277	0.
1	0420	53	0.	*	1	1035	128	0.	*	1	1650	203	0.	*	1	2305	278	0.
1	0425	54	0.	*	1	1040	129	0.	*	1	1655	204	0.	*	1	2310	279	0.
1	0430	55	0.	*	1	1045	130	0.	*	1	1700	205	0.	*	1	2315	280	0.
1	0435	56	0.	*	1	1050	131	0.	*	1	1705	206	0.	*	1	2320	281	0.
1	0440	57	0.	*	1	1055	132	0.	*	1	1710	207	0.	*	1	2325	282	0.
1	0445	58	0.	*	1	1100	133	0.	*	1	1715	208	0.	*	1	2330	283	0.
1	0450	59	0.	*	1	1105	134	0.	*	1	1720	209	0.	*	1	2335	284	0.
1	0455	60	0.	*	1	1110	135	0.	*	1	1725	210	0.	*	1	2340	285	0.
1	0500	61	0.	*	1	1115	136	0.	*	1	1730	211	0.	*	1	2345	286	0.
1	0505	62	0.	*	1	1120	137	0.	*	1	1735	212	0.	*	1	2350	287	0.
1	0510	63	0.	*	1	1125	138	0.	*	1	1740	213	0.	*	1	2355	288	0.
1	0515	64	0.	*	1	1130	139	0.	*	1	1745	214	0.	*	2	0000	289	0.
1	0520	65	0.	*	1	1135	140	0.	*	1	1750	215	0.	*	2	0005	290	0.
1	0525	66	0.	*	1	1140	141	0.	*	1	1755	216	0.	*	2	0010	291	0.
1	0530	67	0.	*	1	1145	142	0.	*	1	1800	217	0.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	1.	*	1	1805	218	0.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	1.	*	1	1810	219	0.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	1.	*	1	1815	220	0.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	1.	*	1	1820	221	0.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	1.	*	1	1825	222	0.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	1.	*	1	1830	223	0.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	1.	*	1	1835	224	0.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	1.	*	1	1840	225	0.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
1.	12.08		0.	0.	0.	0.
		(INCHES)	.099	.141	.141	.141
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .03 SQ MI

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294 KK    *     C_6     *
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Combine Basins 25a 25 24a 24 22

296 HC HYDROGRAPH COMBINATION
ICOMP 3 NUMBER OF HYDROGRAPHS TO COMBINE

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HYDROGRAPH AT STATION C_6
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 283.	12.08		36.	12.	12.	12.
		(INCHES)	.638	.849	.850	.850
		(AC-FT)	18.	24.	24.	24.

CUMULATIVE AREA = .53 SQ MI

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HYDROGRAPH AT STATION C_6
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
276.	12.08		36.	12.	11.	11.
		(INCHES)	.623	.829	.831	.831
		(AC-FT)	18.	24.	24.	24.

CUMULATIVE AREA = .53 SQ MI

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HYDROGRAPH AT STATION C_6

TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
273.	12.08	(CFS) 35.	12.	11.	11.
		(INCHES) .615	.820	.821	.821
		(AC-FT) 17.	23.	23.	23.

CUMULATIVE AREA = .53 SQ MI

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HYDROGRAPH AT STATION C_6
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
269.	12.08	(CFS) 35.	12.	11.	11.
		(INCHES) .607	.810	.811	.811
		(AC-FT) 17.	23.	23.	23.

CUMULATIVE AREA = .53 SQ MI

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HYDROGRAPH AT STATION C_6
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
267.	12.08	(CFS) 34.	11.	11.	11.
		(INCHES) .602	.803	.805	.805
		(AC-FT) 17.	23.	23.	23.

CUMULATIVE AREA = .53 SQ MI

INTERPOLATED HYDROGRAPH AT C_6

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	4.	1		1230	151	75.	1		1845	226	4.
1		0005	2	0.	1		0620	77	4.	1		1235	152	62.	1		1850	227	4.
1		0010	3	1.	1		0625	78	4.	1		1240	153	52.	1		1855	228	4.
1		0015	4	1.	1		0630	79	5.	1		1245	154	44.	1		1900	229	4.
1		0020	5	2.	1		0635	80	5.	1		1250	155	38.	1		1905	230	4.
1		0025	6	2.	1		0640	81	5.	1		1255	156	33.	1		1910	231	4.
1		0030	7	2.	1		0645	82	5.	1		1300	157	29.	1		1915	232	4.
1		0035	8	2.	1		0650	83	5.	1		1305	158	26.	1		1920	233	4.
1		0040	9	2.	1		0655	84	5.	1		1310	159	23.	1		1925	234	4.
1		0045	10	2.	1		0700	85	5.	1		1315	160	21.	1		1930	235	4.
1		0050	11	2.	1		0705	86	5.	1		1320	161	19.	1		1935	236	4.
1		0055	12	2.	1		0710	87	5.	1		1325	162	18.	1		1940	237	4.
1		0100	13	2.	1		0715	88	5.	1		1330	163	16.	1		1945	238	4.
1		0105	14	3.	1		0720	89	5.	1		1335	164	15.	1		1950	239	3.
1		0110	15	3.	1		0725	90	5.	1		1340	165	14.	1		1955	240	3.
1		0115	16	3.	1		0730	91	5.	1		1345	166	13.	1		2000	241	3.
1		0120	17	3.	1		0735	92	5.	1		1350	167	12.	1		2005	242	3.
1		0125	18	3.	1		0740	93	5.	1		1355	168	12.	1		2010	243	3.
1		0130	19	3.	1		0745	94	5.	1		1400	169	11.	1		2015	244	3.
1		0135	20	3.	1		0750	95	5.	1		1405	170	11.	1		2020	245	3.
1		0140	21	3.	1		0755	96	5.	1		1410	171	10.	1		2025	246	3.
1		0145	22	3.	1		0800	97	5.	1		1415	172	10.	1		2030	247	3.
1		0150	23	3.	1		0805	98	5.	1		1420	173	10.	1		2035	248	3.
1		0155	24	3.	1		0810	99	5.	1		1425	174	9.	1		2040	249	3.
1		0200	25	3.	1		0815	100	6.	1		1430	175	9.	1		2045	250	3.
1		0205	26	3.	1		0820	101	6.	1		1435	176	9.	1		2050	251	3.
1		0210	27	3.	1		0825	102	6.	1		1440	177	9.	1		2055	252	3.
1		0215	28	3.	1		0830	103	6.	1		1445	178	9.	1		2100	253	3.
1		0220	29	3.	1		0835	104	6.	1		1450	179	8.	1		2105	254	3.
1		0225	30	3.	1		0840	105	6.	1		1455	180	8.	1		2110	255	3.
1		0230	31	3.	1		0845	106	7.	1		1500	181	8.	1		2115	256	3.
1		0235	32	3.	1		0850	107	7.	1		1505	182	8.	1		2120	257	3.
1		0240	33	3.	1		0855	108	7.	1		1510	183	8.	1		2125	258	3.
1		0245	34	3.	1		0900	109	7.	1		1515	184	8.	1		2130	259	3.
1		0250	35	3.	1		0905	110	7.	1		1520	185	7.	1		2135	260	3.
1		0255	36	3.	1		0910	111	8.	1		1525	186	7.	1		2140	261	3.
1		0300	37	3.	1		0915	112	8.	1		1530	187	7.	1		2145	262	3.
1		0305	38	3.	1		0920	113	8.	1		1535	188	7.	1		2150	263	3.
1		0310	39	3.	1		0925	114	8.	1		1540	189	7.	1		2155	264	3.
1		0315	40	3.	1		0930	115	8.	1		1545	190	7.	1		2200	265	3.
1		0320	41	3.	1		0935	116	8.	1		1550	191	7.	1		2205	266	3.
1		0325	42	3.	1		0940	117	8.	1		1555	192	6.	1		2210	267	3.
1		0330	43	3.	1		0945	118	8.	1		1600	193	6.	1		2215	268	3.
1		0335	44	3.	1		0950	119	8.	1		1605	194	6.	1		2220	269	3.
1		0340	45	3.	1		0955	120	9.	1		1610	195	6.	1		2225	270	3.
1		0345	46	3.	1		1000	121	9.	1		1615	196	6.	1		2230	271	3.
1		0350	47	3.	1		1005	122	9.	1		1620	197	6.	1		2235	272	3.
1		0355	48	3.	1		1010	123	10.	1		1625	198	6.	1		2240	273	3.
1		0400	49	3.	1		1015	124	10.	1		1630	199	6.	1		2245	274	3.
1		0405	50	3.	1		1020	125	10.	1		1635	200	6.	1		2250	275	3.
1		0410	51	3.	1		1025	126	11.	1		1640	201	6.	1		2255	276	3.
1		0415	52	3.	1		1030	127	11.	1		1645	202	5.	1		2300	277	3.
1		0420	53	3.	1		1035	128	12.	1		1650	203	5.	1		2305	278	3.
1		0425	54	3.	1		1040	129	12.	1		1655	204	5.	1		2310	279	3.
1		0430	55	4.	1		1045	130	13.	1		1700	205	5.	1		2315	280	3.
1		0435	56	4.	1		1050	131	14.	1		1705	206	5.	1		2320	281	3.
1		0440	57	4.	1		1055	132	15.	1		1710	207	5.	1		2325	282	3.
1		0445	58	4.	1		1100	133	15.	1		1715	208	5.	1		2330	283	3.
1		0450	59	4.	1		1105	134	16.	1		1720	209	5.	1		2335	284	3.
1		0455	60	4.	1		1110	135	17.	1		1725	210	5.	1		2340	285	3.
1		0500	61	4.	1		1115	136	19.	1		1730	211	5.	1		2345	286	3.

1	0505	62	4.	*	1	1120	137	20.	*	1	1735	212	5.	*	1	2350	287	3.
1	0510	63	4.	*	1	1125	138	22.	*	1	1740	213	5.	*	1	2355	288	3.
1	0515	64	4.	*	1	1130	139	24.	*	1	1745	214	5.	*	2	0000	289	3.
1	0520	65	4.	*	1	1135	140	28.	*	1	1750	215	5.	*	2	0005	290	2.
1	0525	66	4.	*	1	1140	141	42.	*	1	1755	216	5.	*	2	0010	291	2.
1	0530	67	4.	*	1	1145	142	72.	*	1	1800	217	5.	*	2	0015	292	1.
1	0535	68	4.	*	1	1150	143	123.	*	1	1805	218	5.	*	2	0020	293	1.
1	0540	69	4.	*	1	1155	144	198.	*	1	1810	219	5.	*	2	0025	294	1.
1	0545	70	4.	*	1	1200	145	269.	*	1	1815	220	4.	*	2	0030	295	0.
1	0550	71	4.	*	1	1205	146	279.	*	1	1820	221	4.	*	2	0035	296	0.
1	0555	72	4.	*	1	1210	147	221.	*	1	1825	222	4.	*	2	0040	297	0.
1	0600	73	4.	*	1	1215	148	154.	*	1	1830	223	4.	*	2	0045	298	0.
1	0605	74	4.	*	1	1220	149	114.	*	1	1835	224	4.	*	2	0050	299	0.
1	0610	75	4.	*	1	1225	150	91.	*	1	1840	225	4.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 279.	12.08		36.	12.	12.	12.
		(INCHES)	.629	.838	.840	.840
		(AC-FT)	18.	24.	24.	24.

CUMULATIVE AREA = .53 SQ MI

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297 KK

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* C_7 *
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Combine all Basins

299 HC HYDROGRAPH COMBINATION
ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE
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HYDROGRAPH AT STATION C_7
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)					
		(CFS)				
283.	12.08		36.	12.	12.	12.
		(INCHES)	.237	.315	.316	.316
		(AC-FT)	18.	24.	24.	24.

CUMULATIVE AREA = 1.43 SQ MI

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HYDROGRAPH AT STATION C_7
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 276.	12.08		36.	12.	11.	11.
		(INCHES)	.231	.308	.309	.309
		(AC-FT)	18.	24.	24.	24.

CUMULATIVE AREA = 1.43 SQ MI

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HYDROGRAPH AT STATION C_7
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 273.	12.08		35.	12.	11.	11.
		(INCHES)	.229	.305	.305	.305
		(AC-FT)	17.	23.	23.	23.

CUMULATIVE AREA = 1.43 SQ MI

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HYDROGRAPH AT STATION C_7
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 269.	12.08		35.	12.	11.	11.
		(INCHES)	.226	.301	.301	.301
		(AC-FT)	17.	23.	23.	23.

CUMULATIVE AREA = 1.43 SQ MI

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HYDROGRAPH AT STATION C_7
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
267.	12.08	(CFS)	34.	11.	11.	11.
		(INCHES)	.224	.298	.299	.299
		(AC-FT)	17.	23.	23.	23.

CUMULATIVE AREA = 1.43 SQ MI

INTERPOLATED HYDROGRAPH AT C_7

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	4.	1		1230	151	75.	1		1845	226	4.
1		0005	2	0.	1		0620	77	4.	1		1235	152	62.	1		1850	227	4.
1		0010	3	1.	1		0625	78	4.	1		1240	153	52.	1		1855	228	4.
1		0015	4	1.	1		0630	79	5.	1		1245	154	44.	1		1900	229	4.
1		0020	5	2.	1		0635	80	5.	1		1250	155	38.	1		1905	230	4.
1		0025	6	2.	1		0640	81	5.	1		1255	156	33.	1		1910	231	4.
1		0030	7	2.	1		0645	82	5.	1		1300	157	29.	1		1915	232	4.
1		0035	8	2.	1		0650	83	5.	1		1305	158	26.	1		1920	233	4.
1		0040	9	2.	1		0655	84	5.	1		1310	159	23.	1		1925	234	4.
1		0045	10	2.	1		0700	85	5.	1		1315	160	21.	1		1930	235	4.
1		0050	11	2.	1		0705	86	5.	1		1320	161	19.	1		1935	236	4.
1		0055	12	2.	1		0710	87	5.	1		1325	162	18.	1		1940	237	4.
1		0100	13	2.	1		0715	88	5.	1		1330	163	16.	1		1945	238	4.
1		0105	14	3.	1		0720	89	5.	1		1335	164	15.	1		1950	239	3.
1		0110	15	3.	1		0725	90	5.	1		1340	165	14.	1		1955	240	3.
1		0115	16	3.	1		0730	91	5.	1		1345	166	13.	1		2000	241	3.
1		0120	17	3.	1		0735	92	5.	1		1350	167	12.	1		2005	242	3.
1		0125	18	3.	1		0740	93	5.	1		1355	168	12.	1		2010	243	3.
1		0130	19	3.	1		0745	94	5.	1		1400	169	11.	1		2015	244	3.
1		0135	20	3.	1		0750	95	5.	1		1405	170	11.	1		2020	245	3.
1		0140	21	3.	1		0755	96	5.	1		1410	171	10.	1		2025	246	3.
1		0145	22	3.	1		0800	97	5.	1		1415	172	10.	1		2030	247	3.
1		0150	23	3.	1		0805	98	5.	1		1420	173	9.	1		2035	248	3.
1		0155	24	3.	1		0810	99	5.	1		1425	174	9.	1		2040	249	3.
1		0200	25	3.	1		0815	100	6.	1		1430	175	9.	1		2045	250	3.
1		0205	26	3.	1		0820	101	6.	1		1435	176	9.	1		2050	251	3.
1		0210	27	3.	1		0825	102	6.	1		1440	177	9.	1		2055	252	3.
1		0215	28	3.	1		0830	103	6.	1		1445	178	9.	1		2100	253	3.
1		0220	29	3.	1		0835	104	6.	1		1450	179	8.	1		2105	254	3.
1		0225	30	3.	1		0840	105	6.	1		1455	180	8.	1		2110	255	3.
1		0230	31	3.	1		0845	106	7.	1		1500	181	8.	1		2115	256	3.
1		0235	32	3.	1		0850	107	7.	1		1505	182	8.	1		2120	257	3.
1		0240	33	3.	1		0855	108	7.	1		1510	183	8.	1		2125	258	3.
1		0245	34	3.	1		0900	109	7.	1		1515	184	8.	1		2130	259	3.
1		0250	35	3.	1		0905	110	7.	1		1520	185	7.	1		2135	260	3.
1		0255	36	3.	1		0910	111	8.	1		1525	186	7.	1		2140	261	3.
1		0300	37	3.	1		0915	112	8.	1		1530	187	7.	1		2145	262	3.
1		0305	38	3.	1		0920	113	8.	1		1535	188	7.	1		2150	263	3.
1		0310	39	3.	1		0925	114	8.	1		1540	189	7.	1		2155	264	3.
1		0315	40	3.	1		0930	115	8.	1		1545	190	7.	1		2200	265	3.
1		0320	41	3.	1		0935	116	8.	1		1550	191	7.	1		2205	266	3.
1		0325	42	3.	1		0940	117	8.	1		1555	192	6.	1		2210	267	3.
1		0330	43	3.	1		0945	118	8.	1		1600	193	6.	1		2215	268	3.
1		0335	44	3.	1		0950	119	8.	1		1605	194	6.	1		2220	269	3.
1		0340	45	3.	1		0955	120	9.	1		1610	195	6.	1		2225	270	3.
1		0345	46	3.	1		1000	121	9.	1		1615	196	6.	1		2230	271	3.
1		0350	47	3.	1		1005	122	9.	1		1620	197	6.	1		2235	272	3.
1		0355	48	3.	1		1010	123	10.	1		1625	198	6.	1		2240	273	3.
1		0400	49	3.	1		1015	124	10.	1		1630	199	6.	1		2245	274	3.
1		0405	50	3.	1		1020	125	10.	1		1635	200	6.	1		2250	275	3.
1		0410	51	3.	1		1025	126	11.	1		1640	201	6.	1		2255	276	3.
1		0415	52	3.	1		1030	127	11.	1		1645	202	5.	1		2300	277	3.
1		0420	53	3.	1		1035	128	12.	1		1650	203	5.	1		2305	278	3.
1		0425	54	3.	1		1040	129	12.	1		1655	204	5.	1		2310	279	3.
1		0430	55	4.	1		1045	130	13.	1		1700	205	5.	1		2315	280	3.
1		0435	56	4.	1		1050	131	14.	1		1705	206	5.	1		2320	281	3.
1		0440	57	4.	1		1055	132	14.	1		1710	207	5.	1		2325	282	3.
1		0445	58	4.	1		1100	133	15.	1		1715	208	5.	1		2330	283	3.
1		0450	59	4.	1		1105	134	16.	1		1720	209	5.	1		2335	284	3.
1		0455	60	4.	1		1110	135	17.	1		1725	210	5.	1		2340	285	3.
1		0500	61	4.	1		1115	136	19.	1		1730	211	5.	1		2345	286	3.
1		0505	62	4.	1		1120	137	20.	1		1735	212	5.	1		2350	287	3.
1		0510	63	4.	1		1125	138	22.	1		1740	213	5.	1		2355	288	3.
1		0515	64	4.	1		1130	139	24.	1		1745	214	5.	2		0000	289	3.
1		0520	65	4.	1		1135	140	28.	1		1750	215	5.	2		0005	290	2.
1		0525	66	4.	1		1140	141	42.	1		1755	216	5.	2		0010	291	2.
1		0530	67	4.	1		1145	142	71.	1		1800	217	5.	2		0015	292	1.
1		0535	68	4.	1		1150	143	123.	1		1805	218	5.	2		0020	293	1.
1		0540	69	4.	1		1155	144	198.	1		1810	219	5.	2		0025	294	1.
1		0545	70	4.	1		1200	145	268.	1		1815	220	4.	2		0030	295	0.
1		0550	71	4.	1		1205	146	278.	1		1820	221	4.	2		0035	296	0.
1		0555	72	4.	1		1210	147	220.	1		1825	222	4.	2		0040	297	0.
1		0600	73	4.	1		1215	148	154.	1		1830	223	4.	2		0045	298	0.
1		0605	74	4.	1		1220	149	114.	1		1835	224	4.	2		0050	299	0.
1		0610	75	4.	1		1225	150	91.	1		1840	225	4.	2		0055	300	0.

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
278.	12.08	(CFS)	36.	12.	12.	12.
		(INCHES)	.233	.310	.311	.311
		(AC-FT)	18.	24.	24.	24.

CUMULATIVE AREA = 1.43 SQ MI

```
300 KK      *            *
            *   R_PD L   *
            *            *
            **************
                        route Hydrograph Through Lower Airport East Pond

                HYDROGRAPH ROUTING DATA

302 RS          STORAGE ROUTING
                     NSTPS          1  NUMBER OF SUBREACHES
                      ITYP       STOR  TYPE OF INITIAL CONDITION
                    RSVRIC         .00  INITIAL CONDITION
                         X         .00 WORKING R AND D COEFFICIENT

303 SV            STORAGE          .0        .1        4.3       13.8       24.6       30.0

304 SQ          DISCHARGE          0.        6.        8.        10.        11.        14.

305 SE          ELEVATION     4758.40   4760.00   4762.00   4764.00   4766.00   4766.20
                                                                  ***

      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION   R_PD L
                   TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)          (CFS)
+      10.      14.25                  10.           7.           7.           7.
                             (INCHES)  .063         .185         .186         .186
                              (AC-FT)    5.          14.          14.          14.

 PEAK STORAGE   TIME                                MAXIMUM AVERAGE STORAGE
                                      6-HR        24-HR        72-HR     24.92-HR
+  (AC-FT)      (HR)
       14.      14.25                  14.           7.           7.           7.

  PEAK STAGE    TIME                                MAXIMUM AVERAGE STAGE
                                      6-HR        24-HR        72-HR     24.92-HR
+   (FEET)      (HR)
   4764.11      14.33             4764.03     4761.91      4761.80      4761.80

                    CUMULATIVE AREA =    1.43 SQ MI

      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION   R_PD L
                   TRANSPOSITION AREA      14.0 SQ MI

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     24.92-HR
    (CFS)       (HR)          (CFS)
+      10.      14.08                  10.           7.           7.           7.
                             (INCHES)  .062         .183         .184         .184
                              (AC-FT)    5.          14.          14.          14.

 PEAK STORAGE   TIME                                MAXIMUM AVERAGE STORAGE
                                      6-HR        24-HR        72-HR     24.92-HR
+  (AC-FT)      (HR)
       14.      14.25                  14.           7.           6.           6.

  PEAK STAGE    TIME                                MAXIMUM AVERAGE STAGE
                                      6-HR        24-HR        72-HR     24.92-HR
+   (FEET)      (HR)
   4764.04      14.25             4763.95     4761.86      4761.74      4761.74

                    CUMULATIVE AREA =    1.43 SQ MI

      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION   R_PD L
                   TRANSPOSITION AREA      24.0 SQ MI

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)          (CFS)
+      10.      14.08                  10.           7.           7.           7.
                             (INCHES)  .062         .182         .183         .183
                              (AC-FT)    5.          14.          14.          14.

 PEAK STORAGE   TIME                                MAXIMUM AVERAGE STORAGE
                                      6-HR        24-HR        72-HR     24.92-HR
+  (AC-FT)      (HR)
       14.      14.25                  13.           7.           6.           6.

  PEAK STAGE    TIME                                MAXIMUM AVERAGE STAGE
                                      6-HR        24-HR        72-HR     24.92-HR
+   (FEET)      (HR)
   4764.00      14.25             4763.91     4761.83      4761.72      4761.72

                    CUMULATIVE AREA =    1.43 SQ MI

      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION   R_PD L
                   TRANSPOSITION AREA      36.5 SQ MI

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)          (CFS)
+      10.      14.08                   9.           7.           7.           7.
                             (INCHES)  .062         .181         .182         .182
                              (AC-FT)    5.          14.          14.          14.

 PEAK STORAGE   TIME                                MAXIMUM AVERAGE STORAGE
```

+ (AC-FT)	(HR)	6-HR	24-HR	72-HR	24.92-HR
14.	14.17	13.	6.	6.	6.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
4763.96	14.25	4763.86	4761.80	4761.69	4761.69

CUMULATIVE AREA = 1.43 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R_PD L
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
+ 10.	14.08 (CFS)	9.	7.	7.	7.
	(INCHES)	.061	.181	.182	.182
	(AC-FT)	5.	14.	14.	14.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
13.	14.17	13.	6.	6.	6.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
4763.93	14.17	4763.83	4761.78	4761.67	4761.67

CUMULATIVE AREA = 1.43 SQ MI

****

INTERPOLATED HYDROGRAPH AT R_PD L

****

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	4.	1		1230	151	9.	1		1845	226	9.
1		0005	2	0.	1		0620	77	4.	1		1235	152	9.	1		1850	227	9.
1		0010	3	0.	1		0625	78	4.	1		1240	153	9.	1		1855	228	9.
1		0015	4	1.	1		0630	79	4.	1		1245	154	9.	1		1900	229	9.
1		0020	5	1.	1		0635	80	4.	1		1250	155	9.	1		1905	230	9.
1		0025	6	1.	1		0640	81	5.	1		1255	156	10.	1		1910	231	9.
1		0030	7	2.	1		0645	82	5.	1		1300	157	10.	1		1915	232	9.
1		0035	8	2.	1		0650	83	5.	1		1305	158	10.	1		1920	233	9.
1		0040	9	2.	1		0655	84	5.	1		1310	159	10.	1		1925	234	9.
1		0045	10	2.	1		0700	85	5.	1		1315	160	10.	1		1930	235	9.
1		0050	11	2.	1		0705	86	5.	1		1320	161	10.	1		1935	236	9.
1		0055	12	2.	1		0710	87	5.	1		1325	162	10.	1		1940	237	9.
1		0100	13	2.	1		0715	88	5.	1		1330	163	10.	1		1945	238	9.
1		0105	14	2.	1		0720	89	5.	1		1335	164	10.	1		1950	239	9.
1		0110	15	3.	1		0725	90	5.	1		1340	165	10.	1		1955	240	9.
1		0115	16	3.	1		0730	91	5.	1		1345	166	10.	1		2000	241	9.
1		0120	17	3.	1		0735	92	5.	1		1350	167	10.	1		2005	242	9.
1		0125	18	3.	1		0740	93	5.	1		1355	168	10.	1		2010	243	9.
1		0130	19	3.	1		0745	94	5.	1		1400	169	10.	1		2015	244	9.
1		0135	20	3.	1		0750	95	5.	1		1405	170	10.	1		2020	245	9.
1		0140	21	3.	1		0755	96	5.	1		1410	171	10.	1		2025	246	9.
1		0145	22	3.	1		0800	97	5.	1		1415	172	10.	1		2030	247	9.
1		0150	23	3.	1		0805	98	5.	1		1420	173	10.	1		2035	248	9.
1		0155	24	3.	1		0810	99	5.	1		1425	174	10.	1		2040	249	9.
1		0200	25	3.	1		0815	100	5.	1		1430	175	10.	1		2045	250	9.
1		0205	26	3.	1		0820	101	5.	1		1435	176	10.	1		2050	251	9.
1		0210	27	3.	1		0825	102	6.	1		1440	177	10.	1		2055	252	9.
1		0215	28	3.	1		0830	103	6.	1		1445	178	10.	1		2100	253	9.
1		0220	29	3.	1		0835	104	6.	1		1450	179	10.	1		2105	254	9.
1		0225	30	3.	1		0840	105	6.	1		1455	180	10.	1		2110	255	9.
1		0230	31	3.	1		0845	106	6.	1		1500	181	10.	1		2115	256	9.
1		0235	32	3.	1		0850	107	6.	1		1505	182	10.	1		2120	257	9.
1		0240	33	3.	1		0855	108	6.	1		1510	183	10.	1		2125	258	9.
1		0245	34	3.	1		0900	109	6.	1		1515	184	10.	1		2130	259	9.
1		0250	35	3.	1		0905	110	6.	1		1520	185	10.	1		2135	260	9.
1		0255	36	3.	1		0910	111	6.	1		1525	186	10.	1		2140	261	9.
1		0300	37	3.	1		0915	112	6.	1		1530	187	10.	1		2145	262	9.
1		0305	38	3.	1		0920	113	6.	1		1535	188	10.	1		2150	263	9.
1		0310	39	3.	1		0925	114	6.	1		1540	189	10.	1		2155	264	9.
1		0315	40	3.	1		0930	115	6.	1		1545	190	10.	1		2200	265	9.
1		0320	41	3.	1		0935	116	6.	1		1550	191	10.	1		2205	266	9.
1		0325	42	3.	1		0940	117	6.	1		1555	192	10.	1		2210	267	9.
1		0330	43	3.	1		0945	118	6.	1		1600	193	10.	1		2215	268	9.
1		0335	44	3.	1		0950	119	6.	1		1605	194	10.	1		2220	269	9.
1		0340	45	3.	1		0955	120	6.	1		1610	195	10.	1		2225	270	9.
1		0345	46	3.	1		1000	121	6.	1		1615	196	10.	1		2230	271	9.
1		0350	47	3.	1		1005	122	6.	1		1620	197	10.	1		2235	272	9.
1		0355	48	3.	1		1010	123	6.	1		1625	198	10.	1		2240	273	9.
1		0400	49	3.	1		1015	124	6.	1		1630	199	10.	1		2245	274	9.
1		0405	50	3.	1		1020	125	6.	1		1635	200	10.	1		2250	275	9.
1		0410	51	3.	1		1025	126	6.	1		1640	201	10.	1		2255	276	9.
1		0415	52	3.	1		1030	127	6.	1		1645	202	10.	1		2300	277	9.
1		0420	53	3.	1		1035	128	6.	1		1650	203	10.	1		2305	278	9.
1		0425	54	3.	1		1040	129	6.	1		1655	204	10.	1		2310	279	9.
1		0430	55	3.	1		1045	130	6.	1		1700	205	10.	1		2315	280	9.
1		0435	56	4.	1		1050	131	6.	1		1705	206	10.	1		2320	281	9.
1		0440	57	4.	1		1055	132	6.	1		1710	207	10.	1		2325	282	9.
1		0445	58	4.	1		1100	133	6.	1		1715	208	10.	1		2330	283	9.
1		0450	59	4.	1		1105	134	6.	1		1720	209	10.	1		2335	284	9.
1		0455	60	4.	1		1110	135	6.	1		1725	210	10.	1		2340	285	9.
1		0500	61	4.	1		1115	136	6.	1		1730	211	10.	1		2345	286	9.
1		0505	62	4.	1		1120	137	6.	1		1735	212	10.	1		2350	287	9.
1		0510	63	4.	1		1125	138	6.	1		1740	213	10.	1		2355	288	9.
1		0515	64	4.	1		1130	139	6.	1		1745	214	9.	2		0000	289	9.
1		0520	65	4.	1		1135	140	6.	1		1750	215	9.	2		0005	290	9.
1		0525	66	4.	1		1140	141	6.	1		1755	216	9.	2		0010	291	9.
1		0530	67	4.	1		1145	142	7.	1		1800	217	9.	2		0015	292	9.
1		0535	68	4.	1		1150	143	7.	1		1805	218	9.	2		0020	293	9.

1	0540	69	4.	*	1	1155	144	7.	*	1	1810	219	9.	*	2	0025	294	9.
1	0545	70	4.	*	1	1200	145	8.	*	1	1815	220	9.	*	2	0030	295	9.
1	0550	71	4.	*	1	1205	146	8.	*	1	1820	221	9.	*	2	0035	296	9.
1	0555	72	4.	*	1	1210	147	9.	*	1	1825	222	9.	*	2	0040	297	9.
1	0600	73	4.	*	1	1215	148	9.	*	1	1830	223	9.	*	2	0045	298	9.
1	0605	74	4.	*	1	1220	149	9.	*	1	1835	224	9.	*	2	0050	299	9.
1	0610	75	4.	*	1	1225	150	9.	*	1	1840	225	9.	*	2	0055	300	9.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 10.	14.08		10.	7.	7.	7.
		(INCHES)	.062	.183	.185	.185
		(AC-FT)	5.	14.	14.	14.

CUMULATIVE AREA = 1.43 SQ MI

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306 KK PR_U

Retrieve Upper Pond Pipe Flow

308 DR RETRIEVE DIVERSION HYDRDGRAPH
ISTAD U_Pipe DIVERSION HYDROGRAPH IDENTIFICATION

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*** *** *** *** ***

HYDROGRAPH AT STATION PR_U
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 13.	21.25		13.	10.	9.	9.
		(INCHES)	.086	.253	.254	.254
		(AC-FT)	7.	19.	19.	19.

CUMULATIVE AREA = .90 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION PR_U
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 13.	21.08		13.	10.	9.	9.
		(INCHES)	.085	.251	.253	.253
		(AC-FT)	7.	19.	19.	19.

CUMULATIVE AREA = .90 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION PR_U
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 13.	21.00		13.	10.	9.	9.
		(INCHES)	.085	.250	.252	.252
		(AC-FT)	7.	19.	19.	19.

CUMULATIVE AREA = .90 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION PR_U
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 13.	20.83		13.	10.	9.	9.
		(INCHES)	.085	.250	.251	.251
		(AC-FT)	6.	19.	19.	19.

CUMULATIVE AREA = .90 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION PR_U
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 13.	20.83		13.	10.	9.	9.
		(INCHES)	.085	.249	.250	.250
		(AC-FT)	6.	19.	19.	19.

CUMULATIVE AREA = .90 SQ MI

INTERPOLATED HYDROGRAPH AT PR_U

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	5.	1		1230	151	12.	1		1845	226	13.
1		0005	2	0.	1		0620	77	5.	1		1235	152	12.	1		1850	227	13.
1		0010	3	0.	1		0625	78	5.	1		1240	153	12.	1		1855	228	13.
1		0015	4	1.	1		0630	79	5.	1		1245	154	12.	1		1900	229	13.
1		0020	5	1.	1		0635	80	5.	1		1250	155	12.	1		1905	230	13.
1		0025	6	1.	1		0640	81	5.	1		1255	156	13.	1		1910	231	13.
1		0030	7	2.	1		0645	82	5.	1		1300	157	13.	1		1915	232	13.
1		0035	8	2.	1		0650	83	5.	1		1305	158	13.	1		1920	233	13.
1		0040	9	2.	1		0655	84	5.	1		1310	159	13.	1		1925	234	13.
1		0045	10	2.	1		0700	85	5.	1		1315	160	13.	1		1930	235	13.
1		0050	11	2.	1		0705	86	5.	1		1320	161	13.	1		1935	236	13.
1		0055	12	2.	1		0710	87	5.	1		1325	162	13.	1		1940	237	13.
1		0100	13	2.	1		0715	88	5.	1		1330	163	13.	1		1945	238	13.
1		0105	14	2.	1		0720	89	5.	1		1335	164	13.	1		1950	239	13.
1		0110	15	2.	1		0725	90	5.	1		1340	165	13.	1		1955	240	13.
1		0115	16	2.	1		0730	91	6.	1		1345	166	13.	1		2000	241	13.
1		0120	17	2.	1		0735	92	6.	1		1350	167	13.	1		2005	242	13.
1		0125	18	2.	1		0740	93	6.	1		1355	168	13.	1		2010	243	13.
1		0130	19	2.	1		0745	94	6.	1		1400	169	13.	1		2015	244	13.
1		0135	20	2.	1		0750	95	6.	1		1405	170	13.	1		2020	245	13.
1		0140	21	3.	1		0755	96	6.	1		1410	171	13.	1		2025	246	13.
1		0145	22	3.	1		0800	97	6.	1		1415	172	13.	1		2030	247	13.
1		0150	23	3.	1		0805	98	6.	1		1420	173	13.	1		2035	248	13.
1		0155	24	3.	1		0810	99	6.	1		1425	174	13.	1		2040	249	13.
1		0200	25	3.	1		0815	100	6.	1		1430	175	13.	1		2045	250	13.
1		0205	26	3.	1		0820	101	6.	1		1435	176	13.	1		2050	251	13.
1		0210	27	3.	1		0825	102	6.	1		1440	177	13.	1		2055	252	13.
1		0215	28	3.	1		0830	103	7.	1		1445	178	13.	1		2100	253	13.
1		0220	29	3.	1		0835	104	7.	1		1450	179	13.	1		2105	254	13.
1		0225	30	3.	1		0840	105	7.	1		1455	180	13.	1		2110	255	13.
1		0230	31	3.	1		0845	106	7.	1		1500	181	13.	1		2115	256	13.
1		0235	32	3.	1		0850	107	7.	1		1505	182	13.	1		2120	257	13.
1		0240	33	3.	1		0855	108	7.	1		1510	183	13.	1		2125	258	13.
1		0245	34	3.	1		0900	109	8.	1		1515	184	13.	1		2130	259	13.
1		0250	35	3.	1		0905	110	8.	1		1520	185	13.	1		2135	260	13.
1		0255	36	3.	1		0910	111	8.	1		1525	186	13.	1		2140	261	13.
1		0300	37	3.	1		0915	112	8.	1		1530	187	13.	1		2145	262	13.
1		0305	38	3.	1		0920	113	8.	1		1535	188	13.	1		2150	263	13.
1		0310	39	3.	1		0925	114	8.	1		1540	189	13.	1		2155	264	13.
1		0315	40	3.	1		0930	115	8.	1		1545	190	13.	1		2200	265	13.
1		0320	41	3.	1		0935	116	8.	1		1550	191	13.	1		2205	266	13.
1		0325	42	3.	1		0940	117	8.	1		1555	192	13.	1		2210	267	13.
1		0330	43	3.	1		0945	118	9.	1		1600	193	13.	1		2215	268	13.
1		0335	44	4.	1		0950	119	9.	1		1605	194	13.	1		2220	269	13.
1		0340	45	4.	1		0955	120	9.	1		1610	195	13.	1		2225	270	13.
1		0345	46	4.	1		1000	121	9.	1		1615	196	13.	1		2230	271	13.
1		0350	47	4.	1		1005	122	10.	1		1620	197	13.	1		2235	272	13.
1		0355	48	4.	1		1010	123	10.	1		1625	198	13.	1		2240	273	13.
1		0400	49	4.	1		1015	124	10.	1		1630	199	13.	1		2245	274	13.
1		0405	50	4.	1		1020	125	11.	1		1635	200	13.	1		2250	275	13.
1		0410	51	4.	1		1025	126	11.	1		1640	201	13.	1		2255	276	13.
1		0415	52	4.	1		1030	127	11.	1		1645	202	13.	1		2300	277	13.
1		0420	53	4.	1		1035	128	11.	1		1650	203	13.	1		2305	278	13.
1		0425	54	4.	1		1040	129	11.	1		1655	204	13.	1		2310	279	13.
1		0430	55	4.	1		1045	130	11.	1		1700	205	13.	1		2315	280	13.
1		0435	56	4.	1		1050	131	11.	1		1705	206	13.	1		2320	281	13.
1		0440	57	4.	1		1055	132	11.	1		1710	207	13.	1		2325	282	13.
1		0445	58	4.	1		1100	133	11.	1		1715	208	13.	1		2330	283	13.
1		0450	59	4.	1		1105	134	11.	1		1720	209	13.	1		2335	284	13.
1		0455	60	4.	1		1110	135	11.	1		1725	210	13.	1		2340	285	13.
1		0500	61	4.	1		1115	136	11.	1		1730	211	13.	1		2345	286	13.
1		0505	62	4.	1		1120	137	11.	1		1735	212	13.	1		2350	287	13.
1		0510	63	4.	1		1125	138	11.	1		1740	213	13.	1		2355	288	13.
1		0515	64	4.	1		1130	139	11.	1		1745	214	13.	2		0000	289	13.
1		0520	65	4.	1		1135	140	11.	1		1750	215	13.	2		0005	290	13.
1		0525	66	4.	1		1140	141	11.	1		1755	216	13.	2		0010	291	13.
1		0530	67	4.	1		1145	142	12.	1		1800	217	13.	2		0015	292	13.
1		0535	68	4.	1		1150	143	12.	1		1805	218	13.	2		0020	293	13.
1		0540	69	5.	1		1155	144	12.	1		1810	219	13.	2		0025	294	13.
1		0545	70	5.	1		1200	145	12.	1		1815	220	13.	2		0030	295	13.
1		0550	71	5.	1		1205	146	12.	1		1820	221	13.	2		0035	296	13.
1		0555	72	5.	1		1210	147	12.	1		1825	222	13.	2		0040	297	13.
1		0600	73	5.	1		1215	148	12.	1		1830	223	13.	2		0045	298	13.
1		0605	74	5.	1		1220	149	12.	1		1835	224	13.	2		0050	299	13.
1		0610	75	5.	1		1225	150	12.	1		1840	225	13.	2		0055	300	13.

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)					
		(CFS)				
13.	21.17		13.	10.	9.	9.
		(INCHES)	.136	.401	.403	.403
		(AC-FT)	7.	19.	19.	19.

CUMULATIVE AREA = .90 SQ MI

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          ***************
          *             *
309 KK    *     C_Out   *
          *             *
          ***************
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Combine 2 Outflow Hydrographs at Canal

311 HC HYDROGRAPH COMBINATION

ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

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HYDROGRAPH AT STATION C_Out
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
23.	17.08	23.	17.	16.	16.
		(INCHES) .147	.438	.440	.440
		(AC-FT) 11.	33.	34.	34.

CUMULATIVE AREA = 1.43 SQ MI

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HYDROGRAPH AT STATION C_Out
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
23.	16.75	23.	17.	16.	16.
		(INCHES) .146	.434	.437	.437
		(AC-FT) 11.	33.	33.	33.

CUMULATIVE AREA = 1.43 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_Out
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
23.	16.67	22.	17.	16.	16.
		(INCHES) .146	.432	.435	.435
		(AC-FT) 11.	33.	33.	33.

CUMULATIVE AREA = 1.43 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_Out
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
22.	16.83	22.	17.	16.	16.
		(INCHES) .146	.431	.433	.433
		(AC-FT) 11.	33.	33.	33.

CUMULATIVE AREA = 1.43 SQ MI

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HYDROGRAPH AT STATION C_Out
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
22.	16.58	22.	17.	16.	16.
		(INCHES) .145	.430	.432	.432
		(AC-FT) 11.	33.	33.	33.

CUMULATIVE AREA = 1.43 SQ MI

INTERPOLATED HYDROGRAPH AT C_Out

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	9.	1		1230	151	22.	1		1845	226	23.
1		0005	2	0.	1		0620	77	9.	1		1235	152	22.	1		1850	227	23.
1		0010	3	1.	1		0625	78	9.	1		1240	153	22.	1		1855	228	23.
1		0015	4	1.	1		0630	79	9.	1		1245	154	22.	1		1900	229	23.
1		0020	5	2.	1		0635	80	9.	1		1250	155	22.	1		1905	230	23.
1		0025	6	3.	1		0640	81	10.	1		1255	156	22.	1		1910	231	23.
1		0030	7	3.	1		0645	82	10.	1		1300	157	22.	1		1915	232	23.
1		0035	8	4.	1		0650	83	10.	1		1305	158	22.	1		1920	233	23.
1		0040	9	4.	1		0655	84	10.	1		1310	159	22.	1		1925	234	23.
1		0045	10	4.	1		0700	85	10.	1		1315	160	22.	1		1930	235	23.
1		0050	11	4.	1		0705	86	10.	1		1320	161	22.	1		1935	236	23.
1		0055	12	4.	1		0710	87	10.	1		1325	162	22.	1		1940	237	23.
1		0100	13	4.	1		0715	88	10.	1		1330	163	22.	1		1945	238	23.
1		0105	14	5.	1		0720	89	10.	1		1335	164	22.	1		1950	239	23.
1		0110	15	5.	1		0725	90	10.	1		1340	165	22.	1		1955	240	23.
1		0115	16	5.	1		0730	91	11.	1		1345	166	22.	1		2000	241	22.
1		0120	17	5.	1		0735	92	11.	1		1350	167	22.	1		2005	242	22.
1		0125	18	5.	1		0740	93	11.	1		1355	168	22.	1		2010	243	22.
1		0130	19	5.	1		0745	94	11.	1		1400	169	22.	1		2015	244	22.
1		0135	20	5.	1		0750	95	11.	1		1405	170	22.	1		2020	245	22.
1		0140	21	5.	1		0755	96	11.	1		1410	171	22.	1		2025	246	22.
1		0145	22	5.	1		0800	97	11.	1		1415	172	22.	1		2030	247	22.

1	0150	23	5.	*	1	0805	98	11.	*	1	1420	173	22.	*	1	2035	248	22.
1	0155	24	5.	*	1	0810	99	11.	*	1	1425	174	22.	*	1	2040	249	22.
1	0200	25	6.	*	1	0815	100	11.	*	1	1430	175	22.	*	1	2045	250	22.
1	0205	26	6.	*	1	0820	101	12.	*	1	1435	176	22.	*	1	2050	251	22.
1	0210	27	6.	*	1	0825	102	12.	*	1	1440	177	22.	*	1	2055	252	22.
1	0215	28	6.	*	1	0830	103	12.	*	1	1445	178	22.	*	1	2100	253	22.
1	0220	29	6.	*	1	0835	104	12.	*	1	1450	179	22.	*	1	2105	254	22.
1	0225	30	6.	*	1	0840	105	12.	*	1	1455	180	22.	*	1	2110	255	22.
1	0230	31	6.	*	1	0845	106	13.	*	1	1500	181	23.	*	1	2115	256	22.
1	0235	32	6.	*	1	0850	107	13.	*	1	1505	182	23.	*	1	2120	257	22.
1	0240	33	6.	*	1	0855	108	13.	*	1	1510	183	23.	*	1	2125	258	22.
1	0245	34	6.	*	1	0900	109	13.	*	1	1515	184	23.	*	1	2130	259	22.
1	0250	35	6.	*	1	0905	110	13.	*	1	1520	185	23.	*	1	2135	260	22.
1	0255	36	6.	*	1	0910	111	13.	*	1	1525	186	23.	*	1	2140	261	22.
1	0300	37	6.	*	1	0915	112	14.	*	1	1530	187	23.	*	1	2145	262	22.
1	0305	38	6.	*	1	0920	113	14.	*	1	1535	188	23.	*	1	2150	263	22.
1	0310	39	6.	*	1	0925	114	14.	*	1	1540	189	23.	*	1	2155	264	22.
1	0315	40	6.	*	1	0930	115	14.	*	1	1545	190	23.	*	1	2200	265	22.
1	0320	41	7.	*	1	0935	116	14.	*	1	1550	191	23.	*	1	2205	266	22.
1	0325	42	7.	*	1	0940	117	14.	*	1	1555	192	23.	*	1	2210	267	22.
1	0330	43	7.	*	1	0945	118	14.	*	1	1600	193	23.	*	1	2215	268	22.
1	0335	44	7.	*	1	0950	119	14.	*	1	1605	194	23.	*	1	2220	269	22.
1	0340	45	7.	*	1	0955	120	15.	*	1	1610	195	23.	*	1	2225	270	22.
1	0345	46	7.	*	1	1000	121	15.	*	1	1615	196	23.	*	1	2230	271	22.
1	0350	47	7.	*	1	1005	122	15.	*	1	1620	197	23.	*	1	2235	272	22.
1	0355	48	7.	*	1	1010	123	16.	*	1	1625	198	23.	*	1	2240	273	22.
1	0400	49	7.	*	1	1015	124	16.	*	1	1630	199	23.	*	1	2245	274	22.
1	0405	50	7.	*	1	1020	125	16.	*	1	1635	200	23.	*	1	2250	275	22.
1	0410	51	7.	*	1	1025	126	17.	*	1	1640	201	23.	*	1	2255	276	22.
1	0415	52	7.	*	1	1030	127	17.	*	1	1645	202	23.	*	1	2300	277	22.
1	0420	53	7.	*	1	1035	128	17.	*	1	1650	203	23.	*	1	2305	278	22.
1	0425	54	7.	*	1	1040	129	17.	*	1	1655	204	23.	*	1	2310	279	22.
1	0430	55	7.	*	1	1045	130	17.	*	1	1700	205	23.	*	1	2315	280	22.
1	0435	56	7.	*	1	1050	131	17.	*	1	1705	206	23.	*	1	2320	281	22.
1	0440	57	8.	*	1	1055	132	17.	*	1	1710	207	23.	*	1	2325	282	22.
1	0445	58	8.	*	1	1100	133	17.	*	1	1715	208	23.	*	1	2330	283	22.
1	0450	59	8.	*	1	1105	134	17.	*	1	1720	209	23.	*	1	2335	284	22.
1	0455	60	8.	*	1	1110	135	17.	*	1	1725	210	23.	*	1	2340	285	22.
1	0500	61	8.	*	1	1115	136	17.	*	1	1730	211	23.	*	1	2345	286	22.
1	0505	62	8.	*	1	1120	137	17.	*	1	1735	212	23.	*	1	2350	287	22.
1	0510	63	8.	*	1	1125	138	18.	*	1	1740	213	23.	*	1	2355	288	22.
1	0515	64	8.	*	1	1130	139	18.	*	1	1745	214	23.	*	2	0000	289	22.
1	0520	65	8.	*	1	1135	140	18.	*	1	1750	215	23.	*	2	0005	290	22.
1	0525	66	8.	*	1	1140	141	18.	*	1	1755	216	23.	*	2	0010	291	22.
1	0530	67	8.	*	1	1145	142	18.	*	1	1800	217	23.	*	2	0015	292	22.
1	0535	68	8.	*	1	1150	143	18.	*	1	1805	218	23.	*	2	0020	293	22.
1	0540	69	8.	*	1	1155	144	19.	*	1	1810	219	23.	*	2	0025	294	22.
1	0545	70	9.	*	1	1200	145	20.	*	1	1815	220	23.	*	2	0030	295	22.
1	0550	71	9.	*	1	1205	146	20.	*	1	1820	221	23.	*	2	0035	296	22.
1	0555	72	9.	*	1	1210	147	21.	*	1	1825	222	23.	*	2	0040	297	22.
1	0600	73	9.	*	1	1215	148	21.	*	1	1830	223	23.	*	2	0045	298	22.
1	0605	74	9.	*	1	1220	149	21.	*	1	1835	224	23.	*	2	0050	299	22.
1	0610	75	9.	*	1	1225	150	21.	*	1	1840	225	23.	*	2	0055	300	22.
				*					*					*				

****

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 23.	17.00		23.	17.	16.	16.
		(INCHES)	.147	.435	.438	.438
		(AC-FT)	11.	33.	33.	33.

CUMULATIVE AREA = 1.43 SQ MI

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          ***************
          *             *
312 KK    *      R16    *
          *             *
          ***************
                  Subbasin

     SUBBASIN RUNOFF DATA

314 BA          SUBBASIN CHARACTERISTICS
                     TAREA          .16  SUBBASIN AREA

315 LG          GREEN AND AMPT LOSS RATE
                     STRTL          .34  STARTING LOSS
                       DTH          .35  MOISTURE DEFICIT
                      PSIF         1.33  WETTING FRONT SUCTION
                     XKSAT          .05  HYDRAULIC CONDUCTIVITY
                     RTIMP        51.00  PERCENT IMPERVIOUS AREA

316 US          SNYDER UNITGRAPH
                       TP          .08  LAG
                       CP          .48  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .08 HR,       R=    .15 HR
                                   SNYDER   TP=    .10 HR,      CP=    .48

                                          UNIT HYDROGRAPH
                                      10 END-OF-PERIOD ORDINATES
               262.      410.      231.      130.       73.       41.       23.       13.       7.        4.

     ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION      R16
                     TRANSPOSITION AREA       .0 SQ MI

   TOTAL RAINFALL =    1.19, TOTAL LOSS =     .43, TOTAL EXCESS =     .76
```

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
100.	12.00	(CFS)	10.	3.	3.	3.
		(INCHES)	.576	.753	.753	.753
		(AC-FT)	5.	6.	6.	6.

CUMULATIVE AREA = .16 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R16
TRANSPOSITION AREA 14.0 SQ MI

TOTAL RAINFALL = 1.17, TOTAL LOSS = .43, TOTAL EXCESS = .74

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
98.	12.00	(CFS)	9.	3.	3.	3.
		(INCHES)	.560	.733	.734	.734
		(AC-FT)	5.	6.	6.	6.

CUMULATIVE AREA = .16 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R16
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.15, TOTAL LOSS = .43, TOTAL EXCESS = .73

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
96.	12.00	(CFS)	9.	3.	3.	3.
		(INCHES)	.552	.724	.724	.724
		(AC-FT)	5.	6.	6.	6.

CUMULATIVE AREA = .16 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R16
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.14, TOTAL LOSS = .42, TOTAL EXCESS = .72

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
95.	12.00	(CFS)	9.	3.	3.	3.
		(INCHES)	.545	.714	.715	.715
		(AC-FT)	5.	6.	6.	6.

CUMULATIVE AREA = .16 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R16
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.13, TOTAL LOSS = .42, TOTAL EXCESS = .71

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
94.	12.00	(CFS)	9.	3.	3.	3.
		(INCHES)	.539	.708	.708	.708
		(AC-FT)	4.	6.	6.	6.

CUMULATIVE AREA = .16 SQ MI

INTERPOLATED HYDROGRAPH AT R16

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	1.	1		1230	151	12.	1		1845	226	1.
1		0005	2	0.	1		0620	77	1.	1		1235	152	9.	1		1850	227	1.
1		0010	3	0.	1		0625	78	1.	1		1240	153	7.	1		1855	228	1.
1		0015	4	0.	1		0630	79	1.	1		1245	154	6.	1		1900	229	1.
1		0020	5	1.	1		0635	80	1.	1		1250	155	5.	1		1905	230	1.
1		0025	6	1.	1		0640	81	1.	1		1255	156	5.	1		1910	231	1.
1		0030	7	1.	1		0645	82	1.	1		1300	157	4.	1		1915	232	1.
1		0035	8	1.	1		0650	83	1.	1		1305	158	4.	1		1920	233	1.
1		0040	9	1.	1		0655	84	1.	1		1310	159	4.	1		1925	234	1.
1		0045	10	1.	1		0700	85	1.	1		1315	160	4.	1		1930	235	1.
1		0050	11	1.	1		0705	86	1.	1		1320	161	3.	1		1935	236	1.
1		0055	12	1.	1		0710	87	1.	1		1325	162	3.	1		1940	237	1.
1		0100	13	1.	1		0715	88	1.	1		1330	163	3.	1		1945	238	1.
1		0105	14	1.	1		0720	89	1.	1		1335	164	3.	1		1950	239	1.
1		0110	15	1.	1		0725	90	1.	1		1340	165	3.	1		1955	240	1.
1		0115	16	1.	1		0730	91	1.	1		1345	166	3.	1		2000	241	1.
1		0120	17	1.	1		0735	92	1.	1		1350	167	3.	1		2005	242	1.
1		0125	18	1.	1		0740	93	1.	1		1355	168	3.	1		2010	243	1.
1		0130	19	1.	1		0745	94	1.	1		1400	169	2.	1		2015	244	1.
1		0135	20	1.	1		0750	95	1.	1		1405	170	2.	1		2020	245	1.
1		0140	21	1.	1		0755	96	1.	1		1410	171	2.	1		2025	246	1.
1		0145	22	1.	1		0800	97	1.	1		1415	172	2.	1		2030	247	1.
1		0150	23	1.	1		0805	98	1.	1		1420	173	2.	1		2035	248	1.

```
    1     0155   24        1.   *    1     0810   99        1.   *    1     1425  174        2.   *    1     2040  249        1.
    1     0200   25        1.   *    1     0815  100        1.   *    1     1430  175        2.   *    1     2045  250        1.
    1     0205   26        1.   *    1     0820  101        1.   *    1     1435  176        2.   *    1     2050  251        1.
    1     0210   27        1.   *    1     0825  102        1.   *    1     1440  177        2.   *    1     2055  252        1.
    1     0215   28        1.   *    1     0830  103        2.   *    1     1445  178        2.   *    1     2100  253        1.
    1     0220   29        1.   *    1     0835  104        2.   *    1     1450  179        2.   *    1     2105  254        1.
    1     0225   30        1.   *    1     0840  105        2.   *    1     1455  180        2.   *    1     2110  255        1.
    1     0230   31        1.   *    1     0845  106        2.   *    1     1500  181        2.   *    1     2115  256        1.
    1     0235   32        1.   *    1     0850  107        2.   *    1     1505  182        2.   *    1     2120  257        1.
    1     0240   33        1.   *    1     0855  108        2.   *    1     1510  183        2.   *    1     2125  258        1.
    1     0245   34        1.   *    1     0900  109        2.   *    1     1515  184        2.   *    1     2130  259        1.
    1     0250   35        1.   *    1     0905  110        2.   *    1     1520  185        2.   *    1     2135  260        1.
    1     0255   36        1.   *    1     0910  111        2.   *    1     1525  186        2.   *    1     2140  261        1.
    1     0300   37        1.   *    1     0915  112        2.   *    1     1530  187        2.   *    1     2145  262        1.
    1     0305   38        1.   *    1     0920  113        2.   *    1     1535  188        2.   *    1     2150  263        1.
    1     0310   39        1.   *    1     0925  114        2.   *    1     1540  189        2.   *    1     2155  264        1.
    1     0315   40        1.   *    1     0930  115        2.   *    1     1545  190        2.   *    1     2200  265        1.
    1     0320   41        1.   *    1     0935  116        2.   *    1     1550  191        2.   *    1     2205  266        1.
    1     0325   42        1.   *    1     0940  117        2.   *    1     1555  192        2.   *    1     2210  267        1.
    1     0330   43        1.   *    1     0945  118        2.   *    1     1600  193        1.   *    1     2215  268        1.
    1     0335   44        1.   *    1     0950  119        2.   *    1     1605  194        1.   *    1     2220  269        1.
    1     0340   45        1.   *    1     0955  120        2.   *    1     1610  195        1.   *    1     2225  270        1.
    1     0345   46        1.   *    1     1000  121        2.   *    1     1615  196        1.   *    1     2230  271        1.
    1     0350   47        1.   *    1     1005  122        2.   *    1     1620  197        1.   *    1     2235  272        1.
    1     0355   48        1.   *    1     1010  123        2.   *    1     1625  198        1.   *    1     2240  273        1.
    1     0400   49        1.   *    1     1015  124        3.   *    1     1630  199        1.   *    1     2245  274        1.
    1     0405   50        1.   *    1     1020  125        3.   *    1     1635  200        1.   *    1     2250  275        1.
    1     0410   51        1.   *    1     1025  126        3.   *    1     1640  201        1.   *    1     2255  276        1.
    1     0415   52        1.   *    1     1030  127        3.   *    1     1645  202        1.   *    1     2300  277        1.
    1     0420   53        1.   *    1     1035  128        3.   *    1     1650  203        1.   *    1     2305  278        1.
    1     0425   54        1.   *    1     1040  129        3.   *    1     1655  204        1.   *    1     2310  279        1.
    1     0430   55        1.   *    1     1045  130        3.   *    1     1700  205        1.   *    1     2315  280        1.
    1     0435   56        1.   *    1     1050  131        3.   *    1     1705  206        1.   *    1     2320  281        1.
    1     0440   57        1.   *    1     1055  132        4.   *    1     1710  207        1.   *    1     2325  282        1.
    1     0445   58        1.   *    1     1100  133        4.   *    1     1715  208        1.   *    1     2330  283        1.
    1     0450   59        1.   *    1     1105  134        4.   *    1     1720  209        1.   *    1     2335  284        1.
    1     0455   60        1.   *    1     1110  135        4.   *    1     1725  210        1.   *    1     2340  285        1.
    1     0500   61        1.   *    1     1115  136        5.   *    1     1730  211        1.   *    1     2345  286        1.
    1     0505   62        1.   *    1     1120  137        5.   *    1     1735  212        1.   *    1     2350  287        1.
    1     0510   63        1.   *    1     1125  138        6.   *    1     1740  213        1.   *    1     2355  288        1.
    1     0515   64        1.   *    1     1130  139        6.   *    1     1745  214        1.   *    2     0000  289        1.
    1     0520   65        1.   *    1     1135  140        8.   *    1     1750  215        1.   *    2     0005  290        1.
    1     0525   66        1.   *    1     1140  141       13.   *    1     1755  216        1.   *    2     0010  291        0.
    1     0530   67        1.   *    1     1145  142       26.   *    1     1800  217        1.   *    2     0015  292        0.
    1     0535   68        1.   *    1     1150  143       51.   *    1     1805  218        1.   *    2     0020  293        0.
    1     0540   69        1.   *    1     1155  144       82.   *    1     1810  219        1.   *    2     0025  294        0.
    1     0545   70        1.   *    1     1200  145       99.   *    1     1815  220        1.   *    2     0030  295        0.
    1     0550   71        1.   *    1     1205  146       81.   *    1     1820  221        1.   *    2     0035  296        0.
    1     0555   72        1.   *    1     1210  147       51.   *    1     1825  222        1.   *    2     0040  297        0.
    1     0600   73        1.   *    1     1215  148       33.   *    1     1830  223        1.   *    2     0045  298        0.
    1     0605   74        1.   *    1     1220  149       23.   *    1     1835  224        1.   *    2     0050  299        0.
    1     0610   75        1.   *    1     1225  150       16.   *    1     1840  225        1.   *    2     0055  300        0.
                             *                                  *                                  *
 ************************************************************************************************************************************************

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                  6-HR          24-HR         72-HR       24.92-HR
+   (CFS)       (HR)
                          (CFS)
+      99.      12.00          10.           3.            3.            3.
                       (INCHES)  .570         .745          .746          .746
                        (AC-FT)    5.           6.            6.            6.

                       CUMULATIVE AREA =      .16 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            ***************
            *             *
  317 KK    *     R_14a   *
            *             *
            ***************
                        Route Hydrograph through R14A overland

               HYDROGRAPH ROUTING DATA

  319 RK          KINEMATIC WAVE STREAM ROUTING
                          L       2500.  CHANNEL LENGTH
                          S       .0050  SLOPE
                          N        .040  CHANNEL ROUGHNESS COEFFICIENT
                         CA         .00  CONTRIBUTING AREA
                      SHAPE        TRAP  CHANNEL SHAPE
                         WD       10.00  BOTTOM WIDTH OR DIAMETER
                          Z       10.00  SIDE SLOPE
                     NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                  ***
                                  COMPUTED KINEMATIC PARAMETERS
                                      VARIABLE TIME STEP
                                   (DT SHOWN IS A MINIMUM)

                        ELEMENT    ALPHA       M         DT         DX       PEAK     TIME TO      VOLUME     MAXIMUM
                                                                                          PEAK                  CELERITY
                                                                   (MIN)       (FT)     (CFS)      (MIN)        (IN)      (FPS)

                        MAIN           .66      1.36       4.15     833.33     95.58     726.89        .76       3.39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6227E+01  EXCESS= .0000E+00 OUTFLOW= .6245E+01 BASIN STORAGE= .6992E-02 PERCENT ERROR=   -.4

                                       INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

                        MAIN           .66      1.36       5.00                91.65     730.00        .75

     ***                  ***                  ***                  ***                  ***

                           HYDROGRAPH AT STATION    R_14a
                         TRANSPOSITION AREA        .0 SQ MI
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PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
		(CFS)	10.	3.	3.	3.
+ 92.	12.17	(INCHES)	.576	.752	.752	.752
		(AC-FT)	5.	6.	6.	6.

CUMULATIVE AREA = .16 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	.66	1.36	4.13	833.33	97.75	728.13	.74	3.37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6068E+01 EXCESS= .0000E+00 OUTFLOW= .6124E+01 BASIN STORAGE= .8590E-02 PERCENT ERROR= -1.1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	.66	1.36	5.00		91.57	730.00	.74
***	***	***	***		***		

HYDROGRAPH AT STATION R_14a
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
		(CFS)	9.	3.	3.	3.
+ 92.	12.17	(INCHES)	.566	.738	.739	.739
		(AC-FT)	5.	6.	6.	6.

CUMULATIVE AREA = .16 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	.66	1.36	4.22	833.33	89.65	726.44	.73	3.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5989E+01 EXCESS= .0000E+00 OUTFLOW= .6007E+01 BASIN STORAGE= .1057E-01 PERCENT ERROR= -.5

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	.66	1.36	5.00		88.67	730.00	.73
***	***	***	***		***		

HYDROGRAPH AT STATION R_14a
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
		(CFS)	9.	3.	3.	3.
+ 89.	12.17	(INCHES)	.556	.726	.727	.727
		(AC-FT)	5.	6.	6.	6.

CUMULATIVE AREA = .16 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	.66	1.36	4.28	833.33	90.77	729.85	.72	3.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5910E+01 EXCESS= .0000E+00 OUTFLOW= .5953E+01 BASIN STORAGE= .6233E-02 PERCENT ERROR= -.8

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	.66	1.36	5.00		90.22	730.00	.72
***	***	***	***		***		

HYDROGRAPH AT STATION R_14a
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
		(CFS)	9.	3.	3.	3.
+ 90.	12.17	(INCHES)	.554	.723	.723	.723
		(AC-FT)	5.	6.	6.	6.

CUMULATIVE AREA = .16 SQ MI

COMPUTED KINEMATIC PARAMETERS

VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	.66	1.36	4.27	833.33	88.56	730.34	.71	3.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5857E+01 EXCESS= .0000E+00 OUTFLOW= .5888E+01 BASIN STORAGE= .9235E-02 PERCENT ERROR= -.7

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	.66	1.36	5.00		88.35	730.00	.71

*** *** *** *** ***

HYDRDGRAPH AT STATION R_14a
TRANSPOSITION AREA 50.0 SQ MI

	PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	24.92-HR
+	88.	12.17	(CFS)	9.	3.	3.	3.
			(INCHES)	.546	.713	.714	.714
			(AC-FT)	5.	6.	6.	6.

CUMULATIVE AREA = .16 SQ MI

****

INTERPOLATED HYDROGRAPH AT R_14a

****

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	1.	1		1230	151	28.	1		1845	226	1.
1		0005	2	0.	1		0620	77	1.	1		1235	152	21.	1		1850	227	1.
1		0010	3	0.	1		0625	78	1.	1		1240	153	16.	1		1855	228	1.
1		0015	4	0.	1		0630	79	1.	1		1245	154	12.	1		1900	229	1.
1		0020	5	0.	1		0635	80	1.	1		1250	155	10.	1		1905	230	1.
1		0025	6	0.	1		0640	81	1.	1		1255	156	8.	1		1910	231	1.
1		0030	7	0.	1		0645	82	1.	1		1300	157	7.	1		1915	232	1.
1		0035	8	0.	1		0650	83	1.	1		1305	158	6.	1		1920	233	1.
1		0040	9	0.	1		0655	84	1.	1		1310	159	5.	1		1925	234	1.
1		0045	10	0.	1		0700	85	1.	1		1315	160	5.	1		1930	235	1.
1		0050	11	0.	1		0705	86	1.	1		1320	161	4.	1		1935	236	1.
1		0055	12	0.	1		0710	87	1.	1		1325	162	4.	1		1940	237	1.
1		0100	13	0.	1		0715	88	1.	1		1330	163	4.	1		1945	238	1.
1		0105	14	1.	1		0720	89	1.	1		1335	164	4.	1		1950	239	1.
1		0110	15	1.	1		0725	90	1.	1		1340	165	3.	1		1955	240	1.
1		0115	16	1.	1		0730	91	1.	1		1345	166	3.	1		2000	241	1.
1		0120	17	1.	1		0735	92	1.	1		1350	167	3.	1		2005	242	1.
1		0125	18	1.	1		0740	93	1.	1		1355	168	3.	1		2010	243	1.
1		0130	19	1.	1		0745	94	1.	1		1400	169	3.	1		2015	244	1.
1		0135	20	1.	1		0750	95	1.	1		1405	170	3.	1		2020	245	1.
1		0140	21	1.	1		0755	96	1.	1		1410	171	3.	1		2025	246	1.
1		0145	22	1.	1		0800	97	1.	1		1415	172	3.	1		2030	247	1.
1		0150	23	1.	1		0805	98	1.	1		1420	173	2.	1		2035	248	1.
1		0155	24	1.	1		0810	99	1.	1		1425	174	2.	1		2040	249	1.
1		0200	25	1.	1		0815	100	1.	1		1430	175	2.	1		2045	250	1.
1		0205	26	1.	1		0820	101	1.	1		1435	176	2.	1		2050	251	1.
1		0210	27	1.	1		0825	102	1.	1		1440	177	2.	1		2055	252	1.
1		0215	28	1.	1		0830	103	1.	1		1445	178	2.	1		2100	253	1.
1		0220	29	1.	1		0835	104	1.	1		1450	179	2.	1		2105	254	1.
1		0225	30	1.	1		0840	105	1.	1		1455	180	2.	1		2110	255	1.
1		0230	31	1.	1		0845	106	1.	1		1500	181	2.	1		2115	256	1.
1		0235	32	1.	1		0850	107	1.	1		1505	182	2.	1		2120	257	1.
1		0240	33	1.	1		0855	108	2.	1		1510	183	2.	1		2125	258	1.
1		0245	34	1.	1		0900	109	2.	1		1515	184	2.	1		2130	259	1.
1		0250	35	1.	1		0905	110	2.	1		1520	185	2.	1		2135	260	1.
1		0255	36	1.	1		0910	111	2.	1		1525	186	2.	1		2140	261	1.
1		0300	37	1.	1		0915	112	2.	1		1530	187	2.	1		2145	262	1.
1		0305	38	1.	1		0920	113	2.	1		1535	188	2.	1		2150	263	1.
1		0310	39	1.	1		0925	114	2.	1		1540	189	2.	1		2155	264	1.
1		0315	40	1.	1		0930	115	2.	1		1545	190	2.	1		2200	265	1.
1		0320	41	1.	1		0935	116	2.	1		1550	191	2.	1		2205	266	1.
1		0325	42	1.	1		0940	117	2.	1		1555	192	2.	1		2210	267	1.
1		0330	43	1.	1		0945	118	2.	1		1600	193	2.	1		2215	268	1.
1		0335	44	1.	1		0950	119	2.	1		1605	194	2.	1		2220	269	1.
1		0340	45	1.	1		0955	120	2.	1		1610	195	2.	1		2225	270	1.
1		0345	46	1.	1		1000	121	2.	1		1615	196	2.	1		2230	271	1.
1		0350	47	1.	1		1005	122	2.	1		1620	197	1.	1		2235	272	1.
1		0355	48	1.	1		1010	123	2.	1		1625	198	1.	1		2240	273	1.
1		0400	49	1.	1		1015	124	2.	1		1630	199	1.	1		2245	274	1.
1		0405	50	1.	1		1020	125	2.	1		1635	200	1.	1		2250	275	1.
1		0410	51	1.	1		1025	126	2.	1		1640	201	1.	1		2255	276	1.
1		0415	52	1.	1		1030	127	2.	1		1645	202	1.	1		2300	277	1.
1		0420	53	1.	1		1035	128	2.	1		1650	203	1.	1		2305	278	1.
1		0425	54	1.	1		1040	129	3.	1		1655	204	1.	1		2310	279	1.
1		0430	55	1.	1		1045	130	3.	1		1700	205	1.	1		2315	280	1.
1		0435	56	1.	1		1050	131	3.	1		1705	206	1.	1		2320	281	1.
1		0440	57	1.	1		1055	132	3.	1		1710	207	1.	1		2325	282	1.
1		0445	58	1.	1		1100	133	3.	1		1715	208	1.	1		2330	283	1.
1		0450	59	1.	1		1105	134	3.	1		1720	209	1.	1		2335	284	1.
1		0455	60	1.	1		1110	135	3.	1		1725	210	1.	1		2340	285	1.
1		0500	61	1.	1		1115	136	4.	1		1730	211	1.	1		2345	286	1.
1		0505	62	1.	1		1120	137	4.	1		1735	212	1.	1		2350	287	1.
1		0510	63	1.	1		1125	138	4.	1		1740	213	1.	1		2355	288	1.
1		0515	64	1.	1		1130	139	5.	1		1745	214	1.	2		0000	289	1.
1		0520	65	1.	1		1135	140	5.	1		1750	215	1.	2		0005	290	1.
1		0525	66	1.	1		1140	141	5.	1		1755	216	1.	2		0010	291	1.
1		0530	67	1.	1		1145	142	6.	1		1800	217	1.	2		0015	292	1.
1		0535	68	1.	1		1150	143	10.	1		1805	218	1.	2		0020	293	1.
1		0540	69	1.	1		1155	144	21.	1		1810	219	1.	2		0025	294	1.
1		0545	70	1.	1		1200	145	48.	1		1815	220	1.	2		0030	295	1.
1		0550	71	1.	1		1205	146	83.	1		1820	221	1.	2		0035	296	1.
1		0555	72	1.	1		1210	147	92.	1		1825	222	1.	2		0040	297	0.

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    1     0600   73        1.   *    1     1215  148        73.   *    1     1830  223        1.   *    2     0045  298        0.
    1     0605   74        1.   *    1     1220  149        52.   *    1     1835  224        1.   *    2     0050  299        0.
    1     0610   75        1.   *    1     1225  150        38.   *    1     1840  225        1.   *    2     0055  300        0.
                           *                                          *                                *
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  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR      24.92-HR
+   (CFS)       (HR)          (CFS)
+     92.     12.17                10.           3.           3.           3.
                            (INCHES)           .572         .747         .747         .747
                              (AC-FT)             5.           6.           6.           6.

                            CUMULATIVE AREA =     .16 SQ MI
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            ***************
            *             *
320 KK      *      R14A   *
            *             *
            ***************
                        Subbasin

               SUBBASIN RUNOFF DATA

322 BA           SUBBASIN CHARACTERISTICS
                       TAREA         .04  SUBBASIN AREA

323 LG           GREEN AND AMPT LOSS RATE
                       STRTL         .18  STARTING LOSS
                         DTH         .19  MOISTURE DEFICIT
                        PSIF         .71  WETTING FRONT SUCTION
                       XKSAT         .03  HYDRAULIC CONDUCTIVITY
                       RTIMP       75.00  PERCENT IMPERVIOUS AREA

324 US           SNYDER UNITGRAPH
                          TP         .04  LAG
                          CP         .48  PEAKING COEFFICIENT

                 SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                                ***
R INCREASED TO MINIMUM OF 0.5

                                                 UNIT HYDROGRAPH PARAMETERS
                                           CLARK   TC=    .08 HR,       R=    .14 HR
                                          SNYDER   TP=    .10 HR,      CP=    .49

                                                      UNIT HYDROGRAPH
                                                 10 END-OF-PERIOD ORDINATES
                    69.      107.       58.       32.       17.       10.        5.        3.        2.        1.

          ***              ***              ***              ***              ***

                          HYDROGRAPH AT STATION     R14A
                         TRANSPOSITION AREA        .0 SQ MI

          TOTAL RAINFALL =    1.19, TOTAL LOSS =      .16, TOTAL EXCESS =     1.03

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR      24.92-HR
+   (CFS)       (HR)          (CFS)
+     29.     12.00                 3.           1.           1.           1.
                            (INCHES)           .769        1.029        1.030        1.030
                              (AC-FT)             2.           2.           2.           2.

                            CUMULATIVE AREA =     .04 SQ MI

          ***              ***              ***              ***              ***

                          HYDROGRAPH AT STATION     R14A
                         TRANSPOSITION AREA       14.0 SQ MI

          TOTAL RAINFALL =    1.17, TOTAL LOSS =      .15, TOTAL EXCESS =     1.01

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR      24.92-HR
+   (CFS)       (HR)          (CFS)
+     28.     12.00                 3.           1.           1.           1.
                            (INCHES)           .752        1.007        1.008        1.008
                              (AC-FT)             2.           2.           2.           2.

                            CUMULATIVE AREA =     .04 SQ MI

          ***              ***              ***              ***              ***

                          HYDROGRAPH AT STATION     R14A
                         TRANSPOSITION AREA       24.0 SQ MI

          TOTAL RAINFALL =    1.15, TOTAL LOSS =      .15, TOTAL EXCESS =     1.00

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR      24.92-HR
    (CFS)       (HR)          (CFS)
      28.     12.00                 3.           1.           1.           1.
                            (INCHES)           .743         .996         .997         .997
                              (AC-FT)             2.           2.           2.           2.

                            CUMULATIVE AREA =     .04 SQ MI

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HYDROGRAPH AT STATION R14A
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.14, TOTAL LOSS = .15, TOTAL EXCESS = .99

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)			
28.	12.00	3.	1.	1.	1.
		(INCHES) .735	.985	.985	.985
		(AC-FT) 2.	2.	2.	2.

CUMULATIVE AREA = .04 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R14A
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.13, TOTAL LOSS = .15, TOTAL EXCESS = .98

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)			
27.	12.00	3.	1.	1.	1.
		(INCHES) .729	.977	.978	.978
		(AC-FT) 2.	2.	2.	2.

CUMULATIVE AREA = .04 SQ MI

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INTERPOLATED HYDROGRAPH AT R14A

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DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	4.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	3.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	3.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	2.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	2.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	2.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	2.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	2.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	2.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	2.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	1.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	1.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	1.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	1.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	1.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	1.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	1.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	1.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	1.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	1.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	1.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	1.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	1.	1		2035	248	0.
1		0155	24	0.	1		0810	99	1.	1		1425	174	1.	1		2040	249	0.
1		0200	25	0.	1		0815	100	1.	1		1430	175	1.	1		2045	250	0.
1		0205	26	0.	1		0820	101	1.	1		1435	176	1.	1		2050	251	0.
1		0210	27	0.	1		0825	102	1.	1		1440	177	1.	1		2055	252	0.
1		0215	28	0.	1		0830	103	1.	1		1445	178	1.	1		2100	253	0.
1		0220	29	0.	1		0835	104	1.	1		1450	179	1.	1		2105	254	0.
1		0225	30	0.	1		0840	105	1.	1		1455	180	1.	1		2110	255	0.
1		0230	31	0.	1		0845	106	1.	1		1500	181	1.	1		2115	256	0.
1		0235	32	0.	1		0850	107	1.	1		1505	182	1.	1		2120	257	0.
1		0240	33	0.	1		0855	108	1.	1		1510	183	1.	1		2125	258	0.
1		0245	34	0.	1		0900	109	1.	1		1515	184	1.	1		2130	259	0.
1		0250	35	0.	1		0905	110	1.	1		1520	185	1.	1		2135	260	0.
1		0255	36	0.	1		0910	111	1.	1		1525	186	1.	1		2140	261	0.
1		0300	37	0.	1		0915	112	1.	1		1530	187	1.	1		2145	262	0.
1		0305	38	0.	1		0920	113	1.	1		1535	188	1.	1		2150	263	0.
1		0310	39	0.	1		0925	114	1.	1		1540	189	1.	1		2155	264	0.
1		0315	40	0.	1		0930	115	1.	1		1545	190	1.	1		2200	265	0.
1		0320	41	0.	1		0935	116	1.	1		1550	191	1.	1		2205	266	0.
1		0325	42	0.	1		0940	117	1.	1		1555	192	1.	1		2210	267	0.
1		0330	43	0.	1		0945	118	1.	1		1600	193	1.	1		2215	268	0.
1		0335	44	0.	1		0950	119	1.	1		1605	194	1.	1		2220	269	0.
1		0340	45	0.	1		0955	120	1.	1		1610	195	1.	1		2225	270	0.
1		0345	46	0.	1		1000	121	1.	1		1615	196	1.	1		2230	271	0.
1		0350	47	0.	1		1005	122	1.	1		1620	197	1.	1		2235	272	0.
1		0355	48	0.	1		1010	123	1.	1		1625	198	1.	1		2240	273	0.
1		0400	49	0.	1		1015	124	1.	1		1630	199	0.	1		2245	274	0.
1		0405	50	0.	1		1020	125	1.	1		1635	200	0.	1		2250	275	0.
1		0410	51	0.	1		1025	126	1.	1		1640	201	0.	1		2255	276	0.
1		0415	52	0.	1		1030	127	1.	1		1645	202	0.	1		2300	277	0.
1		0420	53	0.	1		1035	128	1.	1		1650	203	0.	1		2305	278	0.
1		0425	54	0.	1		1040	129	1.	1		1655	204	0.	1		2310	279	0.
1		0430	55	0.	1		1045	130	1.	1		1700	205	0.	1		2315	280	0.
1		0435	56	0.	1		1050	131	1.	1		1705	206	0.	1		2320	281	0.
1		0440	57	0.	1		1055	132	1.	1		1710	207	0.	1		2325	282	0.
1		0445	58	0.	1		1100	133	2.	1		1715	208	0.	1		2330	283	0.
1		0450	59	0.	1		1105	134	2.	1		1720	209	0.	1		2335	284	0.
1		0455	60	0.	1		1110	135	2.	1		1725	210	0.	1		2340	285	0.
1		0500	61	0.	1		1115	136	2.	1		1730	211	0.	1		2345	286	0.
1		0505	62	0.	1		1120	137	2.	1		1735	212	0.	1		2350	287	0.
1		0510	63	0.	1		1125	138	2.	1		1740	213	0.	1		2355	288	0.
1		0515	64	0.	1		1130	139	3.	1		1745	214	0.	2		0000	289	0.
1		0520	65	0.	1		1135	140	4.	1		1750	215	0.	2		0005	290	0.
1		0525	66	0.	1		1140	141	6.	1		1755	216	0.	2		0010	291	0.
1		0530	67	0.	1		1145	142	11.	1		1800	217	0.	2		0015	292	0.
1		0535	68	0.	1		1150	143	17.	1		1805	218	0.	2		0020	293	0.
1		0540	69	0.	1		1155	144	25.	1		1810	219	0.	2		0025	294	0.
1		0545	70	0.	1		1200	145	29.	1		1815	220	0.	2		0030	295	0.
1		0550	71	0.	1		1205	146	23.	1		1820	221	0.	2		0035	296	0.
1		0555	72	0.	1		1210	147	15.	1		1825	222	0.	2		0040	297	0.

```
    1     0600   73        0.   *    1     1215  148        10.   *    1     1830  223        0.   *    2     0045  298        0.
    1     0605   74        0.   *    1     1220  149         7.   *    1     1835  224        0.   *    2     0050  299        0.
    1     0610   75        0.   *    1     1225  150         6.   *    1     1840  225        0.   *    2     0055  300        0.
                           *                                       *                                *
```

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
29.	12.00		3.	1.	1.	1.
		(INCHES)	.766	1.025	1.026	1.026
		(AC-FT)	2.	2.	2.	2.

CUMULATIVE AREA = .04 SQ MI

325 KK C_14A

Combine Hydrographs (R16, R14A)

327 HC HYDROGRAPH COMBINATION
ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

HYDROGRAPH AT STATION C_14A
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
108.	12.08		13.	4.	4.	4.
		(INCHES)	.615	.807	.808	.808
		(AC-FT)	6.	8.	8.	8.

CUMULATIVE AREA = .19 SQ MI

HYDROGRAPH AT STATION C_14A
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
106.	12.17		13.	4.	4.	4.
		(INCHES)	.604	.792	.793	.793
		(AC-FT)	6.	8.	8.	8.

CUMULATIVE AREA = .19 SQ MI

HYDROGRAPH AT STATION C_14A
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
103.	12.17		12.	4.	4.	4.
		(INCHES)	.594	.780	.781	.781
		(AC-FT)	6.	8.	8.	8.

CUMULATIVE AREA = .19 SQ MI

HYDROGRAPH AT STATION C_14A
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
105.	12.17		12.	4.	4.	4.
		(INCHES)	.590	.775	.776	.776
		(AC-FT)	6.	8.	8.	8.

CUMULATIVE AREA = .19 SQ MI

HYDROGRAPH AT STATION C_14A
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
103.	12.17		12.	4.	4.	4.
		(INCHES)	.583	.766	.767	.767
		(AC-FT)	6.	8.	8.	8.

CUMULATIVE AREA = .19 SQ MI

INTERPOLATED HYDROGRAPH AT C_14A

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	1.	1		1230	151	32.	1		1845	226	1.
1		0005	2	0.	1		0620	77	1.	1		1235	152	24.	1		1850	227	1.
1		0010	3	0.	1		0625	78	1.	1		1240	153	19.	1		1855	228	1.
1		0015	4	0.	1		0630	79	1.	1		1245	154	15.	1		1900	229	1.
1		0020	5	0.	1		0635	80	1.	1		1250	155	12.	1		1905	230	1.
1		0025	6	0.	1		0640	81	2.	1		1255	156	10.	1		1910	231	1.
1		0030	7	0.	1		0645	82	2.	1		1300	157	9.	1		1915	232	1.
1		0035	8	0.	1		0650	83	2.	1		1305	158	8.	1		1920	233	1.
1		0040	9	0.	1		0655	84	2.	1		1310	159	7.	1		1925	234	1.
1		0045	10	0.	1		0700	85	2.	1		1315	160	6.	1		1930	235	1.
1		0050	11	0.	1		0705	86	2.	1		1320	161	6.	1		1935	236	1.
1		0055	12	1.	1		0710	87	2.	1		1325	162	5.	1		1940	237	1.
1		0100	13	1.	1		0715	88	2.	1		1330	163	5.	1		1945	238	1.
1		0105	14	1.	1		0720	89	2.	1		1335	164	5.	1		1950	239	1.
1		0110	15	1.	1		0725	90	2.	1		1340	165	5.	1		1955	240	1.
1		0115	16	1.	1		0730	91	2.	1		1345	166	4.	1		2000	241	1.
1		0120	17	1.	1		0735	92	2.	1		1350	167	4.	1		2005	242	1.
1		0125	18	1.	1		0740	93	2.	1		1355	168	4.	1		2010	243	1.
1		0130	19	1.	1		0745	94	2.	1		1400	169	4.	1		2015	244	1.
1		0135	20	1.	1		0750	95	2.	1		1405	170	4.	1		2020	245	1.
1		0140	21	1.	1		0755	96	2.	1		1410	171	4.	1		2025	246	1.
1		0145	22	1.	1		0800	97	2.	1		1415	172	3.	1		2030	247	1.
1		0150	23	1.	1		0805	98	2.	1		1420	173	3.	1		2035	248	1.
1		0155	24	1.	1		0810	99	2.	1		1425	174	3.	1		2040	249	1.
1		0200	25	1.	1		0815	100	2.	1		1430	175	3.	1		2045	250	1.
1		0205	26	1.	1		0820	101	2.	1		1435	176	3.	1		2050	251	1.
1		0210	27	1.	1		0825	102	2.	1		1440	177	3.	1		2055	252	1.
1		0215	28	1.	1		0830	103	2.	1		1445	178	3.	1		2100	253	1.
1		0220	29	1.	1		0835	104	2.	1		1450	179	3.	1		2105	254	1.
1		0225	30	1.	1		0840	105	2.	1		1455	180	3.	1		2110	255	1.
1		0230	31	1.	1		0845	106	2.	1		1500	181	3.	1		2115	256	1.
1		0235	32	1.	1		0850	107	2.	1		1505	182	3.	1		2120	257	1.
1		0240	33	1.	1		0855	108	2.	1		1510	183	3.	1		2125	258	1.
1		0245	34	1.	1		0900	109	2.	1		1515	184	3.	1		2130	259	1.
1		0250	35	1.	1		0905	110	2.	1		1520	185	3.	1		2135	260	1.
1		0255	36	1.	1		0910	111	2.	1		1525	186	2.	1		2140	261	1.
1		0300	37	1.	1		0915	112	2.	1		1530	187	2.	1		2145	262	1.
1		0305	38	1.	1		0920	113	2.	1		1535	188	2.	1		2150	263	1.
1		0310	39	1.	1		0925	114	3.	1		1540	189	2.	1		2155	264	1.
1		0315	40	1.	1		0930	115	3.	1		1545	190	2.	1		2200	265	1.
1		0320	41	1.	1		0935	116	3.	1		1550	191	2.	1		2205	266	1.
1		0325	42	1.	1		0940	117	3.	1		1555	192	2.	1		2210	267	1.
1		0330	43	1.	1		0945	118	3.	1		1600	193	2.	1		2215	268	1.
1		0335	44	1.	1		0950	119	3.	1		1605	194	2.	1		2220	269	1.
1		0340	45	1.	1		0955	120	3.	1		1610	195	2.	1		2225	270	1.
1		0345	46	1.	1		1000	121	3.	1		1615	196	2.	1		2230	271	1.
1		0350	47	1.	1		1005	122	3.	1		1620	197	2.	1		2235	272	1.
1		0355	48	1.	1		1010	123	3.	1		1625	198	2.	1		2240	273	1.
1		0400	49	1.	1		1015	124	3.	1		1630	199	2.	1		2245	274	1.
1		0405	50	1.	1		1020	125	3.	1		1635	200	2.	1		2250	275	1.
1		0410	51	1.	1		1025	126	3.	1		1640	201	2.	1		2255	276	1.
1		0415	52	1.	1		1030	127	3.	1		1645	202	2.	1		2300	277	1.
1		0420	53	1.	1		1035	128	4.	1		1650	203	2.	1		2305	278	1.
1		0425	54	1.	1		1040	129	4.	1		1655	204	2.	1		2310	279	1.
1		0430	55	1.	1		1045	130	4.	1		1700	205	2.	1		2315	280	1.
1		0435	56	1.	1		1050	131	4.	1		1705	206	2.	1		2320	281	1.
1		0440	57	1.	1		1055	132	4.	1		1710	207	2.	1		2325	282	1.
1		0445	58	1.	1		1100	133	5.	1		1715	208	2.	1		2330	283	1.
1		0450	59	1.	1		1105	134	5.	1		1720	209	2.	1		2335	284	1.
1		0455	60	1.	1		1110	135	5.	1		1725	210	2.	1		2340	285	1.
1		0500	61	1.	1		1115	136	6.	1		1730	211	2.	1		2345	286	1.
1		0505	62	1.	1		1120	137	6.	1		1735	212	2.	1		2350	287	1.
1		0510	63	1.	1		1125	138	7.	1		1740	213	2.	1		2355	288	1.
1		0515	64	1.	1		1130	139	7.	1		1745	214	2.	2		0000	289	1.
1		0520	65	1.	1		1135	140	9.	1		1750	215	2.	2		0005	290	1.
1		0525	66	1.	1		1140	141	12.	1		1755	216	2.	2		0010	291	1.
1		0530	67	1.	1		1145	142	17.	1		1800	217	2.	2		0015	292	1.
1		0535	68	1.	1		1150	143	26.	1		1805	218	2.	2		0020	293	1.
1		0540	69	1.	1		1155	144	46.	1		1810	219	2.	2		0025	294	1.
1		0545	70	1.	1		1200	145	77.	1		1815	220	2.	2		0030	295	1.
1		0550	71	1.	1		1205	146	106.	1		1820	221	2.	2		0035	296	1.
1		0555	72	1.	1		1210	147	107.	1		1825	222	1.	2		0040	297	0.
1		0600	73	1.	1		1215	148	83.	1		1830	223	1.	2		0045	298	0.
1		0605	74	1.	1		1220	149	60.	1		1835	224	1.	2		0050	299	0.
1		0610	75	1.	1		1225	150	43.	1		1840	225	1.	2		0055	300	0.

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
107.	12.17	13.	4.	4.	4.
		(INCHES) .610	.801	.802	.802
		(AC-FT) 6.	8.	8.	8.

CUMULATIVE AREA = .19 SQ MI

328 KK C_14A

Combine Hydrograph with Lower Pond Outfall

330 HC HYDROGRAPH COMBINATION
ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

*** *** *** *** ***

HYDROGRAPH AT STATION C_14A
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR	
+ (CFS)	(HR)					
		(CFS)				
+ 128.	12.08	34.	21.	20.	20.	
		(INCHES) .196	.482	.484	.484	
		(AC-FT) 17.	42.	42.	42.	

CUMULATIVE AREA = 1.62 SQ MI

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HYDROGRAPH AT STATION C_14A
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR	
+ (CFS)	(HR)					
		(CFS)				
+ 127.	12.17	34.	21.	20.	20.	
		(INCHES) .194	.477	.479	.479	
		(AC-FT) 17.	41.	42.	42.	

CUMULATIVE AREA = 1.62 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_14A
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR	
+ (CFS)	(HR)					
		(CFS)				
+ 124.	12.17	34.	21.	20.	20.	
		(INCHES) .193	.474	.476	.476	
		(AC-FT) 17.	41.	41.	41.	

CUMULATIVE AREA = 1.62 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_14A
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR	
+ (CFS)	(HR)					
		(CFS)				
+ 125.	12.17	34.	21.	20.	20.	
		(INCHES) .192	.472	.474	.474	
		(AC-FT) 17.	41.	41.	41.	

CUMULATIVE AREA = 1.62 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_14A
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR	
+ (CFS)	(HR)					
		(CFS)				
+ 123.	12.17	33.	21.	20.	20.	
		(INCHES) .191	.470	.472	.472	
		(AC-FT) 17.	41.	41.	41.	

CUMULATIVE AREA = 1.62 SQ MI

INTERPOLATED HYDROGRAPH AT C_14A

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	11.	1		1230	151	54.	1		1845	226	24.
1		0005	2	0.	1		0620	77	11.	1		1235	152	46.	1		1850	227	24.
1		0010	3	1.	1		0625	78	11.	1		1240	153	41.	1		1855	228	24.
1		0015	4	2.	1		0630	79	11.	1		1245	154	37.	1		1900	229	24.
1		0020	5	2.	1		0635	80	11.	1		1250	155	34.	1		1905	230	24.
1		0025	6	3.	1		0640	81	11.	1		1255	156	32.	1		1910	231	24.
1		0030	7	4.	1		0645	82	11.	1		1300	157	31.	1		1915	232	24.
1		0035	8	4.	1		0650	83	11.	1		1305	158	30.	1		1920	233	24.
1		0040	9	4.	1		0655	84	11.	1		1310	159	29.	1		1925	234	24.
1		0045	10	4.	1		0700	85	11.	1		1315	160	28.	1		1930	235	24.
1		0050	11	5.	1		0705	86	12.	1		1320	161	28.	1		1935	236	24.
1		0055	12	5.	1		0710	87	12.	1		1325	162	28.	1		1940	237	24.
1		0100	13	5.	1		0715	88	12.	1		1330	163	27.	1		1945	238	24.
1		0105	14	5.	1		0720	89	12.	1		1335	164	27.	1		1950	239	24.
1		0110	15	5.	1		0725	90	12.	1		1340	165	27.	1		1955	240	24.
1		0115	16	6.	1		0730	91	12.	1		1345	166	27.	1		2000	241	24.
1		0120	17	6.	1		0735	92	12.	1		1350	167	27.	1		2005	242	24.
1		0125	18	6.	1		0740	93	12.	1		1355	168	26.	1		2010	243	24.
1		0130	19	6.	1		0745	94	12.	1		1400	169	26.	1		2015	244	24.
1		0135	20	6.	1		0750	95	12.	1		1405	170	26.	1		2020	245	24.
1		0140	21	6.	1		0755	96	13.	1		1410	171	26.	1		2025	246	24.
1		0145	22	6.	1		0800	97	13.	1		1415	172	26.	1		2030	247	24.
1		0150	23	6.	1		0805	98	13.	1		1420	173	26.	1		2035	248	24.
1		0155	24	6.	1		0810	99	13.	1		1425	174	26.	1		2040	249	24.
1		0200	25	6.	1		0815	100	13.	1		1430	175	26.	1		2045	250	23.
1		0205	26	7.	1		0820	101	13.	1		1435	176	25.	1		2050	251	23.

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   1   0210  27      7.  *   1   0825  102     14.  *   1   1440  177     25.  *   1   2055  252     23.
   1   0215  28      7.  *   1   0830  103     14.  *   1   1445  178     25.  *   1   2100  253     23.
   1   0220  29      7.  *   1   0835  104     14.  *   1   1450  179     25.  *   1   2105  254     23.
   1   0225  30      7.  *   1   0840  105     14.  *   1   1455  180     25.  *   1   2110  255     23.
   1   0230  31      7.  *   1   0845  106     15.  *   1   1500  181     25.  *   1   2115  256     23.
   1   0235  32      7.  *   1   0850  107     15.  *   1   1505  182     25.  *   1   2120  257     23.
   1   0240  33      7.  *   1   0855  108     15.  *   1   1510  183     25.  *   1   2125  258     23.
   1   0245  34      7.  *   1   0900  109     15.  *   1   1515  184     25.  *   1   2130  259     23.
   1   0250  35      7.  *   1   0905  110     16.  *   1   1520  185     25.  *   1   2135  260     23.
   1   0255  36      7.  *   1   0910  111     16.  *   1   1525  186     25.  *   1   2140  261     23.
   1   0300  37      7.  *   1   0915  112     16.  *   1   1530  187     25.  *   1   2145  262     23.
   1   0305  38      7.  *   1   0920  113     16.  *   1   1535  188     25.  *   1   2150  263     23.
   1   0310  39      7.  *   1   0925  114     16.  *   1   1540  189     25.  *   1   2155  264     23.
   1   0315  40      7.  *   1   0930  115     16.  *   1   1545  190     25.  *   1   2200  265     23.
   1   0320  41      8.  *   1   0935  116     16.  *   1   1550  191     25.  *   1   2205  266     23.
   1   0325  42      8.  *   1   0940  117     17.  *   1   1555  192     25.  *   1   2210  267     23.
   1   0330  43      8.  *   1   0945  118     17.  *   1   1600  193     25.  *   1   2215  268     23.
   1   0335  44      8.  *   1   0950  119     17.  *   1   1605  194     25.  *   1   2220  269     23.
   1   0340  45      8.  *   1   0955  120     17.  *   1   1610  195     25.  *   1   2225  270     23.
   1   0345  46      8.  *   1   1000  121     18.  *   1   1615  196     25.  *   1   2230  271     23.
   1   0350  47      8.  *   1   1005  122     18.  *   1   1620  197     25.  *   1   2235  272     23.
   1   0355  48      8.  *   1   1010  123     19.  *   1   1625  198     25.  *   1   2240  273     23.
   1   0400  49      8.  *   1   1015  124     19.  *   1   1630  199     25.  *   1   2245  274     23.
   1   0405  50      8.  *   1   1020  125     20.  *   1   1635  200     24.  *   1   2250  275     23.
   1   0410  51      8.  *   1   1025  126     20.  *   1   1640  201     24.  *   1   2255  276     23.
   1   0415  52      8.  *   1   1030  127     20.  *   1   1645  202     24.  *   1   2300  277     23.
   1   0420  53      8.  *   1   1035  128     20.  *   1   1650  203     24.  *   1   2305  278     23.
   1   0425  54      8.  *   1   1040  129     20.  *   1   1655  204     24.  *   1   2310  279     23.
   1   0430  55      9.  *   1   1045  130     21.  *   1   1700  205     24.  *   1   2315  280     23.
   1   0435  56      9.  *   1   1050  131     21.  *   1   1705  206     24.  *   1   2320  281     23.
   1   0440  57      9.  *   1   1055  132     21.  *   1   1710  207     24.  *   1   2325  282     23.
   1   0445  58      9.  *   1   1100  133     22.  *   1   1715  208     24.  *   1   2330  283     23.
   1   0450  59      9.  *   1   1105  134     22.  *   1   1720  209     24.  *   1   2335  284     23.
   1   0455  60      9.  *   1   1110  135     23.  *   1   1725  210     24.  *   1   2340  285     23.
   1   0500  61      9.  *   1   1115  136     23.  *   1   1730  211     24.  *   1   2345  286     23.
   1   0505  62      9.  *   1   1120  137     24.  *   1   1735  212     24.  *   1   2350  287     23.
   1   0510  63      9.  *   1   1125  138     24.  *   1   1740  213     24.  *   1   2355  288     23.
   1   0515  64      9.  *   1   1130  139     25.  *   1   1745  214     24.  *   2   0000  289     23.
   1   0520  65      9.  *   1   1135  140     26.  *   1   1750  215     24.  *   2   0005  290     23.
   1   0525  66     10.  *   1   1140  141     30.  *   1   1755  216     24.  *   2   0010  291     23.
   1   0530  67     10.  *   1   1145  142     35.  *   1   1800  217     24.  *   2   0015  292     23.
   1   0535  68     10.  *   1   1150  143     45.  *   1   1805  218     24.  *   2   0020  293     23.
   1   0540  69     10.  *   1   1155  144     64.  *   1   1810  219     24.  *   2   0025  294     23.
   1   0545  70     10.  *   1   1200  145     96.  *   1   1815  220     24.  *   2   0030  295     23.
   1   0550  71     10.  *   1   1205  146    126.  *   1   1820  221     24.  *   2   0035  296     22.
   1   0555  72     10.  *   1   1210  147    127.  *   1   1825  222     24.  *   2   0040  297     22.
   1   0600  73     10.  *   1   1215  148    104.  *   1   1830  223     24.  *   2   0045  298     22.
   1   0605  74     10.  *   1   1220  149     81.  *   1   1835  224     24.  *   2   0050  299     22.
   1   0610  75     10.  *   1   1225  150     65.  *   1   1840  225     24.  *   2   0055  300     22.
                        *                           *                           *
**********************************************************************************************************************************************************

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR      24.92-HR
+   (CFS)       (HR)          (CFS)
+     127.      12.17           34.          21.          20.          20.
                           (INCHES)         .195         .478         .481         .481
                             (AC-FT)          17.          41.          42.          42.

                          CUMULATIVE AREA =     1.62 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            ***************
            *             *
  331 KK    *       R15   *      Subbasin
            *             *
            ***************

              SUBBASIN RUNOFF DATA

  332 BA        SUBBASIN CHARACTERISTICS
                      TAREA          .30  SUBBASIN AREA

  333 LG        GREEN AND AMPT LOSS RATE
                      STRTL          .48  STARTING LOSS
                       DTH           .45  MOISTURE DEFICIT
                      PSIF          1.68  WETTING FRONT SUCTION
                      XKSAT          .06  HYDRAULIC CONDUCTIVITY
                      RTIMP        30.00  PERCENT IMPERVIOUS AREA

  334 US        SNYDER UNITGRAPH
                        TP           .14  LAG
                        CP           .33  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .11 HR,       R=   .35 HR
                                  SNYDER   TP=    .14 HR,      CP=   .34

                                          UNIT HYDROGRAPH
                                    23 END-OF-PERIOD ORDINATES
                          210.      414.      364.      286.      225.      176.      138.      109.       85.       67.
                           53.       41.       32.       25.       20.       16.       12.       10.        8.        6.
                            5.        4.        3.

       ***              ***               ***               ***               ***

                          HYDROGRAPH AT STATION      R15
                        TRANSPOSITION AREA        .0 SQ MI

     TOTAL RAINFALL =     1.19, TOTAL LOSS =      .72, TOTAL EXCESS =      .47

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR      24.92-HR
+   (CFS)       (HR)
```

		(CFS)				
86.	12.08		12.	4.	4.	4.
		(INCHES)	.359	.463	.464	.464
		(AC-FT)	6.	7.	7.	7.

CUMULATIVE AREA = .30 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R15
TRANSPOSITION AREA 14.0 SQ MI

TOTAL RAINFALL = 1.17, TOTAL LOSS = .72, TOTAL EXCESS = .45

	PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)				
			(CFS)			
+	82.	12.08	11.	4.	3.	3.
			(INCHES)	.345	.447	.447	.447
			(AC-FT)	6.	7.	7.	7.

CUMULATIVE AREA = .30 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R15
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.15, TOTAL LOSS = .71, TOTAL EXCESS = .44

	PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)				
			(CFS)			
+	80.	12.08	11.	4.	3.	3.
			(INCHES)	.338	.439	.440	.440
			(AC-FT)	5.	7.	7.	7.

CUMULATIVE AREA = .30 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R15
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.14, TOTAL LOSS = .71, TOTAL EXCESS = .43

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
78.	12.08	11.	3.	3.	3.
		(INCHES)	.332	.431	.432	.432
		(AC-FT)	5.	7.	7.	7.

CUMULATIVE AREA = .30 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R15
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.13, TOTAL LOSS = .70, TOTAL EXCESS = .43

	PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)				
			(CFS)			
+	77.	12.08	11.	3.	3.	3.
			(INCHES)	.328	.426	.427	.427
			(AC-FT)	5.	7.	7.	7.

CUMULATIVE AREA = .30 SQ MI

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INTERPOLATED HYDROGRAPH AT R15

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	1.	1		1230	151	33.	1		1845	226	1.
1		0005	2	0.	1		0620	77	1.	1		1235	152	27.	1		1850	227	1.
1		0010	3	0.	1		0625	78	1.	1		1240	153	22.	1		1855	228	1.
1		0015	4	0.	1		0630	79	1.	1		1245	154	19.	1		1900	229	1.
1		0020	5	0.	1		0635	80	1.	1		1250	155	16.	1		1905	230	1.
1		0025	6	0.	1		0640	81	1.	1		1255	156	13.	1		1910	231	1.
1		0030	7	1.	1		0645	82	1.	1		1300	157	12.	1		1915	232	1.
1		0035	8	1.	1		0650	83	1.	1		1305	158	10.	1		1920	233	1.
1		0040	9	1.	1		0655	84	1.	1		1310	159	9.	1		1925	234	1.
1		0045	10	1.	1		0700	85	1.	1		1315	160	8.	1		1930	235	1.
1		0050	11	1.	1		0705	86	1.	1		1320	161	7.	1		1935	236	1.
1		0055	12	1.	1		0710	87	1.	1		1325	162	6.	1		1940	237	1.
1		0100	13	1.	1		0715	88	1.	1		1330	163	5.	1		1945	238	1.
1		0105	14	1.	1		0720	89	1.	1		1335	164	5.	1		1950	239	1.
1		0110	15	1.	1		0725	90	1.	1		1340	165	5.	1		1955	240	1.
1		0115	16	1.	1		0730	91	1.	1		1345	166	4.	1		2000	241	1.
1		0120	17	1.	1		0735	92	1.	1		1350	167	4.	1		2005	242	1.
1		0125	18	1.	1		0740	93	1.	1		1355	168	3.	1		2010	243	1.
1		0130	19	1.	1		0745	94	1.	1		1400	169	3.	1		2015	244	1.
1		0135	20	1.	1		0750	95	1.	1		1405	170	3.	1		2020	245	1.
1		0140	21	1.	1		0755	96	1.	1		1410	171	3.	1		2025	246	1.
1		0145	22	1.	1		0800	97	1.	1		1415	172	3.	1		2030	247	1.
1		0150	23	1.	1		0805	98	1.	1		1420	173	3.	1		2035	248	1.
1		0155	24	1.	1		0810	99	1.	1		1425	174	3.	1		2040	249	1.
1		0200	25	1.	1		0815	100	2.	1		1430	175	3.	1		2045	250	1.
1		0205	26	1.	1		0820	101	2.	1		1435	176	2.	1		2050	251	1.

1	0210	27	1.	*	1	0825	102	2.	*	1	1440	177	2.	*	1	2055	252	1.
1	0215	28	1.	*	1	0830	103	2.	*	1	1445	178	2.	*	1	2100	253	1.
1	0220	29	1.	*	1	0835	104	2.	*	1	1450	179	2.	*	1	2105	254	1.
1	0225	30	1.	*	1	0840	105	2.	*	1	1455	180	2.	*	1	2110	255	1.
1	0230	31	1.	*	1	0845	106	2.	*	1	1500	181	2.	*	1	2115	256	1.
1	0235	32	1.	*	1	0850	107	2.	*	1	1505	182	2.	*	1	2120	257	1.
1	0240	33	1.	*	1	0855	108	2.	*	1	1510	183	2.	*	1	2125	258	1.
1	0245	34	1.	*	1	0900	109	2.	*	1	1515	184	2.	*	1	2130	259	1.
1	0250	35	1.	*	1	0905	110	2.	*	1	1520	185	2.	*	1	2135	260	1.
1	0255	36	1.	*	1	0910	111	2.	*	1	1525	186	2.	*	1	2140	261	1.
1	0300	37	1.	*	1	0915	112	2.	*	1	1530	187	2.	*	1	2145	262	1.
1	0305	38	1.	*	1	0920	113	2.	*	1	1535	188	2.	*	1	2150	263	1.
1	0310	39	1.	*	1	0925	114	2.	*	1	1540	189	2.	*	1	2155	264	1.
1	0315	40	1.	*	1	0930	115	2.	*	1	1545	190	2.	*	1	2200	265	1.
1	0320	41	1.	*	1	0935	116	2.	*	1	1550	191	2.	*	1	2205	266	1.
1	0325	42	1.	*	1	0940	117	2.	*	1	1555	192	2.	*	1	2210	267	1.
1	0330	43	1.	*	1	0945	118	2.	*	1	1600	193	2.	*	1	2215	268	1.
1	0335	44	1.	*	1	0950	119	2.	*	1	1605	194	2.	*	1	2220	269	1.
1	0340	45	1.	*	1	0955	120	2.	*	1	1610	195	2.	*	1	2225	270	1.
1	0345	46	1.	*	1	1000	121	2.	*	1	1615	196	2.	*	1	2230	271	1.
1	0350	47	1.	*	1	1005	122	2.	*	1	1620	197	2.	*	1	2235	272	1.
1	0355	48	1.	*	1	1010	123	3.	*	1	1625	198	2.	*	1	2240	273	1.
1	0400	49	1.	*	1	1015	124	3.	*	1	1630	199	2.	*	1	2245	274	1.
1	0405	50	1.	*	1	1020	125	3.	*	1	1635	200	2.	*	1	2250	275	1.
1	0410	51	1.	*	1	1025	126	3.	*	1	1640	201	2.	*	1	2255	276	1.
1	0415	52	1.	*	1	1030	127	3.	*	1	1645	202	2.	*	1	2300	277	1.
1	0420	53	1.	*	1	1035	128	3.	*	1	1650	203	1.	*	1	2305	278	1.
1	0425	54	1.	*	1	1040	129	3.	*	1	1655	204	1.	*	1	2310	279	1.
1	0430	55	1.	*	1	1045	130	3.	*	1	1700	205	1.	*	1	2315	280	1.
1	0435	56	1.	*	1	1050	131	4.	*	1	1705	206	1.	*	1	2320	281	1.
1	0440	57	1.	*	1	1055	132	4.	*	1	1710	207	1.	*	1	2325	282	1.
1	0445	58	1.	*	1	1100	133	4.	*	1	1715	208	1.	*	1	2330	283	1.
1	0450	59	1.	*	1	1105	134	4.	*	1	1720	209	1.	*	1	2335	284	1.
1	0455	60	1.	*	1	1110	135	4.	*	1	1725	210	1.	*	1	2340	285	1.
1	0500	61	1.	*	1	1115	136	5.	*	1	1730	211	1.	*	1	2345	286	1.
1	0505	62	1.	*	1	1120	137	5.	*	1	1735	212	1.	*	1	2350	287	1.
1	0510	63	1.	*	1	1125	138	6.	*	1	1740	213	1.	*	1	2355	288	1.
1	0515	64	1.	*	1	1130	139	6.	*	1	1745	214	1.	*	2	0000	289	1.
1	0520	65	1.	*	1	1135	140	7.	*	1	1750	215	1.	*	2	0005	290	1.
1	0525	66	1.	*	1	1140	141	10.	*	1	1755	216	1.	*	2	0010	291	1.
1	0530	67	1.	*	1	1145	142	15.	*	1	1800	217	1.	*	2	0015	292	0.
1	0535	68	1.	*	1	1150	143	25.	*	1	1805	218	1.	*	2	0020	293	0.
1	0540	69	1.	*	1	1155	144	49.	*	1	1810	219	1.	*	2	0025	294	0.
1	0545	70	1.	*	1	1200	145	78.	*	1	1815	220	1.	*	2	0030	295	0.
1	0550	71	1.	*	1	1205	146	84.	*	1	1820	221	1.	*	2	0035	296	0.
1	0555	72	1.	*	1	1210	147	71.	*	1	1825	222	1.	*	2	0040	297	0.
1	0600	73	1.	*	1	1215	148	58.	*	1	1830	223	1.	*	2	0045	298	0.
1	0605	74	1.	*	1	1220	149	48.	*	1	1835	224	1.	*	2	0050	299	0.
1	0610	75	1.	*	1	1225	150	39.	*	1	1840	225	1.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
84.	12.08		11.	4.	4.	4.
		(INCHES)	.353	.455	.456	.456
		(AC-FT)	6.	7.	7.	7.

CUMULATIVE AREA = .30 SQ MI

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335 KK     **************
           *            *
           *     R_R13  *      ROute Hydrograph through R13
           *            *
           **************

              HYDROGRAPH ROUTING DATA

336 RS          STORAGE ROUTING
                     NSTPS          1  NUMBER OF SUBREACHES
                      ITYP       STOR  TYPE OF INITIAL CONDITION
                    RSVRIC        .00  INITIAL CONDITION
                         X        .00 WORKING R AND D COEFFICIENT

337 RC          NORMAL DEPTH CHANNEL
                       ANL       .035  LEFT OVERBANK N-VALUE
                      ANCH       .030  MAIN CHANNEL N-VALUE
                       ANR       .035  RIGHT OVERBANK N-VALUE
                     RLNTH       971.  REACH LENGTH
                       SEL      .0180  ENERGY SLOPE
                     ELMAX         .0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                  CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
339 RY        ELEVATION   4762.00   4760.00   4758.00   4756.00   4756.00   4758.00   4760.00   4762.00
338 RX        DISTANCE    1000.00   1014.00   1022.00   1026.00   1036.00   1046.00   1050.00   1062.00

                                                 ***

                                  COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00       .08       .17       .28       .41       .55       .70       .87      1.06      1.26
          OUTFLOW        .00     10.12     33.55     69.09    117.02    177.98    252.70    353.95    477.33    617.67
        ELEVATION    4756.00   4756.32   4756.63   4756.95   4757.26   4757.58   4757.90   4758.21   4758.53   4758.84

          STORAGE       1.47      1.69      1.93      2.18      2.46      2.77      3.10      3.47      3.86      4.28
          OUTFLOW     775.39    950.90   1144.61   1354.75   1582.66   1834.71   2112.09   2416.15   2748.30   3110.17
        ELEVATION    4759.16   4759.48   4759.79   4760.11   4760.42   4760.74   4761.05   4761.37   4761.69   4762.00

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN       34. TO     3110.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

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HYDROGRAPH AT STATION R_R13
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
85.	12.08		12.	4.	4.	4.
		(INCHES)	.359	.463	.464	.464
		(AC-FT)	6.	7.	7.	7.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	24.92-HR
(AC-FT)	(HR)					
0.	12.08		0.	0.	0.	0.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	24.92-HR
(FEET)	(HR)					
4757.05	12.08		4756.23	4756.08	4756.07	4756.07

CUMULATIVE AREA = .30 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R_R13
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
81.	12.08		11.	4.	3.	3.
		(INCHES)	.345	.447	.447	.447
		(AC-FT)	6.	7.	7.	7.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	24.92-HR
(AC-FT)	(HR)					
0.	12.08		0.	0.	0.	0.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	24.92-HR
(FEET)	(HR)					
4757.02	12.08		4756.23	4756.08	4756.07	4756.07

CUMULATIVE AREA = .30 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R_R13
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
78.	12.08		11.	4.	3.	3.
		(INCHES)	.338	.439	.440	.440
		(AC-FT)	5.	7.	7.	7.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	24.92-HR
(AC-FT)	(HR)					
0.	12.08		0.	0.	0.	0.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	24.92-HR
(FEET)	(HR)					
4757.01	12.08		4756.22	4756.08	4756.07	4756.07

CUMULATIVE AREA = .30 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R_R13
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
76.	12.08		11.	3.	3.	3.
		(INCHES)	.332	.431	.432	.432
		(AC-FT)	5.	7.	7.	7.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	24.92-HR
(AC-FT)	(HR)					
0.	12.08		0.	0.	0.	0.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	24.92-HR
(FEET)	(HR)					
4757.00	12.08		4756.22	4756.08	4756.07	4756.07

CUMULATIVE AREA = .30 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R_R13
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
75.	12.08		11.	3.	3.	3.
		(INCHES)	.328	.426	.427	.427
		(AC-FT)	5.	7.	7.	7.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
0.	12.08	0.	0.	0.	0.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
4756.99	12.08	4756.22	4756.07	4756.07	4756.07

CUMULATIVE AREA = .30 SQ MI

INTERPOLATED HYDROGRAPH AT R_R13

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	1.	1		1230	151	36.	1		1845	226	1.
1		0005	2	0.	1		0620	77	1.	1		1235	152	30.	1		1850	227	1.
1		0010	3	0.	1		0625	78	1.	1		1240	153	25.	1		1855	228	1.
1		0015	4	0.	1		0630	79	1.	1		1245	154	21.	1		1900	229	1.
1		0020	5	0.	1		0635	80	1.	1		1250	155	18.	1		1905	230	1.
1		0025	6	0.	1		0640	81	1.	1		1255	156	15.	1		1910	231	1.
1		0030	7	0.	1		0645	82	1.	1		1300	157	13.	1		1915	232	1.
1		0035	8	0.	1		0650	83	1.	1		1305	158	11.	1		1920	233	1.
1		0040	9	1.	1		0655	84	1.	1		1310	159	10.	1		1925	234	1.
1		0045	10	1.	1		0700	85	1.	1		1315	160	9.	1		1930	235	1.
1		0050	11	1.	1		0705	86	1.	1		1320	161	8.	1		1935	236	1.
1		0055	12	1.	1		0710	87	1.	1		1325	162	7.	1		1940	237	1.
1		0100	13	1.	1		0715	88	1.	1		1330	163	6.	1		1945	238	1.
1		0105	14	1.	1		0720	89	1.	1		1335	164	6.	1		1950	239	1.
1		0110	15	1.	1		0725	90	1.	1		1340	165	5.	1		1955	240	1.
1		0115	16	1.	1		0730	91	1.	1		1345	166	5.	1		2000	241	1.
1		0120	17	1.	1		0735	92	1.	1		1350	167	4.	1		2005	242	1.
1		0125	18	1.	1		0740	93	1.	1		1355	168	4.	1		2010	243	1.
1		0130	19	1.	1		0745	94	1.	1		1400	169	3.	1		2015	244	1.
1		0135	20	1.	1		0750	95	1.	1		1405	170	3.	1		2020	245	1.
1		0140	21	1.	1		0755	96	1.	1		1410	171	3.	1		2025	246	1.
1		0145	22	1.	1		0800	97	1.	1		1415	172	3.	1		2030	247	1.
1		0150	23	1.	1		0805	98	1.	1		1420	173	3.	1		2035	248	1.
1		0155	24	1.	1		0810	99	1.	1		1425	174	3.	1		2040	249	1.
1		0200	25	1.	1		0815	100	1.	1		1430	175	3.	1		2045	250	1.
1		0205	26	1.	1		0820	101	2.	1		1435	176	3.	1		2050	251	1.
1		0210	27	1.	1		0825	102	2.	1		1440	177	3.	1		2055	252	1.
1		0215	28	1.	1		0830	103	2.	1		1445	178	2.	1		2100	253	1.
1		0220	29	1.	1		0835	104	2.	1		1450	179	2.	1		2105	254	1.
1		0225	30	1.	1		0840	105	2.	1		1455	180	2.	1		2110	255	1.
1		0230	31	1.	1		0845	106	2.	1		1500	181	2.	1		2115	256	1.
1		0235	32	1.	1		0850	107	2.	1		1505	182	2.	1		2120	257	1.
1		0240	33	1.	1		0855	108	2.	1		1510	183	2.	1		2125	258	1.
1		0245	34	1.	1		0900	109	2.	1		1515	184	2.	1		2130	259	1.
1		0250	35	1.	1		0905	110	2.	1		1520	185	2.	1		2135	260	1.
1		0255	36	1.	1		0910	111	2.	1		1525	186	2.	1		2140	261	1.
1		0300	37	1.	1		0915	112	2.	1		1530	187	2.	1		2145	262	1.
1		0305	38	1.	1		0920	113	2.	1		1535	188	2.	1		2150	263	1.
1		0310	39	1.	1		0925	114	2.	1		1540	189	2.	1		2155	264	1.
1		0315	40	1.	1		0930	115	2.	1		1545	190	2.	1		2200	265	1.
1		0320	41	1.	1		0935	116	2.	1		1550	191	2.	1		2205	266	1.
1		0325	42	1.	1		0940	117	2.	1		1555	192	2.	1		2210	267	1.
1		0330	43	1.	1		0945	118	2.	1		1600	193	2.	1		2215	268	1.
1		0335	44	1.	1		0950	119	2.	1		1605	194	2.	1		2220	269	1.
1		0340	45	1.	1		0955	120	2.	1		1610	195	2.	1		2225	270	1.
1		0345	46	1.	1		1000	121	2.	1		1615	196	2.	1		2230	271	1.
1		0350	47	1.	1		1005	122	2.	1		1620	197	2.	1		2235	272	1.
1		0355	48	1.	1		1010	123	2.	1		1625	198	2.	1		2240	273	1.
1		0400	49	1.	1		1015	124	3.	1		1630	199	2.	1		2245	274	1.
1		0405	50	1.	1		1020	125	3.	1		1635	200	2.	1		2250	275	1.
1		0410	51	1.	1		1025	126	3.	1		1640	201	2.	1		2255	276	1.
1		0415	52	1.	1		1030	127	3.	1		1645	202	2.	1		2300	277	1.
1		0420	53	1.	1		1035	128	3.	1		1650	203	2.	1		2305	278	1.
1		0425	54	1.	1		1040	129	3.	1		1655	204	1.	1		2310	279	1.
1		0430	55	1.	1		1045	130	3.	1		1700	205	1.	1		2315	280	1.
1		0435	56	1.	1		1050	131	3.	1		1705	206	1.	1		2320	281	1.
1		0440	57	1.	1		1055	132	4.	1		1710	207	1.	1		2325	282	1.
1		0445	58	1.	1		1100	133	4.	1		1715	208	1.	1		2330	283	1.
1		0450	59	1.	1		1105	134	4.	1		1720	209	1.	1		2335	284	1.
1		0455	60	1.	1		1110	135	4.	1		1725	210	1.	1		2340	285	1.
1		0500	61	1.	1		1115	136	4.	1		1730	211	1.	1		2345	286	1.
1		0505	62	1.	1		1120	137	5.	1		1735	212	1.	1		2350	287	1.
1		0510	63	1.	1		1125	138	5.	1		1740	213	1.	1		2355	288	1.
1		0515	64	1.	1		1130	139	5.	1		1745	214	1.	2		0000	289	1.
1		0520	65	1.	1		1135	140	6.	1		1750	215	1.	2		0005	290	1.
1		0525	66	1.	1		1140	141	8.	1		1755	216	1.	2		0010	291	1.
1		0530	67	1.	1		1145	142	11.	1		1800	217	1.	2		0015	292	1.
1		0535	68	1.	1		1150	143	19.	1		1805	218	1.	2		0020	293	0.
1		0540	69	1.	1		1155	144	36.	1		1810	219	1.	2		0025	294	0.
1		0545	70	1.	1		1200	145	65.	1		1815	220	1.	2		0030	295	0.
1		0550	71	1.	1		1205	146	83.	1		1820	221	1.	2		0035	296	0.
1		0555	72	1.	1		1210	147	77.	1		1825	222	1.	2		0040	297	0.
1		0600	73	1.	1		1215	148	63.	1		1830	223	1.	2		0045	298	0.
1		0605	74	1.	1		1220	149	52.	1		1835	224	1.	2		0050	299	0.
1		0610	75	1.	1		1225	150	43.	1		1840	225	1.	2		0055	300	0.

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 83.	12.08	11.	4.	4.	4.
		(INCHES) .353	.455	.456	.456
		(AC-FT) 6.	7.	7.	7.

CUMULATIVE AREA = .30 SQ MI

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          *             *
340 KK    *      R13    *      Subbasin
          *             *
          ***************

             SUBBASIN RUNOFF DATA

341 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .04  SUBBASIN AREA

342 LG          GREEN AND AMPT LOSS RATE
                      STRTL         .48  STARTING LOSS
                        DTH         .45  MOISTURE DEFICIT
                       PSIF        1.68  WETTING FRONT SUCTION
                      XKSAT         .06  HYDRAULIC CONDUCTIVITY
                      RTIMP        2.00  PERCENT IMPERVIOUS AREA

343 US          SNYDER UNITGRAPH
                        TP          .05  LAG
                        CP          .21  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                        ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=    .08 HR,       R=    .66 HR
                                         SNYDER   TP=    .14 HR,      CP=    .21

                                                UNIT HYDROGRAPH
                                          43 END-OF-PERIOD ORDINATES
                    20.       37.       32.       29.       25.       22.       20.       17.       15.       13.
                    12.       10.        9.        8.        7.        6.        6.        5.        4.        4.
                     3.        3.        3.        2.        2.        2.        2.        1.        1.        1.
                     1.        1.        1.        1.        1.        0.        0.        0.        0.        0.
                     0.        0.        0.

      ***               ***               ***               ***               ***

                          HYDROGRAPH AT STATION      R13
                        TRANSPOSITION AREA        .0 SQ MI

      TOTAL RAINFALL =    1.19, TOTAL LOSS =    1.01, TOTAL EXCESS =     .18

   PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR          24-HR          72-HR      24.92-HR
+     (CFS)        (HR)
                          (CFS)
          5.      12.08                     1.            0.             0.            0.
                (INCHES)                  .169          .176           .176          .176
                (AC-FT)                     0.            0.             0.            0.

                          CUMULATIVE AREA =      .04 SQ MI

      ***               ***               ***               ***               ***

                          HYDROGRAPH AT STATION      R13
                        TRANSPOSITION AREA      14.0 SQ MI

      TOTAL RAINFALL =    1.17, TOTAL LOSS =    1.00, TOTAL EXCESS =     .16

   PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR          24-HR          72-HR      24.92-HR
+     (CFS)        (HR)
                          (CFS)
+         5.      12.08                     1.            0.             0.            0.
                (INCHES)                  .155          .162           .162          .162
                (AC-FT)                     0.            0.             0.            0.

                          CUMULATIVE AREA =      .04 SQ MI

      ***               ***               ***               ***               ***

                          HYDROGRAPH AT STATION      R13
                        TRANSPOSITION AREA      24.0 SQ MI

      TOTAL RAINFALL =    1.15, TOTAL LOSS =    1.00, TOTAL EXCESS =     .16

   PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR          24-HR          72-HR      24.92-HR
+     (CFS)        (HR)
                          (CFS)
+         5.      12.08                     1.            0.             0.            0.
                (INCHES)                  .149          .156           .156          .156
                (AC-FT)                     0.            0.             0.            0.

                          CUMULATIVE AREA =      .04 SQ MI

      ***               ***               ***               ***               ***

                          HYDROGRAPH AT STATION      R13
                        TRANSPOSITION AREA      36.5 SQ MI

      TOTAL RAINFALL =    1.14, TOTAL LOSS =     .99, TOTAL EXCESS =     .15

   PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR          24-HR          72-HR      24.92-HR
     (CFS)        (HR)
                          (CFS)
          5.      12.08                     1.            0.             0.            0.
                (INCHES)                  .144          .150           .150          .150
                (AC-FT)                     0.            0.             0.            0.

                          CUMULATIVE AREA =      .04 SQ MI

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HYDROGRAPH AT STATION R13
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.13, TOTAL LOSS = .99, TOTAL EXCESS = .15

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
5.	12.08	(CFS) 1.	0.	0.	0.
		(INCHES) .140	.147	.147	.147
		(AC-FT) 0.	0.	0.	0.

CUMULATIVE AREA = .04 SQ MI

INTERPOLATED HYDROGRAPH AT R13

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	3.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	3.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	2.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	2.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	2.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	2.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	1.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	1.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	1.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	1.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	1.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	1.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	1.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	1.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	1.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	0.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	0.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	0.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	0.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	0.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	0.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	0.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	0.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	0.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	0.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	0.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	0.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	0.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	0.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	0.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	0.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	0.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	0.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	0.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	0.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	0.	1		2140	261	0.
1		0300	37	0.	1		0915	112	0.	1		1530	187	0.	1		2145	262	0.
1		0305	38	0.	1		0920	113	0.	1		1535	188	0.	1		2150	263	0.
1		0310	39	0.	1		0925	114	0.	1		1540	189	0.	1		2155	264	0.
1		0315	40	0.	1		0930	115	0.	1		1545	190	0.	1		2200	265	0.
1		0320	41	0.	1		0935	116	0.	1		1550	191	0.	1		2205	266	0.
1		0325	42	0.	1		0940	117	0.	1		1555	192	0.	1		2210	267	0.
1		0330	43	0.	1		0945	118	0.	1		1600	193	0.	1		2215	268	0.
1		0335	44	0.	1		0950	119	0.	1		1605	194	0.	1		2220	269	0.
1		0340	45	0.	1		0955	120	0.	1		1610	195	0.	1		2225	270	0.
1		0345	46	0.	1		1000	121	0.	1		1615	196	0.	1		2230	271	0.
1		0350	47	0.	1		1005	122	0.	1		1620	197	0.	1		2235	272	0.
1		0355	48	0.	1		1010	123	0.	1		1625	198	0.	1		2240	273	0.
1		0400	49	0.	1		1015	124	0.	1		1630	199	0.	1		2245	274	0.
1		0405	50	0.	1		1020	125	0.	1		1635	200	0.	1		2250	275	0.
1		0410	51	0.	1		1025	126	0.	1		1640	201	0.	1		2255	276	0.
1		0415	52	0.	1		1030	127	0.	1		1645	202	0.	1		2300	277	0.
1		0420	53	0.	1		1035	128	0.	1		1650	203	0.	1		2305	278	0.
1		0425	54	0.	1		1040	129	0.	1		1655	204	0.	1		2310	279	0.
1		0430	55	0.	1		1045	130	0.	1		1700	205	0.	1		2315	280	0.
1		0435	56	0.	1		1050	131	0.	1		1705	206	0.	1		2320	281	0.
1		0440	57	0.	1		1055	132	0.	1		1710	207	0.	1		2325	282	0.
1		0445	58	0.	1		1100	133	0.	1		1715	208	0.	1		2330	283	0.
1		0450	59	0.	1		1105	134	0.	1		1720	209	0.	1		2335	284	0.
1		0455	60	0.	1		1110	135	0.	1		1725	210	0.	1		2340	285	0.
1		0500	61	0.	1		1115	136	0.	1		1730	211	0.	1		2345	286	0.
1		0505	62	0.	1		1120	137	0.	1		1735	212	0.	1		2350	287	0.
1		0510	63	0.	1		1125	138	0.	1		1740	213	0.	1		2355	288	0.
1		0515	64	0.	1		1130	139	0.	1		1745	214	0.	2		0000	289	0.
1		0520	65	0.	1		1135	140	0.	1		1750	215	0.	2		0005	290	0.
1		0525	66	0.	1		1140	141	0.	1		1755	216	0.	2		0010	291	0.
1		0530	67	0.	1		1145	142	0.	1		1800	217	0.	2		0015	292	0.
1		0535	68	0.	1		1150	143	0.	1		1805	218	0.	2		0020	293	0.
1		0540	69	0.	1		1155	144	2.	1		1810	219	0.	2		0025	294	0.
1		0545	70	0.	1		1200	145	5.	1		1815	220	0.	2		0030	295	0.
1		0550	71	0.	1		1205	146	5.	1		1820	221	0.	2		0035	296	0.
1		0555	72	0.	1		1210	147	5.	1		1825	222	0.	2		0040	297	0.
1		0600	73	0.	1		1215	148	4.	1		1830	223	0.	2		0045	298	0.
1		0605	74	0.	1		1220	149	4.	1		1835	224	0.	2		0050	299	0.
1		0610	75	0.	1		1225	150	3.	1		1840	225	0.	2		0055	300	0.

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
5.	12.08	(CFS) 1.	0.	0.	0.
		(INCHES) .166	.173	.173	.173
		(AC-FT) 0.	0.	0.	0.

CUMULATIVE AREA = .04 SQ MI

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*** *** *** *
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1	0055	12	1.	*	1	0710	87	1.	*	1	1325	162	8.	*	1	1940	237	1.
1	0100	13	1.	*	1	0715	88	1.	*	1	1330	163	7.	*	1	1945	238	1.
1	0105	14	1.	*	1	0720	89	1.	*	1	1335	164	6.	*	1	1950	239	1.
1	0110	15	1.	*	1	0725	90	1.	*	1	1340	165	6.	*	1	1955	240	1.
1	0115	16	1.	*	1	0730	91	1.	*	1	1345	166	5.	*	1	2000	241	1.
1	0120	17	1.	*	1	0735	92	1.	*	1	1350	167	5.	*	1	2005	242	1.
1	0125	18	1.	*	1	0740	93	1.	*	1	1355	168	4.	*	1	2010	243	1.
1	0130	19	1.	*	1	0745	94	1.	*	1	1400	169	4.	*	1	2015	244	1.
1	0135	20	1.	*	1	0750	95	1.	*	1	1405	170	3.	*	1	2020	245	1.
1	0140	21	1.	*	1	0755	96	1.	*	1	1410	171	3.	*	1	2025	246	1.
1	0145	22	1.	*	1	0800	97	1.	*	1	1415	172	3.	*	1	2030	247	1.
1	0150	23	1.	*	1	0805	98	1.	*	1	1420	173	3.	*	1	2035	248	1.
1	0155	24	1.	*	1	0810	99	1.	*	1	1425	174	3.	*	1	2040	249	1.
1	0200	25	1.	*	1	0815	100	1.	*	1	1430	175	3.	*	1	2045	250	1.
1	0205	26	1.	*	1	0820	101	2.	*	1	1435	176	3.	*	1	2050	251	1.
1	0210	27	1.	*	1	0825	102	2.	*	1	1440	177	3.	*	1	2055	252	1.
1	0215	28	1.	*	1	0830	103	2.	*	1	1445	178	3.	*	1	2100	253	1.
1	0220	29	1.	*	1	0835	104	2.	*	1	1450	179	3.	*	1	2105	254	1.
1	0225	30	1.	*	1	0840	105	2.	*	1	1455	180	2.	*	1	2110	255	1.
1	0230	31	1.	*	1	0845	106	2.	*	1	1500	181	2.	*	1	2115	256	1.
1	0235	32	1.	*	1	0850	107	2.	*	1	1505	182	2.	*	1	2120	257	1.
1	0240	33	1.	*	1	0855	108	2.	*	1	1510	183	2.	*	1	2125	258	1.
1	0245	34	1.	*	1	0900	109	2.	*	1	1515	184	2.	*	1	2130	259	1.
1	0250	35	1.	*	1	0905	110	2.	*	1	1520	185	2.	*	1	2135	260	1.
1	0255	36	1.	*	1	0910	111	2.	*	1	1525	186	2.	*	1	2140	261	1.
1	0300	37	1.	*	1	0915	112	2.	*	1	1530	187	2.	*	1	2145	262	1.
1	0305	38	1.	*	1	0920	113	2.	*	1	1535	188	2.	*	1	2150	263	1.
1	0310	39	1.	*	1	0925	114	2.	*	1	1540	189	2.	*	1	2155	264	1.
1	0315	40	1.	*	1	0930	115	2.	*	1	1545	190	2.	*	1	2200	265	1.
1	0320	41	1.	*	1	0935	116	2.	*	1	1550	191	2.	*	1	2205	266	1.
1	0325	42	1.	*	1	0940	117	2.	*	1	1555	192	2.	*	1	2210	267	1.
1	0330	43	1.	*	1	0945	118	2.	*	1	1600	193	2.	*	1	2215	268	1.
1	0335	44	1.	*	1	0950	119	2.	*	1	1605	194	2.	*	1	2220	269	1.
1	0340	45	1.	*	1	0955	120	2.	*	1	1610	195	2.	*	1	2225	270	1.
1	0345	46	1.	*	1	1000	121	2.	*	1	1615	196	2.	*	1	2230	271	1.
1	0350	47	1.	*	1	1005	122	2.	*	1	1620	197	2.	*	1	2235	272	1.
1	0355	48	1.	*	1	1010	123	2.	*	1	1625	198	2.	*	1	2240	273	1.
1	0400	49	1.	*	1	1015	124	3.	*	1	1630	199	2.	*	1	2245	274	1.
1	0405	50	1.	*	1	1020	125	3.	*	1	1635	200	2.	*	1	2250	275	1.
1	0410	51	1.	*	1	1025	126	3.	*	1	1640	201	2.	*	1	2255	276	1.
1	0415	52	1.	*	1	1030	127	3.	*	1	1645	202	2.	*	1	2300	277	1.
1	0420	53	1.	*	1	1035	128	3.	*	1	1650	203	2.	*	1	2305	278	1.
1	0425	54	1.	*	1	1040	129	3.	*	1	1655	204	2.	*	1	2310	279	1.
1	0430	55	1.	*	1	1045	130	3.	*	1	1700	205	1.	*	1	2315	280	1.
1	0435	56	1.	*	1	1050	131	3.	*	1	1705	206	1.	*	1	2320	281	1.
1	0440	57	1.	*	1	1055	132	4.	*	1	1710	207	1.	*	1	2325	282	1.
1	0445	58	1.	*	1	1100	133	4.	*	1	1715	208	1.	*	1	2330	283	1.
1	0450	59	1.	*	1	1105	134	4.	*	1	1720	209	1.	*	1	2335	284	1.
1	0455	60	1.	*	1	1110	135	4.	*	1	1725	210	1.	*	1	2340	285	1.
1	0500	61	1.	*	1	1115	136	4.	*	1	1730	211	1.	*	1	2345	286	1.
1	0505	62	1.	*	1	1120	137	5.	*	1	1735	212	1.	*	1	2350	287	1.
1	0510	63	1.	*	1	1125	138	5.	*	1	1740	213	1.	*	1	2355	288	1.
1	0515	64	1.	*	1	1130	139	6.	*	1	1745	214	1.	*	2	0000	289	1.
1	0520	65	1.	*	1	1135	140	6.	*	1	1750	215	1.	*	2	0005	290	1.
1	0525	66	1.	*	1	1140	141	8.	*	1	1755	216	1.	*	2	0010	291	1.
1	0530	67	1.	*	1	1145	142	11.	*	1	1800	217	1.	*	2	0015	292	1.
1	0535	68	1.	*	1	1150	143	20.	*	1	1805	218	1.	*	2	0020	293	0.
1	0540	69	1.	*	1	1155	144	38.	*	1	1810	219	1.	*	2	0025	294	0.
1	0545	70	1.	*	1	1200	145	69.	*	1	1815	220	1.	*	2	0030	295	0.
1	0550	71	1.	*	1	1205	146	88.	*	1	1820	221	1.	*	2	0035	296	0.
1	0555	72	1.	*	1	1210	147	81.	*	1	1825	222	1.	*	2	0040	297	0.
1	0600	73	1.	*	1	1215	148	67.	*	1	1830	223	1.	*	2	0045	298	0.
1	0605	74	1.	*	1	1220	149	56.	*	1	1835	224	1.	*	2	0050	299	0.
1	0610	75	1.	*	1	1225	150	46.	*	1	1840	225	1.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 88.	12.08		12.	4.	4.	4.
		(INCHES)	.329	.419	.420	.420
		(AC-FT)	6.	8.	8.	8.

CUMULATIVE AREA = .34 SQ MI

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346 KK

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*             *
*    Extra5   *
*             *
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Overflow released from Basin 25

347 DR RETRIEVE DIVERSION HYDROGRAPH

ISTAD BSDIV DIVERSION HYDROGRAPH IDENTIFICATION

*** *** *** *** ***

HYDROGRAPH AT STATION Extra5
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 0.	.00		0.	0.	0.	0.
		(INCHES)	.000	.000	.000	.000
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION Extra5
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+ 0.	.00	(CFS)	0.	0.	0.	0.
		(INCHES)	.000	.000	.000	.000
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION Extra5
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+ (CFS)						
+ 0.	.00	(CFS)	0.	0.	0.	0.
		(INCHES)	.000	.000	.000	.000
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION Extra5
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+ (CFS)						
+ 0.	.00	(CFS)	0.	0.	0.	0.
		(INCHES)	.000	.000	.000	.000
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION Extra5
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+ (CFS)						
0.	.00	(CFS)	0.	0.	0.	0.
		(INCHES)	.000	.000	.000	.000
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

INTERPOLATED HYOROGRAPH AT Extra5

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	0.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	0.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	0.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	0.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	0.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	0.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	0.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	0.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	0.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	0.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	0.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	0.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	0.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	0.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	0.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	0.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	0.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	0.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	0.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	0.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	0.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	0.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	0.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	0.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	0.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	0.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	0.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	0.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	0.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	0.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	0.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	0.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	0.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	0.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	0.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	0.	1		2140	261	0.
1		0300	37	0.	1		0915	112	0.	1		1530	187	0.	1		2145	262	0.
1		0305	38	0.	1		0920	113	0.	1		1535	188	0.	1		2150	263	0.
1		0310	39	0.	1		0925	114	0.	1		1540	189	0.	1		2155	264	0.
1		0315	40	0.	1		0930	115	0.	1		1545	190	0.	1		2200	265	0.
1		0320	41	0.	1		0935	116	0.	1		1550	191	0.	1		2205	266	0.
1		0325	42	0.	1		0940	117	0.	1		1555	192	0.	1		2210	267	0.
1		0330	43	0.	1		0945	118	0.	1		1600	193	0.	1		2215	268	0.
1		0335	44	0.	1		0950	119	0.	1		1605	194	0.	1		2220	269	0.
1		0340	45	0.	1		0955	120	0.	1		1610	195	0.	1		2225	270	0.
1		0345	46	0.	1		1000	121	0.	1		1615	196	0.	1		2230	271	0.

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    1    0350   47        0.   *    1    1005  122        0.   *    1    1620  197        0.   *    1    2235  272        0.
    1    0355   48        0.   *    1    1010  123        0.   *    1    1625  198        0.   *    1    2240  273        0.
    1    0400   49        0.   *    1    1015  124        0.   *    1    1630  199        0.   *    1    2245  274        0.
    1    0405   50        0.   *    1    1020  125        0.   *    1    1635  200        0.   *    1    2250  275        0.
    1    0410   51        0.   *    1    1025  126        0.   *    1    1640  201        0.   *    1    2255  276        0.
    1    0415   52        0.   *    1    1030  127        0.   *    1    1645  202        0.   *    1    2300  277        0.
    1    0420   53        0.   *    1    1035  128        0.   *    1    1650  203        0.   *    1    2305  278        0.
    1    0425   54        0.   *    1    1040  129        0.   *    1    1655  204        0.   *    1    2310  279        0.
    1    0430   55        0.   *    1    1045  130        0.   *    1    1700  205        0.   *    1    2315  280        0.
    1    0435   56        0.   *    1    1050  131        0.   *    1    1705  206        0.   *    1    2320  281        0.
    1    0440   57        0.   *    1    1055  132        0.   *    1    1710  207        0.   *    1    2325  282        0.
    1    0445   58        0.   *    1    1100  133        0.   *    1    1715  208        0.   *    1    2330  283        0.
    1    0450   59        0.   *    1    1105  134        0.   *    1    1720  209        0.   *    1    2335  284        0.
    1    0455   60        0.   *    1    1110  135        0.   *    1    1725  210        0.   *    1    2340  285        0.
    1    0500   61        0.   *    1    1115  136        0.   *    1    1730  211        0.   *    1    2345  286        0.
    1    0505   62        0.   *    1    1120  137        0.   *    1    1735  212        0.   *    1    2350  287        0.
    1    0510   63        0.   *    1    1125  138        0.   *    1    1740  213        0.   *    1    2355  288        0.
    1    0515   64        0.   *    1    1130  139        0.   *    1    1745  214        0.   *    2    0000  289        0.
    1    0520   65        0.   *    1    1135  140        0.   *    1    1750  215        0.   *    2    0005  290        0.
    1    0525   66        0.   *    1    1140  141        0.   *    1    1755  216        0.   *    2    0010  291        0.
    1    0530   67        0.   *    1    1145  142        0.   *    1    1800  217        0.   *    2    0015  292        0.
    1    0535   68        0.   *    1    1150  143        0.   *    1    1805  218        0.   *    2    0020  293        0.
    1    0540   69        0.   *    1    1155  144        0.   *    1    1810  219        0.   *    2    0025  294        0.
    1    0545   70        0.   *    1    1200  145        0.   *    1    1815  220        0.   *    2    0030  295        0.
    1    0550   71        0.   *    1    1205  146        0.   *    1    1820  221        0.   *    2    0035  296        0.
    1    0555   72        0.   *    1    1210  147        0.   *    1    1825  222        0.   *    2    0040  297        0.
    1    0600   73        0.   *    1    1215  148        0.   *    1    1830  223        0.   *    2    0045  298        0.
    1    0605   74        0.   *    1    1220  149        0.   *    1    1835  224        0.   *    2    0050  299        0.
    1    0610   75        0.   *    1    1225  150        0.   *    1    1840  225        0.   *    2    0055  300        0.
                             *                              *                              *
*************************************************************************************************************************************

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR      24.92-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00       0.          0.           0.           0.
                       (INCHES)      .000         .000         .000         .000
                         (AC-FT)       0.           0.           0.           0.

                       CUMULATIVE AREA =      .02 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *             *
  348 KK    *      R14    *      Subbasin
            *             *
            ***************

               SUBBASIN RUNOFF DATA

  349 BA          SUBBASIN CHARACTERISTICS
                       TAREA         .06  SUBBASIN AREA

  350 LG          GREEN AND AMPT LOSS RATE
                       STRTL         .58  STARTING LOSS
                         DTH         .52  MOISTURE DEFICIT
                        PSIF        1.94  WETTING FRONT SUCTION
                       XKSAT         .07  HYDRAULIC CONDUCTIVITY
                       RTIMP       35.00  PERCENT IMPERVIOUS AREA

  351 US          SNYDER UNITGRAPH
                         TP          .22  LAG
                         CP          .30  PEAKING COEFFICIENT

                  SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                    ***

                                              UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=    .18 HR,       R=    .63 HR
                                          SNYDER  TP=    .22 HR,      CP=    .30

                                                UNIT HYDROGRAPH
                                          42 END-OF-PERIOD ORDINATES
                        13.       39.       50.       45.       39.       34.       30.       26.       23.       20.
                        18.       16.       14.       12.       11.        9.        8.        7.        6.        5.
                         5.        4.        4.        3.        3.        2.        2.        2.        1.        1.
                         1.        1.        1.        1.        1.        1.        1.        1.        0.        0.
                         0.        0.

          ***             ***             ***             ***             ***

                            HYDROGRAPH AT STATION      R14
                           TRANSPOSITION AREA       .0 SQ MI

          TOTAL RAINFALL =    1.19, TOTAL LOSS =     .74, TOTAL EXCESS =     .45

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR      24.92-HR
+   (CFS)       (HR)
                          (CFS)
+       9.     12.17        2.          1.           1.           1.
                       (INCHES)      .329         .450         .451         .451
                         (AC-FT)       1.           1.           1.           1.

                       CUMULATIVE AREA =      .06 SQ MI

          ***             ***             ***             ***             ***

                            HYDROGRAPH AT STATION      R14
                           TRANSPOSITION AREA     14.0 SQ MI

          TOTAL RAINFALL =    1.17, TOTAL LOSS =     .73, TOTAL EXCESS =     .44

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR      24.92-HR
+   (CFS)       (HR)
```

		(CFS)				
9.	12.17		2.	1.	1.	1.
		(INCHES)	.315	.433	.434	.434
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .06 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R14
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.15, TOTAL LOSS = .72, TOTAL EXCESS = .43

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 8.	12.17		2.	1.	1.	1.
		(INCHES)	.308	.425	.427	.427
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .06 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R14
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.14, TOTAL LOSS = .72, TOTAL EXCESS = .42

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 8.	12.17		2.	1.	1.	1.
		(INCHES)	.302	.418	.419	.419
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .06 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R14
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.13, TOTAL LOSS = .72, TOTAL EXCESS = .42

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)					
		(CFS)				
8.	12.17		2.	1.	1.	1.
		(INCHES)	.298	.413	.414	.414
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .06 SQ MI

INTERPOLATED HYOROGRAPH AT R14

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	6.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	6.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	5.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	5.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	4.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	4.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	4.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	3.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	3.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	3.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	2.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	2.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	2.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	2.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	2.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	2.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	2.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	1.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	1.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	1.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	1.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	1.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	1.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	1.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	1.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	1.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	1.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	1.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	1.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	1.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	1.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	1.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	1.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	1.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	1.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	1.	1		2140	261	0.
1		0300	37	0.	1		0915	112	0.	1		1530	187	1.	1		2145	262	0.
1		0305	38	0.	1		0920	113	0.	1		1535	188	1.	1		2150	263	0.
1		0310	39	0.	1		0925	114	0.	1		1540	189	0.	1		2155	264	0.
1		0315	40	0.	1		0930	115	0.	1		1545	190	0.	1		2200	265	0.
1		0320	41	0.	1		0935	116	0.	1		1550	191	0.	1		2205	266	0.
1		0325	42	0.	1		0940	117	0.	1		1555	192	0.	1		2210	267	0.
1		0330	43	0.	1		0945	118	0.	1		1600	193	0.	1		2215	268	0.
1		0335	44	0.	1		0950	119	0.	1		1605	194	0.	1		2220	269	0.

1	0340	45	0.	*	1	0955	120	1.	*	1	1610	195	0.	*	1	2225	270	0.
1	0345	46	0.	*	1	1000	121	1.	*	1	1615	196	0.	*	1	2230	271	0.
1	0350	47	0.	*	1	1005	122	1.	*	1	1620	197	0.	*	1	2235	272	0.
1	0355	48	0.	*	1	1010	123	1.	*	1	1625	198	0.	*	1	2240	273	0.
1	0400	49	0.	*	1	1015	124	1.	*	1	1630	199	0.	*	1	2245	274	0.
1	0405	50	0.	*	1	1020	125	1.	*	1	1635	200	0.	*	1	2250	275	0.
1	0410	51	0.	*	1	1025	126	1.	*	1	1640	201	0.	*	1	2255	276	0.
1	0415	52	0.	*	1	1030	127	1.	*	1	1645	202	0.	*	1	2300	277	0.
1	0420	53	0.	*	1	1035	128	1.	*	1	1650	203	0.	*	1	2305	278	0.
1	0425	54	0.	*	1	1040	129	1.	*	1	1655	204	0.	*	1	2310	279	0.
1	0430	55	0.	*	1	1045	130	1.	*	1	1700	205	0.	*	1	2315	280	0.
1	0435	56	0.	*	1	1050	131	1.	*	1	1705	206	0.	*	1	2320	281	0.
1	0440	57	0.	*	1	1055	132	1.	*	1	1710	207	0.	*	1	2325	282	0.
1	0445	58	0.	*	1	1100	133	1.	*	1	1715	208	0.	*	1	2330	283	0.
1	0450	59	0.	*	1	1105	134	1.	*	1	1720	209	0.	*	1	2335	284	0.
1	0455	60	0.	*	1	1110	135	1.	*	1	1725	210	0.	*	1	2340	285	0.
1	0500	61	0.	*	1	1115	136	1.	*	1	1730	211	0.	*	1	2345	286	0.
1	0505	62	0.	*	1	1120	137	1.	*	1	1735	212	0.	*	1	2350	287	0.
1	0510	63	0.	*	1	1125	138	1.	*	1	1740	213	0.	*	1	2355	288	0.
1	0515	64	0.	*	1	1130	139	1.	*	1	1745	214	0.	*	2	0000	289	0.
1	0520	65	0.	*	1	1135	140	1.	*	1	1750	215	0.	*	2	0005	290	0.
1	0525	66	0.	*	1	1140	141	2.	*	1	1755	216	0.	*	2	0010	291	0.
1	0530	67	0.	*	1	1145	142	2.	*	1	1800	217	0.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	3.	*	1	1805	218	0.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	5.	*	1	1810	219	0.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	7.	*	1	1815	220	0.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	9.	*	1	1820	221	0.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	9.	*	1	1825	222	0.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	8.	*	1	1830	223	0.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	8.	*	1	1835	224	0.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	7.	*	1	1840	225	0.	*	2	0055	300	0.
				*					*					*					

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PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW				
		6-HR	24-HR	72-HR	24.92-HR	
+ (CFS)	(HR)					
		(CFS)				
+ 9.	12.17	2.	1.	1.	1.	
		(INCHES) .326	.446	.447	.447	
		(AC-FT) 1.	1.	1.	1.	

CUMULATIVE AREA = .06 SQ MI

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352 KK * C_R5 * Combine Hydrographs (R14, Basin S)

353 HC HYDROGRAPH COMBINATION
ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

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HYDROGRAPH AT STATION C_R5
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW				
		6-HR	24-HR	72-HR	24.92-HR	
+ (CFS)	(HR)					
		(CFS)				
+ 9.	12.17	2.	1.	1.	1.	
		(INCHES) .329	.450	.451	.451	
		(AC-FT) 1.	1.	1.	1.	

CUMULATIVE AREA = .06 SQ MI

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HYDROGRAPH AT STATION C_R5
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW				
		6-HR	24-HR	72-HR	24.92-HR	
+ (CFS)	(HR)					
		(CFS)				
+ 9.	12.17	2.	1.	1.	1.	
		(INCHES) .315	.433	.434	.434	
		(AC-FT) 1.	1.	1.	1.	

CUMULATIVE AREA = .06 SQ MI

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HYDROGRAPH AT STATION C_R5
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW				
		6-HR	24-HR	72-HR	24.92-HR	
+ (CFS)	(HR)					
		(CFS)				
+ 8.	12.17	2.	1.	1.	1.	
		(INCHES) .308	.425	.427	.427	
		(AC-FT) 1.	1.	1.	1.	

CUMULATIVE AREA = .06 SQ MI

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HYDROGRAPH AT STATION C_R5
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
		(CFS)				
8.	12.17		2.	1.	1.	1.
		(INCHES)	.302	.418	.419	.419
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .06 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_RS
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
		(CFS)				
8.	12.17		2.	1.	1.	1.
		(INCHES)	.298	.413	.414	.414
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .06 SQ MI

INTERPOLATED HYDROGRAPH AT C_RS

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	6.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	6.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	5.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	5.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	4.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	4.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	4.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	3.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	3.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	3.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	2.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	2.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	2.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	2.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	2.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	2.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	2.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	1.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	1.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	1.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	1.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	1.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	1.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	1.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	1.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	1.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	1.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	1.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	1.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	1.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	1.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	1.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	1.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	1.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	1.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	1.	1		2140	261	0.
1		0300	37	0.	1		0915	112	0.	1		1530	187	1.	1		2145	262	0.
1		0305	38	0.	1		0920	113	0.	1		1535	188	1.	1		2150	263	0.
1		0310	39	0.	1		0925	114	0.	1		1540	189	0.	1		2155	264	0.
1		0315	40	0.	1		0930	115	0.	1		1545	190	0.	1		2200	265	0.
1		0320	41	0.	1		0935	116	0.	1		1550	191	0.	1		2205	266	0.
1		0325	42	0.	1		0940	117	0.	1		1555	192	0.	1		2210	267	0.
1		0330	43	0.	1		0945	118	0.	1		1600	193	0.	1		2215	268	0.
1		0335	44	0.	1		0950	119	0.	1		1605	194	0.	1		2220	269	0.
1		0340	45	0.	1		0955	120	1.	1		1610	195	0.	1		2225	270	0.
1		0345	46	0.	1		1000	121	1.	1		1615	196	0.	1		2230	271	0.
1		0350	47	0.	1		1005	122	1.	1		1620	197	0.	1		2235	272	0.
1		0355	48	0.	1		1010	123	1.	1		1625	198	0.	1		2240	273	0.
1		0400	49	0.	1		1015	124	1.	1		1630	199	0.	1		2245	274	0.
1		0405	50	0.	1		1020	125	1.	1		1635	200	0.	1		2250	275	0.
1		0410	51	0.	1		1025	126	1.	1		1640	201	0.	1		2255	276	0.
1		0415	52	0.	1		1030	127	1.	1		1645	202	0.	1		2300	277	0.
1		0420	53	0.	1		1035	128	1.	1		1650	203	0.	1		2305	278	0.
1		0425	54	0.	1		1040	129	1.	1		1655	204	0.	1		2310	279	0.
1		0430	55	0.	1		1045	130	1.	1		1700	205	0.	1		2315	280	0.
1		0435	56	0.	1		1050	131	1.	1		1705	206	0.	1		2320	281	0.
1		0440	57	0.	1		1055	132	1.	1		1710	207	0.	1		2325	282	0.
1		0445	58	0.	1		1100	133	1.	1		1715	208	0.	1		2330	283	0.
1		0450	59	0.	1		1105	134	1.	1		1720	209	0.	1		2335	284	0.
1		0455	60	0.	1		1110	135	1.	1		1725	210	0.	1		2340	285	0.
1		0500	61	0.	1		1115	136	1.	1		1730	211	0.	1		2345	286	0.
1		0505	62	0.	1		1120	137	1.	1		1735	212	0.	1		2350	287	0.
1		0510	63	0.	1		1125	138	1.	1		1740	213	0.	1		2355	288	0.
1		0515	64	0.	1		1130	139	1.	1		1745	214	0.	2		0000	289	0.
1		0520	65	0.	1		1135	140	1.	1		1750	215	0.	2		0005	290	0.
1		0525	66	0.	1		1140	141	2.	1		1755	216	0.	2		0010	291	0.
1		0530	67	0.	1		1145	142	2.	1		1800	217	0.	2		0015	292	0.
1		0535	68	0.	1		1150	143	3.	1		1805	218	0.	2		0020	293	0.
1		0540	69	0.	1		1155	144	5.	1		1810	219	0.	2		0025	294	0.
1		0545	70	0.	1		1200	145	7.	1		1815	220	0.	2		0030	295	0.
1		0550	71	0.	1		1205	146	9.	1		1820	221	0.	2		0035	296	0.
1		0555	72	0.	1		1210	147	9.	1		1825	222	0.	2		0040	297	0.
1		0600	73	0.	1		1215	148	8.	1		1830	223	0.	2		0045	298	0.
1		0605	74	0.	1		1220	149	8.	1		1835	224	0.	2		0050	299	0.
1		0610	75	0.	1		1225	150	7.	1		1840	225	0.	2		0055	300	0.

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW

```
                                        6-HR        24-HR       72-HR      24.92-HR
+   (CFS)       (HR)
                          (CFS)
+       9.      12.17             2.          1.          1.          1.
                        (INCHES)  .326        .446        .447        .447
                         (AC-FT)    1.          1.          1.          1.

                        CUMULATIVE AREA =     .06 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *             *
  354 KK    *     R_5     *      Route Basin 5 & R14 through R5 overland
            *             *
            ***************

              HYDROGRAPH ROUTING DATA

  355 RK        KINEMATIC WAVE STREAM ROUTING
                        L     10500.  CHANNEL LENGTH
                        S      .0080  SLOPE
                        N       .030  CHANNEL ROUGHNESS COEFFICIENT
                       CA        .00  CONTRIBUTING AREA
                    SHAPE       TRAP  CHANNEL SHAPE
                       WD      10.00  BOTTOM WIDTH OR DIAMETER
                        Z      20.00  SIDE SLOPE
                   NDXMIN          2  MINIMUM NUMBER OF DX INTERVALS
                                                          ***
                                  COMPUTED KINEMATIC PARAMETERS
                                       VARIABLE TIME STEP
                                    (DT SHOWN IS A MINIMUM)

                        ELEMENT    ALPHA       M         DT         DX       PEAK    TIME TO      VOLUME    MAXIMUM
                                                                                        PEAK                 CELERITY
                                                          (MIN)      (FT)     (CFS)    (MIN)       (IN)      (FPS)
                        MAIN            .97      1.34       5.07    700.00     9.06   797.74        .45      2.31

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1448E+01  EXCESS= .0000E+00 OUTFLOW= .1448E+01 BASIN STORAGE= .6066E-01 PERCENT ERROR=  -4.2

                                  INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

                        MAIN            .97      1.34       5.00                8.98   800.00        .45
              ***               ***               ***               ***               ***

                                HYDROGRAPH AT STATION      R_5
                               TRANSPOSITION AREA        .0 SQ MI

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR       72-HR      24.92-HR
+   (CFS)       (HR)
                          (CFS)
+       9.      13.33             2.          1.          1.          1.
                        (INCHES)  .348        .451        .451        .451
                         (AC-FT)    1.          1.          1.          1.

                        CUMULATIVE AREA =     .06 SQ MI

                                  COMPUTED KINEMATIC PARAMETERS
                                       VARIABLE TIME STEP
                                    (DT SHOWN IS A MINIMUM)

                        ELEMENT    ALPHA       M         DT         DX       PEAK    TIME TO      VOLUME    MAXIMUM
                                                                                        PEAK                 CELERITY
                                                          (MIN)      (FT)     (CFS)    (MIN)       (IN)      (FPS)
                        MAIN            .97      1.34       5.28    700.00     8.45   802.67        .44      2.27

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1395E+01  EXCESS= .0000E+00 OUTFLOW= .1403E+01 BASIN STORAGE= .5851E-01 PERCENT ERROR=  -4.8

                                  INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

                        MAIN            .97      1.34       5.00                8.28   805.00        .44
              ***               ***               ***               ***               ***

                                HYDROGRAPH AT STATION      R_5
                               TRANSPOSITION AREA      14.0 SQ MI

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR       72-HR      24.92-HR
+   (CFS)       (HR)
                          (CFS)
+       8.      13.42             2.          1.          1.          1.
                        (INCHES)  .335        .436        .436        .436
                         (AC-FT)    1.          1.          1.          1.

                        CUMULATIVE AREA =     .06 SQ MI

                                  COMPUTED KINEMATIC PARAMETERS
                                       VARIABLE TIME STEP
                                    (DT SHOWN IS A MINIMUM)

                        ELEMENT    ALPHA       M         DT         DX       PEAK    TIME TO      VOLUME    MAXIMUM
                                                                                        PEAK                 CELERITY
                                                          (MIN)      (FT)     (CFS)    (MIN)       (IN)      (FPS)
                        MAIN            .97      1.34       4.85    656.25     8.40   802.08        .42      2.26

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1370E+01  EXCESS= .0000E+00 OUTFLOW= .1344E+01 BASIN STORAGE= .5776E-01 PERCENT ERROR=  -2.4
```

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	.97	1.34	5.00		8.08	805.00	.42
***	***	***	***	***			

HYDROGRAPH AT STATION R_5
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
		(CFS)	2.	1.	1.	1.
8.	13.42	(INCHES)	.318	.418	.418	.418
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .06 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	.97	1.34	5.00	656.25	8.01	800.19	.42	2.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1346E+01 EXCESS= .0000E+00 OUTFLOW= .1338E+01 BASIN STORAGE= .5759E-01 PERCENT ERROR= -3.7

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	.97	1.34	5.00		8.00	805.00	.42
***	***	***	***	***			

HYDROGRAPH AT STATION R_5
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
		(CFS)	2.	1.	1.	1.
8.	13.42	(INCHES)	.317	.416	.416	.416
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .06 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	.97	1.34	4.92	656.25	7.97	804.57	.41	2.23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1331E+01 EXCESS= .0000E+00 OUTFLOW= .1330E+01 BASIN STORAGE= .5732E-01 PERCENT ERROR= -4.3

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	.97	1.34	5.00		7.92	805.00	.41
***	***	***	***	***			

HYDROGRAPH AT STATION R_5
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
		(CFS)	2.	1.	1.	1.
8.	13.42	(INCHES)	.315	.413	.413	.413
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .06 SQ MI

****

INTERPOLATED HYDROGRAPH AT R_5

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DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	*	1		0615	76	0.	*	1		1230	151	1.	*	1		1845	226	0.
1		0005	2	0.	*	1		0620	77	0.	*	1		1235	152	1.	*	1		1850	227	0.
1		0010	3	0.	*	1		0625	78	0.	*	1		1240	153	1.	*	1		1855	228	0.
1		0015	4	0.	*	1		0630	79	0.	*	1		1245	154	1.	*	1		1900	229	0.
1		0020	5	0.	*	1		0635	80	0.	*	1		1250	155	1.	*	1		1905	230	0.
1		0025	6	0.	*	1		0640	81	0.	*	1		1255	156	1.	*	1		1910	231	0.
1		0030	7	0.	*	1		0645	82	0.	*	1		1300	157	1.	*	1		1915	232	0.
1		0035	8	0.	*	1		0650	83	0.	*	1		1305	158	1.	*	1		1920	233	0.
1		0040	9	0.	*	1		0655	84	0.	*	1		1310	159	1.	*	1		1925	234	0.
1		0045	10	0.	*	1		0700	85	0.	*	1		1315	160	5.	*	1		1930	235	0.
1		0050	11	0.	*	1		0705	86	0.	*	1		1320	161	9.	*	1		1935	236	0.
1		0055	12	0.	*	1		0710	87	0.	*	1		1325	162	9.	*	1		1940	237	0.
1		0100	13	0.	*	1		0715	88	0.	*	1		1330	163	8.	*	1		1945	238	0.
1		0105	14	0.	*	1		0720	89	0.	*	1		1335	164	7.	*	1		1950	239	0.
1		0110	15	0.	*	1		0725	90	0.	*	1		1340	165	7.	*	1		1955	240	0.

1	0115	16	0.	*	1	0730	91	0.	*	1	1345	166	7.	*	1	2000	241	0.	
1	0120	17	0.	*	1	0735	92	0.	*	1	1350	167	6.	*	1	2005	242	0.	
1	0125	18	0.	*	1	0740	93	0.	*	1	1355	168	6.	*	1	2010	243	0.	
1	0130	19	0.	*	1	0745	94	0.	*	1	1400	169	5.	*	1	2015	244	0.	
1	0135	20	0.	*	1	0750	95	0.	*	1	1405	170	5.	*	1	2020	245	0.	
1	0140	21	0.	*	1	0755	96	0.	*	1	1410	171	5.	*	1	2025	246	0.	
1	0145	22	0.	*	1	0800	97	0.	*	1	1415	172	4.	*	1	2030	247	0.	
1	0150	23	0.	*	1	0805	98	0.	*	1	1420	173	4.	*	1	2035	248	0.	
1	0155	24	0.	*	1	0810	99	0.	*	1	1425	174	4.	*	1	2040	249	0.	
1	0200	25	0.	*	1	0815	100	0.	*	1	1430	175	4.	*	1	2045	250	0.	
1	0205	26	0.	*	1	0820	101	0.	*	1	1435	176	3.	*	1	2050	251	0.	
1	0210	27	0.	*	1	0825	102	0.	*	1	1440	177	3.	*	1	2055	252	0.	
1	0215	28	0.	*	1	0830	103	0.	*	1	1445	178	3.	*	1	2100	253	0.	
1	0220	29	0.	*	1	0835	104	0.	*	1	1450	179	3.	*	1	2105	254	0.	
1	0225	30	0.	*	1	0840	105	0.	*	1	1455	180	3.	*	1	2110	255	0.	
1	0230	31	0.	*	1	0845	106	0.	*	1	1500	181	2.	*	1	2115	256	0.	
1	0235	32	0.	*	1	0850	107	0.	*	1	1505	182	2.	*	1	2120	257	0.	
1	0240	33	0.	*	1	0855	108	0.	*	1	1510	183	2.	*	1	2125	258	0.	
1	0245	34	0.	*	1	0900	109	0.	*	1	1515	184	2.	*	1	2130	259	0.	
1	0250	35	0.	*	1	0905	110	0.	*	1	1520	185	2.	*	1	2135	260	0.	
1	0255	36	0.	*	1	0910	111	0.	*	1	1525	186	2.	*	1	2140	261	0.	
1	0300	37	0.	*	1	0915	112	0.	*	1	1530	187	2.	*	1	2145	262	0.	
1	0305	38	0.	*	1	0920	113	0.	*	1	1535	188	2.	*	1	2150	263	0.	
1	0310	39	0.	*	1	0925	114	0.	*	1	1540	189	2.	*	1	2155	264	0.	
1	0315	40	0.	*	1	0930	115	0.	*	1	1545	190	2.	*	1	2200	265	0.	
1	0320	41	0.	*	1	0935	116	0.	*	1	1550	191	1.	*	1	2205	266	0.	
1	0325	42	0.	*	1	0940	117	0.	*	1	1555	192	1.	*	1	2210	267	0.	
1	0330	43	0.	*	1	0945	118	0.	*	1	1600	193	1.	*	1	2215	268	0.	
1	0335	44	0.	*	1	0950	119	0.	*	1	1605	194	1.	*	1	2220	269	0.	
1	0340	45	0.	*	1	0955	120	0.	*	1	1610	195	1.	*	1	2225	270	0.	
1	0345	46	0.	*	1	1000	121	0.	*	1	1615	196	1.	*	1	2230	271	0.	
1	0350	47	0.	*	1	1005	122	0.	*	1	1620	197	1.	*	1	2235	272	0.	
1	0355	48	0.	*	1	1010	123	0.	*	1	1625	198	1.	*	1	2240	273	0.	
1	0400	49	0.	*	1	1015	124	0.	*	1	1630	199	1.	*	1	2245	274	0.	
1	0405	50	0.	*	1	1020	125	0.	*	1	1635	200	1.	*	1	2250	275	0.	
1	0410	51	0.	*	1	1025	126	0.	*	1	1640	201	1.	*	1	2255	276	0.	
1	0415	52	0.	*	1	1030	127	0.	*	1	1645	202	1.	*	1	2300	277	0.	
1	0420	53	0.	*	1	1035	128	0.	*	1	1650	203	1.	*	1	2305	278	0.	
1	0425	54	0.	*	1	1040	129	0.	*	1	1655	204	1.	*	1	2310	279	0.	
1	0430	55	0.	*	1	1045	130	0.	*	1	1700	205	1.	*	1	2315	280	0.	
1	0435	56	0.	*	1	1050	131	0.	*	1	1705	206	1.	*	1	2320	281	0.	
1	0440	57	0.	*	1	1055	132	0.	*	1	1710	207	1.	*	1	2325	282	0.	
1	0445	58	0.	*	1	1100	133	0.	*	1	1715	208	1.	*	1	2330	283	0.	
1	0450	59	0.	*	1	1105	134	0.	*	1	1720	209	1.	*	1	2335	284	0.	
1	0455	60	0.	*	1	1110	135	0.	*	1	1725	210	1.	*	1	2340	285	0.	
1	0500	61	0.	*	1	1115	136	0.	*	1	1730	211	1.	*	1	2345	286	0.	
1	0505	62	0.	*	1	1120	137	0.	*	1	1735	212	1.	*	1	2350	287	0.	
1	0510	63	0.	*	1	1125	138	0.	*	1	1740	213	1.	*	1	2355	288	0.	
1	0515	64	0.	*	1	1130	139	0.	*	1	1745	214	1.	*	2	0000	289	0.	
1	0520	65	0.	*	1	1135	140	0.	*	1	1750	215	1.	*	2	0005	290	0.	
1	0525	66	0.	*	1	1140	141	0.	*	1	1755	216	1.	*	2	0010	291	0.	
1	0530	67	0.	*	1	1145	142	0.	*	1	1800	217	1.	*	2	0015	292	0.	
1	0535	68	0.	*	1	1150	143	0.	*	1	1805	218	1.	*	2	0020	293	0.	
1	0540	69	0.	*	1	1155	144	0.	*	1	1810	219	1.	*	2	0025	294	0.	
1	0545	70	0.	*	1	1200	145	0.	*	1	1815	220	0.	*	2	0030	295	0.	
1	0550	71	0.	*	1	1205	146	0.	*	1	1820	221	0.	*	2	0035	296	0.	
1	0555	72	0.	*	1	1210	147	0.	*	1	1825	222	0.	*	2	0040	297	0.	
1	0600	73	0.	*	1	1215	148	0.	*	1	1830	223	0.	*	2	0045	298	0.	
1	0605	74	0.	*	1	1220	149	1.	*	1	1835	224	0.	*	2	0050	299	0.	
1	0610	75	0.	*	1	1225	150	1.	*	1	1840	225	0.	*	2	0055	300	0.	
				*					*					*					

****

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 9.	13.33		2.	1.	1.	1.
		(INCHES)	.344	.447	.447	.447
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .06 SQ MI

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          ***************
          *             *
356 KK    *      R5     *      Subbasin
          *             *
          ***************

            SUBBASIN RUNOFF DATA

357 BA        SUBBASIN CHARACTERISTICS
                   TAREA         .08  SUBBASIN AREA

358 LG        GREEN AND AMPT LOSS RATE
                   STRTL         .89  STARTING LOSS
                     DTH         .73  MOISTURE DEFICIT
                    PSIF        1.55  WETTING FRONT SUCTION
                   XKSAT         .17  HYDRAULIC CONDUCTIVITY
                   RTIMP        9.00  PERCENT IMPERVIOUS AREA

359 US        SNYDER UNITGRAPH
                     TP          .12  LAG
                     CP          .20  PEAKING COEFFICIENT

              SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                          ***

                                  UNIT HYDROGRAPH PARAMETERS
                              CLARK   TC=    .08 HR,       R=    .69 HR
                             SNYDER   TP=    .14 HR,      CP=    .20

                                      UNIT HYDROGRAPH
                                  45 END-OF-PERIOD ORDINATES
                37.       70.       62.       55.       49.       43.       38.       34.       30.       27.
                24.       21.       19.       16.       15.       13.       11.       10.        9.        8.
                 7.        6.        5.        5.        4.        4.        3.        3.        3.        2.
```

2. 2. 2. 1. 1. 1. 1. 1. 1. 1.
1. 1. 0. 0. 0.

*** *** *** *** ***

HYDROGRAPH AT STATION R5
TRANSPOSITION AREA .0 SQ MI

TOTAL RAINFALL = 1.19, TOTAL LOSS = 1.08, TOTAL EXCESS = .11

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
3.	12.08	(CFS) 1.	0.	0.	0.
		(INCHES) .075	.106	.106	.106
		(AC-FT) 0.	0.	0.	0.

CUMULATIVE AREA = .08 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R5
TRANSPOSITION AREA 14.0 SQ MI

TOTAL RAINFALL = 1.17, TOTAL LOSS = 1.06, TOTAL EXCESS = .10

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
3.	12.08	(CFS) 1.	0.	0.	0.
		(INCHES) .073	.104	.104	.104
		(AC-FT) 0.	0.	0.	0.

CUMULATIVE AREA = .08 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R5
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.15, TOTAL LOSS = 1.05, TOTAL EXCESS = .10

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
3.	12.08	(CFS) 1.	0.	0.	0.
		(INCHES) .073	.103	.103	.103
		(AC-FT) 0.	0.	0.	0.

CUMULATIVE AREA = .08 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R5
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.14, TOTAL LOSS = 1.04, TOTAL EXCESS = .10

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
2.	12.08	(CFS) 1.	0.	0.	0.
		(INCHES) .072	.102	.102	.102
		(AC-FT) 0.	0.	0.	0.

CUMULATIVE AREA = .08 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R5
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.13, TOTAL LOSS = 1.03, TOTAL EXCESS = .10

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
2.	12.08	(CFS) 1.	0.	0.	0.
		(INCHES) .071	.101	.101	.101
		(AC-FT) 0.	0.	0.	0.

CUMULATIVE AREA = .08 SQ MI

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INTERPOLATED HYDROGRAPH AT R5

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DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	2.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	2.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	2.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	1.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	1.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	1.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	1.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	1.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	1.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	1.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	1.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	1.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	1.	1		1945	238	0.

1	0105	14	0.	*	1	0720	89	0.	*	1	1335	164	1.	*	1	1950	239	0.
1	0110	15	0.	*	1	0725	90	0.	*	1	1340	165	1.	*	1	1955	240	0.
1	0115	16	0.	*	1	0730	91	0.	*	1	1345	166	1.	*	1	2000	241	0.
1	0120	17	0.	*	1	0735	92	0.	*	1	1350	167	1.	*	1	2005	242	0.
1	0125	18	0.	*	1	0740	93	0.	*	1	1355	168	0.	*	1	2010	243	0.
1	0130	19	0.	*	1	0745	94	0.	*	1	1400	169	0.	*	1	2015	244	0.
1	0135	20	0.	*	1	0750	95	0.	*	1	1405	170	0.	*	1	2020	245	0.
1	0140	21	0.	*	1	0755	96	0.	*	1	1410	171	0.	*	1	2025	246	0.
1	0145	22	0.	*	1	0800	97	0.	*	1	1415	172	0.	*	1	2030	247	0.
1	0150	23	0.	*	1	0805	98	0.	*	1	1420	173	0.	*	1	2035	248	0.
1	0155	24	0.	*	1	0810	99	0.	*	1	1425	174	0.	*	1	2040	249	0.
1	0200	25	0.	*	1	0815	100	0.	*	1	1430	175	0.	*	1	2045	250	0.
1	0205	26	0.	*	1	0820	101	0.	*	1	1435	176	0.	*	1	2050	251	0.
1	0210	27	0.	*	1	0825	102	0.	*	1	1440	177	0.	*	1	2055	252	0.
1	0215	28	0.	*	1	0830	103	0.	*	1	1445	178	0.	*	1	2100	253	0.
1	0220	29	0.	*	1	0835	104	0.	*	1	1450	179	0.	*	1	2105	254	0.
1	0225	30	0.	*	1	0840	105	0.	*	1	1455	180	0.	*	1	2110	255	0.
1	0230	31	0.	*	1	0845	106	0.	*	1	1500	181	0.	*	1	2115	256	0.
1	0235	32	0.	*	1	0850	107	0.	*	1	1505	182	0.	*	1	2120	257	0.
1	0240	33	0.	*	1	0855	108	0.	*	1	1510	183	0.	*	1	2125	258	0.
1	0245	34	0.	*	1	0900	109	0.	*	1	1515	184	0.	*	1	2130	259	0.
1	0250	35	0.	*	1	0905	110	0.	*	1	1520	185	0.	*	1	2135	260	0.
1	0255	36	0.	*	1	0910	111	0.	*	1	1525	186	0.	*	1	2140	261	0.
1	0300	37	0.	*	1	0915	112	0.	*	1	1530	187	0.	*	1	2145	262	0.
1	0305	38	0.	*	1	0920	113	0.	*	1	1535	188	0.	*	1	2150	263	0.
1	0310	39	0.	*	1	0925	114	0.	*	1	1540	189	0.	*	1	2155	264	0.
1	0315	40	0.	*	1	0930	115	0.	*	1	1545	190	0.	*	1	2200	265	0.
1	0320	41	0.	*	1	0935	116	0.	*	1	1550	191	0.	*	1	2205	266	0.
1	0325	42	0.	*	1	0940	117	0.	*	1	1555	192	0.	*	1	2210	267	0.
1	0330	43	0.	*	1	0945	118	0.	*	1	1600	193	0.	*	1	2215	268	0.
1	0335	44	0.	*	1	0950	119	0.	*	1	1605	194	0.	*	1	2220	269	0.
1	0340	45	0.	*	1	0955	120	0.	*	1	1610	195	0.	*	1	2225	270	0.
1	0345	46	0.	*	1	1000	121	0.	*	1	1615	196	0.	*	1	2230	271	0.
1	0350	47	0.	*	1	1005	122	0.	*	1	1620	197	0.	*	1	2235	272	0.
1	0355	48	0.	*	1	1010	123	0.	*	1	1625	198	0.	*	1	2240	273	0.
1	0400	49	0.	*	1	1015	124	0.	*	1	1630	199	0.	*	1	2245	274	0.
1	0405	50	0.	*	1	1020	125	0.	*	1	1635	200	0.	*	1	2250	275	0.
1	0410	51	0.	*	1	1025	126	0.	*	1	1640	201	0.	*	1	2255	276	0.
1	0415	52	0.	*	1	1030	127	0.	*	1	1645	202	0.	*	1	2300	277	0.
1	0420	53	0.	*	1	1035	128	0.	*	1	1650	203	0.	*	1	2305	278	0.
1	0425	54	0.	*	1	1040	129	0.	*	1	1655	204	0.	*	1	2310	279	0.
1	0430	55	0.	*	1	1045	130	0.	*	1	1700	205	0.	*	1	2315	280	0.
1	0435	56	0.	*	1	1050	131	0.	*	1	1705	206	0.	*	1	2320	281	0.
1	0440	57	0.	*	1	1055	132	0.	*	1	1710	207	0.	*	1	2325	282	0.
1	0445	58	0.	*	1	1100	133	0.	*	1	1715	208	0.	*	1	2330	283	0.
1	0450	59	0.	*	1	1105	134	0.	*	1	1720	209	0.	*	1	2335	284	0.
1	0455	60	0.	*	1	1110	135	0.	*	1	1725	210	0.	*	1	2340	285	0.
1	0500	61	0.	*	1	1115	136	0.	*	1	1730	211	0.	*	1	2345	286	0.
1	0505	62	0.	*	1	1120	137	0.	*	1	1735	212	0.	*	1	2350	287	0.
1	0510	63	0.	*	1	1125	138	0.	*	1	1740	213	0.	*	1	2355	288	0.
1	0515	64	0.	*	1	1130	139	0.	*	1	1745	214	0.	*	2	0000	289	0.
1	0520	65	0.	*	1	1135	140	0.	*	1	1750	215	0.	*	2	0005	290	0.
1	0525	66	0.	*	1	1140	141	1.	*	1	1755	216	0.	*	2	0010	291	0.
1	0530	67	0.	*	1	1145	142	1.	*	1	1800	217	0.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	1.	*	1	1805	218	0.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	2.	*	1	1810	219	0.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	2.	*	1	1815	220	0.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	3.	*	1	1820	221	0.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	2.	*	1	1825	222	0.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	2.	*	1	1830	223	0.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	2.	*	1	1835	224	0.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	2.	*	1	1840	225	0.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 3.	12.08		1.	0.	0.	0.
		(INCHES)	.075	.105	.106	.106
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .08 SQ MI

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          ***************
          *             *
360 KK    *       C3    *      Corcoran Wash at H Road and 25 Road
          *             *
          ***************

            SUBBASIN RUNOFF DATA

361 BA        SUBBASIN CHARACTERISTICS
                    TAREA          .56  SUBBASIN AREA

362 LG        GREEN AND AMPT LOSS RATE
                    STRTL          .56  STARTING LOSS
                      DTH          .52  MOISTURE DEFICIT
                     PSIF         1.94  WETTING FRONT SUCTION
                    XKSAT          .07  HYDRAULIC CONDUCTIVITY
                    RTIMP         2.00  PERCENT IMPERVIOUS AREA

363 US        SNYDER UNITGRAPH
                      TP           .25  LAG
                      CP           .31  PEAKING COEFFICIENT

              SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                          ***

                                  UNIT HYDROGRAPH PARAMETERS
                              CLARK   TC=    .24 HR,       R=    .67 HR
                             SNYDER   TP=    .25 HR,      CP=    .30

                                      UNIT HYDROGRAPH
                                  45 END-OF-PERIOD ORDINATES
              73.      258.      409.      423.      374.      330.      292.      258.      228.      201.
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178.	157.	139.	122.	108.	96.	84.	75.	66.	58.
51.	45.	40.	35.	31.	28.	24.	22.	19.	17.
15.	13.	12.	10.	9.	8.	7.	6.	6.	5.
4.	4.	3.	3.	3.					

*** *** *** *** ***

HYDROGRAPH AT STATION C3
TRANSPOSITION AREA .0 SQ MI

TOTAL RAINFALL = 1.19, TOTAL LOSS = 1.09, TOTAL EXCESS = .10

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
34.	12.17	5.	1.	1.	1.
		(INCHES) .088	.095	.095	.095
		(AC-FT) 3.	3.	3.	3.

CUMULATIVE AREA = .56 SQ MI

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HYDROGRAPH AT STATION C3
TRANSPOSITION AREA 14.0 SQ MI

TOTAL RAINFALL = 1.17, TOTAL LOSS = 1.08, TOTAL EXCESS = .08

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
28.	12.17	5.	1.	1.	1.
		(INCHES) .075	.082	.082	.082
		(AC-FT) 2.	2.	2.	2.

CUMULATIVE AREA = .56 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C3
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.15, TOTAL LOSS = 1.08, TOTAL EXCESS = .08

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
26.	12.17	4.	1.	1.	1.
		(INCHES) .069	.075	.075	.075
		(AC-FT) 2.	2.	2.	2.

CUMULATIVE AREA = .56 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C3
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.14, TOTAL LOSS = 1.07, TOTAL EXCESS = .07

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
23.	12.17	4.	1.	1.	1.
		(INCHES) .062	.069	.069	.069
		(AC-FT) 2.	2.	2.	2.

CUMULATIVE AREA = .56 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C3
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.13, TOTAL LOSS = 1.07, TOTAL EXCESS = .07

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
21.	12.17	4.	1.	1.	1.
		(INCHES) .058	.065	.065	.065
		(AC-FT) 2.	2.	2.	2.

CUMULATIVE AREA = .56 SQ MI

INTERPOLATED HYDROGRAPH AT C3

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	21.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	19.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	17.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	15.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	13.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	12.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	10.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	9.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	8.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	7.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	6.	1		1935	236	0.

1	0055	12	0.	*	1	0710	87	0.	*	1	1325	162	6.	*	1	1940	237	0.
1	0100	13	0.	*	1	0715	88	0.	*	1	1330	163	5.	*	1	1945	238	0.
1	0105	14	0.	*	1	0720	89	0.	*	1	1335	164	5.	*	1	1950	239	0.
1	0110	15	0.	*	1	0725	90	0.	*	1	1340	165	4.	*	1	1955	240	0.
1	0115	16	0.	*	1	0730	91	0.	*	1	1345	166	4.	*	1	2000	241	0.
1	0120	17	0.	*	1	0735	92	0.	*	1	1350	167	3.	*	1	2005	242	0.
1	0125	18	0.	*	1	0740	93	0.	*	1	1355	168	3.	*	1	2010	243	0.
1	0130	19	0.	*	1	0745	94	0.	*	1	1400	169	3.	*	1	2015	244	0.
1	0135	20	0.	*	1	0750	95	0.	*	1	1405	170	2.	*	1	2020	245	0.
1	0140	21	0.	*	1	0755	96	0.	*	1	1410	171	2.	*	1	2025	246	0.
1	0145	22	0.	*	1	0800	97	0.	*	1	1415	172	2.	*	1	2030	247	0.
1	0150	23	0.	*	1	0805	98	0.	*	1	1420	173	2.	*	1	2035	248	0.
1	0155	24	0.	*	1	0810	99	0.	*	1	1425	174	2.	*	1	2040	249	0.
1	0200	25	0.	*	1	0815	100	0.	*	1	1430	175	1.	*	1	2045	250	0.
1	0205	26	0.	*	1	0820	101	0.	*	1	1435	176	1.	*	1	2050	251	0.
1	0210	27	0.	*	1	0825	102	0.	*	1	1440	177	1.	*	1	2055	252	0.
1	0215	28	0.	*	1	0830	103	0.	*	1	1445	178	1.	*	1	2100	253	0.
1	0220	29	0.	*	1	0835	104	0.	*	1	1450	179	1.	*	1	2105	254	0.
1	0225	30	0.	*	1	0840	105	0.	*	1	1455	180	1.	*	1	2110	255	0.
1	0230	31	0.	*	1	0845	106	0.	*	1	1500	181	1.	*	1	2115	256	0.
1	0235	32	0.	*	1	0850	107	0.	*	1	1505	182	1.	*	1	2120	257	0.
1	0240	33	0.	*	1	0855	108	0.	*	1	1510	183	1.	*	1	2125	258	0.
1	0245	34	0.	*	1	0900	109	0.	*	1	1515	184	1.	*	1	2130	259	0.
1	0250	35	0.	*	1	0905	110	0.	*	1	1520	185	1.	*	1	2135	260	0.
1	0255	36	0.	*	1	0910	111	0.	*	1	1525	186	1.	*	1	2140	261	0.
1	0300	37	0.	*	1	0915	112	0.	*	1	1530	187	1.	*	1	2145	262	0.
1	0305	38	0.	*	1	0920	113	0.	*	1	1535	188	0.	*	1	2150	263	0.
1	0310	39	0.	*	1	0925	114	0.	*	1	1540	189	0.	*	1	2155	264	0.
1	0315	40	0.	*	1	0930	115	0.	*	1	1545	190	0.	*	1	2200	265	0.
1	0320	41	0.	*	1	0935	116	0.	*	1	1550	191	0.	*	1	2205	266	0.
1	0325	42	0.	*	1	0940	117	0.	*	1	1555	192	0.	*	1	2210	267	0.
1	0330	43	0.	*	1	0945	118	0.	*	1	1600	193	0.	*	1	2215	268	0.
1	0335	44	0.	*	1	0950	119	0.	*	1	1605	194	0.	*	1	2220	269	0.
1	0340	45	0.	*	1	0955	120	0.	*	1	1610	195	0.	*	1	2225	270	0.
1	0345	46	0.	*	1	1000	121	0.	*	1	1615	196	0.	*	1	2230	271	0.
1	0350	47	0.	*	1	1005	122	0.	*	1	1620	197	0.	*	1	2235	272	0.
1	0355	48	0.	*	1	1010	123	0.	*	1	1625	198	0.	*	1	2240	273	0.
1	0400	49	0.	*	1	1015	124	0.	*	1	1630	199	0.	*	1	2245	274	0.
1	0405	50	0.	*	1	1020	125	0.	*	1	1635	200	0.	*	1	2250	275	0.
1	0410	51	0.	*	1	1025	126	0.	*	1	1640	201	0.	*	1	2255	276	0.
1	0415	52	0.	*	1	1030	127	0.	*	1	1645	202	0.	*	1	2300	277	0.
1	0420	53	0.	*	1	1035	128	0.	*	1	1650	203	0.	*	1	2305	278	0.
1	0425	54	0.	*	1	1040	129	0.	*	1	1655	204	0.	*	1	2310	279	0.
1	0430	55	0.	*	1	1045	130	0.	*	1	1700	205	0.	*	1	2315	280	0.
1	0435	56	0.	*	1	1050	131	0.	*	1	1705	206	0.	*	1	2320	281	0.
1	0440	57	0.	*	1	1055	132	0.	*	1	1710	207	0.	*	1	2325	282	0.
1	0445	58	0.	*	1	1100	133	0.	*	1	1715	208	0.	*	1	2330	283	0.
1	0450	59	0.	*	1	1105	134	0.	*	1	1720	209	0.	*	1	2335	284	0.
1	0455	60	0.	*	1	1110	135	0.	*	1	1725	210	0.	*	1	2340	285	0.
1	0500	61	0.	*	1	1115	136	0.	*	1	1730	211	0.	*	1	2345	286	0.
1	0505	62	0.	*	1	1120	137	1.	*	1	1735	212	0.	*	1	2350	287	0.
1	0510	63	0.	*	1	1125	138	1.	*	1	1740	213	0.	*	1	2355	288	0.
1	0515	64	0.	*	1	1130	139	1.	*	1	1745	214	0.	*	2	0000	289	0.
1	0520	65	0.	*	1	1135	140	1.	*	1	1750	215	0.	*	2	0005	290	0.
1	0525	66	0.	*	1	1140	141	1.	*	1	1755	216	0.	*	2	0010	291	0.
1	0530	67	0.	*	1	1145	142	1.	*	1	1800	217	0.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	1.	*	1	1805	218	0.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	4.	*	1	1810	219	0.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	12.	*	1	1815	220	0.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	24.	*	1	1820	221	0.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	31.	*	1	1825	222	0.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	30.	*	1	1830	223	0.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	27.	*	1	1835	224	0.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	24.	*	1	1840	225	0.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 31.	12.17		5.	1.	1.	1.
		(INCHES)	.081	.088	.088	.088
		(AC-FT)	2.	3.	3.	3.

CUMULATIVE AREA = .56 SQ MI

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          ***************
          *             *
364 KK    *       I5    *      Start Indian Creek Basin
          *             *
          ***************

            SUBBASIN RUNOFF DATA

365 BA        SUBBASIN CHARACTERISTICS
                    TAREA         .80  SUBBASIN AREA

366 LG        GREEN AND AMPT LOSS RATE
                   STRTL         .47  STARTING LOSS
                     DTH         .45  MOISTURE DEFICIT
                    PSIF        1.68  WETTING FRONT SUCTION
                   XKSAT         .06  HYDRAULIC CONDUCTIVITY
                   RTIMP        2.00  PERCENT IMPERVIOUS AREA

367 US        SNYDER UNITGRAPH
                      TP         .43  LAG
                      CP         .32  PEAKING COEFFICIENT

              SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                ***

                                  UNIT HYDROGRAPH PARAMETERS
                             CLARK   TC=    .44 HR,       R=  1.07 HR
                            SNYDER   TP=    .43 HR,      CP=   .32

                                  UNIT HYDROGRAPH
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71 END-OF-PERIOD ORDINATES

27.	103.	209.	310.	375.	385.	359.	332.	307.	284.
263.	243.	225.	208.	192.	178.	164.	152.	141.	130.
120.	111.	103.	95.	88.	81.	75.	70.	64.	60.
55.	51.	47.	44.	40.	37.	35.	32.	30.	27.
25.	23.	22.	20.	19.	17.	16.	15.	14.	13.
12.	11.	10.	9.	8.	8.	7.	7.	6.	6.
5.	5.	5.	4.	4.	4.	3.	3.	3.	3.
2.									

*** *** *** *** ***

HYDROGRAPH AT STATION I5
TRANSPOSITION AREA .0 SQ MI

TOTAL RAINFALL = 1.19, TOTAL LOSS = 1.01, TOTAL EXCESS = .18

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
65.	12.33	15.	4.	4.	4.
		(INCHES) .176	.184	.184	.184
		(AC-FT) 8.	8.	8.	8.

CUMULATIVE AREA = .80 SQ MI

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HYDROGRAPH AT STATION I5
TRANSPOSITION AREA 14.0 SQ MI

TOTAL RAINFALL = 1.17, TOTAL LOSS = 1.00, TOTAL EXCESS = .17

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
60.	12.33	14.	4.	4.	4.
		(INCHES) .162	.169	.170	.170
		(AC-FT) 7.	7.	7.	7.

CUMULATIVE AREA = .80 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION I5
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.15, TOTAL LOSS = .99, TOTAL EXCESS = .16

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
57.	12.33	13.	3.	3.	3.
		(INCHES) .155	.163	.163	.163
		(AC-FT) 7.	7.	7.	7.

CUMULATIVE AREA = .80 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION I5
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.14, TOTAL LOSS = .98, TOTAL EXCESS = .16

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
55.	12.33	13.	3.	3.	3.
		(INCHES) .149	.156	.156	.156
		(AC-FT) 6.	7.	7.	7.

CUMULATIVE AREA = .80 SQ MI

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HYDROGRAPH AT STATION I5
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.13, TOTAL LOSS = .98, TOTAL EXCESS = .15

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
53.	12.33	12.	3.	3.	3.
		(INCHES) .145	.152	.152	.152
		(AC-FT) 6.	6.	6.	6.

CUMULATIVE AREA = .80 SQ MI

INTERPOLATED HYDROGRAPH AT I5

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	56.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	52.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	48.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	44.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	41.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	38.	1		1910	231	0.

1	0030	7	0.	*	1	0645	82	0.	*	1	1300	157	35.	*	1	1915	232	0.
1	0035	8	0.	*	1	0650	83	0.	*	1	1305	158	33.	*	1	1920	233	0.
1	0040	9	0.	*	1	0655	84	0.	*	1	1310	159	30.	*	1	1925	234	0.
1	0045	10	0.	*	1	0700	85	0.	*	1	1315	160	28.	*	1	1930	235	0.
1	0050	11	0.	*	1	0705	86	0.	*	1	1320	161	26.	*	1	1935	236	0.
1	0055	12	0.	*	1	0710	87	0.	*	1	1325	162	24.	*	1	1940	237	0.
1	0100	13	0.	*	1	0715	88	0.	*	1	1330	163	22.	*	1	1945	238	0.
1	0105	14	0.	*	1	0720	89	0.	*	1	1335	164	21.	*	1	1950	239	0.
1	0110	15	0.	*	1	0725	90	0.	*	1	1340	165	19.	*	1	1955	240	0.
1	0115	16	0.	*	1	0730	91	0.	*	1	1345	166	18.	*	1	2000	241	0.
1	0120	17	0.	*	1	0735	92	0.	*	1	1350	167	17.	*	1	2005	242	0.
1	0125	18	0.	*	1	0740	93	0.	*	1	1355	168	15.	*	1	2010	243	0.
1	0130	19	0.	*	1	0745	94	0.	*	1	1400	169	14.	*	1	2015	244	0.
1	0135	20	0.	*	1	0750	95	0.	*	1	1405	170	13.	*	1	2020	245	0.
1	0140	21	0.	*	1	0755	96	0.	*	1	1410	171	12.	*	1	2025	246	0.
1	0145	22	0.	*	1	0800	97	0.	*	1	1415	172	11.	*	1	2030	247	0.
1	0150	23	0.	*	1	0805	98	0.	*	1	1420	173	11.	*	1	2035	248	0.
1	0155	24	0.	*	1	0810	99	0.	*	1	1425	174	10.	*	1	2040	249	0.
1	0200	25	0.	*	1	0815	100	0.	*	1	1430	175	9.	*	1	2045	250	0.
1	0205	26	0.	*	1	0820	101	0.	*	1	1435	176	8.	*	1	2050	251	0.
1	0210	27	0.	*	1	0825	102	0.	*	1	1440	177	8.	*	1	2055	252	0.
1	0215	28	0.	*	1	0830	103	0.	*	1	1445	178	7.	*	1	2100	253	0.
1	0220	29	0.	*	1	0835	104	0.	*	1	1450	179	7.	*	1	2105	254	0.
1	0225	30	0.	*	1	0840	105	0.	*	1	1455	180	6.	*	1	2110	255	0.
1	0230	31	0.	*	1	0845	106	0.	*	1	1500	181	6.	*	1	2115	256	0.
1	0235	32	0.	*	1	0850	107	0.	*	1	1505	182	5.	*	1	2120	257	0.
1	0240	33	0.	*	1	0855	108	0.	*	1	1510	183	5.	*	1	2125	258	0.
1	0245	34	0.	*	1	0900	109	0.	*	1	1515	184	5.	*	1	2130	259	0.
1	0250	35	0.	*	1	0905	110	0.	*	1	1520	185	4.	*	1	2135	260	0.
1	0255	36	0.	*	1	0910	111	0.	*	1	1525	186	4.	*	1	2140	261	0.
1	0300	37	0.	*	1	0915	112	0.	*	1	1530	187	4.	*	1	2145	262	0.
1	0305	38	0.	*	1	0920	113	0.	*	1	1535	188	4.	*	1	2150	263	0.
1	0310	39	0.	*	1	0925	114	0.	*	1	1540	189	3.	*	1	2155	264	0.
1	0315	40	0.	*	1	0930	115	0.	*	1	1545	190	3.	*	1	2200	265	0.
1	0320	41	0.	*	1	0935	116	0.	*	1	1550	191	3.	*	1	2205	266	0.
1	0325	42	0.	*	1	0940	117	0.	*	1	1555	192	3.	*	1	2210	267	0.
1	0330	43	0.	*	1	0945	118	0.	*	1	1600	193	2.	*	1	2215	268	0.
1	0335	44	0.	*	1	0950	119	0.	*	1	1605	194	2.	*	1	2220	269	0.
1	0340	45	0.	*	1	0955	120	0.	*	1	1610	195	2.	*	1	2225	270	0.
1	0345	46	0.	*	1	1000	121	0.	*	1	1615	196	2.	*	1	2230	271	0.
1	0350	47	0.	*	1	1005	122	0.	*	1	1620	197	2.	*	1	2235	272	0.
1	0355	48	0.	*	1	1010	123	0.	*	1	1625	198	2.	*	1	2240	273	0.
1	0400	49	0.	*	1	1015	124	0.	*	1	1630	199	2.	*	1	2245	274	0.
1	0405	50	0.	*	1	1020	125	0.	*	1	1635	200	2.	*	1	2250	275	0.
1	0410	51	0.	*	1	1025	126	0.	*	1	1640	201	1.	*	1	2255	276	0.
1	0415	52	0.	*	1	1030	127	0.	*	1	1645	202	1.	*	1	2300	277	0.
1	0420	53	0.	*	1	1035	128	0.	*	1	1650	203	1.	*	1	2305	278	0.
1	0425	54	0.	*	1	1040	129	0.	*	1	1655	204	1.	*	1	2310	279	0.
1	0430	55	0.	*	1	1045	130	0.	*	1	1700	205	1.	*	1	2315	280	0.
1	0435	56	0.	*	1	1050	131	0.	*	1	1705	206	1.	*	1	2320	281	0.
1	0440	57	0.	*	1	1055	132	0.	*	1	1710	207	1.	*	1	2325	282	0.
1	0445	58	0.	*	1	1100	133	1.	*	1	1715	208	1.	*	1	2330	283	0.
1	0450	59	0.	*	1	1105	134	1.	*	1	1720	209	1.	*	1	2335	284	0.
1	0455	60	0.	*	1	1110	135	1.	*	1	1725	210	1.	*	1	2340	285	0.
1	0500	61	0.	*	1	1115	136	1.	*	1	1730	211	1.	*	1	2345	286	0.
1	0505	62	0.	*	1	1120	137	1.	*	1	1735	212	1.	*	1	2350	287	0.
1	0510	63	0.	*	1	1125	138	1.	*	1	1740	213	1.	*	1	2355	288	0.
1	0515	64	0.	*	1	1130	139	1.	*	1	1745	214	1.	*	2	0000	289	0.
1	0520	65	0.	*	1	1135	140	1.	*	1	1750	215	0.	*	2	0005	290	0.
1	0525	66	0.	*	1	1140	141	1.	*	1	1755	216	0.	*	2	0010	291	0.
1	0530	67	0.	*	1	1145	142	1.	*	1	1800	217	0.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	2.	*	1	1805	218	0.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	5.	*	1	1810	219	0.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	15.	*	1	1815	220	0.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	30.	*	1	1820	221	0.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	46.	*	1	1825	222	0.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	57.	*	1	1830	223	0.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	62.	*	1	1835	224	0.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	60.	*	1	1840	225	0.	*	2	0055	300	0.

****

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 62.	12.33		14.	4.	4.	4.
		(INCHES)	.168	.175	.175	.175
		(AC-FT)	7.	7.	7.	7.

CUMULATIVE AREA = .80 SQ MI

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          **************
          *            *
368 KK    *    R_I5    *
          *            *
          **************
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Route Hydrograph Through Existing Dam

HYDROGRAPH ROUTING DATA

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370 RS      STORAGE ROUTING
                 NSTPS          1  NUMBER OF SUBREACHES
                 ITYP       STOR  TYPE OF INITIAL CONDITION
                RSVRIC       .00  INITIAL CONDITION
                     X       .00 WORKING R AND D COEFFICIENT

371 SV        STORAGE          .0       2.2       4.7       7.2      10.0      12.9      16.1      19.4      22.9      26.6

372 SQ       DISCHARGE         0.       0.        0.        0.        0.        0.        0.       93.      263.      483.

373 SE       ELEVATION     5190.00   5191.00   5192.00   5193.00   5194.00   5195.00   5196.00   5197.00   5198.00   5199.00
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HYDROGRAPH AT STATION R_I5
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)				
+ 0.	12.50	0.	0.	0.	0.
		(INCHES) .001	.003	.003	.003
		(AC-FT) 0.	0.	0.	0.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
8.	24.25	8.	4.	4.	4.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
5193.18	24.33	5193.18	5191.56	5191.50	5191.50

CUMULATIVE AREA = .80 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R_I5
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)				
+ 0.	12.50	0.	0.	0.	0.
		(INCHES) .001	.003	.003	.003
		(AC-FT) 0.	0.	0.	0.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
7.	24.17	7.	4.	3.	3.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
5192.95	24.33	5192.95	5191.48	5191.42	5191.42

CUMULATIVE AREA = .80 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R_I5
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)				
+ 0.	12.58	0.	0.	0.	0.
		(INCHES) .001	.003	.003	.003
		(AC-FT) 0.	0.	0.	0.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
7.	24.17	7.	3.	3.	3.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
5192.84	24.17	5192.85	5191.42	5191.37	5191.37

CUMULATIVE AREA = .80 SQ MI

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HYDROGRAPH AT STATION R_I5
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)				
+ 0.	12.58	0.	0.	0.	0.
		(INCHES) .001	.003	.003	.003
		(AC-FT) 0.	0.	0.	0.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
7.	24.50	7.	3.	3.	3.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
5192.73	24.42	5192.72	5191.37	5191.32	5191.32

CUMULATIVE AREA = .80 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R_I5
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)				
+ 0.	12.58	0.	0.	0.	0.

(INCHES)	.001	.003	.003	.003
(AC-FT)	0.	0.	0.	0.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
6.	24.08	6.	3.	3.	3.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
5192.67	24.25	5192.66	5191.31	5191.26	5191.26

CUMULATIVE AREA = .80 SQ MI

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INTERPOLATED HYDROGRAPH AT R_I5

****

DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	*	1		0615	76	0.	*	1		1230	151	0.	*	1		1845	226	0.
1		0005	2	0.	*	1		0620	77	0.	*	1		1235	152	0.	*	1		1850	227	0.
1		0010	3	0.	*	1		0625	78	0.	*	1		1240	153	0.	*	1		1855	228	0.
1		0015	4	0.	*	1		0630	79	0.	*	1		1245	154	0.	*	1		1900	229	0.
1		0020	5	0.	*	1		0635	80	0.	*	1		1250	155	0.	*	1		1905	230	0.
1		0025	6	0.	*	1		0640	81	0.	*	1		1255	156	0.	*	1		1910	231	0.
1		0030	7	0.	*	1		0645	82	0.	*	1		1300	157	0.	*	1		1915	232	0.
1		0035	8	0.	*	1		0650	83	0.	*	1		1305	158	0.	*	1		1920	233	0.
1		0040	9	0.	*	1		0655	84	0.	*	1		1310	159	0.	*	1		1925	234	0.
1		0045	10	0.	*	1		0700	85	0.	*	1		1315	160	0.	*	1		1930	235	0.
1		0050	11	0.	*	1		0705	86	0.	*	1		1320	161	0.	*	1		1935	236	0.
1		0055	12	0.	*	1		0710	87	0.	*	1		1325	162	0.	*	1		1940	237	0.
1		0100	13	0.	*	1		0715	88	0.	*	1		1330	163	0.	*	1		1945	238	0.
1		0105	14	0.	*	1		0720	89	0.	*	1		1335	164	0.	*	1		1950	239	0.
1		0110	15	0.	*	1		0725	90	0.	*	1		1340	165	0.	*	1		1955	240	0.
1		0115	16	0.	*	1		0730	91	0.	*	1		1345	166	0.	*	1		2000	241	0.
1		0120	17	0.	*	1		0735	92	0.	*	1		1350	167	0.	*	1		2005	242	0.
1		0125	18	0.	*	1		0740	93	0.	*	1		1355	168	0.	*	1		2010	243	0.
1		0130	19	0.	*	1		0745	94	0.	*	1		1400	169	0.	*	1		2015	244	0.
1		0135	20	0.	*	1		0750	95	0.	*	1		1405	170	0.	*	1		2020	245	0.
1		0140	21	0.	*	1		0755	96	0.	*	1		1410	171	0.	*	1		2025	246	0.
1		0145	22	0.	*	1		0800	97	0.	*	1		1415	172	0.	*	1		2030	247	0.
1		0150	23	0.	*	1		0805	98	0.	*	1		1420	173	0.	*	1		2035	248	0.
1		0155	24	0.	*	1		0810	99	0.	*	1		1425	174	0.	*	1		2040	249	0.
1		0200	25	0.	*	1		0815	100	0.	*	1		1430	175	0.	*	1		2045	250	0.
1		0205	26	0.	*	1		0820	101	0.	*	1		1435	176	0.	*	1		2050	251	0.
1		0210	27	0.	*	1		0825	102	0.	*	1		1440	177	0.	*	1		2055	252	0.
1		0215	28	0.	*	1		0830	103	0.	*	1		1445	178	0.	*	1		2100	253	0.
1		0220	29	0.	*	1		0835	104	0.	*	1		1450	179	0.	*	1		2105	254	0.
1		0225	30	0.	*	1		0840	105	0.	*	1		1455	180	0.	*	1		2110	255	0.
1		0230	31	0.	*	1		0845	106	0.	*	1		1500	181	0.	*	1		2115	256	0.
1		0235	32	0.	*	1		0850	107	0.	*	1		1505	182	0.	*	1		2120	257	0.
1		0240	33	0.	*	1		0855	108	0.	*	1		1510	183	0.	*	1		2125	258	0.
1		0245	34	0.	*	1		0900	109	0.	*	1		1515	184	0.	*	1		2130	259	0.
1		0250	35	0.	*	1		0905	110	0.	*	1		1520	185	0.	*	1		2135	260	0.
1		0255	36	0.	*	1		0910	111	0.	*	1		1525	186	0.	*	1		2140	261	0.
1		0300	37	0.	*	1		0915	112	0.	*	1		1530	187	0.	*	1		2145	262	0.
1		0305	38	0.	*	1		0920	113	0.	*	1		1535	188	0.	*	1		2150	263	0.
1		0310	39	0.	*	1		0925	114	0.	*	1		1540	189	0.	*	1		2155	264	0.
1		0315	40	0.	*	1		0930	115	0.	*	1		1545	190	0.	*	1		2200	265	0.
1		0320	41	0.	*	1		0935	116	0.	*	1		1550	191	0.	*	1		2205	266	0.
1		0325	42	0.	*	1		0940	117	0.	*	1		1555	192	0.	*	1		2210	267	0.
1		0330	43	0.	*	1		0945	118	0.	*	1		1600	193	0.	*	1		2215	268	0.
1		0335	44	0.	*	1		0950	119	0.	*	1		1605	194	0.	*	1		2220	269	0.
1		0340	45	0.	*	1		0955	120	0.	*	1		1610	195	0.	*	1		2225	270	0.
1		0345	46	0.	*	1		1000	121	0.	*	1		1615	196	0.	*	1		2230	271	0.
1		0350	47	0.	*	1		1005	122	0.	*	1		1620	197	0.	*	1		2235	272	0.
1		0355	48	0.	*	1		1010	123	0.	*	1		1625	198	0.	*	1		2240	273	0.
1		0400	49	0.	*	1		1015	124	0.	*	1		1630	199	0.	*	1		2245	274	0.
1		0405	50	0.	*	1		1020	125	0.	*	1		1635	200	0.	*	1		2250	275	0.
1		0410	51	0.	*	1		1025	126	0.	*	1		1640	201	0.	*	1		2255	276	0.
1		0415	52	0.	*	1		1030	127	0.	*	1		1645	202	0.	*	1		2300	277	0.
1		0420	53	0.	*	1		1035	128	0.	*	1		1650	203	0.	*	1		2305	278	0.
1		0425	54	0.	*	1		1040	129	0.	*	1		1655	204	0.	*	1		2310	279	0.
1		0430	55	0.	*	1		1045	130	0.	*	1		1700	205	0.	*	1		2315	280	0.
1		0435	56	0.	*	1		1050	131	0.	*	1		1705	206	0.	*	1		2320	281	0.
1		0440	57	0.	*	1		1055	132	0.	*	1		1710	207	0.	*	1		2325	282	0.
1		0445	58	0.	*	1		1100	133	0.	*	1		1715	208	0.	*	1		2330	283	0.
1		0450	59	0.	*	1		1105	134	0.	*	1		1720	209	0.	*	1		2335	284	0.
1		0455	60	0.	*	1		1110	135	0.	*	1		1725	210	0.	*	1		2340	285	0.
1		0500	61	0.	*	1		1115	136	0.	*	1		1730	211	0.	*	1		2345	286	0.
1		0505	62	0.	*	1		1120	137	0.	*	1		1735	212	0.	*	1		2350	287	0.
1		0510	63	0.	*	1		1125	138	0.	*	1		1740	213	0.	*	1		2355	288	0.
1		0515	64	0.	*	1		1130	139	0.	*	1		1745	214	0.	*	2		0000	289	0.
1		0520	65	0.	*	1		1135	140	0.	*	1		1750	215	0.	*	2		0005	290	0.
1		0525	66	0.	*	1		1140	141	0.	*	1		1755	216	0.	*	2		0010	291	0.
1		0530	67	0.	*	1		1145	142	0.	*	1		1800	217	0.	*	2		0015	292	0.
1		0535	68	0.	*	1		1150	143	0.	*	1		1805	218	0.	*	2		0020	293	0.
1		0540	69	0.	*	1		1155	144	0.	*	1		1810	219	0.	*	2		0025	294	0.
1		0545	70	0.	*	1		1200	145	0.	*	1		1815	220	0.	*	2		0030	295	0.
1		0550	71	0.	*	1		1205	146	0.	*	1		1820	221	0.	*	2		0035	296	0.
1		0555	72	0.	*	1		1210	147	0.	*	1		1825	222	0.	*	2		0040	297	0.
1		0600	73	0.	*	1		1215	148	0.	*	1		1830	223	0.	*	2		0045	298	0.
1		0605	74	0.	*	1		1220	149	0.	*	1		1835	224	0.	*	2		0050	299	0.
1		0610	75	0.	*	1		1225	150	0.	*	1		1840	225	0.	*	2		0055	300	0.

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PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
0.	12.50	0.	0.	0.	0.
		(INCHES) .001	.003	.003	.003
		(AC-FT) 0.	0.	0.	0.

CUMULATIVE AREA = .80 SQ MI

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** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

           ***************
           *             *
374 KK     *      I4     *      Subbasin
           *             *
           ***************

              SUBBASIN RUNOFF DATA

375 BA          SUBBASIN CHARACTERISTICS
                      TAREA        1.21  SUBBASIN AREA

376 LG          GREEN AND AMPT LOSS RATE
                      STRTL         .62  STARTING LOSS
                        DTH         .57  MOISTURE DEFICIT
                       PSIF        2.12  WETTING FRONT SUCTION
                      XKSAT         .08  HYDRAULIC CONDUCTIVITY
                      RTIMP        2.00  PERCENT IMPERVIOUS AREA

377 US          SNYDER UNITGRAPH
                        TP          .77  LAG
                        CP          .34  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                    ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .79 HR,       R=  1.75 HR
                                   SNYDER   TP=    .77 HR,      CP=   .34

                                          UNIT HYDROGRAPH
                                    117 END-OF-PERIOD ORDINATES
                  11.      40.      83.     134.     191.     247.     294.     330.     352.     355.
                 342.     326.     311.     296.     282.     269.     257.     245.     234.     223.
                 212.     202.     193.     184.     176.     167.     160.     152.     145.     138.
                 132.     126.     120.     114.     109.     104.      99.      95.      90.      86.
                  82.      78.      75.      71.      68.      65.      62.      59.      56.      53.
                  51.      49.      46.      44.      42.      40.      38.      37.      35.      33.
                  32.      30.      29.      27.      26.      25.      24.      23.      22.      21.
                  20.      19.      18.      17.      16.      16.      15.      14.      13.      13.
                  12.      12.      11.      11.      10.      10.       9.       9.       8.       8.
                   8.       7.       7.       7.       6.       6.       6.       5.       5.       5.
                   5.       5.       4.       4.       4.       4.       4.       3.       3.       3.
                   3.       3.       3.       3.       2.       2.       2.

      ***              ***              ***              ***              ***

                        HYDROGRAPH AT STATION       I4
                       TRANSPOSITION AREA        .0 SQ MI

     TOTAL RAINFALL =    1.19, TOTAL LOSS =    1.15, TOTAL EXCESS =     .04

                                                MAXIMUM AVERAGE FLOW
   PEAK FLOW     TIME                    6-HR        24-HR        72-HR     24.92-HR
+    (CFS)       (HR)
                                (CFS)
+       11.     12.75           5.          1.           1.           1.
                        (INCHES)  .035        .043         .043         .043
                        (AC-FT)     2.          3.           3.           3.

                        CUMULATIVE AREA =    1.21 SQ MI

      ***              ***              ***              ***              ***

                        HYDROGRAPH AT STATION       I4
                       TRANSPOSITION AREA     14.0 SQ MI

     TOTAL RAINFALL =    1.17, TOTAL LOSS =    1.13, TOTAL EXCESS =     .04

                                                MAXIMUM AVERAGE FLOW
   PEAK FLOW     TIME                    6-HR        24-HR        72-HR     24.92-HR
+    (CFS)       (HR)
                                (CFS)
+        9.     12.67           4.          1.           1.           1.
                        (INCHES)  .028        .036         .036         .036
                        (AC-FT)     2.          2.           2.           2.

                        CUMULATIVE AREA =    1.21 SQ MI

      ***              ***              ***              ***              ***

                        HYDROGRAPH AT STATION       I4
                       TRANSPOSITION AREA     24.0 SQ MI

     TOTAL RAINFALL =    1.15, TOTAL LOSS =    1.12, TOTAL EXCESS =     .03

                                                MAXIMUM AVERAGE FLOW
   PEAK FLOW     TIME                    6-HR        24-HR        72-HR     24.92-HR
+    (CFS)       (HR)
                                (CFS)
+        8.     12.67           3.          1.           1.           1.
                        (INCHES)  .025        .033         .033         .033
                        (AC-FT)     2.          2.           2.           2.

                        CUMULATIVE AREA =    1.21 SQ MI

      ***              ***              ***              ***              ***

                        HYDROGRAPH AT STATION       I4
                       TRANSPOSITION AREA     36.5 SQ MI

     TOTAL RAINFALL =    1.14, TOTAL LOSS =    1.11, TOTAL EXCESS =     .03

                                                MAXIMUM AVERAGE FLOW
   PEAK FLOW     TIME                    6-HR        24-HR        72-HR     24.92-HR
+    (CFS)       (HR)
                                (CFS)
```

+	7.	12.67		3.	1.	1.	1.
			(INCHES)	.022	.030	.030	.030
			(AC-FT)	1.	2.	2.	2.

CUMULATIVE AREA = 1.21 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION I4
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.13, TOTAL LOSS = 1.11, TOTAL EXCESS = .03

	PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)				
			(CFS)			
+	6.	12.67	3.	1.	1.	1.
			(INCHES)	.021	.028	.028	.028
			(AC-FT)	1.	2.	2.	2.

CUMULATIVE AREA = 1.21 SQ MI

INTERPOLATED HYDROGRAPH AT I4

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	8.	1		1845	226	1.
1		0005	2	0.	1		0620	77	0.	1		1235	152	9.	1		1850	227	1.
1		0010	3	0.	1		0625	78	0.	1		1240	153	9.	1		1855	228	1.
1		0015	4	0.	1		0630	79	0.	1		1245	154	9.	1		1900	229	1.
1		0020	5	0.	1		0635	80	0.	1		1250	155	9.	1		1905	230	1.
1		0025	6	0.	1		0640	81	0.	1		1255	156	9.	1		1910	231	1.
1		0030	7	0.	1		0645	82	0.	1		1300	157	9.	1		1915	232	1.
1		0035	8	0.	1		0650	83	0.	1		1305	158	8.	1		1920	233	1.
1		0040	9	0.	1		0655	84	0.	1		1310	159	8.	1		1925	234	1.
1		0045	10	0.	1		0700	85	0.	1		1315	160	8.	1		1930	235	1.
1		0050	11	0.	1		0705	86	0.	1		1320	161	7.	1		1935	236	1.
1		0055	12	0.	1		0710	87	0.	1		1325	162	7.	1		1940	237	1.
1		0100	13	0.	1		0715	88	0.	1		1330	163	7.	1		1945	238	1.
1		0105	14	0.	1		0720	89	0.	1		1335	164	6.	1		1950	239	1.
1		0110	15	0.	1		0725	90	0.	1		1340	165	6.	1		1955	240	1.
1		0115	16	0.	1		0730	91	0.	1		1345	166	6.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	6.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	6.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	5.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	5.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	5.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	5.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	5.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	4.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	4.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	4.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	4.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	4.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	4.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	3.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	3.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	3.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	3.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	3.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	3.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	3.	1		2140	261	0.
1		0300	37	0.	1		0915	112	0.	1		1530	187	3.	1		2145	262	0.
1		0305	38	0.	1		0920	113	0.	1		1535	188	3.	1		2150	263	0.
1		0310	39	0.	1		0925	114	0.	1		1540	189	2.	1		2155	264	0.
1		0315	40	0.	1		0930	115	0.	1		1545	190	2.	1		2200	265	0.
1		0320	41	0.	1		0935	116	0.	1		1550	191	2.	1		2205	266	0.
1		0325	42	0.	1		0940	117	0.	1		1555	192	2.	1		2210	267	0.
1		0330	43	0.	1		0945	118	0.	1		1600	193	2.	1		2215	268	0.
1		0335	44	0.	1		0950	119	0.	1		1605	194	2.	1		2220	269	0.
1		0340	45	0.	1		0955	120	0.	1		1610	195	2.	1		2225	270	0.
1		0345	46	0.	1		1000	121	0.	1		1615	196	2.	1		2230	271	0.
1		0350	47	0.	1		1005	122	0.	1		1620	197	2.	1		2235	272	0.
1		0355	48	0.	1		1010	123	0.	1		1625	198	2.	1		2240	273	0.
1		0400	49	0.	1		1015	124	0.	1		1630	199	2.	1		2245	274	0.
1		0405	50	0.	1		1020	125	1.	1		1635	200	2.	1		2250	275	0.
1		0410	51	0.	1		1025	126	1.	1		1640	201	2.	1		2255	276	0.
1		0415	52	0.	1		1030	127	1.	1		1645	202	2.	1		2300	277	0.
1		0420	53	0.	1		1035	128	1.	1		1650	203	1.	1		2305	278	0.
1		0425	54	0.	1		1040	129	1.	1		1655	204	1.	1		2310	279	0.
1		0430	55	0.	1		1045	130	1.	1		1700	205	1.	1		2315	280	0.
1		0435	56	0.	1		1050	131	1.	1		1705	206	1.	1		2320	281	0.
1		0440	57	0.	1		1055	132	1.	1		1710	207	1.	1		2325	282	0.
1		0445	58	0.	1		1100	133	1.	1		1715	208	1.	1		2330	283	0.
1		0450	59	0.	1		1105	134	1.	1		1720	209	1.	1		2335	284	0.
1		0455	60	0.	1		1110	135	1.	1		1725	210	1.	1		2340	285	0.
1		0500	61	0.	1		1115	136	1.	1		1730	211	1.	1		2345	286	0.
1		0505	62	0.	1		1120	137	1.	1		1735	212	1.	1		2350	287	0.
1		0510	63	0.	1		1125	138	1.	1		1740	213	1.	1		2355	288	0.
1		0515	64	0.	1		1130	139	1.	1		1745	214	1.	2		0000	289	0.
1		0520	65	0.	1		1135	140	1.	1		1750	215	1.	2		0005	290	0.
1		0525	66	0.	1		1140	141	1.	1		1755	216	1.	2		0010	291	0.
1		0530	67	0.	1		1145	142	1.	1		1800	217	1.	2		0015	292	0.
1		0535	68	0.	1		1150	143	1.	1		1805	218	1.	2		0020	293	0.
1		0540	69	0.	1		1155	144	1.	1		1810	219	1.	2		0025	294	0.
1		0545	70	0.	1		1200	145	2.	1		1815	220	1.	2		0030	295	0.
1		0550	71	0.	1		1205	146	3.	1		1820	221	1.	2		0035	296	0.
1		0555	72	0.	1		1210	147	4.	1		1825	222	1.	2		0040	297	0.
1		0600	73	0.	1		1215	148	5.	1		1830	223	1.	2		0045	298	0.
1		0605	74	0.	1		1220	149	6.	1		1835	224	1.	2		0050	299	0.
1		0610	75	0.	1		1225	150	7.	1		1840	225	1.	2		0055	300	0.

	PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)				

		(CFS)				
9.	12.67		4.	1.	1.	1.
		(INCHES)	.030	.038	.038	.038
		(AC-FT)	2.	2.	2.	2.

CUMULATIVE AREA = 1.21 SQ MI

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1	0010	3	0.	*	1	0625	78	0.	*	1	1240	153	9.	*	1	1855	228	1.
1	0015	4	0.	*	1	0630	79	0.	*	1	1245	154	9.	*	1	1900	229	1.
1	0020	5	0.	*	1	0635	80	0.	*	1	1250	155	9.	*	1	1905	230	1.
1	0025	6	0.	*	1	0640	81	0.	*	1	1255	156	9.	*	1	1910	231	1.
1	0030	7	0.	*	1	0645	82	0.	*	1	1300	157	8.	*	1	1915	232	1.
1	0035	8	0.	*	1	0650	83	0.	*	1	1305	158	8.	*	1	1920	233	1.
1	0040	9	0.	*	1	0655	84	0.	*	1	1310	159	8.	*	1	1925	234	1.
1	0045	10	0.	*	1	0700	85	0.	*	1	1315	160	8.	*	1	1930	235	1.
1	0050	11	0.	*	1	0705	86	0.	*	1	1320	161	7.	*	1	1935	236	1.
1	0055	12	0.	*	1	0710	87	0.	*	1	1325	162	7.	*	1	1940	237	1.
1	0100	13	0.	*	1	0715	88	0.	*	1	1330	163	7.	*	1	1945	238	1.
1	0105	14	0.	*	1	0720	89	0.	*	1	1335	164	6.	*	1	1950	239	1.
1	0110	15	0.	*	1	0725	90	0.	*	1	1340	165	6.	*	1	1955	240	1.
1	0115	16	0.	*	1	0730	91	0.	*	1	1345	166	6.	*	1	2000	241	1.
1	0120	17	0.	*	1	0735	92	0.	*	1	1350	167	6.	*	1	2005	242	1.
1	0125	18	0.	*	1	0740	93	0.	*	1	1355	168	6.	*	1	2010	243	1.
1	0130	19	0.	*	1	0745	94	0.	*	1	1400	169	5.	*	1	2015	244	1.
1	0135	20	0.	*	1	0750	95	0.	*	1	1405	170	5.	*	1	2020	245	1.
1	0140	21	0.	*	1	0755	96	0.	*	1	1410	171	5.	*	1	2025	246	1.
1	0145	22	0.	*	1	0800	97	0.	*	1	1415	172	5.	*	1	2030	247	1.
1	0150	23	0.	*	1	0805	98	0.	*	1	1420	173	5.	*	1	2035	248	1.
1	0155	24	0.	*	1	0810	99	0.	*	1	1425	174	4.	*	1	2040	249	1.
1	0200	25	0.	*	1	0815	100	0.	*	1	1430	175	4.	*	1	2045	250	1.
1	0205	26	0.	*	1	0820	101	0.	*	1	1435	176	4.	*	1	2050	251	0.
1	0210	27	0.	*	1	0825	102	0.	*	1	1440	177	4.	*	1	2055	252	0.
1	0215	28	0.	*	1	0830	103	0.	*	1	1445	178	4.	*	1	2100	253	0.
1	0220	29	0.	*	1	0835	104	0.	*	1	1450	179	4.	*	1	2105	254	0.
1	0225	30	0.	*	1	0840	105	0.	*	1	1455	180	3.	*	1	2110	255	0.
1	0230	31	0.	*	1	0845	106	0.	*	1	1500	181	3.	*	1	2115	256	0.
1	0235	32	0.	*	1	0850	107	0.	*	1	1505	182	3.	*	1	2120	257	0.
1	0240	33	0.	*	1	0855	108	0.	*	1	1510	183	3.	*	1	2125	258	0.
1	0245	34	0.	*	1	0900	109	0.	*	1	1515	184	3.	*	1	2130	259	0.
1	0250	35	0.	*	1	0905	110	0.	*	1	1520	185	3.	*	1	2135	260	0.
1	0255	36	0.	*	1	0910	111	0.	*	1	1525	186	3.	*	1	2140	261	0.
1	0300	37	0.	*	1	0915	112	0.	*	1	1530	187	3.	*	1	2145	262	0.
1	0305	38	0.	*	1	0920	113	0.	*	1	1535	188	3.	*	1	2150	263	0.
1	0310	39	0.	*	1	0925	114	0.	*	1	1540	189	2.	*	1	2155	264	0.
1	0315	40	0.	*	1	0930	115	0.	*	1	1545	190	2.	*	1	2200	265	0.
1	0320	41	0.	*	1	0935	116	0.	*	1	1550	191	2.	*	1	2205	266	0.
1	0325	42	0.	*	1	0940	117	0.	*	1	1555	192	2.	*	1	2210	267	0.
1	0330	43	0.	*	1	0945	118	0.	*	1	1600	193	2.	*	1	2215	268	0.
1	0335	44	0.	*	1	0950	119	0.	*	1	1605	194	2.	*	1	2220	269	0.
1	0340	45	0.	*	1	0955	120	0.	*	1	1610	195	2.	*	1	2225	270	0.
1	0345	46	0.	*	1	1000	121	0.	*	1	1615	196	2.	*	1	2230	271	0.
1	0350	47	0.	*	1	1005	122	0.	*	1	1620	197	2.	*	1	2235	272	0.
1	0355	48	0.	*	1	1010	123	0.	*	1	1625	198	2.	*	1	2240	273	0.
1	0400	49	0.	*	1	1015	124	0.	*	1	1630	199	2.	*	1	2245	274	0.
1	0405	50	0.	*	1	1020	125	1.	*	1	1635	200	2.	*	1	2250	275	0.
1	0410	51	0.	*	1	1025	126	1.	*	1	1640	201	2.	*	1	2255	276	0.
1	0415	52	0.	*	1	1030	127	1.	*	1	1645	202	2.	*	1	2300	277	0.
1	0420	53	0.	*	1	1035	128	1.	*	1	1650	203	2.	*	1	2305	278	0.
1	0425	54	0.	*	1	1040	129	1.	*	1	1655	204	1.	*	1	2310	279	0.
1	0430	55	0.	*	1	1045	130	1.	*	1	1700	205	1.	*	1	2315	280	0.
1	0435	56	0.	*	1	1050	131	1.	*	1	1705	206	1.	*	1	2320	281	0.
1	0440	57	0.	*	1	1055	132	1.	*	1	1710	207	1.	*	1	2325	282	0.
1	0445	58	0.	*	1	1100	133	1.	*	1	1715	208	1.	*	1	2330	283	0.
1	0450	59	0.	*	1	1105	134	1.	*	1	1720	209	1.	*	1	2335	284	0.
1	0455	60	0.	*	1	1110	135	1.	*	1	1725	210	1.	*	1	2340	285	0.
1	0500	61	0.	*	1	1115	136	1.	*	1	1730	211	1.	*	1	2345	286	0.
1	0505	62	0.	*	1	1120	137	1.	*	1	1735	212	1.	*	1	2350	287	0.
1	0510	63	0.	*	1	1125	138	1.	*	1	1740	213	1.	*	1	2355	288	0.
1	0515	64	0.	*	1	1130	139	1.	*	1	1745	214	1.	*	2	0000	289	0.
1	0520	65	0.	*	1	1135	140	1.	*	1	1750	215	1.	*	2	0005	290	0.
1	0525	66	0.	*	1	1140	141	1.	*	1	1755	216	1.	*	2	0010	291	0.
1	0530	67	0.	*	1	1145	142	1.	*	1	1800	217	1.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	1.	*	1	1805	218	1.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	1.	*	1	1810	219	1.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	2.	*	1	1815	220	1.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	3.	*	1	1820	221	1.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	4.	*	1	1825	222	1.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	5.	*	1	1830	223	1.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	6.	*	1	1835	224	1.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	7.	*	1	1840	225	1.	*	2	0055	300	0.

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  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR      24.92-HR
+   (CFS)       (HR)
                          (CFS)
+       9.     12.67         4.           1.           1.           1.
                        (INCHES)       .018         .024         .024         .024
                          (AC-FT)         2.           3.           3.           3.

                        CUMULATIVE AREA =    2.01 SQ MI


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            ***************
            *             *
  380 KK    *       I3    *      Subbasin
            *             *
            ***************

               SUBBASIN RUNOFF DATA

  381 BA          SUBBASIN CHARACTERISTICS
                        TAREA         3.21  SUBBASIN AREA

  382 LG          GREEN AND AMPT LOSS RATE
                        STRTL          .50  STARTING LOSS
                          DTH          .47  MOISTURE DEFICIT
                         PSIF         1.77  WETTING FRONT SUCTION
                        XKSAT          .06  HYDRAULIC CONDUCTIVITY
                        RTIMP         2.00  PERCENT IMPERVIOUS AREA

  383 US          SNYDER UNITGRAPH
                           TP         1.18  LAG
                           CP          .40  PEAKING COEFFICIENT
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SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

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UNIT HYDROGRAPH PARAMETERS
CLARK TC= 1.21 HR, R= 2.21 HR
SNYDER TP= 1.19 HR, CP= .40

UNIT HYDROGRAPH
149 END-OF-PERIOD ORDINATES

12.	44.	92.	149.	213.	283.	359.	436.	510.	573.
627.	670.	701.	718.	714.	693.	667.	642.	619.	596.
574.	553.	532.	512.	493.	475.	458.	441.	424.	409.
394.	379.	365.	351.	338.	326.	314.	302.	291.	280.
270.	260.	250.	241.	232.	224.	215.	207.	200.	192.
185.	178.	172.	165.	159.	153.	148.	142.	137.	132.
127.	122.	118.	113.	109.	105.	101.	98.	94.	90.
87.	84.	81.	78.	75.	72.	69.	67.	64.	62.
60.	58.	55.	53.	51.	49.	48.	46.	44.	43.
41.	39.	38.	37.	35.	34.	33.	31.	30.	29.
28.	27.	26.	25.	24.	23.	22.	22.	21.	20.
19.	19.	18.	17.	17.	16.	15.	15.	14.	14.
13.	13.	12.	12.	11.	11.	11.	10.	10.	9.
9.	9.	8.	8.	8.	8.	7.	7.	7.	6.
6.	6.	6.	6.	5.	5.	5.	5.	5.	

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HYDROGRAPH AT STATION I3
TRANSPOSITION AREA .0 SQ MI

TOTAL RAINFALL = 1.19, TOTAL LOSS = 1.04, TOTAL EXCESS = .15

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
102.	13.08	46.	13.	13.	13.
		(INCHES) .134	.152	.152	.152
		(AC-FT) 23.	26.	26.	26.

CUMULATIVE AREA = 3.21 SQ MI

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HYDROGRAPH AT STATION I3
TRANSPOSITION AREA 14.0 SQ MI

TOTAL RAINFALL = 1.17, TOTAL LOSS = 1.02, TOTAL EXCESS = .14

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
94.	13.08	43.	12.	12.	12.
		(INCHES) .124	.141	.141	.141
		(AC-FT) 21.	24.	24.	24.

CUMULATIVE AREA = 3.21 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION I3
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.15, TOTAL LOSS = 1.02, TOTAL EXCESS = .14

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
90.	13.08	41.	12.	11.	11.
		(INCHES) .119	.135	.135	.135
		(AC-FT) 20.	23.	23.	23.

CUMULATIVE AREA = 3.21 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION I3
TRANSPOSIIION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.14, TOTAL LOSS = 1.01, TOTAL EXCESS = .13

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
86.	13.08	39.	11.	11.	11.
		(INCHES) .113	.129	.129	.129
		(AC-FT) 19.	22.	22.	22.

CUMULATIVE AREA = 3.21 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION I3
IRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.13, TOTAL LOSS = 1.01, TOTAL EXCESS = .13

EAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
83.	13.08	38.	11.	10.	10.
		(INCHES) .109	.125	.125	.125
		(AC-FT) 19.	21.	21.	21.

CUMULATIVE AREA = 3.21 SQ MI

INTERPOLATED HYDROGRAPH AT I3

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	1.	1		1230	151	55.	1		1845	226	9.
1		0005	2	0.	1		0620	77	1.	1		1235	152	65.	1		1850	227	8.
1		0010	3	0.	1		0625	78	1.	1		1240	153	74.	1		1855	228	8.
1		0015	4	0.	1		0630	79	1.	1		1245	154	81.	1		1900	229	8.
1		0020	5	0.	1		0635	80	1.	1		1250	155	87.	1		1905	230	8.
1		0025	6	0.	1		0640	81	1.	1		1255	156	92.	1		1910	231	7.
1		0030	7	0.	1		0645	82	1.	1		1300	157	95.	1		1915	232	7.
1		0035	8	0.	1		0650	83	1.	1		1305	158	96.	1		1920	233	7.
1		0040	9	0.	1		0655	84	1.	1		1310	159	94.	1		1925	234	7.
1		0045	10	0.	1		0700	85	1.	1		1315	160	91.	1		1930	235	6.
1		0050	11	0.	1		0705	86	1.	1		1320	161	88.	1		1935	236	6.
1		0055	12	0.	1		0710	87	1.	1		1325	162	85.	1		1940	237	6.
1		0100	13	0.	1		0715	88	1.	1		1330	163	82.	1		1945	238	6.
1		0105	14	0.	1		0720	89	1.	1		1335	164	79.	1		1950	239	6.
1		0110	15	0.	1		0725	90	1.	1		1340	165	76.	1		1955	240	5.
1		0115	16	0.	1		0730	91	1.	1		1345	166	73.	1		2000	241	5.
1		0120	17	0.	1		0735	92	1.	1		1350	167	71.	1		2005	242	5.
1		0125	18	0.	1		0740	93	1.	1		1355	168	68.	1		2010	243	5.
1		0130	19	0.	1		0745	94	1.	1		1400	169	66.	1		2015	244	5.
1		0135	20	0.	1		0750	95	1.	1		1405	170	63.	1		2020	245	5.
1		0140	21	0.	1		0755	96	1.	1		1410	171	61.	1		2025	246	4.
1		0145	22	0.	1		0800	97	1.	1		1415	172	59.	1		2030	247	4.
1		0150	23	0.	1		0805	98	1.	1		1420	173	57.	1		2035	248	4.
1		0155	24	0.	1		0810	99	1.	1		1425	174	55.	1		2040	249	4.
1		0200	25	0.	1		0815	100	1.	1		1430	175	53.	1		2045	250	4.
1		0205	26	0.	1		0820	101	1.	1		1435	176	51.	1		2050	251	4.
1		0210	27	0.	1		0825	102	1.	1		1440	177	49.	1		2055	252	4.
1		0215	28	0.	1		0830	103	1.	1		1445	178	47.	1		2100	253	4.
1		0220	29	0.	1		0835	104	1.	1		1450	179	46.	1		2105	254	3.
1		0225	30	0.	1		0840	105	1.	1		1455	180	44.	1		2110	255	3.
1		0230	31	0.	1		0845	106	1.	1		1500	181	42.	1		2115	256	3.
1		0235	32	0.	1		0850	107	1.	1		1505	182	41.	1		2120	257	3.
1		0240	33	0.	1		0855	108	1.	1		1510	183	40.	1		2125	258	3.
1		0245	34	0.	1		0900	109	1.	1		1515	184	38.	1		2130	259	3.
1		0250	35	0.	1		0905	110	1.	1		1520	185	37.	1		2135	260	3.
1		0255	36	0.	1		0910	111	1.	1		1525	186	35.	1		2140	261	3.
1		0300	37	0.	1		0915	112	1.	1		1530	187	34.	1		2145	262	3.
1		0305	38	0.	1		0920	113	1.	1		1535	188	33.	1		2150	263	3.
1		0310	39	0.	1		0925	114	1.	1		1540	189	32.	1		2155	264	3.
1		0315	40	0.	1		0930	115	1.	1		1545	190	31.	1		2200	265	2.
1		0320	41	0.	1		0935	116	1.	1		1550	191	30.	1		2205	266	2.
1		0325	42	0.	1		0940	117	1.	1		1555	192	29.	1		2210	267	2.
1		0330	43	0.	1		0945	118	1.	1		1600	193	28.	1		2215	268	2.
1		0335	44	0.	1		0950	119	1.	1		1605	194	27.	1		2220	269	2.
1		0340	45	0.	1		0955	120	1.	1		1610	195	26.	1		2225	270	2.
1		0345	46	0.	1		1000	121	1.	1		1615	196	25.	1		2230	271	2.
1		0350	47	0.	1		1005	122	1.	1		1620	197	24.	1		2235	272	2.
1		0355	48	0.	1		1010	123	1.	1		1625	198	23.	1		2240	273	2.
1		0400	49	0.	1		1015	124	1.	1		1630	199	22.	1		2245	274	2.
1		0405	50	0.	1		1020	125	1.	1		1635	200	21.	1		2250	275	2.
1		0410	51	0.	1		1025	126	1.	1		1640	201	21.	1		2255	276	2.
1		0415	52	0.	1		1030	127	1.	1		1645	202	20.	1		2300	277	2.
1		0420	53	0.	1		1035	128	1.	1		1650	203	19.	1		2305	278	2.
1		0425	54	0.	1		1040	129	1.	1		1655	204	19.	1		2310	279	2.
1		0430	55	1.	1		1045	130	1.	1		1700	205	18.	1		2315	280	2.
1		0435	56	1.	1		1050	131	1.	1		1705	206	17.	1		2320	281	2.
1		0440	57	1.	1		1055	132	1.	1		1710	207	17.	1		2325	282	2.
1		0445	58	1.	1		1100	133	1.	1		1715	208	16.	1		2330	283	2.
1		0450	59	1.	1		1105	134	1.	1		1720	209	16.	1		2335	284	2.
1		0455	60	1.	1		1110	135	2.	1		1725	210	15.	1		2340	285	1.
1		0500	61	1.	1		1115	136	2.	1		1730	211	15.	1		2345	286	1.
1		0505	62	1.	1		1120	137	2.	1		1735	212	14.	1		2350	287	1.
1		0510	63	1.	1		1125	138	2.	1		1740	213	14.	1		2355	288	1.
1		0515	64	1.	1		1130	139	2.	1		1745	214	13.	2		0000	289	1.
1		0520	65	1.	1		1135	140	2.	1		1750	215	13.	2		0005	290	1.
1		0525	66	1.	1		1140	141	2.	1		1755	216	12.	2		0010	291	1.
1		0530	67	1.	1		1145	142	2.	1		1800	217	12.	2		0015	292	1.
1		0535	68	1.	1		1150	143	2.	1		1805	218	11.	2		0020	293	1.
1		0540	69	1.	1		1155	144	3.	1		1810	219	11.	2		0025	294	1.
1		0545	70	1.	1		1200	145	6.	1		1815	220	11.	2		0030	295	1.
1		0550	71	1.	1		1205	146	12.	1		1820	221	10.	2		0035	296	1.
1		0555	72	1.	1		1210	147	19.	1		1825	222	10.	2		0040	297	1.
1		0600	73	1.	1		1215	148	27.	1		1830	223	10.	2		0045	298	1.
1		0605	74	1.	1		1220	149	36.	1		1835	224	9.	2		0050	299	1.
1		0610	75	1.	1		1225	150	45.	1		1840	225	9.	2		0055	300	1.

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)					
		(CFS)				
96.	13.08		43.	12.	12.	12.
		(INCHES)	.126	.143	.143	.143
		(AC-FT)	22.	25.	25.	25.

CUMULATIVE AREA = 3.21 SQ MI

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384 KK      ***************
            *             *
            *     C_I3    *      Combine I4 and I3
            *             *
            ***************

385 HC          HYDROGRAPH COMBINATION
                     ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE

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HYDROGRAPH AT STATION C_I3
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR	
(CFS)	(HR)	(CFS)				
112.	13.08	51.	15.	14.	14.	
		(INCHES) .090	.104	.104	.104	
		(AC-FT) 25.	29.	29.	29.	

CUMULATIVE AREA = 5.22 SQ MI

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HYDROGRAPH AT STATION C_I3
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR	
(CFS)	(HR)	(CFS)				
102.	13.08	46.	13.	13.	13.	
		(INCHES) .083	.095	.095	.095	
		(AC-FT) 23.	27.	27.	27.	

CUMULATIVE AREA = 5.22 SQ MI

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HYDROGRAPH AT STATION C_I3
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR	
(CFS)	(HR)	(CFS)				
97.	13.08	44.	13.	12.	12.	
		(INCHES) .079	.091	.091	.091	
		(AC-FT) 22.	25.	25.	25.	

CUMULATIVE AREA = 5.22 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_I3
TRANSPOSITION AREA 36.5 SQ MI

EAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR	
(CFS)	(HR)	(CFS)				
92.	13.08	42.	12.	12.	12.	
		(INCHES) .075	.087	.087	.087	
		(AC-FT) 21.	24.	24.	24.	

CUMULATIVE AREA = 5.22 SQ MI

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HYDROGRAPH AT STATION C_I3
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR	
(CFS)	(HR)	(CFS)				
88.	13.08	40.	12.	11.	11.	
		(INCHES) .072	.084	.084	.084	
		(AC-FT) 20.	23.	23.	23.	

CUMULATIVE AREA = 5.22 SQ MI

INTERPOLATED HYDROGRAPH AT C_I3

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	1.	1		1230	151	63.	1		1845	226	9.
1		0005	2	0.	1		0620	77	1.	1		1235	152	73.	1		1850	227	9.
1		0010	3	0.	1		0625	78	1.	1		1240	153	82.	1		1855	228	9.
1		0015	4	0.	1		0630	79	1.	1		1245	154	90.	1		1900	229	9.
1		0020	5	0.	1		0635	80	1.	1		1250	155	96.	1		1905	230	8.
1		0025	6	0.	1		0640	81	1.	1		1255	156	100.	1		1910	231	8.
1		0030	7	0.	1		0645	82	1.	1		1300	157	103.	1		1915	232	8.
1		0035	8	0.	1		0650	83	1.	1		1305	158	103.	1		1920	233	7.
1		0040	9	0.	1		0655	84	1.	1		1310	159	101.	1		1925	234	7.
1		0045	10	0.	1		0700	85	1.	1		1315	160	98.	1		1930	235	7.
1		0050	11	0.	1		0705	86	1.	1		1320	161	94.	1		1935	236	7.
1		0055	12	0.	1		0710	87	1.	1		1325	162	91.	1		1940	237	7.
1		0100	13	0.	1		0715	88	1.	1		1330	163	88.	1		1945	238	6.
1		0105	14	0.	1		0720	89	1.	1		1335	164	85.	1		1950	239	6.
1		0110	15	0.	1		0725	90	1.	1		1340	165	81.	1		1955	240	6.
1		0115	16	0.	1		0730	91	1.	1		1345	166	79.	1		2000	241	6.
1		0120	17	0.	1		0735	92	1.	1		1350	167	76.	1		2005	242	6.
1		0125	18	0.	1		0740	93	1.	1		1355	168	73.	1		2010	243	5.
1		0130	19	0.	1		0745	94	1.	1		1400	169	70.	1		2015	244	5.
1		0135	20	0.	1		0750	95	1.	1		1405	170	68.	1		2020	245	5.
1		0140	21	0.	1		0755	96	1.	1		1410	171	65.	1		2025	246	5.
1		0145	22	0.	1		0800	97	1.	1		1415	172	63.	1		2030	247	5.
1		0150	23	0.	1		0805	98	1.	1		1420	173	61.	1		2035	248	5.
1		0155	24	0.	1		0810	99	1.	1		1425	174	59.	1		2040	249	5.
1		0200	25	0.	1		0815	100	1.	1		1430	175	57.	1		2045	250	4.

1	0205	26	0.	*	1	0820	101	1.	*	1	1435	176	55.	*	1	2050	251	4.
1	0210	27	0.	*	1	0825	102	1.	*	1	1440	177	53.	*	1	2055	252	4.
1	0215	28	0.	*	1	0830	103	1.	*	1	1445	178	51.	*	1	2100	253	4.
1	0220	29	0.	*	1	0835	104	1.	*	1	1450	179	49.	*	1	2105	254	4.
1	0225	30	0.	*	1	0840	105	1.	*	1	1455	180	47.	*	1	2110	255	4.
1	0230	31	0.	*	1	0845	106	1.	*	1	1500	181	45.	*	1	2115	256	4.
1	0235	32	0.	*	1	0850	107	1.	*	1	1505	182	44.	*	1	2120	257	4.
1	0240	33	0.	*	1	0855	108	1.	*	1	1510	183	42.	*	1	2125	258	3.
1	0245	34	0.	*	1	0900	109	1.	*	1	1515	184	41.	*	1	2130	259	3.
1	0250	35	1.	*	1	0905	110	1.	*	1	1520	185	39.	*	1	2135	260	3.
1	0255	36	1.	*	1	0910	111	1.	*	1	1525	186	38.	*	1	2140	261	3.
1	0300	37	1.	*	1	0915	112	1.	*	1	1530	187	37.	*	1	2145	262	3.
1	0305	38	1.	*	1	0920	113	1.	*	1	1535	188	35.	*	1	2150	263	3.
1	0310	39	1.	*	1	0925	114	1.	*	1	1540	189	34.	*	1	2155	264	3.
1	0315	40	1.	*	1	0930	115	1.	*	1	1545	190	33.	*	1	2200	265	3.
1	0320	41	1.	*	1	0935	116	1.	*	1	1550	191	32.	*	1	2205	266	3.
1	0325	42	1.	*	1	0940	117	1.	*	1	1555	192	31.	*	1	2210	267	3.
1	0330	43	1.	*	1	0945	118	2.	*	1	1600	193	30.	*	1	2215	268	3.
1	0335	44	1.	*	1	0950	119	2.	*	1	1605	194	28.	*	1	2220	269	3.
1	0340	45	1.	*	1	0955	120	2.	*	1	1610	195	27.	*	1	2225	270	3.
1	0345	46	1.	*	1	1000	121	2.	*	1	1615	196	27.	*	1	2230	271	2.
1	0350	47	1.	*	1	1005	122	2.	*	1	1620	197	26.	*	1	2235	272	2.
1	0355	48	1.	*	1	1010	123	2.	*	1	1625	198	25.	*	1	2240	273	2.
1	0400	49	1.	*	1	1015	124	2.	*	1	1630	199	24.	*	1	2245	274	2.
1	0405	50	1.	*	1	1020	125	2.	*	1	1635	200	23.	*	1	2250	275	2.
1	0410	51	1.	*	1	1025	126	2.	*	1	1640	201	22.	*	1	2255	276	2.
1	0415	52	1.	*	1	1030	127	2.	*	1	1645	202	21.	*	1	2300	277	2.
1	0420	53	1.	*	1	1035	128	2.	*	1	1650	203	21.	*	1	2305	278	2.
1	0425	54	1.	*	1	1040	129	2.	*	1	1655	204	20.	*	1	2310	279	2.
1	0430	55	1.	*	1	1045	130	2.	*	1	1700	205	19.	*	1	2315	280	2.
1	0435	56	1.	*	1	1050	131	2.	*	1	1705	206	19.	*	1	2320	281	2.
1	0440	57	1.	*	1	1055	132	2.	*	1	1710	207	18.	*	1	2325	282	2.
1	0445	58	1.	*	1	1100	133	2.	*	1	1715	208	17.	*	1	2330	283	2.
1	0450	59	1.	*	1	1105	134	2.	*	1	1720	209	17.	*	1	2335	284	2.
1	0455	60	1.	*	1	1110	135	2.	*	1	1725	210	16.	*	1	2340	285	2.
1	0500	61	1.	*	1	1115	136	2.	*	1	1730	211	16.	*	1	2345	286	2.
1	0505	62	1.	*	1	1120	137	2.	*	1	1735	212	15.	*	1	2350	287	2.
1	0510	63	1.	*	1	1125	138	2.	*	1	1740	213	15.	*	1	2355	288	2.
1	0515	64	1.	*	1	1130	139	3.	*	1	1745	214	14.	*	2	0000	289	2.
1	0520	65	1.	*	1	1135	140	3.	*	1	1750	215	14.	*	2	0005	290	2.
1	0525	66	1.	*	1	1140	141	3.	*	1	1755	216	13.	*	2	0010	291	2.
1	0530	67	1.	*	1	1145	142	3.	*	1	1800	217	13.	*	2	0015	292	2.
1	0535	68	1.	*	1	1150	143	3.	*	1	1805	218	12.	*	2	0020	293	1.
1	0540	69	1.	*	1	1155	144	5.	*	1	1810	219	12.	*	2	0025	294	1.
1	0545	70	1.	*	1	1200	145	8.	*	1	1815	220	11.	*	2	0030	295	1.
1	0550	71	1.	*	1	1205	146	14.	*	1	1820	221	11.	*	2	0035	296	1.
1	0555	72	1.	*	1	1210	147	22.	*	1	1825	222	11.	*	2	0040	297	1.
1	0600	73	1.	*	1	1215	148	32.	*	1	1830	223	10.	*	2	0045	298	1.
1	0605	74	1.	*	1	1220	149	42.	*	1	1835	224	10.	*	2	0050	299	1.
1	0610	75	1.	*	1	1225	150	52.	*	1	1840	225	10.	*	2	0055	300	1.
				*					*					*				

****

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 103.	13.08		47.	14.	13.	13.
		(INCHES)	.084	.097	.097	.097
		(AC-FT)	23.	27.	27.	27.

CUMULATIVE AREA = 5.22 SQ MI

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          ***************
          *             *
386 KK    *   R_I3_O    *    Route hydrograph through I2 overland
          *             *
          ***************

            HYDROGRAPH ROUTING DATA

387 RK        KINEMATIC WAVE STREAM ROUTING
                    L      3300.  CHANNEL LENGTH
                    S      .0140  SLOPE
                    N       .040  CHANNEL ROUGHNESS COEFFICIENT
                   CA        .00  CONTRIBUTING AREA
                SHAPE       TRAP  CHANNEL SHAPE
                   WD      10.00  BOTTOM WIDTH OR DIAMETER
                    Z       5.00  SIDE SLOPE
               NDXMIN          2  MINIMUM NUMBER OF DX INTERVALS

                                                ***
                                  COMPUTED KINEMATIC PARAMETERS
                                       VARIABLE TIME STEP
                                    (DT SHOWN IS A MINIMUM)

                  ELEMENT    ALPHA      M        DT        DX       PEAK    TIME TO      VOLUME    MAXIMUM
                                                                       PEAK                        CELERITY
                                                      (MIN)     (FT)    (CFS)    (MIN)       (IN)      (FPS)

                  MAIN          1.20    1.39      3.21   1100.00   111.42   790.89        .10      5.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2891E+02  EXCESS= .0000E+00 OUTFLOW= .2888E+02 BASIN STORAGE= .3553E-01 PERCENT ERROR=    .0

                                        INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

                  MAIN          1.20    1.39      5.00              111.39   790.00        .10

     ***            ***           ***           ***           ***

                      HYDROGRAPH AT STATION   R_I3_O
                    TRANSPOSITION AREA       .0 SQ MI

 PEAK FLOW     TIME                    MAXIMUM AVERAGE FLOW
                                  6-HR      24-HR      72-HR     24.92-HR
```

+ (CFS)	(HR)		6-HR	24-HR	72-HR	24.92-HR
111.	13.17	(CFS)	51.	15.	14.	14.
		(INCHES)	.090	.104	.104	.104
		(AC-FT)	25.	29.	29.	29.

CUMULATIVE AREA = 5.22 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.20	1.39	3.32	1100.00	101.53	790.63	.10	5.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2656E+02 EXCESS= .0000E+00 OUTFLOW= .2651E+02 BASIN STORAGE= .3596E-01 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.20	1.39	5.00	101.50	790.00	.10
***	***	***	***	***		

HYDROGRAPH AT STATION R_I3_O
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)		MAXIMUM AVERAGE FLOW			
+ 101.	13.17	(CFS)	46.	13.	13.	13.
		(INCHES)	.083	.095	.095	.095
		(AC-FT)	23.	27.	27.	27.

CUMULATIVE AREA = 5.22 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.20	1.39	3.35	1100.00	96.45	792.02	.09	5.68

NTINUITY SUMMARY (AC-FT) - INFLOW= .2536E+02 EXCESS= .0000E+00 OUTFLOW= .2531E+02 BASIN STORAGE= .3615E-01 PERCENT ERROR= .1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.20	1.39	5.00	96.43	790.00	.09
***	***	***	***	***		

HYDROGRAPH AT STATION R_I3_O
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)		MAXIMUM AVERAGE FLOW			
+ 96.	13.17	(CFS)	44.	13.	12.	12.
		(INCHES)	.079	.091	.091	.091
		(AC-FT)	22.	25.	25.	25.

CUMULATIVE AREA = 5.22 SQ MI

COMPUTEO KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.20	1.39	3.39	1100.00	91.40	790.07	.09	5.60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2414E+02 EXCESS= .0000E+00 OUTFLOW= .2409E+02 BASIN STORAGE= .3627E-01 PERCENT ERROR= .1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.20	1.39	5.00	91.39	790.00	.09
***	***	***	***	***		

HYDROGRAPH AT STATION R_I3_O
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)		MAXIMUM AVERAGE FLOW			
91.	13.17	(CFS)	42.	12.	12.	12.
		(INCHES)	.075	.087	.087	.087
		(AC-FT)	21.	24.	24.	24.

CUMULATIVE AREA = 5.22 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.20	1.39	3.42	1100.00	88.04	791.05	.08	5.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2332E+02 EXCESS= .0000E+00 OUTFLOW= .2328E+02 BASIN STORAGE= .3542E-01 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.20	1.39	5.00	87.96	790.00	.08
***	***	***	***	***		

HYDROGRAPH AT STATION R_I3_O
TRANSPOSITION AREA 50.0 SQ MI

+	PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+	88.	13.17	(CFS)	40.	12.	11.	11.
			(INCHES)	.072	.084	.084	.084
			(AC-FT)	20.	23.	23.	23.

CUMULATIVE AREA = 5.22 SQ MI

INTERPOLATED HYDROGRAPH AT R_I3_O

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	1.	1		1230	151	45.	1		1845	226	10.
1		0005	2	0.	1		0620	77	1.	1		1235	152	58.	1		1850	227	10.
1		0010	3	0.	1		0625	78	1.	1		1240	153	69.	1		1855	228	10.
1		0015	4	0.	1		0630	79	1.	1		1245	154	79.	1		1900	229	9.
1		0020	5	0.	1		0635	80	1.	1		1250	155	88.	1		1905	230	9.
1		0025	6	0.	1		0640	81	1.	1		1255	156	94.	1		1910	231	9.
1		0030	7	0.	1		0645	82	1.	1		1300	157	99.	1		1915	232	8.
1		0035	8	0.	1		0650	83	1.	1		1305	158	102.	1		1920	233	8.
1		0040	9	0.	1		0655	84	1.	1		1310	159	103.	1		1925	234	8.
1		0045	10	0.	1		0700	85	1.	1		1315	160	101.	1		1930	235	8.
1		0050	11	0.	1		0705	86	1.	1		1320	161	99.	1		1935	236	7.
1		0055	12	0.	1		0710	87	1.	1		1325	162	95.	1		1940	237	7.
1		0100	13	0.	1		0715	88	1.	1		1330	163	92.	1		1945	238	7.
1		0105	14	0.	1		0720	89	1.	1		1335	164	89.	1		1950	239	7.
1		0110	15	0.	1		0725	90	1.	1		1340	165	86.	1		1955	240	7.
1		0115	16	0.	1		0730	91	1.	1		1345	166	83.	1		2000	241	6.
1		0120	17	0.	1		0735	92	1.	1		1350	167	80.	1		2005	242	6.
1		0125	18	0.	1		0740	93	1.	1		1355	168	77.	1		2010	243	6.
1		0130	19	0.	1		0745	94	1.	1		1400	169	74.	1		2015	244	6.
1		0135	20	0.	1		0750	95	1.	1		1405	170	72.	1		2020	245	6.
1		0140	21	0.	1		0755	96	1.	1		1410	171	69.	1		2025	246	5.
1		0145	22	0.	1		0800	97	1.	1		1415	172	67.	1		2030	247	5.
1		0150	23	0.	1		0805	98	1.	1		1420	173	64.	1		2035	248	5.
1		0155	24	0.	1		0810	99	1.	1		1425	174	62.	1		2040	249	5.
1		0200	25	0.	1		0815	100	1.	1		1430	175	60.	1		2045	250	5.
1		0205	26	0.	1		0820	101	1.	1		1435	176	58.	1		2050	251	5.
1		0210	27	0.	1		0825	102	1.	1		1440	177	56.	1		2055	252	5.
1		0215	28	0.	1		0830	103	1.	1		1445	178	54.	1		2100	253	4.
1		0220	29	0.	1		0835	104	1.	1		1450	179	52.	1		2105	254	4.
1		0225	30	0.	1		0840	105	1.	1		1455	180	50.	1		2110	255	4.
1		0230	31	0.	1		0845	106	1.	1		1500	181	48.	1		2115	256	4.
1		0235	32	0.	1		0850	107	1.	1		1505	182	46.	1		2120	257	4.
1		0240	33	0.	1		0855	108	1.	1		1510	183	45.	1		2125	258	4.
1		0245	34	0.	1		0900	109	1.	1		1515	184	43.	1		2130	259	4.
1		0250	35	0.	1		0905	110	1.	1		1520	185	42.	1		2135	260	4.
1		0255	36	0.	1		0910	111	1.	1		1525	186	40.	1		2140	261	4.
1		0300	37	0.	1		0915	112	1.	1		1530	187	39.	1		2145	262	3.
1		0305	38	0.	1		0920	113	1.	1		1535	188	38.	1		2150	263	3.
1		0310	39	0.	1		0925	114	1.	1		1540	189	36.	1		2155	264	3.
1		0315	40	0.	1		0930	115	1.	1		1545	190	35.	1		2200	265	3.
1		0320	41	1.	1		0935	116	1.	1		1550	191	34.	1		2205	266	3.
1		0325	42	1.	1		0940	117	1.	1		1555	192	33.	1		2210	267	3.
1		0330	43	1.	1		0945	118	1.	1		1600	193	31.	1		2215	268	3.
1		0335	44	1.	1		0950	119	1.	1		1605	194	30.	1		2220	269	3.
1		0340	45	1.	1		0955	120	1.	1		1610	195	29.	1		2225	270	3.
1		0345	46	1.	1		1000	121	1.	1		1615	196	28.	1		2230	271	3.
1		0350	47	1.	1		1005	122	2.	1		1620	197	27.	1		2235	272	3.
1		0355	48	1.	1		1010	123	2.	1		1625	198	26.	1		2240	273	3.
1		0400	49	1.	1		1015	124	2.	1		1630	199	25.	1		2245	274	2.
1		0405	50	1.	1		1020	125	2.	1		1635	200	25.	1		2250	275	2.
1		0410	51	1.	1		1025	126	2.	1		1640	201	24.	1		2255	276	2.
1		0415	52	1.	1		1030	127	2.	1		1645	202	23.	1		2300	277	2.
1		0420	53	1.	1		1035	128	2.	1		1650	203	22.	1		2305	278	2.
1		0425	54	1.	1		1040	129	2.	1		1655	204	21.	1		2310	279	2.
1		0430	55	1.	1		1045	130	2.	1		1700	205	21.	1		2315	280	2.
1		0435	56	1.	1		1050	131	2.	1		1705	206	20.	1		2320	281	2.
1		0440	57	1.	1		1055	132	2.	1		1710	207	19.	1		2325	282	2.
1		0445	58	1.	1		1100	133	2.	1		1715	208	19.	1		2330	283	2.
1		0450	59	1.	1		1105	134	2.	1		1720	209	18.	1		2335	284	2.
1		0455	60	1.	1		1110	135	2.	1		1725	210	17.	1		2340	285	2.
1		0500	61	1.	1		1115	136	2.	1		1730	211	17.	1		2345	286	2.
1		0505	62	1.	1		1120	137	2.	1		1735	212	16.	1		2350	287	2.
1		0510	63	1.	1		1125	138	2.	1		1740	213	16.	1		2355	288	2.
1		0515	64	1.	1		1130	139	2.	1		1745	214	15.	2		0000	289	2.
1		0520	65	1.	1		1135	140	2.	1		1750	215	15.	2		0005	290	2.
1		0525	66	1.	1		1140	141	2.	1		1755	216	14.	2		0010	291	2.
1		0530	67	1.	1		1145	142	2.	1		1800	217	14.	2		0015	292	2.
1		0535	68	1.	1		1150	143	3.	1		1805	218	13.	2		0020	293	2.
1		0540	69	1.	1		1155	144	3.	1		1810	219	13.	2		0025	294	2.
1		0545	70	1.	1		1200	145	3.	1		1815	220	12.	2		0030	295	2.
1		0550	71	1.	1		1205	146	4.	1		1820	221	12.	2		0035	296	1.
1		0555	72	1.	1		1210	147	6.	1		1825	222	12.	2		0040	297	1.
1		0600	73	1.	1		1215	148	12.	1		1830	223	11.	2		0045	298	1.
1		0605	74	1.	1		1220	149	22.	1		1835	224	11.	2		0050	299	1.
1		0610	75	1.	1		1225	150	33.	1		1840	225	11.	2		0055	300	1.

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                                        *                       *                       *
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 PEAK FLOW      TIME                                    MAXIMUM AVERAGE FLOW
                                          6-HR          24-HR          72-HR       24.92-HR
+   (CFS)       (HR)
                          (CFS)
+     103.      13.17                47.            14.            13.            13.
                      (INCHES)       .084           .096           .096           .096
                        (AC-FT)        23.            27.            27.            27.

                      CUMULATIVE AREA =     5.22 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            ***************
            *             *
388 KK      *       I2    *      Subbasin
            *             *
            ***************

              SUBBASIN RUNOFF DATA

389 BA          SUBBASIN CHARACTERISTICS
                      TAREA          .97  SUBBASIN AREA

390 LG          GREEN AND AMPT LOSS RATE
                      STRTL          .63  STARTING LOSS
                        OTH          .57  MOISTURE DEFICIT
                       PSIF         2.12  WETTING FRONT SUCTION
                      XKSAT          .08  HYDRAULIC CONDUCTIVITY
                      RTIMP         5.00  PERCENT IMPERVIOUS AREA

391 US          SNYDER UNITGRAPH
                        TP           .52  LAG
                        CP           .31  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                    ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=    .52 HR,       R=  1.35 HR
                                          SNYDER  TP=    .52 HR,      CP=   .31

                                                UNIT HYDROGRAPH
                                          89 END-OF-PERIOD ORDINATES
                  20.      76.     157.     246.     322.     370.     377.     358.     336.     316.
                 297.     279.     263.     247.     232.     218.     205.     193.     181.     170.
                 160.     150.     141.     133.     125.     117.     110.     104.      98.      92.
                  86.      81.      76.      72.      67.      63.      60.      56.      53.      49.
                  46.      44.      41.      39.      36.      34.      32.      30.      28.      27.
                  25.      24.      22.      21.      20.      18.      17.      16.      15.      14.
                  13.      13.      12.      11.      11.      10.       9.       9.       8.       8.
                   7.       7.       6.       6.       6.       5.       5.       5.       4.       4.
                   4.       4.       3.       3.       3.       3.       3.       3.       2.

        ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION       I2
                      TRANSPOSITION AREA        .0 SQ MI

          TOTAL RAINFALL =    1.19, TOTAL LOSS =     1.11, TOTAL EXCESS =      .08

 PEAK FLOW      TIME                                    MAXIMUM AVERAGE FLOW
                                          6-HR          24-HR          72-HR       24.92-HR
+   (CFS)       (HR)
                          (CFS)
+      16.      12.42                 6.             2.             2.             2.
                      (INCHES)       .056           .074           .074           .074
                        (AC-FT)         3.             4.             4.             4.

                      CUMULATIVE AREA =      .97 SQ MI

        ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION       I2
                      TRANSPOSITION AREA      14.0 SQ MI

          TOTAL RAINFALL =    1.17, TOTAL LOSS =     1.10, TOTAL EXCESS =      .07

 PEAK FLOW      TIME                                    MAXIMUM AVERAGE FLOW
                                          6-HR          24-HR          72-HR       24.92-HR
+   (CFS)       (HR)
                          (CFS)
+      13.      12.42                 5.             2.             2.             2.
                      (INCHES)       .049           .067           .067           .067
                        (AC-FT)         3.             3.             3.             3.

                      CUMULATIVE AREA =      .97 SQ MI

        ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION       I2
                      TRANSPOSITION AREA      24.0 SQ MI

          TOTAL RAINFALL =    1.15, TOTAL LOSS =     1.09, TOTAL EXCESS =      .06

 PEAK FLOW      TIME                                    MAXIMUM AVERAGE FLOW
                                          6-HR          24-HR          72-HR       24.92-HR
+   (CFS)       (HR)
                          (CFS)
+      12.      12.42                 5.             2.             2.             2.
                      (INCHES)       .046           .064           .064           .064
                        (AC-FT)         2.             3.             3.             3.

                      CUMULATIVE AREA =      .97 SQ MI
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HYDROGRAPH AT STATION I2
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.14, TOTAL LOSS = 1.08, TOTAL EXCESS = .06

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
		(CFS) 5.	2.	2.	2.
11.	12.42	(INCHES) .043	.061	.061	.061
		(AC-FT) 2.	3.	3.	3.

CUMULATIVE AREA = .97 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION I2
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.13, TOTAL LOSS = 1.07, TOTAL EXCESS = .06

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
		(CFS) 4.	2.	1.	1.
11.	12.42	(INCHES) .042	.059	.059	.059
		(AC-FT) 2.	3.	3.	3.

CUMULATIVE AREA = .97 SQ MI

INTERPOLATED HYDROGRAPH AT I2

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	1.	1		1230	151	14.	1		1845	226	1.
1		0005	2	0.	1		0620	77	1.	1		1235	152	14.	1		1850	227	1.
1		0010	3	0.	1		0625	78	1.	1		1240	153	13.	1		1855	228	1.
1		0015	4	0.	1		0630	79	1.	1		1245	154	13.	1		1900	229	1.
1		0020	5	0.	1		0635	80	1.	1		1250	155	12.	1		1905	230	1.
1		0025	6	0.	1		0640	81	1.	1		1255	156	12.	1		1910	231	1.
1		0030	7	0.	1		0645	82	1.	1		1300	157	11.	1		1915	232	1.
1		0035	8	0.	1		0650	83	1.	1		1305	158	11.	1		1920	233	1.
1		0040	9	0.	1		0655	84	1.	1		1310	159	10.	1		1925	234	1.
1		0045	10	0.	1		0700	85	1.	1		1315	160	10.	1		1930	235	1.
1		0050	11	0.	1		0705	86	1.	1		1320	161	9.	1		1935	236	1.
1		0055	12	0.	1		0710	87	1.	1		1325	162	9.	1		1940	237	1.
1		0100	13	0.	1		0715	88	1.	1		1330	163	8.	1		1945	238	1.
1		0105	14	0.	1		0720	89	1.	1		1335	164	8.	1		1950	239	1.
1		0110	15	0.	1		0725	90	1.	1		1340	165	8.	1		1955	240	1.
1		0115	16	0.	1		0730	91	1.	1		1345	166	7.	1		2000	241	1.
1		0120	17	0.	1		0735	92	1.	1		1350	167	7.	1		2005	242	1.
1		0125	18	0.	1		0740	93	1.	1		1355	168	7.	1		2010	243	1.
1		0130	19	0.	1		0745	94	1.	1		1400	169	6.	1		2015	244	1.
1		0135	20	0.	1		0750	95	1.	1		1405	170	6.	1		2020	245	1.
1		0140	21	0.	1		0755	96	1.	1		1410	171	6.	1		2025	246	1.
1		0145	22	0.	1		0800	97	1.	1		1415	172	5.	1		2030	247	1.
1		0150	23	0.	1		0805	98	1.	1		1420	173	5.	1		2035	248	1.
1		0155	24	0.	1		0810	99	1.	1		1425	174	5.	1		2040	249	1.
1		0200	25	0.	1		0815	100	1.	1		1430	175	5.	1		2045	250	1.
1		0205	26	0.	1		0820	101	1.	1		1435	176	5.	1		2050	251	1.
1		0210	27	0.	1		0825	102	1.	1		1440	177	4.	1		2055	252	1.
1		0215	28	0.	1		0830	103	1.	1		1445	178	4.	1		2100	253	1.
1		0220	29	0.	1		0835	104	1.	1		1450	179	4.	1		2105	254	1.
1		0225	30	0.	1		0840	105	1.	1		1455	180	4.	1		2110	255	1.
1		0230	31	0.	1		0845	106	1.	1		1500	181	4.	1		2115	256	1.
1		0235	32	0.	1		0850	107	1.	1		1505	182	4.	1		2120	257	1.
1		0240	33	0.	1		0855	108	1.	1		1510	183	3.	1		2125	258	1.
1		0245	34	0.	1		0900	109	1.	1		1515	184	3.	1		2130	259	1.
1		0250	35	0.	1		0905	110	1.	1		1520	185	3.	1		2135	260	1.
1		0255	36	0.	1		0910	111	1.	1		1525	186	3.	1		2140	261	1.
1		0300	37	0.	1		0915	112	1.	1		1530	187	3.	1		2145	262	1.
1		0305	38	0.	1		0920	113	1.	1		1535	188	3.	1		2150	263	1.
1		0310	39	0.	1		0925	114	1.	1		1540	189	3.	1		2155	264	0.
1		0315	40	0.	1		0930	115	1.	1		1545	190	3.	1		2200	265	0.
1		0320	41	0.	1		0935	116	1.	1		1550	191	2.	1		2205	266	0.
1		0325	42	0.	1		0940	117	1.	1		1555	192	2.	1		2210	267	0.
1		0330	43	0.	1		0945	118	1.	1		1600	193	2.	1		2215	268	0.
1		0335	44	0.	1		0950	119	1.	1		1605	194	2.	1		2220	269	0.
1		0340	45	0.	1		0955	120	1.	1		1610	195	2.	1		2225	270	0.
1		0345	46	0.	1		1000	121	1.	1		1615	196	2.	1		2230	271	0.
1		0350	47	0.	1		1005	122	1.	1		1620	197	2.	1		2235	272	0.
1		0355	48	0.	1		1010	123	1.	1		1625	198	2.	1		2240	273	0.
1		0400	49	0.	1		1015	124	1.	1		1630	199	2.	1		2245	274	0.
1		0405	50	0.	1		1020	125	1.	1		1635	200	2.	1		2250	275	0.
1		0410	51	0.	1		1025	126	1.	1		1640	201	2.	1		2255	276	0.
1		0415	52	0.	1		1030	127	1.	1		1645	202	2.	1		2300	277	0.
1		0420	53	0.	1		1035	128	1.	1		1650	203	2.	1		2305	278	0.
1		0425	54	0.	1		1040	129	1.	1		1655	204	2.	1		2310	279	0.
1		0430	55	0.	1		1045	130	1.	1		1700	205	2.	1		2315	280	0.
1		0435	56	0.	1		1050	131	1.	1		1705	206	1.	1		2320	281	0.
1		0440	57	0.	1		1055	132	1.	1		1710	207	1.	1		2325	282	0.
1		0445	58	0.	1		1100	133	1.	1		1715	208	1.	1		2330	283	0.
1		0450	59	0.	1		1105	134	1.	1		1720	209	1.	1		2335	284	0.
1		0455	60	0.	1		1110	135	2.	1		1725	210	1.	1		2340	285	0.
1		0500	61	0.	1		1115	136	2.	1		1730	211	1.	1		2345	286	0.
1		0505	62	0.	1		1120	137	2.	1		1735	212	1.	1		2350	287	0.
1		0510	63	1.	1		1125	138	2.	1		1740	213	1.	1		2355	288	0.
1		0515	64	1.	1		1130	139	2.	1		1745	214	1.	2		0000	289	0.
1		0520	65	1.	1		1135	140	2.	1		1750	215	1.	2		0005	290	0.
1		0525	66	1.	1		1140	141	2.	1		1755	216	1.	2		0010	291	0.
1		0530	67	1.	1		1145	142	2.	1		1800	217	1.	2		0015	292	0.
1		0535	68	1.	1		1150	143	3.	1		1805	218	1.	2		0020	293	0.
1		0540	69	1.	1		1155	144	4.	1		1810	219	1.	2		0025	294	0.

1	0545	70	1.	*	1	1200	145	5.	*	1	1815	220	1.	*	2	0030	295	0.
1	0550	71	1.	*	1	1205	146	7.	*	1	1820	221	1.	*	2	0035	296	0.
1	0555	72	1.	*	1	1210	147	10.	*	1	1825	222	1.	*	2	0040	297	0.
1	0600	73	1.	*	1	1215	148	12.	*	1	1830	223	1.	*	2	0045	298	0.
1	0605	74	1.	*	1	1220	149	14.	*	1	1835	224	1.	*	2	0050	299	0.
1	0610	75	1.	*	1	1225	150	14.	*	1	1840	225	1.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 14.	12.42		5.	2.	2.	2.
		(INCHES)	.051	.070	.070	.070
		(AC-FT)	3.	4.	4.	4.

CUMULATIVE AREA = .97 SQ MI

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392 KK — C_I2 — Combine I3 and I2

393 HC — HYDROGRAPH COMBINATION
ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

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HYDROGRAPH AT STATION C_I2
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 122.	13.17		56.	16.	16.	16.
		(INCHES)	.084	.099	.099	.099
		(AC-FT)	28.	33.	33.	33.

CUMULATIVE AREA = 6.19 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_I2
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 111.	13.17		51.	15.	15.	15.
		(INCHES)	.077	.091	.091	.091
		(AC-FT)	25.	30.	30.	30.

CUMULATIVE AREA = 6.19 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_I2
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 105.	13.17		49.	14.	14.	14.
		(INCHES)	.073	.087	.087	.087
		(AC-FT)	24.	29.	29.	29.

CUMULATIVE AREA = 6.19 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_I2
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 100.	13.17		46.	14.	13.	13.
		(INCHES)	.069	.083	.083	.083
		(AC-FT)	23.	27.	27.	27.

CUMULATIVE AREA = 6.19 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_I2
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 96.	13.17		44.	13.	13.	13.
		(INCHES)	.067	.080	.080	.080
		(AC-FT)	22.	26.	26.	26.

CUMULATIVE AREA = 6.19 SQ MI

INTERPOLATED HYDROGRAPH AT C_I2

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	1.	1		1230	151	59.	1		1845	226	11.
1		0005	2	0.	1		0620	77	1.	1		1235	152	71.	1		1850	227	11.
1		0010	3	0.	1		0625	78	1.	1		1240	153	82.	1		1855	228	10.
1		0015	4	0.	1		0630	79	1.	1		1245	154	91.	1		1900	229	10.
1		0020	5	0.	1		0635	80	1.	1		1250	155	99.	1		1905	230	10.
1		0025	6	0.	1		0640	81	2.	1		1255	156	105.	1		1910	231	9.
1		0030	7	0.	1		0645	82	2.	1		1300	157	109.	1		1915	232	9.
1		0035	8	0.	1		0650	83	2.	1		1305	158	112.	1		1920	233	9.
1		0040	9	0.	1		0655	84	2.	1		1310	159	112.	1		1925	234	9.
1		0045	10	0.	1		0700	85	2.	1		1315	160	110.	1		1930	235	8.
1		0050	11	0.	1		0705	86	2.	1		1320	161	107.	1		1935	236	8.
1		0055	12	0.	1		0710	87	2.	1		1325	162	103.	1		1940	237	8.
1		0100	13	0.	1		0715	88	2.	1		1330	163	100.	1		1945	238	8.
1		0105	14	0.	1		0720	89	2.	1		1335	164	96.	1		1950	239	7.
1		0110	15	0.	1		0725	90	2.	1		1340	165	93.	1		1955	240	7.
1		0115	16	0.	1		0730	91	2.	1		1345	166	89.	1		2000	241	7.
1		0120	17	0.	1		0735	92	2.	1		1350	167	86.	1		2005	242	7.
1		0125	18	0.	1		0740	93	2.	1		1355	168	83.	1		2010	243	7.
1		0130	19	0.	1		0745	94	2.	1		1400	169	80.	1		2015	244	6.
1		0135	20	0.	1		0750	95	2.	1		1405	170	77.	1		2020	245	6.
1		0140	21	0.	1		0755	96	2.	1		1410	171	74.	1		2025	246	6.
1		0145	22	0.	1		0800	97	2.	1		1415	172	72.	1		2030	247	6.
1		0150	23	0.	1		0805	98	2.	1		1420	173	69.	1		2035	248	6.
1		0155	24	0.	1		0810	99	2.	1		1425	174	67.	1		2040	249	6.
1		0200	25	1.	1		0815	100	2.	1		1430	175	64.	1		2045	250	5.
1		0205	26	1.	1		0820	101	2.	1		1435	176	62.	1		2050	251	5.
1		0210	27	1.	1		0825	102	2.	1		1440	177	60.	1		2055	252	5.
1		0215	28	1.	1		0830	103	2.	1		1445	178	58.	1		2100	253	5.
1		0220	29	1.	1		0835	104	2.	1		1450	179	56.	1		2105	254	5.
1		0225	30	1.	1		0840	105	2.	1		1455	180	54.	1		2110	255	5.
1		0230	31	1.	1		0845	106	2.	1		1500	181	52.	1		2115	256	5.
1		0235	32	1.	1		0850	107	2.	1		1505	182	50.	1		2120	257	4.
1		0240	33	1.	1		0855	108	2.	1		1510	183	48.	1		2125	258	4.
1		0245	34	1.	1		0900	109	2.	1		1515	184	46.	1		2130	259	4.
1		0250	35	1.	1		0905	110	2.	1		1520	185	45.	1		2135	260	4.
1		0255	36	1.	1		0910	111	2.	1		1525	186	43.	1		2140	261	4.
1		0300	37	1.	1		0915	112	2.	1		1530	187	42.	1		2145	262	4.
1		0305	38	1.	1		0920	113	2.	1		1535	188	40.	1		2150	263	4.
1		0310	39	1.	1		0925	114	2.	1		1540	189	39.	1		2155	264	4.
1		0315	40	1.	1		0930	115	2.	1		1545	190	37.	1		2200	265	4.
1		0320	41	1.	1		0935	116	2.	1		1550	191	36.	1		2205	266	4.
1		0325	42	1.	1		0940	117	2.	1		1555	192	35.	1		2210	267	3.
1		0330	43	1.	1		0945	118	2.	1		1600	193	34.	1		2215	268	3.
1		0335	44	1.	1		0950	119	2.	1		1605	194	32.	1		2220	269	3.
1		0340	45	1.	1		0955	120	2.	1		1610	195	31.	1		2225	270	3.
1		0345	46	1.	1		1000	121	2.	1		1615	196	30.	1		2230	271	3.
1		0350	47	1.	1		1005	122	3.	1		1620	197	29.	1		2235	272	3.
1		0355	48	1.	1		1010	123	3.	1		1625	198	28.	1		2240	273	3.
1		0400	49	1.	1		1015	124	3.	1		1630	199	27.	1		2245	274	3.
1		0405	50	1.	1		1020	125	3.	1		1635	200	26.	1		2250	275	3.
1		0410	51	1.	1		1025	126	3.	1		1640	201	25.	1		2255	276	3.
1		0415	52	1.	1		1030	127	3.	1		1645	202	25.	1		2300	277	3.
1		0420	53	1.	1		1035	128	3.	1		1650	203	24.	1		2305	278	3.
1		0425	54	1.	1		1040	129	3.	1		1655	204	23.	1		2310	279	3.
1		0430	55	1.	1		1045	130	3.	1		1700	205	22.	1		2315	280	3.
1		0435	56	1.	1		1050	131	3.	1		1705	206	21.	1		2320	281	3.
1		0440	57	1.	1		1055	132	3.	1		1710	207	21.	1		2325	282	3.
1		0445	58	1.	1		1100	133	3.	1		1715	208	20.	1		2330	283	2.
1		0450	59	1.	1		1105	134	3.	1		1720	209	19.	1		2335	284	2.
1		0455	60	1.	1		1110	135	3.	1		1725	210	19.	1		2340	285	2.
1		0500	61	1.	1		1115	136	4.	1		1730	211	18.	1		2345	286	2.
1		0505	62	1.	1		1120	137	4.	1		1735	212	17.	1		2350	287	2.
1		0510	63	1.	1		1125	138	4.	1		1740	213	17.	1		2355	288	2.
1		0515	64	1.	1		1130	139	4.	1		1745	214	16.	2		0000	289	2.
1		0520	65	1.	1		1135	140	4.	1		1750	215	16.	2		0005	290	2.
1		0525	66	1.	1		1140	141	5.	1		1755	216	15.	2		0010	291	2.
1		0530	67	1.	1		1145	142	5.	1		1800	217	15.	2		0015	292	2.
1		0535	68	1.	1		1150	143	6.	1		1805	218	14.	2		0020	293	2.
1		0540	69	1.	1		1155	144	7.	1		1810	219	14.	2		0025	294	2.
1		0545	70	1.	1		1200	145	8.	1		1815	220	13.	2		0030	295	2.
1		0550	71	1.	1		1205	146	11.	1		1820	221	13.	2		0035	296	2.
1		0555	72	1.	1		1210	147	15.	1		1825	222	13.	2		0040	297	2.
1		0600	73	1.	1		1215	148	24.	1		1830	223	12.	2		0045	298	1.
1		0605	74	1.	1		1220	149	35.	1		1835	224	12.	2		0050	299	1.
1		0610	75	1.	1		1225	150	47.	1		1840	225	11.	2		0055	300	1.

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
112.	13.17	52.	15.	15.	15.
		(INCHES) .078	.092	.092	.092
		(AC-FT) 26.	30.	30.	30.

CUMULATIVE AREA = 6.19 SQ MI

394 KK R_I2

Route Hydrograph Through Existing Dam

HYDROGRAPH ROUTING DATA

396 RS STORAGE ROUTING

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                    NSTPS          1  NUMBER OF SUBREACHES
                     ITYP       STOR  TYPE OF INITIAL CONDITION
                    RSVRIC       .00  INITIAL CONDITION
                        X        .00 WORKING R AND D COEFFICIENT

 397 SV          STORAGE          .0       3.1       6.7      10.9      15.9      21.8      28.6      36.4      45.2      55.1
                                66.1      78.2      91.5     106.1     122.0     139.2     176.2     236.0     257.3     280.1

 399 SQ          DISCHARGE        0.        0.       13.       18.       23.       26.       29.       32.       35.       37.
                                 39.       41.       43.       45.       47.       49.       52.      229.      235.      240.

 401 SE          ELEVATION  4890.00   4892.00   4894.00   4896.00   4898.00   4900.00   4902.00   4904.00   4906.00   4908.00
                            4910.00   4912.00   4914.00   4916.00   4918.00   4920.00   4924.00   4930.00   4932.00   4934.00
                                                                      ***

      ***           ***           ***           ***           ***

                  HYDROGRAPH AT STATION     R_I2
                 TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)          (CFS)
+      25.      16.83                24.          11.          11.          11.
                          (INCHES)   .037         .067         .067         .067
                            (AC-FT)    12.          22.          22.          22.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                      6-HR        24-HR        72-HR     24.92-HR
+  (AC-FT)      (HR)
       20.      16.83                19.           8.           8.           8.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                      6-HR        24-HR        72-HR     24.92-HR
+   (FEET)      (HR)
   4899.42      16.83              4899.01     4894.20      4894.04      4894.04

                  CUMULATIVE AREA =    6.19 SQ MI

      ***           ***           ***           ***           ***

                  HYDROGRAPH AT STATION     R_I2
                 TRANSPOSITION AREA     14.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)          (CFS)
+      24.      16.75                23.          11.          10.          10.
                          (INCHES)   .035         .063         .063         .063
                            (AC-FT)    12.          21.          21.          21.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                      6-HR        24-HR        72-HR     24.92-HR
+  (AC-FT)      (HR)
       18.      16.75                17.           7.           7.           7.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                      6-HR        24-HR        72-HR     24.92-HR
+   (FEET)      (HR)
   4898.74      16.75              4898.35     4893.87      4893.73      4893.73

                  CUMULATIVE AREA =    6.19 SQ MI

      ***           ***           ***           ***           ***

                  HYDROGRAPH AT STATION     R_I2
                 TRANSPOSITION AREA     24.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)          (CFS)
+      23.      16.75                23.          10.          10.          10.
                          (INCHES)   .034         .061         .061         .061
                            (AC-FT)    11.          20.          20.          20.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                      6-HR        24-HR        72-HR     24.92-HR
+  (AC-FT)      (HR)
       17.      16.75                16.           7.           7.           7.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                      6-HR        24-HR        72-HR     24.92-HR
+   (FEET)      (HR)
   4898.41      16.75              4898.01     4893.71      4893.57      4893.57

                  CUMULATIVE AREA =    6.19 SQ MI

      ***           ***           ***           ***           ***

                  HYDROGRAPH AT STATION     R_I2
                 TRANSPOSITION AREA     36.5 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)          (CFS)
       23.      16.67                22.          10.           9.           9.
                          (INCHES)   .033         .059         .059         .059
                            (AC-FT)    11.          19.          19.          19.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                      6-HR        24-HR        72-HR     24.92-HR
+  (AC-FT)      (HR)
       16.      16.67                15.           7.           6.           6.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                      6-HR        24-HR        72-HR     24.92-HR
```

+ (FEET)	(HR)				
4898.08	16.67	4897.67	4893.54	4893.41	4893.41

CUMULATIVE AREA = 6.19 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R_I2
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR	
+ (CFS)	(HR)					
		(CFS)				
+ 22.	16.67	21.	10.	9.	9.	
		(INCHES)	.032	.057	.057	.057
		(AC-FT)	11.	19.	19.	19.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
16.	16.67	15.	6.	6.	6.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
4897.85	16.67	4897.43	4893.43	4893.30	4893.30

CUMULATIVE AREA = 6.19 SQ MI

INTERPOLATED HYDROGRAPH AT R_I2

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	0.	1		1845	226	23.
1		0005	2	0.	1		0620	77	0.	1		1235	152	0.	1		1850	227	23.
1		0010	3	0.	1		0625	78	0.	1		1240	153	2.	1		1855	228	23.
1		0015	4	0.	1		0630	79	0.	1		1245	154	4.	1		1900	229	23.
1		0020	5	0.	1		0635	80	0.	1		1250	155	6.	1		1905	230	23.
1		0025	6	0.	1		0640	81	0.	1		1255	156	9.	1		1910	231	23.
1		0030	7	0.	1		0645	82	0.	1		1300	157	11.	1		1915	232	23.
1		0035	8	0.	1		0650	83	0.	1		1305	158	13.	1		1920	233	23.
1		0040	9	0.	1		0655	84	0.	1		1310	159	14.	1		1925	234	23.
1		0045	10	0.	1		0700	85	0.	1		1315	160	15.	1		1930	235	23.
1		0050	11	0.	1		0705	86	0.	1		1320	161	16.	1		1935	236	23.
1		0055	12	0.	1		0710	87	0.	1		1325	162	17.	1		1940	237	23.
1		0100	13	0.	1		0715	88	0.	1		1330	163	17.	1		1945	238	23.
1		0105	14	0.	1		0720	89	0.	1		1335	164	18.	1		1950	239	23.
1		0110	15	0.	1		0725	90	0.	1		1340	165	19.	1		1955	240	22.
1		0115	16	0.	1		0730	91	0.	1		1345	166	19.	1		2000	241	22.
1		0120	17	0.	1		0735	92	0.	1		1350	167	19.	1		2005	242	22.
1		0125	18	0.	1		0740	93	0.	1		1355	168	20.	1		2010	243	22.
1		0130	19	0.	1		0745	94	0.	1		1400	169	20.	1		2015	244	22.
1		0135	20	0.	1		0750	95	0.	1		1405	170	20.	1		2020	245	22.
1		0140	21	0.	1		0755	96	0.	1		1410	171	21.	1		2025	246	22.
1		0145	22	0.	1		0800	97	0.	1		1415	172	21.	1		2030	247	22.
1		0150	23	0.	1		0805	98	0.	1		1420	173	21.	1		2035	248	22.
1		0155	24	0.	1		0810	99	0.	1		1425	174	22.	1		2040	249	22.
1		0200	25	0.	1		0815	100	0.	1		1430	175	22.	1		2045	250	22.
1		0205	26	0.	1		0820	101	0.	1		1435	176	22.	1		2050	251	22.
1		0210	27	0.	1		0825	102	0.	1		1440	177	22.	1		2055	252	21.
1		0215	28	0.	1		0830	103	0.	1		1445	178	22.	1		2100	253	21.
1		0220	29	0.	1		0835	104	0.	1		1450	179	23.	1		2105	254	21.
1		0225	30	0.	1		0840	105	0.	1		1455	180	23.	1		2110	255	21.
1		0230	31	0.	1		0845	106	0.	1		1500	181	23.	1		2115	256	21.
1		0235	32	0.	1		0850	107	0.	1		1505	182	23.	1		2120	257	21.
1		0240	33	0.	1		0855	108	0.	1		1510	183	23.	1		2125	258	21.
1		0245	34	0.	1		0900	109	0.	1		1515	184	23.	1		2130	259	21.
1		0250	35	0.	1		0905	110	0.	1		1520	185	23.	1		2135	260	21.
1		0255	36	0.	1		0910	111	0.	1		1525	186	23.	1		2140	261	21.
1		0300	37	0.	1		0915	112	0.	1		1530	187	24.	1		2145	262	20.
1		0305	38	0.	1		0920	113	0.	1		1535	188	24.	1		2150	263	20.
1		0310	39	0.	1		0925	114	0.	1		1540	189	24.	1		2155	264	20.
1		0315	40	0.	1		0930	115	0.	1		1545	190	24.	1		2200	265	20.
1		0320	41	0.	1		0935	116	0.	1		1550	191	24.	1		2205	266	20.
1		0325	42	0.	1		0940	117	0.	1		1555	192	24.	1		2210	267	20.
1		0330	43	0.	1		0945	118	0.	1		1600	193	24.	1		2215	268	20.
1		0335	44	0.	1		0950	119	0.	1		1605	194	24.	1		2220	269	20.
1		0340	45	0.	1		0955	120	0.	1		1610	195	24.	1		2225	270	20.
1		0345	46	0.	1		1000	121	0.	1		1615	196	24.	1		2230	271	20.
1		0350	47	0.	1		1005	122	0.	1		1620	197	24.	1		2235	272	20.
1		0355	48	0.	1		1010	123	0.	1		1625	198	24.	1		2240	273	19.
1		0400	49	0.	1		1015	124	0.	1		1630	199	24.	1		2245	274	19.
1		0405	50	0.	1		1020	125	0.	1		1635	200	24.	1		2250	275	19.
1		0410	51	0.	1		1025	126	0.	1		1640	201	24.	1		2255	276	19.
1		0415	52	0.	1		1030	127	0.	1		1645	202	24.	1		2300	277	19.
1		0420	53	0.	1		1035	128	0.	1		1650	203	24.	1		2305	278	19.
1		0425	54	0.	1		1040	129	0.	1		1655	204	24.	1		2310	279	19.
1		0430	55	0.	1		1045	130	0.	1		1700	205	24.	1		2315	280	19.
1		0435	56	0.	1		1050	131	0.	1		1705	206	24.	1		2320	281	19.
1		0440	57	0.	1		1055	132	0.	1		1710	207	24.	1		2325	282	19.
1		0445	58	0.	1		1100	133	0.	1		1715	208	24.	1		2330	283	18.
1		0450	59	0.	1		1105	134	0.	1		1720	209	24.	1		2335	284	18.
1		0455	60	0.	1		1110	135	0.	1		1725	210	24.	1		2340	285	18.
1		0500	61	0.	1		1115	136	0.	1		1730	211	24.	1		2345	286	18.
1		0505	62	0.	1		1120	137	0.	1		1735	212	24.	1		2350	287	18.
1		0510	63	0.	1		1125	138	0.	1		1740	213	24.	1		2355	288	18.
1		0515	64	0.	1		1130	139	0.	1		1745	214	24.	2		0000	289	18.
1		0520	65	0.	1		1135	140	0.	1		1750	215	24.	2		0005	290	18.
1		0525	66	0.	1		1140	141	0.	1		1755	216	24.	2		0010	291	17.
1		0530	67	0.	1		1145	142	0.	1		1800	217	24.	2		0015	292	17.
1		0535	68	0.	1		1150	143	0.	1		1805	218	24.	2		0020	293	17.
1		0540	69	0.	1		1155	144	0.	1		1810	219	24.	2		0025	294	17.
1		0545	70	0.	1		1200	145	0.	1		1815	220	24.	2		0030	295	17.
1		0550	71	0.	1		1205	146	0.	1		1820	221	24.	2		0035	296	17.
1		0555	72	0.	1		1210	147	0.	1		1825	222	24.	2		0040	297	17.
1		0600	73	0.	1		1215	148	0.	1		1830	223	23.	2		0045	298	17.
1		0605	74	0.	1		1220	149	0.	1		1835	224	23.	2		0050	299	16.

```
   1     0610   75        0.   *    1     1225  150        0.   *    1     1840  225       23.   *    2     0055  300       16.
                                *                                  *                                  *
*****************************************************************************************************************************************************

 PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR          24-HR          72-HR         24.92-HR
+  (CFS)        (HR)          (CFS)
+     24.       16.75                      23.           11.           10.           10.
                             (INCHES)      .035          .064          .064          .064
                             (AC-FT)       12.           21.           21.           21.

                          CUMULATIVE AREA =     6.19 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


                 ***************
                 *             *
403 KK           *       I1    *      Subbasin
                 *             *
                 ***************

                 SUBBASIN RUNOFF DATA

404 BA             SUBBASIN CHARACTERISTICS
                         TAREA          .76  SUBBASIN AREA

405 LG             GREEN AND AMPT LOSS RATE
                         STRTL          .72  STARTING LOSS
                           DTH          .62  MOISTURE DEFICIT
                          PSIF         1.96  WETTING FRONT SUCTION
                         XKSAT          .10  HYDRAULIC CONDUCTIVITY
                         RTIMP        12.00  PERCENT IMPERVIOUS AREA

406 US             SNYDER UNITGRAPH
                           TP           .56  LAG
                           CP           .28  PEAKING COEFFICIENT

                   SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                        ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=    .55 HR,       R=  1.70 HR
                                          SNYDER  TP=    .57 HR,      CP=   .28

                                                UNIT HYDROGRAPH
                                          112 END-OF-PERIOD ORDINATES
                    12.      45.      92.     146.     195.     229.     242.     235.     224.     213.
                   203.     193.     184.     175.     166.     158.     151.     144.     137.     130.
                   124.     118.     112.     107.     102.      97.      92.      88.      84.      80.
                    76.      72.      69.      65.      62.      59.      56.      54.      51.      49.
                    46.      44.      42.      40.      38.      36.      35.      33.      31.      30.
                    28.      27.      26.      24.      23.      22.      21.      20.      19.      18.
                    17.      17.      16.      15.      14.      14.      13.      12.      12.      11.
                    11.      10.      10.       9.       9.       8.       8.       8.       7.       7.
                     6.       6.       6.       6.       5.       5.       5.       5.       4.       4.
                     4.       4.       4.       3.       3.       3.       3.       3.       3.       3.
                     2.       2.       2.       2.       2.       2.       2.       2.       2.       2.
                     1.       1.

      ***              ***              ***              ***              ***

                     HYDROGRAPH AT STATION       I1
                   TRANSPOSITION AREA        .0 SQ MI

      TOTAL RAINFALL =    1.19, TOTAL LOSS =    1.05, TOTAL EXCESS =     .14

 PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR          24-HR          72-HR         24.92-HR
+  (CFS)        (HR)          (CFS)
+      16.      12.50                       8.            3.            3.            3.
                             (INCHES)      .095          .140          .140          .140
                             (AC-FT)       4.            6.            6.            6.

                          CUMULATIVE AREA =     .76 SQ MI

      ***              ***              ***              ***              ***

                     HYDROGRAPH AT STATION       I1
                   TRANSPOSITION AREA       14.0 SQ MI

      TOTAL RAINFALL =    1.17, TOTAL LOSS =    1.03, TOTAL EXCESS =     .14

 PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR          24-HR          72-HR         24.92-HR
+  (CFS)        (HR)          (CFS)
+      16.      12.50                       8.            3.            3.            3.
                             (INCHES)      .093          .137          .137          .137
                             (AC-FT)       4.            6.            6.            6.

                          CUMULATIVE AREA =     .76 SQ MI

      ***              ***              ***              ***              ***

                     HYDROGRAPH AT STATION       I1
                   TRANSPOSITION AREA       24.0 SQ MI

      TOTAL RAINFALL =    1.15, TOTAL LOSS =    1.02, TOTAL EXCESS =     .14

 PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR          24-HR          72-HR         24.92-HR
+  (CFS)        (HR)          (CFS)
+      16.      12.50                       7.            3.            3.            3.
                             (INCHES)      .092          .136          .136          .136
```

			(AC-FT)	4.		5.		5.			5.										
			CUMULATIVE AREA = .76 SQ MI																		
			***	***		***		***			***										
			HYDROGRAPH AT STATION I1																		
			TRANSPOSITION AREA 36.5 SQ MI																		
			TOTAL RAINFALL = 1.14, TOTAL LOSS = 1.00, TOTAL EXCESS = .14																		
	PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW																	
+	(CFS)	(HR)		6-HR	24-HR	72-HR	24.92-HR														
+	15.	12.50	(CFS)	7.	3.	3.	3.														
			(INCHES)	.091	.134	.135	.135														
			(AC-FT)	4.	5.	5.	5.														
			CUMULATIVE AREA = .76 SQ MI																		
			***	***		***		***													
			HYDROGRAPH AT STATION I1																		
			TRANSPOSITION AREA 50.0 SQ MI																		
			TOTAL RAINFALL = 1.13, TOTAL LOSS = 1.00, TOTAL EXCESS = .14																		
	PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW																	
+	(CFS)	(HR)		6-HR	24-HR	72-HR	24.92-HR														
+	15.	12.50	(CFS)	7.	3.	3.	3.														
			(INCHES)	.090	.133	.134	.134														
			(AC-FT)	4.	5.	5.	5.														
			CUMULATIVE AREA = .76 SQ MI																		

INTERPOLATED HYDROGRAPH AT I1

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	1.	1		1230	151	16.	1		1845	226	2.
1		0005	2	0.	1		0620	77	1.	1		1235	152	16.	1		1850	227	2.
1		0010	3	0.	1		0625	78	1.	1		1240	153	15.	1		1855	228	2.
1		0015	4	0.	1		0630	79	1.	1		1245	154	15.	1		1900	229	2.
1		0020	5	0.	1		0635	80	1.	1		1250	155	15.	1		1905	230	2.
1		0025	6	0.	1		0640	81	1.	1		1255	156	14.	1		1910	231	2.
1		0030	7	0.	1		0645	82	1.	1		1300	157	14.	1		1915	232	2.
1		0035	8	0.	1		0650	83	1.	1		1305	158	13.	1		1920	233	2.
1		0040	9	0.	1		0655	84	1.	1		1310	159	13.	1		1925	234	2.
1		0045	10	0.	1		0700	85	1.	1		1315	160	12.	1		1930	235	2.
1		0050	11	0.	1		0705	86	1.	1		1320	161	12.	1		1935	236	2.
1		0055	12	0.	1		0710	87	1.	1		1325	162	12.	1		1940	237	2.
1		0100	13	0.	1		0715	88	1.	1		1330	163	11.	1		1945	238	2.
1		0105	14	0.	1		0720	89	1.	1		1335	164	11.	1		1950	239	2.
1		0110	15	0.	1		0725	90	1.	1		1340	165	11.	1		1955	240	1.
1		0115	16	0.	1		0730	91	1.	1		1345	166	10.	1		2000	241	1.
1		0120	17	0.	1		0735	92	1.	1		1350	167	10.	1		2005	242	1.
1		0125	18	0.	1		0740	93	1.	1		1355	168	10.	1		2010	243	1.
1		0130	19	0.	1		0745	94	1.	1		1400	169	9.	1		2015	244	1.
1		0135	20	0.	1		0750	95	1.	1		1405	170	9.	1		2020	245	1.
1		0140	21	0.	1		0755	96	1.	1		1410	171	9.	1		2025	246	1.
1		0145	22	0.	1		0800	97	1.	1		1415	172	8.	1		2030	247	1.
1		0150	23	0.	1		0805	98	1.	1		1420	173	8.	1		2035	248	1.
1		0155	24	0.	1		0810	99	1.	1		1425	174	8.	1		2040	249	1.
1		0200	25	0.	1		0815	100	1.	1		1430	175	8.	1		2045	250	1.
1		0205	26	0.	1		0820	101	1.	1		1435	176	7.	1		2050	251	1.
1		0210	27	1.	1		0825	102	1.	1		1440	177	7.	1		2055	252	1.
1		0215	28	1.	1		0830	103	1.	1		1445	178	7.	1		2100	253	1.
1		0220	29	1.	1		0835	104	1.	1		1450	179	7.	1		2105	254	1.
1		0225	30	1.	1		0840	105	1.	1		1455	180	6.	1		2110	255	1.
1		0230	31	1.	1		0845	106	1.	1		1500	181	6.	1		2115	256	1.
1		0235	32	1.	1		0850	107	1.	1		1505	182	6.	1		2120	257	1.
1		0240	33	1.	1		0855	108	1.	1		1510	183	6.	1		2125	258	1.
1		0245	34	1.	1		0900	109	1.	1		1515	184	6.	1		2130	259	1.
1		0250	35	1.	1		0905	110	1.	1		1520	185	5.	1		2135	260	1.
1		0255	36	1.	1		0910	111	2.	1		1525	186	5.	1		2140	261	1.
1		0300	37	1.	1		0915	112	2.	1		1530	187	5.	1		2145	262	1.
1		0305	38	1.	1		0920	113	2.	1		1535	188	5.	1		2150	263	1.
1		0310	39	1.	1		0925	114	2.	1		1540	189	5.	1		2155	264	1.
1		0315	40	1.	1		0930	115	2.	1		1545	190	5.	1		2200	265	1.
1		0320	41	1.	1		0935	116	2.	1		1550	191	5.	1		2205	266	1.
1		0325	42	1.	1		0940	117	2.	1		1555	192	4.	1		2210	267	1.
1		0330	43	1.	1		0945	118	2.	1		1600	193	4.	1		2215	268	1.
1		0335	44	1.	1		0950	119	2.	1		1605	194	4.	1		2220	269	1.
1		0340	45	1.	1		0955	120	2.	1		1610	195	4.	1		2225	270	1.
1		0345	46	1.	1		1000	121	2.	1		1615	196	4.	1		2230	271	1.
1		0350	47	1.	1		1005	122	2.	1		1620	197	4.	1		2235	272	1.
1		0355	48	1.	1		1010	123	2.	1		1625	198	4.	1		2240	273	1.
1		0400	49	1.	1		1015	124	2.	1		1630	199	4.	1		2245	274	1.
1		0405	50	1.	1		1020	125	2.	1		1635	200	4.	1		2250	275	1.
1		0410	51	1.	1		1025	126	2.	1		1640	201	3.	1		2255	276	1.
1		0415	52	1.	1		1030	127	2.	1		1645	202	3.	1		2300	277	1.
1		0420	53	1.	1		1035	128	2.	1		1650	203	3.	1		2305	278	1.
1		0425	54	1.	1		1040	129	2.	1		1655	204	3.	1		2310	279	1.
1		0430	55	1.	1		1045	130	2.	1		1700	205	3.	1		2315	280	1.
1		0435	56	1.	1		1050	131	2.	1		1705	206	3.	1		2320	281	1.
1		0440	57	1.	1		1055	132	2.	1		1710	207	3.	1		2325	282	1.
1		0445	58	1.	1		1100	133	2.	1		1715	208	3.	1		2330	283	1.
1		0450	59	1.	1		1105	134	3.	1		1720	209	3.	1		2335	284	1.
1		0455	60	1.	1		1110	135	3.	1		1725	210	3.	1		2340	285	1.
1		0500	61	1.	1		1115	136	3.	1		1730	211	3.	1		2345	286	1.
1		0505	62	1.	1		1120	137	3.	1		1735	212	3.	1		2350	287	1.
1		0510	63	1.	1		1125	138	3.	1		1740	213	3.	1		2355	288	1.
1		0515	64	1.	1		1130	139	3.	1		1745	214	2.	2		0000	289	1.
1		0520	65	1.	1		1135	140	3.	1		1750	215	2.	2		0005	290	1.

1	0525	66	1.	*	1	1140	141	4.	*	1	1755	216	2.	*	2	0010	291	1.		
1	0530	67	1.	*	1	1145	142	4.	*	1	1800	217	2.	*	2	0015	292	1.		
1	0535	68	1.	*	1	1150	143	5.	*	1	1805	218	2.	*	2	0020	293	1.		
1	0540	69	1.	*	1	1155	144	6.	*	1	1810	219	2.	*	2	0025	294	1.		
1	0545	70	1.	*	1	1200	145	8.	*	1	1815	220	2.	*	2	0030	295	1.		
1	0550	71	1.	*	1	1205	146	10.	*	1	1820	221	2.	*	2	0035	296	1.		
1	0555	72	1.	*	1	1210	147	12.	*	1	1825	222	2.	*	2	0040	297	1.		
1	0600	73	1.	*	1	1215	148	14.	*	1	1830	223	2.	*	2	0045	298	1.		
1	0605	74	1.	*	1	1220	149	15.	*	1	1835	224	2.	*	2	0050	299	1.		
1	0610	75	1.	*	1	1225	150	16.	*	1	1840	225	2.	*	2	0055	300	1.		
				*					*					*						

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 16.	12.50		8.	3.	3.	3.
		(INCHES)	.094	.138	.139	.139
		(AC-FT)	4.	6.	6.	6.

CUMULATIVE AREA = .76 SQ MI

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*             *
*      C_I1   *
*             *
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407 KK Combine I2 and I1

408 HC HYDROGRAPH COMBINATION
ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

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HYDROGRAPH AT STATION C_I1
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 31.	14.33		29.	14.	14.	14.
		(INCHES)	.038	.075	.075	.075
		(AC-FT)	14.	28.	28.	28.

CUMULATIVE AREA = 6.95 SQ MI

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HYDROGRAPH AT STATION C_I1
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 29.	14.33		27.	13.	13.	13.
		(INCHES)	.037	.071	.071	.071
		(AC-FT)	14.	26.	26.	26.

CUMULATIVE AREA = 6.95 SQ MI

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HYDROGRAPH AT STATION C_I1
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 29.	14.17		27.	13.	12.	12.
		(INCHES)	.036	.069	.069	.069
		(AC-FT)	13.	26.	26.	26.

CUMULATIVE AREA = 6.95 SQ MI

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HYDROGRAPH AT STATION C_I1
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 28.	14.00		26.	13.	12.	12.
		(INCHES)	.035	.067	.067	.067
		(AC-FT)	13.	25.	25.	25.

CUMULATIVE AREA = 6.95 SQ MI

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HYDROGRAPH AT STATION C_I1
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 28.	14.00		26.	12.	12.	12.

(INCHES)	.034	.066	.066	.066
(AC-FT)	13.	24.	24.	24.

CUMULATIVE AREA = 6.95 SQ MI

INTERPOLATED HYDROGRAPH AT C_I1

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1	0000	1	0.	1	0615	76	1.	1	1230	151	16.	1	1845	226	25.
1	0005	2	0.	1	0620	77	1.	1	1235	152	16.	1	1850	227	25.
1	0010	3	0.	1	0625	78	1.	1	1240	153	17.	1	1855	228	25.
1	0015	4	0.	1	0630	79	1.	1	1245	154	19.	1	1900	229	25.
1	0020	5	0.	1	0635	80	1.	1	1250	155	21.	1	1905	230	25.
1	0025	6	0.	1	0640	81	1.	1	1255	156	23.	1	1910	231	25.
1	0030	7	0.	1	0645	82	1.	1	1300	157	25.	1	1915	232	25.
1	0035	8	0.	1	0650	83	1.	1	1305	158	26.	1	1920	233	25.
1	0040	9	0.	1	0655	84	1.	1	1310	159	27.	1	1925	234	25.
1	0045	10	0.	1	0700	85	1.	1	1315	160	27.	1	1930	235	24.
1	0050	11	0.	1	0705	86	1.	1	1320	161	28.	1	1935	236	24.
1	0055	12	0.	1	0710	87	1.	1	1325	162	28.	1	1940	237	24.
1	0100	13	0.	1	0715	88	1.	1	1330	163	28.	1	1945	238	24.
1	0105	14	0.	1	0720	89	1.	1	1335	164	29.	1	1950	239	24.
1	0110	15	0.	1	0725	90	1.	1	1340	165	29.	1	1955	240	24.
1	0115	16	0.	1	0730	91	1.	1	1345	166	29.	1	2000	241	24.
1	0120	17	0.	1	0735	92	1.	1	1350	167	29.	1	2005	242	24.
1	0125	18	0.	1	0740	93	1.	1	1355	168	29.	1	2010	243	24.
1	0130	19	0.	1	0745	94	1.	1	1400	169	29.	1	2015	244	23.
1	0135	20	0.	1	0750	95	1.	1	1405	170	29.	1	2020	245	23.
1	0140	21	0.	1	0755	96	1.	1	1410	171	29.	1	2025	246	23.
1	0145	22	0.	1	0800	97	1.	1	1415	172	29.	1	2030	247	23.
1	0150	23	0.	1	0805	98	1.	1	1420	173	29.	1	2035	248	23.
1	0155	24	0.	1	0810	99	1.	1	1425	174	29.	1	2040	249	23.
1	0200	25	0.	1	0815	100	1.	1	1430	175	29.	1	2045	250	23.
1	0205	26	0.	1	0820	101	1.	1	1435	176	29.	1	2050	251	23.
1	0210	27	1.	1	0825	102	1.	1	1440	177	29.	1	2055	252	23.
1	0215	28	1.	1	0830	103	1.	1	1445	178	29.	1	2100	253	22.
1	0220	29	1.	1	0835	104	1.	1	1450	179	29.	1	2105	254	22.
1	0225	30	1.	1	0840	105	1.	1	1455	180	29.	1	2110	255	22.
1	0230	31	1.	1	0845	106	1.	1	1500	181	29.	1	2115	256	22.
1	0235	32	1.	1	0850	107	1.	1	1505	182	29.	1	2120	257	22.
1	0240	33	1.	1	0855	108	1.	1	1510	183	29.	1	2125	258	22.
1	0245	34	1.	1	0900	109	1.	1	1515	184	29.	1	2130	259	22.
1	0250	35	1.	1	0905	110	2.	1	1520	185	29.	1	2135	260	22.
1	0255	36	1.	1	0910	111	2.	1	1525	186	29.	1	2140	261	22.
1	0300	37	1.	1	0915	112	2.	1	1530	187	29.	1	2145	262	21.
1	0305	38	1.	1	0920	113	2.	1	1535	188	29.	1	2150	263	21.
1	0310	39	1.	1	0925	114	2.	1	1540	189	28.	1	2155	264	21.
1	0315	40	1.	1	0930	115	2.	1	1545	190	28.	1	2200	265	21.
1	0320	41	1.	1	0935	116	2.	1	1550	191	28.	1	2205	266	21.
1	0325	42	1.	1	0940	117	2.	1	1555	192	28.	1	2210	267	21.
1	0330	43	1.	1	0945	118	2.	1	1600	193	28.	1	2215	268	21.
1	0335	44	1.	1	0950	119	2.	1	1605	194	28.	1	2220	269	21.
1	0340	45	1.	1	0955	120	2.	1	1610	195	28.	1	2225	270	21.
1	0345	46	1.	1	1000	121	2.	1	1615	196	28.	1	2230	271	21.
1	0350	47	1.	1	1005	122	2.	1	1620	197	28.	1	2235	272	20.
1	0355	48	1.	1	1010	123	2.	1	1625	198	28.	1	2240	273	20.
1	0400	49	1.	1	1015	124	2.	1	1630	199	28.	1	2245	274	20.
1	0405	50	1.	1	1020	125	2.	1	1635	200	27.	1	2250	275	20.
1	0410	51	1.	1	1025	126	2.	1	1640	201	27.	1	2255	276	20.
1	0415	52	1.	1	1030	127	2.	1	1645	202	27.	1	2300	277	20.
1	0420	53	1.	1	1035	128	2.	1	1650	203	27.	1	2305	278	20.
1	0425	54	1.	1	1040	129	2.	1	1655	204	27.	1	2310	279	20.
1	0430	55	1.	1	1045	130	2.	1	1700	205	27.	1	2315	280	20.
1	0435	56	1.	1	1050	131	2.	1	1705	206	27.	1	2320	281	20.
1	0440	57	1.	1	1055	132	2.	1	1710	207	27.	1	2325	282	19.
1	0445	58	1.	1	1100	133	2.	1	1715	208	27.	1	2330	283	19.
1	0450	59	1.	1	1105	134	3.	1	1720	209	27.	1	2335	284	19.
1	0455	60	1.	1	1110	135	3.	1	1725	210	27.	1	2340	285	19.
1	0500	61	1.	1	1115	136	3.	1	1730	211	27.	1	2345	286	19.
1	0505	62	1.	1	1120	137	3.	1	1735	212	26.	1	2350	287	19.
1	0510	63	1.	1	1125	138	3.	1	1740	213	26.	1	2355	288	19.
1	0515	64	1.	1	1130	139	3.	1	1745	214	26.	2	0000	289	18.
1	0520	65	1.	1	1135	140	3.	1	1750	215	26.	2	0005	290	18.
1	0525	66	1.	1	1140	141	4.	1	1755	216	26.	2	0010	291	18.
1	0530	67	1.	1	1145	142	4.	1	1800	217	26.	2	0015	292	18.
1	0535	68	1.	1	1150	143	5.	1	1805	218	26.	2	0020	293	18.
1	0540	69	1.	1	1155	144	6.	1	1810	219	26.	2	0025	294	18.
1	0545	70	1.	1	1200	145	8.	1	1815	220	26.	2	0030	295	18.
1	0550	71	1.	1	1205	146	10.	1	1820	221	26.	2	0035	296	17.
1	0555	72	1.	1	1210	147	12.	1	1825	222	26.	2	0040	297	17.
1	0600	73	1.	1	1215	148	14.	1	1830	223	25.	2	0045	298	17.
1	0605	74	1.	1	1220	149	15.	1	1835	224	25.	2	0050	299	17.
1	0610	75	1.	1	1225	150	16.	1	1840	225	25.	2	0055	300	17.

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)			
+ 29.	14.33	28.	13.	13.	13.
		(INCHES) .037	.072	.072	.072
		(AC-FT) 14.	27.	27.	27.

CUMULATIVE AREA = 6.95 SQ MI

409 KK R_I1 Detention Pond I1

HYDROGRAPH ROUTING DATA

'10 RS STORAGE ROUTING
NSTPS 1 NUMBER OF SUBREACHES
ITYP STOR TYPE OF INITIAL CONDITION
RSVRIC .00 INITIAL CONDITION
X .00 WORKING R AND D COEFFICIENT

411 SV	STORAGE	.0	2.0	3.6	5.4	7.4	9.7	12.2	15.0	18.0	21.3
412 SQ	DISCHARGE	0.	0.	0.	0.	0.	0.	0.	3.	31.	82.
413 SE	ELEVATION	4860.00	4862.00	4863.00	4864.00	4865.00	4866.00	4867.00	4868.00	4869.00	4870.00

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HYDROGRAPH AT STATION R_I1
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
23.	21.83	(CFS)	21.	6.	5.	5.
		(INCHES)	.028	.030	.030	.030
		(AC-FT)	10.	11.	11.	11.

PEAK STORAGE (AC-FT)	TIME (HR)	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
17.	21.75	17.	7.	7.	7.

PEAK STAGE (FEET)	TIME (HR)	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
4868.70	21.75	4868.64	4863.86	4863.72	4863.72

CUMULATIVE AREA = 6.95 SQ MI

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HYDROGRAPH AT STATION R_I1
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
21.	22.00	(CFS)	19.	5.	5.	5.
		(INCHES)	.025	.026	.026	.026
		(AC-FT)	9.	10.	10.	10.

PEAK STORAGE (AC-FT)	TIME (HR)	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
17.	21.92	17.	7.	6.	6.

PEAK STAGE (FEET)	TIME (HR)	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
4868.64	22.00	4868.56	4863.80	4863.66	4863.66

CUMULATIVE AREA = 6.95 SQ MI

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HYDROGRAPH AT STATION R_I1
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
20.	22.17	(CFS)	18.	5.	4.	4.
		(INCHES)	.024	.025	.025	.025
		(AC-FT)	9.	9.	9.	9.

PEAK STORAGE (AC-FT)	TIME (HR)	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
17.	22.08	17.	7.	6.	6.

PEAK STAGE (FEET)	TIME (HR)	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
4868.61	22.17	4868.52	4863.77	4863.63	4863.63

CUMULATIVE AREA = 6.95 SQ MI

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HYDROGRAPH AT STATION R_I1
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
19.	22.25	(CFS)	17.	4.	4.	4.
		(INCHES)	.022	.023	.023	.023
		(AC-FT)	8.	8.	8.	8.

PEAK STORAGE (AC-FT)	TIME (HR)	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
17.	22.25	16.	7.	6.	6.

PEAK STAGE (FEET)	TIME (HR)	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
4868.58	22.25	4868.48	4863.73	4863.59	4863.59

CUMULATIVE AREA = 6.95 SQ MI

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HYDROGRAPH AT STATION R_I1
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
18.	22.25	16.	4.	4.	4.
		(INCHES) .021	.022	.022	.022
		(AC-FT) 8.	8.	8.	8.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
(AC-FT)	(HR)				
17.	22.25	16.	6.	6.	6.

PEAK STAGE (FEET)	TIME (HR)	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
4868.55	22.17	4868.45	4863.70	4863.56	4863.56

CUMULATIVE AREA = 6.95 SQ MI

INTERPOLATED HYDROGRAPH AT R_I1

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	0.	1		1845	226	7.
1		0005	2	0.	1		0620	77	0.	1		1235	152	0.	1		1850	227	8.
1		0010	3	0.	1		0625	78	0.	1		1240	153	0.	1		1855	228	9.
1		0015	4	0.	1		0630	79	0.	1		1245	154	0.	1		1900	229	10.
1		0020	5	0.	1		0635	80	0.	1		1250	155	0.	1		1905	230	11.
1		0025	6	0.	1		0640	81	0.	1		1255	156	0.	1		1910	231	12.
1		0030	7	0.	1		0645	82	0.	1		1300	157	0.	1		1915	232	13.
1		0035	8	0.	1		0650	83	0.	1		1305	158	0.	1		1920	233	13.
1		0040	9	0.	1		0655	84	0.	1		1310	159	0.	1		1925	234	14.
1		0045	10	0.	1		0700	85	0.	1		1315	160	0.	1		1930	235	15.
1		0050	11	0.	1		0705	86	0.	1		1320	161	0.	1		1935	236	15.
1		0055	12	0.	1		0710	87	0.	1		1325	162	0.	1		1940	237	16.
1		0100	13	0.	1		0715	88	0.	1		1330	163	0.	1		1945	238	16.
1		0105	14	0.	1		0720	89	0.	1		1335	164	0.	1		1950	239	17.
1		0110	15	0.	1		0725	90	0.	1		1340	165	0.	1		1955	240	17.
1		0115	16	0.	1		0730	91	0.	1		1345	166	0.	1		2000	241	18.
1		0120	17	0.	1		0735	92	0.	1		1350	167	0.	1		2005	242	18.
1		0125	18	0.	1		0740	93	0.	1		1355	168	0.	1		2010	243	18.
1		0130	19	0.	1		0745	94	0.	1		1400	169	0.	1		2015	244	19.
1		0135	20	0.	1		0750	95	0.	1		1405	170	0.	1		2020	245	19.
1		0140	21	0.	1		0755	96	0.	1		1410	171	0.	1		2025	246	19.
1		0145	22	0.	1		0800	97	0.	1		1415	172	0.	1		2030	247	19.
1		0150	23	0.	1		0805	98	0.	1		1420	173	0.	1		2035	248	20.
1		0155	24	0.	1		0810	99	0.	1		1425	174	0.	1		2040	249	20.
1		0200	25	0.	1		0815	100	0.	1		1430	175	0.	1		2045	250	20.
1		0205	26	0.	1		0820	101	0.	1		1435	176	0.	1		2050	251	20.
1		0210	27	0.	1		0825	102	0.	1		1440	177	0.	1		2055	252	20.
1		0215	28	0.	1		0830	103	0.	1		1445	178	0.	1		2100	253	21.
1		0220	29	0.	1		0835	104	0.	1		1450	179	0.	1		2105	254	21.
1		0225	30	0.	1		0840	105	0.	1		1455	180	0.	1		2110	255	21.
1		0230	31	0.	1		0845	106	0.	1		1500	181	0.	1		2115	256	21.
1		0235	32	0.	1		0850	107	0.	1		1505	182	0.	1		2120	257	21.
1		0240	33	0.	1		0855	108	0.	1		1510	183	0.	1		2125	258	21.
1		0245	34	0.	1		0900	109	0.	1		1515	184	0.	1		2130	259	21.
1		0250	35	0.	1		0905	110	0.	1		1520	185	0.	1		2135	260	21.
1		0255	36	0.	1		0910	111	0.	1		1525	186	0.	1		2140	261	21.
1		0300	37	0.	1		0915	112	0.	1		1530	187	0.	1		2145	262	21.
1		0305	38	0.	1		0920	113	0.	1		1535	188	0.	1		2150	263	21.
1		0310	39	0.	1		0925	114	0.	1		1540	189	0.	1		2155	264	21.
1		0315	40	0.	1		0930	115	0.	1		1545	190	0.	1		2200	265	21.
1		0320	41	0.	1		0935	116	0.	1		1550	191	0.	1		2205	266	21.
1		0325	42	0.	1		0940	117	0.	1		1555	192	0.	1		2210	267	21.
1		0330	43	0.	1		0945	118	0.	1		1600	193	0.	1		2215	268	21.
1		0335	44	0.	1		0950	119	0.	1		1605	194	0.	1		2220	269	21.
1		0340	45	0.	1		0955	120	0.	1		1610	195	0.	1		2225	270	21.
1		0345	46	0.	1		1000	121	0.	1		1615	196	0.	1		2230	271	21.
1		0350	47	0.	1		1005	122	0.	1		1620	197	0.	1		2235	272	21.
1		0355	48	0.	1		1010	123	0.	1		1625	198	0.	1		2240	273	21.
1		0400	49	0.	1		1015	124	0.	1		1630	199	0.	1		2245	274	21.
1		0405	50	0.	1		1020	125	0.	1		1635	200	0.	1		2250	275	21.
1		0410	51	0.	1		1025	126	0.	1		1640	201	0.	1		2255	276	21.
1		0415	52	0.	1		1030	127	0.	1		1645	202	0.	1		2300	277	21.
1		0420	53	0.	1		1035	128	0.	1		1650	203	0.	1		2305	278	21.
1		0425	54	0.	1		1040	129	0.	1		1655	204	0.	1		2310	279	21.
1		0430	55	0.	1		1045	130	0.	1		1700	205	0.	1		2315	280	21.
1		0435	56	0.	1		1050	131	0.	1		1705	206	0.	1		2320	281	21.
1		0440	57	0.	1		1055	132	0.	1		1710	207	0.	1		2325	282	20.
1		0445	58	0.	1		1100	133	0.	1		1715	208	0.	1		2330	283	20.
1		0450	59	0.	1		1105	134	0.	1		1720	209	1.	1		2335	284	20.
1		0455	60	0.	1		1110	135	0.	1		1725	210	1.	1		2340	285	20.
1		0500	61	0.	1		1115	136	0.	1		1730	211	1.	1		2345	286	20.
1		0505	62	0.	1		1120	137	0.	1		1735	212	1.	1		2350	287	20.
1		0510	63	0.	1		1125	138	0.	1		1740	213	1.	1		2355	288	20.
1		0515	64	0.	1		1130	139	0.	1		1745	214	2.	2		0000	289	20.
1		0520	65	0.	1		1135	140	0.	1		1750	215	2.	2		0005	290	20.
1		0525	66	0.	1		1140	141	0.	1		1755	216	2.	2		0010	291	20.
1		0530	67	0.	1		1145	142	0.	1		1800	217	2.	2		0015	292	20.
1		0535	68	0.	1		1150	143	0.	1		1805	218	2.	2		0020	293	20.
1		0540	69	0.	1		1155	144	0.	1		1810	219	2.	2		0025	294	19.
1		0545	70	0.	1		1200	145	0.	1		1815	220	3.	2		0030	295	19.
1		0550	71	0.	1		1205	146	0.	1		1820	221	3.	2		0035	296	19.

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    1    0555  72        0.   *    1    1210  147        0.   *    1    1825  222        3.   *    2    0040  297       19.
    1    0600  73        0.   *    1    1215  148        0.   *    1    1830  223        3.   *    2    0045  298       19.
    1    0605  74        0.   *    1    1220  149        0.   *    1    1835  224        4.   *    2    0050  299       19.
    1    0610  75        0.   *    1    1225  150        0.   *    1    1840  225        6.   *    2    0055  300       19.
                           *                                        *                             *
 ************************************************************************************************************************************************************

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                      6-HR          24-HR          72-HR       24.92-HR
+   (CFS)       (HR)
                          (CFS)
+      21.     22.00                   19.            5.             5.             5.
                       (INCHES)       .026          .027           .027           .027
                         (AC-FT)         9.            10.            10.            10.

                       CUMULATIVE AREA =    6.95 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            ***************
            *             *
  414 KK    *        I7   *      Subbasin
            *             *
            ***************

               SUBBASIN RUNOFF DATA

  415 BA          SUBBASIN CHARACTERISTICS
                        TAREA        1.03  SUBBASIN AREA

  416 LG          GREEN AND AMPT LOSS RATE
                        STRTL         .45  STARTING LOSS
                          DTH         .43  MOISTURE DEFICIT
                         PSIF        1.59  WETTING FRONT SUCTION
                        XKSAT         .06  HYDRAULIC CONDUCTIVITY
                        RTIMP        3.00  PERCENT IMPERVIOUS AREA

  417 US          SNYDER UNITGRAPH
                          TP         .81  LAG
                          CP         .33  PEAKING COEFFICIENT

                  SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                        ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=   .81 HR,       R=  1.95 HR
                                   SNYDER   TP=   .81 HR,      CP=   .33

                                             UNIT HYDROGRAPH
                                        130 END-OF-PERIOD ORDINATES
                    8.      29.      61.      98.     140.     183.     220.     249.     268.     275.
                  268.     257.     246.     236.     226.     216.     207.     199.     190.     182.
                  175.     168.     161.     154.     147.     141.     135.     130.     124.     119.
                  114.     109.     105.     100.      96.      92.      88.      85.      81.      78.
                   74.      71.      68.      66.      63.      60.      58.      55.      53.      51.
                   49.      47.      45.      43.      41.      39.      38.      36.      35.      33.
                   32.      30.      29.      28.      27.      26.      25.      24.      23.      22.
                   21.      20.      19.      18.      17.      17.      16.      15.      15.      14.
                   14.      13.      12.      12.      11.      11.      10.      10.      10.       9.
                    9.       8.       8.       8.       7.       7.       7.       7.       6.       6.
                    6.       6.       5.       5.       5.       5.       4.       4.       4.       4.
                    4.       4.       3.       3.       3.       3.       3.       3.       3.       3.
                    2.       2.       2.       2.       2.       2.       2.       2.       2.       2.

        ***              ***              ***              ***              ***

                          HYDROGRAPH AT STATION       I7
                        TRANSPOSITION AREA        .0 SQ MI

      TOTAL RAINFALL =    1.19, TOTAL LOSS =     .97, TOTAL EXCESS =     .22

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                      6-HR          24-HR          72-HR       24.92-HR
+   (CFS)       (HR)
                          (CFS)
+      55.     12.67                   22.            6.             6.             6.
                       (INCHES)       .197          .218           .219           .219
                         (AC-FT)        11.            12.            12.            12.

                       CUMULATIVE AREA =    1.03 SQ MI


        ***              ***              ***              ***              ***

                          HYDROGRAPH AT STATION       I7
                        TRANSPOSITION AREA     14.0 SQ MI

      TOTAL RAINFALL =    1.17, TOTAL LOSS =     .96, TOTAL EXCESS =     .21

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                      6-HR          24-HR          72-HR       24.92-HR
+   (CFS)       (HR)
                          (CFS)
+      51.     12.67                   20.            6.             5.             5.
                       (INCHES)       .185          .205           .205           .205
                         (AC-FT)        10.            11.            11.            11.

                       CUMULATIVE AREA =    1.03 SQ MI


        ***              ***              ***              ***              ***

                          HYDROGRAPH AT STATION       I7
                        TRANSPOSITION AREA     24.0 SQ MI

      TOTAL RAINFALL =    1.15, TOTAL LOSS =     .95, TOTAL EXCESS =     .20

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                      6-HR          24-HR          72-HR       24.92-HR
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+   (CFS)        (HR)
                   (CFS)
+       50.      12.67          20.          5.          5.          5.
                (INCHES)        .178         .198        .198        .198
                 (AC-FT)         10.          11.         11.         11.

                CUMULATIVE AREA =    1.03 SQ MI

        ***             ***             ***             ***             ***

                  HYDROGRAPH AT STATION       I7
                 TRANSPOSITION AREA     36.5 SQ MI

     TOTAL RAINFALL =    1.14, TOTAL LOSS =     .95, TOTAL EXCESS =     .19

   PEAK FLOW     TIME                    MAXIMUM AVERAGE FLOW
                                 6-HR        24-HR       72-HR      24.92-HR
+   (CFS)        (HR)
                   (CFS)
+       48.      12.67          19.          5.          5.          5.
                (INCHES)        .172         .191        .191        .191
                 (AC-FT)         9.           10.         10.         10.

                CUMULATIVE AREA =    1.03 SQ MI

        ***             ***             ***             ***             ***

                  HYDROGRAPH AT STATION       I7
                 TRANSPOSITION AREA     50.0 SQ MI

     TOTAL RAINFALL =    1.13, TOTAL LOSS =     .95, TOTAL EXCESS =     .19

   PEAK FLOW     TIME                    MAXIMUM AVERAGE FLOW
                                 6-HR        24-HR       72-HR      24.92-HR
+   (CFS)        (HR)
                   (CFS)
+       46.      12.67          18.          5.          5.          5.
                (INCHES)        .167         .186        .186        .186
                 (AC-FT)         9.           10.         10.         10.

                CUMULATIVE AREA =    1.03 SQ MI
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INTERPOLATED HYDROGRAPH AT I7

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DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	*	1		0615	76	0.	*	1		1230	151	47.	*	1		1845	226	3.
1		0005	2	0.	*	1		0620	77	0.	*	1		1235	152	51.	*	1		1850	227	3.
1		0010	3	0.	*	1		0625	78	0.	*	1		1240	153	53.	*	1		1855	228	3.
1		0015	4	0.	*	1		0630	79	0.	*	1		1245	154	52.	*	1		1900	229	3.
1		0020	5	0.	*	1		0635	80	0.	*	1		1250	155	50.	*	1		1905	230	3.
1		0025	6	0.	*	1		0640	81	0.	*	1		1255	156	48.	*	1		1910	231	2.
1		0030	7	0.	*	1		0645	82	0.	*	1		1300	157	46.	*	1		1915	232	2.
1		0035	8	0.	*	1		0650	83	0.	*	1		1305	158	45.	*	1		1920	233	2.
1		0040	9	0.	*	1		0655	84	0.	*	1		1310	159	43.	*	1		1925	234	2.
1		0045	10	0.	*	1		0700	85	0.	*	1		1315	160	41.	*	1		1930	235	2.
1		0050	11	0.	*	1		0705	86	0.	*	1		1320	161	39.	*	1		1935	236	2.
1		0055	12	0.	*	1		0710	87	0.	*	1		1325	162	38.	*	1		1940	237	2.
1		0100	13	0.	*	1		0715	88	0.	*	1		1330	163	36.	*	1		1945	238	2.
1		0105	14	0.	*	1		0720	89	0.	*	1		1335	164	35.	*	1		1950	239	2.
1		0110	15	0.	*	1		0725	90	0.	*	1		1340	165	33.	*	1		1955	240	2.
1		0115	16	0.	*	1		0730	91	0.	*	1		1345	166	32.	*	1		2000	241	2.
1		0120	17	0.	*	1		0735	92	0.	*	1		1350	167	31.	*	1		2005	242	2.
1		0125	18	0.	*	1		0740	93	0.	*	1		1355	168	30.	*	1		2010	243	2.
1		0130	19	0.	*	1		0745	94	0.	*	1		1400	169	28.	*	1		2015	244	2.
1		0135	20	0.	*	1		0750	95	0.	*	1		1405	170	27.	*	1		2020	245	2.
1		0140	21	0.	*	1		0755	96	0.	*	1		1410	171	26.	*	1		2025	246	1.
1		0145	22	0.	*	1		0800	97	0.	*	1		1415	172	25.	*	1		2030	247	1.
1		0150	23	0.	*	1		0805	98	0.	*	1		1420	173	24.	*	1		2035	248	1.
1		0155	24	0.	*	1		0810	99	0.	*	1		1425	174	23.	*	1		2040	249	1.
1		0200	25	0.	*	1		0815	100	0.	*	1		1430	175	22.	*	1		2045	250	1.
1		0205	26	0.	*	1		0820	101	0.	*	1		1435	176	21.	*	1		2050	251	1.
1		0210	27	0.	*	1		0825	102	0.	*	1		1440	177	20.	*	1		2055	252	1.
1		0215	28	0.	*	1		0830	103	0.	*	1		1445	178	20.	*	1		2100	253	1.
1		0220	29	0.	*	1		0835	104	0.	*	1		1450	179	19.	*	1		2105	254	1.
1		0225	30	0.	*	1		0840	105	0.	*	1		1455	180	18.	*	1		2110	255	1.
1		0230	31	0.	*	1		0845	106	0.	*	1		1500	181	17.	*	1		2115	256	1.
1		0235	32	0.	*	1		0850	107	0.	*	1		1505	182	17.	*	1		2120	257	1.
1		0240	33	0.	*	1		0855	108	0.	*	1		1510	183	16.	*	1		2125	258	1.
1		0245	34	0.	*	1		0900	109	0.	*	1		1515	184	15.	*	1		2130	259	1.
1		0250	35	0.	*	1		0905	110	0.	*	1		1520	185	15.	*	1		2135	260	1.
1		0255	36	0.	*	1		0910	111	0.	*	1		1525	186	14.	*	1		2140	261	1.
1		0300	37	0.	*	1		0915	112	0.	*	1		1530	187	14.	*	1		2145	262	1.
1		0305	38	0.	*	1		0920	113	1.	*	1		1535	188	13.	*	1		2150	263	1.
1		0310	39	0.	*	1		0925	114	1.	*	1		1540	189	13.	*	1		2155	264	1.
1		0315	40	0.	*	1		0930	115	1.	*	1		1545	190	12.	*	1		2200	265	1.
1		0320	41	0.	*	1		0935	116	1.	*	1		1550	191	12.	*	1		2205	266	1.
1		0325	42	0.	*	1		0940	117	1.	*	1		1555	192	11.	*	1		2210	267	1.
1		0330	43	0.	*	1		0945	118	1.	*	1		1600	193	11.	*	1		2215	268	1.
1		0335	44	0.	*	1		0950	119	1.	*	1		1605	194	10.	*	1		2220	269	1.
1		0340	45	0.	*	1		0955	120	1.	*	1		1610	195	10.	*	1		2225	270	1.
1		0345	46	0.	*	1		1000	121	1.	*	1		1615	196	9.	*	1		2230	271	1.
1		0350	47	0.	*	1		1005	122	1.	*	1		1620	197	9.	*	1		2235	272	1.
1		0355	48	0.	*	1		1010	123	1.	*	1		1625	198	9.	*	1		2240	273	1.
1		0400	49	0.	*	1		1015	124	1.	*	1		1630	199	8.	*	1		2245	274	0.
1		0405	50	0.	*	1		1020	125	1.	*	1		1635	200	8.	*	1		2250	275	0.
1		0410	51	0.	*	1		1025	126	1.	*	1		1640	201	8.	*	1		2255	276	0.
1		0415	52	0.	*	1		1030	127	1.	*	1		1645	202	7.	*	1		2300	277	0.
1		0420	53	0.	*	1		1035	128	1.	*	1		1650	203	7.	*	1		2305	278	0.
1		0425	54	0.	*	1		1040	129	1.	*	1		1655	204	7.	*	1		2310	279	0.
1		0430	55	0.	*	1		1045	130	1.	*	1		1700	205	7.	*	1		2315	280	0.
1		0435	56	0.	*	1		1050	131	1.	*	1		1705	206	6.	*	1		2320	281	0.
1		0440	57	0.	*	1		1055	132	1.	*	1		1710	207	6.	*	1		2325	282	0.
1		0445	58	0.	*	1		1100	133	1.	*	1		1715	208	6.	*	1		2330	283	0.
1		0450	59	0.	*	1		1105	134	1.	*	1		1720	209	6.	*	1		2335	284	0.
1		0455	60	0.	*	1		1110	135	1.	*	1		1725	210	5.	*	1		2340	285	0.
1		0500	61	0.	*	1		1115	136	1.	*	1		1730	211	5.	*	1		2345	286	0.

```
   1    0505   62        0.   *   1    1120  137        1.   *   1    1735  212        5.   *   1    2350  287        0.
   1    0510   63        0.   *   1    1125  138        1.   *   1    1740  213        5.   *   1    2355  288        0.
   1    0515   64        0.   *   1    1130  139        1.   *   1    1745  214        5.   *   2    0000  289        0.
   1    0520   65        0.   *   1    1135  140        1.   *   1    1750  215        4.   *   2    0005  290        0.
   1    0525   66        0.   *   1    1140  141        1.   *   1    1755  216        4.   *   2    0010  291        0.
   1    0530   67        0.   *   1    1145  142        1.   *   1    1800  217        4.   *   2    0015  292        0.
   1    0535   68        0.   *   1    1150  143        2.   *   1    1805  218        4.   *   2    0020  293        0.
   1    0540   69        0.   *   1    1155  144        3.   *   1    1810  219        4.   *   2    0025  294        0.
   1    0545   70        0.   *   1    1200  145        7.   *   1    1815  220        4.   *   2    0030  295        0.
   1    0550   71        0.   *   1    1205  146       12.   *   1    1820  221        4.   *   2    0035  296        0.
   1    0555   72        0.   *   1    1210  147       19.   *   1    1825  222        3.   *   2    0040  297        0.
   1    0600   73        0.   *   1    1215  148       27.   *   1    1830  223        3.   *   2    0045  298        0.
   1    0605   74        0.   *   1    1220  149       34.   *   1    1835  224        3.   *   2    0050  299        0.
   1    0610   75        0.   *   1    1225  150       41.   *   1    1840  225        3.   *   2    0055  300        0.
                            *                                *                             *
**********************************************************************************************************************************

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR       24.92-HR
+   (CFS)       (HR)
                          (CFS)
+      53.     12.67         21.          6.          6.          6.
                     (INCHES)        .189        .210        .210        .210
                       (AC-FT)         10.         11.         11.         11.

                     CUMULATIVE AREA =    1.03 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
418 KK    *      R_I7   *
          *             *
          ***************
                    Route Hydrograph Through Existing Dam

          HYDROGRAPH ROUTING DATA

420 RS          STORAGE ROUTING
                     NSTPS          1  NUMBER OF SUBREACHES
                      ITYP       STOR  TYPE OF INITIAL CONDITION
                     RSVRIC        .00  INITIAL CONDITION
                          X        .00 WORKING R AND D COEFFICIENT

421 SV            STORAGE          .0        .3        .6       1.0       1.5       2.1       2.8       3.6       4.6       5.6

422 SQ           DISCHARGE         0.        0.        0.        0.        0.        0.        0.       62.      175.      322.

 23 SE           ELEVATION     4820.00   4821.00   4822.00   4823.00   4824.00   4825.00   4826.00   4827.00   4828.00   4829.00

                                                                 ***

     ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION     R_I7
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR       24.92-HR
+   (CFS)       (HR)
                          (CFS)
+      43.     13.25         17.          5.          4.          4.
                     (INCHES)        .155        .167        .167        .167
                       (AC-FT)          9.          9.          9.          9.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                    6-HR        24-HR        72-HR       24.92-HR
+  (AC-FT)      (HR)
         3.    13.25                  3.          2.          2.          2.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                    6-HR        24-HR        72-HR       24.92-HR
+   (FEET)      (HR)
   4826.70    13.25            4826.28     4823.41     4823.29     4823.29

                     CUMULATIVE AREA =    1.03 SQ MI

     ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION     R_I7
                      TRANSPOSITION AREA      14.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR       24.92-HR
+   (CFS)       (HR)
                          (CFS)
+      40.     13.25         16.          4.          4.          4.
                     (INCHES)        .143        .153        .153        .153
                       (AC-FT)          8.          8.          8.          8.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                    6-HR        24-HR        72-HR       24.92-HR
+  (AC-FT)      (HR)
         3.    13.25                  3.          2.          2.          2.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                    6-HR        24-HR        72-HR       24.92-HR
   (FEET)       (HR)
   4826.64    13.25            4826.25     4823.40     4823.27     4823.27

                     CUMULATIVE AREA =    1.03 SQ MI

     ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION     R_I7
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TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW + (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+ 38.	13.33	(CFS)	15.	4.	4.	4.
		(INCHES)	.136	.147	.147	.147
		(AC-FT)	7.	8.	8.	8.

PEAK STORAGE + (AC-FT)	TIME (HR)	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
+ 3.	13.33	3.	2.	2.	2.

PEAK STAGE + (FEET)	TIME (HR)	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
+ 4826.61	13.33	4826.24	4823.39	4823.26	4823.26

CUMULATIVE AREA = 1.03 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R_I7
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW + (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+ 36.	13.33	(CFS)	14.	4.	4.	4.
		(INCHES)	.130	.140	.140	.140
		(AC-FT)	7.	8.	8.	8.

PEAK STORAGE + (AC-FT)	TIME (HR)	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
+ 3.	13.33	3.	2.	2.	2.

PEAK STAGE + (FEET)	TIME (HR)	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
+ 4826.58	13.33	4826.23	4823.38	4823.26	4823.26

CUMULATIVE AREA = 1.03 SQ MI

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HYDROGRAPH AT STATION R_I7
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW + (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+ 35.	13.33	(CFS)	14.	4.	4.	4.
		(INCHES)	.125	.135	.135	.135
		(AC-FT)	7.	7.	7.	7.

PEAK STORAGE + (AC-FT)	TIME (HR)	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
+ 3.	13.33	3.	2.	2.	2.

PEAK STAGE + (FEET)	TIME (HR)	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
+ 4826.56	13.33	4826.22	4823.38	4823.25	4823.25

CUMULATIVE AREA = 1.03 SQ MI

INTERPOLATED HYDROGRAPH AT R_I7

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	0.	1		1845	226	3.
1		0005	2	0.	1		0620	77	0.	1		1235	152	0.	1		1850	227	3.
1		0010	3	0.	1		0625	78	0.	1		1240	153	0.	1		1855	228	3.
1		0015	4	0.	1		0630	79	0.	1		1245	154	0.	1		1900	229	3.
1		0020	5	0.	1		0635	80	0.	1		1250	155	4.	1		1905	230	3.
1		0025	6	0.	1		0640	81	0.	1		1255	156	22.	1		1910	231	3.
1		0030	7	0.	1		0645	82	0.	1		1300	157	32.	1		1915	232	3.
1		0035	8	0.	1		0650	83	0.	1		1305	158	38.	1		1920	233	2.
1		0040	9	0.	1		0655	84	0.	1		1310	159	40.	1		1925	234	2.
1		0045	10	0.	1		0700	85	0.	1		1315	160	41.	1		1930	235	2.
1		0050	11	0.	1		0705	86	0.	1		1320	161	41.	1		1935	236	2.
1		0055	12	0.	1		0710	87	0.	1		1325	162	40.	1		1940	237	2.
1		0100	13	0.	1		0715	88	0.	1		1330	163	39.	1		1945	238	2.
1		0105	14	0.	1		0720	89	0.	1		1335	164	37.	1		1950	239	2.
1		0110	15	0.	1		0725	90	0.	1		1340	165	36.	1		1955	240	2.
1		0115	16	0.	1		0730	91	0.	1		1345	166	35.	1		2000	241	2.
1		0120	17	0.	1		0735	92	0.	1		1350	167	33.	1		2005	242	2.
1		0125	18	0.	1		0740	93	0.	1		1355	168	32.	1		2010	243	2.
1		0130	19	0.	1		0745	94	0.	1		1400	169	31.	1		2015	244	2.
1		0135	20	0.	1		0750	95	0.	1		1405	170	30.	1		2020	245	2.
1		0140	21	0.	1		0755	96	0.	1		1410	171	28.	1		2025	246	2.
1		0145	22	0.	1		0800	97	0.	1		1415	172	27.	1		2030	247	2.
1		0150	23	0.	1		0805	98	0.	1		1420	173	26.	1		2035	248	1.
1		0155	24	0.	1		0810	99	0.	1		1425	174	25.	1		2040	249	1.
1		0200	25	0.	1		0815	100	0.	1		1430	175	24.	1		2045	250	1.
1		0205	26	0.	1		0820	101	0.	1		1435	176	23.	1		2050	251	1.
1		0210	27	0.	1		0825	102	0.	1		1440	177	22.	1		2055	252	1.
1		0215	28	0.	1		0830	103	0.	1		1445	178	21.	1		2100	253	1.
1		0220	29	0.	1		0835	104	0.	1		1450	179	20.	1		2105	254	1.
1		0225	30	0.	1		0840	105	0.	1		1455	180	20.	1		2110	255	1.
1		0230	31	0.	1		0845	106	0.	1		1500	181	19.	1		2115	256	1.

1	0235	32	0.	*	1	0850	107	0.	*	1	1505	182	18.	*	1	2120	257	1.
1	0240	33	0.	*	1	0855	108	0.	*	1	1510	183	17.	*	1	2125	258	1.
1	0245	34	0.	*	1	0900	109	0.	*	1	1515	184	17.	*	1	2130	259	1.
1	0250	35	0.	*	1	0905	110	0.	*	1	1520	185	16.	*	1	2135	260	1.
1	0255	36	0.	*	1	0910	111	0.	*	1	1525	186	15.	*	1	2140	261	1.
1	0300	37	0.	*	1	0915	112	0.	*	1	1530	187	15.	*	1	2145	262	1.
1	0305	38	0.	*	1	0920	113	0.	*	1	1535	188	14.	*	1	2150	263	1.
1	0310	39	0.	*	1	0925	114	0.	*	1	1540	189	14.	*	1	2155	264	1.
1	0315	40	0.	*	1	0930	115	0.	*	1	1545	190	13.	*	1	2200	265	1.
1	0320	41	0.	*	1	0935	116	0.	*	1	1550	191	13.	*	1	2205	266	1.
1	0325	42	0.	*	1	0940	117	0.	*	1	1555	192	12.	*	1	2210	267	1.
1	0330	43	0.	*	1	0945	118	0.	*	1	1600	193	12.	*	1	2215	268	1.
1	0335	44	0.	*	1	0950	119	0.	*	1	1605	194	11.	*	1	2220	269	1.
1	0340	45	0.	*	1	0955	120	0.	*	1	1610	195	11.	*	1	2225	270	1.
1	0345	46	0.	*	1	1000	121	0.	*	1	1615	196	10.	*	1	2230	271	1.
1	0350	47	0.	*	1	1005	122	0.	*	1	1620	197	10.	*	1	2235	272	1.
1	0355	48	0.	*	1	1010	123	0.	*	1	1625	198	9.	*	1	2240	273	1.
1	0400	49	0.	*	1	1015	124	0.	*	1	1630	199	9.	*	1	2245	274	1.
1	0405	50	0.	*	1	1020	125	0.	*	1	1635	200	9.	*	1	2250	275	1.
1	0410	51	0.	*	1	1025	126	0.	*	1	1640	201	8.	*	1	2255	276	0.
1	0415	52	0.	*	1	1030	127	0.	*	1	1645	202	8.	*	1	2300	277	0.
1	0420	53	0.	*	1	1035	128	0.	*	1	1650	203	8.	*	1	2305	278	0.
1	0425	54	0.	*	1	1040	129	0.	*	1	1655	204	7.	*	1	2310	279	0.
1	0430	55	0.	*	1	1045	130	0.	*	1	1700	205	7.	*	1	2315	280	0.
1	0435	56	0.	*	1	1050	131	0.	*	1	1705	206	7.	*	1	2320	281	0.
1	0440	57	0.	*	1	1055	132	0.	*	1	1710	207	7.	*	1	2325	282	0.
1	0445	58	0.	*	1	1100	133	0.	*	1	1715	208	6.	*	1	2330	283	0.
1	0450	59	0.	*	1	1105	134	0.	*	1	1720	209	6.	*	1	2335	284	0.
1	0455	60	0.	*	1	1110	135	0.	*	1	1725	210	6.	*	1	2340	285	0.
1	0500	61	0.	*	1	1115	136	0.	*	1	1730	211	6.	*	1	2345	286	0.
1	0505	62	0.	*	1	1120	137	0.	*	1	1735	212	5.	*	1	2350	287	0.
1	0510	63	0.	*	1	1125	138	0.	*	1	1740	213	5.	*	1	2355	288	0.
1	0515	64	0.	*	1	1130	139	0.	*	1	1745	214	5.	*	2	0000	289	0.
1	0520	65	0.	*	1	1135	140	0.	*	1	1750	215	5.	*	2	0005	290	0.
1	0525	66	0.	*	1	1140	141	0.	*	1	1755	216	5.	*	2	0010	291	0.
1	0530	67	0.	*	1	1145	142	0.	*	1	1800	217	4.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	0.	*	1	1805	218	4.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	0.	*	1	1810	219	4.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	0.	*	1	1815	220	4.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	0.	*	1	1820	221	4.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	0.	*	1	1825	222	4.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	0.	*	1	1830	223	4.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	0.	*	1	1835	224	3.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	0.	*	1	1840	225	3.	*	2	0055	300	0.
				*					*					*				

****

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 41.	13.25		16.	4.	4.	4.
		(INCHES)	.147	.158	.158	.158
		(AC-FT)	8.	9.	9.	9.

CUMULATIVE AREA = 1.03 SQ MI

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          ***************
          *             *
424 KK    *      I6     *      Subbasin
          *             *
          ***************
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SUBBASIN RUNOFF DATA

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425 BA      SUBBASIN CHARACTERISTICS
              TAREA          .45  SUBBASIN AREA

426 LG      GREEN AND AMPT LOSS RATE
              STRTL          .43  STARTING LOSS
                DTH          .43  MOISTURE DEFICIT
               PSIF         1.59  WETTING FRONT SUCTION
              XKSAT          .06  HYDRAULIC CONDUCTIVITY
              RTIMP        40.00  PERCENT IMPERVIOUS AREA

427 US      SNYDER UNITGRAPH
                TP          .12  LAG
                CP          .46  PEAKING COEFFICIENT

            SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                  ***
                                      UNIT HYDROGRAPH PARAMETERS
                                CLARK   TC=   .10 HR,       R=   .19 HR
                                SNYDER  TP=   .12 HR,      CP=   .46
                                      UNIT HYDROGRAPH
                                13 END-OF-PERIOD ORDINATES
                  581.     998.     684.     440.     283.     182.     117.      75.      48.      31.
                   20.      13.       8.
          ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION       I6
                      TRANSPOSITION AREA         .0 SQ MI

       TOTAL RAINFALL =   1.19, TOTAL LOSS =     .59, TOTAL EXCESS =     .60
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EAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 217.	12.00		22.	7.	7.	7.
		(INCHES)	.457	.596	.596	.596
		(AC-FT)	11.	14.	14.	14.

CUMULATIVE AREA = .45 SQ MI

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HYDROGRAPH AT STATION I6
TRANSPOSITION AREA 14.0 SQ MI

TOTAL RAINFALL = 1.17, TOTAL LOSS = .58, TOTAL EXCESS = .58

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
208.	12.00	21.	7.	7.	7.
		.442	.578	.579	.579
		11.	14.	14.	14.

(CFS)
(INCHES)
(AC-FT)

CUMULATIVE AREA = .45 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION I6
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.15, TOTAL LOSS = .58, TOTAL EXCESS = .57

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
204.	12.00	21.	7.	7.	7.
		.435	.569	.570	.570
		10.	14.	14.	14.

(CFS)
(INCHES)
(AC-FT)

CUMULATIVE AREA = .45 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION I6
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.14, TOTAL LOSS = .58, TOTAL EXCESS = .56

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
200.	12.00	21.	7.	7.	7.
		.428	.561	.561	.561
		10.	13.	14.	14.

(CFS)
(INCHES)
(AC-FT)

CUMULATIVE AREA = .45 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION I6
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.13, TOTAL LOSS = .58, TOTAL EXCESS = .56

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
197.	12.00	21.	7.	6.	6.
		.423	.555	.556	.556
		10.	13.	13.	13.

(CFS)
(INCHES)
(AC-FT)

CUMULATIVE AREA = .45 SQ MI

INTERPOLATED HYDROGRAPH AT I6

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	2.	1		1230	151	38.	1		1845	226	2.
1		0005	2	0.	1		0620	77	2.	1		1235	152	29.	1		1850	227	2.
1		0010	3	1.	1		0625	78	3.	1		1240	153	22.	1		1855	228	2.
1		0015	4	1.	1		0630	79	3.	1		1245	154	18.	1		1900	229	2.
1		0020	5	1.	1		0635	80	3.	1		1250	155	15.	1		1905	230	2.
1		0025	6	1.	1		0640	81	3.	1		1255	156	13.	1		1910	231	2.
1		0030	7	1.	1		0645	82	3.	1		1300	157	11.	1		1915	232	2.
1		0035	8	1.	1		0650	83	3.	1		1305	158	10.	1		1920	233	2.
1		0040	9	1.	1		0655	84	3.	1		1310	159	9.	1		1925	234	2.
1		0045	10	1.	1		0700	85	3.	1		1315	160	9.	1		1930	235	2.
1		0050	11	1.	1		0705	86	3.	1		1320	161	8.	1		1935	236	2.
1		0055	12	1.	1		0710	87	3.	1		1325	162	8.	1		1940	237	2.
1		0100	13	1.	1		0715	88	3.	1		1330	163	7.	1		1945	238	2.
1		0105	14	1.	1		0720	89	3.	1		1335	164	7.	1		1950	239	2.
1		0110	15	1.	1		0725	90	3.	1		1340	165	7.	1		1955	240	2.
1		0115	16	1.	1		0730	91	3.	1		1345	166	6.	1		2000	241	2.
1		0120	17	2.	1		0735	92	3.	1		1350	167	6.	1		2005	242	2.
1		0125	18	2.	1		0740	93	3.	1		1355	168	6.	1		2010	243	2.
1		0130	19	2.	1		0745	94	3.	1		1400	169	6.	1		2015	244	2.
1		0135	20	2.	1		0750	95	3.	1		1405	170	6.	1		2020	245	2.
1		0140	21	2.	1		0755	96	3.	1		1410	171	5.	1		2025	246	2.
1		0145	22	2.	1		0800	97	3.	1		1415	172	5.	1		2030	247	2.
1		0150	23	2.	1		0805	98	3.	1		1420	173	5.	1		2035	248	2.
1		0155	24	2.	1		0810	99	3.	1		1425	174	5.	1		2040	249	2.
1		0200	25	2.	1		0815	100	3.	1		1430	175	5.	1		2045	250	2.
1		0205	26	2.	1		0820	101	3.	1		1435	176	5.	1		2050	251	2.
1		0210	27	2.	1		0825	102	3.	1		1440	177	5.	1		2055	252	2.
1		0215	28	2.	1		0830	103	3.	1		1445	178	5.	1		2100	253	2.
1		0220	29	2.	1		0835	104	3.	1		1450	179	5.	1		2105	254	2.
1		0225	30	2.	1		0840	105	4.	1		1455	180	4.	1		2110	255	2.
1		0230	31	2.	1		0845	106	4.	1		1500	181	4.	1		2115	256	2.
1		0235	32	2.	1		0850	107	4.	1		1505	182	4.	1		2120	257	2.

1	0240	33	2.	*	1	0855	108	4.	*	1	1510	183	4.	*	1	2125	258	2.
1	0245	34	2.	*	1	0900	109	4.	*	1	1515	184	4.	*	1	2130	259	2.
1	0250	35	2.	*	1	0905	110	4.	*	1	1520	185	4.	*	1	2135	260	2.
1	0255	36	2.	*	1	0910	111	4.	*	1	1525	186	4.	*	1	2140	261	2.
1	0300	37	2.	*	1	0915	112	4.	*	1	1530	187	4.	*	1	2145	262	2.
1	0305	38	2.	*	1	0920	113	4.	*	1	1535	188	4.	*	1	2150	263	2.
1	0310	39	2.	*	1	0925	114	4.	*	1	1540	189	4.	*	1	2155	264	2.
1	0315	40	2.	*	1	0930	115	4.	*	1	1545	190	4.	*	1	2200	265	2.
1	0320	41	2.	*	1	0935	116	4.	*	1	1550	191	4.	*	1	2205	266	2.
1	0325	42	2.	*	1	0940	117	4.	*	1	1555	192	3.	*	1	2210	267	2.
1	0330	43	2.	*	1	0945	118	5.	*	1	1600	193	3.	*	1	2215	268	2.
1	0335	44	2.	*	1	0950	119	5.	*	1	1605	194	3.	*	1	2220	269	2.
1	0340	45	2.	*	1	0955	120	5.	*	1	1610	195	3.	*	1	2225	270	2.
1	0345	46	2.	*	1	1000	121	5.	*	1	1615	196	3.	*	1	2230	271	2.
1	0350	47	2.	*	1	1005	122	5.	*	1	1620	197	3.	*	1	2235	272	2.
1	0355	48	2.	*	1	1010	123	5.	*	1	1625	198	3.	*	1	2240	273	2.
1	0400	49	2.	*	1	1015	124	6.	*	1	1630	199	3.	*	1	2245	274	2.
1	0405	50	2.	*	1	1020	125	6.	*	1	1635	200	3.	*	1	2250	275	2.
1	0410	51	2.	*	1	1025	126	6.	*	1	1640	201	3.	*	1	2255	276	2.
1	0415	52	2.	*	1	1030	127	6.	*	1	1645	202	3.	*	1	2300	277	2.
1	0420	53	2.	*	1	1035	128	7.	*	1	1650	203	3.	*	1	2305	278	2.
1	0425	54	2.	*	1	1040	129	7.	*	1	1655	204	3.	*	1	2310	279	2.
1	0430	55	2.	*	1	1045	130	7.	*	1	1700	205	3.	*	1	2315	280	2.
1	0435	56	2.	*	1	1050	131	8.	*	1	1705	206	3.	*	1	2320	281	2.
1	0440	57	2.	*	1	1055	132	8.	*	1	1710	207	3.	*	1	2325	282	2.
1	0445	58	2.	*	1	1100	133	9.	*	1	1715	208	3.	*	1	2330	283	2.
1	0450	59	2.	*	1	1105	134	9.	*	1	1720	209	3.	*	1	2335	284	2.
1	0455	60	2.	*	1	1110	135	10.	*	1	1725	210	3.	*	1	2340	285	2.
1	0500	61	2.	*	1	1115	136	11.	*	1	1730	211	3.	*	1	2345	286	2.
1	0505	62	2.	*	1	1120	137	11.	*	1	1735	212	3.	*	1	2350	287	2.
1	0510	63	2.	*	1	1125	138	12.	*	1	1740	213	3.	*	1	2355	288	2.
1	0515	64	2.	*	1	1130	139	13.	*	1	1745	214	3.	*	2	0000	289	2.
1	0520	65	2.	*	1	1135	140	17.	*	1	1750	215	3.	*	2	0005	290	1.
1	0525	66	2.	*	1	1140	141	27.	*	1	1755	216	3.	*	2	0010	291	1.
1	0530	67	2.	*	1	1145	142	43.	*	1	1800	217	3.	*	2	0015	292	1.
1	0535	68	2.	*	1	1150	143	81.	*	1	1805	218	3.	*	2	0020	293	0.
1	0540	69	2.	*	1	1155	144	155.	*	1	1810	219	2.	*	2	0025	294	0.
1	0545	70	2.	*	1	1200	145	212.	*	1	1815	220	2.	*	2	0030	295	0.
1	0550	71	2.	*	1	1205	146	193.	*	1	1820	221	2.	*	2	0035	296	0.
1	0555	72	2.	*	1	1210	147	136.	*	1	1825	222	2.	*	2	0040	297	0.
1	0600	73	2.	*	1	1215	148	95.	*	1	1830	223	2.	*	2	0045	298	0.
1	0605	74	2.	*	1	1220	149	68.	*	1	1835	224	2.	*	2	0050	299	0.
1	0610	75	2.	*	1	1225	150	50.	*	1	1840	225	2.	*	2	0055	300	0.

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PEAK FLOW TIME MAXIMUM AVERAGE FLOW

+	(CFS)	(HR)		6-HR	24-HR	72-HR	24.92-HR
			(CFS)				
+	212.	12.00		22.	7.	7.	7.
			(INCHES)	.449	.587	.587	.587
			(AC-FT)	11.	14.	14.	14.

CUMULATIVE AREA = .45 SQ MI

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          ***************
          *             *
428 KK    *     C_I6    *     Combine I7 and I6
          *             *
          ***************
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429 HC HYDROGRAPH COMBINATION
ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

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HYDROGRAPH AT STATION C_I6
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW TIME MAXIMUM AVERAGE FLOW

+	(CFS)	(HR)		6-HR	24-HR	72-HR	24.92-HR
			(CFS)				
+	217.	12.00		37.	12.	11.	11.
			(INCHES)	.234	.298	.298	.298
			(AC-FT)	18.	23.	23.	23.

CUMULATIVE AREA = 1.48 SQ MI

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HYDROGRAPH AT STATION C_I6
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW TIME MAXIMUM AVERAGE FLOW

+	(CFS)	(HR)		6-HR	24-HR	72-HR	24.92-HR
			(CFS)				
+	209.	12.00		35.	11.	11.	11.
			(INCHES)	.221	.283	.283	.283
			(AC-FT)	17.	22.	22.	22.

CUMULATIVE AREA = 1.48 SQ MI

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HYDROGRAPH AT STATION C_I6
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW TIME MAXIMUM AVERAGE FLOW

+	(CFS)	(HR)		6-HR	24-HR	72-HR	24.92-HR
			(CFS)				

+	204.	12.00		34.	11.	11.	11.
			(INCHES)	.215	.276	.276	.276
			(AC-FT)	17.	22.	22.	22.

CUMULATIVE AREA = 1.48 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_I6
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 200.	12.00		33.	11.	10.	10.
		(INCHES)	.208	.268	.269	.269
		(AC-FT)	16.	21.	21.	21.

CUMULATIVE AREA = 1.48 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_I6
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 197.	12.00		32.	10.	10.	10.
		(INCHES)	.204	.263	.263	.263
		(AC-FT)	16.	21.	21.	21.

CUMULATIVE AREA = 1.48 SQ MI

INTERPOLATED HYDROGRAPH AT C_I6

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	2.	1		1230	151	38.	1		1845	226	5.
1		0005	2	0.	1		0620	77	3.	1		1235	152	29.	1		1850	227	5.
1		0010	3	1.	1		0625	78	3.	1		1240	153	22.	1		1855	228	5.
1		0015	4	1.	1		0630	79	3.	1		1245	154	18.	1		1900	229	5.
1		0020	5	1.	1		0635	80	3.	1		1250	155	18.	1		1905	230	5.
1		0025	6	1.	1		0640	81	3.	1		1255	156	34.	1		1910	231	5.
1		0030	7	1.	1		0645	82	3.	1		1300	157	43.	1		1915	232	5.
1		0035	8	1.	1		0650	83	3.	1		1305	158	47.	1		1920	233	5.
1		0040	9	1.	1		0655	84	3.	1		1310	159	49.	1		1925	234	4.
1		0045	10	1.	1		0700	85	3.	1		1315	160	49.	1		1930	235	4.
1		0050	11	1.	1		0705	86	3.	1		1320	161	49.	1		1935	236	4.
1		0055	12	1.	1		0710	87	3.	1		1325	162	47.	1		1940	237	4.
1		0100	13	1.	1		0715	88	3.	1		1330	163	46.	1		1945	238	4.
1		0105	14	1.	1		0720	89	3.	1		1335	164	44.	1		1950	239	4.
1		0110	15	1.	1		0725	90	3.	1		1340	165	43.	1		1955	240	4.
1		0115	16	1.	1		0730	91	3.	1		1345	166	41.	1		2000	241	4.
1		0120	17	2.	1		0735	92	3.	1		1350	167	39.	1		2005	242	4.
1		0125	18	2.	1		0740	93	3.	1		1355	168	38.	1		2010	243	4.
1		0130	19	2.	1		0745	94	3.	1		1400	169	36.	1		2015	244	3.
1		0135	20	2.	1		0750	95	3.	1		1405	170	35.	1		2020	245	3.
1		0140	21	2.	1		0755	96	3.	1		1410	171	34.	1		2025	246	3.
1		0145	22	2.	1		0800	97	3.	1		1415	172	32.	1		2030	247	3.
1		0150	23	2.	1		0805	98	3.	1		1420	173	31.	1		2035	248	3.
1		0155	24	2.	1		0810	99	3.	1		1425	174	30.	1		2040	249	3.
1		0200	25	2.	1		0815	100	3.	1		1430	175	29.	1		2045	250	3.
1		0205	26	2.	1		0820	101	3.	1		1435	176	28.	1		2050	251	3.
1		0210	27	2.	1		0825	102	3.	1		1440	177	27.	1		2055	252	3.
1		0215	28	2.	1		0830	103	3.	1		1445	178	26.	1		2100	253	3.
1		0220	29	2.	1		0835	104	4.	1		1450	179	25.	1		2105	254	3.
1		0225	30	2.	1		0840	105	4.	1		1455	180	24.	1		2110	255	3.
1		0230	31	2.	1		0845	106	4.	1		1500	181	23.	1		2115	256	3.
1		0235	32	2.	1		0850	107	4.	1		1505	182	22.	1		2120	257	3.
1		0240	33	2.	1		0855	108	4.	1		1510	183	21.	1		2125	258	3.
1		0245	34	2.	1		0900	109	4.	1		1515	184	21.	1		2130	259	3.
1		0250	35	2.	1		0905	110	4.	1		1520	185	20.	1		2135	260	3.
1		0255	36	2.	1		0910	111	4.	1		1525	186	19.	1		2140	261	3.
1		0300	37	2.	1		0915	112	4.	1		1530	187	19.	1		2145	262	3.
1		0305	38	2.	1		0920	113	4.	1		1535	188	18.	1		2150	263	3.
1		0310	39	2.	1		0925	114	4.	1		1540	189	17.	1		2155	264	3.
1		0315	40	2.	1		0930	115	4.	1		1545	190	17.	1		2200	265	2.
1		0320	41	2.	1		0935	116	4.	1		1550	191	16.	1		2205	266	2.
1		0325	42	2.	1		0940	117	5.	1		1555	192	15.	1		2210	267	2.
1		0330	43	2.	1		0945	118	5.	1		1600	193	15.	1		2215	268	2.
1		0335	44	2.	1		0950	119	5.	1		1605	194	14.	1		2220	269	2.
1		0340	45	2.	1		0955	120	5.	1		1610	195	14.	1		2225	270	2.
1		0345	46	2.	1		1000	121	5.	1		1615	196	13.	1		2230	271	2.
1		0350	47	2.	1		1005	122	5.	1		1620	197	13.	1		2235	272	2.
1		0355	48	2.	1		1010	123	5.	1		1625	198	13.	1		2240	273	2.
1		0400	49	2.	1		1015	124	6.	1		1630	199	12.	1		2245	274	2.
1		0405	50	2.	1		1020	125	6.	1		1635	200	12.	1		2250	275	2.
1		0410	51	2.	1		1025	126	6.	1		1640	201	11.	1		2255	276	2.
1		0415	52	2.	1		1030	127	6.	1		1645	202	11.	1		2300	277	2.
1		0420	53	2.	1		1035	128	7.	1		1650	203	11.	1		2305	278	2.
1		0425	54	2.	1		1040	129	7.	1		1655	204	10.	1		2310	279	2.
1		0430	55	2.	1		1045	130	7.	1		1700	205	10.	1		2315	280	2.
1		0435	56	2.	1		1050	131	8.	1		1705	206	10.	1		2320	281	2.
1		0440	57	2.	1		1055	132	8.	1		1710	207	9.	1		2325	282	2.
1		0445	58	2.	1		1100	133	9.	1		1715	208	9.	1		2330	283	2.
1		0450	59	2.	1		1105	134	9.	1		1720	209	9.	1		2335	284	2.
1		0455	60	2.	1		1110	135	10.	1		1725	210	9.	1		2340	285	2.
1		0500	61	2.	1		1115	136	11.	1		1730	211	8.	1		2345	286	2.
1		0505	62	2.	1		1120	137	12.	1		1735	212	8.	1		2350	287	2.
1		0510	63	2.	1		1125	138	12.	1		1740	213	8.	1		2355	288	2.
1		0515	64	2.	1		1130	139	13.	1		1745	214	8.	2		0000	289	2.
1		0520	65	2.	1		1135	140	17.	1		1750	215	7.	2		0005	290	2.
1		0525	66	2.	1		1140	141	27.	1		1755	216	7.	2		0010	291	1.
1		0530	67	2.	1		1145	142	43.	1		1800	217	7.	2		0015	292	1.

1	0535	68	2.	*	1	1150	143	81.	*	1	1805	218	7.	*	2	0020	293	1.														
1	0540	69	2.	*	1	1155	144	154.	*	1	1810	219	7.	*	2	0025	294	0.														
1	0545	70	2.	*	1	1200	145	211.	*	1	1815	220	6.	*	2	0030	295	0.														
1	0550	71	2.	*	1	1205	146	192.	*	1	1820	221	6.	*	2	0035	296	0.														
1	0555	72	2.	*	1	1210	147	135.	*	1	1825	222	6.	*	2	0040	297	0.														
1	0600	73	2.	*	1	1215	148	95.	*	1	1830	223	6.	*	2	0045	298	0.														
1	0605	74	2.	*	1	1220	149	68.	*	1	1835	224	6.	*	2	0050	299	0.														
1	0610	75	2.	*	1	1225	150	50.	*	1	1840	225	6.	*	2	0055	300	0.														
				*					*					*																		

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 211.	12.00		36.	11.	11.	11.
		(INCHES)	.225	.288	.288	.288
		(AC-FT)	18.	23.	23.	23.

CUMULATIVE AREA = 1.48 SQ MI

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          *             *
430 KK    *     R_I6    *     Detention Pond I6
          *             *
          ***************
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HYDROGRAPH ROUTING DATA

431 RS STORAGE ROUTING
NSTPS 1 NUMBER OF SUBREACHES
ITYP STOR TYPE OF INITIAL CONDITION
RSVRIC .00 INITIAL CONDITION
X .00 WORKING R AND D COEFFICIENT

432 SV	STORAGE	.0	2.0	3.6	5.4	7.4	9.7	12.2	15.0	18.0	21.3
433 SQ	DISCHARGE	0.	0.	3.	9.	16.	44.	95.	161.	180.	191.
434 SE	ELEVATION	4870.00	4872.00	4873.00	4874.00	4875.00	4876.00	4877.00	4878.00	4879.00	4880.00

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HYDROGRAPH AT STATION R_I6
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 42.	13.75		29.	10.	9.	9.
		(INCHES)	.184	.248	.248	.248
		(AC-FT)	15.	20.	20.	20.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
10.	13.75	8.	4.	4.	4.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
4875.94	13.75	4875.45	4873.00	4872.89	4872.89

CUMULATIVE AREA = 1.48 SQ MI

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HYDROGRAPH AT STATION R_I6
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 39.	13.83		27.	9.	9.	9.
		(INCHES)	.172	.234	.234	.234
		(AC-FT)	14.	18.	18.	18.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
9.	13.83	8.	4.	4.	4.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
4875.82	13.83	4875.38	4872.96	4872.85	4872.85

CUMULATIVE AREA = 1.48 SQ MI

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HYDROGRAPH AT STATION R_I6
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 37.	13.83		26.	9.	9.	9.

		6-HR	24-HR	72-HR	24.92-HR
	(INCHES)	.165	.227	.227	.227
	(AC-FT)	13.	18.	18.	18.

PEAK STORAGE (AC-FT)	TIME (HR)	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
9.	13.83	8.	4.	4.	4.

PEAK STAGE (FEET)	TIME (HR)	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
4875.76	13.83	4875.34	4872.94	4872.83	4872.83

CUMULATIVE AREA = 1.48 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R_I6
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
36.	13.92	(CFS) 25.	9.	8.	8.
		(INCHES) .159	.220	.220	.220
		(AC-FT) 13.	17.	17.	17.

PEAK STORAGE (AC-FT)	TIME (HR)	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
9.	13.83	8.	4.	4.	4.

PEAK STAGE (FEET)	TIME (HR)	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
4875.70	13.83	4875.30	4872.92	4872.81	4872.81

CUMULATIVE AREA = 1.48 SQ MI

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HYDROGRAPH AT STATION R_I6
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
34.	13.92	(CFS) 25.	9.	8.	8.
		(INCHES) .155	.215	.215	.215
		(AC-FT) 12.	17.	17.	17.

PEAK STORAGE (AC-FT)	TIME (HR)	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
9.	13.92	8.	4.	4.	4.

PEAK STAGE (FEET)	TIME (HR)	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
4875.65	13.92	4875.27	4872.91	4872.80	4872.80

CUMULATIVE AREA = 1.48 SQ MI

INTERPOLATED HYDROGRAPH AT R_I6

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	37.	1		1845	226	12.
1		0005	2	0.	1		0620	77	0.	1		1235	152	37.	1		1850	227	12.
1		0010	3	0.	1		0625	78	0.	1		1240	153	36.	1		1855	228	12.
1		0015	4	0.	1		0630	79	0.	1		1245	154	35.	1		1900	229	12.
1		0020	5	0.	1		0635	80	0.	1		1250	155	33.	1		1905	230	12.
1		0025	6	0.	1		0640	81	0.	1		1255	156	33.	1		1910	231	12.
1		0030	7	0.	1		0645	82	0.	1		1300	157	33.	1		1915	232	11.
1		0035	8	0.	1		0650	83	0.	1		1305	158	34.	1		1920	233	11.
1		0040	9	0.	1		0655	84	0.	1		1310	159	35.	1		1925	234	11.
1		0045	10	0.	1		0700	85	0.	1		1315	160	36.	1		1930	235	11.
1		0050	11	0.	1		0705	86	0.	1		1320	161	37.	1		1935	236	11.
1		0055	12	0.	1		0710	87	0.	1		1325	162	38.	1		1940	237	11.
1		0100	13	0.	1		0715	88	0.	1		1330	163	39.	1		1945	238	10.
1		0105	14	0.	1		0720	89	0.	1		1335	164	40.	1		1950	239	10.
1		0110	15	0.	1		0725	90	0.	1		1340	165	40.	1		1955	240	10.
1		0115	16	0.	1		0730	91	0.	1		1345	166	40.	1		2000	241	10.
1		0120	17	0.	1		0735	92	0.	1		1350	167	40.	1		2005	242	10.
1		0125	18	0.	1		0740	93	0.	1		1355	168	40.	1		2010	243	10.
1		0130	19	0.	1		0745	94	0.	1		1400	169	40.	1		2015	244	10.
1		0135	20	0.	1		0750	95	0.	1		1405	170	39.	1		2020	245	9.
1		0140	21	0.	1		0755	96	0.	1		1410	171	39.	1		2025	246	9.
1		0145	22	0.	1		0800	97	0.	1		1415	172	38.	1		2030	247	9.
1		0150	23	0.	1		0805	98	0.	1		1420	173	38.	1		2035	248	9.
1		0155	24	0.	1		0810	99	0.	1		1425	174	37.	1		2040	249	9.
1		0200	25	0.	1		0815	100	0.	1		1430	175	37.	1		2045	250	9.
1		0205	26	0.	1		0820	101	0.	1		1435	176	36.	1		2050	251	9.
1		0210	27	0.	1		0825	102	0.	1		1440	177	35.	1		2055	252	8.
1		0215	28	0.	1		0830	103	0.	1		1445	178	34.	1		2100	253	8.
1		0220	29	0.	1		0835	104	0.	1		1450	179	34.	1		2105	254	8.
1		0225	30	0.	1		0840	105	0.	1		1455	180	33.	1		2110	255	8.
1		0230	31	0.	1		0845	106	0.	1		1500	181	32.	1		2115	256	8.
1		0235	32	0.	1		0850	107	0.	1		1505	182	31.	1		2120	257	8.
1		0240	33	0.	1		0855	108	0.	1		1510	183	31.	1		2125	258	8.
1		0245	34	0.	1		0900	109	0.	1		1515	184	30.	1		2130	259	8.
1		0250	35	0.	1		0905	110	0.	1		1520	185	29.	1		2135	260	8.
1		0255	36	0.	1		0910	111	0.	1		1525	186	28.	1		2140	261	7.
1		0300	37	0.	1		0915	112	0.	1		1530	187	28.	1		2145	262	7.
1		0305	38	0.	1		0920	113	0.	1		1535	188	27.	1		2150	263	7.

1	0310	39	0.	*	1	0925	114	0.	*	1	1540	189	26.	*	1	2155	264	7.
1	0315	40	0.	*	1	0930	115	0.	*	1	1545	190	25.	*	1	2200	265	7.
1	0320	41	0.	*	1	0935	116	0.	*	1	1550	191	25.	*	1	2205	266	7.
1	0325	42	0.	*	1	0940	117	0.	*	1	1555	192	24.	*	1	2210	267	7.
1	0330	43	0.	*	1	0945	118	0.	*	1	1600	193	23.	*	1	2215	268	7.
1	0335	44	0.	*	1	0950	119	0.	*	1	1605	194	22.	*	1	2220	269	7.
1	0340	45	0.	*	1	0955	120	0.	*	1	1610	195	22.	*	1	2225	270	7.
1	0345	46	0.	*	1	1000	121	0.	*	1	1615	196	21.	*	1	2230	271	6.
1	0350	47	0.	*	1	1005	122	0.	*	1	1620	197	20.	*	1	2235	272	6.
1	0355	48	0.	*	1	1010	123	0.	*	1	1625	198	20.	*	1	2240	273	6.
1	0400	49	0.	*	1	1015	124	0.	*	1	1630	199	19.	*	1	2245	274	6.
1	0405	50	0.	*	1	1020	125	0.	*	1	1635	200	19.	*	1	2250	275	6.
1	0410	51	0.	*	1	1025	126	0.	*	1	1640	201	18.	*	1	2255	276	6.
1	0415	52	0.	*	1	1030	127	0.	*	1	1645	202	17.	*	1	2300	277	6.
1	0420	53	0.	*	1	1035	128	0.	*	1	1650	203	17.	*	1	2305	278	6.
1	0425	54	0.	*	1	1040	129	1.	*	1	1655	204	16.	*	1	2310	279	6.
1	0430	55	0.	*	1	1045	130	1.	*	1	1700	205	16.	*	1	2315	280	6.
1	0435	56	0.	*	1	1050	131	1.	*	1	1705	206	16.	*	1	2320	281	6.
1	0440	57	0.	*	1	1055	132	1.	*	1	1710	207	16.	*	1	2325	282	6.
1	0445	58	0.	*	1	1100	133	1.	*	1	1715	208	16.	*	1	2330	283	5.
1	0450	59	0.	*	1	1105	134	1.	*	1	1720	209	15.	*	1	2335	284	5.
1	0455	60	0.	*	1	1110	135	1.	*	1	1725	210	15.	*	1	2340	285	5.
1	0500	61	0.	*	1	1115	136	1.	*	1	1730	211	15.	*	1	2345	286	5.
1	0505	62	0.	*	1	1120	137	1.	*	1	1735	212	15.	*	1	2350	287	5.
1	0510	63	0.	*	1	1125	138	2.	*	1	1740	213	15.	*	1	2355	288	5.
1	0515	64	0.	*	1	1130	139	2.	*	1	1745	214	15.	*	2	0000	289	5.
1	0520	65	0.	*	1	1135	140	2.	*	1	1750	215	14.	*	2	0005	290	5.
1	0525	66	0.	*	1	1140	141	2.	*	1	1755	216	14.	*	2	0010	291	5.
1	0530	67	0.	*	1	1145	142	3.	*	1	1800	217	14.	*	2	0015	292	5.
1	0535	68	0.	*	1	1150	143	3.	*	1	1805	218	14.	*	2	0020	293	5.
1	0540	69	0.	*	1	1155	144	6.	*	1	1810	219	14.	*	2	0025	294	5.
1	0545	70	0.	*	1	1200	145	10.	*	1	1815	220	14.	*	2	0030	295	4.
1	0550	71	0.	*	1	1205	146	14.	*	1	1820	221	13.	*	2	0035	296	4.
1	0555	72	0.	*	1	1210	147	23.	*	1	1825	222	13.	*	2	0040	297	4.
1	0600	73	0.	*	1	1215	148	30.	*	1	1830	223	13.	*	2	0045	298	4.
1	0605	74	0.	*	1	1220	149	35.	*	1	1835	224	13.	*	2	0050	299	4.
1	0610	75	0.	*	1	1225	150	37.	*	1	1840	225	13.	*	2	0055	300	4.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 40.	13.83		28.	9.	9.	9.
		(INCHES)	.176	.238	.238	.238
		(AC-FT)	14.	19.	19.	19.

CUMULATIVE AREA = 1.48 SQ MI

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435 KK — 18 — Subbasin

SUBBASIN RUNOFF DATA

436 BA — SUBBASIN CHARACTERISTICS

TAREA	.41	SUBBASIN AREA

437 LG — GREEN AND AMPT LOSS RATE

STRTL	.61	STARTING LOSS
DTH	.54	MOISTURE DEFICIT
PSIF	2.03	WETTING FRONT SUCTION
XKSAT	.07	HYDRAULIC CONDUCTIVITY
RTIMP	10.00	PERCENT IMPERVIOUS AREA

438 US — SNYDER UNITGRAPH

TP	.20	LAG
CP	.25	PEAKING COEFFICIENT

SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

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UNIT HYDROGRAPH PARAMETERS

CLARK TC= .14 HR, R= .69 HR
SNYDER TP= .20 HR, CP= .25

UNIT HYDROGRAPH
45 END-OF-PERIOD ORDINATES

113.	284.	323.	286.	253.	224.	198.	176.	155.	138.
122.	108.	95.	85.	75.	66.	59.	52.	46.	41.
36.	32.	28.	25.	22.	20.	17.	15.	14.	12.
11.	9.	8.	7.	7.	6.	5.	5.	4.	4.
3.	3.	2.	2.	2.					

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HYDROGRAPH AT STATION 18
TRANSPOSITION AREA .0 SQ MI

TOTAL RAINFALL = 1.19, TOTAL LOSS = 1.04, TOTAL EXCESS = .15

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
22.	12.17		5.	2.	2.	2.
		(INCHES)	.111	.145	.145	.145
		(AC-FT)	2.	3.	3.	3.

CUMULATIVE AREA = .41 SQ MI

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HYDROGRAPH AT STATION I8
TRANSPOSITION AREA 14.0 SQ MI

TOTAL RAINFALL = 1.17, TOTAL LOSS = 1.03, TOTAL EXCESS = .14

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
20.	12.17	(CFS)	5.	2.	1.	1.
		(INCHES)	.102	.136	.136	.136
		(AC-FT)	2.	3.	3.	3.

CUMULATIVE AREA = .41 SQ MI

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HYDROGRAPH AT STATION I8
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.15, TOTAL LOSS = 1.02, TOTAL EXCESS = .13

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
19.	12.17	(CFS)	4.	1.	1.	1.
		(INCHES)	.098	.131	.132	.132
		(AC-FT)	2.	3.	3.	3.

CUMULATIVE AREA = .41 SQ MI

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HYDROGRAPH AT STATION I8
IRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.14, TOTAL LOSS = 1.01, TOTAL EXCESS = .13

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
18.	12.17	(CFS)	4.	1.	1.	1.
		(INCHES)	.094	.127	.127	.127
		(AC-FT)	2.	3.	3.	3.

CUMULATIVE AREA = .41 SQ MI

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HYDROGRAPH AT STATION I8
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.13, TOTAL LOSS = 1.01, TOTAL EXCESS = .13

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
17.	12.17	(CFS)	4.	1.	1.	1.
		(INCHES)	.091	.124	.124	.124
		(AC-FT)	2.	3.	3.	3.

CUMULATIVE AREA = .41 SQ MI

INTERPOLATED HYDROGRAPH AT I8

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	1.	1		1230	151	15.	1		1845	226	1.
1		0005	2	0.	1		0620	77	1.	1		1235	152	13.	1		1850	227	1.
1		0010	3	0.	1		0625	78	1.	1		1240	153	12.	1		1855	228	1.
1		0015	4	0.	1		0630	79	1.	1		1245	154	11.	1		1900	229	1.
1		0020	5	0.	1		0635	80	1.	1		1250	155	10.	1		1905	230	1.
1		0025	6	0.	1		0640	81	1.	1		1255	156	9.	1		1910	231	1.
1		0030	7	0.	1		0645	82	1.	1		1300	157	8.	1		1915	232	1.
1		0035	8	0.	1		0650	83	1.	1		1305	158	8.	1		1920	233	1.
1		0040	9	0.	1		0655	84	1.	1		1310	159	7.	1		1925	234	1.
1		0045	10	0.	1		0700	85	1.	1		1315	160	6.	1		1930	235	1.
1		0050	11	0.	1		0705	86	1.	1		1320	161	6.	1		1935	236	0.
1		0055	12	0.	1		0710	87	1.	1		1325	162	5.	1		1940	237	0.
1		0100	13	0.	1		0715	88	1.	1		1330	163	5.	1		1945	238	0.
1		0105	14	0.	1		0720	89	1.	1		1335	164	5.	1		1950	239	0.
1		0110	15	0.	1		0725	90	1.	1		1340	165	4.	1		1955	240	0.
1		0115	16	0.	1		0730	91	1.	1		1345	166	4.	1		2000	241	0.
1		0120	17	0.	1		0735	92	1.	1		1350	167	4.	1		2005	242	0.
1		0125	18	0.	1		0740	93	1.	1		1355	168	3.	1		2010	243	0.
1		0130	19	0.	1		0745	94	1.	1		1400	169	3.	1		2015	244	0.
1		0135	20	0.	1		0750	95	1.	1		1405	170	3.	1		2020	245	0.
1		0140	21	0.	1		0755	96	1.	1		1410	171	3.	1		2025	246	0.
1		0145	22	0.	1		0800	97	1.	1		1415	172	2.	1		2030	247	0.
1		0150	23	0.	1		0805	98	1.	1		1420	173	2.	1		2035	248	0.
1		0155	24	0.	1		0810	99	1.	1		1425	174	2.	1		2040	249	0.
1		0200	25	0.	1		0815	100	1.	1		1430	175	2.	1		2045	250	0.
1		0205	26	0.	1		0820	101	1.	1		1435	176	2.	1		2050	251	0.
1		0210	27	0.	1		0825	102	1.	1		1440	177	2.	1		2055	252	0.
1		0215	28	0.	1		0830	103	1.	1		1445	178	2.	1		2100	253	0.
1		0220	29	0.	1		0835	104	1.	1		1450	179	2.	1		2105	254	0.
1		0225	30	0.	1		0840	105	1.	1		1455	180	2.	1		2110	255	0.
1		0230	31	0.	1		0845	106	1.	1		1500	181	2.	1		2115	256	0.
1		0235	32	0.	1		0850	107	1.	1		1505	182	1.	1		2120	257	0.
1		0240	33	0.	1		0855	108	1.	1		1510	183	1.	1		2125	258	0.
1		0245	34	0.	1		0900	109	1.	1		1515	184	1.	1		2130	259	0.
1		0250	35	0.	1		0905	110	1.	1		1520	185	1.	1		2135	260	0.
1		0255	36	0.	1		0910	111	1.	1		1525	186	1.	1		2140	261	0.

```
   1    0300   37        0.   *   1    0915  112        1.   *   1    1530  187        1.   *   1    2145  262        0.
   1    0305   38        0.   *   1    0920  113        1.   *   1    1535  188        1.   *   1    2150  263        0.
   1    0310   39        0.   *   1    0925  114        1.   *   1    1540  189        1.   *   1    2155  264        0.
   1    0315   40        0.   *   1    0930  115        1.   *   1    1545  190        1.   *   1    2200  265        0.
   1    0320   41        0.   *   1    0935  116        1.   *   1    1550  191        1.   *   1    2205  266        0.
   1    0325   42        0.   *   1    0940  117        1.   *   1    1555  192        1.   *   1    2210  267        0.
   1    0330   43        0.   *   1    0945  118        1.   *   1    1600  193        1.   *   1    2215  268        0.
   1    0335   44        0.   *   1    0950  119        1.   *   1    1605  194        1.   *   1    2220  269        0.
   1    0340   45        0.   *   1    0955  120        1.   *   1    1610  195        1.   *   1    2225  270        0.
   1    0345   46        0.   *   1    1000  121        1.   *   1    1615  196        1.   *   1    2230  271        0.
   1    0350   47        0.   *   1    1005  122        1.   *   1    1620  197        1.   *   1    2235  272        0.
   1    0355   48        0.   *   1    1010  123        1.   *   1    1625  198        1.   *   1    2240  273        0.
   1    0400   49        0.   *   1    1015  124        1.   *   1    1630  199        1.   *   1    2245  274        0.
   1    0405   50        0.   *   1    1020  125        1.   *   1    1635  200        1.   *   1    2250  275        0.
   1    0410   51        0.   *   1    1025  126        1.   *   1    1640  201        1.   *   1    2255  276        0.
   1    0415   52        0.   *   1    1030  127        1.   *   1    1645  202        1.   *   1    2300  277        0.
   1    0420   53        0.   *   1    1035  128        1.   *   1    1650  203        1.   *   1    2305  278        0.
   1    0425   54        0.   *   1    1040  129        1.   *   1    1655  204        1.   *   1    2310  279        0.
   1    0430   55        0.   *   1    1045  130        1.   *   1    1700  205        1.   *   1    2315  280        0.
   1    0435   56        0.   *   1    1050  131        1.   *   1    1705  206        1.   *   1    2320  281        0.
   1    0440   57        0.   *   1    1055  132        2.   *   1    1710  207        1.   *   1    2325  282        0.
   1    0445   58        0.   *   1    1100  133        2.   *   1    1715  208        1.   *   1    2330  283        0.
   1    0450   59        0.   *   1    1105  134        2.   *   1    1720  209        1.   *   1    2335  284        0.
   1    0455   60        0.   *   1    1110  135        2.   *   1    1725  210        1.   *   1    2340  285        0.
   1    0500   61        0.   *   1    1115  136        2.   *   1    1730  211        1.   *   1    2345  286        0.
   1    0505   62        0.   *   1    1120  137        2.   *   1    1735  212        1.   *   1    2350  287        0.
   1    0510   63        0.   *   1    1125  138        2.   *   1    1740  213        1.   *   1    2355  288        0.
   1    0515   64        0.   *   1    1130  139        2.   *   1    1745  214        1.   *   2    0000  289        0.
   1    0520   65        0.   *   1    1135  140        3.   *   1    1750  215        1.   *   2    0005  290        0.
   1    0525   66        0.   *   1    1140  141        3.   *   1    1755  216        1.   *   2    0010  291        0.
   1    0530   67        0.   *   1    1145  142        5.   *   1    1800  217        1.   *   2    0015  292        0.
   1    0535   68        0.   *   1    1150  143        7.   *   1    1805  218        1.   *   2    0020  293        0.
   1    0540   69        0.   *   1    1155  144       10.   *   1    1810  219        1.   *   2    0025  294        0.
   1    0545   70        1.   *   1    1200  145       15.   *   1    1815  220        1.   *   2    0030  295        0.
   1    0550   71        1.   *   1    1205  146       21.   *   1    1820  221        1.   *   2    0035  296        0.
   1    0555   72        1.   *   1    1210  147       21.   *   1    1825  222        1.   *   2    0040  297        0.
   1    0600   73        1.   *   1    1215  148       19.   *   1    1830  223        1.   *   2    0045  298        0.
   1    0605   74        1.   *   1    1220  149       18.   *   1    1835  224        1.   *   2    0050  299        0.
   1    0610   75        1.   *   1    1225  150       16.   *   1    1840  225        1.   *   2    0055  300        0.
                          *                                *                                *
**********************************************************************************************************************************************

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                  6-HR          24-HR          72-HR        24.92-HR
+   (CFS)       (HR)
                      (CFS)
+      21.      12.17              5.             2.             2.             2.
                  (INCHES)       .106           .140           .141           .141
                  (AC-FT)          2.             3.             3.             3.

                  CUMULATIVE AREA =     .41 SQ MI


.** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
439 KK      *      I9    *      Subbasin
            *            *
            **************

            SUBBASIN RUNOFF DATA

440 BA        SUBBASIN CHARACTERISTICS
                    TAREA         .68  SUBBASIN AREA

441 LG        GREEN AND AMPT LOSS RATE
                    STRTL         .52  STARTING LOSS
                      DTH         .50  MOISTURE DEFICIT
                     PSIF        1.86  WETTING FRONT SUCTION
                    XKSAT         .07  HYDRAULIC CONDUCTIVITY
                    RTIMP        2.00  PERCENT IMPERVIOUS AREA

442 US        SNYDER UNITGRAPH
                      TP          .51  LAG
                      CP          .31  PEAKING COEFFICIENT

              SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .52 HR,       R=  1.32 HR
                                  SNYDER   TP=    .51 HR,      CP=   .31

                                          UNIT HYDROGRAPH
                                    88 END-OF-PERIOD ORDINATES
                    15.       55.      113.      177.      232.      265.      268.      254.      238.      224.
                   210.      197.      185.      174.      163.      153.      144.      135.      127.      119.
                   112.      105.       98.       92.       87.       81.       76.       72.       67.       63.
                    59.       56.       52.       49.       46.       43.       41.       38.       36.       34.
                    32.       30.       28.       26.       25.       23.       22.       20.       19.       18.
                    17.       16.       15.       14.       13.       12.       12.       11.       10.       10.
                     9.        8.        8.        7.        7.        7.        6.        6.        5.        5.
                     5.        4.        4.        4.        4.        3.        3.        3.        3.        3.
                     3.        2.        2.        2.        2.        2.        2.        2.

          ***              ***              ***              ***              ***

                        HYDROGRAPH AT STATION       I9
                       TRANSPOSITION AREA        .0 SQ MI

        TOTAL RAINFALL =    1.19, TOTAL LOSS =    1.06, TOTAL EXCESS =     .13

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                  6-HR          24-HR          72-HR        24.92-HR
+   (CFS)       (HR)
                      (CFS)
+      32.      12.42              9.             2.             2.             2.
                  (INCHES)       .122           .131           .131           .131
                  (AC-FT)          4.             5.             5.             5.
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CUMULATIVE AREA = .68 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION I9
TRANSPOSITION AREA 14.0 SQ MI

TOTAL RAINFALL = 1.17, TOTAL LOSS = 1.05, TOTAL EXCESS = .12

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
28.	12.42				
(CFS)		8.	2.	2.	2.
(INCHES)		.110	.118	.118	.118
(AC-FT)		4.	4.	4.	4.

CUMULATIVE AREA = .68 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION I9
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.15, TOTAL LOSS = 1.04, TOTAL EXCESS = .11

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
27.	12.42				
(CFS)		8.	2.	2.	2.
(INCHES)		.104	.112	.112	.112
(AC-FT)		4.	4.	4.	4.

CUMULATIVE AREA = .68 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION I9
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.14, TOTAL LOSS = 1.04, TOTAL EXCESS = .11

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
25.	12.42				
(CFS)		7.	2.	2.	2.
(INCHES)		.098	.106	.106	.106
(AC-FT)		4.	4.	4.	4.

CUMULATIVE AREA = .68 SQ MI

*** *** *** *** ***

HYOROGRAPH AT STATION I9
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.13, TOTAL LOSS = 1.03, TOTAL EXCESS = .10

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
24.	12.42				
(CFS)		7.	2.	2.	2.
(INCHES)		.094	.102	.102	.102
(AC-FT)		3.	4.	4.	4.

CUMULATIVE AREA = .68 SQ MI

INTERPOLATED HYDROGRAPH AT I9

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	29.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	27.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	26.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	24.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	23.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	22.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	20.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	19.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	18.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	17.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	16.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	15.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	14.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	13.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	12.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	12.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	11.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	10.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	10.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	9.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	9.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	8.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	8.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	7.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	7.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	6.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	6.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	6.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	5.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	5.	1		2110	255	0.

1	0230	31	0.	*	1	0845	106	0.	*	1	1500	181	5.	*	1	2115	256	0.
1	0235	32	0.	*	1	0850	107	0.	*	1	1505	182	5.	*	1	2120	257	0.
1	0240	33	0.	*	1	0855	108	0.	*	1	1510	183	4.	*	1	2125	258	0.
1	0245	34	0.	*	1	0900	109	0.	*	1	1515	184	4.	*	1	2130	259	0.
1	0250	35	0.	*	1	0905	110	0.	*	1	1520	185	4.	*	1	2135	260	0.
1	0255	36	0.	*	1	0910	111	0.	*	1	1525	186	4.	*	1	2140	261	0.
1	0300	37	0.	*	1	0915	112	0.	*	1	1530	187	3.	*	1	2145	262	0.
1	0305	38	0.	*	1	0920	113	0.	*	1	1535	188	3.	*	1	2150	263	0.
1	0310	39	0.	*	1	0925	114	0.	*	1	1540	189	3.	*	1	2155	264	0.
1	0315	40	0.	*	1	0930	115	0.	*	1	1545	190	3.	*	1	2200	265	0.
1	0320	41	0.	*	1	0935	116	0.	*	1	1550	191	3.	*	1	2205	266	0.
1	0325	42	0.	*	1	0940	117	0.	*	1	1555	192	3.	*	1	2210	267	0.
1	0330	43	0.	*	1	0945	118	0.	*	1	1600	193	2.	*	1	2215	268	0.
1	0335	44	0.	*	1	0950	119	0.	*	1	1605	194	2.	*	1	2220	269	0.
1	0340	45	0.	*	1	0955	120	0.	*	1	1610	195	2.	*	1	2225	270	0.
1	0345	46	0.	*	1	1000	121	0.	*	1	1615	196	2.	*	1	2230	271	0.
1	0350	47	0.	*	1	1005	122	0.	*	1	1620	197	2.	*	1	2235	272	0.
1	0355	48	0.	*	1	1010	123	0.	*	1	1625	198	2.	*	1	2240	273	0.
1	0400	49	0.	*	1	1015	124	0.	*	1	1630	199	2.	*	1	2245	274	0.
1	0405	50	0.	*	1	1020	125	0.	*	1	1635	200	2.	*	1	2250	275	0.
1	0410	51	0.	*	1	1025	126	0.	*	1	1640	201	2.	*	1	2255	276	0.
1	0415	52	0.	*	1	1030	127	0.	*	1	1645	202	1.	*	1	2300	277	0.
1	0420	53	0.	*	1	1035	128	0.	*	1	1650	203	1.	*	1	2305	278	0.
1	0425	54	0.	*	1	1040	129	0.	*	1	1655	204	1.	*	1	2310	279	0.
1	0430	55	0.	*	1	1045	130	0.	*	1	1700	205	1.	*	1	2315	280	0.
1	0435	56	0.	*	1	1050	131	0.	*	1	1705	206	1.	*	1	2320	281	0.
1	0440	57	0.	*	1	1055	132	0.	*	1	1710	207	1.	*	1	2325	282	0.
1	0445	58	0.	*	1	1100	133	0.	*	1	1715	208	1.	*	1	2330	283	0.
1	0450	59	0.	*	1	1105	134	0.	*	1	1720	209	1.	*	1	2335	284	0.
1	0455	60	0.	*	1	1110	135	0.	*	1	1725	210	1.	*	1	2340	285	0.
1	0500	61	0.	*	1	1115	136	0.	*	1	1730	211	1.	*	1	2345	286	0.
1	0505	62	0.	*	1	1120	137	0.	*	1	1735	212	1.	*	1	2350	287	0.
1	0510	63	0.	*	1	1125	138	0.	*	1	1740	213	1.	*	1	2355	288	0.
1	0515	64	0.	*	1	1130	139	1.	*	1	1745	214	1.	*	2	0000	289	0.
1	0520	65	0.	*	1	1135	140	1.	*	1	1750	215	1.	*	2	0005	290	0.
1	0525	66	0.	*	1	1140	141	1.	*	1	1755	216	1.	*	2	0010	291	0.
1	0530	67	0.	*	1	1145	142	1.	*	1	1800	217	1.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	1.	*	1	1805	218	1.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	2.	*	1	1810	219	1.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	5.	*	1	1815	220	1.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	10.	*	1	1820	221	1.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	17.	*	1	1825	222	1.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	23.	*	1	1830	223	1.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	28.	*	1	1835	224	1.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	30.	*	1	1840	225	0.	*	2	0055	300	0.
				*					*					*				

****

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
30.	12.42		8.	2.	2.	2.
		(INCHES)	.115	.123	.123	.123
		(AC-FT)	4.	4.	4.	4.

CUMULATIVE AREA = .68 SQ MI

1

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+					6-HOUR	24-HOUR	72-HOUR			
+	HYDROGRAPH AT	L11b	120.	13.08	52.	15.	15.	7.48		
+	ROUTED TO	RL11bD	119.	13.42	52.	15.	14.	7.48		
+	HYDROGRAPH AT	L11aU	25.	12.50	9.	3.	3.	1.01		
+	2 COMBINED AT	C_11aU	134.	13.42	59.	18.	17.	8.49		
+	DIVERSION TO	D-Pd	107.	13.42	35.	9.	8.	8.49		
+	HYDROGRAPH AT	D-LPd	27.	13.42	25.	9.	9.	8.49		
+	HYDROGRAPH AT	SRD-Pd	107.	13.42	35.	9.	8.	8.49		
+	2 COMBINED AT	C_11aD	134.	13.42	59.	18.	17.	8.49		
+	HYDROGRAPH AT	L11aD	1.	12.08	0.	0.	0.	.02		
+	2 COMBINED AT	C_L11	134.	13.42	60.	18.	17.	8.50		
+	ROUTED TO	R_L10	133.	13.50	60.	18.	17.	8.50		
+	HYDROGRAPH AT	L10u	29.	12.25	6.	2.	1.	.37		
	ROUTED TO	R_L10u	0.	16.08	0.	0.	0.	.37		
+	ROUTED TO	R_10uO	0.	16.58	0.	0.	0.	.37		
+	HYDROGRAPH AT	L10d	142.	12.17	25.	8.	7.	.61		
+	3 COMBINED AT	C_L10	158.	13.42	83.	25.	24.	9.49		

+	ROUTED TO	R_L9M	155.	13.50	83.	25.	24.	9.49
+	HYDROGRAPH AT	L9.1u	150.	12.75	55.	15.	14.	2.38
+	RDUTED TO	R_9.10	150.	12.83	55.	15.	14.	2.38
+	HYDROGRAPH AT	L9.1d	242.	12.08	29.	10.	10.	.34
+	ROUTED TO	R_L9T	235.	12.17	30.	10.	10.	.34
+	2 COMBINED AT	C_9.1	252.	12.17	82.	25.	24.	2.72
+	ROUTED TO	R_L9.1	60.	14.83	46.	16.	15.	2.72
+	HYDROGRAPH AT	L9	13.	12.08	4.	1.	1.	.21
+	2 COMBINED AT	C_L9T	61.	14.75	48.	17.	17.	2.93
+	2 COMBINED AT	C_L9M	202.	13.58	127.	42.	41.	12.41
+	HYDROGRAPH AT	DB21	59.	12.00	8.	2.	2.	.15
+	ROUTEO TO	PD A	8.	13.08	6.	3.	2.	.15
+	ROUTED TO	R21a	8.	13.33	6.	2.	2.	.15
+	HYDROGRAPH AT	DB21a	147.	12.00	19.	6.	5.	.34
+	HYDROGRAPH AT	R17	34.	12.08	4.	1.	1.	.16
+	ROUTED TO	R_17_	34.	12.17	4.	1.	1.	.16
+	3 COMBINEO AT	C21a	176.	12.08	28.	9.	9.	.65
+	ROUTED TO	WF_PD1	25.	13.17	22.	9.	9.	.65
+	ROUTED TO	RPD1	25.	13.17	22.	9.	9.	.65
+	HYDROGRAPH AT	DB23b	51.	11.92	5.	2.	2.	.06
+	2 COMBINED AT	C23	63.	12.00	26.	11.	10.	.71
+	ROUTED TO	R23b	63.	12.00	26.	11.	10.	.71
+	HYDROGRAPH AT	DB23c	67.	12.00	7.	2.	2.	.08
+	ROUTED TO	R23c	66.	12.00	7.	2.	2.	.08
+	HYDROGRAPH AT	DB23d	12.	12.00	2.	1.	1.	.02
+	ROUTED TO	R23d	11.	12.00	2.	1.	1.	.02
+	3 COMBINED AT	C23	139.	12.00	33.	14.	13.	.81
+	ROUTED TO	WF_PD2	71.	12.17	33.	14.	13.	.81
+	ROUTEO TO	RWF_P2	71.	12.17	33.	14.	13.	.81
+	HYDROGRAPH AT	DB23e	62.	11.92	6.	2.	2.	.07
+	2 COMBINED AT	C23e	122.	12.00	39.	16.	15.	.88
+	ROUTED TO	R23e	119.	12.00	39.	16.	15.	.88
+	HYDROGRAPH AT	DB23a	5.	12.00	1.	0.	0.	.02
+	2 COMBINED AT	C23a	124.	12.00	40.	16.	16.	.90
+	ROUTEO TO	R_PD U	13.	21.17	13.	10.	9.	.90
+	DIVERSION TO	U_Pipe	13.	21.17	13.	10.	9.	.90
+	HYDROGRAPH AT	D_Pd U	0.	.00	0.	0.	0.	.90
+	HYDROGRAPH AT	DB22	107.	12.00	13.	4.	4.	.22

	ROUTED TO	R24_P	104.	12.08	13.	4.	4.	.22
+	ROUTED TO	R24_O	101.	12.08	13.	4.	4.	.22
+	HYDROGRAPH AT	DB24a	5.	12.08	1.	0.	0.	.02
+	DIVERSION TO	B4aDIV	0.	12.00	0.	0.	0.	.02
+	HYDROGRAPH AT	B4aDIV	5.	12.08	1.	0.	0.	.02
+	ROUTED TO	R24_P	5.	12.08	1.	0.	0.	.02
+	ROUTED TO	R24_O	5.	12.17	1.	0.	0.	.02
+	HYDROGRAPH AT	DB24	176.	12.00	21.	7.	7.	.23
+	3 COMBINED AT	C24	272.	12.08	35.	12.	11.	.48
+	HYDROGRAPH AT	DR24a	0.	12.00	0.	0.	0.	.02
+	ROUTED TO	R25_O	0.	12.67	0.	0.	0.	.02
+	ROUTED TO	R25_P	0.	12.92	0.	0.	0.	.02
+	HYDROGRAPH AT	DB25	6.	12.08	1.	0.	0.	.02
+	2 COMBINED AT	C25	6.	12.08	1.	0.	0.	.02
+	DIVERSION TO	B5DIV	0.	.00	0.	0.	0.	.02
+	HYDROGRAPH AT	B5DIV	6.	12.08	1.	0.	0.	.02
+	HYDROGRAPH AT	DB25a	1.	12.08	0.	0.	0.	.03
	3 COMBINED AT	C_6	279.	12.08	36.	12.	12.	.53
+	2 COMBINED AT	C_7	278.	12.08	36.	12.	12.	1.43
+	ROUTED TO	R_PD L	10.	14.08	10.	7.	7.	1.43
+	HYDROGRAPH AT	PR_U	13.	21.17	13.	10.	9.	.90
+	2 COMBINED AT	C_Out	23.	17.00	23.	17.	16.	1.43
+	HYDROGRAPH AT	R16	99.	12.00	10.	3.	3.	.16
+	ROUTED TO	R_14a	92.	12.17	10.	3.	3.	.16
+	HYDROGRAPH AT	R14A	29.	12.00	3.	1.	1.	.04
+	2 COMBINED AT	C_14A	107.	12.17	13.	4.	4.	.19
+	2 COMBINED AT	C_14A	127.	12.17	34.	21.	20.	1.62
+	HYDROGRAPH AT	R15	84.	12.08	11.	4.	4.	.30
+	ROUTED TO	R_R13	83.	12.08	11.	4.	4.	.30
+	HYDROGRAPH AT	R13	5.	12.08	1.	0.	0.	.04
+	2 COMBINED AT	C_R13	88.	12.08	12.	4.	4.	.34
+	HYDROGRAPH AT	Extra5	0.	.00	0.	0.	0.	.02
+	HYDROGRAPH AT	R14	9.	12.17	2.	1.	1.	.06
+	2 COMBINED AT	C_R5	9.	12.17	2.	1.	1.	.06
	ROUTED TO	R_5	9.	13.33	2.	1.	1.	.06
+	HYDROGRAPH AT	R5	3.	12.08	1.	0.	0.	.08
+	HYDROGRAPH AT	C3	31.	12.17	5.	1.	1.	.56
+	HYDROGRAPH AT	I5	62.	12.33	14.	4.	4.	.80

+	ROUTED TO	R_I5	0.	12.50	0.	0.	0.	.80
+	HYDROGRAPH AT	I4	9.	12.67	4.	1.	1.	1.21
+	2 COMBINED AT	C_I4	9.	12.67	4.	1.	1.	2.01
+	HYDROGRAPH AT	I3	96.	13.08	43.	12.	12.	3.21
+	2 COMBINED AT	C_I3	103.	13.08	47.	14.	13.	5.22
+	ROUTED TO	R_I3_O	103.	13.17	47.	14.	13.	5.22
+	HYDROGRAPH AT	I2	14.	12.42	5.	2.	2.	.97
+	2 COMBINED AT	C_I2	112.	13.17	52.	15.	15.	6.19
+	ROUTED TO	R_I2	24.	16.75	23.	11.	10.	6.19
+	HYDROGRAPH AT	I1	16.	12.50	8.	3.	3.	.76
+	2 COMBINED AT	C_I1	29.	14.33	28.	13.	13.	6.95
+	ROUTED TO	R_I1	21.	22.00	19.	5.	5.	6.95
+	HYDROGRAPH AT	I7	53.	12.67	21.	6.	6.	1.03
+	ROUTED TO	R_I7	41.	13.25	16.	4.	4.	1.03
+	HYDROGRAPH AT	I6	212.	12.00	22.	7.	7.	.45
+	2 COMBINED AT	C_I6	211.	12.00	36.	11.	11.	1.48
+	ROUTED TO	R_I6	40.	13.83	28.	9.	9.	1.48
+	HYDROGRAPH AT	I8	21.	12.17	5.	2.	2.	.41
+	HYDROGRAPH AT	I9	30.	12.42	8.	2.	2.	.68

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SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	DT	INTERPOLATED TO COMPUTATION INTERVAL PEAK	TIME TO PEAK	VOLUME
		(MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	(MIN)	(IN)
FOR STORM = 1 STORM AREA (SQ MI) = .01									
RL11bD	MANE	5.00	142.22	807.41	.09	5.00	142.05	805.00	.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3489E+02 EXCESS= .0000E+00 OUTFLOW= .3469E+02 BASIN STORAGE= .1699E+00 PERCENT ERROR= .1

FOR STORM = 2 STORM AREA (SQ MI) = 14.00									
RL11bD	MANE	5.00	117.63	807.38	.07	5.00	117.10	805.00	.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2946E+02 EXCESS= .0000E+00 OUTFLOW= .2926E+02 BASIN STORAGE= .1686E+00 PERCENT ERROR= .1

FOR STORM = 3 STORM AREA (SQ MI) = 24.00									
RL11bD	MANE	5.00	105.86	808.27	.07	5.00	105.37	810.00	.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2689E+02 EXCESS= .0000E+00 OUTFLOW= .2669E+02 BASIN STORAGE= .1669E+00 PERCENT ERROR= .1

FOR STORM = 4 STORM AREA (SQ MI) = 36.50									
RL11bD	MANE	5.00	94.99	807.67	.06	5.00	94.65	810.00	.06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2449E+02 EXCESS= .0000E+00 OUTFLOW= .2430E+02 BASIN STORAGE= .1655E+00 PERCENT ERROR= .1

FOR STORM = 5 STORM AREA (SQ MI) = 50.00									
RL11bO	MANE	4.64	88.13	810.26	.06	5.00	88.08	810.00	.06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2299E+02 EXCESS= .0000E+00 OUTFLOW= .2278E+02 BASIN STORAGE= .1777E+00 PERCENT ERROR= .1

FOR STORM = 1 STORM AREA (SQ MI) = .01									
R_10uO	MANE	5.00	.66	996.27	.01	5.00	.66	995.00	.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2207E+00 EXCESS= .0000E+00 OUTFLOW= .2110E+00 BASIN STORAGE= .1014E-01 PERCENT ERROR= -.2

FOR STORM = 2 STORM AREA (SQ MI) = 14.00									
R_10uO	MANE	5.00	.10	798.54	.01	5.00	.10	800.00	.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1107E+00 EXCESS= .0000E+00 OUTFLOW= .1001E+00 BASIN STORAGE= .1091E-01 PERCENT ERROR= -.3

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          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
            R_10u0  MANE          5.00      .10    799.45       .01       5.00       .10    800.00       .01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1106E+00 EXCESS= .0000E+00 OUTFLOW= .9996E-01 BASIN STORAGE= .1091E-01 PERCENT ERROR=   -.3

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
            R_10u0  MANE          5.00      .10    799.09       .01       5.00       .10    800.00       .01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1105E+00 EXCESS= .0000E+00 OUTFLOW= .1000E+00 BASIN STORAGE= .1091E-01 PERCENT ERROR=   -.4

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
            R_10u0  MANE          5.00      .10    801.98       .01       5.00       .10    805.00       .01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1104E+00 EXCESS= .0000E+00 OUTFLOW= .1004E+00 BASIN STORAGE= .1089E-01 PERCENT ERROR=   -.8

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
            R_9.1O  MANE          2.63    156.02    770.86       .24       5.00    155.91    770.00       .24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3055E+02 EXCESS= .0000E+00 OUTFLOW= .3052E+02 BASIN STORAGE= .1856E-01 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
            R_9.1O  MANE          2.69    147.71    770.03       .23       5.00    147.70    770.00       .23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2892E+02 EXCESS= .0000E+00 OUTFLOW= .2889E+02 BASIN STORAGE= .1892E-01 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
            R_9.1O  MANE          2.75    142.98    771.16       .22       5.00    142.84    770.00       .22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2808E+02 EXCESS= .0000E+00 OUTFLOW= .2804E+02 BASIN STORAGE= .1818E-01 PERCENT ERROR=    .1

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
            R_9.1O  MANE          2.71    138.39    769.12       .21       5.00    138.31    770.00       .21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2721E+02 EXCESS= .0000E+00 OUTFLOW= .2717E+02 BASIN STORAGE= .1795E-01 PERCENT ERROR=    .1

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
            R_9.1O  MANE          2.81    135.66    770.22       .21       5.00    135.58    770.00       .21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2663E+02 EXCESS= .0000E+00 OUTFLOW= .2659E+02 BASIN STORAGE= .1871E-01 PERCENT ERROR=    .1

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
            R_L9T  MANE          2.40    241.57    728.12      1.10       5.00    236.50    730.00      1.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2001E+02 EXCESS= .0000E+00 OUTFLOW= .2004E+02 BASIN STORAGE= .1029E-01 PERCENT ERROR=   -.2

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
            R_L9T  MANE          2.41    237.79    729.58      1.08       5.00    233.91    730.00      1.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1959E+02 EXCESS= .0000E+00 OUTFLOW= .1964E+02 BASIN STORAGE= .8895E-02 PERCENT ERROR=   -.3

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
            R_L9T  MANE          2.42    234.17    728.04      1.07       5.00    229.99    730.00      1.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1938E+02 EXCESS= .0000E+00 OUTFLOW= .1941E+02 BASIN STORAGE= .1016E-01 PERCENT ERROR=   -.2

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
            R_L9T  MANE          2.39    232.40    728.62      1.06       5.00    225.95    730.00      1.06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1917E+02 EXCESS= .0000E+00 OUTFLOW= .1920E+02 BASIN STORAGE= .7581E-02 PERCENT ERROR=   -.2

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
            R_L9T  MANE          2.44    230.82    729.40      1.05       5.00    226.06    730.00      1.05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1903E+02 EXCESS= .0000E+00 OUTFLOW= .1906E+02 BASIN STORAGE= .9390E-02 PERCENT ERROR=   -.2

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
              R21a  MANE          5.00      7.60    803.83       .62       5.00       7.60    800.00       .62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5022E+01 EXCESS= .0000E+00 OUTFLOW= .5014E+01 BASIN STORAGE= .1346E-01 PERCENT ERROR=   -.1

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
              R21a  MANE          5.00      7.53    799.13       .60       5.00       7.53    800.00       .60

ONTINUITY SUMMARY (AC-FT) - INFLOW= .4878E+01 EXCESS= .0000E+00 OUTFLOW= .4870E+01 BASIN STORAGE= .1236E-01 PERCENT ERROR=   -.1

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
              R21a  MANE          5.00      7.50    800.27       .59       5.00       7.50    800.00       .59

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4806E+01 EXCESS= .0000E+00 OUTFLOW= .4800E+01 BASIN STORAGE= .1253E-01 PERCENT ERROR=   -.1
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FOR STORM = 4 STORM AREA (SQ MI) = 36.50

R21a	MANE	5.19	7.46	798.93	.58	5.00	7.46	800.00	.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4736E+01 EXCESS= .0000E+00 OUTFLOW= .4728E+01 BASIN STORAGE= .1261E-01 PERCENT ERROR= -.1

FOR STORM = 5 STORM AREA (SQ MI) = 50.00

R21a	MANE	5.18	7.44	799.71	.58	5.00	7.44	800.00	.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4690E+01 EXCESS= .0000E+00 OUTFLOW= .4678E+01 BASIN STORAGE= .1403E-01 PERCENT ERROR= .0

FOR STORM = 1 STORM AREA (SQ MI) = .01

R_17_	MANE	2.49	34.53	728.43	.25	5.00	34.17	730.00	.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2139E+01 EXCESS= .0000E+00 OUTFLOW= .2137E+01 BASIN STORAGE= .9941E-03 PERCENT ERROR= .0

FOR STORM = 2 STORM AREA (SQ MI) = 14.00

R_17_	MANE	2.47	33.08	729.29	.23	5.00	32.65	730.00	.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2031E+01 EXCESS= .0000E+00 OUTFLOW= .2032E+01 BASIN STORAGE= .7968E-03 PERCENT ERROR= -.1

FOR STORM = 3 STORM AREA (SQ MI) = 24.00

R_17_	MANE	2.47	32.42	729.86	.23	5.00	32.30	730.00	.23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1976E+01 EXCESS= .0000E+00 OUTFLOW= .1977E+01 BASIN STORAGE= .9220E-03 PERCENT ERROR= -.1

FOR STORM = 4 STORM AREA (SQ MI) = 36.50

R_17_	MANE	2.48	31.06	730.51	.22	5.00	31.03	730.00	.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1920E+01 EXCESS= .0000E+00 OUTFLOW= .1917E+01 BASIN STORAGE= .7367E-03 PERCENT ERROR= .1

FOR STORM = 5 STORM AREA (SQ MI) = 50.00

R_17_	MANE	2.55	30.63	729.35	.22	5.00	30.28	730.00	.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1882E+01 EXCESS= .0000E+00 OUTFLOW= .1883E+01 BASIN STORAGE= .8732E-03 PERCENT ERROR= -.1

FOR STORM = 1 STORM AREA (SQ MI) = .01

RPD1	MANE	1.19	25.55	792.39	.52	5.00	25.54	790.00	.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1826E+02 EXCESS= .0000E+00 OUTFLOW= .1825E+02 BASIN STORAGE= .8975E-02 PERCENT ERROR= .0

FOR STORM = 2 STORM AREA (SQ MI) = 14.00

RPD1	MANE	1.18	25.16	792.11	.51	5.00	25.16	790.00	.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1771E+02 EXCESS= .0000E+00 OUTFLOW= .1770E+02 BASIN STORAGE= .8415E-02 PERCENT ERROR= .0

FOR STORM = 3 STORM AREA (SQ MI) = 24.00

RPD1	MANE	1.34	24.98	792.02	.50	5.00	24.98	790.00	.50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1744E+02 EXCESS= .0000E+00 OUTFLOW= .1743E+02 BASIN STORAGE= .8224E-02 PERCENT ERROR= .0

FOR STORM = 4 STORM AREA (SQ MI) = 36.50

RPD1	MANE	1.19	24.77	791.66	.49	5.00	24.77	790.00	.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1714E+02 EXCESS= .0000E+00 OUTFLOW= .1714E+02 BASIN STORAGE= .7958E-02 PERCENT ERROR= .0

FOR STORM = 5 STORM AREA (SQ MI) = 50.00

RPD1	MANE	1.20	24.65	792.13	.49	5.00	24.64	790.00	.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1696E+02 EXCESS= .0000E+00 OUTFLOW= .1695E+02 BASIN STORAGE= .7854E-02 PERCENT ERROR= .0

FOR STORM = 1 STORM AREA (SQ MI) = .01

R23b	MANE	.39	63.26	720.38	.58	5.00	63.23	720.00	.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2190E+02 EXCESS= .0000E+00 OUTFLOW= .2189E+02 BASIN STORAGE= .3623E-02 PERCENT ERROR= .0

FOR STORM = 2 STORM AREA (SQ MI) = 14.00

R23b	MANE	.40	62.09	720.37	.56	5.00	62.07	720.00	.56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2127E+02 EXCESS= .0000E+00 OUTFLOW= .2127E+02 BASIN STORAGE= .3407E-02 PERCENT ERROR= .0

FOR STORM = 3 STORM AREA (SQ MI) = 24.00

R23b	MANE	.40	61.49	720.21	.55	5.00	61.48	720.00	.55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2096E+02 EXCESS= .0000E+00 OUTFLOW= .2096E+02 BASIN STORAGE= .3306E-02 PERCENT ERROR= .0

FOR STORM = 4 STORM AREA (SQ MI) = 36.50

R23b	MANE	.40	60.90	720.48	.54	5.00	60.90	720.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2063E+02 EXCESS= .0000E+00 OUTFLOW= .2063E+02 BASIN STORAGE= .3218E-02 PERCENT ERROR= .0

FOR STORM = 5 STORM AREA (SQ MI) = 50.00

R23b	MANE	.40	60.52	720.08	.54	5.00	60.51	720.00	.54

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TINUITY SUMMARY (AC-FT) - INFLOW= .2042E+02 EXCESS= .0000E+00 OUTFLOW= .2042E+02 BASIN STORAGE= .3167E-02 PERCENT ERROR=    .0

        FOR STORM = 1  STORM AREA (SQ MI) =        .01
            R23c  MANE          .93     66.51    721.25      1.17      5.00     66.06    720.00        1.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4885E+01 EXCESS= .0000E+00 OUTFLOW= .4890E+01 BASIN STORAGE= .9375E-04 PERCENT ERROR=   -.1

        FOR STORM = 2  STORM AREA (SQ MI) =       14.00
            R23c  MANE          .89     65.32    721.27      1.15      5.00     64.73    720.00        1.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4785E+01 EXCESS= .0000E+00 OUTFLOW= .4791E+01 BASIN STORAGE= .1167E-03 PERCENT ERROR=   -.1

        FOR STORM = 3  STORM AREA (SQ MI) =       24.00
            R23c  MANE          .90     64.64    721.15      1.14      5.00     64.07    720.00        1.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4736E+01 EXCESS= .0000E+00 OUTFLOW= .4741E+01 BASIN STORAGE= .1316E-03 PERCENT ERROR=   -.1

        FOR STORM = 4  STORM AREA (SQ MI) =       36.50
            R23c  MANE          .94     63.79    721.31      1.12      5.00     63.38    720.00        1.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4686E+01 EXCESS= .0000E+00 OUTFLOW= .4690E+01 BASIN STORAGE= .1070E-03 PERCENT ERROR=   -.1

        FOR STORM = 5  STORM AREA (SQ MI) =       50.00
            R23c  MANE          .89     63.55    721.56      1.12      5.00     62.95    720.00        1.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4653E+01 EXCESS= .0000E+00 OUTFLOW= .4658E+01 BASIN STORAGE= .1365E-03 PERCENT ERROR=   -.1

        FOR STORM = 1  STORM AREA (SQ MI) =        .01
            R23d  MANE         1.08     11.84    721.68      1.19      5.00     11.28    720.00        1.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1094E+01 EXCESS= .0000E+00 OUTFLOW= .1095E+01 BASIN STORAGE= .2405E-04 PERCENT ERROR=   -.1

        FOR STORM = 2  STORM AREA (SQ MI) =       14.00
            R23d  MANE         1.18     11.56    721.75      1.16      5.00     11.04    720.00        1.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1072E+01 EXCESS= .0000E+00 OUTFLOW= .1072E+01 BASIN STORAGE= .1903E-04 PERCENT ERROR=    .0

        FOR STORM = 3  STORM AREA (SQ MI) =       24.00
            R23d  MANE         1.03     11.55    721.77      1.15      5.00     10.93    720.00        1.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1061E+01 EXCESS= .0000E+00 OUTFLOW= .1062E+01 BASIN STORAGE= .2347E-04 PERCENT ERROR=   -.1

        FOR STORM = 4  STORM AREA (SQ MI) =       36.50
            R23d  MANE         1.08     11.50    722.16      1.14      5.00     10.82    720.00        1.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1050E+01 EXCESS= .0000E+00 OUTFLOW= .1050E+01 BASIN STORAGE= .1941E-04 PERCENT ERROR=   -.1

        FOR STORM = 5  STORM AREA (SQ MI) =       50.00
            R23d  MANE         1.04     11.38    721.85      1.13      5.00     10.74    720.00        1.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1043E+01 EXCESS= .0000E+00 OUTFLOW= .1043E+01 BASIN STORAGE= .1945E-04 PERCENT ERROR=   -.1

        FOR STORM = 1  STORM AREA (SQ MI) =        .01
            RWF_P2  MANE          .47     71.16    731.06       .65      5.00     71.02    730.00         .65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2787E+02 EXCESS= .0000E+00 OUTFLOW= .2787E+02 BASIN STORAGE= .4353E-02 PERCENT ERROR=    .0

        FOR STORM = 2  STORM AREA (SQ MI) =       14.00
            RWF_P2  MANE          .48     70.56    730.70       .63      5.00     70.44    730.00         .63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2713E+02 EXCESS= .0000E+00 OUTFLOW= .2712E+02 BASIN STORAGE= .4100E-02 PERCENT ERROR=    .0

        FOR STORM = 3  STORM AREA (SQ MI) =       24.00
            RWF_P2  MANE          .48     70.26    731.12       .62      5.00     70.14    730.00         .62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2676E+02 EXCESS= .0000E+00 OUTFLOW= .2675E+02 BASIN STORAGE= .3969E-02 PERCENT ERROR=    .0

        FOR STORM = 4  STORM AREA (SQ MI) =       36.50
            RWF_P2  MANE          .49     69.99    730.93       .61      5.00     69.86    730.00         .61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2637E+02 EXCESS= .0000E+00 OUTFLOW= .2636E+02 BASIN STORAGE= .3863E-02 PERCENT ERROR=    .0

        FOR STORM = 5  STORM AREA (SQ MI) =       50.00
            RWF_P2  MANE          .49     69.77    731.04       .61      5.00     69.65    730.00         .61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2612E+02 EXCESS= .0000E+00 OUTFLOW= .2611E+02 BASIN STORAGE= .3794E-02 PERCENT ERROR=    .0

        FOR STORM = 1  STORM AREA (SQ MI) =        .01
            R23e  MANE          .76    121.91    720.95       .69      5.00    120.58    720.00         .69
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CONTINUITY SUMMARY (AC-FT) - INFLOW= .3237E+02 EXCESS= .0000E+00 OUTFLOW= .3236E+02 BASIN STORAGE= .7011E-02 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
              R23e  MANE          .76    119.86    721.16       .67      5.00    118.57    720.00         .67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3153E+02 EXCESS= .0000E+00 OUTFLOW= .3152E+02 BASIN STORAGE= .6617E-02 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
              R23e  MANE          .77    118.75    720.65       .66      5.00    117.59    720.00         .66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3112E+02 EXCESS= .0000E+00 OUTFLOW= .3111E+02 BASIN STORAGE= .6435E-02 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
              R23e  MANE          .77    117.96    720.82       .65      5.00    116.64    720.00         .65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3068E+02 EXCESS= .0000E+00 OUTFLOW= .3068E+02 BASIN STORAGE= .6216E-02 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
              R23e  MANE          .77    117.06    721.42       .65      5.00    115.92    720.00         .65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3040E+02 EXCESS= .0000E+00 OUTFLOW= .3039E+02 BASIN STORAGE= .6129E-02 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
              R24_P  MANE         1.15    107.46    722.55       .68      5.00    104.90    725.00         .68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8076E+01 EXCESS= .0000E+00 OUTFLOW= .8079E+01 BASIN STORAGE= .6568E-03 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
              R24_P  MANE         1.03    105.01    722.02       .66      5.00    102.24    725.00         .66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7861E+01 EXCESS= .0000E+00 OUTFLOW= .7866E+01 BASIN STORAGE= .5827E-03 PERCENT ERROR=   -.1

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
              R24_P  MANE         1.04    103.15    722.75       .65      5.00    100.90    725.00         .65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7754E+01 EXCESS= .0000E+00 OUTFLOW= .7758E+01 BASIN STORAGE= .6449E-03 PERCENT ERROR=   -.1

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
              R24_P  MANE         1.05    102.02    722.49       .64      5.00     99.56    725.00         .64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7646E+01 EXCESS= .0000E+00 OUTFLOW= .7650E+01 BASIN STORAGE= .5744E-03 PERCENT ERROR=   -.1

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
              R24_P  MANE         1.08    100.78    722.82       .64      5.00     98.66    725.00         .64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7575E+01 EXCESS= .0000E+00 OUTFLOW= .7579E+01 BASIN STORAGE= .5677E-03 PERCENT ERROR=   -.1

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
              R24_O  MANE         1.39    104.04    727.46       .68      5.00    101.80    725.00         .68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8079E+01 EXCESS= .0000E+00 OUTFLOW= .8081E+01 BASIN STORAGE= .2443E-02 PERCENT ERROR=   -.1

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
              R24_O  MANE         1.38    101.36    727.26       .66      5.00     99.14    725.00         .66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7867E+01 EXCESS= .0000E+00 OUTFLOW= .7868E+01 BASIN STORAGE= .2435E-02 PERCENT ERROR=   -.1

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
              R24_O  MANE         1.32    100.50    727.50       .65      5.00     97.81    725.00         .65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7759E+01 EXCESS= .0000E+00 OUTFLOW= .7764E+01 BASIN STORAGE= .2710E-02 PERCENT ERROR=   -.1

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
              R24_O  MANE         1.43     98.62    727.53       .64      5.00     96.44    725.00         .64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7651E+01 EXCESS= .0000E+00 OUTFLOW= .7653E+01 BASIN STORAGE= .2584E-02 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
              R24_O  MANE         1.31     97.98    727.12       .64      5.00     95.55    725.00         .64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7579E+01 EXCESS= .0000E+00 OUTFLOW= .7583E+01 BASIN STORAGE= .2299E-02 PERCENT ERROR=   -.1

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
              R24_P  MANE          .59      5.29    725.79       .53      5.00      5.28    725.00         .54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6047E+00 EXCESS= .0000E+00 OUTFLOW= .6047E+00 BASIN STORAGE= .4557E-04 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
              R24_P  MANE          .60      5.05    725.52       .52      5.00      5.03    725.00         .52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5856E+00 EXCESS= .0000E+00 OUTFLOW= .5856E+00 BASIN STORAGE= .4582E-04 PERCENT ERROR=    .0
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          FOR STORM = 3  STORM AREA (SQ MI) =       24.00
             R24_P  MANE          .60      4.92    725.69       .51      5.00      4.90    725.00         .51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5761E+00 EXCESS= .0000E+00 OUTFLOW= .5761E+00 BASIN STORAGE= .4583E-04 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =       36.50
             R24_P  MANE          .61      4.80    725.39       .50      5.00      4.78    725.00         .50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5667E+00 EXCESS= .0000E+00 OUTFLOW= .5666E+00 BASIN STORAGE= .4578E-04 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =       50.00
             R24_P  MANE          .61      4.71    725.37       .50      5.00      4.70    725.00         .50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5604E+00 EXCESS= .0000E+00 OUTFLOW= .5603E+00 BASIN STORAGE= .4488E-04 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =         .01
             R24_O  MANE         2.74      5.16    729.27       .54      5.00      5.15    730.00         .53

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6049E+00 EXCESS= .0000E+00 OUTFLOW= .6049E+00 BASIN STORAGE= .6528E-03 PERCENT ERROR=   -.1

          FOR STORM = 2  STORM AREA (SQ MI) =       14.00
             R24_O  MANE         2.84      4.91    731.73       .52      5.00      4.89    730.00         .52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5858E+00 EXCESS= .0000E+00 OUTFLOW= .5850E+00 BASIN STORAGE= .7099E-03 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =       24.00
             R24_O  MANE         2.92      4.87    731.01       .51      5.00      4.80    730.00         .51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5763E+00 EXCESS= .0000E+00 OUTFLOW= .5759E+00 BASIN STORAGE= .6698E-03 PERCENT ERROR=   -.1

          FOR STORM = 4  STORM AREA (SQ MI) =       36.50
             R24_O  MANE         2.88      4.67    731.83       .50      5.00      4.64    730.00         .50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5668E+00 EXCESS= .0000E+00 OUTFLOW= .5664E+00 BASIN STORAGE= .7388E-03 PERCENT ERROR=   -.1

          FOR STORM = 5  STORM AREA (SQ MI) =       50.00
             R24_O  MANE         2.98      4.66    730.74       .50      5.00      4.61    730.00         .50

 NTINUITY SUMMARY (AC-FT) - INFLOW= .5606E+00 EXCESS= .0000E+00 OUTFLOW= .5600E+00 BASIN STORAGE= .7438E-03 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =         .01
             R25_O  MANE         5.00       .00    766.61       .00      5.00       .00    765.00         .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4323E-03 EXCESS= .0000E+00 OUTFLOW= .4448E-03 BASIN STORAGE= .1224E-04 PERCENT ERROR=  -5.7

          FOR STORM = 2  STORM AREA (SQ MI) =       14.00
             R25_O  MANE         5.00       .00    768.07       .00      5.00       .00    770.00         .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4186E-03 EXCESS= .0000E+00 OUTFLOW= .4134E-03 BASIN STORAGE= .1164E-04 PERCENT ERROR=  -1.5

          FOR STORM = 3  STORM AREA (SQ MI) =       24.00
             R25_O  MANE         5.00       .00    768.11       .00      5.00       .00    765.00         .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4118E-03 EXCESS= .0000E+00 OUTFLOW= .4228E-03 BASIN STORAGE= .1166E-04 PERCENT ERROR=  -5.5

          FOR STORM = 4  STORM AREA (SQ MI) =       36.50
             R25_O  MANE         5.00       .00    768.01       .00      5.00       .00    765.00         .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4051E-03 EXCESS= .0000E+00 OUTFLOW= .4167E-03 BASIN STORAGE= .1165E-04 PERCENT ERROR=  -5.8

          FOR STORM = 5  STORM AREA (SQ MI) =       50.00
             R25_O  MANE         4.82       .00    768.86       .00      5.00       .00    770.00         .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4006E-03 EXCESS= .0000E+00 OUTFLOW= .3941E-03 BASIN STORAGE= .1215E-04 PERCENT ERROR=  -1.4

          FOR STORM = 1  STORM AREA (SQ MI) =         .01
             R25_P  MANE         4.28       .00    773.25       .00      5.00       .00    775.00         .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4438E-03 EXCESS= .0000E+00 OUTFLOW= .4439E-03 BASIN STORAGE= .1605E-05 PERCENT ERROR=   -.4

          FOR STORM = 2  STORM AREA (SQ MI) =       14.00
             R25_P  MANE         4.48       .00    781.16       .00      5.00       .00    780.00         .00

"ONTINUITY SUMMARY (AC-FT) - INFLOW= .4122E-03 EXCESS= .0000E+00 OUTFLOW= .4114E-03 BASIN STORAGE= .1586E-05 PERCENT ERROR=   -.2

          FOR STORM = 3  STORM AREA (SQ MI) =       24.00
             R25_P  MANE         4.32       .00    776.13       .00      5.00       .00    780.00         .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4217E-03 EXCESS= .0000E+00 OUTFLOW= .4199E-03 BASIN STORAGE= .1572E-05 PERCENT ERROR=    .1

          FOR STORM = 4  STORM AREA (SQ MI) =       36.50
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      R25_P  MANE          4.43       .00    777.37       .00      5.00       .00    775.00          .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4157E-03 EXCESS= .0000E+00 OUTFLOW= .4155E-03 BASIN STORAGE= .1555E-05 PERCENT ERROR=   -.3

     FOR STORM = 5  STORM AREA (SQ MI) =       50.00
      R25_P  MANE          4.36       .00    778.85       .00      5.00       .00    780.00          .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3933E-03 EXCESS= .0000E+00 OUTFLOW= .3930E-03 BASIN STORAGE= .1548E-05 PERCENT ERROR=   -.3

     FOR STORM = 1  STORM AREA (SQ MI) =         .01
       R_14a  MANE          4.15     95.58    726.89       .76      5.00     91.65    730.00          .75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6227E+01 EXCESS= .0000E+00 OUTFLOW= .6245E+01 BASIN STORAGE= .6992E-02 PERCENT ERROR=   -.4

     FOR STORM = 2  STORM AREA (SQ MI) =       14.00
       R_14a  MANE          4.13     97.75    728.13       .74      5.00     91.57    730.00          .74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6068E+01 EXCESS= .0000E+00 OUTFLOW= .6124E+01 BASIN STORAGE= .8590E-02 PERCENT ERROR=  -1.1

     FOR STORM = 3  STORM AREA (SQ MI) =       24.00
       R_14a  MANE          4.22     89.65    726.44       .73      5.00     88.67    730.00          .73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5989E+01 EXCESS= .0000E+00 OUTFLOW= .6007E+01 BASIN STORAGE= .1057E-01 PERCENT ERROR=   -.5

     FOR STORM = 4  STORM AREA (SQ MI) =       36.50
       R_14a  MANE          4.28     90.77    729.85       .72      5.00     90.22    730.00          .72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5910E+01 EXCESS= .0000E+00 OUTFLOW= .5953E+01 BASIN STORAGE= .6233E-02 PERCENT ERROR=   -.8

     FOR STORM = 5  STORM AREA (SQ MI) =       50.00
       R_14a  MANE          4.27     88.56    730.34       .71      5.00     88.35    730.00          .71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5857E+01 EXCESS= .0000E+00 OUTFLOW= .5888E+01 BASIN STORAGE= .9235E-02 PERCENT ERROR=   -.7

     FOR STORM = 1  STORM AREA (SQ MI) =         .01
         R_5  MANE          5.07      9.06    797.74       .45      5.00      8.98    800.00          .45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1448E+01 EXCESS= .0000E+00 OUTFLOW= .1448E+01 BASIN STORAGE= .6066E-01 PERCENT ERROR=  -4.2

     FOR STORM = 2  STORM AREA (SQ MI) =       14.00
         R_5  MANE          5.28      8.45    802.67       .44      5.00      8.28    805.00          .44

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1395E+01 EXCESS= .0000E+00 OUTFLOW= .1403E+01 BASIN STORAGE= .5851E-01 PERCENT ERROR=  -4.8

     FOR STORM = 3  STORM AREA (SQ MI) =       24.00
         R_5  MANE          4.85      8.40    802.08       .42      5.00      8.08    805.00          .42

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1370E+01 EXCESS= .0000E+00 OUTFLOW= .1344E+01 BASIN STORAGE= .5776E-01 PERCENT ERROR=  -2.4

     FOR STORM = 4  STORM AREA (SQ MI) =       36.50
         R_5  MANE          5.00      8.01    800.19       .42      5.00      8.00    805.00          .42

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1346E+01 EXCESS= .0000E+00 OUTFLOW= .1338E+01 BASIN STORAGE= .5759E-01 PERCENT ERROR=  -3.7

     FOR STORM = 5  STORM AREA (SQ MI) =       50.00
         R_5  MANE          4.92      7.97    804.57       .41      5.00      7.92    805.00          .41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1331E+01 EXCESS= .0000E+00 OUTFLOW= .1330E+01 BASIN STORAGE= .5732E-01 PERCENT ERROR=  -4.3

     FOR STORM = 1  STORM AREA (SQ MI) =         .01
       R_I3_O  MANE          3.21    111.42    790.89       .10      5.00    111.39    790.00          .10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2891E+02 EXCESS= .0000E+00 OUTFLOW= .2888E+02 BASIN STORAGE= .3553E-01 PERCENT ERROR=    .0

     FOR STORM = 2  STORM AREA (SQ MI) =       14.00
       R_I3_O  MANE          3.32    101.53    790.63       .10      5.00    101.50    790.00          .10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2656E+02 EXCESS= .0000E+00 OUTFLOW= .2651E+02 BASIN STORAGE= .3596E-01 PERCENT ERROR=    .0

     FOR STORM = 3  STORM AREA (SQ MI) =       24.00
       R_I3_O  MANE          3.35     96.45    792.02       .09      5.00     96.43    790.00          .09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2536E+02 EXCESS= .0000E+00 OUTFLOW= .2531E+02 BASIN STORAGE= .3615E-01 PERCENT ERROR=    .1

     FOR STORM = 4  STORM AREA (SQ MI) =       36.50
       R_I3_O  MANE          3.39     91.40    790.07       .09      5.00     91.39    790.00          .09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2414E+02 EXCESS= .0000E+00 OUTFLOW= .2409E+02 BASIN STORAGE= .3627E-01 PERCENT ERROR=    .1

     FOR STORM = 5  STORM AREA (SQ MI) =       50.00
       R_I3_O  MANE          3.42     88.04    791.05       .08      5.00     87.96    790.00          .08
```

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2332E+02 EXCESS= .0000E+00 OUTFLOW= .2328E+02 BASIN STORAGE= .3542E-01 PERCENT ERROR= .0

*** NORMAL END OF HEC-1 ***

```
1*****************************************
*                                       *
*     FLOOD HYDROGRAPH PACKAGE  (HEC-1) *
*                JUN  1998              *
*              VERSION 4.1              *
*                                       *
*  RUN DATE   27APR09  TIME  13:00:54   *
*                                       *
*****************************************
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```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 756-1104              *
*                                       *
*****************************************
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X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX         XXX
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THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM


```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
    1     IO        Grand Junction Regional Airport - Jviation - April 2009
    2     ID        Proposed Conditions Watershed Model
    3     ID        100-Year 24-Hour Storm - NRCS Type II Rainfall Distribution
    4     IT       5                   300
    5     IO       2
    6     IN       6
    7     JD    1.99    0.01
    8     PC       0   0.001   0.002  0.0031  0.0041  0.0051  0.0062  0.0073  0.0083  0.0094
    9     PC  0.0105  0.0116  0.0127  0.0138   0.015  0.0161  0.0173  0.0185  0.0196  0.0208
   10     PC   0.022  0.0232  0.0244  0.0257  0.0269  0.0281  0.0294  0.0307  0.0319  0.0332
   11     PC  0.0345  0.0358  0.0371  0.0384  0.0398  0.0411  0.0425  0.0438  0.0452  0.0466
   12     PC   0.048  0.0494  0.0508  0.0523  0.0538  0.0553  0.0568  0.0583  0.0598  0.0614
   13     PC   0.063  0.0646  0.0662  0.0679  0.0696  0.0712   0.073  0.0747  0.0764  0.0782
   14     PC    0.08  0.0818  0.0836  0.0855  0.0874  0.0892  0.0912  0.0931   0.095   0.097
   15     PC   0.099   0.101   0.103  0.1051  0.1072  0.1093  0.1114  0.1135  0.1156  0.1178
   16     PC    0.12  0.1223  0.1246  0.1271  0.1296  0.1323   0.135  0.1379  0.1408  0.1439
   17     PC   0.147  0.1502  0.1534  0.1566  0.1598   0.163  0.1663  0.1697  0.1733  0.1771
   18     PC   0.181  0.1851  0.1895  0.1941  0.1989   0.204  0.2094  0.2152  0.2214   0.228
   19     PC   0.235  0.2427  0.2513  0.2609  0.2715   0.283  0.3068  0.3544  0.4308  0.5679
   20     PC   0.663   0.682  0.6986   0.713  0.7252   0.735  0.7434  0.7514  0.7588  0.7656
   21     PC   0.772   0.778  0.7836   0.789  0.7942   0.799  0.8036   0.808  0.8122  0.8162
   22     PC    0.82  0.8237  0.8273  0.8308  0.8342  0.8376  0.8409  0.8442  0.8474  0.8505
   23     PC  0.8535  0.8565  0.8594  0.8622  0.8649  0.8676  0.8702  0.8728  0.8753  0.8777
   24     PC    0.88  0.8823  0.8846  0.8868   0.889  0.8912  0.8934  0.8955  0.8976  0.8997
   25     PC  0.9018  0.9038  0.9058  0.9078  0.9098  0.9117  0.9136  0.9155  0.9174  0.9192
   26     PC   0.921  0.9228  0.9246  0.9263   0.928  0.9297  0.9314   0.933  0.9346  0.9362
   27     PC  0.9377  0.9393  0.9408  0.9423  0.9438  0.9452  0.9466   0.948  0.9494  0.9507
   28     PC   0.952  0.9533  0.9546  0.9559  0.9572  0.9584  0.9597   0.961  0.9622  0.9635
   29     PC  0.9648   0.966  0.9672  0.9685  0.9697  0.9709  0.9722  0.9734  0.9746  0.9758
   30     PC   0.977  0.9782  0.9794  0.9806  0.9818  0.9829  0.9841  0.9853  0.9864  0.9876
   31     PC  0.9888  0.9899   0.991  0.9922  0.9933  0.9944  0.9956  0.9967  0.9978  0.9989
   32     PC       1       1       1       1       1       1       1       1       1       1
   33     PC       1       1       1       1       1       1       1       1       1       1
   34     PC       1       1       1       1       1       1       1       1       1       1
   35     PC       1       1       1       1       1       1       1       1       1       1
   36     PC       1       1       1       1       1       1       1       1       1       1
   37     PC       1       1       1       1       1       1       1       1       1       1
   38     JD   1.950      14
   39     JD   1.930      24
   40     JD   1.910    36.5
   41     JD   1.896      50

   42     KK   L11b Leach Creek at Upper Pond
   43     BA 7.4766
   44     LG    0.57  0.5207   1.944   0.070     2.0
   45     US   1.197   0.451

   46     KK  RL11bD Route Hydrograph Through L11a
   47     RK    9500  0.0129   0.035            TRAP      10       6
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LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

   48     KK   L11aU Subbasin at the Proposed Lower Detention Pond
   49     BA 1.0090
   50     LG    0.58  0.5207   1.944   0.070     5.0
   51     US   0.604   0.312

   52     KK  C_11aU Combine Hydrographs at the Proposed Lower Detention Pond
   53     HC       2

   54     KK   D-LPd Divert Flow Into Lower Detention Pond
   55     DT    D-Pd
   56     DI       0    24.8   117.6   285.3   755.6    4100   10000
   57     DQ       0       0      91     257   725.8    2050    4000

   58     KK  SRD-Pd Retrieve Pond Inflow
   59     DR    D-Pd

   60     KK  C_11aD Combine Flow Downstream of the Proposed Lower Detention Pond
   61     HC       2

   62     KK   L11aD Subbasin Downstream of the Proposed Lower Detention Pond
   63     BA 0.0173
   64     LG    0.80  0.6864   1.652   0.143    15.0
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 65          US   0.032   0.162

 66          KK   C_L11 Leach Creek at the Government Highline Canal
 67          HC       2

 68          KK   R_L10 Route Hydrograph Through L10
 69          RS       1     STOR       0
 70          SV       0      .88    1.46    1.92    2.35    2.74    3.12    3.85    4.54    5.25
 71          SV    5.84    6.43    7.04    7.63    8.21    8.79
 72          SQ       0     100     200     300     400     500     600     800    1000    1200
 73          SQ    1400    1600    1800    2000    2200    2400

 74          KK    L10u Subbasin Spilt
 75          BA  0.3693
 76          LG    0.49  0.4734   1.767   0.063     2.0
 77          US   0.320   0.288

 78          KK   R_L10u  Detention Pond L10u
 79          RS       1     STOR       0
 80          SV     0.0    0.68    1.71    2.91    4.23    5.72    7.39    9.16   11.11   13.29
 81          SQ     0.0     0.0     0.0     0.0    15.5    55.8    78.2    86.5    94.0   101.0
 82          SE    4760    4761    4762    4763    4764    4765    4766    4767    4768    4769

 83          KK   R_L10uO Route Detention L10u to L10d
 84          RK    4500   0.022    0.03            TRAP      10       4

 85          KK    L10d Subbasin Spilt
 86          BA  0.6140
 87          LG    0.38  0.3787   1.414   0.051    23.0
 88          US   0.243   0.317
1                                      HEC-1 INPUT                                          PAGE   3

LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 89          KK   C_L10 Combine L10d with Upstream Hydrographs
 90          HC       3

 91          KK   R_L9M Route Mainstem Hydrograph Through L9
 92          RS       1     STOR       0
 93          SV       0     1.24    2.23     3.3    4.23    4.86    5.34    6.55    7.57    8.54
 94          SV    9.65   10.61   11.55   12.36   13.09   13.85
 95          SQ       0     100     200     300     400     500     600     800    1000    1200
 96          SQ    1400    1600    1800    2000    2200    2400

 97          KK   L9.1u Split Subbasin L9.1
 98          BA  2.3807
 99          LG    0.42  0.4023   1.502   0.054     2.0
100          US   0.865   0.380

101          KK   R_9.1O Route L9.1u to L9.1d
102          RK    4500   0.022    0.03            TRAP      10       4

103          KK   L9.1d Split Subbasin East of 27.25 Road
104          BA  0.3403
105          LG    0.10  0.1183   0.442   0.016    82.0
106          US   0.169   0.686

107          KK   R_L9T Route Subbasin L9.1 Hydrograph Through L9
108          RK    4100   0.011    0.03            TRAP       5     2.4

109          KK   C_9.1  Combine basin 9.1u and 9.1d
110          HC       2

111          KK  R_L9.1  Detention Pond L9.1
112          RS       1     STOR       0
113          SV     0.0    6.26   12.90   19.76   26.85   34.16   41.71   49.50   57.54   65.82
114          SQ     0.0     0.0     0.0    15.5    43.8    80.5   130.1   220.8   266.1   285.1
115          SE    4770    4772    4773    4774    4775    4776    4777    4778    4779    4780

116          KK      L9 Subbasin
117          BA  0.2051
118          LG    0.74  0.6390   1.826   0.112    21.0
119          US   0.214   0.256

120          KK   C_L9T Combine Subbasins L9.1 and L9
121          KM         Just Upstream of the Mainstem
122          HC       2

123          KK   C_L9M Combine L9 with Upstream Mainstem Hydrograph
124          KM         Just East of 26.5 Road
125          HC       2

126          KK    DB21
127          KM   Subbasin
128          BA  0.1519
129          LG    0.29  0.3077   1.148   0.041    30.0
130          US   0.087   0.302
1                                      HEC-1 INPUT                                          PAGE   4

LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

131          KK    PD A
132          KM   Route Through Pond A
133          RS       1     STOR       0       0
134          SV     0.0   0.001     1.8     4.7     8.9    11.6
135          SQ     0.0     2.5     7.0     9.0    10.6    11.3
136          SE    4915    4916    4918    4920    4922    4923

137          KK    R21a
138          KM   Route R21 Through R21a
139          RK    2700   0.023    0.05            TRAP      30       6

140          KK   DB21a
141          KM   Subbasin
142          BA  0.3403
143          LG    0.29  0.3077   1.148   0.041    30.0
144          US   0.082   0.339

145          KK     R17 Subbasin
146          BA  0.1623
147          LG    0.35  0.3550   1.325   0.048    15.0
148          US   0.072   0.227
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149          KK   R_R17  Detention Pond R17
150          RS       1    STOR        0        0
151          SV       0    0.67     1.20     1.80     2.48     3.23     4.06     4.99     6.00     7.11
152          SQ     0.0     0.0      0.0      0.0      3.1      8.8     36.7     41.8     44.9     47.8
153          SE    4860    4862     4863     4864     4865     4866     4867     4868     4869     4870

154          KK   R_17_O Route hydrograph through R15 overland
155          RK    2000   0.018     0.04             TRAP       10        5

156          KK    C21a
157          KM   Combine Routed Basin 21 with Basin 21a and R17
158          HC       3

159          KK  WF_PD1
160          KM   ROUte Hydrograph Through New Walker Field On Site Pond 1
161          RS       1    STOR        0        0
162          SV     0.0    0.97     6.95    13.63    17.31
163          SQ     0.0    10.7     23.9     32.1     35.5
164          SE    38.5    40.0     42.0     44.0     45.0

165          KK    RPD1
166          KM   Route Hydrograph Through Basin 23b Pipe
167          RK    2550   0.014    0.015             CIRC       3

168          KK   DB23b
169          KM   Subbasin
170          BA  0.0584
171          LG    0.07  0.0947    0.353    0.013     95.0
172          US   0.046   0.548

1                                        HEC-1 INPUT                                                    PAGE  5

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

173          KK     C23
174          KM   Combine Hydrograph Basin 23b with 21 and 21a
175          HC       2

176          KK    R23b
177          KM   Route Hydrograph Through Basin 23c Pipe
178          RK    1000   0.014    0.015             CIRC       3

179          KK   DB23c
180          KM   Subbasin
181          BA  0.0783
182          LG    0.07  0.0947    0.353    0.013     95.0
183          US   0.080   0.573

184          KK    R23c
185          KM   Route R23c Through R23c Ditch
186          RK     500    .005    0.045             TRAP       10        4

187          KK   DB23d
188          KM   Subbasin
189          BA  0.0173
190          LG    0.04  0.0473    0.177    0.006    100.0
191          US   0.023   0.462

192          KK    R23d
193          KM   Route Hydrograph Through Basin 23d Pipe
194          RK    1200   0.005    0.015             CIRC       2

195          KK     C23
196          KM   Combine Hydrograph Basins 23c,23d with WF_PD1 and 23b
197          HC       3

198          KK  WF_PD2
199          KM   Route Hydrograph Through New Walker Field On Site Pond 2
200          RS       1    STOR        0        0
201          SV     0.0    0.10     0.70     1.64     3.16     5.34
202          SQ     0.0    23.6     48.1     68.1     83.4     90.1
203          SE  4793.5    4795     4797     4799     4801     4803

204          KK  RWF_P2
205          KM   Route Hydrograph Through Basin 23e Pipe
206          RK    1000   0.010    0.015             CIRC       3

207          KK   DB23e
208          KM   Subasin
209          BA  0.0709
210          LG    0.04  0.0473    0.177    0.006    100.0
211          US   0.067   0.571

1                                        HEC-1 INPUT                                                    PAGE  6

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

212          KK    C23e
213          KM   Combine Hydrograph Basin 23e with WF_PD2
214          HC       2

215          KK    R23e
216          KM   Route Hydrograph Through Basin 23a Pipe
217          RK    1500   0.008    0.015             CIRC       4

218          KK   DB23a
219          KM   Subbasin
220          BA  0.0196
221          LG    0.66  0.5917    2.161    0.081     50.0
222          US   0.035   0.348

223          KK    C23a
224          KM   Combine Hydrograph Basin 23a, 23e with WF_PD2
225          HC       2

226          KK  R_PD U
227          KM   Route Hydrograph Through Upper Airport Upper Pond
228          RS       1    STOR        0        0
229          SV     0.0   0.001     0.21     6.09    16.16    26.80     29.4
230          SQ     0.0    10.8     11.4     12.4     13.3     14.2      162
231          SE    4767 4767.01     4768     4770     4772     4774   4774.5

232          KK  D_Pd U
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  233          KM   Weir Flow Into Lower Pond
  234          DT  U_Pipe
  235          DI     0.0    14.2    14.3     100    1000
  236          DQ     0.0    14.2    14.2    14.2    14.2

  237          KK    DB22
  238          KM   Subbasin
  239          BA  0.2226
  240          LG    0.27  0.2840   1.060   0.038    35.0
  241          US   0.121   0.363

  242          KK   R24_P
  243          KM   Route Hydrograph Through Basin 24 Pipe
  244          RK    3076   0.014   0.015            CIRC     4.5

  245          KK   R24_O
  246          KM   Route Hydrograph Through Basin 24 Overland
  247          RK    1506   0.019    0.03            TRAP      10      12

  248          KK   DB24a
  249          KM   Subbasin
  250          BA  0.0212
  251          LG    0.53  0.4970   1.855   0.067    40.0
  252          US   0.094   0.292
1                                      HEC-1 INPUT                                          PAGE  7

LINE           ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  253          KK  B4aDIV
  254          KM   Divert Basin 24a overflow
  255          DT  B4aDIV
  256          DI     0.0    14.0   100.0  1000.0
  257          DQ       0    0.01    86.0   986.0

  258          KK   R24_P
  259          KM   Route Hydrograph Through Basin 24 Pipe
  260          RK     800   0.014   0.015            CIRC     4.5

  261          KK   R24_O
  262          KM   Route Hydrograph Through Basin 24 Overland
  263          RK    1506   0.019    0.03            TRAP      10      12

  264          KK    DB24
  265          KM   Subbasin
  266          BA  0.2318
  267          LG    0.06  0.0710   0.265   0.010    95.0
  268          US   0.152   0.673

  269          KK     C24
  270          KM   Combine Hydrographs (Basin22, Basin 24a, Basin 24)
  271          HC       3

  272          KK   DR24a
  273          KM   Retrieve 24a diversion
  274          DR  B4aDIV

  275          KK   R25_O
  276          KM   Route 24a diversion through Basin 25 overland
  277          RK     800   0.015    0.03            TRAP      30      10

  278          KK   R25_P
  279          KM   Route 24a diversion through Basin 25 pipe
  280          RK    1600   0.013   0.015             CIRC       4

  281          KK    DB25
  282          KM   Subbasin
  283          BA  0.0244
  284          LG    0.53  0.4970   1.855   0.067    40.0
  285          US   0.104   0.300

  286          KK     C25
  287          KM   Combine Hydrograph with 24a diversion
  288          HC       2

  289          KK   B5DIV
  290          KM   Divert Basin 25 storm sewer overflow
  291          DT   B5DIV
  292          DI     0.0    14.0   100.0  1000.0
  293          DQ       0       0    86.0   986.0
1                                      HEC-1 INPUT                                          PAGE  8

LINE           ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  294          KK   DB25a
  295          KM   Subbasin
  296          BA  0.0316
  297          LG    0.85  0.7100   1.595   0.158    12.0
  298          US   0.031   0.173

  299          KK     C_6
  300          KM   Combine Basins 25a 25 24a 24 22
  301          HC       3

  302          KK     C_7
  303          KM   Combine all Basins
  304          HC       2

  305          KK  R_PD L
  306          KM   route Hydrograph Through Lower Airport East Pond
  307          RS       1    STOR        0       0
  308          SV     0.0     0.05    4.26   13.79   24.65    30.0
  309          SQ     0.0      5.5     7.8     9.6    11.1    14.0
  310          SE  4758.4    4760    4762    4764    4766  4766.2

  311          KK    PR_U
  312          KM   Retrieve Upper Pond Pipe Flow
  313          DR  U_Pipe

  314          KK   C_Out
  315          KM   Combine 2 Outflow Hydrographs at Canal
  316          HC       2
```

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317          KK     R16
318          KM   Subbasin
319          BA  0.1550
320          LG    0.34  0.3550   1.325   0.048    51.0
321          US   0.076   0.478

322          KK   R_14a
323          KM   Route Hydrograph through R14A overland
324          RK    2500   0.005    0.04             TRAP       10       10

325          KK    R14A
326          KM   Subbasin
327          BA  0.0393
328          LG    0.18  0.1893   0.707   0.025    75.0
329          US   0.038   0.480

330          KK   C_14A
331          KM   Combine Hydrographs (R16, R14A)
332          HC       2
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

333          KK   C_14A
334          KM   Combine Hydrograph with Lower Pond Outfall
335          HC       2

336          KK     R15 Subbasin
337          BA  0.2994
338          LG    0.48  0.4497   1.679   0.060    30.0
339          US   0.141   0.334

340          KK   R_R13 Route Hydrograph through R13
341          RS       1     STOR        0
342          RC   0.035    0.03   0.035     971    .018
343          RX    1000    1014    1022    1026    1036    1046    1050    1062
344          RY    4762    4760    4758    4756    4756    4758    4760    4762

345          KK     R13 Subbasin
346          BA  0.0425
347          LG    0.48  0.4497   1.679   0.060     2.0
348          US   0.055   0.208

349          KK   C_R13 Combine Hydrographs
350          HC       2

351          KK  Extra5 Overflow released from Basin 25
352          DR   BSDIV

353          KK     R14 Subbasin
354          BA  0.0602
355          LG    0.58  0.5207   1.944   0.070    35.0
356          US   0.218   0.298

357          KK    C_R5 Combine Hydrographs (R14, Basin 5)
358          HC       2

359          KK     R_5 Route Basin 5 & R14 through R5 overland
360          RK   10500   0.008    0.03             TRAP       10       20

361          KK      R5 Subbasin
362          BA  0.0843
363          LG    0.89  0.7337   1.552   0.173     9.0
364          US   0.118   0.201

365          KK      C3 Corcoran Wash at H Road and 25 Road
366          BA  0.5641
367          LG    0.56  0.5207   1.944   0.070     2.0
368          US   0.254   0.306

369          KK      I5 Start Indian Creek Basin
370          BA  0.7994
371          LG    0.47  0.4497   1.679   0.060     2.0
372          US   0.428   0.323
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

373          KK    R_I5
374          KM   Route Hydrograph Through Existing Dam
375          RS       1     STOR        0        0
376          SV       0     2.24     4.65     7.24    10.01    12.95    16.08    19.41    22.92    26.63
377          SQ     0.0      0.0      0.0      0.0      0.0      0.0      0.0     93.0    263.0    483.2
378          SE    5190     5191     5192     5193     5194     5195     5196     5197     5198     5199

379          KK      I4 Subbasin
380          BA  1.2130
381          LG    0.62  0.5680   2.120   0.076     2.0
382          US   0.768   0.344

383          KK    C_I4 Combine I5 and I4
384          HC       2

385          KK      I3 Subbasin
386          BA  3.2057
387          LG    0.50  0.4734   1.767   0.063     2.0
388          US   1.181   0.398

389          KK    C_I3 Combine I4 and I3
390          HC       2

391          KK  R_I3_O Route hydrograph through I2 overland
392          RK    3300   0.014    0.04             TRAP       10        5

393          KK      I2 Subbasin
394          BA  0.9728
395          LG    0.63  0.5680   2.120   0.076     5.0
396          US   0.517   0.313

397          KK    C_I2 Combine I3 and I2
398          HC       2
```

```
 399          KK    R_I2
 400          KM   Route Hydrograph Through Existing Dam
 401          RS      1    STOR       0       0
 402          SV      0    3.06    6.67   10.92   15.93   21.81   28.62   36.41   45.21   55.07
 403          SV  66.05   78.18   91.52  106.10  121.97  139.16  176.23  235.99  257.34  280.13
 404          SQ      0       0   13.0    18.4    22.6    26.1    29.1    31.9    34.5    36.9
 405          SQ    39.1    41.2    43.2    45.2    47.0    48.8    52.1   228.8   234.6   240.4
 406          SE    4890    4892    4894    4896    4898    4900    4902    4904    4906    4908
 407          SE    4910    4912    4914    4916    4918    4920    4924    4930    4932    4934

 408          KK      I1 Subbasin
 409          BA  0.7563
 410          LG    0.72  0.6154   1.964   0.096    12.0
 411          US   0.562   0.278
1                                        HEC-1 INPUT                                        PAGE 11

         LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 412          KK    C_I1 Combine I2 and I1
 413          HC       2

 414          KK    R_I1  Detention Pond I1
 415          RS      1    STOR       0       0
 416          SV      0    2.01    3.60    5.40    7.43    9.68   12.19   14.96   18.01   21.34
 417          SQ    0.0     0.0     0.0     0.0     0.0     0.0     0.0     3.1    31.0    82.0
 418          SE   4860    4862    4863    4864    4865    4866    4867    4868    4869    4870

 419          KK      I7 Subbasin
 420          BA  1.0258
 421          LG    0.45  0.4260   1.590   0.057     3.0
 422          US   0.807   0.329

 423          KK    R_I7
 424          KM   Route Hydrograph Through Existing Dam
 425          RS      1    STOR       0       0
 426          SV      0    0.26    0.60    1.01    1.51    2.11    2.82    3.63    4.57    5.64
 427          SQ    0.0     0.0     0.0     0.0     0.0     0.0     0.0    62.0   175.4   322.2
 428          SE   4820    4821    4822    4823    4824    4825    4826    4827    4828    4829

 429          KK      I6 Subbasin
 430          BA  0.4512
 431          LG    0.43  0.4260   1.590   0.057    40.0
 432          US   0.119   0.464

 433          KK    C_I6 Combine I7 and I6
 434          HC       2

 435          KK    R_I6  Detention Pond I6
 436          RS      1    STOR       0       0
 437          SV      0    2.01    3.60    5.40    7.43    9.68   12.19   14.96   18.01   21.34
 438          SQ    0.0     0.0     3.1     8.8    16.1    44.0    95.0   161.1   179.5   191.1
 439          SE   4870    4872    4873    4874    4875    4876    4877    4878    4879    4880

 440          KK      I8 Subbasin
 441          BA  0.4147
 442          LG    0.61  0.5444   2.032   0.073    10.0
 443          US   0.200   0.252

 444          KK      I9 Subbasin
 445          BA  0.6808
 446          LG    0.52  0.4970   1.855   0.067     2.0
 447          US   0.510   0.315
 448          ZZ
```

```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             JUN  1998                 *
*           VERSION 4.1                 *
*                                       *
*  RUN DATE   27APR09  TIME  13:00:54   *
*                                       *
*****************************************
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616         *
*            (916) 756-1104             *
*                                       *
*****************************************
```

Grand Junction Regional Airport - Jviation - April 2009
Proposed Conditions Watershed Model
100-Year 24-Hour Storm - NRCS Type II Rainfall Distribution

```
  5 IO          OUTPUT CONTROL VARIABLES
                     IPRNT          2  PRINT CONTROL
                     IPLOT          0  PLOT CONTROL
                     QSCAL         0.  HYDROGRAPH PLOT SCALE

  6 IN          TIME DATA FOR INPUT TIME SERIES
                     JXMIN          6  TIME INTERVAL IN MINUTES
                    JXDATE      1   0  STARTING DATE
                    JXTIME          0  STARTING TIME

    IT          HYDROGRAPH TIME DATA
                     NMIN          5  MINUTES IN COMPUTATION INTERVAL
                    IDATE      1   0  STARTING DATE
                    ITIME       0000  STARTING TIME
                       NQ        300  NUMBER OF HYDROGRAPH ORDINATES
                    NDDATE      2   0  ENDING DATE
                    NDTIME       0055  ENDING TIME
                    TCENT          19  CENTURY MARK

                 COMPUTATION INTERVAL      .08 HOURS
                     TOTAL TIME BASE    24.92 HOURS

          ENGLISH UNITS
               DRAINAGE AREA         SQUARE MILES
               PRECIPITATION DEPTH   INCHES
               LENGTH, ELEVATION     FEET
               FLOW                  CUBIC FEET PER SECOND
               STORAGE VOLUME        ACRE-FEET
               SURFACE AREA          ACRES
               TEMPERATURE           DEGREES FAHRENHEIT

  7 JD          INDEX STORM NO. 1
```

STRM 1.99 PRECIPITATION DEPTH
TRDA .01 TRANSPOSITION DRAINAGE AREA

8 PI PRECIPITATION PATTERN

.00	.00	.00	.00	.00	.00	.00	.00	.00

```
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .01       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .02       .04
                .05       .08       .11       .08       .02       .01       .01       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00
```

TRANSPOSITION AREA .0 SQ MI

TOTAL RAINFALL = 1.99, TOTAL LOSS = 1.46, TOTAL EXCESS = .53

PEAK FLOW (CFS)	TIME (HR)		6-HR	MAXIMUM AVERAGE FLOW 24-HR	72-HR	24.92-HR
936.	13.00	(CFS)	391.	106.	102.	102.
		(INCHES)	.486	.525	.525	.525
		(AC-FT)	194.	210.	210.	210.

CUMULATIVE AREA = 7.48 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION L11b
TRANSPOSITION AREA 14.0 SQ MI

TOTAL RAINFALL = 1.95, TOTAL LOSS = 1.45, TOTAL EXCESS = .50

PEAK FLOW (CFS)	TIME (HR)		6-HR	MAXIMUM AVERAGE FLOW 24-HR	72-HR	24.92-HR
893.	13.00	(CFS)	373.	101.	97.	97.
		(INCHES)	.464	.502	.502	.502
		(AC-FT)	185.	200.	200.	200.

CUMULATIVE AREA = 7.48 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION L11b
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.93, TOTAL LOSS = 1.44, TOTAL EXCESS = .49

PEAK FLOW (CFS)	TIME (HR)		6-HR	MAXIMUM AVERAGE FLOW 24-HR	72-HR	24.92-HR
872.	13.00	(CFS)	364.	98.	95.	95.
		(INCHES)	.453	.490	.490	.490
		(AC-FT)	181.	195.	195.	195.

CUMULATIVE AREA = 7.48 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION L11b
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.91, TOTAL LOSS = 1.43, TOTAL EXCESS = .48

PEAK FLOW (CFS)	TIME (HR)		6-HR	MAXIMUM AVERAGE FLOW 24-HR	72-HR	24.92-HR
850.	13.00	(CFS)	355.	96.	92.	92.
		(INCHES)	.442	.478	.478	.478
		(AC-FT)	176.	190.	190.	190.

CUMULATIVE AREA = 7.48 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION L11b
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.90, TOTAL LOSS = 1.42, TOTAL EXCESS = .47

PEAK FLOW (CFS)	TIME (HR)		6-HR	MAXIMUM AVERAGE FLOW 24-HR	72-HR	24.92-HR
835.	13.00	(CFS)	349.	94.	91.	91.
		(INCHES)	.434	.469	.469	.469
		(AC-FT)	173.	187.	187.	187.

CUMULATIVE AREA = 7.48 SQ MI

INTERPOLATED HYDROGRAPH AT L11b

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	3.	1		1230	151	562.	1		1845	226	51.
1		0005	2	0.	1		0620	77	3.	1		1235	152	649.	1		1850	227	49.
1		0010	3	0.	1		0625	78	3.	1		1240	153	726.	1		1855	228	47.
1		0015	4	0.	1		0630	79	3.	1		1245	154	791.	1		1900	229	45.
1		0020	5	0.	1		0635	80	3.	1		1250	155	842.	1		1905	230	43.
1		0025	6	0.	1		0640	81	3.	1		1255	156	878.	1		1910	231	41.
1		0030	7	0.	1		0645	82	3.	1		1300	157	897.	1		1915	232	40.
1		0035	8	0.	1		0650	83	3.	1		1305	158	895.	1		1920	233	38.
1		0040	9	0.	1		0655	84	3.	1		1310	159	875.	1		1925	234	37.
1		0045	10	0.	1		0700	85	3.	1		1315	160	843.	1		1930	235	35.
1		0050	11	0.	1		0705	86	3.	1		1320	161	807.	1		1935	236	34.
1		0055	12	0.	1		0710	87	3.	1		1325	162	774.	1		1940	237	32.
1		0100	13	0.	1		0715	88	3.	1		1330	163	741.	1		1945	238	31.
1		0105	14	0.	1		0720	89	3.	1		1335	164	710.	1		1950	239	30.
1		0110	15	0.	1		0725	90	3.	1		1340	165	680.	1		1955	240	29.
1		0115	16	1.	1		0730	91	3.	1		1345	166	651.	1		2000	241	28.
1		0120	17	1.	1		0735	92	3.	1		1350	167	624.	1		2005	242	27.
1		0125	18	1.	1		0740	93	3.	1		1355	168	597.	1		2010	243	26.
1		0130	19	1.	1		0745	94	3.	1		1400	169	572.	1		2015	244	25.

1	0135	20	1.	*	1	0750	95	3.	*	1	1405	170	548.	*	1	2020	245	24.
1	0140	21	1.	*	1	0755	96	3.	*	1	1410	171	525.	*	1	2025	246	23.
1	0145	22	1.	*	1	0800	97	3.	*	1	1415	172	502.	*	1	2030	247	22.
1	0150	23	1.	*	1	0805	98	3.	*	1	1420	173	481.	*	1	2035	248	21.
1	0155	24	1.	*	1	0810	99	3.	*	1	1425	174	461.	*	1	2040	249	20.
1	0200	25	1.	*	1	0815	100	3.	*	1	1430	175	441.	*	1	2045	250	19.
1	0205	26	1.	*	1	0820	101	3.	*	1	1435	176	423.	*	1	2050	251	19.
1	0210	27	1.	*	1	0825	102	3.	*	1	1440	177	405.	*	1	2055	252	18.
1	0215	28	1.	*	1	0830	103	3.	*	1	1445	178	388.	*	1	2100	253	17.
1	0220	29	1.	*	1	0835	104	3.	*	1	1450	179	371.	*	1	2105	254	17.
1	0225	30	1.	*	1	0840	105	3.	*	1	1455	180	356.	*	1	2110	255	16.
1	0230	31	1.	*	1	0845	106	4.	*	1	1500	181	341.	*	1	2115	256	16.
1	0235	32	1.	*	1	0850	107	4.	*	1	1505	182	326.	*	1	2120	257	15.
1	0240	33	1.	*	1	0855	108	4.	*	1	1510	183	313.	*	1	2125	258	14.
1	0245	34	1.	*	1	0900	109	4.	*	1	1515	184	300.	*	1	2130	259	14.
1	0250	35	1.	*	1	0905	110	4.	*	1	1520	185	287.	*	1	2135	260	13.
1	0255	36	1.	*	1	0910	111	4.	*	1	1525	186	275.	*	1	2140	261	13.
1	0300	37	2.	*	1	0915	112	4.	*	1	1530	187	263.	*	1	2145	262	12.
1	0305	38	2.	*	1	0920	113	4.	*	1	1535	188	252.	*	1	2150	263	12.
1	0310	39	2.	*	1	0925	114	4.	*	1	1540	189	242.	*	1	2155	264	12.
1	0315	40	2.	*	1	0930	115	4.	*	1	1545	190	231.	*	1	2200	265	11.
1	0320	41	2.	*	1	0935	116	4.	*	1	1550	191	222.	*	1	2205	266	11.
1	0325	42	2.	*	1	0940	117	4.	*	1	1555	192	212.	*	1	2210	267	10.
1	0330	43	2.	*	1	0945	118	4.	*	1	1600	193	204.	*	1	2215	268	10.
1	0335	44	2.	*	1	0950	119	4.	*	1	1605	194	195.	*	1	2220	269	10.
1	0340	45	2.	*	1	0955	120	4.	*	1	1610	195	187.	*	1	2225	270	9.
1	0345	46	2.	*	1	1000	121	4.	*	1	1615	196	179.	*	1	2230	271	8.
1	0350	47	2.	*	1	1005	122	5.	*	1	1620	197	172.	*	1	2235	272	7.
1	0355	48	2.	*	1	1010	123	5.	*	1	1625	198	164.	*	1	2240	273	4.
1	0400	49	2.	*	1	1015	124	5.	*	1	1630	199	158.	*	1	2245	274	3.
1	0405	50	2.	*	1	1020	125	5.	*	1	1635	200	151.	*	1	2250	275	3.
1	0410	51	2.	*	1	1025	126	5.	*	1	1640	201	145.	*	1	2255	276	3.
1	0415	52	2.	*	1	1030	127	5.	*	1	1645	202	139.	*	1	2300	277	3.
1	0420	53	2.	*	1	1035	128	5.	*	1	1650	203	133.	*	1	2305	278	3.
1	0425	54	2.	*	1	1040	129	5.	*	1	1655	204	127.	*	1	2310	279	3.
1	0430	55	2.	*	1	1045	130	5.	*	1	1700	205	122.	*	1	2315	280	3.
1	0435	56	2.	*	1	1050	131	5.	*	1	1705	206	117.	*	1	2320	281	3.
1	0440	57	2.	*	1	1055	132	6.	*	1	1710	207	112.	*	1	2325	282	3.
1	0445	58	2.	*	1	1100	133	6.	*	1	1715	208	107.	*	1	2330	283	3.
1	0450	59	2.	*	1	1105	134	6.	*	1	1720	209	103.	*	1	2335	284	2.
1	0455	60	2.	*	1	1110	135	6.	*	1	1725	210	99.	*	1	2340	285	2.
1	0500	61	2.	*	1	1115	136	6.	*	1	1730	211	95.	*	1	2345	286	2.
1	0505	62	2.	*	1	1120	137	7.	*	1	1735	212	91.	*	1	2350	287	2.
1	0510	63	2.	*	1	1125	138	7.	*	1	1740	213	87.	*	1	2355	288	2.
1	0515	64	2.	*	1	1130	139	7.	*	1	1745	214	83.	*	2	0000	289	2.
1	0520	65	2.	*	1	1135	140	7.	*	1	1750	215	80.	*	2	0005	290	2.
1	0525	66	2.	*	1	1140	141	8.	*	1	1755	216	77.	*	2	0010	291	2.
1	0530	67	2.	*	1	1145	142	10.	*	1	1800	217	74.	*	2	0015	292	2.
1	0535	68	2.	*	1	1150	143	18.	*	1	1805	218	71.	*	2	0020	293	2.
1	0540	69	2.	*	1	1155	144	41.	*	1	1810	219	68.	*	2	0025	294	2.
1	0545	70	2.	*	1	1200	145	82.	*	1	1815	220	65.	*	2	0030	295	2.
1	0550	71	2.	*	1	1205	146	141.	*	1	1820	221	62.	*	2	0035	296	2.
1	0555	72	2.	*	1	1210	147	212.	*	1	1825	222	60.	*	2	0040	297	2.
1	0600	73	3.	*	1	1215	148	292.	*	1	1830	223	57.	*	2	0045	298	2.
1	0605	74	3.	*	1	1220	149	379.	*	1	1835	224	55.	*	2	0050	299	2.
1	0610	75	3.	*	1	1225	150	470.	*	1	1840	225	53.	*	2	0055	300	2.

****

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 897.	13.00		375.	101.	98.	98.
		(INCHES)	.466	.504	.504	.504
		(AC-FT)	186.	201.	201.	201.

CUMULATIVE AREA = 7.48 SQ MI

*** ***

46 KK — RL11bD — Route Hydrograph Through L11a

HYDROGRAPH ROUTING DATA

47 RK — KINEMATIC WAVE STREAM ROUTING

L	9500.	CHANNEL LENGTH
S	.0129	SLOPE
N	.035	CHANNEL ROUGHNESS COEFFICIENT
CA	.00	CONTRIBUTING AREA
SHAPE	TRAP	CHANNEL SHAPE
WD	10.00	BOTTOM WIDTH OR DIAMETER
Z	6.00	SIDE SLOPE
NDXMIN	2	MINIMUM NUMBER OF DX INTERVALS

***

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.30	1.38	4.85	3166.67	935.21	791.70	.52	10.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2095E+03 EXCESS= .0000E+00 OUTFLOW= .2092E+03 BASIN STORAGE= .1942E+00 PERCENT ERROR= .1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.30	1.38	5.00	931.67	790.00	.52

*** *** *** *** ***

HYDROGRAPH AT STATION RL11bD
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)				
+ 932.	13.17		390.	105.	102.	102.
		(INCHES)	.484	.524	.524	.524
		(AC-FT)	193.	209.	209.	209.

CUMULATIVE AREA = 7.48 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.30	1.38	4.93	3166.67	891.98	793.38	.50	10.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2000E+03 EXCESS= .0000E+00 OUTFLOW= .1997E+03 BASIN STORAGE= .1893E+00 PERCENT ERROR= .1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

	MAIN	1.30	1.38	5.00	889.30	790.00	.50
***	***	***	***	***	***		

HYDROGRAPH AT STATION RL11bD
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)				
+ 889.	13.17		372.	101.	97.	97.
		(INCHES)	.462	.501	.501	.501
		(AC-FT)	184.	200.	200.	200.

CUMULATIVE AREA = 7.48 SQ MI

COMPUTEO KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.30	1.38	4.96	3166.67	870.32	794.25	.49	10.70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1952E+03 EXCESS= .0000E+00 OUTFLOW= .1949E+03 BASIN STORAGE= .1926E+00 PERCENT ERROR= .1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

	MAIN	1.30	1.38	5.00	869.54	790.00	.49
***	***	***	***	***	***		

HYDROGRAPH AT STATION RL11bD
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)				
+ 870.	13.17		363.	98.	95.	95.
		(INCHES)	.451	.489	.489	.489
		(AC-FT)	180.	195.	195.	195.

CUMULATIVE AREA = 7.48 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.30	1.38	4.99	3166.67	850.27	790.21	.48	10.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1905E+03 EXCESS= .0000E+00 OUTFLOW= .1902E+03 BASIN STORAGE= .1821E+00 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

	MAIN	1.30	1.38	5.00	849.55	790.00	.48
***	***	***	***	***	***		

HYDROGRAPH AT STATION RL11bD
TRANSPOSIIION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)				
+ 850.	13.17		354.	96.	92.	92.
		(INCHES)	.440	.477	.477	.477
		(AC-FT)	176.	190.	190.	190.

CUMULATIVE AREA = 7.48 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.30	1.38	5.00	3166.67	834.99	790.86	.47	10.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1871E+03 EXCESS= .0000E+00 OUTFLOW= .1868E+03 BASIN STORAGE= .1926E+00 PERCENT ERROR= .1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.30	1.38	5.00	832.42	790.00	.47
***	***	***	***	***		

HYDROGRAPH AT STATION RL11bD
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
832.	13.17	(CFS)	348.	94.	91.	91.
		(INCHES)	.432	.468	.468	.468
		(AC-FT)	172.	187.	187.	187.

CUMULATIVE AREA = 7.48 SQ MI

INTERPOLATED HYDROGRAPH AT RL11bD

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	2.	1		1230	151	303.	1		1845	226	60.
1		0005	2	0.	1		0620	77	2.	1		1235	152	418.	1		1850	227	58.
1		0010	3	0.	1		0625	78	2.	1		1240	153	528.	1		1855	228	56.
1		0015	4	0.	1		0630	79	2.	1		1245	154	628.	1		1900	229	54.
1		0020	5	0.	1		0635	80	2.	1		1250	155	715.	1		1905	230	52.
1		0025	6	0.	1		0640	81	2.	1		1255	156	787.	1		1910	231	50.
1		0030	7	0.	1		0645	82	3.	1		1300	157	839.	1		1915	232	48.
1		0035	8	0.	1		0650	83	3.	1		1305	158	875.	1		1920	233	46.
1		0040	9	0.	1		0655	84	3.	1		1310	159	893.	1		1925	234	44.
1		0045	10	0.	1		0700	85	3.	1		1315	160	891.	1		1930	235	42.
1		0050	11	0.	1		0705	86	3.	1		1320	161	872.	1		1935	236	41.
1		0055	12	0.	1		0710	87	3.	1		1325	162	842.	1		1940	237	39.
1		0100	13	0.	1		0715	88	3.	1		1330	163	808.	1		1945	238	38.
1		0105	14	0.	1		0720	89	3.	1		1335	164	776.	1		1950	239	36.
1		0110	15	0.	1		0725	90	3.	1		1340	165	744.	1		1955	240	35.
1		0115	16	0.	1		0730	91	3.	1		1345	166	713.	1		2000	241	34.
1		0120	17	0.	1		0735	92	3.	1		1350	167	684.	1		2005	242	33.
1		0125	18	0.	1		0740	93	3.	1		1355	168	656.	1		2010	243	32.
1		0130	19	0.	1		0745	94	3.	1		1400	169	629.	1		2015	244	31.
1		0135	20	0.	1		0750	95	3.	1		1405	170	603.	1		2020	245	29.
1		0140	21	0.	1		0755	96	3.	1		1410	171	578.	1		2025	246	28.
1		0145	22	0.	1		0800	97	3.	1		1415	172	554.	1		2030	247	27.
1		0150	23	0.	1		0805	98	3.	1		1420	173	531.	1		2035	248	26.
1		0155	24	0.	1		0810	99	3.	1		1425	174	509.	1		2040	249	25.
1		0200	25	0.	1		0815	100	3.	1		1430	175	488.	1		2045	250	24.
1		0205	26	0.	1		0820	101	3.	1		1435	176	468.	1		2050	251	23.
1		0210	27	0.	1		0825	102	3.	1		1440	177	449.	1		2055	252	22.
1		0215	28	0.	1		0830	103	3.	1		1445	178	431.	1		2100	253	22.
1		0220	29	0.	1		0835	104	3.	1		1450	179	413.	1		2105	254	21.
1		0225	30	0.	1		0840	105	3.	1		1455	180	396.	1		2110	255	20.
1		0230	31	0.	1		0845	106	3.	1		1500	181	380.	1		2115	256	19.
1		0235	32	0.	1		0850	107	3.	1		1505	182	364.	1		2120	257	19.
1		0240	33	0.	1		0855	108	3.	1		1510	183	349.	1		2125	258	18.
1		0245	34	1.	1		0900	109	3.	1		1515	184	335.	1		2130	259	17.
1		0250	35	1.	1		0905	110	3.	1		1520	185	321.	1		2135	260	17.
1		0255	36	1.	1		0910	111	3.	1		1525	186	308.	1		2140	261	16.
1		0300	37	1.	1		0915	112	3.	1		1530	187	296.	1		2145	262	16.
1		0305	38	1.	1		0920	113	3.	1		1535	188	284.	1		2150	263	15.
1		0310	39	1.	1		0925	114	3.	1		1540	189	272.	1		2155	264	15.
1		0315	40	1.	1		0930	115	4.	1		1545	190	261.	1		2200	265	14.
1		0320	41	1.	1		0935	116	4.	1		1550	191	250.	1		2205	266	14.
1		0325	42	1.	1		0940	117	4.	1		1555	192	240.	1		2210	267	13.
1		0330	43	1.	1		0945	118	4.	1		1600	193	230.	1		2215	268	13.
1		0335	44	1.	1		0950	119	4.	1		1605	194	221.	1		2220	269	12.
1		0340	45	1.	1		0955	120	4.	1		1610	195	212.	1		2225	270	12.
1		0345	46	1.	1		1000	121	4.	1		1615	196	203.	1		2230	271	11.
1		0350	47	1.	1		1005	122	4.	1		1620	197	195.	1		2235	272	11.
1		0355	48	2.	1		1010	123	4.	1		1625	198	187.	1		2240	273	11.
1		0400	49	2.	1		1015	124	4.	1		1630	199	180.	1		2245	274	10.
1		0405	50	2.	1		1020	125	4.	1		1635	200	173.	1		2250	275	10.
1		0410	51	2.	1		1025	126	4.	1		1640	201	166.	1		2255	276	10.
1		0415	52	2.	1		1030	127	4.	1		1645	202	159.	1		2300	277	9.
1		0420	53	2.	1		1035	128	4.	1		1650	203	153.	1		2305	278	8.
1		0425	54	2.	1		1040	129	4.	1		1655	204	146.	1		2310	279	7.
1		0430	55	2.	1		1045	130	5.	1		1700	205	141.	1		2315	280	6.
1		0435	56	2.	1		1050	131	5.	1		1705	206	135.	1		2320	281	5.
1		0440	57	2.	1		1055	132	5.	1		1710	207	129.	1		2325	282	5.
1		0445	58	2.	1		1100	133	5.	1		1715	208	124.	1		2330	283	4.
1		0450	59	2.	1		1105	134	5.	1		1720	209	119.	1		2335	284	4.
1		0455	60	2.	1		1110	135	5.	1		1725	210	115.	1		2340	285	4.
1		0500	61	2.	1		1115	136	5.	1		1730	211	110.	1		2345	286	3.
1		0505	62	2.	1		1120	137	5.	1		1735	212	106.	1		2350	287	3.
1		0510	63	2.	1		1125	138	5.	1		1740	213	101.	1		2355	288	3.
1		0515	64	2.	1		1130	139	6.	1		1745	214	97.	2		0000	289	3.
1		0520	65	2.	1		1135	140	6.	1		1750	215	94.	2		0005	290	3.
1		0525	66	2.	1		1140	141	6.	1		1755	216	90.	2		0010	291	3.
1		0530	67	2.	1		1145	142	6.	1		1800	217	86.	2		0015	292	3.
1		0535	68	2.	1		1150	143	6.	1		1805	218	83.	2		0020	293	3.
1		0540	69	2.	1		1155	144	6.	1		1810	219	80.	2		0025	294	3.

```
  1     0545   70        2.   *   1    1200  145        7.   *   1    1815  220       77.   *   2    0030  295        3.
  1     0550   71        2.   *   1    1205  146       10.   *   1    1820  221       74.   *   2    0035  296        3.
  1     0555   72        2.   *   1    1210  147       17.   *   1    1825  222       71.   *   2    0040  297        2.
  1     0600   73        2.   *   1    1215  148       42.   *   1    1830  223       68.   *   2    0045  298        2.
  1     0605   74        2.   *   1    1220  149      102.   *   1    1835  224       65.   *   2    0050  299        2.
  1     0610   75        2.   *   1    1225  150      193.   *   1    1840  225       63.   *   2    0055  300        2.
                            *                                *                              *
**********************************************************************************************************************************

  PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
+   (CFS)        (HR)                    6-HR          24-HR          72-HR         24.92-HR
                                 (CFS)
+     893.       13.17                    373.           101.           97.           97.
                              (INCHES)    .464           .503           .503          .503
                                (AC-FT)    185.           200.           200.          200.

                              CUMULATIVE AREA =     7.48 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


                ***************
                *               *
   48 KK        *     L11aU     *      Subbasin at the Proposed Lower Detention Pond
                *               *
                ***************

                SUBBASIN RUNOFF DATA

   49 BA          SUBBASIN CHARACTERISTICS
                        TAREA        1.01  SUBBASIN AREA

   50 LG          GREEN AND AMPT LOSS RATE
                        STRTL         .58  STARTING LOSS
                          DTH         .52  MOISTURE DEFICIT
                         PSIF        1.94  WETTING FRONT SUCTION
                        XKSAT         .07  HYDRAULIC CONDUCTIVITY
                        RTIMP        5.00  PERCENT IMPERVIOUS AREA

   51 US          SNYDER UNITGRAPH
                           TP         .60  LAG
                           CP         .31  PEAKING COEFFICIENT

                  SYNTHETIC ACCUMULATEO-AREA VS. TIME CURVE WILL BE USED

                                                      ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=    .61 HR,       R=  1.57 HR
                                          SNYDER  TP=    .61 HR,      CP=    .31

                                                UNIT HYDROGRAPH
                                          104 END-OF-PERIOD ORDINATES
                      14.      54.     111.     179.     246.     298.     331.     336.     322.     305.
                     290.     275.     261.     247.     234.     222.     211.     200.     190.     180.
                     171.     162.     153.     146.     138.     131.     124.     118.     112.     106.
                     100.      95.      90.      86.      81.      77.      73.      69.      66.      62.
                      59.      56.      53.      50.      48.      45.      43.      41.      39.      37.
                      35.      33.      31.      30.      28.      27.      25.      24.      23.      22.
                      21.      19.      18.      18.      17.      16.      15.      14.      13.      13.
                      12.      11.      11.      10.      10.       9.       9.       8.       8.       8.
                       7.       7.       6.       6.       6.       5.       5.       5.       5.       4.
                       4.       4.       4.       4.       3.       3.       3.       3.       3.       3.
                       2.       2.       2.       2.

          ***              ***              ***              ***              ***

                        HYDROGRAPH AT STATION    L11aU
                       TRANSPOSITION AREA         .0 SQ MI

          TOTAL RAINFALL =    1.99, TOTAL LOSS =    1.42, TOTAL EXCESS =     .57

        PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
+         (CFS)        (HR)                    6-HR          24-HR          72-HR         24.92-HR
                                       (CFS)
+           169.       12.50                     56.            15.           15.           15.
                                    (INCHES)    .520           .563          .563          .563
                                      (AC-FT)    28.            30.           30.           30.

                                    CUMULATIVE AREA =     1.01 SQ MI

          ***              ***              ***              ***              ***

                        HYDROGRAPH AT STATION    L11aU
                       TRANSPOSITION AREA        14.0 SQ MI

          TOTAL RAINFALL =    1.95, TOTAL LOSS =    1.41, TOTAL EXCESS =     .54

        PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
+         (CFS)        (HR)                    6-HR          24-HR          72-HR         24.92-HR
                                       (CFS)
+           161.       12.50                     54.            15.           14.           14.
                                    (INCHES)    .497           .539          .539          .539
                                      (AC-FT)    27.            29.           29.           29.

                                    CUMULATIVE AREA =     1.01 SQ MI

          ***              ***              ***              ***              ***

                        HYDROGRAPH AT STATION    L11aU
                       TRANSPOSITION AREA        24.0 SQ MI

          TOTAL RAINFALL =    1.93, TOTAL LOSS =    1.40, TOTAL EXCESS =     .53

        PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                                  6-HR          24-HR          72-HR         24.92-HR
```

+	(CFS)	(HR)					
+	157.	12.50	(CFS)	53.	14.	14.	14.
			(INCHES)	.485	.526	.526	.526
			(AC-FT)	26.	28.	28.	28.

CUMULATIVE AREA = 1.01 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION L11aU
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.91, TOTAL LOSS = 1.39, TOTAL EXCESS = .52

	PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)				
+	154.	12.50	(CFS)	51.	14.	13.	13.
			(INCHES)	.474	.514	.514	.514
			(AC-FT)	25.	28.	28.	28.

CUMULATIVE AREA = 1.01 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION L11aU
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.90, TOTAL LOSS = 1.39, TOTAL EXCESS = .51

	PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)				
+	151.	12.50	(CFS)	50.	14.	13.	13.
			(INCHES)	.465	.505	.505	.505
			(AC-FT)	25.	27.	27.	27.

CUMULATIVE AREA = 1.01 SQ MI

INTERPOLATED HYDROGRAPH AT L11aU

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	1.	1		1230	151	164.	1		1845	226	5.
1		0005	2	0.	1		0620	77	1.	1		1235	152	160.	1		1850	227	4.
1		0010	3	0.	1		0625	78	1.	1		1240	153	152.	1		1855	228	4.
1		0015	4	0.	1		0630	79	1.	1		1245	154	145.	1		1900	229	4.
1		0020	5	0.	1		0635	80	1.	1		1250	155	138.	1		1905	230	4.
1		0025	6	0.	1		0640	81	1.	1		1255	156	131.	1		1910	231	4.
1		0030	7	0.	1		0645	82	1.	1		1300	157	124.	1		1915	232	4.
1		0035	8	0.	1		0650	83	1.	1		1305	158	118.	1		1920	233	3.
1		0040	9	0.	1		0655	84	1.	1		1310	159	112.	1		1925	234	3.
1		0045	10	0.	1		0700	85	1.	1		1315	160	107.	1		1930	235	3.
1		0050	11	0.	1		0705	86	1.	1		1320	161	102.	1		1935	236	3.
1		0055	12	0.	1		0710	87	1.	1		1325	162	96.	1		1940	237	3.
1		0100	13	0.	1		0715	88	1.	1		1330	163	92.	1		1945	238	3.
1		0105	14	0.	1		0720	89	1.	1		1335	164	87.	1		1950	239	3.
1		0110	15	0.	1		0725	90	1.	1		1340	165	83.	1		1955	240	3.
1		0115	16	0.	1		0730	91	1.	1		1345	166	79.	1		2000	241	3.
1		0120	17	0.	1		0735	92	1.	1		1350	167	75.	1		2005	242	2.
1		0125	18	0.	1		0740	93	1.	1		1355	168	71.	1		2010	243	2.
1		0130	19	0.	1		0745	94	1.	1		1400	169	68.	1		2015	244	2.
1		0135	20	0.	1		0750	95	1.	1		1405	170	64.	1		2020	245	2.
1		0140	21	0.	1		0755	96	1.	1		1410	171	61.	1		2025	246	2.
1		0145	22	0.	1		0800	97	1.	1		1415	172	58.	1		2030	247	2.
1		0150	23	0.	1		0805	98	1.	1		1420	173	55.	1		2035	248	1.
1		0155	24	0.	1		0810	99	1.	1		1425	174	52.	1		2040	249	1.
1		0200	25	0.	1		0815	100	1.	1		1430	175	50.	1		2045	250	1.
1		0205	26	0.	1		0820	101	1.	1		1435	176	47.	1		2050	251	1.
1		0210	27	0.	1		0825	102	1.	1		1440	177	45.	1		2055	252	1.
1		0215	28	1.	1		0830	103	1.	1		1445	178	43.	1		2100	253	1.
1		0220	29	1.	1		0835	104	1.	1		1450	179	41.	1		2105	254	1.
1		0225	30	1.	1		0840	105	1.	1		1455	180	39.	1		2110	255	1.
1		0230	31	1.	1		0845	106	1.	1		1500	181	37.	1		2115	256	1.
1		0235	32	1.	1		0850	107	1.	1		1505	182	35.	1		2120	257	1.
1		0240	33	1.	1		0855	108	1.	1		1510	183	33.	1		2125	258	1.
1		0245	34	1.	1		0900	109	1.	1		1515	184	32.	1		2130	259	1.
1		0250	35	1.	1		0905	110	1.	1		1520	185	30.	1		2135	260	1.
1		0255	36	1.	1		0910	111	1.	1		1525	186	29.	1		2140	261	1.
1		0300	37	1.	1		0915	112	1.	1		1530	187	27.	1		2145	262	1.
1		0305	38	1.	1		0920	113	1.	1		1535	188	26.	1		2150	263	1.
1		0310	39	1.	1		0925	114	2.	1		1540	189	25.	1		2155	264	1.
1		0315	40	1.	1		0930	115	2.	1		1545	190	24.	1		2200	265	1.
1		0320	41	1.	1		0935	116	2.	1		1550	191	22.	1		2205	266	1.
1		0325	42	1.	1		0940	117	2.	1		1555	192	21.	1		2210	267	1.
1		0330	43	1.	1		0945	118	2.	1		1600	193	20.	1		2215	268	1.
1		0335	44	1.	1		0950	119	2.	1		1605	194	19.	1		2220	269	1.
1		0340	45	1.	1		0955	120	2.	1		1610	195	18.	1		2225	270	1.
1		0345	46	1.	1		1000	121	2.	1		1615	196	18.	1		2230	271	1.
1		0350	47	1.	1		1005	122	2.	1		1620	197	17.	1		2235	272	1.
1		0355	48	1.	1		1010	123	2.	1		1625	198	16.	1		2240	273	1.
1		0400	49	1.	1		1015	124	2.	1		1630	199	15.	1		2245	274	1.
1		0405	50	1.	1		1020	125	2.	1		1635	200	15.	1		2250	275	1.
1		0410	51	1.	1		1025	126	2.	1		1640	201	14.	1		2255	276	1.
1		0415	52	1.	1		1030	127	2.	1		1645	202	13.	1		2300	277	1.
1		0420	53	1.	1		1035	128	2.	1		1650	203	13.	1		2305	278	1.
1		0425	54	1.	1		1040	129	2.	1		1655	204	12.	1		2310	279	1.
1		0430	55	1.	1		1045	130	2.	1		1700	205	11.	1		2315	280	1.
1		0435	56	1.	1		1050	131	2.	1		1705	206	11.	1		2320	281	1.
1		0440	57	1.	1		1055	132	2.	1		1710	207	10.	1		2325	282	1.
1		0445	58	1.	1		1100	133	2.	1		1715	208	10.	1		2330	283	1.
1		0450	59	1.	1		1105	134	2.	1		1720	209	10.	1		2335	284	1.
1		0455	60	1.	1		1110	135	2.	1		1725	210	9.	1		2340	285	1.
1		0500	61	1.	1		1115	136	3.	1		1730	211	9.	1		2345	286	1.

1	0505	62	1.	*	1	1120	137	3.	*	1	1735	212	8.	*	1	2350	287	1.		
1	0510	63	1.	*	1	1125	138	3.	*	1	1740	213	8.	*	1	2355	288	1.		
1	0515	64	1.	*	1	1130	139	3.	*	1	1745	214	8.	*	2	0000	289	1.		
1	0520	65	1.	*	1	1135	140	3.	*	1	1750	215	7.	*	2	0005	290	1.		
1	0525	66	1.	*	1	1140	141	3.	*	1	1755	216	7.	*	2	0010	291	1.		
1	0530	67	1.	*	1	1145	142	4.	*	1	1800	217	7.	*	2	0015	292	1.		
1	0535	68	1.	*	1	1150	143	9.	*	1	1805	218	6.	*	2	0020	293	1.		
1	0540	69	1.	*	1	1155	144	19.	*	1	1810	219	6.	*	2	0025	294	1.		
1	0545	70	1.	*	1	1200	145	39.	*	1	1815	220	6.	*	2	0030	295	1.		
1	0550	71	1.	*	1	1205	146	66.	*	1	1820	221	6.	*	2	0035	296	1.		
1	0555	72	1.	*	1	1210	147	97.	*	1	1825	222	5.	*	2	0040	297	1.		
1	0600	73	1.	*	1	1215	148	126.	*	1	1830	223	5.	*	2	0045	298	1.		
1	0605	74	1.	*	1	1220	149	148.	*	1	1835	224	5.	*	2	0050	299	1.		
1	0610	75	1.	*	1	1225	150	161.	*	1	1840	225	5.	*	2	0055	300	1.		

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
+ 164.	12.50	(CFS)	55.	15.	14.	14.
		(INCHES)	.505	.547	.548	.548
		(AC-FT)	27.	29.	29.	29.

CUMULATIVE AREA = 1.01 SQ MI

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52 KK C_11aU Combine Hydrographs at the Proposed Lower Detention Pond

53 HC HYDROGRAPH COMBINATION
ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

*** *** *** *** *** ***

HYDROGRAPH AT STATION C_11aU
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
1047.	13.17	(CFS)	443.	121.	116.	116.
		(INCHES)	.486	.529	.529	.529
		(AC-FT)	220.	239.	239.	239.

CUMULATIVE AREA = 8.49 SQ MI

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HYDROGRAPH AT STATION C_11aU
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
+ 1000.	13.17	(CFS)	423.	115.	111.	111.
		(INCHES)	.463	.505	.505	.505
		(AC-FT)	210.	229.	229.	229.

CUMULATIVE AREA = 8.49 SQ MI

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HYDROGRAPH AT STATION C_11aU
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
+ 977.	13.17	(CFS)	413.	113.	108.	108.
		(INCHES)	.452	.493	.493	.493
		(AC-FT)	205.	223.	223.	223.

CUMULATIVE AREA = 8.49 SQ MI

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HYDROGRAPH AT STATION C_11aU
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
+ 955.	13.17	(CFS)	403.	110.	106.	106.
		(INCHES)	.441	.481	.481	.481
		(AC-FT)	200.	218.	218.	218.

CUMULATIVE AREA = 8.49 SQ MI

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HYDROGRAPH AT STATION C_11aU
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW TIME MAXIMUM AVERAGE FLOW

+	(CFS)	(HR)		6-HR	24-HR	72-HR	24.92-HR
+	936.	13.17	(CFS)	395.	108.	104.	104.
			(INCHES)	.433	.473	.473	.473
			(AC-FT)	196.	214.	214.	214.

CUMULATIVE AREA = 8.49 SQ MI

INTERPOLATED HYDROGRAPH AT C_11aU

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	3.	1		1230	151	465.	1		1845	226	65.
1		0005	2	0.	1		0620	77	3.	1		1235	152	575.	1		1850	227	62.
1		0010	3	0.	1		0625	78	3.	1		1240	153	677.	1		1855	228	60.
1		0015	4	0.	1		0630	79	3.	1		1245	154	770.	1		1900	229	58.
1		0020	5	0.	1		0635	80	3.	1		1250	155	850.	1		1905	230	55.
1		0025	6	0.	1		0640	81	3.	1		1255	156	915.	1		1910	231	53.
1		0030	7	0.	1		0645	82	4.	1		1300	157	961.	1		1915	232	51.
1		0035	8	0.	1		0650	83	4.	1		1305	158	991.	1		1920	233	49.
1		0040	9	0.	1		0655	84	4.	1		1310	159	1003.	1		1925	234	47.
1		0045	10	0.	1		0700	85	4.	1		1315	160	996.	1		1930	235	46.
1		0050	11	0.	1		0705	86	4.	1		1320	161	971.	1		1935	236	44.
1		0055	12	0.	1		0710	87	4.	1		1325	162	936.	1		1940	237	42.
1		0100	13	0.	1		0715	88	4.	1		1330	163	898.	1		1945	238	41.
1		0105	14	0.	1		0720	89	4.	1		1335	164	861.	1		1950	239	39.
1		0110	15	0.	1		0725	90	4.	1		1340	165	825.	1		1955	240	38.
1		0115	16	0.	1		0730	91	4.	1		1345	166	790.	1		2000	241	36.
1		0120	17	0.	1		0735	92	4.	1		1350	167	757.	1		2005	242	35.
1		0125	18	0.	1		0740	93	4.	1		1355	168	725.	1		2010	243	34.
1		0130	19	0.	1		0745	94	4.	1		1400	169	695.	1		2015	244	33.
1		0135	20	0.	1		0750	95	4.	1		1405	170	665.	1		2020	245	32.
1		0140	21	0.	1		0755	96	4.	1		1410	171	638.	1		2025	246	30.
1		0145	22	0.	1		0800	97	4.	1		1415	172	611.	1		2030	247	29.
1		0150	23	0.	1		0805	98	4.	1		1420	173	585.	1		2035	248	27.
1		0155	24	0.	1		0810	99	4.	1		1425	174	561.	1		2040	249	26.
1		0200	25	1.	1		0815	100	4.	1		1430	175	537.	1		2045	250	25.
1		0205	26	1.	1		0820	101	4.	1		1435	176	515.	1		2050	251	24.
1		0210	27	1.	1		0825	102	4.	1		1440	177	493.	1		2055	252	23.
1		0215	28	1.	1		0830	103	4.	1		1445	178	473.	1		2100	253	23.
1		0220	29	1.	1		0835	104	4.	1		1450	179	453.	1		2105	254	22.
1		0225	30	1.	1		0840	105	4.	1		1455	180	434.	1		2110	255	21.
1		0230	31	1.	1		0845	106	5.	1		1500	181	416.	1		2115	256	20.
1		0235	32	1.	1		0850	107	5.	1		1505	182	399.	1		2120	257	20.
1		0240	33	1.	1		0855	108	5.	1		1510	183	382.	1		2125	258	19.
1		0245	34	1.	1		0900	109	5.	1		1515	184	366.	1		2130	259	18.
1		0250	35	1.	1		0905	110	5.	1		1520	185	351.	1		2135	260	18.
1		0255	36	1.	1		0910	111	5.	1		1525	186	336.	1		2140	261	17.
1		0300	37	1.	1		0915	112	5.	1		1530	187	322.	1		2145	262	16.
1		0305	38	2.	1		0920	113	5.	1		1535	188	309.	1		2150	263	16.
1		0310	39	2.	1		0925	114	5.	1		1540	189	296.	1		2155	264	15.
1		0315	40	2.	1		0930	115	5.	1		1545	190	284.	1		2200	265	15.
1		0320	41	2.	1		0935	116	5.	1		1550	191	272.	1		2205	266	14.
1		0325	42	2.	1		0940	117	5.	1		1555	192	261.	1		2210	267	14.
1		0330	43	2.	1		0945	118	5.	1		1600	193	250.	1		2215	268	14.
1		0335	44	2.	1		0950	119	5.	1		1605	194	240.	1		2220	269	13.
1		0340	45	2.	1		0955	120	5.	1		1610	195	230.	1		2225	270	13.
1		0345	46	2.	1		1000	121	6.	1		1615	196	221.	1		2230	271	12.
1		0350	47	2.	1		1005	122	6.	1		1620	197	212.	1		2235	272	12.
1		0355	48	2.	1		1010	123	6.	1		1625	198	203.	1		2240	273	12.
1		0400	49	2.	1		1015	124	6.	1		1630	199	195.	1		2245	274	11.
1		0405	50	2.	1		1020	125	6.	1		1635	200	187.	1		2250	275	11.
1		0410	51	2.	1		1025	126	6.	1		1640	201	179.	1		2255	276	10.
1		0415	52	2.	1		1030	127	6.	1		1645	202	172.	1		2300	277	9.
1		0420	53	2.	1		1035	128	6.	1		1650	203	165.	1		2305	278	9.
1		0425	54	2.	1		1040	129	6.	1		1655	204	158.	1		2310	279	8.
1		0430	55	3.	1		1045	130	7.	1		1700	205	152.	1		2315	280	7.
1		0435	56	3.	1		1050	131	7.	1		1705	206	146.	1		2320	281	6.
1		0440	57	3.	1		1055	132	7.	1		1710	207	140.	1		2325	282	6.
1		0445	58	3.	1		1100	133	7.	1		1715	208	134.	1		2330	283	5.
1		0450	59	3.	1		1105	134	7.	1		1720	209	129.	1		2335	284	5.
1		0455	60	3.	1		1110	135	7.	1		1725	210	123.	1		2340	285	4.
1		0500	61	3.	1		1115	136	8.	1		1730	211	119.	1		2345	286	4.
1		0505	62	3.	1		1120	137	8.	1		1735	212	114.	1		2350	287	4.
1		0510	63	3.	1		1125	138	8.	1		1740	213	109.	1		2355	288	4.
1		0515	64	3.	1		1130	139	8.	1		1745	214	105.	2		0000	289	4.
1		0520	65	3.	1		1135	140	9.	1		1750	215	101.	2		0005	290	4.
1		0525	66	3.	1		1140	141	9.	1		1755	216	97.	2		0010	291	3.
1		0530	67	3.	1		1145	142	10.	1		1800	217	93.	2		0015	292	3.
1		0535	68	3.	1		1150	143	15.	1		1805	218	89.	2		0020	293	3.
1		0540	69	3.	1		1155	144	26.	1		1810	219	86.	2		0025	294	3.
1		0545	70	3.	1		1200	145	45.	1		1815	220	82.	2		0030	295	3.
1		0550	71	3.	1		1205	146	75.	1		1820	221	79.	2		0035	296	3.
1		0555	72	3.	1		1210	147	112.	1		1825	222	76.	2		0040	297	3.
1		0600	73	3.	1		1215	148	166.	1		1830	223	73.	2		0045	298	3.
1		0605	74	3.	1		1220	149	248.	1		1835	224	70.	2		0050	299	3.
1		0610	75	3.	1		1225	150	352.	1		1840	225	67.	2		0055	300	3.

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
+ (CFS)	(HR)		6-HR	24-HR	72-HR	24.92-HR
+ 1003.	13.17	(CFS)	424.	116.	111.	111.
		(INCHES)	.465	.507	.507	.507
		(AC-FT)	210.	229.	229.	229.

CUMULATIVE AREA = 8.49 SQ MI

54 KK * D-LPd * Divert Flow Into Lower Detention Pond
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DT	DIVERSION ISTAD	D-Pd	DIVERSION HYDROGRAPH IDENTIFICATION					
DI	INFLOW	.00	24.80	117.60	285.30	755.60	4100.00	10000.00
DQ	DIVERTED FLOW	.00	.00	91.00	257.00	725.80	2050.00	4000.00

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DIVERSION HYDROGRAPH D-Pd
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	24.92-HR
841.	13.17	(CFS)	394.	102.	98.	98.
		(INCHES)	.432	.446	.446	.446
		(AC-FT)	195.	202.	202.	202.

CUMULATIVE AREA = 8.49 SQ MI

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HYDROGRAPH AT STATION D-LPd
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	24.92-HR
206.	13.17	(CFS)	49.	19.	18.	18.
		(INCHES)	.054	.083	.083	.083
		(AC-FT)	24.	38.	38.	38.

CUMULATIVE AREA = 8.49 SQ MI

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DIVERSION HYDROGRAPH D-Pd
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	24.92-HR
822.	13.17	(CFS)	379.	98.	94.	94.
		(INCHES)	.415	.428	.428	.428
		(AC-FT)	188.	194.	194.	194.

CUMULATIVE AREA = 8.49 SQ MI

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HYDROGRAPH AT STATION D-LPd
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	24.92-HR
177.	13.17	(CFS)	44.	18.	17.	17.
		(INCHES)	.048	.077	.077	.077
		(AC-FT)	22.	35.	35.	35.

CUMULATIVE AREA = 8.49 SQ MI

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DIVERSION HYDROGRAPH D-Pd
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	24.92-HR
814.	13.17	(CFS)	371.	96.	92.	92.
		(INCHES)	.406	.419	.419	.419
		(AC-FT)	184.	189.	189.	189.

CUMULATIVE AREA = 8.49 SQ MI

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HYDROGRAPH AT STATION D-LPd
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	24.92-HR
164.	13.17	(CFS)	42.	17.	16.	16.
		(INCHES)	.046	.074	.074	.074
		(AC-FT)	21.	34.	34.	34.

CUMULATIVE AREA = 8.49 SQ MI

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DIVERSION HYDROGRAPH D-Pd
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
805.	13.17	(CFS)	363.	93.	90.	90.
		(INCHES)	.398	.410	.410	.410
		(AC-FT)	180.	185.	185.	185.

CUMULATIVE AREA = 8.49 SQ MI

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HYDROGRAPH AT STATION O-LPd
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
150.	13.17	(CFS)	40.	16.	16.	16.
		(INCHES)	.044	.072	.072	.072
		(AC-FT)	20.	33.	33.	33.

CUMULATIVE AREA = 8.49 SQ MI

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DIVERSION HYOROGRAPH D-Pd
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
797.	13.17	(CFS)	357.	92.	89.	89.
		(INCHES)	.391	.403	.403	.403
		(AC-FT)	177.	182.	182.	182.

CUMULATIVE AREA = 8.49 SQ MI

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HYDROGRAPH AT STATION D-LPd
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
139.	13.17	(CFS)	38.	16.	15.	15.
		(INCHES)	.042	.070	.070	.070
		(AC-FT)	19.	32.	32.	32.

CUMULATIVE AREA = 8.49 SQ MI

INTERPOLATED DIVERSION HYDROGRAPH AT D-Pd

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	436.	1		1845	226	39.
1		0005	2	0.	1		0620	77	0.	1		1235	152	546.	1		1850	227	37.
1		0010	3	0.	1		0625	78	0.	1		1240	153	648.	1		1855	228	34.
1		0015	4	0.	1		0630	79	0.	1		1245	154	731.	1		1900	229	32.
1		0020	5	0.	1		0635	80	0.	1		1250	155	763.	1		1905	230	30.
1		0025	6	0.	1		0640	81	0.	1		1255	156	789.	1		1910	231	28.
1		0030	7	0.	1		0645	82	0.	1		1300	157	807.	1		1915	232	26.
1		0035	8	0.	1		0650	83	0.	1		1305	158	819.	1		1920	233	24.
1		0040	9	0.	1		0655	84	0.	1		1310	159	824.	1		1925	234	22.
1		0045	10	0.	1		0700	85	0.	1		1315	160	821.	1		1930	235	20.
1		0050	11	0.	1		0705	86	0.	1		1320	161	811.	1		1935	236	19.
1		0055	12	0.	1		0710	87	0.	1		1325	162	797.	1		1940	237	17.
1		0100	13	0.	1		0715	88	0.	1		1330	163	782.	1		1945	238	16.
1		0105	14	0.	1		0720	89	0.	1		1335	164	768.	1		1950	239	14.
1		0110	15	0.	1		0725	90	0.	1		1340	165	753.	1		1955	240	13.
1		0115	16	0.	1		0730	91	0.	1		1345	166	740.	1		2000	241	11.
1		0120	17	0.	1		0735	92	0.	1		1350	167	726.	1		2005	242	10.
1		0125	18	0.	1		0740	93	0.	1		1355	168	695.	1		2010	243	9.
1		0130	19	0.	1		0745	94	0.	1		1400	169	665.	1		2015	244	8.
1		0135	20	0.	1		0750	95	0.	1		1405	170	636.	1		2020	245	7.
1		0140	21	0.	1		0755	96	0.	1		1410	171	608.	1		2025	246	5.
1		0145	22	0.	1		0800	97	0.	1		1415	172	581.	1		2030	247	4.
1		0150	23	0.	1		0805	98	0.	1		1420	173	556.	1		2035	248	2.
1		0155	24	0.	1		0810	99	0.	1		1425	174	532.	1		2040	249	1.
1		0200	25	0.	1		0815	100	0.	1		1430	175	508.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	486.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	464.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	444.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	424.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	405.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	387.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	370.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	353.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	337.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	322.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	308.	1		2140	261	0.
1		0300	37	0.	1		0915	112	0.	1		1530	187	294.	1		2145	262	0.
1		0305	38	0.	1		0920	113	0.	1		1535	188	281.	1		2150	263	0.
1		0310	39	0.	1		0925	114	0.	1		1540	189	268.	1		2155	264	0.
1		0315	40	0.	1		0930	115	0.	1		1545	190	256.	1		2200	265	0.
1		0320	41	0.	1		0935	116	0.	1		1550	191	244.	1		2205	266	0.
1		0325	42	0.	1		0940	117	0.	1		1555	192	233.	1		2210	267	0.
1		0330	43	0.	1		0945	118	0.	1		1600	193	222.	1		2215	268	0.
1		0335	44	0.	1		0950	119	0.	1		1605	194	212.	1		2220	269	0.
1		0340	45	0.	1		0955	120	0.	1		1610	195	202.	1		2225	270	0.
1		0345	46	0.	1		1000	121	0.	1		1615	196	193.	1		2230	271	0.
1		0350	47	0.	1		1005	122	0.	1		1620	197	184.	1		2235	272	0.

1	0355	48	0.	*	1	1010	123	0.	*	1	1625	198	175.	*	1	2240	273	0.
1	0400	49	0.	*	1	1015	124	0.	*	1	1630	199	167.	*	1	2245	274	0.
1	0405	50	0.	*	1	1020	125	0.	*	1	1635	200	159.	*	1	2250	275	0.
1	0410	51	0.	*	1	1025	126	0.	*	1	1640	201	152.	*	1	2255	276	0.
1	0415	52	0.	*	1	1030	127	0.	*	1	1645	202	145.	*	1	2300	277	0.
1	0420	53	0.	*	1	1035	128	0.	*	1	1650	203	138.	*	1	2305	278	0.
1	0425	54	0.	*	1	1040	129	0.	*	1	1655	204	131.	*	1	2310	279	0.
1	0430	55	0.	*	1	1045	130	0.	*	1	1700	205	125.	*	1	2315	280	0.
1	0435	56	0.	*	1	1050	131	0.	*	1	1705	206	119.	*	1	2320	281	0.
1	0440	57	0.	*	1	1055	132	0.	*	1	1710	207	113.	*	1	2325	282	0.
1	0445	58	0.	*	1	1100	133	0.	*	1	1715	208	107.	*	1	2330	283	0.
1	0450	59	0.	*	1	1105	134	0.	*	1	1720	209	102.	*	1	2335	284	0.
1	0455	60	0.	*	1	1110	135	0.	*	1	1725	210	97.	*	1	2340	285	0.
1	0500	61	0.	*	1	1115	136	0.	*	1	1730	211	92.	*	1	2345	286	0.
1	0505	62	0.	*	1	1120	137	0.	*	1	1735	212	87.	*	1	2350	287	0.
1	0510	63	0.	*	1	1125	138	0.	*	1	1740	213	83.	*	1	2355	288	0.
1	0515	64	0.	*	1	1130	139	0.	*	1	1745	214	78.	*	2	0000	289	0.
1	0520	65	0.	*	1	1135	140	0.	*	1	1750	215	74.	*	2	0005	290	0.
1	0525	66	0.	*	1	1140	141	0.	*	1	1755	216	70.	*	2	0010	291	0.
1	0530	67	0.	*	1	1145	142	0.	*	1	1800	217	67.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	0.	*	1	1805	218	63.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	1.	*	1	1810	219	60.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	20.	*	1	1815	220	56.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	49.	*	1	1820	221	53.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	86.	*	1	1825	222	50.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	139.	*	1	1830	223	47.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	220.	*	1	1835	224	44.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	323.	*	1	1840	225	42.	*	2	0055	300	0.

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 824.	13.17		380.	98.	94.	94.
		(INCHES)	.416	.429	.429	.429
		(AC-FT)	188.	194.	194.	194.

CUMULATIVE AREA = 8.49 SQ MI

INTERPOLATED HYDROGRAPH AT D-LPd

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	3.	1		1230	151	29.	1		1845	226	26.
1		0005	2	0.	1		0620	77	3.	1		1235	152	29.	1		1850	227	26.
1		0010	3	0.	1		0625	78	3.	1		1240	153	30.	1		1855	228	25.
1		0015	4	0.	1		0630	79	3.	1		1245	154	38.	1		1900	229	25.
1		0020	5	0.	1		0635	80	3.	1		1250	155	87.	1		1905	230	25.
1		0025	6	0.	1		0640	81	3.	1		1255	156	126.	1		1910	231	25.
1		0030	7	0.	1		0645	82	4.	1		1300	157	154.	1		1915	232	25.
1		0035	8	0.	1		0650	83	4.	1		1305	158	172.	1		1920	233	25.
1		0040	9	0.	1		0655	84	4.	1		1310	159	179.	1		1925	234	25.
1		0045	10	0.	1		0700	85	4.	1		1315	160	175.	1		1930	235	25.
1		0050	11	0.	1		0705	86	4.	1		1320	161	160.	1		1935	236	25.
1		0055	12	0.	1		0710	87	4.	1		1325	162	139.	1		1940	237	25.
1		0100	13	0.	1		0715	88	4.	1		1330	163	116.	1		1945	238	25.
1		0105	14	0.	1		0720	89	4.	1		1335	164	93.	1		1950	239	25.
1		0110	15	0.	1		0725	90	4.	1		1340	165	72.	1		1955	240	25.
1		0115	16	0.	1		0730	91	4.	1		1345	166	51.	1		2000	241	25.
1		0120	17	0.	1		0735	92	4.	1		1350	167	31.	1		2005	242	25.
1		0125	18	0.	1		0740	93	4.	1		1355	168	30.	1		2010	243	25.
1		0130	19	0.	1		0745	94	4.	1		1400	169	30.	1		2015	244	25.
1		0135	20	0.	1		0750	95	4.	1		1405	170	30.	1		2020	245	25.
1		0140	21	0.	1		0755	96	4.	1		1410	171	29.	1		2025	246	25.
1		0145	22	0.	1		0800	97	4.	1		1415	172	29.	1		2030	247	25.
1		0150	23	0.	1		0805	98	4.	1		1420	173	29.	1		2035	248	25.
1		0155	24	0.	1		0810	99	4.	1		1425	174	29.	1		2040	249	25.
1		0200	25	1.	1		0815	100	4.	1		1430	175	29.	1		2045	250	25.
1		0205	26	1.	1		0820	101	4.	1		1435	176	29.	1		2050	251	24.
1		0210	27	1.	1		0825	102	4.	1		1440	177	29.	1		2055	252	23.
1		0215	28	1.	1		0830	103	4.	1		1445	178	29.	1		2100	253	23.
1		0220	29	1.	1		0835	104	4.	1		1450	179	29.	1		2105	254	22.
1		0225	30	1.	1		0840	105	4.	1		1455	180	29.	1		2110	255	21.
1		0230	31	1.	1		0845	106	5.	1		1500	181	29.	1		2115	256	20.
1		0235	32	1.	1		0850	107	5.	1		1505	182	29.	1		2120	257	20.
1		0240	33	1.	1		0855	108	5.	1		1510	183	29.	1		2125	258	19.
1		0245	34	1.	1		0900	109	5.	1		1515	184	29.	1		2130	259	18.
1		0250	35	1.	1		0905	110	5.	1		1520	185	29.	1		2135	260	18.
1		0255	36	1.	1		0910	111	5.	1		1525	186	28.	1		2140	261	17.
1		0300	37	1.	1		0915	112	5.	1		1530	187	28.	1		2145	262	16.
1		0305	38	2.	1		0920	113	5.	1		1535	188	28.	1		2150	263	16.
1		0310	39	2.	1		0925	114	5.	1		1540	189	28.	1		2155	264	15.
1		0315	40	2.	1		0930	115	5.	1		1545	190	28.	1		2200	265	15.
1		0320	41	2.	1		0935	116	5.	1		1550	191	28.	1		2205	266	14.
1		0325	42	2.	1		0940	117	5.	1		1555	192	28.	1		2210	267	14.
1		0330	43	2.	1		0945	118	5.	1		1600	193	28.	1		2215	268	14.
1		0335	44	2.	1		0950	119	5.	1		1605	194	28.	1		2220	269	13.
1		0340	45	2.	1		0955	120	5.	1		1610	195	28.	1		2225	270	13.
1		0345	46	2.	1		1000	121	6.	1		1615	196	28.	1		2230	271	12.
1		0350	47	2.	1		1005	122	6.	1		1620	197	28.	1		2235	272	12.
1		0355	48	2.	1		1010	123	6.	1		1625	198	27.	1		2240	273	12.
1		0400	49	2.	1		1015	124	6.	1		1630	199	27.	1		2245	274	11.
1		0405	50	2.	1		1020	125	6.	1		1635	200	27.	1		2250	275	11.
1		0410	51	2.	1		1025	126	6.	1		1640	201	27.	1		2255	276	10.
1		0415	52	2.	1		1030	127	6.	1		1645	202	27.	1		2300	277	9.
1		0420	53	2.	1		1035	128	6.	1		1650	203	27.	1		2305	278	9.
1		0425	54	2.	1		1040	129	6.	1		1655	204	27.	1		2310	279	8.
1		0430	55	3.	1		1045	130	7.	1		1700	205	27.	1		2315	280	7.
1		0435	56	3.	1		1050	131	7.	1		1705	206	27.	1		2320	281	6.
1		0440	57	3.	1		1055	132	7.	1		1710	207	27.	1		2325	282	6.
1		0445	58	3.	1		1100	133	7.	1		1715	208	27.	1		2330	283	5.
1		0450	59	3.	1		1105	134	7.	1		1720	209	27.	1		2335	284	5.
1		0455	60	3.	1		1110	135	7.	1		1725	210	27.	1		2340	285	4.
1		0500	61	3.	1		1115	136	8.	1		1730	211	27.	1		2345	286	4.
1		0505	62	3.	1		1120	137	8.	1		1735	212	27.	1		2350	287	4.
1		0510	63	3.	1		1125	138	8.	1		1740	213	26.	1		2355	288	4.
1		0515	64	3.	1		1130	139	8.	1		1745	214	26.	2		0000	289	4.

1	0520	65	3.	*	1	1135	140	9.	*	1	1750	215	26.	*	2	0005	290	4.
1	0525	66	3.	*	1	1140	141	9.	*	1	1755	216	26.	*	2	0010	291	3.
1	0530	67	3.	*	1	1145	142	10.	*	1	1800	217	26.	*	2	0015	292	3.
1	0535	68	3.	*	1	1150	143	15.	*	1	1805	218	26.	*	2	0020	293	3.
1	0540	69	3.	*	1	1155	144	25.	*	1	1810	219	26.	*	2	0025	294	3.
1	0545	70	3.	*	1	1200	145	25.	*	1	1815	220	26.	*	2	0030	295	3.
1	0550	71	3.	*	1	1205	146	26.	*	1	1820	221	26.	*	2	0035	296	3.
1	0555	72	3.	*	1	1210	147	26.	*	1	1825	222	26.	*	2	0040	297	3.
1	0600	73	3.	*	1	1215	148	27.	*	1	1830	223	26.	*	2	0045	298	3.
1	0605	74	3.	*	1	1220	149	28.	*	1	1835	224	26.	*	2	0050	299	3.
1	0610	75	3.	*	1	1225	150	29.	*	1	1840	225	26.	*	2	0055	300	3.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 179.	13.17		45.	18.	17.	17.
		(INCHES)	.049	.078	.078	.078
		(AC-FT)	22.	35.	35.	35.

CUMULATIVE AREA = 8.49 SQ MI

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58 KK SRD-Pd Retrieve Pond Inflow

59 DR RETRIEVE DIVERSION HYDROGRAPH
ISTAD D-Pd DIVERSION HYDROGRAPH IDENTIFICATION

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HYDROGRAPH AT STATION SRD-Pd
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 841.	13.17		394.	102.	98.	98.
		(INCHES)	.432	.446	.446	.446
		(AC-FT)	195.	202.	202.	202.

CUMULATIVE AREA = 8.49 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION SRD-Pd
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 822.	13.17		379.	98.	94.	94.
		(INCHES)	.415	.428	.428	.428
		(AC-FT)	188.	194.	194.	194.

CUMULATIVE AREA = 8.49 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION SRD-Pd
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 814.	13.17		371.	96.	92.	92.
		(INCHES)	.406	.419	.419	.419
		(AC-FT)	184.	189.	189.	189.

CUMULATIVE AREA = 8.49 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION SRD-Pd
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 805.	13.17		363.	93.	90.	90.
		(INCHES)	.398	.410	.410	.410
		(AC-FT)	180.	185.	185.	185.

CUMULATIVE AREA = 8.49 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION SRD-Pd
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				

| | | |

61 HC HYDROGRAPH COMBINATION
ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

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*** *** *** *** ***

HYDROGRAPH AT STATION C_11aD
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR	
(CFS)	(HR)	(CFS)				
1047.	13.17	443.	121.	116.	116.	
		(INCHES) .486	.529	.529	.529	
		(AC-FT) 220.	239.	239.	239.	

CUMULATIVE AREA = 8.49 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_11aD
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR	
(CFS)	(HR)	(CFS)				
1000.	13.17	423.	115.	111.	111.	
		(INCHES) .463	.505	.505	.505	
		(AC-FT) 210.	229.	229.	229.	

CUMULATIVE AREA = 8.49 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_11aD
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR	
(CFS)	(HR)	(CFS)				
977.	13.17	413.	113.	108.	108.	
		(INCHES) .452	.493	.493	.493	
		(AC-FT) 205.	223.	223.	223.	

CUMULATIVE AREA = 8.49 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_11aD
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR	
(CFS)	(HR)	(CFS)				
955.	13.17	403.	110.	106.	106.	
		(INCHES) .441	.481	.481	.481	
		(AC-FT) 200.	218.	218.	218.	

CUMULATIVE AREA = 8.49 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_11aD
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR	
(CFS)	(HR)	(CFS)				
936.	13.17	395.	108.	104.	104.	
		(INCHES) .433	.473	.473	.473	
		(AC-FT) 196.	214.	214.	214.	

CUMULATIVE AREA = 8.49 SQ MI

INTERPOLATED HYDROGRAPH AT C_11aD

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	3.	1		1230	151	465.	1		1845	226	65.
1		0005	2	0.	1		0620	77	3.	1		1235	152	575.	1		1850	227	62.
1		0010	3	0.	1		0625	78	3.	1		1240	153	677.	1		1855	228	60.
1		0015	4	0.	1		0630	79	3.	1		1245	154	770.	1		1900	229	58.
1		0020	5	0.	1		0635	80	3.	1		1250	155	850.	1		1905	230	55.
1		0025	6	0.	1		0640	81	3.	1		1255	156	915.	1		1910	231	53.
1		0030	7	0.	1		0645	82	4.	1		1300	157	961.	1		1915	232	51.
1		0035	8	0.	1		0650	83	4.	1		1305	158	991.	1		1920	233	49.
1		0040	9	0.	1		0655	84	4.	1		1310	159	1003.	1		1925	234	47.
1		0045	10	0.	1		0700	85	4.	1		1315	160	996.	1		1930	235	46.
1		0050	11	0.	1		0705	86	4.	1		1320	161	971.	1		1935	236	44.
1		0055	12	0.	1		0710	87	4.	1		1325	162	936.	1		1940	237	42.
1		0100	13	0.	1		0715	88	4.	1		1330	163	898.	1		1945	238	41.
1		0105	14	0.	1		0720	89	4.	1		1335	164	861.	1		1950	239	39.
1		0110	15	0.	1		0725	90	4.	1		1340	165	825.	1		1955	240	38.
1		0115	16	0.	1		0730	91	4.	1		1345	166	790.	1		2000	241	36.
1		0120	17	0.	1		0735	92	4.	1		1350	167	757.	1		2005	242	35.
1		0125	18	0.	1		0740	93	4.	1		1355	168	725.	1		2010	243	34.
1		0130	19	0.	1		0745	94	4.	1		1400	169	695.	1		2015	244	33.
1		0135	20	0.	1		0750	95	4.	1		1405	170	665.	1		2020	245	32.

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*** *** *** *** ***

HYDROGRAPH AT STATION L11aO
TRANSPOSITION AREA .0 SQ MI

TOTAL RAINFALL = 1.99, TOTAL LOSS = 1.50, TOTAL EXCESS = .49

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
3.	12.08	(CFS) 1.	0.	0.	0.
		(INCHES) .401	.489	.490	.490
		(AC-FT) 0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION L11aD
TRANSPOSITION AREA 14.0 SQ MI

TOTAL RAINFALL = 1.95, TOTAL LOSS = 1.48, TOTAL EXCESS = .47

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
3.	12.08	(CFS) 1.	0.	0.	0.
		(INCHES) .379	.466	.466	.466
		(AC-FT) 0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION L11aD
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.93, TOTAL LOSS = 1.47, TOTAL EXCESS = .46

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
3.	12.08	(CFS) 1.	0.	0.	0.
		(INCHES) .370	.455	.456	.456
		(AC-FT) 0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION L11aD
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.91, TOTAL LOSS = 1.46, TOTAL EXCESS = .45

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
3.	12.08	(CFS) 1.	0.	0.	0.
		(INCHES) .360	.445	.446	.446
		(AC-FT) 0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION L11aD
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.90, TOTAL LOSS = 1.45, TOTAL EXCESS = .44

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
3.	12.08	(CFS) 1.	0.	0.	0.
		(INCHES) .353	.437	.438	.438
		(AC-FT) 0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

INTERPOLATED HYDROGRAPH AT L11aD

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	2.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	2.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	2.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	2.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	2.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	2.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	1.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	1.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	1.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	1.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	1.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	1.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	1.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	1.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	1.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	1.	1		2000	241	0.

1	0120	17	0.	*	1	0735	92	0.	*	1	1350	167	1.	*	1	2005	242	0.	
1	0125	18	0.	*	1	0740	93	0.	*	1	1355	168	1.	*	1	2010	243	0.	
1	0130	19	0.	*	1	0745	94	0.	*	1	1400	169	1.	*	1	2015	244	0.	
1	0135	20	0.	*	1	0750	95	0.	*	1	1405	170	1.	*	1	2020	245	0.	
1	0140	21	0.	*	1	0755	96	0.	*	1	1410	171	0.	*	1	2025	246	0.	
1	0145	22	0.	*	1	0800	97	0.	*	1	1415	172	0.	*	1	2030	247	0.	
1	0150	23	0.	*	1	0805	98	0.	*	1	1420	173	0.	*	1	2035	248	0.	
1	0155	24	0.	*	1	0810	99	0.	*	1	1425	174	0.	*	1	2040	249	0.	
1	0200	25	0.	*	1	0815	100	0.	*	1	1430	175	0.	*	1	2045	250	0.	
1	0205	26	0.	*	1	0820	101	0.	*	1	1435	176	0.	*	1	2050	251	0.	
1	0210	27	0.	*	1	0825	102	0.	*	1	1440	177	0.	*	1	2055	252	0.	
1	0215	28	0.	*	1	0830	103	0.	*	1	1445	178	0.	*	1	2100	253	0.	
1	0220	29	0.	*	1	0835	104	0.	*	1	1450	179	0.	*	1	2105	254	0.	
1	0225	30	0.	*	1	0840	105	0.	*	1	1455	180	0.	*	1	2110	255	0.	
1	0230	31	0.	*	1	0845	106	0.	*	1	1500	181	0.	*	1	2115	256	0.	
1	0235	32	0.	*	1	0850	107	0.	*	1	1505	182	0.	*	1	2120	257	0.	
1	0240	33	0.	*	1	0855	108	0.	*	1	1510	183	0.	*	1	2125	258	0.	
1	0245	34	0.	*	1	0900	109	0.	*	1	1515	184	0.	*	1	2130	259	0.	
1	0250	35	0.	*	1	0905	110	0.	*	1	1520	185	0.	*	1	2135	260	0.	
1	0255	36	0.	*	1	0910	111	0.	*	1	1525	186	0.	*	1	2140	261	0.	
1	0300	37	0.	*	1	0915	112	0.	*	1	1530	187	0.	*	1	2145	262	0.	
1	0305	38	0.	*	1	0920	113	0.	*	1	1535	188	0.	*	1	2150	263	0.	
1	0310	39	0.	*	1	0925	114	0.	*	1	1540	189	0.	*	1	2155	264	0.	
1	0315	40	0.	*	1	0930	115	0.	*	1	1545	190	0.	*	1	2200	265	0.	
1	0320	41	0.	*	1	0935	116	0.	*	1	1550	191	0.	*	1	2205	266	0.	
1	0325	42	0.	*	1	0940	117	0.	*	1	1555	192	0.	*	1	2210	267	0.	
1	0330	43	0.	*	1	0945	118	0.	*	1	1600	193	0.	*	1	2215	268	0.	
1	0335	44	0.	*	1	0950	119	0.	*	1	1605	194	0.	*	1	2220	269	0.	
1	0340	45	0.	*	1	0955	120	0.	*	1	1610	195	0.	*	1	2225	270	0.	
1	0345	46	0.	*	1	1000	121	0.	*	1	1615	196	0.	*	1	2230	271	0.	
1	0350	47	0.	*	1	1005	122	0.	*	1	1620	197	0.	*	1	2235	272	0.	
1	0355	48	0.	*	1	1010	123	0.	*	1	1625	198	0.	*	1	2240	273	0.	
1	0400	49	0.	*	1	1015	124	0.	*	1	1630	199	0.	*	1	2245	274	0.	
1	0405	50	0.	*	1	1020	125	0.	*	1	1635	200	0.	*	1	2250	275	0.	
1	0410	51	0.	*	1	1025	126	0.	*	1	1640	201	0.	*	1	2255	276	0.	
1	0415	52	0.	*	1	1030	127	0.	*	1	1645	202	0.	*	1	2300	277	0.	
1	0420	53	0.	*	1	1035	128	0.	*	1	1650	203	0.	*	1	2305	278	0.	
1	0425	54	0.	*	1	1040	129	0.	*	1	1655	204	0.	*	1	2310	279	0.	
1	0430	55	0.	*	1	1045	130	0.	*	1	1700	205	0.	*	1	2315	280	0.	
1	0435	56	0.	*	1	1050	131	0.	*	1	1705	206	0.	*	1	2320	281	0.	
1	0440	57	0.	*	1	1055	132	0.	*	1	1710	207	0.	*	1	2325	282	0.	
1	0445	58	0.	*	1	1100	133	0.	*	1	1715	208	0.	*	1	2330	283	0.	
1	0450	59	0.	*	1	1105	134	0.	*	1	1720	209	0.	*	1	2335	284	0.	
1	0455	60	0.	*	1	1110	135	0.	*	1	1725	210	0.	*	1	2340	285	0.	
1	0500	61	0.	*	1	1115	136	0.	*	1	1730	211	0.	*	1	2345	286	0.	
1	0505	62	0.	*	1	1120	137	0.	*	1	1735	212	0.	*	1	2350	287	0.	
1	0510	63	0.	*	1	1125	138	0.	*	1	1740	213	0.	*	1	2355	288	0.	
1	0515	64	0.	*	1	1130	139	0.	*	1	1745	214	0.	*	2	0000	289	0.	
1	0520	65	0.	*	1	1135	140	0.	*	1	1750	215	0.	*	2	0005	290	0.	
1	0525	66	0.	*	1	1140	141	0.	*	1	1755	216	0.	*	2	0010	291	0.	
1	0530	67	0.	*	1	1145	142	0.	*	1	1800	217	0.	*	2	0015	292	0.	
1	0535	68	0.	*	1	1150	143	1.	*	1	1805	218	0.	*	2	0020	293	0.	
1	0540	69	0.	*	1	1155	144	2.	*	1	1810	219	0.	*	2	0025	294	0.	
1	0545	70	0.	*	1	1200	145	3.	*	1	1815	220	0.	*	2	0030	295	0.	
1	0550	71	0.	*	1	1205	146	3.	*	1	1820	221	0.	*	2	0035	296	0.	
1	0555	72	0.	*	1	1210	147	3.	*	1	1825	222	0.	*	2	0040	297	0.	
1	0600	73	0.	*	1	1215	148	3.	*	1	1830	223	0.	*	2	0045	298	0.	
1	0605	74	0.	*	1	1220	149	3.	*	1	1835	224	0.	*	2	0050	299	0.	
1	0610	75	0.	*	1	1225	150	2.	*	1	1840	225	0.	*	2	0055	300	0.	

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 3.	12.08		1.	0.	0.	0.
		(INCHES)	.399	.487	.488	.488
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

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66 KK C_L11 Leach Creek at the Government Highline Canal

67 HC HYDROGRAPH COMBINATION
ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE
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HYDROGRAPH AT STATION C_L11
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 1049.	13.17		444.	121.	116.	116.
		(INCHES)	.485	.529	.529	.529
		(AC-FT)	220.	240.	240.	240.

CUMULATIVE AREA = 8.50 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_L11
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				

+	1001.	13.17		424.	115.	111.	111.
			(INCHES)	.463	.505	.505	.505
			(AC-FT)	210.	229.	229.	229.

CUMULATIVE AREA = 8.50 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_L11
TRANSPOSITION AREA 24.0 SQ MI

	PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)	(CFS)			
+	979.	13.17	413.	113.	109.	109.
			(INCHES) .452	.493	.493	.493
			(AC-FT) 205.	224.	224.	224.

CUMULATIVE AREA = 8.50 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_L11
TRANSPOSITION AREA 36.5 SQ MI

	PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)	(CFS)			
+	956.	13.17	403.	110.	106.	106.
			(INCHES) .441	.481	.481	.481
			(AC-FT) 200.	218.	218.	218.

CUMULATIVE AREA = 8.50 SQ MI

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HYDROGRAPH AT STATION C_L11
TRANSPOSITION AREA 50.0 SQ MI

	PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)	(CFS)			
+	937.	13.17	396.	108.	104.	104.
			(INCHES) .433	.473	.473	.473
			(AC-FT) 196.	214.	214.	214.

CUMULATIVE AREA = 8.50 SQ MI

INTERPOLATED HYDROGRAPH AT C_L11

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	3.	1		1230	151	467.	1		1845	226	65.
1		0005	2	0.	1		0620	77	3.	1		1235	152	577.	1		1850	227	62.
1		0010	3	0.	1		0625	78	3.	1		1240	153	679.	1		1855	228	60.
1		0015	4	0.	1		0630	79	3.	1		1245	154	772.	1		1900	229	58.
1		0020	5	0.	1		0635	80	3.	1		1250	155	852.	1		1905	230	55.
1		0025	6	0.	1		0640	81	4.	1		1255	156	917.	1		1910	231	53.
1		0030	7	0.	1		0645	82	4.	1		1300	157	962.	1		1915	232	51.
1		0035	8	0.	1		0650	83	4.	1		1305	158	992.	1		1920	233	49.
1		0040	9	0.	1		0655	84	4.	1		1310	159	1004.	1		1925	234	47.
1		0045	10	0.	1		0700	85	4.	1		1315	160	997.	1		1930	235	46.
1		0050	11	0.	1		0705	86	4.	1		1320	161	972.	1		1935	236	44.
1		0055	12	0.	1		0710	87	4.	1		1325	162	937.	1		1940	237	42.
1		0100	13	0.	1		0715	88	4.	1		1330	163	899.	1		1945	238	41.
1		0105	14	0.	1		0720	89	4.	1		1335	164	862.	1		1950	239	39.
1		0110	15	0.	1		0725	90	4.	1		1340	165	826.	1		1955	240	38.
1		0115	16	0.	1		0730	91	4.	1		1345	166	791.	1		2000	241	36.
1		0120	17	0.	1		0735	92	4.	1		1350	167	758.	1		2005	242	35.
1		0125	18	0.	1		0740	93	4.	1		1355	168	726.	1		2010	243	34.
1		0130	19	0.	1		0745	94	4.	1		1400	169	695.	1		2015	244	33.
1		0135	20	0.	1		0750	95	4.	1		1405	170	666.	1		2020	245	32.
1		0140	21	0.	1		0755	96	4.	1		1410	171	638.	1		2025	246	30.
1		0145	22	0.	1		0800	97	4.	1		1415	172	611.	1		2030	247	29.
1		0150	23	0.	1		0805	98	4.	1		1420	173	586.	1		2035	248	27.
1		0155	24	0.	1		0810	99	4.	1		1425	174	561.	1		2040	249	26.
1		0200	25	1.	1		0815	100	4.	1		1430	175	538.	1		2045	250	25.
1		0205	26	1.	1		0820	101	4.	1		1435	176	515.	1		2050	251	24.
1		0210	27	1.	1		0825	102	4.	1		1440	177	494.	1		2055	252	23.
1		0215	28	1.	1		0830	103	4.	1		1445	178	473.	1		2100	253	23.
1		0220	29	1.	1		0835	104	4.	1		1450	179	453.	1		2105	254	22.
1		0225	30	1.	1		0840	105	5.	1		1455	180	434.	1		2110	255	21.
1		0230	31	1.	1		0845	106	5.	1		1500	181	416.	1		2115	256	20.
1		0235	32	1.	1		0850	107	5.	1		1505	182	399.	1		2120	257	20.
1		0240	33	1.	1		0855	108	5.	1		1510	183	382.	1		2125	258	19.
1		0245	34	1.	1		0900	109	5.	1		1515	184	366.	1		2130	259	18.
1		0250	35	1.	1		0905	110	5.	1		1520	185	351.	1		2135	260	18.
1		0255	36	1.	1		0910	111	5.	1		1525	186	337.	1		2140	261	17.
1		0300	37	1.	1		0915	112	5.	1		1530	187	323.	1		2145	262	17.
1		0305	38	2.	1		0920	113	5.	1		1535	188	309.	1		2150	263	16.
1		0310	39	2.	1		0925	114	5.	1		1540	189	296.	1		2155	264	15.
1		0315	40	2.	1		0930	115	5.	1		1545	190	284.	1		2200	265	15.
1		0320	41	2.	1		0935	116	5.	1		1550	191	272.	1		2205	266	14.
1		0325	42	2.	1		0940	117	5.	1		1555	192	261.	1		2210	267	14.
1		0330	43	2.	1		0945	118	5.	1		1600	193	250.	1		2215	268	14.
1		0335	44	2.	1		0950	119	5.	1		1605	194	240.	1		2220	269	13.
1		0340	45	2.	1		0955	120	6.	1		1610	195	230.	1		2225	270	13.
1		0345	46	2.	1		1000	121	6.	1		1615	196	221.	1		2230	271	12.
1		0350	47	2.	1		1005	122	6.	1		1620	197	212.	1		2235	272	12.
1		0355	48	2.	1		1010	123	6.	1		1625	198	203.	1		2240	273	12.
1		0400	49	2.	1		1015	124	6.	1		1630	199	195.	1		2245	274	11.
1		0405	50	2.	1		1020	125	6.	1		1635	200	187.	1		2250	275	11.
1		0410	51	2.	1		1025	126	6.	1		1640	201	179.	1		2255	276	10.

1	0415	52	2.	*	1	1030	127	6.	*	1	1645	202	172.	*	1	2300	277	9.
1	0420	53	2.	*	1	1035	128	6.	*	1	1650	203	165.	*	1	2305	278	9.
1	0425	54	3.	*	1	1040	129	7.	*	1	1655	204	158.	*	1	2310	279	8.
1	0430	55	3.	*	1	1045	130	7.	*	1	1700	205	152.	*	1	2315	280	7.
1	0435	56	3.	*	1	1050	131	7.	*	1	1705	206	146.	*	1	2320	281	6.
1	0440	57	3.	*	1	1055	132	7.	*	1	1710	207	140.	*	1	2325	282	6.
1	0445	58	3.	*	1	1100	133	7.	*	1	1715	208	134.	*	1	2330	283	5.
1	0450	59	3.	*	1	1105	134	7.	*	1	1720	209	129.	*	1	2335	284	5.
1	0455	60	3.	*	1	1110	135	8.	*	1	1725	210	124.	*	1	2340	285	4.
1	0500	61	3.	*	1	1115	136	8.	*	1	1730	211	119.	*	1	2345	286	4.
1	0505	62	3.	*	1	1120	137	8.	*	1	1735	212	114.	*	1	2350	287	4.
1	0510	63	3.	*	1	1125	138	8.	*	1	1740	213	109.	*	1	2355	288	4.
1	0515	64	3.	*	1	1130	139	9.	*	1	1745	214	105.	*	2	0000	289	4.
1	0520	65	3.	*	1	1135	140	9.	*	1	1750	215	101.	*	2	0005	290	4.
1	0525	66	3.	*	1	1140	141	9.	*	1	1755	216	97.	*	2	0010	291	4.
1	0530	67	3.	*	1	1145	142	11.	*	1	1800	217	93.	*	2	0015	292	3.
1	0535	68	3.	*	1	1150	143	15.	*	1	1805	218	89.	*	2	0020	293	3.
1	0540	69	3.	*	1	1155	144	27.	*	1	1810	219	86.	*	2	0025	294	3.
1	0545	70	3.	*	1	1200	145	48.	*	1	1815	220	82.	*	2	0030	295	3.
1	0550	71	3.	*	1	1205	146	78.	*	1	1820	221	79.	*	2	0035	296	3.
1	0555	72	3.	*	1	1210	147	115.	*	1	1825	222	76.	*	2	0040	297	3.
1	0600	73	3.	*	1	1215	148	169.	*	1	1830	223	73.	*	2	0045	298	3.
1	0605	74	3.	*	1	1220	149	251.	*	1	1835	224	70.	*	2	0050	299	3.
1	0610	75	3.	*	1	1225	150	354.	*	1	1840	225	67.	*	2	0055	300	3.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 1004.	13.17		425.	116.	112.	112.
		(INCHES)	.465	.507	.507	.507
		(AC-FT)	211.	230.	230.	230.

CUMULATIVE AREA = 8.50 SQ MI

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*            *
*    R_L10   *
*            *
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68 KK Route Hydrograph Through L10

HYDROGRAPH ROUTING DATA

69 RS STORAGE ROUTING

NSTPS	1	NUMBER OF SUBREACHES
ITYP	STOR	TYPE OF INITIAL CONDITION
RSVRIC	.00	INITIAL CONDITION
X	.00	WORKING R AND D COEFFICIENT

70 SV	STORAGE	.0	.9	1.5	1.9	2.3	2.7	3.1	3.8	4.5	5.3
		5.8	6.4	7.0	7.6	8.2	8.8				
72 SQ	DISCHARGE	0.	100.	200.	300.	400.	500.	600.	800.	1000.	1200.
		1400.	1600.	1800.	2000.	2200.	2400.				

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*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN 1200. TO 2400.
THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

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HYDROGRAPH AT STATION R_L10
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 1044.	13.25		443.	121.	116.	116.
		(INCHES)	.485	.529	.529	.529
		(AC-FT)	220.	240.	240.	240.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)	2.	1.	1.	1.
5.	13.25				

CUMULATIVE AREA = 8.50 SQ MI

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HYOROGRAPH AT STATION R_L10
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 997.	13.25		423.	115.	111.	111.
		(INCHES)	.463	.505	.505	.505
		(AC-FT)	210.	229.	229.	229.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
(AC-FT)	(HR)	2.	1.	1.	1.
5.	13.25				

CUMULATIVE AREA = 8.50 SQ MI

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HYDROGRAPH AT STATION R_L10

TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
975.	13.25	(CFS)	413.	113.	109.	109.
		(INCHES)	.452	.493	.493	.493
		(AC-FT)	205.	224.	224.	224.

PEAK STORAGE (AC-FT)	TIME (HR)	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
4.	13.25	2.	1.	1.	1.

CUMULATIVE AREA = 8.50 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R_L10
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
953.	13.25	(CFS)	403.	110.	106.	106.
		(INCHES)	.441	.481	.481	.481
		(AC-FT)	200.	218.	218.	218.

PEAK STORAGE (AC-FT)	TIME (HR)	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
4.	13.25	2.	1.	1.	1.

CUMULATIVE AREA = 8.50 SQ MI

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HYDROGRAPH AT STATION R_L10
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
934.	13.25	(CFS)	396.	108.	104.	104.
		(INCHES)	.433	.473	.473	.473
		(AC-FT)	196.	214.	214.	214.

PEAK STORAGE (AC-FT)	TIME (HR)	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
4.	13.25	2.	1.	1.	1.

CUMULATIVE AREA = 8.50 SQ MI

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INTERPOLATED HYDROGRAPH AT R_L10

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DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	3.	1		1230	151	396.	1		1845	226	68.
1		0005	2	0.	1		0620	77	3.	1		1235	152	514.	1		1850	227	66.
1		0010	3	0.	1		0625	78	3.	1		1240	153	623.	1		1855	228	63.
1		0015	4	0.	1		0630	79	3.	1		1245	154	722.	1		1900	229	61.
1		0020	5	0.	1		0635	80	3.	1		1250	155	809.	1		1905	230	58.
1		0025	6	0.	1		0640	81	3.	1		1255	156	884.	1		1910	231	56.
1		0030	7	0.	1		0645	82	4.	1		1300	157	939.	1		1915	232	54.
1		0035	8	0.	1		0650	83	4.	1		1305	158	977.	1		1920	233	52.
1		0040	9	0.	1		0655	84	4.	1		1310	159	998.	1		1925	234	50.
1		0045	10	0.	1		0700	85	4.	1		1315	160	1000.	1		1930	235	48.
1		0050	11	0.	1		0705	86	4.	1		1320	161	984.	1		1935	236	46.
1		0055	12	0.	1		0710	87	4.	1		1325	162	955.	1		1940	237	44.
1		0100	13	0.	1		0715	88	4.	1		1330	163	918.	1		1945	238	43.
1		0105	14	0.	1		0720	89	4.	1		1335	164	880.	1		1950	239	41.
1		0110	15	0.	1		0725	90	4.	1		1340	165	844.	1		1955	240	40.
1		0115	16	0.	1		0730	91	4.	1		1345	166	808.	1		2000	241	38.
1		0120	17	0.	1		0735	92	4.	1		1350	167	775.	1		2005	242	37.
1		0125	18	0.	1		0740	93	4.	1		1355	168	743.	1		2010	243	35.
1		0130	19	0.	1		0745	94	4.	1		1400	169	711.	1		2015	244	34.
1		0135	20	0.	1		0750	95	4.	1		1405	170	681.	1		2020	245	33.
1		0140	21	0.	1		0755	96	4.	1		1410	171	653.	1		2025	246	32.
1		0145	22	0.	1		0800	97	4.	1		1415	172	625.	1		2030	247	31.
1		0150	23	0.	1		0805	98	4.	1		1420	173	599.	1		2035	248	29.
1		0155	24	0.	1		0810	99	4.	1		1425	174	575.	1		2040	249	28.
1		0200	25	1.	1		0815	100	4.	1		1430	175	551.	1		2045	250	27.
1		0205	26	1.	1		0820	101	4.	1		1435	176	528.	1		2050	251	25.
1		0210	27	1.	1		0825	102	4.	1		1440	177	505.	1		2055	252	25.
1		0215	28	1.	1		0830	103	4.	1		1445	178	485.	1		2100	253	24.
1		0220	29	1.	1		0835	104	4.	1		1450	179	464.	1		2105	254	23.
1		0225	30	1.	1		0840	105	4.	1		1455	180	445.	1		2110	255	22.
1		0230	31	1.	1		0845	106	5.	1		1500	181	426.	1		2115	256	21.
1		0235	32	1.	1		0850	107	5.	1		1505	182	409.	1		2120	257	21.
1		0240	33	1.	1		0855	108	5.	1		1510	183	392.	1		2125	258	20.
1		0245	34	1.	1		0900	109	5.	1		1515	184	376.	1		2130	259	19.
1		0250	35	1.	1		0905	110	5.	1		1520	185	361.	1		2135	260	18.
1		0255	36	1.	1		0910	111	5.	1		1525	186	346.	1		2140	261	18.
1		0300	37	1.	1		0915	112	5.	1		1530	187	331.	1		2145	262	17.
1		0305	38	1.	1		0920	113	5.	1		1535	188	318.	1		2150	263	17.
1		0310	39	2.	1		0925	114	5.	1		1540	189	304.	1		2155	264	16.
1		0315	40	2.	1		0930	115	5.	1		1545	190	292.	1		2200	265	16.
1		0320	41	2.	1		0935	116	5.	1		1550	191	280.	1		2205	266	15.
1		0325	42	2.	1		0940	117	5.	1		1555	192	269.	1		2210	267	15.
1		0330	43	2.	1		0945	118	5.	1		1600	193	258.	1		2215	268	14.
1		0335	44	2.	1		0950	119	5.	1		1605	194	247.	1		2220	269	14.
1		0340	45	2.	1		0955	120	5.	1		1610	195	237.	1		2225	270	13.
1		0345	46	2.	1		1000	121	6.	1		1615	196	227.	1		2230	271	13.

1	0350	47	2.	*	1	1005	122	6.	*	1	1620	197	218.	*	1	2235	272	12.
1	0355	48	2.	*	1	1010	123	6.	*	1	1625	198	209.	*	1	2240	273	12.
1	0400	49	2.	*	1	1015	124	6.	*	1	1630	199	200.	*	1	2245	274	12.
1	0405	50	2.	*	1	1020	125	6.	*	1	1635	200	193.	*	1	2250	275	11.
1	0410	51	2.	*	1	1025	126	6.	*	1	1640	201	186.	*	1	2255	276	11.
1	0415	52	2.	*	1	1030	127	6.	*	1	1645	202	178.	*	1	2300	277	10.
1	0420	53	2.	*	1	1035	128	6.	*	1	1650	203	171.	*	1	2305	278	10.
1	0425	54	2.	*	1	1040	129	6.	*	1	1655	204	164.	*	1	2310	279	9.
1	0430	55	3.	*	1	1045	130	7.	*	1	1700	205	157.	*	1	2315	280	8.
1	0435	56	3.	*	1	1050	131	7.	*	1	1705	206	151.	*	1	2320	281	7.
1	0440	57	3.	*	1	1055	132	7.	*	1	1710	207	145.	*	1	2325	282	6.
1	0445	58	3.	*	1	1100	133	7.	*	1	1715	208	139.	*	1	2330	283	6.
1	0450	59	3.	*	1	1105	134	7.	*	1	1720	209	133.	*	1	2335	284	5.
1	0455	60	3.	*	1	1110	135	7.	*	1	1725	210	128.	*	1	2340	285	5.
1	0500	61	3.	*	1	1115	136	8.	*	1	1730	211	123.	*	1	2345	286	5.
1	0505	62	3.	*	1	1120	137	8.	*	1	1735	212	118.	*	1	2350	287	4.
1	0510	63	3.	*	1	1125	138	8.	*	1	1740	213	113.	*	1	2355	288	4.
1	0515	64	3.	*	1	1130	139	8.	*	1	1745	214	109.	*	2	0000	289	4.
1	0520	65	3.	*	1	1135	140	9.	*	1	1750	215	104.	*	2	0005	290	4.
1	0525	66	3.	*	1	1140	141	9.	*	1	1755	216	100.	*	2	0010	291	4.
1	0530	67	3.	*	1	1145	142	10.	*	1	1800	217	97.	*	2	0015	292	4.
1	0535	68	3.	*	1	1150	143	12.	*	1	1805	218	94.	*	2	0020	293	3.
1	0540	69	3.	*	1	1155	144	17.	*	1	1810	219	90.	*	2	0025	294	3.
1	0545	70	3.	*	1	1200	145	29.	*	1	1815	220	87.	*	2	0030	295	3.
1	0550	71	3.	*	1	1205	146	48.	*	1	1820	221	83.	*	2	0035	296	3.
1	0555	72	3.	*	1	1210	147	75.	*	1	1825	222	80.	*	2	0040	297	3.
1	0600	73	3.	*	1	1215	148	117.	*	1	1830	223	77.	*	2	0045	298	3.
1	0605	74	3.	*	1	1220	149	186.	*	1	1835	224	74.	*	2	0050	299	3.
1	0610	75	3.	*	1	1225	150	284.	*	1	1840	225	71.	*	2	0055	300	3.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 1000.	13.25		425.	116.	112.	112.
		(INCHES)	.464	.507	.507	.507
		(AC-FT)	211.	230.	230.	230.

CUMULATIVE AREA = 8.50 SQ MI

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          ***************
          *             *
74 KK     *     L10u    *     Subbasin Spilt
          *             *
          ***************
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SUBBASIN RUNOFF DATA

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75 BA     SUBBASIN CHARACTERISTICS
            TAREA          .37  SUBBASIN AREA

76 LG     GREEN AND AMPT LOSS RATE
            STRTL          .49  STARTING LOSS
              DTH          .47  MOISTURE DEFICIT
             PSIF         1.77  WETTING FRONT SUCTION
            XKSAT          .06  HYDRAULIC CONDUCTIVITY
            RTIMP         2.00  PERCENT IMPERVIOUS AREA

77 US     SNYDER UNITGRAPH
            TP             .32  LAG
            CP             .29  PEAKING COEFFICIENT

          SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                  ***
                                    UNIT HYDROGRAPH PARAMETERS
                                CLARK   TC=   .31 HR,      R=   .93 HR
                                SNYDER  TP=   .32 HR,      CP=  .29

                                    UNIT HYDROGRAPH
                                61 END-OF-PERIOD ORDINATES
            25.    92.   168.   208.   204.   186.   170.   155.   142.   130.
           119.   108.    99.    91.    83.    76.    69.    63.    58.    53.
            48.    44.    40.    37.    34.    31.    28.    26.    24.    21.
            20.    18.    16.    15.    14.    13.    11.    10.    10.     9.
             8.     7.     7.     6.     6.     5.     5.     4.     4.     4.
             3.     3.     3.     2.     2.     2.     2.     2.     2.     1.
             1.
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*** *** *** *** ***

HYDROGRAPH AT STATION L10u
TRANSPOSITION AREA .0 SQ MI

TOTAL RAINFALL = 1.99, TOTAL LOSS = 1.36, TOTAL EXCESS = .63

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 114.	12.25		24.	6.	6.	6.
		(INCHES)	.613	.625	.625	.625
		(AC-FT)	12.	12.	12.	12.

CUMULATIVE AREA = .37 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION L10u
TRANSPOSITION AREA 14.0 SQ MI

TOTAL RAINFALL = 1.95, TOTAL LOSS = 1.35, TOTAL EXCESS = .60

PEAK FLOW TIME MAXIMUM AVERAGE FLOW

+	(CFS)	(HR)
+	110.	12.25

	6-HR	24-HR	72-HR	24.92-HR
(CFS)	23.	6.	6.	6.
(INCHES)	.588	.600	.600	.600
(AC-FT)	12.	12.	12.	12.

CUMULATIVE AREA = .37 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION L10u
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.93, TOTAL LOSS = 1.34, TOTAL EXCESS = .59

PEAK FLOW	TIME
(CFS)	(HR)
108.	12.25

MAXIMUM AVERAGE FLOW

	6-HR	24-HR	72-HR	24.92-HR
(CFS)	23.	6.	6.	6.
(INCHES)	.576	.587	.588	.588
(AC-FT)	11.	12.	12.	12.

CUMULATIVE AREA = .37 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION L10u
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.91, TOTAL LOSS = 1.33, TOTAL EXCESS = .58

PEAK FLOW	TIME
(CFS)	(HR)
106.	12.25

MAXIMUM AVERAGE FLOW

	6-HR	24-HR	72-HR	24.92-HR
(CFS)	22.	6.	5.	5.
(INCHES)	.563	.575	.575	.575
(AC-FT)	11.	11.	11.	11.

CUMULATIVE AREA = .37 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION L10u
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.90, TOTAL LOSS = 1.33, TOTAL EXCESS = .57

PEAK FLOW	TIME
(CFS)	(HR)
104.	12.25

MAXIMUM AVERAGE FLOW

	6-HR	24-HR	72-HR	24.92-HR
(CFS)	22.	6.	5.	5.
(INCHES)	.555	.566	.566	.566
(AC-FT)	11.	11.	11.	11.

CUMULATIVE AREA = .37 SQ MI

INTERPOLATED HYDROGRAPH AT L10u

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	91.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	83.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	76.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	70.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	64.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	58.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	53.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	49.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	45.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	41.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	37.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	34.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	31.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	29.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	26.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	24.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	22.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	20.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	18.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	17.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	15.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	14.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	13.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	12.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	11.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	10.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	9.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	8.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	8.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	7.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	6.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	6.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	5.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	5.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	5.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	4.	1		2140	261	0.
1		0300	37	0.	1		0915	112	0.	1		1530	187	4.	1		2145	262	0.
1		0305	38	0.	1		0920	113	0.	1		1535	188	4.	1		2150	263	0.
1		0310	39	0.	1		0925	114	0.	1		1540	189	3.	1		2155	264	0.
1		0315	40	0.	1		0930	115	0.	1		1545	190	3.	1		2200	265	0.
1		0320	41	0.	1		0935	116	0.	1		1550	191	3.	1		2205	266	0.
1		0325	42	0.	1		0940	117	0.	1		1555	192	3.	1		2210	267	0.

1	0330	43	0.	*	1	0945	118	0.	*	1	1600	193	2.	*	1	2215	268	0.
1	0335	44	0.	*	1	0950	119	0.	*	1	1605	194	2.	*	1	2220	269	0.
1	0340	45	0.	*	1	0955	120	0.	*	1	1610	195	2.	*	1	2225	270	0.
1	0345	46	0.	*	1	1000	121	0.	*	1	1615	196	2.	*	1	2230	271	0.
1	0350	47	0.	*	1	1005	122	0.	*	1	1620	197	2.	*	1	2235	272	0.
1	0355	48	0.	*	1	1010	123	0.	*	1	1625	198	2.	*	1	2240	273	0.
1	0400	49	0.	*	1	1015	124	0.	*	1	1630	199	1.	*	1	2245	274	0.
1	0405	50	0.	*	1	1020	125	0.	*	1	1635	200	1.	*	1	2250	275	0.
1	0410	51	0.	*	1	1025	126	0.	*	1	1640	201	1.	*	1	2255	276	0.
1	0415	52	0.	*	1	1030	127	0.	*	1	1645	202	1.	*	1	2300	277	0.
1	0420	53	0.	*	1	1035	128	0.	*	1	1650	203	1.	*	1	2305	278	0.
1	0425	54	0.	*	1	1040	129	0.	*	1	1655	204	1.	*	1	2310	279	0.
1	0430	55	0.	*	1	1045	130	0.	*	1	1700	205	0.	*	1	2315	280	0.
1	0435	56	0.	*	1	1050	131	0.	*	1	1705	206	0.	*	1	2320	281	0.
1	0440	57	0.	*	1	1055	132	0.	*	1	1710	207	0.	*	1	2325	282	0.
1	0445	58	0.	*	1	1100	133	0.	*	1	1715	208	0.	*	1	2330	283	0.
1	0450	59	0.	*	1	1105	134	0.	*	1	1720	209	0.	*	1	2335	284	0.
1	0455	60	0.	*	1	1110	135	0.	*	1	1725	210	0.	*	1	2340	285	0.
1	0500	61	0.	*	1	1115	136	0.	*	1	1730	211	0.	*	1	2345	286	0.
1	0505	62	0.	*	1	1120	137	1.	*	1	1735	212	0.	*	1	2350	287	0.
1	0510	63	0.	*	1	1125	138	1.	*	1	1740	213	0.	*	1	2355	288	0.
1	0515	64	0.	*	1	1130	139	1.	*	1	1745	214	0.	*	2	0000	289	0.
1	0520	65	0.	*	1	1135	140	1.	*	1	1750	215	0.	*	2	0005	290	0.
1	0525	66	0.	*	1	1140	141	1.	*	1	1755	216	0.	*	2	0010	291	0.
1	0530	67	0.	*	1	1145	142	5.	*	1	1800	217	0.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	16.	*	1	1805	218	0.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	37.	*	1	1810	219	0.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	66.	*	1	1815	220	0.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	94.	*	1	1820	221	0.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	110.	*	1	1825	222	0.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	112.	*	1	1830	223	0.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	106.	*	1	1835	224	0.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	98.	*	1	1840	225	0.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
112.	12.25		24.	6.	6.	6.
		(INCHES)	.600	.612	.612	.612
		(AC-FT)	12.	12.	12.	12.

CUMULATIVE AREA = .37 SQ MI

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*            *
*    R_L10u  *
*            *
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78 KK Detention Pond L10u

HYDROGRAPH ROUTING DATA

79 RS STORAGE ROUTING

NSTPS	1	NUMBER OF SUBREACHES
ITYP	STOR	TYPE OF INITIAL CONDITION
RSVRIC	.00	INITIAL CONDITION
X	.00	WORKING R AND D COEFFICIENT

80 SV	STORAGE	.0	.7	1.7	2.9	4.2	5.7	7.4	9.2	11.1	13.3
81 SQ	DISCHARGE	0.	0.	0.	0.	16.	56.	78.	87.	94.	101.
82 SE	ELEVATION	4760.00	4761.00	4762.00	4763.00	4764.00	4765.00	4766.00	4767.00	4768.00	4769.00

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HYDROGRAPH AT STATION R_L10u
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
56.	13.00		19.	5.	5.	5.
		(INCHES)	.468	.477	.477	.477
		(AC-FT)	9.	9.	9.	9.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
(AC-FT)	(HR)				
6.	13.00	4.	2.	2.	2.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
(FEET)	(HR)				
4765.00	13.00	4763.86	4761.87	4761.80	4761.80

CUMULATIVE AREA = .37 SQ MI

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HYDROGRAPH AT STATION R_L10u
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
53.	13.00		18.	4.	4.	4.
		(INCHES)	.443	.452	.452	.452

		(AC-FT)	9.	9.	9.	9.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
+ (AC-FT)	(HR)	6-HR	24-HR	72-HR	24.92-HR
6.	13.00	4.	2.	2.	2.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
+ (FEET)	(HR)	6-HR	24-HR	72-HR	24.92-HR
4764.92	13.00	4763.83	4761.86	4761.79	4761.79

CUMULATIVE AREA = .37 SQ MI

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HYDROGRAPH AT STATION R_L10u
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
+ (CFS)	(HR)	6-HR	24-HR	72-HR	24.92-HR
+ 51.	13.00	(CFS) 17.	4.	4.	4.
		(INCHES) .431	.439	.439	.439
		(AC-FT) 8.	9.	9.	9.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
+ (AC-FT)	(HR)	6-HR	24-HR	72-HR	24.92-HR
6.	13.00	4.	2.	2.	2.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
+ (FEET)	(HR)	6-HR	24-HR	72-HR	24.92-HR
4764.88	13.00	4763.81	4761.85	4761.79	4761.79

CUMULATIVE AREA = .37 SQ MI

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HYDROGRAPH AT STATION R_L10u
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
+ (CFS)	(HR)	6-HR	24-HR	72-HR	24.92-HR
+ 49.	13.00	(CFS) 17.	4.	4.	4.
		(INCHES) .419	.427	.427	.427
		(AC-FT) 8.	8.	8.	8.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
+ (AC-FT)	(HR)	6-HR	24-HR	72-HR	24.92-HR
5.	13.00	4.	2.	2.	2.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
+ (FEET)	(HR)	6-HR	24-HR	72-HR	24.92-HR
4764.84	13.00	4763.80	4761.85	4761.78	4761.78

CUMULATIVE AREA = .37 SQ MI

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HYDROGRAPH AT STATION R_L10u
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
+ (CFS)	(HR)	6-HR	24-HR	72-HR	24.92-HR
+ 48.	13.00	(CFS) 16.	4.	4.	4.
		(INCHES) .410	.418	.418	.418
		(AC-FT) 8.	8.	8.	8.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
+ (AC-FT)	(HR)	6-HR	24-HR	72-HR	24.92-HR
5.	13.00	4.	2.	2.	2.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
+ (FEET)	(HR)	6-HR	24-HR	72-HR	24.92-HR
4764.81	13.00	4763.79	4761.85	4761.78	4761.78

CUMULATIVE AREA = .37 SQ MI

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INTERPOLATED HYDROGRAPH AT R_L10u

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DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	*	1		0615	76	0.	*	1		1230	151	28.	*	1		1845	226	1.
1		0005	2	0.	*	1		0620	77	0.	*	1		1235	152	38.	*	1		1850	227	1.
1		0010	3	0.	*	1		0625	78	0.	*	1		1240	153	45.	*	1		1855	228	1.
1		0015	4	0.	*	1		0630	79	0.	*	1		1245	154	50.	*	1		1900	229	1.
1		0020	5	0.	*	1		0635	80	0.	*	1		1250	155	53.	*	1		1905	230	1.
1		0025	6	0.	*	1		0640	81	0.	*	1		1255	156	54.	*	1		1910	231	1.
1		0030	7	0.	*	1		0645	82	0.	*	1		1300	157	54.	*	1		1915	232	1.
1		0035	8	0.	*	1		0650	83	0.	*	1		1305	158	54.	*	1		1920	233	1.
1		0040	9	0.	*	1		0655	84	0.	*	1		1310	159	53.	*	1		1925	234	1.
1		0045	10	0.	*	1		0700	85	0.	*	1		1315	160	51.	*	1		1930	235	0.
1		0050	11	0.	*	1		0705	86	0.	*	1		1320	161	49.	*	1		1935	236	0.
1		0055	12	0.	*	1		0710	87	0.	*	1		1325	162	47.	*	1		1940	237	0.
1		0100	13	0.	*	1		0715	88	0.	*	1		1330	163	44.	*	1		1945	238	0.

1	0105	14	0.	*	1	0720	89	0.	*	1	1335	164	42.	*	1	1950	239	0.
1	0110	15	0.	*	1	0725	90	0.	*	1	1340	165	39.	*	1	1955	240	0.
1	0115	16	0.	*	1	0730	91	0.	*	1	1345	166	37.	*	1	2000	241	0.
1	0120	17	0.	*	1	0735	92	0.	*	1	1350	167	35.	*	1	2005	242	0.
1	0125	18	0.	*	1	0740	93	0.	*	1	1355	168	32.	*	1	2010	243	0.
1	0130	19	0.	*	1	0745	94	0.	*	1	1400	169	30.	*	1	2015	244	0.
1	0135	20	0.	*	1	0750	95	0.	*	1	1405	170	28.	*	1	2020	245	0.
1	0140	21	0.	*	1	0755	96	0.	*	1	1410	171	26.	*	1	2025	246	0.
1	0145	22	0.	*	1	0800	97	0.	*	1	1415	172	24.	*	1	2030	247	0.
1	0150	23	0.	*	1	0805	98	0.	*	1	1420	173	22.	*	1	2035	248	0.
1	0155	24	0.	*	1	0810	99	0.	*	1	1425	174	21.	*	1	2040	249	0.
1	0200	25	0.	*	1	0815	100	0.	*	1	1430	175	19.	*	1	2045	250	0.
1	0205	26	0.	*	1	0820	101	0.	*	1	1435	176	18.	*	1	2050	251	0.
1	0210	27	0.	*	1	0825	102	0.	*	1	1440	177	16.	*	1	2055	252	0.
1	0215	28	0.	*	1	0830	103	0.	*	1	1445	178	15.	*	1	2100	253	0.
1	0220	29	0.	*	1	0835	104	0.	*	1	1450	179	15.	*	1	2105	254	0.
1	0225	30	0.	*	1	0840	105	0.	*	1	1455	180	14.	*	1	2110	255	0.
1	0230	31	0.	*	1	0845	106	0.	*	1	1500	181	14.	*	1	2115	256	0.
1	0235	32	0.	*	1	0850	107	0.	*	1	1505	182	13.	*	1	2120	257	0.
1	0240	33	0.	*	1	0855	108	0.	*	1	1510	183	12.	*	1	2125	258	0.
1	0245	34	0.	*	1	0900	109	0.	*	1	1515	184	12.	*	1	2130	259	0.
1	0250	35	0.	*	1	0905	110	0.	*	1	1520	185	11.	*	1	2135	260	0.
1	0255	36	0.	*	1	0910	111	0.	*	1	1525	186	11.	*	1	2140	261	0.
1	0300	37	0.	*	1	0915	112	0.	*	1	1530	187	10.	*	1	2145	262	0.
1	0305	38	0.	*	1	0920	113	0.	*	1	1535	188	10.	*	1	2150	263	0.
1	0310	39	0.	*	1	0925	114	0.	*	1	1540	189	9.	*	1	2155	264	0.
1	0315	40	0.	*	1	0930	115	0.	*	1	1545	190	9.	*	1	2200	265	0.
1	0320	41	0.	*	1	0935	116	0.	*	1	1550	191	8.	*	1	2205	266	0.
1	0325	42	0.	*	1	0940	117	0.	*	1	1555	192	8.	*	1	2210	267	0.
1	0330	43	0.	*	1	0945	118	0.	*	1	1600	193	7.	*	1	2215	268	0.
1	0335	44	0.	*	1	0950	119	0.	*	1	1605	194	7.	*	1	2220	269	0.
1	0340	45	0.	*	1	0955	120	0.	*	1	1610	195	7.	*	1	2225	270	0.
1	0345	46	0.	*	1	1000	121	0.	*	1	1615	196	6.	*	1	2230	271	0.
1	0350	47	0.	*	1	1005	122	0.	*	1	1620	197	6.	*	1	2235	272	0.
1	0355	48	0.	*	1	1010	123	0.	*	1	1625	198	6.	*	1	2240	273	0.
1	0400	49	0.	*	1	1015	124	0.	*	1	1630	199	5.	*	1	2245	274	0.
1	0405	50	0.	*	1	1020	125	0.	*	1	1635	200	5.	*	1	2250	275	0.
1	0410	51	0.	*	1	1025	126	0.	*	1	1640	201	5.	*	1	2255	276	0.
1	0415	52	0.	*	1	1030	127	0.	*	1	1645	202	4.	*	1	2300	277	0.
1	0420	53	0.	*	1	1035	128	0.	*	1	1650	203	4.	*	1	2305	278	0.
1	0425	54	0.	*	1	1040	129	0.	*	1	1655	204	4.	*	1	2310	279	0.
1	0430	55	0.	*	1	1045	130	0.	*	1	1700	205	4.	*	1	2315	280	0.
1	0435	56	0.	*	1	1050	131	0.	*	1	1705	206	3.	*	1	2320	281	0.
1	0440	57	0.	*	1	1055	132	0.	*	1	1710	207	3.	*	1	2325	282	0.
1	0445	58	0.	*	1	1100	133	0.	*	1	1715	208	3.	*	1	2330	283	0.
1	0450	59	0.	*	1	1105	134	0.	*	1	1720	209	3.	*	1	2335	284	0.
1	0455	60	0.	*	1	1110	135	0.	*	1	1725	210	3.	*	1	2340	285	0.
1	0500	61	0.	*	1	1115	136	0.	*	1	1730	211	2.	*	1	2345	286	0.
1	0505	62	0.	*	1	1120	137	0.	*	1	1735	212	2.	*	1	2350	287	0.
1	0510	63	0.	*	1	1125	138	0.	*	1	1740	213	2.	*	1	2355	288	0.
1	0515	64	0.	*	1	1130	139	0.	*	1	1745	214	2.	*	2	0000	289	0.
1	0520	65	0.	*	1	1135	140	0.	*	1	1750	215	2.	*	2	0005	290	0.
1	0525	66	0.	*	1	1140	141	0.	*	1	1755	216	2.	*	2	0010	291	0.
1	0530	67	0.	*	1	1145	142	0.	*	1	1800	217	2.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	0.	*	1	1805	218	1.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	0.	*	1	1810	219	1.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	0.	*	1	1815	220	1.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	0.	*	1	1820	221	1.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	0.	*	1	1825	222	1.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	0.	*	1	1830	223	1.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	8.	*	1	1835	224	1.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	15.	*	1	1840	225	1.	*	2	0055	300	0.

****

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
54.	13.00	(CFS)	18.	5.	4.	4.
		(INCHES)	.456	.464	.464	.464
		(AC-FT)	9.	9.	9.	9.

CUMULATIVE AREA = .37 SQ MI

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*             *
*   R_10u0    *    RoUte Detention L10u to L10d
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HYDROGRAPH ROUTING DATA

84 RK KINEMATIC WAVE STREAM ROUTING

L	4500.	CHANNEL LENGTH
S	.0220	SLOPE
N	.030	CHANNEL ROUGHNESS COEFFICIENT
CA	.00	CONTRIBUTING AREA
SHAPE	TRAP	CHANNEL SHAPE
WD	10.00	BOTTOM WIDTH OR DIAMETER
Z	4.00	SIDE SLOPE
NDXMIN	2	MINIMUM NUMBER OF DX INTERVALS

***

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FI)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	2.03	1.40	3.50	1500.00	55.84	785.40	.48	7.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9386E+01 EXCESS= .0000E+00 OUTFLOW= .9364E+01 BASIN STORAGE= .7500E-02 PERCENT ERROR= .2

INTERPOLATED TO SPECIFIED COMPUIATION INTERVAL

MAIN	2.03	1.40	5.00		55.83	785.00	.48
***	***	***	***	***			

HYDROGRAPH AT STATION R_10uO
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)			
+ 56.	13.08	18.	5.	5.	5.
		(INCHES) .465	.475	.475	.475
		(AC-FT) 9.	9.	9.	9.

CUMULATIVE AREA = .37 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	2.03	1.40	3.56	1500.00	52.68	786.58	.45	7.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8901E+01 EXCESS= .0000E+00 OUTFLOW= .8880E+01 BASIN STORAGE= .7415E-02 PERCENT ERROR= .2

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	2.03	1.40	5.00		52.56	785.00	.45
***	***	***	***	***			

HYDROGRAPH AT STATION R_10uO
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)			
+ 53.	13.08	18.	4.	4.	4.
		(INCHES) .441	.451	.451	.451
		(AC-FT) 9.	9.	9.	9.

CUMULATIVE AREA = .37 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	2.03	1.40	3.60	1500.00	51.07	787.24	.44	7.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8655E+01 EXCESS= .0000E+00 OUTFLOW= .8635E+01 BASIN STORAGE= .7494E-02 PERCENT ERROR= .1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	2.03	1.40	5.00		50.87	790.00	.44
***	***	***	***	***			

HYDROGRAPH AT STATION R_10uO
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)			
+ 51.	13.08	17.	4.	4.	4.
		(INCHES) .429	.438	.438	.438
		(AC-FT) 8.	9.	9.	9.

CUMULATIVE AREA = .37 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	2.03	1.40	3.64	1500.00	49.39	787.85	.43	7.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8407E+01 EXCESS= .0000E+00 OUTFLOW= .8389E+01 BASIN STORAGE= .7234E-02 PERCENT ERROR= .1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	2.03	1.40	5.00		49.27	790.00	.43
***	***	***	***	***			

HYDROGRAPH AT STATION R_10uO
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR

+	(CFS)	(HR)					
			(CFS)				
	49.	13.17		17.	4.	4.	4.
			(INCHES)	.416	.426	.426	.426
			(AC-FT)	8.	8.	8.	8.

CUMULATIVE AREA = .37 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	2.03	1.40	3.69	1500.00	48.20	788.55	.42	7.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8232E+01 EXCESS= .0000E+00 OUTFLOW= .8214E+01 BASIN STORAGE= .7416E-02 PERCENT ERRDR= .1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	2.03	1.40	5.00	48.14	790.00	.42
***	***	***	***	***		

HYDROGRAPH AT STATION R_10u0
TRANSPOSITION AREA 50.0 SQ MI

	PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)				
			(CFS)				
+	48.	13.17	16.	4.	4.	4.
			(INCHES)	.408	.417	.417	.417
			(AC-FT)	8.	8.	8.	8.

CUMULATIVE AREA = .37 SQ MI

INTERPOLATED HYDROGRAPH AT R_10u0

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	2.	1		1845	226	1.
1		0005	2	0.	1		0620	77	0.	1		1235	152	12.	1		1850	227	1.
1		0010	3	0.	1		0625	78	0.	1		1240	153	29.	1		1855	228	1.
1		0015	4	0.	1		0630	79	0.	1		1245	154	41.	1		1900	229	1.
1		0020	5	0.	1		0635	80	0.	1		1250	155	48.	1		1905	230	1.
1		0025	6	0.	1		0640	81	0.	1		1255	156	51.	1		1910	231	1.
1		0030	7	0.	1		0645	82	0.	1		1300	157	53.	1		1915	232	1.
1		0035	8	0.	1		0650	83	0.	1		1305	158	54.	1		1920	233	1.
1		0040	9	0.	1		0655	84	0.	1		1310	159	54.	1		1925	234	1.
1		0045	10	0.	1		0700	85	0.	1		1315	160	53.	1		1930	235	1.
1		0050	11	0.	1		0705	86	0.	1		1320	161	52.	1		1935	236	1.
1		0055	12	0.	1		0710	87	0.	1		1325	162	50.	1		1940	237	1.
1		0100	13	0.	1		0715	88	0.	1		1330	163	48.	1		1945	238	1.
1		0105	14	0.	1		0720	89	0.	1		1335	164	45.	1		1950	239	1.
1		0110	15	0.	1		0725	90	0.	1		1340	165	43.	1		1955	240	1.
1		0115	16	0.	1		0730	91	0.	1		1345	166	41.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	38.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	36.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	34.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	32.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	29.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	27.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	25.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	24.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	22.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	20.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	19.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	17.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	16.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	15.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	15.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	14.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	14.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	13.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	12.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	12.	1		2140	261	0.
1		0300	37	0.	1		0915	112	0.	1		1530	187	11.	1		2145	262	0.
1		0305	38	0.	1		0920	113	0.	1		1535	188	11.	1		2150	263	0.
1		0310	39	0.	1		0925	114	0.	1		1540	189	10.	1		2155	264	0.
1		0315	40	0.	1		0930	115	0.	1		1545	190	10.	1		2200	265	0.
1		0320	41	0.	1		0935	116	0.	1		1550	191	9.	1		2205	266	0.
1		0325	42	0.	1		0940	117	0.	1		1555	192	9.	1		2210	267	0.
1		0330	43	0.	1		0945	118	0.	1		1600	193	8.	1		2215	268	0.
1		0335	44	0.	1		0950	119	0.	1		1605	194	8.	1		2220	269	0.
1		0340	45	0.	1		0955	120	0.	1		1610	195	8.	1		2225	270	0.
1		0345	46	0.	1		1000	121	0.	1		1615	196	7.	1		2230	271	0.
1		0350	47	0.	1		1005	122	0.	1		1620	197	7.	1		2235	272	0.
1		0355	48	0.	1		1010	123	0.	1		1625	198	7.	1		2240	273	0.
1		0400	49	0.	1		1015	124	0.	1		1630	199	6.	1		2245	274	0.
1		0405	50	0.	1		1020	125	0.	1		1635	200	6.	1		2250	275	0.
1		0410	51	0.	1		1025	126	0.	1		1640	201	6.	1		2255	276	0.
1		0415	52	0.	1		1030	127	0.	1		1645	202	5.	1		2300	277	0.
1		0420	53	0.	1		1035	128	0.	1		1650	203	5.	1		2305	278	0.
1		0425	54	0.	1		1040	129	0.	1		1655	204	5.	1		2310	279	0.
1		0430	55	0.	1		1045	130	0.	1		1700	205	4.	1		2315	280	0.
1		0435	56	0.	1		1050	131	0.	1		1705	206	4.	1		2320	281	0.
1		0440	57	0.	1		1055	132	0.	1		1710	207	4.	1		2325	282	0.
1		0445	58	0.	1		1100	133	0.	1		1715	208	4.	1		2330	283	0.
1		0450	59	0.	1		1105	134	0.	1		1720	209	3.	1		2335	284	0.
1		0455	60	0.	1		1110	135	0.	1		1725	210	3.	1		2340	285	0.
1		0500	61	0.	1		1115	136	0.	1		1730	211	3.	1		2345	286	0.
1		0505	62	0.	1		1120	137	0.	1		1735	212	3.	1		2350	287	0.
1		0510	63	0.	1		1125	138	0.	1		1740	213	3.	1		2355	288	0.

```
    1    0515   64        0.   *    1    1130  139        0.   *    1    1745  214        2.   *    2    0000  289        0.
    1    0520   65        0.   *    1    1135  140        0.   *    1    1750  215        2.   *    2    0005  290        0.
    1    0525   66        0.   *    1    1140  141        0.   *    1    1755  216        2.   *    2    0010  291        0.
    1    0530   67        0.   *    1    1145  142        0.   *    1    1800  217        2.   *    2    0015  292        0.
    1    0535   68        0.   *    1    1150  143        0.   *    1    1805  218        2.   *    2    0020  293        0.
    1    0540   69        0.   *    1    1155  144        0.   *    1    1810  219        2.   *    2    0025  294        0.
    1    0545   70        0.   *    1    1200  145        0.   *    1    1815  220        2.   *    2    0030  295        0.
    1    0550   71        0.   *    1    1205  146        0.   *    1    1820  221        2.   *    2    0035  296        0.
    1    0555   72        0.   *    1    1210  147        0.   *    1    1825  222        1.   *    2    0040  297        0.
    1    0600   73        0.   *    1    1215  148        0.   *    1    1830  223        1.   *    2    0045  298        0.
    1    0605   74        0.   *    1    1220  149        0.   *    1    1835  224        1.   *    2    0050  299        0.
    1    0610   75        0.   *    1    1225  150        0.   *    1    1840  225        1.   *    2    0055  300        0.
                          *                                *                                *
*****************************************************************************************************************************************

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR      24.92-HR
+   (CFS)       (HR)          (CFS)
+     54.     13.08             18.           5.           4.           4.
                          (INCHES)          .453         .463         .463         .463
                            (AC-FT)           9.           9.           9.           9.

                          CUMULATIVE AREA =      .37 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *             *
   85 KK    *      L10d   *      Subbasin Spilt
            *             *
            ***************

               SUBBASIN RUNOFF DATA

   86 BA          SUBBASIN CHARACTERISTICS
                        TAREA          .61  SUBBASIN AREA

   87 LG          GREEN AND AMPT LOSS RATE
                        STRTL          .38  STARTING LOSS
                          DTH          .38  MOISTURE DEFICIT
                         PSIF         1.41  WETTING FRONT SUCTION
                        XKSAT          .05  HYDRAULIC CONDUCTIVITY
                        RTIMP        23.00  PERCENT IMPERVIOUS AREA

   88 US          SNYDER UNITGRAPH
                           TP          .24  LAG
                           CP          .32  PEAKING COEFFICIENT

                  SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                      ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=    .23 HR,       R=    .61 HR
                                         SNYDER   TP=    .24 HR,      CP=    .32

                                                UNIT HYOROGRAPH
                                          41 END-OF-PERIOD ORDINATES
                    91.      317.      490.      494.      431.      376.      328.      286.      249.      217.
                   189.      165.      144.      125.      109.       95.       83.       72.       63.       55.
                    48.       42.       36.       32.       28.       24.       21.       18.       16.       14.
                    12.       11.        9.        8.        7.        6.        5.        5.        4.        4.
                     3.

       ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     L10d
                       TRANSPOSITION AREA        .0 SQ MI

     TOTAL RAINFALL =    1.99, TOTAL LOSS =      .95, TOTAL EXCESS =    1.04

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR      24.92-HR
+   (CFS)       (HR)          (CFS)
+    318.     12.17             59.          17.          16.          16.
                          (INCHES)          .900        1.033        1.034        1.034
                            (AC-FT)          29.          34.          34.          34.

                          CUMULATIVE AREA =      .61 SQ MI

       ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     L10d
                       TRANSPOSITION AREA     14.0 SQ MI

     TOTAL RAINFALL =    1.95, TOTAL LOSS =      .94, TOTAL EXCESS =    1.01

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR      24.92-HR
+   (CFS)       (HR)          (CFS)
+    310.     12.17             58.          17.          16.          16.
                          (INCHES)          .874        1.004        1.006        1.006
                            (AC-FT)          29.          33.          33.          33.

                          CUMULATIVE AREA =      .61 SQ MI

       ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     L10d
                       TRANSPOSITION AREA     24.0 SQ MI

     TOTAL RAINFALL =    1.93, TOTAL LOSS =      .93, TOTAL EXCESS =    1.00

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR      24.92-HR
```

+	PEAK FLOW (CFS)	TIME (HR)		6-HR	MAXIMUM AVERAGE FLOW 24-HR	72-HR	24.92-HR
	306.	12.17	(CFS)	57.	16.	16.	16.
			(INCHES)	.861	.990	.991	.991
			(AC-FT)	28.	32.	32.	32.

CUMULATIVE AREA = .61 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION L10d
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.91, TOTAL LOSS = .93, TOTAL EXCESS = .98

+	PEAK FLOW (CFS)	TIME (HR)		6-HR	MAXIMUM AVERAGE FLOW 24-HR	72-HR	24.92-HR
+	302.	12.17	(CFS)	56.	16.	16.	16.
			(INCHES)	.849	.976	.977	.977
			(AC-FT)	28.	32.	32.	32.

CUMULATIVE AREA = .61 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION L10d
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.90, TOTAL LOSS = .92, TOTAL EXCESS = .97

+	PEAK FLOW (CFS)	TIME (HR)		6-HR	MAXIMUM AVERAGE FLOW 24-HR	72-HR	24.92-HR
+	299.	12.17	(CFS)	55.	16.	15.	15.
			(INCHES)	.840	.966	.968	.968
			(AC-FT)	28.	32.	32.	32.

CUMULATIVE AREA = .61 SQ MI

INTERPOLATED HYDROGRAPH AT L10d

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	3.	1		1230	151	217.	1		1845	226	3.
1		0005	2	0.	1		0620	77	3.	1		1235	152	195.	1		1850	227	3.
1		0010	3	0.	1		0625	78	3.	1		1240	153	174.	1		1855	228	3.
1		0015	4	0.	1		0630	79	3.	1		1245	154	155.	1		1900	229	3.
1		0020	5	1.	1		0635	80	3.	1		1250	155	138.	1		1905	230	3.
1		0025	6	1.	1		0640	81	3.	1		1255	156	122.	1		1910	231	3.
1		0030	7	1.	1		0645	82	3.	1		1300	157	109.	1		1915	232	3.
1		0035	8	1.	1		0650	83	3.	1		1305	158	97.	1		1920	233	3.
1		0040	9	1.	1		0655	84	3.	1		1310	159	86.	1		1925	234	3.
1		0045	10	1.	1		0700	85	3.	1		1315	160	76.	1		1930	235	3.
1		0050	11	1.	1		0705	86	3.	1		1320	161	68.	1		1935	236	3.
1		0055	12	1.	1		0710	87	3.	1		1325	162	60.	1		1940	237	3.
1		0100	13	1.	1		0715	88	3.	1		1330	163	54.	1		1945	238	3.
1		0105	14	2.	1		0720	89	3.	1		1335	164	48.	1		1950	239	3.
1		0110	15	2.	1		0725	90	3.	1		1340	165	43.	1		1955	240	3.
1		0115	16	2.	1		0730	91	4.	1		1345	166	38.	1		2000	241	3.
1		0120	17	2.	1		0735	92	4.	1		1350	167	34.	1		2005	242	3.
1		0125	18	2.	1		0740	93	4.	1		1355	168	31.	1		2010	243	3.
1		0130	19	2.	1		0745	94	4.	1		1400	169	28.	1		2015	244	3.
1		0135	20	2.	1		0750	95	4.	1		1405	170	25.	1		2020	245	3.
1		0140	21	2.	1		0755	96	4.	1		1410	171	23.	1		2025	246	2.
1		0145	22	2.	1		0800	97	4.	1		1415	172	21.	1		2030	247	2.
1		0150	23	2.	1		0805	98	4.	1		1420	173	19.	1		2035	248	2.
1		0155	24	2.	1		0810	99	4.	1		1425	174	17.	1		2040	249	2.
1		0200	25	2.	1		0815	100	4.	1		1430	175	16.	1		2045	250	2.
1		0205	26	2.	1		0820	101	4.	1		1435	176	15.	1		2050	251	2.
1		0210	27	2.	1		0825	102	4.	1		1440	177	13.	1		2055	252	2.
1		0215	28	2.	1		0830	103	4.	1		1445	178	13.	1		2100	253	2.
1		0220	29	2.	1		0835	104	4.	1		1450	179	12.	1		2105	254	2.
1		0225	30	2.	1		0840	105	4.	1		1455	180	11.	1		2110	255	2.
1		0230	31	2.	1		0845	106	4.	1		1500	181	10.	1		2115	256	2.
1		0235	32	2.	1		0850	107	4.	1		1505	182	9.	1		2120	257	2.
1		0240	33	2.	1		0855	108	5.	1		1510	183	9.	1		2125	258	2.
1		0245	34	2.	1		0900	109	5.	1		1515	184	8.	1		2130	259	2.
1		0250	35	2.	1		0905	110	5.	1		1520	185	7.	1		2135	260	2.
1		0255	36	2.	1		0910	111	5.	1		1525	186	6.	1		2140	261	2.
1		0300	37	2.	1		0915	112	5.	1		1530	187	6.	1		2145	262	2.
1		0305	38	2.	1		0920	113	5.	1		1535	188	6.	1		2150	263	2.
1		0310	39	2.	1		0925	114	5.	1		1540	189	6.	1		2155	264	2.
1		0315	40	2.	1		0930	115	5.	1		1545	190	5.	1		2200	265	2.
1		0320	41	2.	1		0935	116	5.	1		1550	191	5.	1		2205	266	2.
1		0325	42	2.	1		0940	117	5.	1		1555	192	5.	1		2210	267	2.
1		0330	43	2.	1		0945	118	5.	1		1600	193	5.	1		2215	268	2.
1		0335	44	2.	1		0950	119	6.	1		1605	194	5.	1		2220	269	2.
1		0340	45	2.	1		0955	120	6.	1		1610	195	5.	1		2225	270	2.
1		0345	46	2.	1		1000	121	6.	1		1615	196	5.	1		2230	271	2.
1		0350	47	2.	1		1005	122	6.	1		1620	197	5.	1		2235	272	2.
1		0355	48	2.	1		1010	123	6.	1		1625	198	5.	1		2240	273	2.
1		0400	49	2.	1		1015	124	6.	1		1630	199	4.	1		2245	274	2.
1		0405	50	2.	1		1020	125	7.	1		1635	200	4.	1		2250	275	2.
1		0410	51	2.	1		1025	126	7.	1		1640	201	4.	1		2255	276	2.
1		0415	52	2.	1		1030	127	7.	1		1645	202	4.	1		2300	277	2.
1		0420	53	2.	1		1035	128	7.	1		1650	203	4.	1		2305	278	2.
1		0425	54	2.	1		1040	129	8.	1		1655	204	4.	1		2310	279	2.
1		0430	55	2.	1		1045	130	8.	1		1700	205	4.	1		2315	280	2.
1		0435	56	3.	1		1050	131	8.	1		1705	206	4.	1		2320	281	2.
1		0440	57	3.	1		1055	132	9.	1		1710	207	4.	1		2325	282	2.
1		0445	58	3.	1		1100	133	9.	1		1715	208	4.	1		2330	283	2.
1		0450	59	3.	1		1105	134	9.	1		1720	209	4.	1		2335	284	2.
1		0455	60	3.	1		1110	135	10.	1		1725	210	4.	1		2340	285	2.
1		0500	61	3.	1		1115	136	11.	1		1730	211	4.	1		2345	286	2.

1	0505	62	3.	*	1	1120	137	11.	*	1	1735	212	4.	*	1	2350	287	2.
1	0510	63	3.	*	1	1125	138	12.	*	1	1740	213	4.	*	1	2355	288	2.
1	0515	64	3.	*	1	1130	139	13.	*	1	1745	214	4.	*	2	0000	289	2.
1	0520	65	3.	*	1	1135	140	16.	*	1	1750	215	4.	*	2	0005	290	2.
1	0525	66	3.	*	1	1140	141	27.	*	1	1755	216	4.	*	2	0010	291	2.
1	0530	67	3.	*	1	1145	142	52.	*	1	1800	217	4.	*	2	0015	292	2.
1	0535	68	3.	*	1	1150	143	96.	*	1	1805	218	4.	*	2	0020	293	1.
1	0540	69	3.	*	1	1155	144	163.	*	1	1810	219	3.	*	2	0025	294	1.
1	0545	70	3.	*	1	1200	145	242.	*	1	1815	220	3.	*	2	0030	295	1.
1	0550	71	3.	*	1	1205	146	301.	*	1	1820	221	3.	*	2	0035	296	1.
1	0555	72	3.	*	1	1210	147	314.	*	1	1825	222	3.	*	2	0040	297	1.
1	0600	73	3.	*	1	1215	148	294.	*	1	1830	223	3.	*	2	0045	298	1.
1	0605	74	3.	*	1	1220	149	266.	*	1	1835	224	3.	*	2	0050	299	1.
1	0610	75	3.	*	1	1225	150	241.	*	1	1840	225	3.	*	2	0055	300	1.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 314.	12.17		58.	17.	16.	16.
		(INCHES)	.885	1.017	1.018	1.018
		(AC-FT)	29.	33.	33.	33.

CUMULATIVE AREA = .61 SQ MI

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*             *
*    C_L10    *
*             *
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89 KK Combine L10d with Upstream Hydrographs

90 HC HYDROGRAPH COMBINATION
ICOMP 3 NUMBER OF HYDROGRAPHS TO COMBINE

*** *** *** *** ***

HYDROGRAPH AT STATION C_L10
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 1185.	13.17		515.	143.	137.	137.
		(INCHES)	.504	.559	.559	.559
		(AC-FT)	255.	283.	283.	283.

CUMULATIVE AREA = 9.49 SQ MI

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HYDROGRAPH AT STATION C_L10
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 1132.	13.17		492.	136.	132.	132.
		(INCHES)	.482	.535	.535	.535
		(AC-FT)	244.	271.	271.	271.

CUMULATIVE AREA = 9.49 SQ MI

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HYDROGRAPH AT STATION C_L10
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 1106.	13.17		481.	133.	129.	129.
		(INCHES)	.471	.523	.523	.523
		(AC-FT)	238.	265.	265.	265.

CUMULATIVE AREA = 9.49 SQ MI

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HYDROGRAPH AT STATION C_L10
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 1080.	13.17		469.	130.	126.	126.
		(INCHES)	.460	.511	.511	.511
		(AC-FT)	233.	259.	259.	259.

CUMULATIVE AREA = 9.49 SQ MI

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HYDROGRAPH AT STATION C_L10
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW TIME MAXIMUM AVERAGE FLOW

PEAK FLOW (CFS)	TIME (HR)		6-HR	24-HR	72-HR	24.92-HR
1059.	13.17	(CFS)	461.	128.	123.	123.
		(INCHES)	.452	.502	.503	.503
		(AC-FT)	229.	254.	254.	254.

CUMULATIVE AREA = 9.49 SQ MI

INTERPOLATED HYDROGRAPH AT C_L10

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	6.	1		1230	151	612.	1		1845	226	73.
1		0005	2	0.	1		0620	77	6.	1		1235	152	716.	1		1850	227	70.
1		0010	3	0.	1		0625	78	6.	1		1240	153	820.	1		1855	228	67.
1		0015	4	0.	1		0630	79	7.	1		1245	154	914.	1		1900	229	65.
1		0020	5	1.	1		0635	80	7.	1		1250	155	990.	1		1905	230	62.
1		0025	6	1.	1		0640	81	7.	1		1255	156	1054.	1		1910	231	60.
1		0030	7	1.	1		0645	82	7.	1		1300	157	1098.	1		1915	232	58.
1		0035	8	1.	1		0650	83	7.	1		1305	158	1125.	1		1920	233	55.
1		0040	9	1.	1		0655	84	7.	1		1310	159	1135.	1		1925	234	53.
1		0045	10	1.	1		0700	85	7.	1		1315	160	1127.	1		1930	235	51.
1		0050	11	1.	1		0705	86	7.	1		1320	161	1101.	1		1935	236	50.
1		0055	12	2.	1		0710	87	7.	1		1325	162	1062.	1		1940	237	48.
1		0100	13	2.	1		0715	88	7.	1		1330	163	1017.	1		1945	238	46.
1		0105	14	2.	1		0720	89	7.	1		1335	164	972.	1		1950	239	44.
1		0110	15	2.	1		0725	90	7.	1		1340	165	928.	1		1955	240	43.
1		0115	16	2.	1		0730	91	7.	1		1345	166	885.	1		2000	241	41.
1		0120	17	2.	1		0735	92	7.	1		1350	167	846.	1		2005	242	40.
1		0125	18	2.	1		0740	93	7.	1		1355	168	808.	1		2010	243	38.
1		0130	19	2.	1		0745	94	8.	1		1400	169	772.	1		2015	244	37.
1		0135	20	2.	1		0750	95	8.	1		1405	170	737.	1		2020	245	36.
1		0140	21	2.	1		0755	96	8.	1		1410	171	704.	1		2025	246	35.
1		0145	22	2.	1		0800	97	8.	1		1415	172	672.	1		2030	247	33.
1		0150	23	2.	1		0805	98	8.	1		1420	173	643.	1		2035	248	32.
1		0155	24	2.	1		0810	99	8.	1		1425	174	615.	1		2040	249	30.
1		0200	25	2.	1		0815	100	8.	1		1430	175	587.	1		2045	250	29.
1		0205	26	2.	1		0820	101	8.	1		1435	176	562.	1		2050	251	28.
1		0210	27	3.	1		0825	102	8.	1		1440	177	537.	1		2055	252	27.
1		0215	28	3.	1		0830	103	8.	1		1445	178	514.	1		2100	253	26.
1		0220	29	3.	1		0835	104	8.	1		1450	179	491.	1		2105	254	25.
1		0225	30	3.	1		0840	105	9.	1		1455	180	471.	1		2110	255	25.
1		0230	31	3.	1		0845	106	9.	1		1500	181	451.	1		2115	256	24.
1		0235	32	3.	1		0850	107	9.	1		1505	182	432.	1		2120	257	23.
1		0240	33	3.	1		0855	108	9.	1		1510	183	414.	1		2125	258	22.
1		0245	34	3.	1		0900	109	9.	1		1515	184	397.	1		2130	259	22.
1		0250	35	3.	1		0905	110	9.	1		1520	185	380.	1		2135	260	21.
1		0255	36	3.	1		0910	111	10.	1		1525	186	363.	1		2140	261	20.
1		0300	37	4.	1		0915	112	10.	1		1530	187	348.	1		2145	262	20.
1		0305	38	4.	1		0920	113	10.	1		1535	188	334.	1		2150	263	19.
1		0310	39	4.	1		0925	114	10.	1		1540	189	320.	1		2155	264	19.
1		0315	40	4.	1		0930	115	10.	1		1545	190	307.	1		2200	265	18.
1		0320	41	4.	1		0935	116	10.	1		1550	191	295.	1		2205	266	17.
1		0325	42	4.	1		0940	117	11.	1		1555	192	283.	1		2210	267	17.
1		0330	43	4.	1		0945	118	11.	1		1600	193	271.	1		2215	268	17.
1		0335	44	4.	1		0950	119	11.	1		1605	194	260.	1		2220	269	16.
1		0340	45	4.	1		0955	120	11.	1		1610	195	249.	1		2225	270	16.
1		0345	46	4.	1		1000	121	11.	1		1615	196	239.	1		2230	271	15.
1		0350	47	4.	1		1005	122	12.	1		1620	197	229.	1		2235	272	15.
1		0355	48	5.	1		1010	123	12.	1		1625	198	220.	1		2240	273	14.
1		0400	49	5.	1		1015	124	12.	1		1630	199	211.	1		2245	274	14.
1		0405	50	5.	1		1020	125	12.	1		1635	200	203.	1		2250	275	14.
1		0410	51	5.	1		1025	126	13.	1		1640	201	195.	1		2255	276	13.
1		0415	52	5.	1		1030	127	13.	1		1645	202	187.	1		2300	277	13.
1		0420	53	5.	1		1035	128	13.	1		1650	203	180.	1		2305	278	12.
1		0425	54	5.	1		1040	129	14.	1		1655	204	173.	1		2310	279	11.
1		0430	55	5.	1		1045	130	14.	1		1700	205	166.	1		2315	280	10.
1		0435	56	5.	1		1050	131	15.	1		1705	206	159.	1		2320	281	9.
1		0440	57	5.	1		1055	132	15.	1		1710	207	153.	1		2325	282	9.
1		0445	58	5.	1		1100	133	16.	1		1715	208	146.	1		2330	283	8.
1		0450	59	5.	1		1105	134	17.	1		1720	209	140.	1		2335	284	7.
1		0455	60	5.	1		1110	135	17.	1		1725	210	135.	1		2340	285	7.
1		0500	61	5.	1		1115	136	18.	1		1730	211	129.	1		2345	286	7.
1		0505	62	5.	1		1120	137	19.	1		1735	212	124.	1		2350	287	6.
1		0510	63	5.	1		1125	138	20.	1		1740	213	119.	1		2355	288	6.
1		0515	64	6.	1		1130	139	21.	1		1745	214	115.	2		0000	289	6.
1		0520	65	6.	1		1135	140	24.	1		1750	215	110.	2		0005	290	6.
1		0525	66	6.	1		1140	141	35.	1		1755	216	106.	2		0010	291	6.
1		0530	67	6.	1		1145	142	61.	1		1800	217	103.	2		0015	292	5.
1		0535	68	6.	1		1150	143	106.	1		1805	218	99.	2		0020	293	5.
1		0540	69	6.	1		1155	144	178.	1		1810	219	95.	2		0025	294	5.
1		0545	70	6.	1		1200	145	268.	1		1815	220	92.	2		0030	295	4.
1		0550	71	6.	1		1205	146	346.	1		1820	221	88.	2		0035	296	4.
1		0555	72	6.	1		1210	147	386.	1		1825	222	85.	2		0040	297	4.
1		0600	73	6.	1		1215	148	408.	1		1830	223	82.	2		0045	298	4.
1		0605	74	6.	1		1220	149	450.	1		1835	224	78.	2		0050	299	4.
1		0610	75	6.	1		1225	150	522.	1		1840	225	75.	2		0055	300	4.

+ PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+ 1135.	13.17	(CFS)	493.	137.	132.	132.
		(INCHES)	.483	.536	.537	.537
		(AC-FT)	245.	271.	271.	271.

CUMULATIVE AREA = 9.49 SQ MI

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91 KK      *      R_L9M  *       Route Mainstem Hydrograph Through L9
           *             *
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              HYDROGRAPH ROUTING DATA

92 RS            STORAGE ROUTING
                    NSTPS          1  NUMBER OF SUBREACHES
                     ITYP       STOR  TYPE OF INITIAL CONDITION
                   RSVRIC        .00  INITIAL CONDITION
                        X        .00 WORKING R AND D COEFFICIENT

93 SV               STORAGE        .0       1.2       2.2       3.3       4.2       4.9       5.3       6.6       7.6       8.5
                               9.6      10.6      11.6      12.4      13.1      13.9

95 SQ               DISCHARGE      0.      100.      200.      300.      400.      500.      600.      800.     1000.     1200.
                            1400.     1600.     1800.     2000.     2200.     2400.
                                                                    ***

          ***               ***               ***               ***               ***

                 HYOROGRAPH AT STATION    R_L9M
                 TRANSPOSITION AREA        .0 SQ MI

   PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
+     (CFS)       (HR)                    6-HR          24-HR          72-HR       24.92-HR
                                  (CFS)
+     1180.      13.25                   514.           143.           137.           137.
                               (INCHES)  .504           .559           .559           .559
                                (AC-FT)  255.           283.           283.           283.

   PEAK STORAGE   TIME                                MAXIMUM AVERAGE STORAGE
+     (AC-FT)     (HR)                    6-HR          24-HR          72-HR       24.92-HR
          8.     13.25                     5.             1.             1.             1.

                 CUMULATIVE AREA =    9.49 SQ MI

          ***               ***               ***               ***               ***

                 HYDROGRAPH AT STATION    R_L9M
                 TRANSPOSITION AREA      14.0 SQ MI

   PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
+     (CFS)       (HR)                    6-HR          24-HR          72-HR       24.92-HR
                                  (CFS)
+     1127.      13.25                   491.           136.           131.           131.
                               (INCHES)  .481           .535           .535           .535
                                (AC-FI)  243.           271.           271.           271.

   PEAK STORAGE   TIME                                MAXIMUM AVERAGE STORAGE
+     (AC-FT)     (HR)                    6-HR          24-HR          72-HR       24.92-HR
          8.     13.25                     4.             1.             1.             1.

                 CUMULATIVE AREA =    9.49 SQ MI

          ***               ***               ***               ***               ***

                 HYDROGRAPH AT STATION    R_L9M
                 TRANSPOSITION AREA      24.0 SQ MI

   PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
+     (CFS)       (HR)                    6-HR          24-HR          72-HR       24.92-HR
                                  (CFS)
+     1102.      13.25                   480.           133.           129.           129.
                               (INCHES)  .470           .523           .523           .523
                                (AC-FT)  238.           265.           265.           265.

   PEAK STORAGE   TIME                                MAXIMUM AVERAGE STORAGE
+     (AC-FT)     (HR)                    6-HR          24-HR          72-HR       24.92-HR
          8.     13.25                     4.             1.             1.             1.

                 CUMULATIVE AREA =    9.49 SQ MI

          ***               ***               ***               ***               ***

                 HYDROGRAPH AT STATION    R_L9M
                 TRANSPOSITION AREA      36.5 SQ MI

   PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
+     (CFS)       (HR)                    6-HR          24-HR          72-HR       24.92-HR
                                  (CFS)
+     1076.      13.25                   468.           130.           126.           126.
                               (INCHES)  .459           .511           .511           .511
                                (AC-FT)  232.           259.           259.           259.

   PEAK STORAGE   TIME                                MAXIMUM AVERAGE STORAGE
+     (AC-FT)     (HR)                    6-HR          24-HR          72-HR       24.92-HR
          8.     13.25                     4.             1.             1.             1.

                 CUMULATIVE AREA =    9.49 SQ MI

          ***               ***               ***               ***               ***

                 HYDROGRAPH AT STATION    R_L9M
                 TRANSPOSITION AREA      50.0 SQ MI

   PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
+     (CFS)       (HR)                    6-HR          24-HR          72-HR       24.92-HR
                                  (CFS)
+     1055.      13.25                   460.           128.           123.           123.
```

(INCHES)	.451	.502	.502	.502
(AC-FT)	228.	254.	254.	254.

+ AK STORAGE (AC-FT)	TIME (HR)	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
	13.25	4.	1.	1.	1.

CUMULATIVE AREA = 9.49 SQ MI

INTERPOLATED HYDROGRAPH AT R_L9M

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	6.	1		1230	151	541.	1		1845	226	78.
1		0005	2	0.	1		0620	77	6.	1		1235	152	638.	1		1850	227	75.
1		0010	3	0.	1		0625	78	6.	1		1240	153	733.	1		1855	228	72.
1		0015	4	0.	1		0630	79	6.	1		1245	154	833.	1		1900	229	69.
1		0020	5	0.	1		0635	80	6.	1		1250	155	929.	1		1905	230	67.
1		0025	6	0.	1		0640	81	7.	1		1255	156	1004.	1		1910	231	64.
1		0030	7	1.	1		0645	82	7.	1		1300	157	1064.	1		1915	232	62.
1		0035	8	1.	1		0650	83	7.	1		1305	158	1103.	1		1920	233	60.
1		0040	9	1.	1		0655	84	7.	1		1310	159	1125.	1		1925	234	57.
1		0045	10	1.	1		0700	85	7.	1		1315	160	1130.	1		1930	235	55.
1		0050	11	1.	1		0705	86	7.	1		1320	161	1117.	1		1935	236	53.
1		0055	12	1.	1		0710	87	7.	1		1325	162	1087.	1		1940	237	51.
1		0100	13	1.	1		0715	88	7.	1		1330	163	1048.	1		1945	238	49.
1		0105	14	2.	1		0720	89	7.	1		1335	164	1003.	1		1950	239	48.
1		0110	15	2.	1		0725	90	7.	1		1340	165	960.	1		1955	240	46.
1		0115	16	2.	1		0730	91	7.	1		1345	166	917.	1		2000	241	44.
1		0120	17	2.	1		0735	92	7.	1		1350	167	876.	1		2005	242	43.
1		0125	18	2.	1		0740	93	7.	1		1355	168	836.	1		2010	243	41.
1		0130	19	2.	1		0745	94	7.	1		1400	169	799.	1		2015	244	40.
1		0135	20	2.	1		0750	95	8.	1		1405	170	766.	1		2020	245	38.
1		0140	21	2.	1		0755	96	8.	1		1410	171	733.	1		2025	246	37.
1		0145	22	2.	1		0800	97	8.	1		1415	172	700.	1		2030	247	36.
1		0150	23	2.	1		0805	98	8.	1		1420	173	669.	1		2035	248	34.
1		0155	24	2.	1		0810	99	8.	1		1425	174	640.	1		2040	249	33.
1		0200	25	2.	1		0815	100	8.	1		1430	175	612.	1		2045	250	32.
1		0205	26	2.	1		0820	101	8.	1		1435	176	582.	1		2050	251	30.
1		0210	27	2.	1		0825	102	8.	1		1440	177	555.	1		2055	252	29.
1		0215	28	3.	1		0830	103	8.	1		1445	178	530.	1		2100	253	28.
1		0220	29	3.	1		0835	104	8.	1		1450	179	507.	1		2105	254	27.
1		0225	30	3.	1		0840	105	8.	1		1455	180	488.	1		2110	255	26.
1		0230	31	3.	1		0845	106	9.	1		1500	181	469.	1		2115	256	25.
1		0235	32	3.	1		0850	107	9.	1		1505	182	449.	1		2120	257	24.
1		0240	33	3.	1		0855	108	9.	1		1510	183	430.	1		2125	258	24.
1		0245	34	3.	1		0900	109	9.	1		1515	184	413.	1		2130	259	23.
1		0250	35	3.	1		0905	110	9.	1		1520	185	396.	1		2135	260	22.
1		0255	36	3.	1		0910	111	9.	1		1525	186	383.	1		2140	261	22.
1		0300	37	3.	1		0915	112	9.	1		1530	187	368.	1		2145	262	21.
1		0305	38	3.	1		0920	113	10.	1		1535	188	354.	1		2150	263	20.
1		0310	39	4.	1		0925	114	10.	1		1540	189	339.	1		2155	264	20.
1		0315	40	4.	1		0930	115	10.	1		1545	190	325.	1		2200	265	19.
1		0320	41	4.	1		0935	116	10.	1		1550	191	312.	1		2205	266	18.
1		0325	42	4.	1		0940	117	10.	1		1555	192	300.	1		2210	267	18.
1		0330	43	4.	1		0945	118	10.	1		1600	193	288.	1		2215	268	17.
1		0335	44	4.	1		0950	119	11.	1		1605	194	277.	1		2220	269	17.
1		0340	45	4.	1		0955	120	11.	1		1610	195	266.	1		2225	270	16.
1		0345	46	4.	1		1000	121	11.	1		1615	196	255.	1		2230	271	16.
1		0350	47	4.	1		1005	122	11.	1		1620	197	245.	1		2235	272	16.
1		0355	48	4.	1		1010	123	11.	1		1625	198	235.	1		2240	273	15.
1		0400	49	4.	1		1015	124	12.	1		1630	199	225.	1		2245	274	15.
1		0405	50	5.	1		1020	125	12.	1		1635	200	216.	1		2250	275	14.
1		0410	51	5.	1		1025	126	12.	1		1640	201	208.	1		2255	276	14.
1		0415	52	5.	1		1030	127	12.	1		1645	202	200.	1		2300	277	14.
1		0420	53	5.	1		1035	128	13.	1		1650	203	191.	1		2305	278	13.
1		0425	54	5.	1		1040	129	13.	1		1655	204	184.	1		2310	279	12.
1		0430	55	5.	1		1045	130	14.	1		1700	205	176.	1		2315	280	12.
1		0435	56	5.	1		1050	131	14.	1		1705	206	169.	1		2320	281	11.
1		0440	57	5.	1		1055	132	14.	1		1710	207	162.	1		2325	282	10.
1		0445	58	5.	1		1100	133	15.	1		1715	208	156.	1		2330	283	9.
1		0450	59	5.	1		1105	134	16.	1		1720	209	149.	1		2335	284	9.
1		0455	60	5.	1		1110	135	16.	1		1725	210	143.	1		2340	285	8.
1		0500	61	5.	1		1115	136	17.	1		1730	211	138.	1		2345	286	8.
1		0505	62	5.	1		1120	137	18.	1		1735	212	132.	1		2350	287	7.
1		0510	63	5.	1		1125	138	18.	1		1740	213	127.	1		2355	288	7.
1		0515	64	5.	1		1130	139	19.	1		1745	214	122.	2		0000	289	6.
1		0520	65	5.	1		1135	140	21.	1		1750	215	117.	2		0005	290	6.
1		0525	66	6.	1		1140	141	25.	1		1755	216	112.	2		0010	291	6.
1		0530	67	6.	1		1145	142	35.	1		1800	217	108.	2		0015	292	6.
1		0535	68	6.	1		1150	143	56.	1		1805	218	104.	2		0020	293	5.
1		0540	69	6.	1		1155	144	93.	1		1810	219	101.	2		0025	294	5.
1		0545	70	6.	1		1200	145	159.	1		1815	220	97.	2		0030	295	5.
1		0550	71	6.	1		1205	146	233.	1		1820	221	94.	2		0035	296	5.
1		0555	72	6.	1		1210	147	298.	1		1825	222	91.	2		0040	297	4.
1		0600	73	6.	1		1215	148	351.	1		1830	223	87.	2		0045	298	4.
1		0605	74	6.	1		1220	149	393.	1		1835	224	84.	2		0050	299	4.
1		0610	75	6.	1		1225	150	456.	1		1840	225	81.	2		0055	300	4.

+ PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
		(CFS)			
+ 1130.	13.25	492.	137.	132.	132.
		(INCHES) .482	.536	.536	.536
		(AC-FT) 244.	271.	271.	271.

CUMULATIVE AREA = 9.49 SQ MI

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*           *
97 KK      *     L9.1u  *      Split Subbasin L9.1
           *            *
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              SUBBASIN RUNOFF DATA

98 BA            SUBBASIN CHARACTERISTICS
                       TAREA        2.38  SUBBASIN AREA

99 LG            GREEN AND AMPT LOSS RATE
                       STRTL         .42  STARTING LOSS
                         DTH         .40  MOISTURE DEFICIT
                        PSIF        1.50  WETTING FRONT SUCTION
                       XKSAT         .05  HYDRAULIC CONDUCTIVITY
                       RTIMP        2.00  PERCENT IMPERVIOUS AREA

100 US           SNYDER UNITGRAPH
                          TP         .87  LAG
                          CP         .38  PEAKING COEFFICIENT

              SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                    ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=   .89 HR,       R=  1.73 HR
                                          SNYDER  TP=   .87 HR,      CP=   .38

                                                UNIT HYDROGRAPH
                                          116 END-OF-PERIOD ORDINATES
                17.      66.     136.     220.     314.     414.     507.     584.     642.     680.
               688.     666.     635.     605.     576.     549.     524.     499.     475.     453.
               432.     412.     392.     374.     356.     339.     323.     308.     294.     280.
               267.     254.     242.     231.     220.     210.     200.     190.     182.     173.
               165.     157.     150.     143.     136.     130.     123.     118.     112.     107.
               102.      97.      93.      88.      84.      80.      76.      73.      69.      66.
                63.      60.      57.      54.      52.      49.      47.      45.      43.      41.
                39.      37.      35.      34.      32.      31.      29.      28.      26.      25.
                24.      23.      22.      21.      20.      19.      18.      17.      16.      16.
               .15.      14.      13.      13.      12.      12.      11.      11.      10.      10.
                 9.       9.       8.       8.       8.       7.       7.       7.       6.       6.
                 6.       5.       5.       5.       5.       4.

       ***              ***              ***              ***              ***

                 HYDROGRAPH AT STATION    L9.1u
                TRANSPOSITION AREA        .0 SQ MI

      TOTAL RAINFALL =    1.99, TOTAL LOSS =    1.25, TOTAL EXCESS =     .74

   PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR     24.92-HR
+    (CFS)       (HR)          (CFS)
+      465.     12.75                   177.         47.         45.         45.
                              (INCHES)   .693        .732        .732        .732
                               (AC-FT)    88.         93.         93.         93.

                 CUMULATIVE AREA =    2.38 SQ MI

       ***              ***              ***              ***              ***

                 HYDROGRAPH AT STATION    L9.1u
                TRANSPOSITION AREA       14.0 SQ MI

      TOTAL RAINFALL =    1.95, TOTAL LOSS =    1.24, TOTAL EXCESS =     .71

   PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR     24.92-HR
+    (CFS)       (HR)          (CFS)
+      450.     12.75                   171.         45.         44.         44.
                              (INCHES)   .669        .707        .707        .707
                               (AC-FT)    85.         90.         90.         90.

                 CUMULATIVE AREA =    2.38 SQ MI

       ***              ***              ***              ***              ***

                 HYDROGRAPH AT STATION    L9.1u
                TRANSPOSITION AREA       24.0 SQ MI

      TOTAL RAINFALL =    1.93, TOTAL LOSS =    1.23, TOTAL EXCESS =     .70

   PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR     24.92-HR
+    (CFS)       (HR)          (CFS)
+      443.     12.75                   168.         44.         43.         43.
                              (INCHES)   .657        .694        .694        .694
                               (AC-FT)    83.         88.         88.         88.

                 CUMULATIVE AREA =    2.38 SQ MI

       ***              ***              ***              ***              ***

                 HYDROGRAPH AT STATION    L9.1u
                TRANSPOSITIDN AREA       36.5 SQ MI

      TOTAL RAINFALL =    1.91, TOTAL LOSS =    1.22, TOTAL EXCESS =     .69

   PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR     24.92-HR
+    (CFS)       (HR)          (CFS)
+      435.     12.75                   165.         44.         42.         42.
                              (INCHES)   .645        .682        .682        .682
                               (AC-FT)    82.         87.         87.         87.

                 CUMULATIVE AREA =    2.38 SQ MI
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HYDROGRAPH AT STATION L9.1u
TRANSPOSIIION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.90, TOTAL LOSS = 1.22, TOTAL EXCESS = .68

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)			
430.	12.75	163.	43.	42.	42.
		(INCHES) .637	.673	.673	.673
		(AC-FT) 81.	85.	85.	85.

CUMULATIVE AREA = 2.38 SQ MI

INTERPOLATED HYDROGRAPH AT L9.1u

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	1.	1		1230	151	400.	1		1845	226	16.
1		0005	2	0.	1		0620	77	1.	1		1235	152	432.	1		1850	227	16.
1		0010	3	0.	1		0625	78	1.	1		1240	153	450.	1		1855	228	15.
1		0015	4	0.	1		0630	79	1.	1		1245	154	454.	1		1900	229	14.
1		0020	5	0.	1		0635	80	1.	1		1250	155	446.	1		1905	230	14.
1		0025	6	0.	1		0640	81	1.	1		1255	156	431.	1		1910	231	13.
1		0030	7	0.	1		0645	82	1.	1		1300	157	414.	1		1915	232	13.
1		0035	8	0.	1		0650	83	1.	1		1305	158	397.	1		1920	233	12.
1		0040	9	0.	1		0655	84	1.	1		1310	159	380.	1		1925	234	12.
1		0045	10	0.	1		0700	85	1.	1		1315	160	364.	1		1930	235	11.
1		0050	11	0.	1		0705	86	1.	1		1320	161	347.	1		1935	236	11.
1		0055	12	0.	1		0710	87	1.	1		1325	162	331.	1		1940	237	10.
1		0100	13	0.	1		0715	88	1.	1		1330	163	316.	1		1945	238	10.
1		0105	14	0.	1		0720	89	1.	1		1335	164	301.	1		1950	239	9.
1		0110	15	0.	1		0725	90	1.	1		1340	165	287.	1		1955	240	9.
1		0115	16	0.	1		0730	91	1.	1		1345	166	274.	1		2000	241	8.
1		0120	17	0.	1		0735	92	1.	1		1350	167	261.	1		2005	242	8.
1		0125	18	0.	1		0740	93	1.	1		1355	168	249.	1		2010	243	8.
1		0130	19	0.	1		0745	94	1.	1		1400	169	237.	1		2015	244	7.
1		0135	20	0.	1		0750	95	1.	1		1405	170	226.	1		2020	245	7.
1		0140	21	0.	1		0755	96	1.	1		1410	171	216.	1		2025	246	7.
1		0145	22	0.	1		0800	97	1.	1		1415	172	206.	1		2030	247	7.
1		0150	23	0.	1		0805	98	1.	1		1420	173	196.	1		2035	248	6.
1		0155	24	0.	1		0810	99	1.	1		1425	174	187.	1		2040	249	6.
1		0200	25	0.	1		0815	100	1.	1		1430	175	178.	1		2045	250	6.
1		0205	26	0.	1		0820	101	1.	1		1435	176	170.	1		2050	251	6.
1		0210	27	0.	1		0825	102	1.	1		1440	177	162.	1		2055	252	5.
1		0215	28	0.	1		0830	103	1.	1		1445	178	155.	1		2100	253	5.
1		0220	29	0.	1		0835	104	1.	1		1450	179	148.	1		2105	254	5.
1		0225	30	0.	1		0840	105	1.	1		1455	180	141.	1		2110	255	5.
1		0230	31	0.	1		0845	106	1.	1		1500	181	134.	1		2115	256	4.
1		0235	32	0.	1		0850	107	1.	1		1505	182	128.	1		2120	257	4.
1		0240	33	0.	1		0855	108	1.	1		1510	183	122.	1		2125	258	4.
1		0245	34	1.	1		0900	109	1.	1		1515	184	116.	1		2130	259	3.
1		0250	35	1.	1		0905	110	1.	1		1520	185	111.	1		2135	260	2.
1		0255	36	1.	1		0910	111	1.	1		1525	186	106.	1		2140	261	1.
1		0300	37	1.	1		0915	112	1.	1		1530	187	101.	1		2145	262	1.
1		0305	38	1.	1		0920	113	1.	1		1535	188	96.	1		2150	263	1.
1		0310	39	1.	1		0925	114	1.	1		1540	189	92.	1		2155	264	1.
1		0315	40	1.	1		0930	115	1.	1		1545	190	88.	1		2200	265	1.
1		0320	41	1.	1		0935	116	1.	1		1550	191	84.	1		2205	266	1.
1		0325	42	1.	1		0940	117	1.	1		1555	192	80.	1		2210	267	1.
1		0330	43	1.	1		0945	118	1.	1		1600	193	76.	1		2215	268	1.
1		0335	44	1.	1		0950	119	1.	1		1605	194	73.	1		2220	269	1.
1		0340	45	1.	1		0955	120	1.	1		1610	195	69.	1		2225	270	1.
1		0345	46	1.	1		1000	121	2.	1		1615	196	66.	1		2230	271	1.
1		0350	47	1.	1		1005	122	2.	1		1620	197	63.	1		2235	272	1.
1		0355	48	1.	1		1010	123	2.	1		1625	198	60.	1		2240	273	1.
1		0400	49	1.	1		1015	124	2.	1		1630	199	57.	1		2245	274	1.
1		0405	50	1.	1		1020	125	2.	1		1635	200	55.	1		2250	275	1.
1		0410	51	1.	1		1025	126	2.	1		1640	201	52.	1		2255	276	1.
1		0415	52	1.	1		1030	127	2.	1		1645	202	50.	1		2300	277	1.
1		0420	53	1.	1		1035	128	2.	1		1650	203	48.	1		2305	278	1.
1		0425	54	1.	1		1040	129	2.	1		1655	204	45.	1		2310	279	1.
1		0430	55	1.	1		1045	130	2.	1		1700	205	43.	1		2315	280	1.
1		0435	56	1.	1		1050	131	2.	1		1705	206	41.	1		2320	281	1.
1		0440	57	1.	1		1055	132	2.	1		1710	207	39.	1		2325	282	1.
1		0445	58	1.	1		1100	133	2.	1		1715	208	38.	1		2330	283	1.
1		0450	59	1.	1		1105	134	2.	1		1720	209	36.	1		2335	284	1.
1		0455	60	1.	1		1110	135	2.	1		1725	210	34.	1		2340	285	1.
1		0500	61	1.	1		1115	136	2.	1		1730	211	33.	1		2345	286	1.
1		0505	62	1.	1		1120	137	2.	1		1735	212	31.	1		2350	287	1.
1		0510	63	1.	1		1125	138	2.	1		1740	213	30.	1		2355	288	1.
1		0515	64	1.	1		1130	139	3.	1		1745	214	29.	2		0000	289	1.
1		0520	65	1.	1		1135	140	3.	1		1750	215	27.	2		0005	290	1.
1		0525	66	1.	1		1140	141	5.	1		1755	216	26.	2		0010	291	1.
1		0530	67	1.	1		1145	142	10.	1		1800	217	25.	2		0015	292	1.
1		0535	68	1.	1		1150	143	22.	1		1805	218	24.	2		0020	293	1.
1		0540	69	1.	1		1155	144	44.	1		1810	219	23.	2		0025	294	1.
1		0545	70	1.	1		1200	145	80.	1		1815	220	22.	2		0030	295	1.
1		0550	71	1.	1		1205	146	127.	1		1820	221	21.	2		0035	296	1.
1		0555	72	1.	1		1210	147	183.	1		1825	222	20.	2		0040	297	1.
1		0600	73	1.	1		1215	148	242.	1		1830	223	19.	2		0045	298	1.
1		0605	74	1.	1		1220	149	301.	1		1835	224	18.	2		0050	299	1.
1		0610	75	1.	1		1225	150	356.	1		1840	225	17.	2		0055	300	1.

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)			
454.	12.75	173.	46.	44.	44.
		(INCHES) .675	.713	.713	.713
		(AC-FT) 86.	91.	91.	91.

CUMULATIVE AREA = 2.38 SQ MI

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HYDROGRAPH AT STATION R_9.10
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)	168.	44.	43.	43.
+ 441.	12.83	(INCHES)	.657	.694	.694	.694
		(AC-FT)	83.	88.	88.	88.

CUMULATIVE AREA = 2.38 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	2.03	1.40	1.92	1500.00	434.88	768.28	.68	13.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8658E+02 EXCESS= .0000E+00 OUTFLOW= .8652E+02 BASIN STORAGE= .2653E-01 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	2.03	1.40	5.00	433.28	770.00	.68

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HYOROGRAPH AT STATION R_9.10
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)	165.	44.	42.	42.
+ 433.	12.83	(INCHES)	.645	.681	.681	.681
		(AC-FT)	82.	87.	87.	87.

CUMULATIVE AREA = 2.38 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	2.03	1.40	2.07	1500.00	429.17	767.97	.67	13.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8546E+02 EXCESS= .0000E+00 OUTFLOW= .8541E+02 BASIN STORAGE= .2584E-01 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	2.03	1.40	5.00	428.15	770.00	.67

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HYDROGRAPH AT STATION R_9.10
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)	163.	43.	41.	41.
+ 428.	12.83	(INCHES)	.636	.673	.673	.673
		(AC-FT)	81.	85.	85.	85.

CUMULATIVE AREA = 2.38 SQ MI

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INTERPOLATED HYDROGRAPH AT R_9.10

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DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	1.	1		1230	151	365.	1		1845	226	18.
1		0005	2	0.	1		0620	77	1.	1		1235	152	407.	1		1850	227	17.
1		0010	3	0.	1		0625	78	1.	1		1240	153	436.	1		1855	228	16.
1		0015	4	0.	1		0630	79	1.	1		1245	154	451.	1		1900	229	16.
1		0020	5	0.	1		0635	80	1.	1		1250	155	452.	1		1905	230	15.
1		0025	6	0.	1		0640	81	1.	1		1255	156	442.	1		1910	231	14.
1		0030	7	0.	1		0645	82	1.	1		1300	157	427.	1		1915	232	14.
1		0035	8	0.	1		0650	83	1.	1		1305	158	411.	1		1920	233	13.
1		0040	9	0.	1		0655	84	1.	1		1310	159	394.	1		1925	234	13.
1		0045	10	0.	1		0700	85	1.	1		1315	160	377.	1		1930	235	12.
1		0050	11	0.	1		0705	86	1.	1		1320	161	360.	1		1935	236	12.
1		0055	12	0.	1		0710	87	1.	1		1325	162	344.	1		1940	237	11.
1		0100	13	0.	1		0715	88	1.	1		1330	163	328.	1		1945	238	11.
1		0105	14	0.	1		0720	89	1.	1		1335	164	313.	1		1950	239	10.
1		0110	15	0.	1		0725	90	1.	1		1340	165	299.	1		1955	240	10.
1		0115	16	0.	1		0730	91	1.	1		1345	166	285.	1		2000	241	9.
1		0120	17	0.	1		0735	92	1.	1		1350	167	272.	1		2005	242	9.
1		0125	18	0.	1		0740	93	1.	1		1355	168	260.	1		2010	243	9.
1		0130	19	0.	1		0745	94	1.	1		1400	169	248.	1		2015	244	8.
1		0135	20	0.	1		0750	95	1.	1		1405	170	236.	1		2020	245	8.
1		0140	21	0.	1		0755	96	1.	1		1410	171	226.	1		2025	246	8.
1		0145	22	0.	1		0800	97	1.	1		1415	172	215.	1		2030	247	7.

1	0150	23	0.	*	1	0805	98	1.	*	1	1420	173	205.	*	1	2035	248	7.
1	0155	24	0.	*	1	0810	99	1.	*	1	1425	174	196.	*	1	2040	249	7.
1	0200	25	0.	*	1	0815	100	1.	*	1	1430	175	187.	*	1	2045	250	6.
1	0205	26	0.	*	1	0820	101	1.	*	1	1435	176	178.	*	1	2050	251	6.
1	0210	27	0.	*	1	0825	102	1.	*	1	1440	177	170.	*	1	2055	252	6.
1	0215	28	0.	*	1	0830	103	1.	*	1	1445	178	162.	*	1	2100	253	6.
1	0220	29	0.	*	1	0835	104	1.	*	1	1450	179	155.	*	1	2105	254	5.
1	0225	30	0.	*	1	0840	105	1.	*	1	1455	180	148.	*	1	2110	255	5.
1	0230	31	0.	*	1	0845	106	1.	*	1	1500	181	141.	*	1	2115	256	5.
1	0235	32	0.	*	1	0850	107	1.	*	1	1505	182	135.	*	1	2120	257	5.
1	0240	33	0.	*	1	0855	108	1.	*	1	1510	183	129.	*	1	2125	258	5.
1	0245	34	0.	*	1	0900	109	1.	*	1	1515	184	123.	*	1	2130	259	4.
1	0250	35	0.	*	1	0905	110	1.	*	1	1520	185	117.	*	1	2135	260	4.
1	0255	36	0.	*	1	0910	111	1.	*	1	1525	186	112.	*	1	2140	261	3.
1	0300	37	0.	*	1	0915	112	1.	*	1	1530	187	107.	*	1	2145	262	3.
1	0305	38	0.	*	1	0920	113	1.	*	1	1535	188	102.	*	1	2150	263	2.
1	0310	39	1.	*	1	0925	114	1.	*	1	1540	189	97.	*	1	2155	264	2.
1	0315	40	1.	*	1	0930	115	1.	*	1	1545	190	93.	*	1	2200	265	1.
1	0320	41	1.	*	1	0935	116	1.	*	1	1550	191	89.	*	1	2205	266	1.
1	0325	42	1.	*	1	0940	117	1.	*	1	1555	192	84.	*	1	2210	267	1.
1	0330	43	1.	*	1	0945	118	1.	*	1	1600	193	81.	*	1	2215	268	1.
1	0335	44	1.	*	1	0950	119	1.	*	1	1605	194	77.	*	1	2220	269	1.
1	0340	45	1.	*	1	0955	120	1.	*	1	1610	195	74.	*	1	2225	270	1.
1	0345	46	1.	*	1	1000	121	1.	*	1	1615	196	70.	*	1	2230	271	1.
1	0350	47	1.	*	1	1005	122	1.	*	1	1620	197	67.	*	1	2235	272	1.
1	0355	48	1.	*	1	1010	123	1.	*	1	1625	198	64.	*	1	2240	273	1.
1	0400	49	1.	*	1	1015	124	1.	*	1	1630	199	61.	*	1	2245	274	1.
1	0405	50	1.	*	1	1020	125	2.	*	1	1635	200	58.	*	1	2250	275	1.
1	0410	51	1.	*	1	1025	126	2.	*	1	1640	201	56.	*	1	2255	276	1.
1	0415	52	1.	*	1	1030	127	2.	*	1	1645	202	53.	*	1	2300	277	1.
1	0420	53	1.	*	1	1035	128	2.	*	1	1650	203	51.	*	1	2305	278	1.
1	0425	54	1.	*	1	1040	129	2.	*	1	1655	204	49.	*	1	2310	279	1.
1	0430	55	1.	*	1	1045	130	2.	*	1	1700	205	46.	*	1	2315	280	1.
1	0435	56	1.	*	1	1050	131	2.	*	1	1705	206	44.	*	1	2320	281	1.
1	0440	57	1.	*	1	1055	132	2.	*	1	1710	207	42.	*	1	2325	282	1.
1	0445	58	1.	*	1	1100	133	2.	*	1	1715	208	40.	*	1	2330	283	1.
1	0450	59	1.	*	1	1105	134	2.	*	1	1720	209	39.	*	1	2335	284	1.
1	0455	60	1.	*	1	1110	135	2.	*	1	1725	210	37.	*	1	2340	285	1.
1	0500	61	1.	*	1	1115	136	2.	*	1	1730	211	35.	*	1	2345	286	1.
1	0505	62	1.	*	1	1120	137	2.	*	1	1735	212	34.	*	1	2350	287	1.
1	0510	63	1.	*	1	1125	138	2.	*	1	1740	213	32.	*	1	2355	288	1.
1	0515	64	1.	*	1	1130	139	2.	*	1	1745	214	31.	*	2	0000	289	1.
1	0520	65	1.	*	1	1135	140	2.	*	1	1750	215	29.	*	2	0005	290	1.
1	0525	66	1.	*	1	1140	141	2.	*	1	1755	216	28.	*	2	0010	291	1.
1	0530	67	1.	*	1	1145	142	3.	*	1	1800	217	27.	*	2	0015	292	1.
1	0535	68	1.	*	1	1150	143	4.	*	1	1805	218	26.	*	2	0020	293	1.
1	0540	69	1.	*	1	1155	144	9.	*	1	1810	219	25.	*	2	0025	294	1.
1	0545	70	1.	*	1	1200	145	28.	*	1	1815	220	23.	*	2	0030	295	1.
1	0550	71	1.	*	1	1205	146	66.	*	1	1820	221	22.	*	2	0035	296	1.
1	0555	72	1.	*	1	1210	147	122.	*	1	1825	222	21.	*	2	0040	297	1.
1	0600	73	1.	*	1	1215	148	184.	*	1	1830	223	21.	*	2	0045	298	1.
1	0605	74	1.	*	1	1220	149	249.	*	1	1835	224	20.	*	2	0050	299	1.
1	0610	75	1.	*	1	1225	150	310.	*	1	1840	225	19.	*	2	0055	300	1.
				*					*					*				

****

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 452.	12.83		173.	46.	44.	44.
		(INCHES)	.674	.713	.713	.713
		(AC-FT)	86.	91.	91.	91.

CUMULATIVE AREA = 2.38 SQ MI

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          ***************
          *             *
103 KK    *     L9.1d   *      Split Subbasin East of 27.25 Road
          *             *
          ***************

            SUBBASIN RUNOFF DATA

104 BA        SUBBASIN CHARACTERISTICS
                    TAREA          .34  SUBBASIN AREA

105 LG        GREEN AND AMPT LOSS RATE
                    STRTL          .10  STARTING LOSS
                      DTH          .12  MOISTURE DEFICIT
                     PSIF          .44  WETTING FRONT SUCTION
                    XKSAT          .02  HYDRAULIC CONDUCTIVITY
                    RTIMP        82.00  PERCENT IMPERVIOUS AREA

106 UC        SNYDER UNITGRAPH
                      TP           .17  LAG
                      CP           .69  PEAKING COEFFICIENT

              SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                ***

                                        UNIT HYDROGRAPH PARAMETERS
                                  CLARK   TC=    .23 HR,       R=    .10 HR
                                SNYDER   TP=    .17 HR,      CP=    .69

                                          UNIT HYDROGRAPH
                                       8 END-OF-PERIOD ORDINATES
                234.      702.      826.      507.      213.       89.       38.       16.

      ***              ***              ***              ***              ***

                     HYDROGRAPH AT STATION    L9.1d
                   TRANSPOSITION AREA        .0 SQ MI

    TOTAL RAINFALL =    1.99, TOTAL LOSS =     .09, TOTAL EXCESS =    1.90

PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
```

PEAK FLOW (CFS)	TIME (HR)
409.	12.08

	6-HR	24-HR	72-HR	24.92-HR
(CFS)	50.	17.	17.	17.
(INCHES)	1.378	1.886	1.888	1.888
(AC-FT)	25.	34.	34.	34.

CUMULATIVE AREA = .34 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION L9.1d
TRANSPOSITION AREA 14.0 SQ MI

TOTAL RAINFALL = 1.95, TOTAL LOSS = .09, TOTAL EXCESS = 1.86

PEAK FLOW (CFS)	TIME (HR)
+ 401.	12.08

MAXIMUM AVERAGE FLOW

	6-HR	24-HR	72-HR	24.92-HR
(CFS)	49.	17.	16.	16.
(INCHES)	1.350	1.847	1.848	1.848
(AC-FT)	24.	34.	34.	34.

CUMULATIVE AREA = .34 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION L9.1d
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.93, TOTAL LOSS = .09, TOTAL EXCESS = 1.84

PEAK FLOW (CFS)	TIME (HR)
+ 397.	12.08

MAXIMUM AVERAGE FLOW

	6-HR	24-HR	72-HR	24.92-HR
(CFS)	49.	17.	16.	16.
(INCHES)	1.336	1.827	1.828	1.828
(AC-FT)	24.	33.	33.	33.

CUMULATIVE AREA = .34 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION L9.1d
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.91, TOTAL LOSS = .09, TOTAL EXCESS = 1.82

PEAK FLOW (CFS)	TIME (HR)
+ 393.	12.08

MAXIMUM AVERAGE FLOW

	6-HR	24-HR	72-HR	24.92-HR
(CFS)	48.	17.	16.	16.
(INCHES)	1.321	1.807	1.809	1.809
(AC-FT)	24.	33.	33.	33.

CUMULATIVE AREA = .34 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION L9.1d
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.90, TOTAL LOSS = .09, TOTAL EXCESS = 1.80

PEAK FLOW (CFS)	TIME (HR)
+ 390.	12.08

MAXIMUM AVERAGE FLOW

	6-HR	24-HR	72-HR	24.92-HR
(CFS)	48.	16.	16.	16.
(INCHES)	1.312	1.793	1.795	1.795
(AC-FT)	24.	33.	33.	33.

CUMULATIVE AREA = .34 SQ MI

***

1	0200	25	4.	*	1	0815	100	9.	*	1	1430	175	14.	*	1	2045	250	5.
1	0205	26	4.	*	1	0820	101	9.	*	1	1435	176	14.	*	1	2050	251	5.
1	0210	27	4.	*	1	0825	102	9.	*	1	1440	177	14.	*	1	2055	252	5.
1	0215	28	4.	*	1	0830	103	10.	*	1	1445	178	14.	*	1	2100	253	5.
1	0220	29	4.	*	1	0835	104	10.	*	1	1450	179	13.	*	1	2105	254	5.
1	0225	30	4.	*	1	0840	105	11.	*	1	1455	180	13.	*	1	2110	255	5.
1	0230	31	4.	*	1	0845	106	11.	*	1	1500	181	13.	*	1	2115	256	5.
1	0235	32	4.	*	1	0850	107	11.	*	1	1505	182	13.	*	1	2120	257	5.
1	0240	33	4.	*	1	0855	108	12.	*	1	1510	183	12.	*	1	2125	258	5.
1	0245	34	4.	*	1	0900	109	12.	*	1	1515	184	12.	*	1	2130	259	5.
1	0250	35	4.	*	1	0905	110	12.	*	1	1520	185	12.	*	1	2135	260	5.
1	0255	36	4.	*	1	0910	111	13.	*	1	1525	186	12.	*	1	2140	261	5.
1	0300	37	4.	*	1	0915	112	13.	*	1	1530	187	11.	*	1	2145	262	5.
1	0305	38	5.	*	1	0920	113	13.	*	1	1535	188	11.	*	1	2150	263	5.
1	0310	39	5.	*	1	0925	114	13.	*	1	1540	189	11.	*	1	2155	264	5.
1	0315	40	5.	*	1	0930	115	13.	*	1	1545	190	11.	*	1	2200	265	4.
1	0320	41	5.	*	1	0935	116	13.	*	1	1550	191	10.	*	1	2205	266	4.
1	0325	42	5.	*	1	0940	117	13.	*	1	1555	192	10.	*	1	2210	267	4.
1	0330	43	5.	*	1	0945	118	13.	*	1	1600	193	10.	*	1	2215	268	4.
1	0335	44	5.	*	1	0950	119	14.	*	1	1605	194	10.	*	1	2220	269	4.
1	0340	45	5.	*	1	0955	120	14.	*	1	1610	195	9.	*	1	2225	270	4.
1	0345	46	5.	*	1	1000	121	15.	*	1	1615	196	9.	*	1	2230	271	4.
1	0350	47	5.	*	1	1005	122	15.	*	1	1620	197	9.	*	1	2235	272	4.
1	0355	48	5.	*	1	1010	123	16.	*	1	1625	198	9.	*	1	2240	273	4.
1	0400	49	5.	*	1	1015	124	17.	*	1	1630	199	9.	*	1	2245	274	4.
1	0405	50	5.	*	1	1020	125	18.	*	1	1635	200	9.	*	1	2250	275	4.
1	0410	51	5.	*	1	1025	126	19.	*	1	1640	201	9.	*	1	2255	276	4.
1	0415	52	5.	*	1	1030	127	19.	*	1	1645	202	9.	*	1	2300	277	4.
1	0420	53	5.	*	1	1035	128	20.	*	1	1650	203	8.	*	1	2305	278	4.
1	0425	54	5.	*	1	1040	129	21.	*	1	1655	204	8.	*	1	2310	279	4.
1	0430	55	5.	*	1	1045	130	22.	*	1	1700	205	8.	*	1	2315	280	4.
1	0435	56	5.	*	1	1050	131	24.	*	1	1705	206	8.	*	1	2320	281	4.
1	0440	57	5.	*	1	1055	132	25.	*	1	1710	207	8.	*	1	2325	282	4.
1	0445	58	5.	*	1	1100	133	26.	*	1	1715	208	8.	*	1	2330	283	4.
1	0450	59	5.	*	1	1105	134	28.	*	1	1720	209	8.	*	1	2335	284	4.
1	0455	60	5.	*	1	1110	135	30.	*	1	1725	210	8.	*	1	2340	285	4.
1	0500	61	5.	*	1	1115	136	32.	*	1	1730	211	8.	*	1	2345	286	4.
1	0505	62	6.	*	1	1120	137	35.	*	1	1735	212	8.	*	1	2350	287	4.
1	0510	63	6.	*	1	1125	138	39.	*	1	1740	213	8.	*	1	2355	288	4.
1	0515	64	6.	*	1	1130	139	42.	*	1	1745	214	7.	*	2	0000	289	4.
1	0520	65	6.	*	1	1135	140	50.	*	1	1750	215	7.	*	2	0005	290	4.
1	0525	66	6.	*	1	1140	141	73.	*	1	1755	216	7.	*	2	0010	291	3.
1	0530	67	6.	*	1	1145	142	121.	*	1	1800	217	7.	*	2	0015	292	1.
1	0535	68	6.	*	1	1150	143	197.	*	1	1805	218	7.	*	2	0020	293	1.
1	0540	69	6.	*	1	1155	144	299.	*	1	1810	219	7.	*	2	0025	294	0.
1	0545	70	6.	*	1	1200	145	394.	*	1	1815	220	7.	*	2	0030	295	0.
1	0550	71	6.	*	1	1205	146	405.	*	1	1820	221	7.	*	2	0035	296	0.
1	0555	72	6.	*	1	1210	147	312.	*	1	1825	222	7.	*	2	0040	297	0.
1	0600	73	6.	*	1	1215	148	195.	*	1	1830	223	7.	*	2	0045	298	0.
1	0605	74	6.	*	1	1220	149	121.	*	1	1835	224	7.	*	2	0050	299	0.
1	0610	75	6.	*	1	1225	150	85.	*	1	1840	225	7.	*	2	0055	300	0.

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
405.	12.08		50.	17.	16.	16.
		(INCHES)	1.364	1.867	1.869	1.869
		(AC-FT)	25.	34.	34.	34.

CUMULATIVE AREA = .34 SQ MI

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107 KK R_L9T Route Subbasin L9.1 Hydrograph Through L9

HYDROGRAPH ROUTING DATA

108 RK KINEMATIC WAVE STREAM ROUTING

L	4100.	CHANNEL LENGTH
S	.0110	SLOPE
N	.030	CHANNEL ROUGHNESS COEFFICIENT
CA	.00	CONTRIBUTING AREA
SHAPE	TRAP	CHANNEL SHAPE
WD	5.00	BOTTOM WIDTH OR DIAMETER
Z	2.40	SIDE SLOPE
NDXMIN	2	MINIMUM NUMBER OF DX INTERVALS

***

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.86	1.38	2.04	1366.67	407.41	728.74	1.89	11.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3426E+02 EXCESS= .0000E+00 OUTFLOW= .3432E+02 BASIN STORAGE= .9387E-02 PERCENT ERROR= -.2

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.86	1.38	5.00	400.24	725.00	1.89

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HYDROGRAPH AT STATION R_L9T
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW

			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
400.	12.08		51.	17.	17.	17.
		(INCHES)	1.381	1.889	1.891	1.891
		(AC-FT)	25.	34.	34.	34.

CUMULATIVE AREA = .34 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.86	1.38	2.03	1366.67	397.23	727.41	1.85	11.40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3354E+02 EXCESS= .0000E+00 OUTFLOW= .3359E+02 BASIN STORAGE= .1045E-01 PERCENT ERROR= -.2

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.86	1.38	5.00	389.94	725.00	1.85
***	***	***	***	***		

HYDROGRAPH AT STATION R_L9T
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 390.	12.08		49.	17.	16.	16.
		(INCHES)	1.352	1.848	1.850	1.850
		(AC-FT)	25.	34.	34.	34.

CUMULATIVE AREA = .34 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM) .

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.86	1.38	2.12	1366.67	392.62	727.18	1.83	11.37

JNTINUITY SUMMARY (AC-FT) - INFLOW= .3319E+02 EXCESS= .0000E+00 OUTFLOW= .3324E+02 BASIN STORAGE= .8363E-02 PERCENT ERROR= -.2

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.86	1.38	5.00	387.51	725.00	1.83
***	***	***	***	***		

HYDROGRAPH AT STATION R_L9T
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 388.	12.08		49.	17.	16.	16.
		(INCHES)	1.339	1.829	1.831	1.831
		(AC-FT)	24.	33.	33.	33.

CUMULATIVE AREA = .34 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.86	1.38	2.11	1366.67	388.70	727.59	1.81	11.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3283E+02 EXCESS= .0000E+00 OUTFLOW= .3288E+02 BASIN STORAGE= .1038E-01 PERCENT ERROR= -.2

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.86	1.38	5.00	381.07	725.00	1.81
***	***	***	***	***		

HYDROGRAPH AT STATION R_L9T
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
381.	12.08		48.	17.	16.	16.
		(INCHES)	1.324	1.809	1.811	1.811
		(AC-FT)	24.	33.	33.	33.

CUMULATIVE AREA = .34 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.86	1.38	2.10	1366.67	386.51	728.14	1.80	11.31

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3258E+02 EXCESS= .0000E+00 OUTFLOW= .3263E+02 BASIN STORAGE= .7850E-02 PERCENT ERROR= -.2

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.86	1.38	5.00	379.30	725.00	1.80
***	***	***	***	***		

HYDROGRAPH AT STATION R_L9T
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	24.92-HR
379.	12.08	(CFS)	48.	16.	16.	16.
		(INCHES)	1.315	1.796	1.798	1.798
		(AC-FT)	24.	33.	33.	33.

CUMULATIVE AREA = .34 SQ MI

INTERPOLATEO HYDROGRAPH AT R_L9T

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	6.	1		1230	151	94.	1		1845	226	7.
1		0005	2	0.	1		0620	77	6.	1		1235	152	72.	1		1850	227	7.
1		0010	3	0.	1		0625	78	7.	1		1240	153	58.	1		1855	228	7.
1		0015	4	0.	1		0630	79	7.	1		1245	154	48.	1		1900	229	6.
1		0020	5	0.	1		0635	80	7.	1		1250	155	41.	1		1905	230	6.
1		0025	6	0.	1		0640	81	7.	1		1255	156	37.	1		1910	231	6.
1		0030	7	1.	1		0645	82	7.	1		1300	157	34.	1		1915	232	6.
1		0035	8	2.	1		0650	83	7.	1		1305	158	32.	1		1920	233	6.
1		0040	9	3.	1		0655	84	7.	1		1310	159	30.	1		1925	234	6.
1		0045	10	4.	1		0700	85	7.	1		1315	160	28.	1		1930	235	6.
1		0050	11	4.	1		0705	86	7.	1		1320	161	27.	1		1935	236	6.
1		0055	12	4.	1		0710	87	7.	1		1325	162	25.	1		1940	237	6.
1		0100	13	4.	1		0715	88	7.	1		1330	163	24.	1		1945	238	6.
1		0105	14	4.	1		0720	89	8.	1		1335	164	23.	1		1950	239	6.
1		0110	15	4.	1		0725	90	8.	1		1340	165	22.	1		1955	240	5.
1		0115	16	4.	1		0730	91	8.	1		1345	166	21.	1		2000	241	5.
1		0120	17	4.	1		0735	92	8.	1		1350	167	20.	1		2005	242	5.
1		0125	18	4.	1		0740	93	8.	1		1355	168	19.	1		2010	243	5.
1		0130	19	4.	1		0745	94	8.	1		1400	169	18.	1		2015	244	5.
1		0135	20	4.	1		0750	95	8.	1		1405	170	18.	1		2020	245	5.
1		0140	21	4.	1		0755	96	8.	1		1410	171	17.	1		2025	246	5.
1		0145	22	4.	1		0800	97	8.	1		1415	172	16.	1		2030	247	5.
1		0150	23	4.	1		0805	98	8.	1		1420	173	16.	1		2035	248	5.
1		0155	24	4.	1		0810	99	8.	1		1425	174	15.	1		2040	249	5.
1		0200	25	4.	1		0815	100	8.	1		1430	175	15.	1		2045	250	5.
1		0205	26	4.	1		0820	101	9.	1		1435	176	15.	1		2050	251	5.
1		0210	27	4.	1		0825	102	9.	1		1440	177	14.	1		2055	252	5.
1		0215	28	4.	1		0830	103	9.	1		1445	178	14.	1		2100	253	5.
1		0220	29	4.	1		0835	104	9.	1		1450	179	14.	1		2105	254	5.
1		0225	30	4.	1		0840	105	10.	1		1455	180	14.	1		2110	255	5.
1		0230	31	4.	1		0845	106	10.	1		1500	181	13.	1		2115	256	5.
1		0235	32	4.	1		0850	107	10.	1		1505	182	13.	1		2120	257	5.
1		0240	33	4.	1		0855	108	11.	1		1510	183	13.	1		2125	258	5.
1		0245	34	4.	1		0900	109	11.	1		1515	184	13.	1		2130	259	5.
1		0250	35	4.	1		0905	110	12.	1		1520	185	12.	1		2135	260	5.
1		0255	36	4.	1		0910	111	12.	1		1525	186	12.	1		2140	261	5.
1		0300	37	4.	1		0915	112	12.	1		1530	187	12.	1		2145	262	5.
1		0305	38	4.	1		0920	113	12.	1		1535	188	12.	1		2150	263	5.
1		0310	39	4.	1		0925	114	13.	1		1540	189	11.	1		2155	264	5.
1		0315	40	4.	1		0930	115	13.	1		1545	190	11.	1		2200	265	5.
1		0320	41	5.	1		0935	116	13.	1		1550	191	11.	1		2205	266	5.
1		0325	42	5.	1		0940	117	13.	1		1555	192	11.	1		2210	267	5.
1		0330	43	5.	1		0945	118	13.	1		1600	193	10.	1		2215	268	4.
1		0335	44	5.	1		0950	119	13.	1		1605	194	10.	1		2220	269	4.
1		0340	45	5.	1		0955	120	13.	1		1610	195	10.	1		2225	270	4.
1		0345	46	5.	1		1000	121	14.	1		1615	196	10.	1		2230	271	4.
1		0350	47	5.	1		1005	122	14.	1		1620	197	9.	1		2235	272	4.
1		0355	48	5.	1		1010	123	15.	1		1625	198	9.	1		2240	273	4.
1		0400	49	5.	1		1015	124	16.	1		1630	199	9.	1		2245	274	4.
1		0405	50	5.	1		1020	125	16.	1		1635	200	9.	1		2250	275	4.
1		0410	51	5.	1		1025	126	17.	1		1640	201	9.	1		2255	276	4.
1		0415	52	5.	1		1030	127	18.	1		1645	202	9.	1		2300	277	4.
1		0420	53	5.	1		1035	128	19.	1		1650	203	9.	1		2305	278	4.
1		0425	54	5.	1		1040	129	19.	1		1655	204	9.	1		2310	279	4.
1		0430	55	5.	1		1045	130	20.	1		1700	205	9.	1		2315	280	4.
1		0435	56	5.	1		1050	131	21.	1		1705	206	8.	1		2320	281	4.
1		0440	57	5.	1		1055	132	23.	1		1710	207	8.	1		2325	282	4.
1		0445	58	5.	1		1100	133	24.	1		1715	208	8.	1		2330	283	4.
1		0450	59	5.	1		1105	134	25.	1		1720	209	8.	1		2335	284	4.
1		0455	60	5.	1		1110	135	27.	1		1725	210	8.	1		2340	285	4.
1		0500	61	5.	1		1115	136	29.	1		1730	211	8.	1		2345	286	4.
1		0505	62	5.	1		1120	137	31.	1		1735	212	8.	1		2350	287	4.
1		0510	63	5.	1		1125	138	34.	1		1740	213	8.	1		2355	288	4.
1		0515	64	6.	1		1130	139	37.	1		1745	214	8.	2		0000	289	4.
1		0520	65	6.	1		1135	140	40.	1		1750	215	8.	2		0005	290	4.
1		0525	66	6.	1		1140	141	47.	1		1755	216	8.	2		0010	291	4.
1		0530	67	6.	1		1145	142	66.	1		1800	217	7.	2		0015	292	4.
1		0535	68	6.	1		1150	143	114.	1		1805	218	7.	2		0020	293	3.
1		0540	69	6.	1		1155	144	201.	1		1810	219	7.	2		0025	294	3.
1		0545	70	6.	1		1200	145	311.	1		1815	220	7.	2		0030	295	2.
1		0550	71	6.	1		1205	146	395.	1		1820	221	7.	2		0035	296	1.
1		0555	72	6.	1		1210	147	387.	1		1825	222	7.	2		0040	297	1.
1		0600	73	6.	1		1215	148	296.	1		1830	223	7.	2		0045	298	1.
1		0605	74	6.	1		1220	149	198.	1		1835	224	7.	2		0050	299	1.

```
   1     0610   75        6.   *    1     1225  150       132.   *    1     1840  225         7.   *    2     0055  300         0.
                                 *                                *                                *
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PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)				
+ 395.	12.08		50.	17.	16.	16.
		(INCHES)	1.367	1.869	1.871	1.871
		(AC-FT)	25.	34.	34.	34.

CUMULATIVE AREA = .34 SQ MI

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109 KK      **************
            *            *
            *     C_9.1  *       Combine basin 9.1u and 9.1d
            *            *
            **************
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110 HC          HYDROGRAPH COMBINATION
                ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                          ***
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*** *** *** *** ***

HYDROGRAPH AT STATION C_9.1
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)				
+ 515.	12.17		222.	64.	62.	62.
		(INCHES)	.760	.876	.877	.877
		(AC-FT)	110.	127.	127.	127.

CUMULATIVE AREA = 2.72 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_9.1
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
		(CFS)				
+ 505.	12.17		215.	62.	60.	60.
		(INCHES)	.736	.849	.850	.850
		(AC-FT)	107.	123.	123.	123.

CUMULATIVE AREA = 2.72 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_9.1
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)				
+ 499.	12.17		212.	61.	59.	59.
		(INCHES)	.724	.836	.836	.836
		(AC-FT)	105.	121.	121.	121.

CUMULATIVE AREA = 2.72 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_9.1
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)				
+ 492.	12.17		208.	60.	58.	58.
		(INCHES)	.711	.822	.823	.823
		(AC-FT)	103.	119.	119.	119.

CUMULATIVE AREA = 2.72 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_9.1
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)				
485.	12.17		206.	59.	57.	57.
		(INCHES)	.703	.813	.813	.813
		(AC-FT)	102.	118.	118.	118.

CUMULATIVE AREA = 2.72 SQ MI

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INTERPOLATED HYDROGRAPH AT C_9.1

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	7.	1		1230	151	459.	1		1845	226	25.
1		0005	2	0.	1		0620	77	7.	1		1235	152	479.	1		1850	227	24.
1		0010	3	0.	1		0625	78	7.	1		1240	153	494.	1		1855	228	23.
1		0015	4	0.	1		0630	79	7.	1		1245	154	498.	1		1900	229	22.
1		0020	5	0.	1		0635	80	8.	1		1250	155	493.	1		1905	230	21.
1		0025	6	0.	1		0640	81	8.	1		1255	156	479.	1		1910	231	21.
1		0030	7	1.	1		0645	82	8.	1		1300	157	461.	1		1915	232	20.
1		0035	8	2.	1		0650	83	8.	1		1305	158	442.	1		1920	233	19.
1		0040	9	3.	1		0655	84	8.	1		1310	159	423.	1		1925	234	19.
1		0045	10	4.	1		0700	85	8.	1		1315	160	405.	1		1930	235	18.
1		0050	11	4.	1		0705	86	8.	1		1320	161	386.	1		1935	236	17.
1		0055	12	4.	1		0710	87	8.	1		1325	162	369.	1		1940	237	17.
1		0100	13	4.	1		0715	88	8.	1		1330	163	352.	1		1945	238	16.
1		0105	14	4.	1		0720	89	8.	1		1335	164	336.	1		1950	239	16.
1		0110	15	4.	1		0725	90	8.	1		1340	165	321.	1		1955	240	15.
1		0115	16	4.	1		0730	91	9.	1		1345	166	306.	1		2000	241	15.
1		0120	17	4.	1		0735	92	9.	1		1350	167	292.	1		2005	242	14.
1		0125	18	4.	1		0740	93	9.	1		1355	168	279.	1		2010	243	14.
1		0130	19	4.	1		0745	94	9.	1		1400	169	266.	1		2015	244	13.
1		0135	20	4.	1		0750	95	9.	1		1405	170	254.	1		2020	245	13.
1		0140	21	4.	1		0755	96	9.	1		1410	171	242.	1		2025	246	12.
1		0145	22	4.	1		0800	97	9.	1		1415	172	231.	1		2030	247	12.
1		0150	23	4.	1		0805	98	9.	1		1420	173	221.	1		2035	248	12.
1		0155	24	4.	1		0810	99	9.	1		1425	174	211.	1		2040	249	12.
1		0200	25	4.	1		0815	100	9.	1		1430	175	202.	1		2045	250	11.
1		0205	26	4.	1		0820	101	10.	1		1435	176	193.	1		2050	251	11.
1		0210	27	4.	1		0825	102	10.	1		1440	177	184.	1		2055	252	11.
1		0215	28	4.	1		0830	103	10.	1		1445	178	176.	1		2100	253	10.
1		0220	29	5.	1		0835	104	10.	1		1450	179	169.	1		2105	254	10.
1		0225	30	5.	1		0840	105	11.	1		1455	180	161.	1		2110	255	10.
1		0230	31	5.	1		0845	106	11.	1		1500	181	154.	1		2115	256	10.
1		0235	32	5.	1		0850	107	11.	1		1505	182	148.	1		2120	257	10.
1		0240	33	5.	1		0855	108	12.	1		1510	183	141.	1		2125	258	9.
1		0245	34	5.	1		0900	109	12.	1		1515	184	135.	1		2130	259	9.
1		0250	35	5.	1		0905	110	13.	1		1520	185	129.	1		2135	260	9.
1		0255	36	5.	1		0910	111	13.	1		1525	186	124.	1		2140	261	8.
1		0300	37	5.	1		0915	112	13.	1		1530	187	118.	1		2145	262	7.
1		0305	38	5.	1		0920	113	14.	1		1535	188	113.	1		2150	263	7.
1		0310	39	5.	1		0925	114	14.	1		1540	189	108.	1		2155	264	6.
1		0315	40	5.	1		0930	115	14.	1		1545	190	104.	1		2200	265	6.
1		0320	41	5.	1		0935	116	14.	1		1550	191	99.	1		2205	266	6.
1		0325	42	5.	1		0940	117	14.	1		1555	192	95.	1		2210	267	6.
1		0330	43	5.	1		0945	118	14.	1		1600	193	91.	1		2215	268	6.
1		0335	44	5.	1		0950	119	14.	1		1605	194	87.	1		2220	269	5.
1		0340	45	5.	1		0955	120	15.	1		1610	195	83.	1		2225	270	5.
1		0345	46	5.	1		1000	121	15.	1		1615	196	80.	1		2230	271	5.
1		0350	47	5.	1		1005	122	16.	1		1620	197	76.	1		2235	272	5.
1		0355	48	5.	1		1010	123	16.	1		1625	198	73.	1		2240	273	5.
1		0400	49	5.	1		1015	124	17.	1		1630	199	70.	1		2245	274	5.
1		0405	50	5.	1		1020	125	18.	1		1635	200	67.	1		2250	275	5.
1		0410	51	5.	1		1025	126	18.	1		1640	201	64.	1		2255	276	5.
1		0415	52	5.	1		1030	127	19.	1		1645	202	62.	1		2300	277	5.
1		0420	53	6.	1		1035	128	20.	1		1650	203	59.	1		2305	278	5.
1		0425	54	6.	1		1040	129	21.	1		1655	204	57.	1		2310	279	5.
1		0430	55	6.	1		1045	130	22.	1		1700	205	55.	1		2315	280	5.
1		0435	56	6.	1		1050	131	23.	1		1705	206	53.	1		2320	281	5.
1		0440	57	6.	1		1055	132	24.	1		1710	207	51.	1		2325	282	5.
1		0445	58	6.	1		1100	133	26.	1		1715	208	49.	1		2330	283	5.
1		0450	59	6.	1		1105	134	27.	1		1720	209	47.	1		2335	284	5.
1		0455	60	6.	1		1110	135	29.	1		1725	210	45.	1		2340	285	5.
1		0500	61	6.	1		1115	136	30.	1		1730	211	43.	1		2345	286	5.
1		0505	62	6.	1		1120	137	33.	1		1735	212	42.	1		2350	287	5.
1		0510	63	6.	1		1125	138	36.	1		1740	213	40.	1		2355	288	5.
1		0515	64	6.	1		1130	139	39.	1		1745	214	38.	2		0000	289	5.
1		0520	65	6.	1		1135	140	42.	1		1750	215	37.	2		0005	290	5.
1		0525	66	6.	1		1140	141	49.	1		1755	216	36.	2		0010	291	5.
1		0530	67	6.	1		1145	142	67.	1		1800	217	34.	2		0015	292	5.
1		0535	68	7.	1		1150	143	117.	1		1805	218	33.	2		0020	293	4.
1		0540	69	7.	1		1155	144	209.	1		1810	219	32.	2		0025	294	3.
1		0545	70	7.	1		1200	145	337.	1		1815	220	31.	2		0030	295	3.
1		0550	71	7.	1		1205	146	458.	1		1820	221	29.	2		0035	296	2.
1		0555	72	7.	1		1210	147	507.	1		1825	222	28.	2		0040	297	2.
1		0600	73	7.	1		1215	148	478.	1		1830	223	27.	2		0045	298	1.
1		0605	74	7.	1		1220	149	446.	1		1835	224	26.	2		0050	299	1.
1		0610	75	7.	1		1225	150	441.	1		1840	225	25.	2		0055	300	1.

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
507.	12.17		217.	63.	60.	60.
		(INCHES)	.741	.855	.856	.856
		(AC-FT)	108.	124.	124.	124.

CUMULATIVE AREA = 2.72 SQ MI

111 KK R_L9.1 Detention Pond L9.1

HYDROGRAPH ROUTING DATA

112 RS STORAGE ROUTING

NSTPS	1	NUMBER OF SUBREACHES
ITYP	STOR	TYPE OF INITIAL CONDITION
RSVRIC	.00	INITIAL CONDITION
X	.00	WORKING R AND D COEFFICIENT

113 SV STORAGE .0 6.3 12.9 19.8 26.9 34.2 41.7 49.5 57.5 65.8

14 SQ	DISCHARGE	0.	0.	0.	16.	44.	81.	130.	221.	266.	285.
115 SE	ELEVATION	4770.00	4772.00	4773.00	4774.00	4775.00	4776.00	4777.00	4778.00	4779.00	4780.00

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HYDROGRAPH AT STATION R_L9.1
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME
(CFS)	(HR)
263.	14.08

	MAXIMUM AVERAGE FLOW			
	6-HR	24-HR	72-HR	24.92-HR
(CFS)	176.	54.	52.	52.
(INCHES)	.603	.743	.743	.743
(AC-FT)	87.	108.	108.	108.

PEAK STORAGE	TIME
(AC-FT)	(HR)
57.	14.08

	MAXIMUM AVERAGE STORAGE			
	6-HR	24-HR	72-HR	24.92-HR
	46.	20.	19.	19.

PEAK STAGE	TIME
(FEET)	(HR)
4778.93	14.08

	MAXIMUM AVERAGE STAGE			
	6-HR	24-HR	72-HR	24.92-HR
	4777.53	4773.69	4773.55	4773.55

CUMULATIVE AREA = 2.72 SQ MI

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HYDROGRAPH AT STATION R_L9.1
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME
(CFS)	(HR)
255.	14.08

	MAXIMUM AVERAGE FLOW			
	6-HR	24-HR	72-HR	24.92-HR
(CFS)	170.	52.	50.	50.
(INCHES)	.580	.717	.717	.717
(AC-FT)	84.	104.	104.	104.

PEAK STORAGE	TIME
(AC-FT)	(HR)
56.	14.08

	MAXIMUM AVERAGE STORAGE			
	6-HR	24-HR	72-HR	24.92-HR
	45.	20.	19.	19.

PEAK STAGE	TIME
(FEET)	(HR)
4778.75	14.08

	MAXIMUM AVERAGE STAGE			
	6-HR	24-HR	72-HR	24.92-HR
	4777.41	4773.64	4773.51	4773.51

CUMULATIVE AREA = 2.72 SQ MI

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HYDROGRAPH AT STATION R_L9.1
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME
(CFS)	(HR)
251.	14.08

	MAXIMUM AVERAGE FLOW			
	6-HR	24-HR	72-HR	24.92-HR
(CFS)	166.	51.	50.	50.
(INCHES)	.568	.703	.703	.703
(AC-FT)	82.	102.	102.	102.

PEAK STORAGE	TIME
(AC-FT)	(HR)
55.	14.08

	MAXIMUM AVERAGE STORAGE			
	6-HR	24-HR	72-HR	24.92-HR
	45.	20.	19.	19.

PEAK STAGE	TIME
(FEET)	(HR)
4778.67	14.08

	MAXIMUM AVERAGE STAGE			
	6-HR	24-HR	72-HR	24.92-HR
	4777.35	4773.62	4773.48	4773.48

CUMULATIVE AREA = 2.72 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R_L9.1
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME
(CFS)	(HR)
247.	14.08

	MAXIMUM AVERAGE FLOW			
	6-HR	24-HR	72-HR	24.92-HR
(CFS)	163.	50.	49.	49.
(INCHES)	.557	.690	.690	.690
(AC-FT)	81.	100.	100.	100.

PEAK STORAGE	TIME
(AC-FT)	(HR)
54.	14.08

	MAXIMUM AVERAGE STORAGE			
	6-HR	24-HR	72-HR	24.92-HR
	44.	19.	19.	19.

PEAK STAGE	TIME
(FEET)	(HR)
4778.58	14.08

	MAXIMUM AVERAGE STAGE			
	6-HR	24-HR	72-HR	24.92-HR
	4777.30	4773.59	4773.46	4773.46

CUMULATIVE AREA = 2.72 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R_L9.1
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
244.	14.08	(CFS)	161.	50.	48.	48.
		(INCHES)	.549	.681	.681	.681
		(AC-FT)	80.	99.	99.	99.

PEAK STORAGE (AC-FT)	TIME (HR)	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
54.	14.08	44.	19.	19.	19.

PEAK STAGE (FEET)	TIME (HR)	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
4778.52	14.08	4777.26	4773.58	4773.45	4773.45

CUMULATIVE AREA = 2.72 SQ MI

INTERPOLATED HYDROGRAPH AT R_L9.1

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	63.	1		1845	226	69.
1		0005	2	0.	1		0620	77	0.	1		1235	152	77.	1		1850	227	68.
1		0010	3	0.	1		0625	78	0.	1		1240	153	94.	1		1855	228	66.
1		0015	4	0.	1		0630	79	0.	1		1245	154	112.	1		1900	229	65.
1		0020	5	0.	1		0635	80	0.	1		1250	155	130.	1		1905	230	63.
1		0025	6	0.	1		0640	81	0.	1		1255	156	156.	1		1910	231	62.
1		0030	7	0.	1		0645	82	0.	1		1300	157	180.	1		1915	232	60.
1		0035	8	0.	1		0650	83	0.	1		1305	158	201.	1		1920	233	59.
1		0040	9	0.	1		0655	84	0.	1		1310	159	218.	1		1925	234	58.
1		0045	10	0.	1		0700	85	0.	1		1315	160	227.	1		1930	235	56.
1		0050	11	0.	1		0705	86	0.	1		1320	161	234.	1		1935	236	55.
1		0055	12	0.	1		0710	87	0.	1		1325	162	239.	1		1940	237	54.
1		0100	13	0.	1		0715	88	0.	1		1330	163	244.	1		1945	238	52.
1		0105	14	0.	1		0720	89	0.	1		1335	164	248.	1		1950	239	51.
1		0110	15	0.	1		0725	90	0.	1		1340	165	251.	1		1955	240	50.
1		0115	16	0.	1		0730	91	0.	1		1345	166	253.	1		2000	241	49.
1		0120	17	0.	1		0735	92	0.	1		1350	167	255.	1		2005	242	48.
1		0125	18	0.	1		0740	93	0.	1		1355	168	256.	1		2010	243	46.
1		0130	19	0.	1		0745	94	0.	1		1400	169	257.	1		2015	244	45.
1		0135	20	0.	1		0750	95	0.	1		1405	170	257.	1		2020	245	44.
1		0140	21	0.	1		0755	96	0.	1		1410	171	256.	1		2025	246	43.
1		0145	22	0.	1		0800	97	0.	1		1415	172	256.	1		2030	247	42.
1		0150	23	0.	1		0805	98	0.	1		1420	173	254.	1		2035	248	42.
1		0155	24	0.	1		0810	99	0.	1		1425	174	253.	1		2040	249	41.
1		0200	25	0.	1		0815	100	0.	1		1430	175	251.	1		2045	250	40.
1		0205	26	0.	1		0820	101	0.	1		1435	176	249.	1		2050	251	39.
1		0210	27	0.	1		0825	102	0.	1		1440	177	247.	1		2055	252	38.
1		0215	28	0.	1		0830	103	0.	1		1445	178	244.	1		2100	253	38.
1		0220	29	0.	1		0835	104	0.	1		1450	179	242.	1		2105	254	37.
1		0225	30	0.	1		0840	105	0.	1		1455	180	239.	1		2110	255	36.
1		0230	31	0.	1		0845	106	0.	1		1500	181	236.	1		2115	256	36.
1		0235	32	0.	1		0850	107	0.	1		1505	182	232.	1		2120	257	35.
1		0240	33	0.	1		0855	108	0.	1		1510	183	229.	1		2125	258	34.
1		0245	34	0.	1		0900	109	0.	1		1515	184	226.	1		2130	259	33.
1		0250	35	0.	1		0905	110	0.	1		1520	185	222.	1		2135	260	33.
1		0255	36	0.	1		0910	111	0.	1		1525	186	215.	1		2140	261	32.
1		0300	37	0.	1		0915	112	0.	1		1530	187	209.	1		2145	262	31.
1		0305	38	0.	1		0920	113	0.	1		1535	188	201.	1		2150	263	31.
1		0310	39	0.	1		0925	114	0.	1		1540	189	194.	1		2155	264	30.
1		0315	40	0.	1		0930	115	0.	1		1545	190	188.	1		2200	265	29.
1		0320	41	0.	1		0935	116	0.	1		1550	191	181.	1		2205	266	29.
1		0325	42	0.	1		0940	117	0.	1		1555	192	175.	1		2210	267	28.
1		0330	43	0.	1		0945	118	0.	1		1600	193	168.	1		2215	268	28.
1		0335	44	0.	1		0950	119	0.	1		1605	194	162.	1		2220	269	27.
1		0340	45	0.	1		0955	120	0.	1		1610	195	156.	1		2225	270	26.
1		0345	46	0.	1		1000	121	0.	1		1615	196	150.	1		2230	271	26.
1		0350	47	0.	1		1005	122	0.	1		1620	197	145.	1		2235	272	25.
1		0355	48	0.	1		1010	123	0.	1		1625	198	139.	1		2240	273	25.
1		0400	49	0.	1		1015	124	0.	1		1630	199	134.	1		2245	274	24.
1		0405	50	0.	1		1020	125	0.	1		1635	200	130.	1		2250	275	24.
1		0410	51	0.	1		1025	126	0.	1		1640	201	127.	1		2255	276	23.
1		0415	52	0.	1		1030	127	0.	1		1645	202	124.	1		2300	277	23.
1		0420	53	0.	1		1035	128	0.	1		1650	203	121.	1		2305	278	22.
1		0425	54	0.	1		1040	129	0.	1		1655	204	118.	1		2310	279	22.
1		0430	55	0.	1		1045	130	0.	1		1700	205	116.	1		2315	280	21.
1		0435	56	0.	1		1050	131	0.	1		1705	206	113.	1		2320	281	21.
1		0440	57	0.	1		1055	132	0.	1		1710	207	110.	1		2325	282	20.
1		0445	58	0.	1		1100	133	0.	1		1715	208	107.	1		2330	283	20.
1		0450	59	0.	1		1105	134	0.	1		1720	209	105.	1		2335	284	20.
1		0455	60	0.	1		1110	135	0.	1		1725	210	102.	1		2340	285	19.
1		0500	61	0.	1		1115	136	0.	1		1730	211	100.	1		2345	286	19.
1		0505	62	0.	1		1120	137	0.	1		1735	212	97.	1		2350	287	18.
1		0510	63	0.	1		1125	138	0.	1		1740	213	95.	1		2355	288	18.
1		0515	64	0.	1		1130	139	0.	1		1745	214	92.	2		0000	289	18.
1		0520	65	0.	1		1135	140	0.	1		1750	215	90.	2		0005	290	17.
1		0525	66	0.	1		1140	141	0.	1		1755	216	87.	2		0010	291	17.
1		0530	67	0.	1		1145	142	0.	1		1800	217	85.	2		0015	292	17.
1		0535	68	0.	1		1150	143	0.	1		1805	218	83.	2		0020	293	16.
1		0540	69	0.	1		1155	144	0.	1		1810	219	81.	2		0025	294	16.
1		0545	70	0.	1		1200	145	0.	1		1815	220	79.	2		0030	295	16.
1		0550	71	0.	1		1205	146	7.	1		1820	221	77.	2		0035	296	15.
1		0555	72	0.	1		1210	147	14.	1		1825	222	76.	2		0040	297	15.
1		0600	73	0.	1		1215	148	26.	1		1830	223	74.	2		0045	298	15.
1		0605	74	0.	1		1220	149	38.	1		1835	224	72.	2		0050	299	15.
1		0610	75	0.	1		1225	150	50.	1		1840	225	71.	2		0055	300	15.

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR

```
+   (CFS)        (HR)
                                  (CFS)
      257.       14.08                      171.          53.          51.          51.
                                (INCHES)     .585         .723         .723         .723
                                  (AC-FT)     85.         105.         105.         105.

                                CUMULATIVE AREA =     2.72 SQ MI


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                 *               *
116 KK           *         L9    *      Subbasin
                 *               *
                 ***************

                   SUBBASIN RUNOFF DATA

117 BA             SUBBASIN CHARACTERISTICS
                         TAREA          .21  SUBBASIN AREA

118 LG             GREEN AND AMPT LOSS RATE
                         STRTL          .74  STARTING LOSS
                           DTH          .64  MOISTURE DEFICIT
                          PSIF         1.83  WETTING FRONT SUCTION
                         XKSAT          .11  HYDRAULIC CONDUCTIVITY
                         RTIMP        21.00  PERCENT IMPERVIOUS AREA

119 US             SNYDER UNITGRAPH
                            TP          .21  LAG
                            CP          .26  PEAKING COEFFICIENT

                   SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                                  ***

                                                        UNIT HYDROGRAPH PARAMETERS
                                                  CLARK   TC=   .16 HR,       R=   .76 HR
                                                SNYDER    TP=   .22 HR,      CP=   .25

                                                        UNIT HYDROGRAPH
                                                50 END-OF-PERIOD ORDINATES
                        42.      120.      148.      133.      119.      107.       96.       86.       77.       69.
                        62.       55.       49.       44.       40.       36.       32.       29.       26.       23.
                        21.       18.       17.       15.       13.       12.       11.       10.        9.        8.
                         7.        6.        6.        5.        4.        4.        4.        3.        3.        3.
                         2.        2.        2.        2.        1.        1.        1.        1.        1.        1.

          ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION       L9
                        TRANSPOSITION AREA        .0 SQ MI

          TOTAL RAINFALL =    1.99, TOTAL LOSS =     1.33, TOTAL EXCESS =      .66

                                                  MAXIMUM AVERAGE FLOW
        PEAK FLOW     TIME                 6-HR        24-HR        72-HR     24.92-HR
+         (CFS)       (HR)
                                  (CFS)
+          55.       12.08                    12.          4.          3.          3.
                                (INCHES)     .530         .652        .653        .653
                                  (AC-FT)     6.           7.          7.          7.

                                CUMULATIVE AREA =      .21 SQ MI

          ***             ***             ***             ***             ***

                          HYOROGRAPH AT STATION       L9
                        TRANSPOSITION AREA       14.0 SQ MI

          TOTAL RAINFALL =    1.95, TOTAL LOSS =     1.32, TOTAL EXCESS =      .63

                                                  MAXIMUM AVERAGE FLOW
        PEAK FLOW     TIME                 6-HR        24-HR        72-HR     24.92-HR
+         (CFS)       (HR)
                                  (CFS)
+          52.       12.08                    11.          3.          3.          3.
                                (INCHES)     .507         .626        .627        .627
                                  (AC-FT)     6.           7.          7.          7.

                                CUMULATIVE AREA =      .21 SQ MI

          ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION       L9
                        TRANSPOSITION AREA       24.0 SQ MI

          TOTAL RAINFALL =    1.93, TOTAL LOSS =     1.31, TOTAL EXCESS =      .62

                                                  MAXIMUM AVERAGE FLOW
        PEAK FLOW     TIME                 6-HR        24-HR        72-HR     24.92-HR
+         (CFS)       (HR)
                                  (CFS)
+          51.       12.08                    11.          3.          3.          3.
                                (INCHES)     .496         .614        .615        .615
                                  (AC-FT)     5.           7.          7.          7.

                                CUMULATIVE AREA =      .21 SQ MI

          ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION       L9
                        TRANSPOSITION AREA       36.5 SQ MI

          TOTAL RAINFALL =    1.91, TOTAL LOSS =     1.30, TOTAL EXCESS =      .61

        PEAK FLOW     TIME                                 MAXIMUM AVERAGE FLOW
```

+	(CFS)	(HR)		6-HR	24-HR	72-HR	24.92-HR
+	50.	12.08	(CFS)	11.	3.	3.	3.
			(INCHES)	.484	.601	.602	.602
			(AC-FT)	5.	7.	7.	7.

CUMULATIVE AREA = .21 SQ MI

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HYDROGRAPH AT STATION L9
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.90, TOTAL LOSS = 1.30, TOTAL EXCESS = .60

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
+ 49.	12.08	(CFS)	11.	3.	3.	3.
		(INCHES)	.477	.592	.594	.594
		(AC-FT)	5.	6.	6.	6.

CUMULATIVE AREA = .21 SQ MI

INTERPOLATED HYDROGRAPH AT L9

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	1.	1		1230	151	37.	1		1845	226	1.
1		0005	2	0.	1		0620	77	1.	1		1235	152	34.	1		1850	227	1.
1		0010	3	0.	1		0625	78	1.	1		1240	153	31.	1		1855	228	1.
1		0015	4	0.	1		0630	79	1.	1		1245	154	28.	1		1900	229	1.
1		0020	5	0.	1		0635	80	1.	1		1250	155	26.	1		1905	230	1.
1		0025	6	0.	1		0640	81	1.	1		1255	156	24.	1		1910	231	1.
1		0030	7	0.	1		0645	82	1.	1		1300	157	21.	1		1915	232	1.
1		0035	8	0.	1		0650	83	1.	1		1305	158	20.	1		1920	233	1.
1		0040	9	0.	1		0655	84	1.	1		1310	159	18.	1		1925	234	1.
1		0045	10	0.	1		0700	85	1.	1		1315	160	16.	1		1930	235	1.
1		0050	11	0.	1		0705	86	1.	1		1320	161	15.	1		1935	236	1.
1		0055	12	0.	1		0710	87	1.	1		1325	162	14.	1		1940	237	1.
1		0100	13	0.	1		0715	88	1.	1		1330	163	13.	1		1945	238	1.
1		0105	14	0.	1		0720	89	1.	1		1335	164	12.	1		1950	239	1.
1		0110	15	0.	1		0725	90	1.	1		1340	165	11.	1		1955	240	1.
1		0115	16	0.	1		0730	91	1.	1		1345	166	10.	1		2000	241	1.
1		0120	17	0.	1		0735	92	1.	1		1350	167	9.	1		2005	242	1.
1		0125	18	0.	1		0740	93	1.	1		1355	168	8.	1		2010	243	1.
1		0130	19	1.	1		0745	94	1.	1		1400	169	8.	1		2015	244	1.
1		0135	20	1.	1		0750	95	1.	1		1405	170	7.	1		2020	245	1.
1		0140	21	1.	1		0755	96	1.	1		1410	171	7.	1		2025	246	1.
1		0145	22	1.	1		0800	97	1.	1		1415	172	6.	1		2030	247	1.
1		0150	23	1.	1		0805	98	1.	1		1420	173	6.	1		2035	248	1.
1		0155	24	1.	1		0810	99	1.	1		1425	174	5.	1		2040	249	1.
1		0200	25	1.	1		0815	100	1.	1		1430	175	5.	1		2045	250	1.
1		0205	26	1.	1		0820	101	1.	1		1435	176	5.	1		2050	251	1.
1		0210	27	1.	1		0825	102	1.	1		1440	177	4.	1		2055	252	1.
1		0215	28	1.	1		0830	103	1.	1		1445	178	4.	1		2100	253	1.
1		0220	29	1.	1		0835	104	1.	1		1450	179	4.	1		2105	254	1.
1		0225	30	1.	1		0840	105	1.	1		1455	180	4.	1		2110	255	1.
1		0230	31	1.	1		0845	106	1.	1		1500	181	3.	1		2115	256	1.
1		0235	32	1.	1		0850	107	1.	1		1505	182	3.	1		2120	257	1.
1		0240	33	1.	1		0855	108	1.	1		1510	183	3.	1		2125	258	1.
1		0245	34	1.	1		0900	109	1.	1		1515	184	3.	1		2130	259	1.
1		0250	35	1.	1		0905	110	1.	1		1520	185	3.	1		2135	260	1.
1		0255	36	1.	1		0910	111	1.	1		1525	186	3.	1		2140	261	1.
1		0300	37	1.	1		0915	112	1.	1		1530	187	2.	1		2145	262	1.
1		0305	38	1.	1		0920	113	2.	1		1535	188	2.	1		2150	263	1.
1		0310	39	1.	1		0925	114	2.	1		1540	189	2.	1		2155	264	1.
1		0315	40	1.	1		0930	115	2.	1		1545	190	2.	1		2200	265	1.
1		0320	41	1.	1		0935	116	2.	1		1550	191	2.	1		2205	266	1.
1		0325	42	1.	1		0940	117	2.	1		1555	192	2.	1		2210	267	1.
1		0330	43	1.	1		0945	118	2.	1		1600	193	2.	1		2215	268	1.
1		0335	44	1.	1		0950	119	2.	1		1605	194	2.	1		2220	269	1.
1		0340	45	1.	1		0955	120	2.	1		1610	195	2.	1		2225	270	1.
1		0345	46	1.	1		1000	121	2.	1		1615	196	2.	1		2230	271	1.
1		0350	47	1.	1		1005	122	2.	1		1620	197	1.	1		2235	272	1.
1		0355	48	1.	1		1010	123	2.	1		1625	198	1.	1		2240	273	1.
1		0400	49	1.	1		1015	124	2.	1		1630	199	1.	1		2245	274	1.
1		0405	50	1.	1		1020	125	2.	1		1635	200	1.	1		2250	275	1.
1		0410	51	1.	1		1025	126	2.	1		1640	201	1.	1		2255	276	1.
1		0415	52	1.	1		1030	127	2.	1		1645	202	1.	1		2300	277	1.
1		0420	53	1.	1		1035	128	2.	1		1650	203	1.	1		2305	278	1.
1		0425	54	1.	1		1040	129	2.	1		1655	204	1.	1		2310	279	1.
1		0430	55	1.	1		1045	130	2.	1		1700	205	1.	1		2315	280	1.
1		0435	56	1.	1		1050	131	2.	1		1705	206	1.	1		2320	281	1.
1		0440	57	1.	1		1055	132	3.	1		1710	207	1.	1		2325	282	1.
1		0445	58	1.	1		1100	133	3.	1		1715	208	1.	1		2330	283	1.
1		0450	59	1.	1		1105	134	3.	1		1720	209	1.	1		2335	284	1.
1		0455	60	1.	1		1110	135	3.	1		1725	210	1.	1		2340	285	1.
1		0500	61	1.	1		1115	136	3.	1		1730	211	1.	1		2345	286	1.
1		0505	62	1.	1		1120	137	3.	1		1735	212	1.	1		2350	287	1.
1		0510	63	1.	1		1125	138	4.	1		1740	213	1.	1		2355	288	1.
1		0515	64	1.	1		1130	139	4.	1		1745	214	1.	2		0000	289	1.
1		0520	65	1.	1		1135	140	4.	1		1750	215	1.	2		0005	290	1.
1		0525	66	1.	1		1140	141	5.	1		1755	216	1.	2		0010	291	1.
1		0530	67	1.	1		1145	142	7.	1		1800	217	1.	2		0015	292	0.
1		0535	68	1.	1		1150	143	12.	1		1805	218	1.	2		0020	293	0.
1		0540	69	1.	1		1155	144	24.	1		1810	219	1.	2		0025	294	0.
1		0545	70	1.	1		1200	145	42.	1		1815	220	1.	2		0030	295	0.
1		0550	71	1.	1		1205	146	54.	1		1820	221	1.	2		0035	296	0.
1		0555	72	1.	1		1210	147	54.	1		1825	222	1.	2		0040	297	0.
1		0600	73	1.	1		1215	148	49.	1		1830	223	1.	2		0045	298	0.
1		0605	74	1.	1		1220	149	45.	1		1835	224	1.	2		0050	299	0.
1		0610	75	1.	1		1225	150	41.	1		1840	225	1.	2		0055	300	0.

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)	11.	4.	3.	3.
54.	12.08	(INCHES)	.520	.641	.642	.642
		(AC-FT)	6.	7.	7.	7.

CUMULATIVE AREA = .21 SQ MI

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120 KK C_L9T Combine Subbasins L9.1 and L9

Just Upstream of the Mainstem

122 HC HYDROGRAPH COMBINATION
ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

*** *** *** *** *** ***

HYDROGRAPH AT STATION C_L9T
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)	183.	58.	56.	56.
+ 270.	14.00	(INCHES)	.583	.737	.737	.737
		(AC-FT)	91.	115.	115.	115.

CUMULATIVE AREA = 2.93 SQ MI

*** *** *** *** *** ***

HYDROGRAPH AT STATION C_L9T
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)	176.	56.	54.	54.
262.	13.92	(INCHES)	.560	.710	.710	.710
		(AC-FT)	87.	111.	111.	111.

CUMULATIVE AREA = 2.93 SQ MI

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HYDROGRAPH AT STATION C_L9T
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)	173.	55.	53.	53.
+ 258.	13.92	(INCHES)	.549	.697	.697	.697
		(AC-FT)	86.	109.	109.	109.

CUMULATIVE AREA = 2.93 SQ MI

*** *** *** *** *** ***

HYDROGRAPH AT STATION C_L9T
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)	169.	54.	52.	52.
+ 254.	13.92	(INCHES)	.538	.684	.684	.684
		(AC-FT)	84.	107.	107.	107.

CUMULATIVE AREA = 2.93 SQ MI

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HYDROGRAPH AT STATION C_L9T
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)	167.	53.	51.	51.
+ 251.	13.92	(INCHES)	.530	.675	.675	.675
		(AC-FT)	83.	105.	105.	105.

CUMULATIVE AREA = 2.93 SQ MI

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INTERPOLATED HYDROGRAPH AT C_L9T

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DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	1.	1		1230	151	100.	1		1845	226	70.
1		0005	2	0.	1		0620	77	1.	1		1235	152	111.	1		1850	227	69.
1		0010	3	0.	1		0625	78	1.	1		1240	153	125.	1		1855	228	67.
1		0015	4	0.	1		0630	79	1.	1		1245	154	140.	1		1900	229	66.
1		0020	5	0.	1		0635	80	1.	1		1250	155	155.	1		1905	230	64.
1		0025	6	0.	1		0640	81	1.	1		1255	156	179.	1		1910	231	63.
1		0030	7	0.	1		0645	82	1.	1		1300	157	201.	1		1915	232	61.
1		0035	8	0.	1		0650	83	1.	1		1305	158	220.	1		1920	233	60.
1		0040	9	0.	1		0655	84	1.	1		1310	159	235.	1		1925	234	59.
1		0045	10	0.	1		0700	85	1.	1		1315	160	243.	1		1930	235	57.
1		0050	11	0.	1		0705	86	1.	1		1320	161	248.	1		1935	236	56.
1		0055	12	0.	1		0710	87	1.	1		1325	162	253.	1		1940	237	55.
1		0100	13	0.	1		0715	88	1.	1		1330	163	256.	1		1945	238	53.
1		0105	14	0.	1		0720	89	1.	1		1335	164	259.	1		1950	239	52.
1		0110	15	0.	1		0725	90	1.	1		1340	165	261.	1		1955	240	51.
1		0115	16	0.	1		0730	91	1.	1		1345	166	263.	1		2000	241	50.
1		0120	17	0.	1		0735	92	1.	1		1350	167	264.	1		2005	242	48.
1		0125	18	0.	1		0740	93	1.	1		1355	168	264.	1		2010	243	47.
1		0130	19	1.	1		0745	94	1.	1		1400	169	264.	1		2015	244	46.
1		0135	20	1.	1		0750	95	1.	1		1405	170	264.	1		2020	245	45.
1		0140	21	1.	1		0755	96	1.	1		1410	171	263.	1		2025	246	44.
1		0145	22	1.	1		0800	97	1.	1		1415	172	262.	1		2030	247	43.
1		0150	23	1.	1		0805	98	1.	1		1420	173	260.	1		2035	248	42.
1		0155	24	1.	1		0810	99	1.	1		1425	174	258.	1		2040	249	42.
1		0200	25	1.	1		0815	100	1.	1		1430	175	256.	1		2045	250	41.
1		0205	26	1.	1		0820	101	1.	1		1435	176	254.	1		2050	251	40.
1		0210	27	1.	1		0825	102	1.	1		1440	177	251.	1		2055	252	39.
1		0215	28	1.	1		0830	103	1.	1		1445	178	248.	1		2100	253	38.
1		0220	29	1.	1		0835	104	1.	1		1450	179	245.	1		2105	254	38.
1		0225	30	1.	1		0840	105	1.	1		1455	180	242.	1		2110	255	37.
1		0230	31	1.	1		0845	106	1.	1		1500	181	239.	1		2115	256	36.
1		0235	32	1.	1		0850	107	1.	1		1505	182	235.	1		2120	257	36.
1		0240	33	1.	1		0855	108	1.	1		1510	183	232.	1		2125	258	35.
1		0245	34	1.	1		0900	109	1.	1		1515	184	228.	1		2130	259	34.
1		0250	35	1.	1		0905	110	1.	1		1520	185	224.	1		2135	260	33.
1		0255	36	1.	1		0910	111	1.	1		1525	186	218.	1		2140	261	33.
1		0300	37	1.	1		0915	112	1.	1		1530	187	211.	1		2145	262	32.
1		0305	38	1.	1		0920	113	2.	1		1535	188	204.	1		2150	263	31.
1		0310	39	1.	1		0925	114	2.	1		1540	189	197.	1		2155	264	31.
1		0315	40	1.	1		0930	115	2.	1		1545	190	190.	1		2200	265	30.
1		0320	41	1.	1		0935	116	2.	1		1550	191	183.	1		2205	266	30.
1		0325	42	1.	1		0940	117	2.	1		1555	192	176.	1		2210	267	29.
1		0330	43	1.	1		0945	118	2.	1		1600	193	170.	1		2215	268	28.
1		0335	44	1.	1		0950	119	2.	1		1605	194	164.	1		2220	269	28.
1		0340	45	1.	1		0955	120	2.	1		1610	195	158.	1		2225	270	27.
1		0345	46	1.	1		1000	121	2.	1		1615	196	152.	1		2230	271	27.
1		0350	47	1.	1		1005	122	2.	1		1620	197	146.	1		2235	272	26.
1		0355	48	1.	1		1010	123	2.	1		1625	198	141.	1		2240	273	25.
1		0400	49	1.	1		1015	124	2.	1		1630	199	136.	1		2245	274	25.
1		0405	50	1.	1		1020	125	2.	1		1635	200	131.	1		2250	275	24.
1		0410	51	1.	1		1025	126	2.	1		1640	201	128.	1		2255	276	24.
1		0415	52	1.	1		1030	127	2.	1		1645	202	125.	1		2300	277	23.
1		0420	53	1.	1		1035	128	2.	1		1650	203	122.	1		2305	278	23.
1		0425	54	1.	1		1040	129	2.	1		1655	204	120.	1		2310	279	22.
1		0430	55	1.	1		1045	130	2.	1		1700	205	117.	1		2315	280	22.
1		0435	56	1.	1		1050	131	2.	1		1705	206	114.	1		2320	281	22.
1		0440	57	1.	1		1055	132	3.	1		1710	207	111.	1		2325	282	21.
1		0445	58	1.	1		1100	133	3.	1		1715	208	109.	1		2330	283	21.
1		0450	59	1.	1		1105	134	3.	1		1720	209	106.	1		2335	284	20.
1		0455	60	1.	1		1110	135	3.	1		1725	210	103.	1		2340	285	20.
1		0500	61	1.	1		1115	136	3.	1		1730	211	101.	1		2345	286	19.
1		0505	62	1.	1		1120	137	3.	1		1735	212	98.	1		2350	287	19.
1		0510	63	1.	1		1125	138	4.	1		1740	213	96.	1		2355	288	19.
1		0515	64	1.	1		1130	139	4.	1		1745	214	93.	2		0000	289	18.
1		0520	65	1.	1		1135	140	4.	1		1750	215	91.	2		0005	290	18.
1		0525	66	1.	1		1140	141	5.	1		1755	216	88.	2		0010	291	18.
1		0530	67	1.	1		1145	142	7.	1		1800	217	86.	2		0015	292	17.
1		0535	68	1.	1		1150	143	12.	1		1805	218	84.	2		0020	293	17.
1		0540	69	1.	1		1155	144	24.	1		1810	219	82.	2		0025	294	16.
1		0545	70	1.	1		1200	145	42.	1		1815	220	80.	2		0030	295	16.
1		0550	71	1.	1		1205	146	60.	1		1820	221	78.	2		0035	296	16.
1		0555	72	1.	1		1210	147	67.	1		1825	222	77.	2		0040	297	15.
1		0600	73	1.	1		1215	148	74.	1		1830	223	75.	2		0045	298	15.
1		0605	74	1.	1		1220	149	82.	1		1835	224	73.	2		0050	299	15.
1		0610	75	1.	1		1225	150	90.	1		1840	225	72.	2		0055	300	15.

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
264.	13.92		178.	56.	54.	54.
		(INCHES)	.565	.716	.716	.716
		(AC-FT)	88.	112.	112.	112.

CUMULATIVE AREA = 2.93 SQ MI

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123 KK C_L9M Combine L9 with Upstream Mainstem Hydrograph

Just East of 26.5 Road

125 HC HYDROGRAPH COMBINATION
ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

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HYOROGRAPH AT STATION C_L9M
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW

	6-HR	24-HR	72-HR	24.92-HR
(CFS)	696.	201.	193.	193.
(INCHES)	.521	.601	.601	.601
(AC-FT)	345.	398.	398.	398.

PEAK FLOW (CFS)	TIME (HR)
1429.	13.25

CUMULATIVE AREA = 12.41 SQ MI

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HYDROGRAPH AT STATION C_L9M
TRANSPOSITION AREA 14.0 SQ MI

	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
(CFS)	666.	192.	185.	185.
(INCHES)	.499	.576	.576	.576
(AC-FT)	330.	382.	382.	382.

PEAK FLOW (CFS)	TIME (HR)
1369.	13.25

CUMULATIVE AREA = 12.41 SQ MI

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HYDROGRAPH AT STATION C_L9M
TRANSPOSITION AREA 24.0 SQ MI

	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
(CFS)	651.	188.	181.	181.
(INCHES)	.488	.564	.564	.564
(AC-FT)	323.	373.	373.	373.

PEAK FLOW (CFS)	TIME (HR)
1340.	13.25

CUMULATIVE AREA = 12.41 SQ MI

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HYDROGRAPH AT STATION C_L9M
TRANSPOSITION AREA 36.5 SQ MI

	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
(CFS)	636.	184.	177.	177.
(INCHES)	.477	.552	.552	.552
(AC-FT)	316.	365.	365.	365.

PEAK FLOW (CFS)	TIME (HR)
1309.	13.25

CUMULATIVE AREA = 12.41 SQ MI

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HYDROGRAPH AT STATION C_L9M
TRANSPOSITION AREA 50.0 SQ MI

	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
(CFS)	626.	181.	175.	175.
(INCHES)	.469	.543	.543	.543
(AC-FT)	310.	359.	360.	360.

PEAK FLOW (CFS)	TIME (HR)
1284.	13.25

CUMULATIVE AREA = 12.41 SQ MI

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INTERPOLATED HYDROGRAPH AT C_L9M

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DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	7.	1		1230	151	639.	1		1845	226	148.
1		0005	2	0.	1		0620	77	7.	1		1235	152	746.	1		1850	227	143.
1		0010	3	0.	1		0625	78	7.	1		1240	153	855.	1		1855	228	139.
1		0015	4	0.	1		0630	79	7.	1		1245	154	970.	1		1900	229	135.
1		0020	5	0.	1		0635	80	7.	1		1250	155	1080.	1		1905	230	131.
1		0025	6	1.	1		0640	81	7.	1		1255	156	1178.	1		1910	231	127.
1		0030	7	1.	1		0645	82	8.	1		1300	157	1260.	1		1915	232	123.
1		0035	8	1.	1		0650	83	8.	1		1305	158	1319.	1		1920	233	119.
1		0040	9	1.	1		0655	84	8.	1		1310	159	1357.	1		1925	234	115.
1		0045	10	1.	1		0700	85	8.	1		1315	160	1370.	1		1930	235	112.
1		0050	11	2.	1		0705	86	8.	1		1320	161	1361.	1		1935	236	109.
1		0055	12	2.	1		0710	87	8.	1		1325	162	1337.	1		1940	237	105.
1		0100	13	2.	1		0715	88	8.	1		1330	163	1300.	1		1945	238	102.
1		0105	14	2.	1		0720	89	8.	1		1335	164	1259.	1		1950	239	99.
1		0110	15	2.	1		0725	90	8.	1		1340	165	1218.	1		1955	240	96.
1		0115	16	2.	1		0730	91	8.	1		1345	166	1176.	1		2000	241	93.
1		0120	17	2.	1		0735	92	8.	1		1350	167	1136.	1		2005	242	91.
1		0125	18	2.	1		0740	93	8.	1		1355	168	1097.	1		2010	243	88.
1		0130	19	2.	1		0745	94	9.	1		1400	169	1060.	1		2015	244	85.
1		0135	20	3.	1		0750	95	9.	1		1405	170	1027.	1		2020	245	83.
1		0140	21	3.	1		0755	96	9.	1		1410	171	993.	1		2025	246	81.
1		0145	22	3.	1		0800	97	9.	1		1415	172	959.	1		2030	247	79.
1		0150	23	3.	1		0805	98	9.	1		1420	173	926.	1		2035	248	77.
1		0155	24	3.	1		0810	99	9.	1		1425	174	895.	1		2040	249	74.
1		0200	25	3.	1		0815	100	9.	1		1430	175	865.	1		2045	250	72.
1		0205	26	3.	1		0820	101	9.	1		1435	176	833.	1		2050	251	70.
1		0210	27	3.	1		0825	102	9.	1		1440	177	803.	1		2055	252	68.
1		0215	28	3.	1		0830	103	9.	1		1445	178	776.	1		2100	253	66.
1		0220	29	3.	1		0835	104	9.	1		1450	179	750.	1		2105	254	65.
1		0225	30	3.	1		0840	105	10.	1		1455	180	727.	1		2110	255	63.
1		0230	31	3.	1		0845	106	10.	1		1500	181	705.	1		2115	256	61.
1		0235	32	3.	1		0850	107	10.	1		1505	182	682.	1		2120	257	60.

1	0240	33	4.	*	1	0855	108	10.	*	1	1510	183	660.	*	1	2125	258	58.
1	0245	34	4.	*	1	0900	109	10.	*	1	1515	184	639.	*	1	2130	259	57.
1	0250	35	4.	*	1	0905	110	11.	*	1	1520	185	619.	*	1	2135	260	55.
1	0255	36	4.	*	1	0910	111	11.	*	1	1525	186	598.	*	1	2140	261	54.
1	0300	37	4.	*	1	0915	112	11.	*	1	1530	187	576.	*	1	2145	262	53.
1	0305	38	4.	*	1	0920	113	11.	*	1	1535	188	554.	*	1	2150	263	52.
1	0310	39	4.	*	1	0925	114	11.	*	1	1540	189	533.	*	1	2155	264	50.
1	0315	40	4.	*	1	0930	115	12.	*	1	1545	190	512.	*	1	2200	265	49.
1	0320	41	4.	*	1	0935	116	12.	*	1	1550	191	492.	*	1	2205	266	48.
1	0325	42	5.	*	1	0940	117	12.	*	1	1555	192	473.	*	1	2210	267	47.
1	0330	43	5.	*	1	0945	118	12.	*	1	1600	193	456.	*	1	2215	268	46.
1	0335	44	5.	*	1	0950	119	12.	*	1	1605	194	439.	*	1	2220	269	44.
1	0340	45	5.	*	1	0955	120	12.	*	1	1610	195	422.	*	1	2225	270	43.
1	0345	46	5.	*	1	1000	121	13.	*	1	1615	196	405.	*	1	2230	271	42.
1	0350	47	5.	*	1	1005	122	13.	*	1	1620	197	389.	*	1	2235	272	41.
1	0355	48	5.	*	1	1010	123	13.	*	1	1625	198	374.	*	1	2240	273	40.
1	0400	49	5.	*	1	1015	124	13.	*	1	1630	199	359.	*	1	2245	274	39.
1	0405	50	5.	*	1	1020	125	14.	*	1	1635	200	346.	*	1	2250	275	39.
1	0410	51	5.	*	1	1025	126	14.	*	1	1640	201	335.	*	1	2255	276	38.
1	0415	52	5.	*	1	1030	127	15.	*	1	1645	202	324.	*	1	2300	277	37.
1	0420	53	5.	*	1	1035	128	15.	*	1	1650	203	313.	*	1	2305	278	36.
1	0425	54	6.	*	1	1040	129	15.	*	1	1655	204	302.	*	1	2310	279	35.
1	0430	55	6.	*	1	1045	130	16.	*	1	1700	205	292.	*	1	2315	280	33.
1	0435	56	6.	*	1	1050	131	16.	*	1	1705	206	282.	*	1	2320	281	32.
1	0440	57	6.	*	1	1055	132	17.	*	1	1710	207	273.	*	1	2325	282	31.
1	0445	58	6.	*	1	1100	133	18.	*	1	1715	208	263.	*	1	2330	283	30.
1	0450	59	6.	*	1	1105	134	18.	*	1	1720	209	254.	*	1	2335	284	29.
1	0455	60	6.	*	1	1110	135	19.	*	1	1725	210	246.	*	1	2340	285	28.
1	0500	61	6.	*	1	1115	136	20.	*	1	1730	211	237.	*	1	2345	286	27.
1	0505	62	6.	*	1	1120	137	21.	*	1	1735	212	229.	*	1	2350	287	26.
1	0510	63	6.	*	1	1125	138	22.	*	1	1740	213	222.	*	1	2355	288	25.
1	0515	64	6.	*	1	1130	139	23.	*	1	1745	214	214.	*	2	0000	289	25.
1	0520	65	6.	*	1	1135	140	25.	*	1	1750	215	207.	*	2	0005	290	24.
1	0525	66	6.	*	1	1140	141	30.	*	1	1755	216	200.	*	2	0010	291	24.
1	0530	67	6.	*	1	1145	142	42.	*	1	1800	217	194.	*	2	0015	292	23.
1	0535	68	7.	*	1	1150	143	67.	*	1	1805	218	187.	*	2	0020	293	22.
1	0540	69	7.	*	1	1155	144	117.	*	1	1810	219	182.	*	2	0025	294	22.
1	0545	70	7.	*	1	1200	145	200.	*	1	1815	220	177.	*	2	0030	295	21.
1	0550	71	7.	*	1	1205	146	292.	*	1	1820	221	172.	*	2	0035	296	20.
1	0555	72	7.	*	1	1210	147	364.	*	1	1825	222	167.	*	2	0040	297	20.
1	0600	73	7.	*	1	1215	148	424.	*	1	1830	223	162.	*	2	0045	298	19.
1	0605	74	7.	*	1	1220	149	473.	*	1	1835	224	157.	*	2	0050	299	19.
1	0610	75	7.	*	1	1225	150	545.	*	1	1840	225	152.	*	2	0055	300	19.
				*					*					*				

****

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 1370.	13.25		667.	193.	185.	185.
		(INCHES)	.499	.577	.577	.577
		(AC-FT)	331.	382.	382.	382.

CUMULATIVE AREA = 12.41 SQ MI

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126 KK      ***************
            *             *
            *      DB21   *
            *             *
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Subbasin

SUBBASIN RUNOFF DATA

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128 BA      SUBBASIN CHARACTERISTICS
                 TAREA          .15  SUBBASIN AREA

129 LG      GREEN AND AMPT LOSS RATE
                 STRTL          .29  STARTING LOSS
                   DTH          .31  MOISTURE DEFICIT
                  PSIF         1.15  WETTING FRONT SUCTION
                 XKSAT          .04  HYDRAULIC CONDUCTIVITY
                 RTIMP        30.00  PERCENT IMPERVIOUS AREA

130 US      SNYDER UNITGRAPH
                    TP          .09  LAG
                    CP          .30  PEAKING COEFFICIENT

            SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                  ***

                                        UNIT HYDROGRAPH PARAMETERS
                                  CLARK   TC=    .08 HR,       R=    .40 HR
                                SNYDER   TP=    .13 HR,      CP=    .30

                                        UNIT HYDROGRAPH
                                27 END-OF-PERIOD ORDINATES
                110.      199.      162.      132.      107.       87.       71.       58.       47.       38.
                 31.       25.       20.       17.       14.       11.        9.        7.        6.        5.
                  4.        3.        3.        2.        2.        1.        1.
     ***              ***              ***              ***              ***

                    HYDROGRAPH AT STATION     DB21
                   TRANSPOSITION AREA         .0 SQ MI

    TOTAL RAINFALL =    1.99, TOTAL LOSS =     .76, TOTAL EXCESS =    1.23
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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 111.	12.00		17.	5.	5.	5.
		(INCHES)	1.045	1.219	1.220	1.220
		(AC-FT)	8.	10.	10.	10.

CUMULATIVE AREA = .15 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB21
TRANSPOSITION AREA 14.0 SQ MI

TOTAL RAINFALL = 1.95, TOTAL LOSS = .76, TOTAL EXCESS = 1.19

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
108.	12.00	(CFS) 17.	5.	5.	5.
		(INCHES) 1.018	1.188	1.189	1.189
		(AC-FT) 8.	10.	10.	10.

CUMULATIVE AREA = .15 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB21
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.93, TOTAL LOSS = .75, TOTAL EXCESS = 1.18

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
107.	12.00	(CFS) 16.	5.	5.	5.
		(INCHES) 1.004	1.172	1.173	1.173
		(AC-FT) 8.	9.	10.	10.

CUMULATIVE AREA = .15 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB21
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.91, TOTAL LOSS = .75, TOTAL EXCESS = 1.16

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
106.	12.00	(CFS) 16.	5.	5.	5.
		(INCHES) .990	1.156	1.158	1.158
		(AC-FT) 8.	9.	9.	9.

CUMULATIVE AREA = .15 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB21
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.90, TOTAL LOSS = .74, TOTAL EXCESS = 1.15

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
105.	12.00	(CFS) 16.	5.	5.	5.
		(INCHES) .980	1.146	1.147	1.147
		(AC-FT) 8.	9.	9.	9.

CUMULATIVE AREA = .15 SQ MI

INTERPOLATED HYDROGRAPH AT DB21

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	1.	1		1230	151	52.	1		1845	226	1.
1		0005	2	0.	1		0620	77	1.	1		1235	152	44.	1		1850	227	1.
1		0010	3	0.	1		0625	78	1.	1		1240	153	38.	1		1855	228	1.
1		0015	4	0.	1		0630	79	1.	1		1245	154	33.	1		1900	229	1.
1		0020	5	0.	1		0635	80	1.	1		1250	155	28.	1		1905	230	1.
1		0025	6	0.	1		0640	81	1.	1		1255	156	24.	1		1910	231	1.
1		0030	7	0.	1		0645	82	1.	1		1300	157	21.	1		1915	232	1.
1		0035	8	0.	1		0650	83	1.	1		1305	158	18.	1		1920	233	1.
1		0040	9	0.	1		0655	84	1.	1		1310	159	16.	1		1925	234	1.
1		0045	10	1.	1		0700	85	1.	1		1315	160	14.	1		1930	235	1.
1		0050	11	1.	1		0705	86	1.	1		1320	161	12.	1		1935	236	1.
1		0055	12	1.	1		0710	87	1.	1		1325	162	11.	1		1940	237	1.
1		0100	13	1.	1		0715	88	1.	1		1330	163	10.	1		1945	238	1.
1		0105	14	1.	1		0720	89	1.	1		1335	164	9.	1		1950	239	1.
1		0110	15	1.	1		0725	90	1.	1		1340	165	8.	1		1955	240	1.
1		0115	16	1.	1		0730	91	1.	1		1345	166	7.	1		2000	241	1.
1		0120	17	1.	1		0735	92	1.	1		1350	167	6.	1		2005	242	1.
1		0125	18	1.	1		0740	93	1.	1		1355	168	5.	1		2010	243	1.
1		0130	19	1.	1		0745	94	1.	1		1400	169	5.	1		2015	244	1.
1		0135	20	1.	1		0750	95	1.	1		1405	170	4.	1		2020	245	1.
1		0140	21	1.	1		0755	96	1.	1		1410	171	4.	1		2025	246	1.
1		0145	22	1.	1		0800	97	1.	1		1415	172	3.	1		2030	247	1.
1		0150	23	1.	1		0805	98	1.	1		1420	173	3.	1		2035	248	1.
1		0155	24	1.	1		0810	99	1.	1		1425	174	3.	1		2040	249	1.
1		0200	25	1.	1		0815	100	1.	1		1430	175	3.	1		2045	250	1.
1		0205	26	1.	1		0820	101	1.	1		1435	176	2.	1		2050	251	1.
1		0210	27	1.	1		0825	102	1.	1		1440	177	2.	1		2055	252	1.
1		0215	28	1.	1		0830	103	1.	1		1445	178	2.	1		2100	253	1.
1		0220	29	1.	1		0835	104	1.	1		1450	179	2.	1		2105	254	1.
1		0225	30	1.	1		0840	105	1.	1		1455	180	2.	1		2110	255	1.
1		0230	31	1.	1		0845	106	1.	1		1500	181	2.	1		2115	256	1.

1	0235	32	1.	*	1	0850	107	2.	*	1	1505	182	2.	*	1	2120	257	1.
1	0240	33	1.	*	1	0855	108	2.	*	1	1510	183	2.	*	1	2125	258	1.
1	0245	34	1.	*	1	0900	109	2.	*	1	1515	184	2.	*	1	2130	259	1.
1	0250	35	1.	*	1	0905	110	2.	*	1	1520	185	2.	*	1	2135	260	1.
1	0255	36	1.	*	1	0910	111	2.	*	1	1525	186	2.	*	1	2140	261	1.
1	0300	37	1.	*	1	0915	112	2.	*	1	1530	187	2.	*	1	2145	262	1.
1	0305	38	1.	*	1	0920	113	2.	*	1	1535	188	2.	*	1	2150	263	1.
1	0310	39	1.	*	1	0925	114	2.	*	1	1540	189	2.	*	1	2155	264	1.
1	0315	40	1.	*	1	0930	115	2.	*	1	1545	190	2.	*	1	2200	265	1.
1	0320	41	1.	*	1	0935	116	2.	*	1	1550	191	2.	*	1	2205	266	1.
1	0325	42	1.	*	1	0940	117	2.	*	1	1555	192	2.	*	1	2210	267	1.
1	0330	43	1.	*	1	0945	118	2.	*	1	1600	193	2.	*	1	2215	268	1.
1	0335	44	1.	*	1	0950	119	2.	*	1	1605	194	1.	*	1	2220	269	1.
1	0340	45	1.	*	1	0955	120	2.	*	1	1610	195	1.	*	1	2225	270	1.
1	0345	46	1.	*	1	1000	121	2.	*	1	1615	196	1.	*	1	2230	271	1.
1	0350	47	1.	*	1	1005	122	2.	*	1	1620	197	1.	*	1	2235	272	1.
1	0355	48	1.	*	1	1010	123	2.	*	1	1625	198	1.	*	1	2240	273	1.
1	0400	49	1.	*	1	1015	124	2.	*	1	1630	199	1.	*	1	2245	274	1.
1	0405	50	1.	*	1	1020	125	2.	*	1	1635	200	1.	*	1	2250	275	1.
1	0410	51	1.	*	1	1025	126	2.	*	1	1640	201	1.	*	1	2255	276	1.
1	0415	52	1.	*	1	1030	127	2.	*	1	1645	202	1.	*	1	2300	277	1.
1	0420	53	1.	*	1	1035	128	3.	*	1	1650	203	1.	*	1	2305	278	1.
1	0425	54	1.	*	1	1040	129	3.	*	1	1655	204	1.	*	1	2310	279	1.
1	0430	55	1.	*	1	1045	130	3.	*	1	1700	205	1.	*	1	2315	280	1.
1	0435	56	1.	*	1	1050	131	3.	*	1	1705	206	1.	*	1	2320	281	1.
1	0440	57	1.	*	1	1055	132	3.	*	1	1710	207	1.	*	1	2325	282	1.
1	0445	58	1.	*	1	1100	133	3.	*	1	1715	208	1.	*	1	2330	283	1.
1	0450	59	1.	*	1	1105	134	4.	*	1	1720	209	1.	*	1	2335	284	1.
1	0455	60	1.	*	1	1110	135	4.	*	1	1725	210	1.	*	1	2340	285	1.
1	0500	61	1.	*	1	1115	136	5.	*	1	1730	211	1.	*	1	2345	286	1.
1	0505	62	1.	*	1	1120	137	6.	*	1	1735	212	1.	*	1	2350	287	1.
1	0510	63	1.	*	1	1125	138	8.	*	1	1740	213	1.	*	1	2355	288	1.
1	0515	64	1.	*	1	1130	139	9.	*	1	1745	214	1.	*	2	0000	289	1.
1	0520	65	1.	*	1	1135	140	12.	*	1	1750	215	1.	*	2	0005	290	1.
1	0525	66	1.	*	1	1140	141	21.	*	1	1755	216	1.	*	2	0010	291	0.
1	0530	67	1.	*	1	1145	142	35.	*	1	1800	217	1.	*	2	0015	292	0.
1	0535	68	1.	*	1	1150	143	57.	*	1	1805	218	1.	*	2	0020	293	0.
1	0540	69	1.	*	1	1155	144	87.	*	1	1810	219	1.	*	2	0025	294	0.
1	0545	70	1.	*	1	1200	145	110.	*	1	1815	220	1.	*	2	0030	295	0.
1	0550	71	1.	*	1	1205	146	109.	*	1	1820	221	1.	*	2	0035	296	0.
1	0555	72	1.	*	1	1210	147	94.	*	1	1825	222	1.	*	2	0040	297	0.
1	0600	73	1.	*	1	1215	148	81.	*	1	1830	223	1.	*	2	0045	298	0.
1	0605	74	1.	*	1	1220	149	70.	*	1	1835	224	1.	*	2	0050	299	0.
1	0610	75	1.	*	1	1225	150	60.	*	1	1840	225	1.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
110.	12.00		17.	5.	5.	5.
		(INCHES)	1.035	1.207	1.209	1.209
		(AC-FT)	8.	10.	10.	10.

CUMULATIVE AREA = .15 SQ MI

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131 KK      ***************
            *             *
            *      PD A   *
            *             *
            ***************
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Route Through Pond A

HYDROGRAPH ROUTING DATA

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133 RS      STORAGE ROUTING
                 NSTPS          1  NUMBER OF SUBREACHES
                 ITYP       STOR  TYPE OF INITIAL CONDITION
                RSVRIC        .00  INITIAL CONOITION
                     X        .00 WORKING R AND D COEFFICIENT

134 SV        STORAGE          .0       .0      1.8      4.7      8.9     11.6

135 SQ        DISCHARGE        0.       3.       7.       9.      11.      11.

136 SE        ELEVATION     4915.00  4916.00  4918.00  4920.00  4922.00  4923.00
                                                                  ***
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*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN 0. TO 3.
THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

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HYDROGRAPH AT STATION PD A
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
10.	13.50		9.	5.	5.	5.
		(INCHES)	.557	1.159	1.163	1.163
		(AC-FT)	5.	9.	9.	9.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	24.92-HR
(AC-FT)	(HR)					
6.	13.50		5.	2.	2.	2.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	24.92-HR
(FEET)	(HR)					
4920.71	13.50		4920.15	4917.37	4917.29	4917.29

CUMULATIVE AREA = .15 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION PD A
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)
9.	13.50

	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
(CFS)	9.	5.	4.	4.
(INCHES)	.551	1.137	1.140	1.140
(AC-FT)	4.	9.	9.	9.

PEAK STORAGE (AC-FT)	TIME (HR)
6.	13.50

	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
	5.	2.	2.	2.

PEAK STAGE (FEET)	TIME (HR)
4920.62	13.50

MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
4920.05	4917.31	4917.23	4917.23

CUMULATIVE AREA = .15 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION PD A
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)
9.	13.50

	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
(CFS)	9.	5.	4.	4.
(INCHES)	.548	1.126	1.129	1.129
(AC-FT)	4.	9.	9.	9.

PEAK STORAGE (AC-FT)	TIME (HR)
6.	13.50

	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
	5.	2.	2.	2.

PEAK STAGE (FEET)	TIME (HR)
4920.58	13.50

MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
4920.00	4917.27	4917.19	4917.19

CUMULATIVE AREA = .15 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION PD A
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)
9.	13.42

	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
(CFS)	9.	5.	4.	4.
(INCHES)	.545	1.115	1.118	1.118
(AC-FT)	4.	9.	9.	9.

PEAK STORAGE (AC-FT)	TIME (HR)
6.	13.50

	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
	5.	2.	2.	2.

PEAK STAGE (FEET)	TIME (HR)
4920.53	13.50

MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
4919.94	4917.24	4917.17	4917.17

CUMULATIVE AREA = .15 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION PD A
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)
9.	13.42

	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
(CFS)	9.	5.	4.	4.
(INCHES)	.543	1.107	1.110	1.110
(AC-FT)	4.	9.	9.	9.

PEAK STORAGE (AC-FT)	TIME (HR)
6.	13.50

	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
	5.	2.	2.	2.

PEAK STAGE (FEET)	TIME (HR)
4920.50	13.50

MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
4919.91	4917.22	4917.14	4917.14

CUMULATIVE AREA = .15 SQ MI

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INTERPOLATED HYDRDGRAPH AT PD A

****

DA MON HRMN ORD FLOW	DA MON HRMN ORD FLOW	DA MON HRMN ORD FLOW	DA MON HRMN ORD FLOW

1	0000	1	0.	*	1	0615	76	1.	*	1	1230	151	9.	*	1	1845	226	8.
1	0005	2	0.	*	1	0620	77	1.	*	1	1235	152	9.	*	1	1850	227	8.
1	0010	3	0.	*	1	0625	78	1.	*	1	1240	153	9.	*	1	1855	228	8.
1	0015	4	0.	*	1	0630	79	1.	*	1	1245	154	9.	*	1	1900	229	8.
1	0020	5	0.	*	1	0635	80	1.	*	1	1250	155	9.	*	1	1905	230	8.
1	0025	6	0.	*	1	0640	81	1.	*	1	1255	156	9.	*	1	1910	231	8.
1	0030	7	0.	*	1	0645	82	1.	*	1	1300	157	9.	*	1	1915	232	8.
1	0035	8	0.	*	1	0650	83	1.	*	1	1305	158	9.	*	1	1920	233	8.
1	0040	9	0.	*	1	0655	84	1.	*	1	1310	159	10.	*	1	1925	234	8.
1	0045	10	1.	*	1	0700	85	1.	*	1	1315	160	10.	*	1	1930	235	8.
1	0050	11	1.	*	1	0705	86	1.	*	1	1320	161	10.	*	1	1935	236	8.
1	0055	12	1.	*	1	0710	87	1.	*	1	1325	162	10.	*	1	1940	237	8.
1	0100	13	1.	*	1	0715	88	1.	*	1	1330	163	10.	*	1	1945	238	8.
1	0105	14	1.	*	1	0720	89	1.	*	1	1335	164	10.	*	1	1950	239	8.
1	0110	15	1.	*	1	0725	90	1.	*	1	1340	165	10.	*	1	1955	240	8.
1	0115	16	1.	*	1	0730	91	1.	*	1	1345	166	10.	*	1	2000	241	7.
1	0120	17	1.	*	1	0735	92	1.	*	1	1350	167	10.	*	1	2005	242	7.
1	0125	18	1.	*	1	0740	93	1.	*	1	1355	168	10.	*	1	2010	243	7.
1	0130	19	1.	*	1	0745	94	1.	*	1	1400	169	10.	*	1	2015	244	7.
1	0135	20	1.	*	1	0750	95	1.	*	1	1405	170	9.	*	1	2020	245	7.
1	0140	21	1.	*	1	0755	96	1.	*	1	1410	171	9.	*	1	2025	246	7.
1	0145	22	1.	*	1	0800	97	1.	*	1	1415	172	9.	*	1	2030	247	7.
1	0150	23	1.	*	1	0805	98	1.	*	1	1420	173	9.	*	1	2035	248	7.
1	0155	24	1.	*	1	0810	99	1.	*	1	1425	174	9.	*	1	2040	249	7.
1	0200	25	1.	*	1	0815	100	1.	*	1	1430	175	9.	*	1	2045	250	7.
1	0205	26	1.	*	1	0820	101	1.	*	1	1435	176	9.	*	1	2050	251	7.
1	0210	27	1.	*	1	0825	102	1.	*	1	1440	177	9.	*	1	2055	252	7.
1	0215	28	1.	*	1	0830	103	1.	*	1	1445	178	9.	*	1	2100	253	7.
1	0220	29	1.	*	1	0835	104	1.	*	1	1450	179	9.	*	1	2105	254	7.
1	0225	30	1.	*	1	0840	105	1.	*	1	1455	180	9.	*	1	2110	255	7.
1	0230	31	1.	*	1	0845	106	1.	*	1	1500	181	9.	*	1	2115	256	7.
1	0235	32	1.	*	1	0850	107	2.	*	1	1505	182	9.	*	1	2120	257	7.
1	0240	33	1.	*	1	0855	108	2.	*	1	1510	183	9.	*	1	2125	258	7.
1	0245	34	1.	*	1	0900	109	2.	*	1	1515	184	9.	*	1	2130	259	7.
1	0250	35	1.	*	1	0905	110	2.	*	1	1520	185	9.	*	1	2135	260	7.
1	0255	36	1.	*	1	0910	111	2.	*	1	1525	186	9.	*	1	2140	261	7.
1	0300	37	1.	*	1	0915	112	2.	*	1	1530	187	9.	*	1	2145	262	6.
1	0305	38	1.	*	1	0920	113	2.	*	1	1535	188	9.	*	1	2150	263	6.
1	0310	39	1.	*	1	0925	114	2.	*	1	1540	189	9.	*	1	2155	264	6.
1	0315	40	1.	*	1	0930	115	2.	*	1	1545	190	9.	*	1	2200	265	6.
1	0320	41	1.	*	1	0935	116	2.	*	1	1550	191	9.	*	1	2205	266	6.
1	0325	42	1.	*	1	0940	117	2.	*	1	1555	192	9.	*	1	2210	267	6.
1	0330	43	1.	*	1	0945	118	2.	*	1	1600	193	9.	*	1	2215	268	6.
1	0335	44	1.	*	1	0950	119	2.	*	1	1605	194	9.	*	1	2220	269	6.
1	0340	45	1.	*	1	0955	120	2.	*	1	1610	195	9.	*	1	2225	270	6.
1	0345	46	1.	*	1	1000	121	2.	*	1	1615	196	9.	*	1	2230	271	6.
1	0350	47	1.	*	1	1005	122	2.	*	1	1620	197	9.	*	1	2235	272	6.
1	0355	48	1.	*	1	1010	123	2.	*	1	1625	198	9.	*	1	2240	273	5.
1	0400	49	1.	*	1	1015	124	2.	*	1	1630	199	9.	*	1	2245	274	5.
1	0405	50	1.	*	1	1020	125	2.	*	1	1635	200	9.	*	1	2250	275	5.
1	0410	51	1.	*	1	1025	126	2.	*	1	1640	201	9.	*	1	2255	276	5.
1	0415	52	1.	*	1	1030	127	2.	*	1	1645	202	9.	*	1	2300	277	5.
1	0420	53	1.	*	1	1035	128	3.	*	1	1650	203	9.	*	1	2305	278	5.
1	0425	54	1.	*	1	1040	129	3.	*	1	1655	204	9.	*	1	2310	279	5.
1	0430	55	1.	*	1	1045	130	3.	*	1	1700	205	9.	*	1	2315	280	5.
1	0435	56	1.	*	1	1050	131	3.	*	1	1705	206	9.	*	1	2320	281	5.
1	0440	57	1.	*	1	1055	132	3.	*	1	1710	207	9.	*	1	2325	282	5.
1	0445	58	1.	*	1	1100	133	3.	*	1	1715	208	9.	*	1	2330	283	5.
1	0450	59	1.	*	1	1105	134	3.	*	1	1720	209	9.	*	1	2335	284	5.
1	0455	60	1.	*	1	1110	135	3.	*	1	1725	210	9.	*	1	2340	285	5.
1	0500	61	1.	*	1	1115	136	3.	*	1	1730	211	8.	*	1	2345	286	4.
1	0505	62	1.	*	1	1120	137	3.	*	1	1735	212	8.	*	1	2350	287	4.
1	0510	63	1.	*	1	1125	138	3.	*	1	1740	213	8.	*	1	2355	288	4.
1	0515	64	1.	*	1	1130	139	3.	*	1	1745	214	8.	*	2	0000	289	4.
1	0520	65	1.	*	1	1135	140	3.	*	1	1750	215	8.	*	2	0005	290	4.
1	0525	66	1.	*	1	1140	141	3.	*	1	1755	216	8.	*	2	0010	291	4.
1	0530	67	1.	*	1	1145	142	4.	*	1	1800	217	8.	*	2	0015	292	4.
1	0535	68	1.	*	1	1150	143	4.	*	1	1805	218	8.	*	2	0020	293	4.
1	0540	69	1.	*	1	1155	144	5.	*	1	1810	219	8.	*	2	0025	294	4.
1	0545	70	1.	*	1	1200	145	7.	*	1	1815	220	8.	*	2	0030	295	4.
1	0550	71	1.	*	1	1205	146	8.	*	1	1820	221	8.	*	2	0035	296	4.
1	0555	72	1.	*	1	1210	147	8.	*	1	1825	222	8.	*	2	0040	297	4.
1	0600	73	1.	*	1	1215	148	8.	*	1	1830	223	8.	*	2	0045	298	4.
1	0605	74	1.	*	1	1220	149	9.	*	1	1835	224	8.	*	2	0050	299	4.
1	0610	75	1.	*	1	1225	150	9.	*	1	1840	225	8.	*	2	0055	300	4.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 10.	13.50		9.	5.	5.	5.
		(INCHES)	.554	1.151	1.154	1.154
		(AC-FT)	4.	9.	9.	9.

CUMULATIVE AREA = .15 SQ MI

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          *             *
137 KK    *      R21a   *
          *             *
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Route R21 Through R21a

HYDROGRAPH ROUTING DATA

139 RK KINEMATIC WAVE STREAM ROUTING

L	2700.	CHANNEL LENGTH
S	.0230	SLOPE
N	.050	CHANNEL ROUGHNESS COEFFICIENT
CA	.00	CONTRIBUTING AREA
SHAPE	TRAP	CHANNEL SHAPE
WD	30.00	BOTTOM WIDTH OR DIAMETER
Z	6.00	SIDE SLOPE
NDXMIN	2	MINIMUM NUMBER OF DX INTERVALS

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COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	.75	1.45	4.71	675.00	9.57	825.74	1.15	2.42

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9419E+01 EXCESS= .0000E+00 OUTFLOW= .9287E+01 BASIN STORAGE= .1329E+00 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	.75	1.45	5.00	9.57	825.00	1.14
***	***	***	***	***		

HYDROGRAPH AT STATION R21a
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)	9.	5.	5.	5.
+ 10.	13.75	(INCHES)	.556	1.145	1.145	1.145
		(AC-FT)	5.	9.	9.	9.

CUMULATIVE AREA = .15 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	.75	1.45	4.80	675.00	9.50	821.64	1.12	2.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9240E+01 EXCESS= .0000E+00 OUTFLOW= .9102E+01 BASIN STORAGE= .1289E+00 PERCENT ERROR= .1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	.75	1.45	5.00	9.50	825.00	1.12
***	***	***	***	***		

HYDROGRAPH AT STATION R21a
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)	9.	5.	4.	4.
+ 9.	13.67	(INCHES)	.551	1.123	1.123	1.123
		(AC-FT)	4.	9.	9.	9.

CUMULATIVE AREA = .15 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	.75	1.45	4.82	675.00	9.46	823.25	1.12	2.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9149E+01 EXCESS= .0000E+00 OUTFLOW= .9042E+01 BASIN STORAGE= .1249E+00 PERCENT ERROR= -.2

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	.75	1.45	5.00	9.46	825.00	1.11
***	***	***	***	***		

HYDROGRAPH AT STATION R21a
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)	9.	5.	4.	4.
+ 9.	13.67	(INCHES)	.548	1.112	1.112	1.112
		(AC-FT)	4.	9.	9.	9.

CUMULATIVE AREA = .15 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	.75	1.45	4.74	675.00	9.43	823.23	1.10	2.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9057E+01 EXCESS= .0000E+00 OUTFLOW= .8948E+01 BASIN STORAGE= .1230E+00 PERCENT ERROR= -.2

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

	MAIN	.75	1.45	5.00	9.43	825.00	1.10
	***	***	***	***	***		

HYDROGRAPH AT STATION R21a
TRANSPOSITION AREA 36.5 SQ MI

	PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)	(CFS)			
+	9.	13.67	9.	4.	4.	4.
			(INCHES) .545	1.101	1.101	1.101
			(AC-FT) 4.	9.	9.	9.

CUMULATIVE AREA = .15 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	.75	1.45	4.74	675.00	9.40	824.07	1.10	2.40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8993E+01 EXCESS= .0000E+00 OUTFLOW= .8871E+01 BASIN STORAGE= .1224E+00 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

	MAIN	.75	1.45	5.00	9.40	820.00	1.09
	***	***	***	***	***		

HYDROGRAPH AT STATION R21a
TRANSPOSITION AREA 50.0 SQ MI

	PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)	(CFS)			
+	9.	13.67	9.	4.	4.	4.
			(INCHES) .543	1.094	1.094	1.094
			(AC-FT) 4.	9.	9.	9.

CUMULATIVE AREA = .15 SQ MI

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INTERPOLATED HYDROGRAPH AT R21a

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DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	1.	1		1230	151	8.	1		1845	226	8.
1		0005	2	0.	1		0620	77	1.	1		1235	152	9.	1		1850	227	8.
1		0010	3	0.	1		0625	78	1.	1		1240	153	9.	1		1855	228	8.
1		0015	4	0.	1		0630	79	1.	1		1245	154	9.	1		1900	229	8.
1		0020	5	0.	1		0635	80	1.	1		1250	155	9.	1		1905	230	8.
1		0025	6	0.	1		0640	81	1.	1		1255	156	9.	1		1910	231	8.
1		0030	7	0.	1		0645	82	1.	1		1300	157	9.	1		1915	232	8.
1		0035	8	0.	1		0650	83	1.	1		1305	158	9.	1		1920	233	8.
1		0040	9	0.	1		0655	84	1.	1		1310	159	9.	1		1925	234	8.
1		0045	10	0.	1		0700	85	1.	1		1315	160	9.	1		1930	235	8.
1		0050	11	0.	1		0705	86	1.	1		1320	161	9.	1		1935	236	8.
1		0055	12	0.	1		0710	87	1.	1		1325	162	10.	1		1940	237	8.
1		0100	13	0.	1		0715	88	1.	1		1330	163	10.	1		1945	238	8.
1		0105	14	0.	1		0720	89	1.	1		1335	164	10.	1		1950	239	8.
1		0110	15	0.	1		0725	90	1.	1		1340	165	10.	1		1955	240	8.
1		0115	16	0.	1		0730	91	1.	1		1345	166	10.	1		2000	241	8.
1		0120	17	0.	1		0735	92	1.	1		1350	167	10.	1		2005	242	8.
1		0125	18	0.	1		0740	93	1.	1		1355	168	10.	1		2010	243	8.
1		0130	19	1.	1		0745	94	1.	1		1400	169	10.	1		2015	244	7.
1		0135	20	1.	1		0750	95	1.	1		1405	170	10.	1		2020	245	7.
1		0140	21	1.	1		0755	96	1.	1		1410	171	10.	1		2025	246	7.
1		0145	22	1.	1		0800	97	1.	1		1415	172	9.	1		2030	247	7.
1		0150	23	1.	1		0805	98	1.	1		1420	173	9.	1		2035	248	7.
1		0155	24	1.	1		0810	99	1.	1		1425	174	9.	1		2040	249	7.
1		0200	25	1.	1		0815	100	1.	1		1430	175	9.	1		2045	250	7.
1		0205	26	1.	1		0820	101	1.	1		1435	176	9.	1		2050	251	7.
1		0210	27	1.	1		0825	102	1.	1		1440	177	9.	1		2055	252	7.
1		0215	28	1.	1		0830	103	1.	1		1445	178	9.	1		2100	253	7.
1		0220	29	1.	1		0835	104	1.	1		1450	179	9.	1		2105	254	7.
1		0225	30	1.	1		0840	105	1.	1		1455	180	9.	1		2110	255	7.
1		0230	31	1.	1		0845	106	1.	1		1500	181	9.	1		2115	256	7.
1		0235	32	1.	1		0850	107	1.	1		1505	182	9.	1		2120	257	7.
1		0240	33	1.	1		0855	108	1.	1		1510	183	9.	1		2125	258	7.
1		0245	34	1.	1		0900	109	1.	1		1515	184	9.	1		2130	259	7.
1		0250	35	1.	1		0905	110	1.	1		1520	185	9.	1		2135	260	7.
1		0255	36	1.	1		0910	111	1.	1		1525	186	9.	1		2140	261	7.
1		0300	37	1.	1		0915	112	2.	1		1530	187	9.	1		2145	262	7.
1		0305	38	1.	1		0920	113	2.	1		1535	188	9.	1		2150	263	7.
1		0310	39	1.	1		0925	114	2.	1		1540	189	9.	1		2155	264	7.
1		0315	40	1.	1		0930	115	2.	1		1545	190	9.	1		2200	265	6.
1		0320	41	1.	1		0935	116	2.	1		1550	191	9.	1		2205	266	6.
1		0325	42	1.	1		0940	117	2.	1		1555	192	9.	1		2210	267	6.
1		0330	43	1.	1		0945	118	2.	1		1600	193	9.	1		2215	268	6.
1		0335	44	1.	1		0950	119	2.	1		1605	194	9.	1		2220	269	6.
1		0340	45	1.	1		0955	120	2.	1		1610	195	9.	1		2225	270	6.
1		0345	46	1.	1		1000	121	2.	1		1615	196	9.	1		2230	271	6.
1		0350	47	1.	1		1005	122	2.	1		1620	197	9.	1		2235	272	6.
1		0355	48	1.	1		1010	123	2.	1		1625	198	9.	1		2240	273	6.
1		0400	49	1.	1		1015	124	2.	1		1630	199	9.	1		2245	274	6.

1	0405	50	1.	*	1	1020	125	2.	*	1	1635	200	9.	*	1	2250	275	6.
1	0410	51	1.	*	1	1025	126	2.	*	1	1640	201	9.	*	1	2255	276	5.
1	0415	52	1.	*	1	1030	127	2.	*	1	1645	202	9.	*	1	2300	277	5.
1	0420	53	1.	*	1	1035	128	2.	*	1	1650	203	9.	*	1	2305	278	5.
1	0425	54	1.	*	1	1040	129	2.	*	1	1655	204	9.	*	1	2310	279	5.
1	0430	55	1.	*	1	1045	130	2.	*	1	1700	205	9.	*	1	2315	280	5.
1	0435	56	1.	*	1	1050	131	2.	*	1	1705	206	9.	*	1	2320	281	5.
1	0440	57	1.	*	1	1055	132	2.	*	1	1710	207	9.	*	1	2325	282	5.
1	0445	58	1.	*	1	1100	133	3.	*	1	1715	208	9.	*	1	2330	283	5.
1	0450	59	1.	*	1	1105	134	3.	*	1	1720	209	9.	*	1	2335	284	5.
1	0455	60	1.	*	1	1110	135	3.	*	1	1725	210	9.	*	1	2340	285	5.
1	0500	61	1.	*	1	1115	136	3.	*	1	1730	211	9.	*	1	2345	286	5.
1	0505	62	1.	*	1	1120	137	3.	*	1	1735	212	9.	*	1	2350	287	5.
1	0510	63	1.	*	1	1125	138	3.	*	1	1740	213	8.	*	1	2355	288	5.
1	0515	64	1.	*	1	1130	139	3.	*	1	1745	214	8.	*	2	0000	289	5.
1	0520	65	1.	*	1	1135	140	3.	*	1	1750	215	8.	*	2	0005	290	4.
1	0525	66	1.	*	1	1140	141	3.	*	1	1755	216	8.	*	2	0010	291	4.
1	0530	67	1.	*	1	1145	142	3.	*	1	1800	217	8.	*	2	0015	292	4.
1	0535	68	1.	*	1	1150	143	3.	*	1	1805	218	8.	*	2	0020	293	4.
1	0540	69	1.	*	1	1155	144	3.	*	1	1810	219	8.	*	2	0025	294	4.
1	0545	70	1.	*	1	1200	145	3.	*	1	1815	220	8.	*	2	0030	295	4.
1	0550	71	1.	*	1	1205	146	4.	*	1	1820	221	8.	*	2	0035	296	4.
1	0555	72	1.	*	1	1210	147	5.	*	1	1825	222	8.	*	2	0040	297	4.
1	0600	73	1.	*	1	1215	148	7.	*	1	1830	223	8.	*	2	0045	298	4.
1	0605	74	1.	*	1	1220	149	7.	*	1	1835	224	8.	*	2	0050	299	4.
1	0610	75	1.	*	1	1225	150	8.	*	1	1840	225	8.	*	2	0055	300	4.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
10.	13.75		9.	5.	4.	4.
		(INCHES)	.554	1.137	1.137	1.137
		(AC-FT)	4.	9.	9.	9.

CUMULATIVE AREA = .15 SQ MI

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140 KK

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* *
* DB21a *
* *
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Subbasin

SUBBASIN RUNOFF DATA

.42 BA — SUBBASIN CHARACTERISTICS
TAREA .34 SUBBASIN AREA

143 LG — GREEN AND AMPT LOSS RATE

STRTL	.29	STARTING LOSS
DTH	.31	MOISTURE DEFICIT
PSIF	1.15	WETTING FRONT SUCTION
XKSAT	.04	HYDRAULIC CONDUCTIVITY
RTIMP	30.00	PERCENT IMPERVIOUS AREA

144 US — SNYDER UNITGRAPH

TP	.08	LAG
CP	.34	PEAKING COEFFICIENT

SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

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UNIT HYDROGRAPH PARAMETERS
CLARK TC= .08 HR, R= .34 HR
SNYDER TP= .13 HR, CP= .34

UNIT HYDROGRAPH
23 END-OF-PERIOD ORDINATES

288.	512.	401.	313.	245.	191.	150.	117.	91.	71.
56.	44.	34.	27.	21.	16.	13.	10.	8.	6.
5.	4.	3.							

*** *** *** *** ***

HYDROGRAPH AT STATION DB21a
TRANSPOSITION AREA .0 SQ MI

TOTAL RAINFALL = 1.99, TOTAL LOSS = .76, TOTAL EXCESS = 1.23

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
275.	12.00		38.	11.	11.	11.
		(INCHES)	1.046	1.219	1.221	1.221
		(AC-FT)	19.	22.	22.	22.

CUMULATIVE AREA = .34 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB21a
TRANSPOSITION AREA 14.0 SQ MI

TOTAL RAINFALL = 1.95, TOTAL LOSS = .76, TOTAL EXCESS = 1.19

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
269.	12.00		37.	11.	10.	10.
		(INCHES)	1.018	1.188	1.189	1.189
		(AC-FT)	18.	22.	22.	22.

CUMULATIVE AREA = .34 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB21a
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.93, TOTAL LOSS = .75, TOTAL EXCESS = 1.18

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
266.	12.00				
		(CFS) 37.	11.	10.	10.
		(INCHES) 1.004	1.172	1.174	1.174
		(AC-FT) 18.	21.	21.	21.

CUMULATIVE AREA = .34 SQ MI

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HYDROGRAPH AT STATION DB21a
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.91, TOTAL LOSS = .75, TOTAL EXCESS = 1.16

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-NR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
263.	12.00				
		(CFS) 36.	11.	10.	10.
		(INCHES) .990	1.157	1.158	1.158
		(AC-FT) 18.	21.	21.	21.

CUMULATIVE AREA = .34 SQ MI

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HYDROGRAPH AT STATION DB21a
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.90, TOTAL LOSS = .74, TOTAL EXCESS = 1.15

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
261.	12.00				
		(CFS) 36.	10.	10.	10.
		(INCHES) .981	1.146	1.147	1.147
		(AC-FT) 18.	21.	21.	21.

CUMULATIVE AREA = .34 SQ MI

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INTERPOLATED HYDROGRAPH AT DB21a

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DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	2.	1		1230	151	109.	1		1845	226	2.
1		0005	2	0.	1		0620	77	2.	1		1235	152	91.	1		1850	227	2.
1		0010	3	0.	1		0625	78	2.	1		1240	153	76.	1		1855	228	2.
1		0015	4	1.	1		0630	79	2.	1		1245	154	64.	1		1900	229	2.
1		0020	5	1.	1		0635	80	2.	1		1250	155	54.	1		1905	230	2.
1		0025	6	1.	1		0640	81	2.	1		1255	156	46.	1		1910	231	2.
1		0030	7	1.	1		0645	82	2.	1		1300	157	39.	1		1915	232	2.
1		0035	8	1.	1		0650	83	2.	1		1305	158	34.	1		1920	233	2.
1		0040	9	1.	1		0655	84	2.	1		1310	159	29.	1		1925	234	2.
1		0045	10	1.	1		0700	85	2.	1		1315	160	26.	1		1930	235	2.
1		0050	11	1.	1		0705	86	3.	1		1320	161	22.	1		1935	236	2.
1		0055	12	1.	1		0710	87	3.	1		1325	162	20.	1		1940	237	2.
1		0100	13	1.	1		0715	88	3.	1		1330	163	17.	1		1945	238	2.
1		0105	14	1.	1		0720	89	3.	1		1335	164	15.	1		1950	239	2.
1		0110	15	1.	1		0725	90	3.	1		1340	165	14.	1		1955	240	2.
1		0115	16	1.	1		0730	91	3.	1		1345	166	12.	1		2000	241	2.
1		0120	17	1.	1		0735	92	3.	1		1350	167	10.	1		2005	242	2.
1		0125	18	1.	1		0740	93	3.	1		1355	168	9.	1		2010	243	2.
1		0130	19	1.	1		0745	94	3.	1		1400	169	8.	1		2015	244	2.
1		0135	20	1.	1		0750	95	3.	1		1405	170	7.	1		2020	245	2.
1		0140	21	1.	1		0755	96	3.	1		1410	171	7.	1		2025	246	2.
1		0145	22	1.	1		0800	97	3.	1		1415	172	6.	1		2030	247	2.
1		0150	23	1.	1		0805	98	3.	1		1420	173	6.	1		2035	248	2.
1		0155	24	1.	1		0810	99	3.	1		1425	174	6.	1		2040	249	2.
1		0200	25	2.	1		0815	100	3.	1		1430	175	5.	1		2045	250	2.
1		0205	26	2.	1		0820	101	3.	1		1435	176	5.	1		2050	251	2.
1		0210	27	2.	1		0825	102	3.	1		1440	177	5.	1		2055	252	2.
1		0215	28	2.	1		0830	103	3.	1		1445	178	5.	1		2100	253	2.
1		0220	29	2.	1		0835	104	3.	1		1450	179	5.	1		2105	254	2.
1		0225	30	2.	1		0840	105	3.	1		1455	180	4.	1		2110	255	2.
1		0230	31	2.	1		0845	106	3.	1		1500	181	4.	1		2115	256	2.
1		0235	32	2.	1		0850	107	3.	1		1505	182	4.	1		2120	257	2.
1		0240	33	2.	1		0855	108	4.	1		1510	183	4.	1		2125	258	2.
1		0245	34	2.	1		0900	109	4.	1		1515	184	4.	1		2130	259	2.
1		0250	35	2.	1		0905	110	4.	1		1520	185	4.	1		2135	260	2.
1		0255	36	2.	1		0910	111	4.	1		1525	186	4.	1		2140	261	2.
1		0300	37	2.	1		0915	112	4.	1		1530	187	4.	1		2145	262	2.
1		0305	38	2.	1		0920	113	4.	1		1535	188	4.	1		2150	263	2.
1		0310	39	2.	1		0925	114	4.	1		1540	189	4.	1		2155	264	2.
1		0315	40	2.	1		0930	115	4.	1		1545	190	4.	1		2200	265	2.
1		0320	41	2.	1		0935	116	4.	1		1550	191	3.	1		2205	266	2.
1		0325	42	2.	1		0940	117	4.	1		1555	192	3.	1		2210	267	2.
1		0330	43	2.	1		0945	118	4.	1		1600	193	3.	1		2215	268	2.
1		0335	44	2.	1		0950	119	4.	1		1605	194	3.	1		2220	269	2.
1		0340	45	2.	1		0955	120	4.	1		1610	195	3.	1		2225	270	2.
1		0345	46	2.	1		1000	121	5.	1		1615	196	3.	1		2230	271	2.
1		0350	47	2.	1		1005	122	5.	1		1620	197	3.	1		2235	272	2.
1		0355	48	2.	1		1010	123	5.	1		1625	198	3.	1		2240	273	2.

1	0400	49	2.	*	1	1015	124	5.	*	1	1630	199	3.	*	1	2245	274	2.
1	0405	50	2.	*	1	1020	125	5.	*	1	1635	200	3.	*	1	2250	275	2.
1	0410	51	2.	*	1	1025	126	5.	*	1	1640	201	3.	*	1	2255	276	2.
1	0415	52	2.	*	1	1030	127	6.	*	1	1645	202	3.	*	1	2300	277	2.
1	0420	53	2.	*	1	1035	128	6.	*	1	1650	203	3.	*	1	2305	278	2.
1	0425	54	2.	*	1	1040	129	6.	*	1	1655	204	3.	*	1	2310	279	1.
1	0430	55	2.	*	1	1045	130	7.	*	1	1700	205	3.	*	1	2315	280	1.
1	0435	56	2.	*	1	1050	131	7.	*	1	1705	206	3.	*	1	2320	281	1.
1	0440	57	2.	*	1	1055	132	7.	*	1	1710	207	3.	*	1	2325	282	1.
1	0445	58	2.	*	1	1100	133	8.	*	1	1715	208	3.	*	1	2330	283	1.
1	0450	59	2.	*	1	1105	134	9.	*	1	1720	209	3.	*	1	2335	284	1.
1	0455	60	2.	*	1	1110	135	10.	*	1	1725	210	3.	*	1	2340	285	1.
1	0500	61	2.	*	1	1115	136	13.	*	1	1730	211	3.	*	1	2345	286	1.
1	0505	62	2.	*	1	1120	137	15.	*	1	1735	212	3.	*	1	2350	287	1.
1	0510	63	2.	*	1	1125	138	18.	*	1	1740	213	3.	*	1	2355	288	1.
1	0515	64	2.	*	1	1130	139	21.	*	1	1745	214	3.	*	2	0000	289	1.
1	0520	65	2.	*	1	1135	140	30.	*	1	1750	215	3.	*	2	0005	290	1.
1	0525	66	2.	*	1	1140	141	51.	*	1	1755	216	2.	*	2	0010	291	1.
1	0530	67	2.	*	1	1145	142	87.	*	1	1800	217	2.	*	2	0015	292	1.
1	0535	68	2.	*	1	1150	143	143.	*	1	1805	218	2.	*	2	0020	293	1.
1	0540	69	2.	*	1	1155	144	217.	*	1	1810	219	2.	*	2	0025	294	0.
1	0545	70	2.	*	1	1200	145	272.	*	1	1815	220	2.	*	2	0030	295	0.
1	0550	71	2.	*	1	1205	146	264.	*	1	1820	221	2.	*	2	0035	296	0.
1	0555	72	2.	*	1	1210	147	220.	*	1	1825	222	2.	*	2	0040	297	0.
1	0600	73	2.	*	1	1215	148	184.	*	1	1830	223	2.	*	2	0045	298	0.
1	0605	74	2.	*	1	1220	149	155.	*	1	1835	224	2.	*	2	0050	299	0.
1	0610	75	2.	*	1	1225	150	130.	*	1	1840	225	2.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 272.	12.00		38.	11.	11.	11.
		(INCHES)	1.032	1.204	1.205	1.205
		(AC-FT)	19.	22.	22.	22.

CUMULATIVE AREA = .34 SQ MI

*** *** *** *

(AC-FT) 7. 8. 8. 8.

CUMULATIVE AREA = .16 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R17
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.93, TOTAL LOSS = 1.00, TOTAL EXCESS = .93

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+ 86.	12.08	(CFS)	15.	4.	4.	4.
		(INCHES)	.845	.930	.930	.930
		(AC-FT)	7.	8.	8.	8.

CUMULATIVE AREA = .16 SQ MI

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HYDROGRAPH AT STATION R17
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.91, TOTAL LOSS = .99, TOTAL EXCESS = .92

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+ 85.	12.08	(CFS)	15.	4.	4.	4.
		(INCHES)	.832	.916	.916	.916
		(AC-FT)	7.	8.	8.	8.

CUMULATIVE AREA = .16 SQ MI

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HYDROGRAPH AT STATION R17
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.90, TOTAL LOSS = .98, TOTAL EXCESS = .91

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+ 84.	12.08	(CFS)	14.	4.	4.	4.
		(INCHES)	.823	.906	.907	.907
		(AC-FT)	7.	8.	8.	8.

CUMULATIVE AREA = .16 SQ MI

INTERPOLATED HYDROGRAPH AT R17

DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	*	1		0615	76	1.	*	1		1230	151	53.	*	1		1845	226	1.
1		0005	2	0.	*	1		0620	77	1.	*	1		1235	152	47.	*	1		1850	227	1.
1		0010	3	0.	*	1		0625	78	1.	*	1		1240	153	42.	*	1		1855	228	1.
1		0015	4	0.	*	1		0630	79	1.	*	1		1245	154	37.	*	1		1900	229	1.
1		0020	5	0.	*	1		0635	80	1.	*	1		1250	155	33.	*	1		1905	230	1.
1		0025	6	0.	*	1		0640	81	1.	*	1		1255	156	29.	*	1		1910	231	1.
1		0030	7	0.	*	1		0645	82	1.	*	1		1300	157	26.	*	1		1915	232	1.
1		0035	8	0.	*	1		0650	83	1.	*	1		1305	158	23.	*	1		1920	233	1.
1		0040	9	0.	*	1		0655	84	1.	*	1		1310	159	20.	*	1		1925	234	0.
1		0045	10	0.	*	1		0700	85	1.	*	1		1315	160	18.	*	1		1930	235	0.
1		0050	11	0.	*	1		0705	86	1.	*	1		1320	161	16.	*	1		1935	236	0.
1		0055	12	0.	*	1		0710	87	1.	*	1		1325	162	14.	*	1		1940	237	0.
1		0100	13	0.	*	1		0715	88	1.	*	1		1330	163	12.	*	1		1945	238	0.
1		0105	14	0.	*	1		0720	89	1.	*	1		1335	164	11.	*	1		1950	239	0.
1		0110	15	0.	*	1		0725	90	1.	*	1		1340	165	10.	*	1		1955	240	0.
1		0115	16	0.	*	1		0730	91	1.	*	1		1345	166	9.	*	1		2000	241	0.
1		0120	17	0.	*	1		0735	92	1.	*	1		1350	167	8.	*	1		2005	242	0.
1		0125	18	0.	*	1		0740	93	1.	*	1		1355	168	7.	*	1		2010	243	0.
1		0130	19	0.	*	1		0745	94	1.	*	1		1400	169	6.	*	1		2015	244	0.
1		0135	20	0.	*	1		0750	95	1.	*	1		1405	170	5.	*	1		2020	245	0.
1		0140	21	0.	*	1		0755	96	1.	*	1		1410	171	5.	*	1		2025	246	0.
1		0145	22	0.	*	1		0800	97	1.	*	1		1415	172	4.	*	1		2030	247	0.
1		0150	23	0.	*	1		0805	98	1.	*	1		1420	173	4.	*	1		2035	248	0.
1		0155	24	0.	*	1		0810	99	1.	*	1		1425	174	4.	*	1		2040	249	0.
1		0200	25	0.	*	1		0815	100	1.	*	1		1430	175	3.	*	1		2045	250	0.
1		0205	26	0.	*	1		0820	101	1.	*	1		1435	176	3.	*	1		2050	251	0.
1		0210	27	0.	*	1		0825	102	1.	*	1		1440	177	3.	*	1		2055	252	0.
1		0215	28	0.	*	1		0830	103	1.	*	1		1445	178	2.	*	1		2100	253	0.
1		0220	29	0.	*	1		0835	104	1.	*	1		1450	179	2.	*	1		2105	254	0.
1		0225	30	0.	*	1		0840	105	1.	*	1		1455	180	2.	*	1		2110	255	0.
1		0230	31	0.	*	1		0845	106	1.	*	1		1500	181	2.	*	1		2115	256	0.
1		0235	32	0.	*	1		0850	107	1.	*	1		1505	182	2.	*	1		2120	257	0.
1		0240	33	0.	*	1		0855	108	1.	*	1		1510	183	1.	*	1		2125	258	0.
1		0245	34	0.	*	1		0900	109	1.	*	1		1515	184	1.	*	1		2130	259	0.
1		0250	35	0.	*	1		0905	110	1.	*	1		1520	185	1.	*	1		2135	260	0.
1		0255	36	0.	*	1		0910	111	1.	*	1		1525	186	1.	*	1		2140	261	0.
1		0300	37	0.	*	1		0915	112	1.	*	1		1530	187	1.	*	1		2145	262	0.
1		0305	38	0.	*	1		0920	113	1.	*	1		1535	188	1.	*	1		2150	263	0.
1		0310	39	0.	*	1		0925	114	1.	*	1		1540	189	1.	*	1		2155	264	0.
1		0315	40	0.	*	1		0930	115	1.	*	1		1545	190	1.	*	1		2200	265	0.
1		0320	41	0.	*	1		0935	116	1.	*	1		1550	191	1.	*	1		2205	266	0.
1		0325	42	0.	*	1		0940	117	1.	*	1		1555	192	1.	*	1		2210	267	0.
1		0330	43	0.	*	1		0945	118	1.	*	1		1600	193	1.	*	1		2215	268	0.
1		0335	44	0.	*	1		0950	119	1.	*	1		1605	194	1.	*	1		2220	269	0.
1		0340	45	0.	*	1		0955	120	1.	*	1		1610	195	1.	*	1		2225	270	0.
1		0345	46	0.	*	1		1000	121	1.	*	1		1615	196	1.	*	1		2230	271	0.
1		0350	47	0.	*	1		1005	122	1.	*	1		1620	197	1.	*	1		2235	272	0.

1	0355	48	0.	*	1	1010	123	1.	*	1	1625	198	1.	*	1	2240	273	0.
1	0400	49	0.	*	1	1015	124	1.	*	1	1630	199	1.	*	1	2245	274	0.
1	0405	50	0.	*	1	1020	125	1.	*	1	1635	200	1.	*	1	2250	275	0.
1	0410	51	0.	*	1	1025	126	1.	*	1	1640	201	1.	*	1	2255	276	0.
1	0415	52	0.	*	1	1030	127	1.	*	1	1645	202	1.	*	1	2300	277	0.
1	0420	53	0.	*	1	1035	128	1.	*	1	1650	203	1.	*	1	2305	278	0.
1	0425	54	0.	*	1	1040	129	1.	*	1	1655	204	1.	*	1	2310	279	0.
1	0430	55	0.	*	1	1045	130	1.	*	1	1700	205	1.	*	1	2315	280	0.
1	0435	56	0.	*	1	1050	131	1.	*	1	1705	206	1.	*	1	2320	281	0.
1	0440	57	0.	*	1	1055	132	2.	*	1	1710	207	1.	*	1	2325	282	0.
1	0445	58	0.	*	1	1100	133	2.	*	1	1715	208	1.	*	1	2330	283	0.
1	0450	59	0.	*	1	1105	134	2.	*	1	1720	209	1.	*	1	2335	284	0.
1	0455	60	0.	*	1	1110	135	2.	*	1	1725	210	1.	*	1	2340	285	0.
1	0500	61	0.	*	1	1115	136	2.	*	1	1730	211	1.	*	1	2345	286	0.
1	0505	62	0.	*	1	1120	137	2.	*	1	1735	212	1.	*	1	2350	287	0.
1	0510	63	0.	*	1	1125	138	3.	*	1	1740	213	1.	*	1	2355	288	0.
1	0515	64	0.	*	1	1130	139	3.	*	1	1745	214	1.	*	2	0000	289	0.
1	0520	65	0.	*	1	1135	140	6.	*	1	1750	215	1.	*	2	0005	290	0.
1	0525	66	0.	*	1	1140	141	12.	*	1	1755	216	1.	*	2	0010	291	0.
1	0530	67	0.	*	1	1145	142	24.	*	1	1800	217	1.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	41.	*	1	1805	218	1.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	65.	*	1	1810	219	1.	*	2	0025	294	0.
1	0545	70	1.	*	1	1200	145	86.	*	1	1815	220	1.	*	2	0030	295	0.
1	0550	71	1.	*	1	1205	146	88.	*	1	1820	221	1.	*	2	0035	296	0.
1	0555	72	1.	*	1	1210	147	80.	*	1	1825	222	1.	*	2	0040	297	0.
1	0600	73	1.	*	1	1215	148	73.	*	1	1830	223	1.	*	2	0045	298	0.
1	0605	74	1.	*	1	1220	149	65.	*	1	1835	224	1.	*	2	0050	299	0.
1	0610	75	1.	*	1	1225	150	59.	*	1	1840	225	1.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 88.	12.08		15.	4.	4.	4.
		(INCHES)	.875	.961	.962	.962
		(AC-FT)	8.	8.	8.	8.

CUMULATIVE AREA = .16 SQ MI

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149 KK

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* R_R17 *
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Detention Pond R17

HYDROGRAPH ROUTING DATA

150 RS STORAGE ROUTING
NSTPS 1 NUMBER OF SUBREACHES
ITYP STOR TYPE OF INITIAL CONDITION
RSVRIC .00 INITIAL CONDITION
X .00 WORKING R AND D COEFFICIENT

151 SV	STORAGE	.0	.7	1.2	1.8	2.5	3.2	4.1	5.0	6.0	7.1
152 SQ	DISCHARGE	0.	0.	0.	0.	3.	9.	37.	42.	45.	48.
153 SE	ELEVATION	4860.00	4862.00	4863.00	4864.00	4865.00	4866.00	4867.00	4868.00	4869.00	4870.00

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HYDROGRAPH AT STATION R_R17
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 38.	12.75		12.	3.	3.	3.
		(INCHES)	.686	.753	.753	.753
		(AC-FT)	6.	7.	7.	7.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
4.	12.75	3.	1.	1.	1.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
4867.29	12.75	4865.70	4863.01	4862.90	4862.90

CUMULATIVE AREA = .16 SQ MI

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HYDROGRAPH AT STATION R_R17
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
+ 38.	12.75		11.	3.	3.	3.
		(INCHES)	.659	.725	.725	.725
		(AC-FT)	6.	6.	6.	6.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				

4.	12.75	3.	1.	1.	1.	

PEAK STAGE (FEET)	TIME (HR)	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
4867.19	12.75	4865.67	4863.00	4862.89	4862.89

CUMULATIVE AREA = .16 SQ MI

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HYDRDGRAPH AT STATION R_R17
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
37.	12.75	11.	3.	3.	3.
		(INCHES) .645	.711	.711	.711
		(AC-FT) 6.	6.	6.	6.

PEAK STORAGE (AC-FT)	TIME (HR)	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
4.	12.75	3.	1.	1.	1.

PEAK STAGE (FEET)	TIME (HR)	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
4867.14	12.75	4865.66	4862.99	4862.88	4862.88

CUMULATIVE AREA = .16 SQ MI

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HYDROGRAPH AT STATION R_R17
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
37.	12.75	11.	3.	3.	3.
		(INCHES) .632	.697	.697	.697
		(AC-FT) 5.	6.	6.	6.

PEAK STORAGE (AC-FT)	TIME (HR)	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
4.	12.75	3.	1.	1.	1.

PEAK STAGE (FEET)	TIME (HR)	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
4867.10	12.75	4865.64	4862.98	4862.87	4862.87

CUMULATIVE AREA = .16 SQ MI

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HYDROGRAPH AT STATION R_R17
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
37.	12.67	11.	3.	3.	3.
		(INCHES) .623	.688	.688	.688
		(AC-FT) 5.	6.	6.	6.

PEAK STORAGE (AC-FT)	TIME (HR)	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
4.	12.67	3.	1.	1.	1.

PEAK STAGE (FEET)	TIME (HR)	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
4867.07	12.67	4865.63	4862.97	4862.86	4862.86

CUMULATIVE AREA = .16 SQ MI

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INTERPOLATED HYDROGRAPH AT R_R17

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DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	37.	1		1845	226	2.
1		0005	2	0.	1		0620	77	0.	1		1235	152	38.	1		1850	227	2.
1		0010	3	0.	1		0625	78	0.	1		1240	153	38.	1		1855	228	2.
1		0015	4	0.	1		0630	79	0.	1		1245	154	38.	1		1900	229	2.
1		0020	5	0.	1		0635	80	0.	1		1250	155	38.	1		1905	230	2.
1		0025	6	0.	1		0640	81	0.	1		1255	156	38.	1		1910	231	2.
1		0030	7	0.	1		0645	82	0.	1		1300	157	37.	1		1915	232	1.
1		0035	8	0.	1		0650	83	0.	1		1305	158	36.	1		1920	233	1.
1		0040	9	0.	1		0655	84	0.	1		1310	159	34.	1		1925	234	1.
1		0045	10	0.	1		0700	85	0.	1		1315	160	31.	1		1930	235	1.
1		0050	11	0.	1		0705	86	0.	1		1320	161	28.	1		1935	236	1.
1		0055	12	0.	1		0710	87	0.	1		1325	162	25.	1		1940	237	1.
1		0100	13	0.	1		0715	88	0.	1		1330	163	23.	1		1945	238	1.
1		0105	14	0.	1		0720	89	0.	1		1335	164	20.	1		1950	239	1.
1		0110	15	0.	1		0725	90	0.	1		1340	165	18.	1		1955	240	1.
1		0115	16	0.	1		0730	91	0.	1		1345	166	16.	1		2000	241	1.
1		0120	17	0.	1		0735	92	0.	1		1350	167	15.	1		2005	242	1.
1		0125	18	0.	1		0740	93	0.	1		1355	168	13.	1		2010	243	1.

1	0130	19	0.	*	1	0745	94	0.	*	1	1400	169	12.	*	1	2015	244	1.
1	0135	20	0.	*	1	0750	95	0.	*	1	1405	170	10.	*	1	2020	245	1.
1	0140	21	0.	*	1	0755	96	0.	*	1	1410	171	9.	*	1	2025	246	1.
1	0145	22	0.	*	1	0800	97	0.	*	1	1415	172	9.	*	1	2030	247	1.
1	0150	23	0.	*	1	0805	98	0.	*	1	1420	173	8.	*	1	2035	248	1.
1	0155	24	0.	*	1	0810	99	0.	*	1	1425	174	8.	*	1	2040	249	1.
1	0200	25	0.	*	1	0815	100	0.	*	1	1430	175	8.	*	1	2045	250	1.
1	0205	26	0.	*	1	0820	101	0.	*	1	1435	176	8.	*	1	2050	251	1.
1	0210	27	0.	*	1	0825	102	0.	*	1	1440	177	7.	*	1	2055	252	1.
1	0215	28	0.	*	1	0830	103	0.	*	1	1445	178	7.	*	1	2100	253	1.
1	0220	29	0.	*	1	0835	104	0.	*	1	1450	179	7.	*	1	2105	254	1.
1	0225	30	0.	*	1	0840	105	0.	*	1	1455	180	7.	*	1	2110	255	1.
1	0230	31	0.	*	1	0845	106	0.	*	1	1500	181	6.	*	1	2115	256	1.
1	0235	32	0.	*	1	0850	107	0.	*	1	1505	182	6.	*	1	2120	257	1.
1	0240	33	0.	*	1	0855	108	0.	*	1	1510	183	6.	*	1	2125	258	1.
1	0245	34	0.	*	1	0900	109	0.	*	1	1515	184	6.	*	1	2130	259	1.
1	0250	35	0.	*	1	0905	110	0.	*	1	1520	185	6.	*	1	2135	260	1.
1	0255	36	0.	*	1	0910	111	0.	*	1	1525	186	5.	*	1	2140	261	1.
1	0300	37	0.	*	1	0915	112	0.	*	1	1530	187	5.	*	1	2145	262	1.
1	0305	38	0.	*	1	0920	113	0.	*	1	1535	188	5.	*	1	2150	263	1.
1	0310	39	0.	*	1	0925	114	0.	*	1	1540	189	5.	*	1	2155	264	1.
1	0315	40	0.	*	1	0930	115	0.	*	1	1545	190	4.	*	1	2200	265	1.
1	0320	41	0.	*	1	0935	116	0.	*	1	1550	191	4.	*	1	2205	266	1.
1	0325	42	0.	*	1	0940	117	0.	*	1	1555	192	4.	*	1	2210	267	1.
1	0330	43	0.	*	1	0945	118	0.	*	1	1600	193	4.	*	1	2215	268	1.
1	0335	44	0.	*	1	0950	119	0.	*	1	1605	194	4.	*	1	2220	269	1.
1	0340	45	0.	*	1	0955	120	0.	*	1	1610	195	4.	*	1	2225	270	1.
1	0345	46	0.	*	1	1000	121	0.	*	1	1615	196	4.	*	1	2230	271	1.
1	0350	47	0.	*	1	1005	122	0.	*	1	1620	197	3.	*	1	2235	272	1.
1	0355	48	0.	*	1	1010	123	0.	*	1	1625	198	3.	*	1	2240	273	1.
1	0400	49	0.	*	1	1015	124	0.	*	1	1630	199	3.	*	1	2245	274	1.
1	0405	50	0.	*	1	1020	125	0.	*	1	1635	200	3.	*	1	2250	275	1.
1	0410	51	0.	*	1	1025	126	0.	*	1	1640	201	3.	*	1	2255	276	1.
1	0415	52	0.	*	1	1030	127	0.	*	1	1645	202	3.	*	1	2300	277	1.
1	0420	53	0.	*	1	1035	128	0.	*	1	1650	203	3.	*	1	2305	278	1.
1	0425	54	0.	*	1	1040	129	0.	*	1	1655	204	3.	*	1	2310	279	1.
1	0430	55	0.	*	1	1045	130	0.	*	1	1700	205	3.	*	1	2315	280	1.
1	0435	56	0.	*	1	1050	131	0.	*	1	1705	206	3.	*	1	2320	281	1.
1	0440	57	0.	*	1	1055	132	0.	*	1	1710	207	3.	*	1	2325	282	1.
1	0445	58	0.	*	1	1100	133	0.	*	1	1715	208	3.	*	1	2330	283	1.
1	0450	59	0.	*	1	1105	134	0.	*	1	1720	209	2.	*	1	2335	284	1.
1	0455	60	0.	*	1	1110	135	0.	*	1	1725	210	2.	*	1	2340	285	1.
1	0500	61	0.	*	1	1115	136	0.	*	1	1730	211	2.	*	1	2345	286	1.
1	0505	62	0.	*	1	1120	137	0.	*	1	1735	212	2.	*	1	2350	287	1.
1	0510	63	0.	*	1	1125	138	0.	*	1	1740	213	2.	*	1	2355	288	1.
1	0515	64	0.	*	1	1130	139	0.	*	1	1745	214	2.	*	2	0000	289	1.
1	0520	65	0.	*	1	1135	140	0.	*	1	1750	215	2.	*	2	0005	290	1.
1	0525	66	0.	*	1	1140	141	0.	*	1	1755	216	2.	*	2	0010	291	1.
1	0530	67	0.	*	1	1145	142	0.	*	1	1800	217	2.	*	2	0015	292	1.
1	0535	68	0.	*	1	1150	143	0.	*	1	1805	218	2.	*	2	0020	293	1.
1	0540	69	0.	*	1	1155	144	0.	*	1	1810	219	2.	*	2	0025	294	1.
1	0545	70	0.	*	1	1200	145	1.	*	1	1815	220	2.	*	2	0030	295	1.
1	0550	71	0.	*	1	1205	146	3.	*	1	1820	221	2.	*	2	0035	296	1.
1	0555	72	0.	*	1	1210	147	7.	*	1	1825	222	2.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	18.	*	1	1830	223	2.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	28.	*	1	1835	224	2.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	35.	*	1	1840	225	2.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 38.	12.75		12.	3.	3.	3.
		(INCHES)	.675	.742	.742	.742
		(AC-FT)	6.	6.	6.	6.

CUMULATIVE AREA = .16 SQ MI

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*             *
*     R_17_   *
*             *
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154 KK O Route hydrograph through R15 overland

HYDROGRAPH ROUTING DATA

155 RK KINEMATIC WAVE STREAM ROUTING

L	2000.	CHANNEL LENGTH
S	.0180	SLOPE
N	.040	CHANNEL ROUGHNESS COEFFICIENT
CA	.00	CONTRIBUTING AREA
SHAPE	TRAP	CHANNEL SHAPE
WD	10.00	BOTTOM WIOTH OR DIAMETER
Z	5.00	SIDE SLOPE
NDXMIN	2	MINIMUM NUMBER OF DX INTERVALS

***

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.36	1.39	2.41	666.67	38.16	769.27	.75	4.80

JNTINUITY SUMMARY (AC-FT) - INFLOW= .6519E+01 EXCESS= .0000E+00 OUTFLOW= .6502E+01 BASIN STORAGE= .1276E-01 PERCENT ERROR= .1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.36	1.39	5.00		38.15	770.00	.75

*** *** *** *** ***

HYDROGRAPH AT STATION R_17_
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	24.92-HR
38.	12.83	(CFS)	12.	3.	3.	3.
		(INCHES)	.684	.751	.751	.751
		(AC-FT)	6.	7.	7.	7.

CUMULATIVE AREA = .16 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.36	1.39	2.43	666.67	37.67	767.99	.72	4.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6276E+01 EXCESS= .0000E+00 OUTFLOW= .6265E+01 BASIN STORAGE= .1246E-01 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.36	1.39	5.00		37.66	770.00	.72

*** *** *** *** ***

HYDROGRAPH AT STATION R_17_
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	24.92-HR
38.	12.83	(CFS)	11.	3.	3.	3.
		(INCHES)	.657	.723	.723	.723
		(AC-FT)	6.	6.	6.	6.

CUMULATIVE AREA = .16 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.36	1.39	2.40	666.67	37.43	767.89	.71	4.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6156E+01 EXCESS= .0000E+00 OUTFLOW= .6140E+01 BASIN STORAGE= .1265E-01 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.36	1.39	5.00		37.42	770.00	.71

*** *** *** *** ***

HYDROGRAPH AT STATION R_17_
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	24.92-HR
37.	12.83	(CFS)	11.	3.	3.	3.
		(INCHES)	.644	.709	.709	.709
		(AC-FT)	6.	6.	6.	6.

CUMULATIVE AREA = .16 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.36	1.39	2.47	666.67	37.20	766.31	.70	4.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6036E+01 EXCESS= .0000E+00 OUTFLOW= .6018E+01 BASIN STORAGE= .1254E-01 PERCENT ERROR= .1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.36	1.39	5.00		37.18	770.00	.70

*** *** *** *** ***

HYDROGRAPH AT STATION R_17_
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	24.92-HR
37.	12.75	(CFS)	11.	3.	3.	3.
		(INCHES)	.630	.695	.695	.695
		(AC-FT)	5.	6.	6.	6.

CUMULATIVE AREA = .16 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.36	1.39	2.49	666.67	37.06	766.64	.69	4.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5953E+01 EXCESS= .0000E+00 OUTFLOW= .5938E+01 BASIN STORAGE= .1234E-01 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.36	1.39	5.00	37.05	765.00	.69

*** *** *** *** ***

HYDROGRAPH AT STATION R_17_
TRANSPOSITION AREA 50.0 SQ MI

	PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+	37.	12.75	(CFS)	11.	3.	3.	3.
			(INCHES)	.621	.686	.686	.686
			(AC-FT)	5.	6.	6.	6.

CUMULATIVE AREA = .16 SQ MI

INTERPOLATED HYDROGRAPH AT R_17_

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	35.	1		1845	226	2.
1		0005	2	0.	1		0620	77	0.	1		1235	152	37.	1		1850	227	2.
1		0010	3	0.	1		0625	78	0.	1		1240	153	38.	1		1855	228	2.
1		0015	4	0.	1		0630	79	0.	1		1245	154	38.	1		1900	229	2.
1		0020	5	0.	1		0635	80	0.	1		1250	155	38.	1		1905	230	2.
1		0025	6	0.	1		0640	81	0.	1		1255	156	38.	1		1910	231	2.
1		0030	7	0.	1		0645	82	0.	1		1300	157	38.	1		1915	232	2.
1		0035	8	0.	1		0650	83	0.	1		1305	158	37.	1		1920	233	2.
1		0040	9	0.	1		0655	84	0.	1		1310	159	36.	1		1925	234	1.
1		0045	10	0.	1		0700	85	0.	1		1315	160	34.	1		1930	235	1.
1		0050	11	0.	1		0705	86	0.	1		1320	161	31.	1		1935	236	1.
1		0055	12	0.	1		0710	87	0.	1		1325	162	28.	1		1940	237	1.
1		0100	13	0.	1		0715	88	0.	1		1330	163	25.	1		1945	238	1.
1		0105	14	0.	1		0720	89	0.	1		1335	164	23.	1		1950	239	1.
1		0110	15	0.	1		0725	90	0.	1		1340	165	21.	1		1955	240	1.
1		0115	16	0.	1		0730	91	0.	1		1345	166	19.	1		2000	241	1.
1		0120	17	0.	1		0735	92	0.	1		1350	167	17.	1		2005	242	1.
1		0125	18	0.	1		0740	93	0.	1		1355	168	15.	1		2010	243	1.
1		0130	19	0.	1		0745	94	0.	1		1400	169	14.	1		2015	244	1.
1		0135	20	0.	1		0750	95	0.	1		1405	170	12.	1		2020	245	1.
1		0140	21	0.	1		0755	96	0.	1		1410	171	11.	1		2025	246	1.
1		0145	22	0.	1		0800	97	0.	1		1415	172	10.	1		2030	247	1.
1		0150	23	0.	1		0805	98	0.	1		1420	173	9.	1		2035	248	1.
1		0155	24	0.	1		0810	99	0.	1		1425	174	9.	1		2040	249	1.
1		0200	25	0.	1		0815	100	0.	1		1430	175	8.	1		2045	250	1.
1		0205	26	0.	1		0820	101	0.	1		1435	176	8.	1		2050	251	1.
1		0210	27	0.	1		0825	102	0.	1		1440	177	8.	1		2055	252	1.
1		0215	28	0.	1		0830	103	0.	1		1445	178	8.	1		2100	253	1.
1		0220	29	0.	1		0835	104	0.	1		1450	179	7.	1		2105	254	1.
1		0225	30	0.	1		0840	105	0.	1		1455	180	7.	1		2110	255	1.
1		0230	31	0.	1		0845	106	0.	1		1500	181	7.	1		2115	256	1.
1		0235	32	0.	1		0850	107	0.	1		1505	182	7.	1		2120	257	1.
1		0240	33	0.	1		0855	108	0.	1		1510	183	6.	1		2125	258	1.
1		0245	34	0.	1		0900	109	0.	1		1515	184	6.	1		2130	259	1.
1		0250	35	0.	1		0905	110	0.	1		1520	185	6.	1		2135	260	1.
1		0255	36	0.	1		0910	111	0.	1		1525	186	6.	1		2140	261	1.
1		0300	37	0.	1		0915	112	0.	1		1530	187	5.	1		2145	262	1.
1		0305	38	0.	1		0920	113	0.	1		1535	188	5.	1		2150	263	1.
1		0310	39	0.	1		0925	114	0.	1		1540	189	5.	1		2155	264	1.
1		0315	40	0.	1		0930	115	0.	1		1545	190	5.	1		2200	265	1.
1		0320	41	0.	1		0935	116	0.	1		1550	191	5.	1		2205	266	1.
1		0325	42	0.	1		0940	117	0.	1		1555	192	4.	1		2210	267	1.
1		0330	43	0.	1		0945	118	0.	1		1600	193	4.	1		2215	268	1.
1		0335	44	0.	1		0950	119	0.	1		1605	194	4.	1		2220	269	1.
1		0340	45	0.	1		0955	120	0.	1		1610	195	4.	1		2225	270	1.
1		0345	46	0.	1		1000	121	0.	1		1615	196	4.	1		2230	271	1.
1		0350	47	0.	1		1005	122	0.	1		1620	197	4.	1		2235	272	1.
1		0355	48	0.	1		1010	123	0.	1		1625	198	3.	1		2240	273	1.
1		0400	49	0.	1		1015	124	0.	1		1630	199	3.	1		2245	274	1.
1		0405	50	0.	1		1020	125	0.	1		1635	200	3.	1		2250	275	1.
1		0410	51	0.	1		1025	126	0.	1		1640	201	3.	1		2255	276	1.
1		0415	52	0.	1		1030	127	0.	1		1645	202	3.	1		2300	277	1.
1		0420	53	0.	1		1035	128	0.	1		1650	203	3.	1		2305	278	1.
1		0425	54	0.	1		1040	129	0.	1		1655	204	3.	1		2310	279	1.
1		0430	55	0.	1		1045	130	0.	1		1700	205	3.	1		2315	280	1.
1		0435	56	0.	1		1050	131	0.	1		1705	206	3.	1		2320	281	1.
1		0440	57	0.	1		1055	132	0.	1		1710	207	3.	1		2325	282	1.
1		0445	58	0.	1		1100	133	0.	1		1715	208	3.	1		2330	283	1.
1		0450	59	0.	1		1105	134	0.	1		1720	209	3.	1		2335	284	1.
1		0455	60	0.	1		1110	135	0.	1		1725	210	3.	1		2340	285	1.
1		0500	61	0.	1		1115	136	0.	1		1730	211	2.	1		2345	286	1.
1		0505	62	0.	1		1120	137	0.	1		1735	212	2.	1		2350	287	1.
1		0510	63	0.	1		1125	138	0.	1		1740	213	2.	1		2355	288	1.
1		0515	64	0.	1		1130	139	0.	1		1745	214	2.	2		0000	289	1.
1		0520	65	0.	1		1135	140	0.	1		1750	215	2.	2		0005	290	1.
1		0525	66	0.	1		1140	141	0.	1		1755	216	2.	2		0010	291	1.
1		0530	67	0.	1		1145	142	0.	1		1800	217	2.	2		0015	292	1.
1		0535	68	0.	1		1150	143	0.	1		1805	218	2.	2		0020	293	1.

1	0540	69	0.	*	1	1155	144	0.	*	1	1810	219	2.	*	2	0025	294	1.
1	0545	70	0.	*	1	1200	145	0.	*	1	1815	220	2.	*	2	0030	295	1.
1	0550	71	0.	*	1	1205	146	0.	*	1	1820	221	2.	*	2	0035	296	1.
1	0555	72	0.	*	1	1210	147	0.	*	1	1825	222	2.	*	2	0040	297	1.
1	0600	73	0.	*	1	1215	148	3.	*	1	1830	223	2.	*	2	0045	298	1.
1	0605	74	0.	*	1	1220	149	15.	*	1	1835	224	2.	*	2	0050	299	1.
1	0610	75	0.	*	1	1225	150	28.	*	1	1840	225	2.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 38.	12.83		12.	3.	3.	3.
		(INCHES)	.674	.740	.740	.740
		(AC-FT)	6.	6.	6.	6.

CUMULATIVE AREA = .16 SQ MI

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156 KK

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* *
* C21a *
* *
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Combine Routed Basin 21 with Basin 21a and R17

158 HC HYDROGRAPH COMBINATION
ICOMP 3 NUMBER OF HYDROGRAPHS TO COMBINE

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*** *** *** *** ***

HYDROGRAPH AT STATION C21a
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 278.	12.00		57.	19.	18.	18.
		(INCHES)	.813	1.085	1.087	1.087
		(AC-FT)	28.	38.	38.	38.

CUMULATIVE AREA = .65 SQ MI

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HYDROGRAPH AT STATION C21a
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 272.	12.00		56.	19.	18.	18.
		(INCHES)	.791	1.057	1.059	1.059
		(AC-FT)	28.	37.	37.	37.

CUMULATIVE AREA = .65 SQ MI

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HYDROGRAPH AT STATION C21a
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 269.	12.00		55.	18.	18.	18.
		(INCHES)	.780	1.043	1.044	1.044
		(AC-FT)	27.	36.	36.	36.

CUMULATIVE AREA = .65 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C21a
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 266.	12.00		54.	18.	17.	17.
		(INCHES)	.769	1.029	1.030	1.030
		(AC-FT)	27.	36.	36.	36.

CUMULATIVE AREA = .65 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C21a
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 264.	12.00		54.	18.	17.	17.
		(INCHES)	.762	1.019	1.020	1.020
		(AC-FT)	27.	36.	36.	36.

CUMULATIVE AREA = .65 SQ MI

INTERPOLATED HYDROGRAPH AT C21a

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	3.	1		1230	151	152.	1		1845	226	12.
1		0005	2	0.	1		0620	77	3.	1		1235	152	136.	1		1850	227	12.
1		0010	3	0.	1		0625	78	3.	1		1240	153	122.	1		1855	228	12.
1		0015	4	1.	1		0630	79	3.	1		1245	154	111.	1		1900	229	12.
1		0020	5	1.	1		0635	80	3.	1		1250	155	101.	1		1905	230	12.
1		0025	6	1.	1		0640	81	3.	1		1255	156	93.	1		1910	231	12.
1		0030	7	1.	1		0645	82	3.	1		1300	157	86.	1		1915	232	11.
1		0035	8	1.	1		0650	83	3.	1		1305	158	80.	1		1920	233	11.
1		0040	9	1.	1		0655	84	3.	1		1310	159	74.	1		1925	234	11.
1		0045	10	1.	1		0700	85	4.	1		1315	160	68.	1		1930	235	11.
1		0050	11	1.	1		0705	86	4.	1		1320	161	62.	1		1935	236	11.
1		0055	12	1.	1		0710	87	4.	1		1325	162	57.	1		1940	237	11.
1		0100	13	1.	1		0715	88	4.	1		1330	163	52.	1		1945	238	11.
1		0105	14	1.	1		0720	89	4.	1		1335	164	48.	1		1950	239	11.
1		0110	15	2.	1		0725	90	4.	1		1340	165	43.	1		1955	240	11.
1		0115	16	2.	1		0730	91	4.	1		1345	166	40.	1		2000	241	11.
1		0120	17	2.	1		0735	92	4.	1		1350	167	36.	1		2005	242	11.
1		0125	18	2.	1		0740	93	4.	1		1355	168	33.	1		2010	243	10.
1		0130	19	2.	1		0745	94	4.	1		1400	169	31.	1		2015	244	10.
1		0135	20	2.	1		0750	95	4.	1		1405	170	29.	1		2020	245	10.
1		0140	21	2.	1		0755	96	4.	1		1410	171	27.	1		2025	246	10.
1		0145	22	2.	1		0800	97	4.	1		1415	172	25.	1		2030	247	10.
1		0150	23	2.	1		0805	98	4.	1		1420	173	24.	1		2035	248	10.
1		0155	24	2.	1		0810	99	4.	1		1425	174	23.	1		2040	249	10.
1		0200	25	2.	1		0815	100	4.	1		1430	175	23.	1		2045	250	10.
1		0205	26	2.	1		0820	101	4.	1		1435	176	23.	1		2050	251	10.
1		0210	27	2.	1		0825	102	4.	1		1440	177	22.	1		2055	252	10.
1		0215	28	2.	1		0830	103	4.	1		1445	178	22.	1		2100	253	10.
1		0220	29	2.	1		0835	104	4.	1		1450	179	21.	1		2105	254	10.
1		0225	30	2.	1		0840	105	5.	1		1455	180	21.	1		2110	255	10.
1		0230	31	2.	1		0845	106	5.	1		1500	181	20.	1		2115	256	10.
1		0235	32	2.	1		0850	107	5.	1		1505	182	20.	1		2120	257	10.
1		0240	33	2.	1		0855	108	5.	1		1510	183	20.	1		2125	258	10.
1		0245	34	2.	1		0900	109	5.	1		1515	184	19.	1		2130	259	9.
1		0250	35	2.	1		0905	110	5.	1		1520	185	19.	1		2135	260	9.
1		0255	36	2.	1		0910	111	5.	1		1525	186	19.	1		2140	261	9.
1		0300	37	2.	1		0915	112	5.	1		1530	187	18.	1		2145	262	9.
1		0305	38	2.	1		0920	113	6.	1		1535	188	18.	1		2150	263	9.
1		0310	39	2.	1		0925	114	6.	1		1540	189	18.	1		2155	264	9.
1		0315	40	2.	1		0930	115	6.	1		1545	190	17.	1		2200	265	9.
1		0320	41	2.	1		0935	116	6.	1		1550	191	17.	1		2205	266	9.
1		0325	42	2.	1		0940	117	6.	1		1555	192	17.	1		2210	267	9.
1		0330	43	2.	1		0945	118	6.	1		1600	193	17.	1		2215	268	8.
1		0335	44	2.	1		0950	119	6.	1		1605	194	16.	1		2220	269	8.
1		0340	45	2.	1		0955	120	6.	1		1610	195	16.	1		2225	270	8.
1		0345	46	2.	1		1000	121	6.	1		1615	196	16.	1		2230	271	8.
1		0350	47	2.	1		1005	122	7.	1		1620	197	16.	1		2235	272	8.
1		0355	48	2.	1		1010	123	7.	1		1625	198	15.	1		2240	273	8.
1		0400	49	3.	1		1015	124	7.	1		1630	199	15.	1		2245	274	8.
1		0405	50	3.	1		1020	125	7.	1		1635	200	15.	1		2250	275	8.
1		0410	51	3.	1		1025	126	7.	1		1640	201	15.	1		2255	276	8.
1		0415	52	3.	1		1030	127	8.	1		1645	202	15.	1		2300	277	8.
1		0420	53	3.	1		1035	128	8.	1		1650	203	15.	1		2305	278	7.
1		0425	54	3.	1		1040	129	8.	1		1655	204	14.	1		2310	279	7.
1		0430	55	3.	1		1045	130	9.	1		1700	205	14.	1		2315	280	7.
1		0435	56	3.	1		1050	131	9.	1		1705	206	14.	1		2320	281	7.
1		0440	57	3.	1		1055	132	10.	1		1710	207	14.	1		2325	282	7.
1		0445	58	3.	1		1100	133	10.	1		1715	208	14.	1		2330	283	7.
1		0450	59	3.	1		1105	134	11.	1		1720	209	14.	1		2335	284	7.
1		0455	60	3.	1		1110	135	13.	1		1725	210	14.	1		2340	285	7.
1		0500	61	3.	1		1115	136	15.	1		1730	211	14.	1		2345	286	7.
1		0505	62	3.	1		1120	137	18.	1		1735	212	13.	1		2350	287	7.
1		0510	63	3.	1		1125	138	20.	1		1740	213	13.	1		2355	288	7.
1		0515	64	3.	1		1130	139	23.	1		1745	214	13.	2		0000	289	7.
1		0520	65	3.	1		1135	140	32.	1		1750	215	13.	2		0005	290	6.
1		0525	66	3.	1		1140	141	54.	1		1755	216	13.	2		0010	291	6.
1		0530	67	3.	1		1145	142	90.	1		1800	217	13.	2		0015	292	6.
1		0535	68	3.	1		1150	143	146.	1		1805	218	13.	2		0020	293	5.
1		0540	69	3.	1		1155	144	220.	1		1810	219	13.	2		0025	294	5.
1		0545	70	3.	1		1200	145	275.	1		1815	220	13.	2		0030	295	5.
1		0550	71	3.	1		1205	146	267.	1		1820	221	13.	2		0035	296	5.
1		0555	72	3.	1		1210	147	225.	1		1825	222	12.	2		0040	297	5.
1		0600	73	3.	1		1215	148	194.	1		1830	223	12.	2		0045	298	5.
1		0605	74	3.	1		1220	149	176.	1		1835	224	12.	2		0050	299	4.
1		0610	75	3.	1		1225	150	164.	1		1840	225	12.	2		0055	300	4.

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)			
275.	12.00	56.	19.	18.	18.
		(INCHES) .800	1.069	1.070	1.070
		(AC-FT) 28.	37.	37.	37.

CUMULATIVE AREA = .65 SQ MI

159 KK WF_PD1

Route Hydrograph Through New Walker Field On Site Pond 1

HYDROGRAPH ROUTING DATA

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 161 RS          STORAGE ROUTING
                      NSTPS          1  NUMBER OF SUBREACHES
                       ITYP       STOR  TYPE OF INITIAL CONDITION
                      RSVRIC        .00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT
 162 SV           STORAGE          .0       1.0       6.9      13.6      17.3
 163 SQ           DISCHARGE        0.       11.       24.       32.       36.
 164 SE           ELEVATION     38.50     40.00     42.00     44.00     45.00
                                                                ***

 WARNING --- ROUTED OUTFLOW (     36.) IS GREATER THAN MAXIMUM OUTFLOW (     36.) IN STORAGE-OUTFLOW TABLE
 WARNING --- ROUTED OUTFLOW (     36.) IS GREATER THAN MAXIMUM OUTFLOW (     36.) IN STORAGE-OUTFLOW TABLE
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 WARNING --- ROUTED OUTFLOW (     36.) IS GREATER THAN MAXIMUM OUTFLOW (     36.) IN STORAGE-OUTFLOW TABLE
 WARNING --- ROUTED OUTFLOW (     36.) IS GREATER THAN MAXIMUM OUTFLOW (     36.) IN STORAGE-OUTFLOW TABLE
      ***             ***             ***             ***             ***

                  HYDROGRAPH AT STATION   WF_PD1
                  TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
+   (CFS)       (HR)                  6-HR        24-HR        72-HR      24.92-HR
+      36.     13.83        (CFS)
                                          34.          17.          17.          17.
                            (INCHES)     .479         .975         .976         .976
                            (AC-FT)       17.          34.          34.          34.
  PEAK STORAGE  TIME                                MAXIMUM AVERAGE STORAGE
+  (AC-FT)      (HR)                  6-HR        24-HR        72-HR      24.92-HR
       18.     13.83                   15.           6.           6.           6.
  PEAK STAGE    TIME                                MAXIMUM AVERAGE STAGE
+   (FEET)      (HR)                  6-HR        24-HR        72-HR      24.92-HR
      45.15    13.83                 44.49        41.31        41.21        41.21

                  CUMULATIVE AREA =     .65 SQ MI

      ***             ***             ***             ***             ***

                  HYDROGRAPH AT STATION   WF_PD1
                  TRANSPOSITION AREA     14.0 SQ MI

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
+   (CFS)       (HR)                  6-HR        24-HR        72-HR      24.92-HR
+      35.     13.83        (CFS)
                                          33.          17.          16.          16.
                            (INCHES)     .472         .955         .956         .956
                            (AC-FT)       16.          33.          33.          33.
  PEAK STORAGE  TIME                                MAXIMUM AVERAGE STORAGE
+  (AC-FT)      (HR)                  6-HR        24-HR        72-HR      24.92-HR
       17.     13.83                   15.           6.           6.           6.
  PEAK STAGE    TIME                                MAXIMUM AVERAGE STAGE
+   (FEET)      (HR)                  6-HR        24-HR        72-HR      24.92-HR
      44.99    13.83                 44.34        41.24        41.14        41.14

                  CUMULATIVE AREA =     .65 SQ MI

      ***             ***             ***             ***             ***

                  HYORDGRAPH AT STATION   WF_PD1
                  TRANSPOSITION AREA     24.0 SQ MI

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
+   (CFS)       (HR)                  6-HR        24-HR        72-HR      24.92-HR
+      35.     13.83        (CFS)
                                          33.          17.          16.          16.
                            (INCHES)     .468         .945         .946         .946
                            (AC-FT)       16.          33.          33.          33.
  PEAK STORAGE  TIME                                MAXIMUM AVERAGE STORAGE
+  (AC-FT)      (HR)                  6-HR        24-HR        72-HR      24.92-HR
       17.     13.83                   15.           6.           6.           6.
```

PEAK STAGE (FEET)	TIME (HR)		MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
44.91	13.83		44.27	41.20	41.10	41.10

CUMULATIVE AREA = .65 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION WF_PD1
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
35.	13.83	(CFS)	33.	16.	16.	16.
		(INCHES)	.464	.935	.936	.936
		(AC-FT)	16.	33.	33.	33.

PEAK STORAGE (AC-FT)	TIME (HR)		MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
17.	13.83		14.	6.	6.	6.

PEAK STAGE (FEET)	TIME (HR)		MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
44.83	13.83		44.19	41.16	41.06	41.06

CUMULATIVE AREA = .65 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION WF_PD1
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
35.	13.83	(CFS)	32.	16.	16.	16.
		(INCHES)	.461	.928	.928	.928
		(AC-FT)	16.	32.	32.	32.

PEAK STORAGE (AC-FT)	TIME (HR)		MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
16.	13.83		14.	6.	5.	5.

EAK STAGE (FEET)	TIME (HR)		MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
44.77	13.83		44.13	41.13	41.04	41.04

CUMULATIVE AREA = .65 SQ MI

INTERPOLATED HYDROGRAPH AT WF_PD1

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	3.	1		1230	151	31.	1		1845	226	29.
1		0005	2	0.	1		0620	77	3.	1		1235	152	32.	1		1850	227	29.
1		0010	3	0.	1		0625	78	3.	1		1240	153	32.	1		1855	228	29.
1		0015	4	0.	1		0630	79	3.	1		1245	154	33.	1		1900	229	29.
1		0020	5	0.	1		0635	80	3.	1		1250	155	33.	1		1905	230	29.
1		0025	6	0.	1		0640	81	3.	1		1255	156	34.	1		1910	231	28.
1		0030	7	0.	1		0645	82	3.	1		1300	157	34.	1		1915	232	28.
1		0035	8	0.	1		0650	83	3.	1		1305	158	35.	1		1920	233	28.
1		0040	9	0.	1		0655	84	3.	1		1310	159	35.	1		1925	234	28.
1		0045	10	0.	1		0700	85	3.	1		1315	160	35.	1		1930	235	28.
1		0050	11	0.	1		0705	86	3.	1		1320	161	35.	1		1935	236	28.
1		0055	12	1.	1		0710	87	3.	1		1325	162	35.	1		1940	237	28.
1		0100	13	1.	1		0715	88	3.	1		1330	163	35.	1		1945	238	27.
1		0105	14	1.	1		0720	89	3.	1		1335	164	36.	1		1950	239	27.
1		0110	15	1.	1		0725	90	3.	1		1340	165	36.	1		1955	240	27.
1		0115	16	1.	1		0730	91	3.	1		1345	166	36.	1		2000	241	27.
1		0120	17	1.	1		0735	92	3.	1		1350	167	36.	1		2005	242	27.
1		0125	18	1.	1		0740	93	3.	1		1355	168	36.	1		2010	243	27.
1		0130	19	1.	1		0745	94	3.	1		1400	169	36.	1		2015	244	27.
1		0135	20	1.	1		0750	95	3.	1		1405	170	36.	1		2020	245	26.
1		0140	21	1.	1		0755	96	3.	1		1410	171	36.	1		2025	246	26.
1		0145	22	1.	1		0800	97	4.	1		1415	172	36.	1		2030	247	26.
1		0150	23	1.	1		0805	98	4.	1		1420	173	35.	1		2035	248	26.
1		0155	24	1.	1		0810	99	4.	1		1425	174	35.	1		2040	249	26.
1		0200	25	1.	1		0815	100	4.	1		1430	175	35.	1		2045	250	26.
1		0205	26	1.	1		0820	101	4.	1		1435	176	35.	1		2050	251	26.
1		0210	27	1.	1		0825	102	4.	1		1440	177	35.	1		2055	252	26.
1		0215	28	2.	1		0830	103	4.	1		1445	178	35.	1		2100	253	25.
1		0220	29	2.	1		0835	104	4.	1		1450	179	35.	1		2105	254	25.
1		0225	30	2.	1		0840	105	4.	1		1455	180	35.	1		2110	255	25.
1		0230	31	2.	1		0845	106	4.	1		1500	181	35.	1		2115	256	25.
1		0235	32	2.	1		0850	107	4.	1		1505	182	35.	1		2120	257	25.
1		0240	33	2.	1		0855	108	4.	1		1510	183	35.	1		2125	258	25.
1		0245	34	2.	1		0900	109	4.	1		1515	184	35.	1		2130	259	25.
1		0250	35	2.	1		0905	110	4.	1		1520	185	34.	1		2135	260	25.
1		0255	36	2.	1		0910	111	4.	1		1525	186	34.	1		2140	261	24.
1		0300	37	2.	1		0915	112	4.	1		1530	187	34.	1		2145	262	24.
1		0305	38	2.	1		0920	113	4.	1		1535	188	34.	1		2150	263	24.
1		0310	39	2.	1		0925	114	4.	1		1540	189	34.	1		2155	264	24.
1		0315	40	2.	1		0930	115	5.	1		1545	190	34.	1		2200	265	24.
1		0320	41	2.	1		0935	116	5.	1		1550	191	34.	1		2205	266	24.
1		0325	42	2.	1		0940	117	5.	1		1555	192	34.	1		2210	267	23.
1		0330	43	2.	1		0945	118	5.	1		1600	193	34.	1		2215	268	23.
1		0335	44	2.	1		0950	119	5.	1		1605	194	33.	1		2220	269	23.
1		0340	45	2.	1		0955	120	5.	1		1610	195	33.	1		2225	270	23.

1	0345	46	2.	*	1	1000	121	5.	*	1	1615	196	33.	*	1	2230	271	23.
1	0350	47	2.	*	1	1005	122	5.	*	1	1620	197	33.	*	1	2235	272	22.
1	0355	48	2.	*	1	1010	123	5.	*	1	1625	198	33.	*	1	2240	273	22.
1	0400	49	2.	*	1	1015	124	5.	*	1	1630	199	33.	*	1	2245	274	22.
1	0405	50	2.	*	1	1020	125	6.	*	1	1635	200	33.	*	1	2250	275	22.
1	0410	51	2.	*	1	1025	126	6.	*	1	1640	201	33.	*	1	2255	276	21.
1	0415	52	2.	*	1	1030	127	6.	*	1	1645	202	33.	*	1	2300	277	21.
1	0420	53	2.	*	1	1035	128	6.	*	1	1650	203	32.	*	1	2305	278	21.
1	0425	54	2.	*	1	1040	129	6.	*	1	1655	204	32.	*	1	2310	279	21.
1	0430	55	2.	*	1	1045	130	6.	*	1	1700	205	32.	*	1	2315	280	21.
1	0435	56	2.	*	1	1050	131	7.	*	1	1705	206	32.	*	1	2320	281	20.
1	0440	57	2.	*	1	1055	132	7.	*	1	1710	207	32.	*	1	2325	282	20.
1	0445	58	2.	*	1	1100	133	7.	*	1	1715	208	32.	*	1	2330	283	20.
1	0450	59	2.	*	1	1105	134	7.	*	1	1720	209	32.	*	1	2335	284	20.
1	0455	60	2.	*	1	1110	135	8.	*	1	1725	210	32.	*	1	2340	285	20.
1	0500	61	2.	*	1	1115	136	8.	*	1	1730	211	31.	*	1	2345	286	19.
1	0505	62	3.	*	1	1120	137	9.	*	1	1735	212	31.	*	1	2350	287	19.
1	0510	63	3.	*	1	1125	138	9.	*	1	1740	213	31.	*	1	2355	288	19.
1	0515	64	3.	*	1	1130	139	10.	*	1	1745	214	31.	*	2	0000	289	19.
1	0520	65	3.	*	1	1135	140	11.	*	1	1750	215	31.	*	2	0005	290	19.
1	0525	66	3.	*	1	1140	141	11.	*	1	1755	216	31.	*	2	0010	291	18.
1	0530	67	3.	*	1	1145	142	12.	*	1	1800	217	30.	*	2	0015	292	18.
1	0535	68	3.	*	1	1150	143	14.	*	1	1805	218	30.	*	2	0020	293	18.
1	0540	69	3.	*	1	1155	144	16.	*	1	1810	219	30.	*	2	0025	294	18.
1	0545	70	3.	*	1	1200	145	20.	*	1	1815	220	30.	*	2	0030	295	18.
1	0550	71	3.	*	1	1205	146	24.	*	1	1820	221	30.	*	2	0035	296	18.
1	0555	72	3.	*	1	1210	147	26.	*	1	1825	222	30.	*	2	0040	297	17.
1	0600	73	3.	*	1	1215	148	27.	*	1	1830	223	30.	*	2	0045	298	17.
1	0605	74	3.	*	1	1220	149	29.	*	1	1835	224	29.	*	2	0050	299	17.
1	0610	75	3.	*	1	1225	150	30.	*	1	1840	225	29.	*	2	0055	300	17.
				*					*					*				

****

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 36.	13.83		33.	17.	16.	16.
		(INCHES)	.475	.964	.964	.964
		(AC-FT)	17.	34.	34.	34.

CUMULATIVE AREA = .65 SQ MI

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165 KK

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* *
* RPD1 *
* *
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Route Hydrograph Through Basin 23b Pipe

HYDROGRAPH ROUTING DATA

167 RK

KINEMATIC WAVE STREAM ROUTING

L	2550.	CHANNEL LENGTH
S	.0140	SLOPE
N	.015	CHANNEL ROUGHNESS COEFFICIENT
CA	.00	CONTRIBUTING AREA
SHAPE	CIRC	CHANNEL SHAPE
WD	3.00	BOTTOM WIDTH OR DIAMETER
Z	.00	SIDE SLOPE
NDXMIN	2	MINIMUM NUMBER OF DX INTERVALS

***

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	7.62	1.25	1.24	850.00	36.01	832.45	.97	12.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3406E+02 EXCESS= .0000E+00 OUTFLOW= .3399E+02 BASIN STORAGE= .6355E-01 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	7.62	1.25	5.00	36.01	835.00	.97

*** *** *** *** ***

HYDROGRAPH AT STATION RPD1
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 36.	13.92		34.	17.	17.	17.
		(INCHES)	.479	.973	.973	.973
		(AC-FT)	17.	34.	34.	34.

CUMULATIVE AREA = .65 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	7.62	1.25	1.25	850.00	35.46	832.72	.95	12.95

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3336E+02 EXCESS= .0000E+00 OUTFLOW= .3332E+02 BASIN STORAGE= .6159E-01 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	7.62	1.25	5.00		35.46	835.00	.95
***	***	***	***	***			

HYDROGRAPH AT STATION RPD1
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)	33.	17.	16.	16.
+ 35.	13.83	(INCHES)	.472	.953	.954	.954
		(AC-FT)	16.	33.	33.	33.

CUMULATIVE AREA = .65 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	7.62	1.25	1.26	850.00	35.19	831.61	.94	12.93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3301E+02 EXCESS= .0000E+00 OUTFLOW= .3295E+02 BASIN STORAGE= .6075E-01 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	7.62	1.25	5.00		35.18	830.00	.94
***	***	***	***	***			

HYDROGRAPH AT STATION RPD1
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)	33.	17.	16.	16.
+ 35.	13.83	(INCHES)	.468	.943	.944	.944
		(AC-FT)	16.	33.	33.	33.

CUMULATIVE AREA = .65 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	7.62	1.25	1.26	850.00	34.91	831.77	.93	12.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3266E+02 EXCESS= .0000E+00 OUTFLOW= .3259E+02 BASIN STORAGE= .5982E-01 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	7.62	1.25	5.00		34.91	830.00	.93
***	***	***	***	***			

HYDROGRAPH AT STATION RPD1
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)	33.	16.	16.	16.
+ 35.	13.83	(INCHES)	.464	.933	.933	.933
		(AC-FT)	16.	33.	33.	33.

CUMULATIVE AREA = .65 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	7.62	1.25	1.12	850.00	34.72	831.31	.93	12.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3241E+02 EXCESS= .0000E+00 OUTFLOW= .3236E+02 BASIN STORAGE= .5912E-01 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	7.62	1.25	5.00		34.72	830.00	.93
***	***	***	***	***			

HYDROGRAPH AT STATION RPD1
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
35.	13.83	(CFS)	32.	16.	16.	16.
		(INCHES)	.461	.926	.926	.926
		(AC-FT)	16.	32.	32.	32.

CUMULATIVE AREA = .65 SQ MI

INTERPOLATED HYDROGRAPH AT RPD1

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	3.	1		1230	151	30.	1		1845	226	29.
1		0005	2	0.	1		0620	77	3.	1		1235	152	31.	1		1850	227	29.
1		0010	3	0.	1		0625	78	3.	1		1240	153	32.	1		1855	228	29.
1		0015	4	0.	1		0630	79	3.	1		1245	154	33.	1		1900	229	29.
1		0020	5	0.	1		0635	80	3.	1		1250	155	33.	1		1905	230	29.
1		0025	6	0.	1		0640	81	3.	1		1255	156	34.	1		1910	231	29.
1		0030	7	0.	1		0645	82	3.	1		1300	157	34.	1		1915	232	28.
1		0035	8	0.	1		0650	83	3.	1		1305	158	34.	1		1920	233	28.
1		0040	9	0.	1		0655	84	3.	1		1310	159	35.	1		1925	234	28.
1		0045	10	0.	1		0700	85	3.	1		1315	160	35.	1		1930	235	28.
1		0050	11	0.	1		0705	86	3.	1		1320	161	35.	1		1935	236	28.
1		0055	12	0.	1		0710	87	3.	1		1325	162	35.	1		1940	237	28.
1		0100	13	1.	1		0715	88	3.	1		1330	163	35.	1		1945	238	28.
1		0105	14	1.	1		0720	89	3.	1		1335	164	36.	1		1950	239	27.
1		0110	15	1.	1		0725	90	3.	1		1340	165	36.	1		1955	240	27.
1		0115	16	1.	1		0730	91	3.	1		1345	166	36.	1		2000	241	27.
1		0120	17	1.	1		0735	92	3.	1		1350	167	36.	1		2005	242	27.
1		0125	18	1.	1		0740	93	3.	1		1355	168	36.	1		2010	243	27.
1		0130	19	1.	1		0745	94	3.	1		1400	169	36.	1		2015	244	27.
1		0135	20	1.	1		0750	95	3.	1		1405	170	36.	1		2020	245	27.
1		0140	21	1.	1		0755	96	3.	1		1410	171	36.	1		2025	246	26.
1		0145	22	1.	1		0800	97	3.	1		1415	172	36.	1		2030	247	26.
1		0150	23	1.	1		0805	98	4.	1		1420	173	35.	1		2035	248	26.
1		0155	24	1.	1		0810	99	4.	1		1425	174	35.	1		2040	249	26.
1		0200	25	1.	1		0815	100	4.	1		1430	175	35.	1		2045	250	26.
1		0205	26	1.	1		0820	101	4.	1		1435	176	35.	1		2050	251	26.
1		0210	27	1.	1		0825	102	4.	1		1440	177	35.	1		2055	252	26.
1		0215	28	1.	1		0830	103	4.	1		1445	178	35.	1		2100	253	25.
1		0220	29	2.	1		0835	104	4.	1		1450	179	35.	1		2105	254	25.
1		0225	30	2.	1		0840	105	4.	1		1455	180	35.	1		2110	255	25.
1		0230	31	2.	1		0845	106	4.	1		1500	181	35.	1		2115	256	25.
1		0235	32	2.	1		0850	107	4.	1		1505	182	35.	1		2120	257	25.
1		0240	33	2.	1		0855	108	4.	1		1510	183	35.	1		2125	258	25.
1		0245	34	2.	1		0900	109	4.	1		1515	184	35.	1		2130	259	25.
1		0250	35	2.	1		0905	110	4.	1		1520	185	34.	1		2135	260	25.
1		0255	36	2.	1		0910	111	4.	1		1525	186	34.	1		2140	261	24.
1		0300	37	2.	1		0915	112	4.	1		1530	187	34.	1		2145	262	24.
1		0305	38	2.	1		0920	113	4.	1		1535	188	34.	1		2150	263	24.
1		0310	39	2.	1		0925	114	4.	1		1540	189	34.	1		2155	264	24.
1		0315	40	2.	1		0930	115	5.	1		1545	190	34.	1		2200	265	24.
1		0320	41	2.	1		0935	116	5.	1		1550	191	34.	1		2205	266	24.
1		0325	42	2.	1		0940	117	5.	1		1555	192	34.	1		2210	267	23.
1		0330	43	2.	1		0945	118	5.	1		1600	193	34.	1		2215	268	23.
1		0335	44	2.	1		0950	119	5.	1		1605	194	34.	1		2220	269	23.
1		0340	45	2.	1		0955	120	5.	1		1610	195	33.	1		2225	270	23.
1		0345	46	2.	1		1000	121	5.	1		1615	196	33.	1		2230	271	23.
1		0350	47	2.	1		1005	122	5.	1		1620	197	33.	1		2235	272	22.
1		0355	48	2.	1		1010	123	5.	1		1625	198	33.	1		2240	273	22.
1		0400	49	2.	1		1015	124	5.	1		1630	199	33.	1		2245	274	22.
1		0405	50	2.	1		1020	125	5.	1		1635	200	33.	1		2250	275	22.
1		0410	51	2.	1		1025	126	6.	1		1640	201	33.	1		2255	276	22.
1		0415	52	2.	1		1030	127	6.	1		1645	202	33.	1		2300	277	21.
1		0420	53	2.	1		1035	128	6.	1		1650	203	33.	1		2305	278	21.
1		0425	54	2.	1		1040	129	6.	1		1655	204	32.	1		2310	279	21.
1		0430	55	2.	1		1045	130	6.	1		1700	205	32.	1		2315	280	21.
1		0435	56	2.	1		1050	131	6.	1		1705	206	32.	1		2320	281	21.
1		0440	57	2.	1		1055	132	7.	1		1710	207	32.	1		2325	282	20.
1		0445	58	2.	1		1100	133	7.	1		1715	208	32.	1		2330	283	20.
1		0450	59	2.	1		1105	134	7.	1		1720	209	32.	1		2335	284	20.
1		0455	60	2.	1		1110	135	7.	1		1725	210	32.	1		2340	285	20.
1		0500	61	2.	1		1115	136	8.	1		1730	211	31.	1		2345	286	20.
1		0505	62	2.	1		1120	137	8.	1		1735	212	31.	1		2350	287	19.
1		0510	63	3.	1		1125	138	9.	1		1740	213	31.	1		2355	288	19.
1		0515	64	3.	1		1130	139	10.	1		1745	214	31.	2		0000	289	19.
1		0520	65	3.	1		1135	140	11.	1		1750	215	31.	2		0005	290	19.
1		0525	66	3.	1		1140	141	11.	1		1755	216	31.	2		0010	291	19.
1		0530	67	3.	1		1145	142	12.	1		1800	217	31.	2		0015	292	18.
1		0535	68	3.	1		1150	143	13.	1		1805	218	30.	2		0020	293	18.
1		0540	69	3.	1		1155	144	15.	1		1810	219	30.	2		0025	294	18.
1		0545	70	3.	1		1200	145	18.	1		1815	220	30.	2		0030	295	18.
1		0550	71	3.	1		1205	146	22.	1		1820	221	30.	2		0035	296	18.
1		0555	72	3.	1		1210	147	25.	1		1825	222	30.	2		0040	297	17.
1		0600	73	3.	1		1215	148	26.	1		1830	223	30.	2		0045	298	17.
1		0605	74	3.	1		1220	149	28.	1		1835	224	30.	2		0050	299	17.
1		0610	75	3.	1		1225	150	29.	1		1840	225	29.	2		0055	300	17.

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
36.	13.92	(CFS)	33.	17.	16.	16.
		(INCHES)	.475	.962	.962	.962
		(AC-FT)	17.	34.	34.	34.

CUMULATIVE AREA = .65 SQ MI

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          ***************
          *             *
 68 KK    *     DB23b   *
          *             *
          ***************
                    Subbasin

             SUBBASIN RUNOFF DATA

170 BA          SUBBASIN CHARACTERISTICS
                     TAREA          .06  SUBBASIN AREA

171 LG          GREEN AND AMPT LOSS RATE
                     STRTL          .07  STARTING LOSS
                       DTH          .09  MOISTURE DEFICIT
                      PSIF          .35  WETTING FRONT SUCTION
                     XKSAT          .01  HYDRAULIC CONDUCTIVITY
                     RTIMP        95.00  PERCENT IMPERVIOUS AREA

172 US          SNYDER UNITGRAPH
                        TP          .05  LAG
                        CP          .55  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                          ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=   .08 HR,       R=   .04 HR
                                          SNYDER  TP=   .07 HR,       CP=  .50

                                                  UNIT HYDROGRAPH
                                              2 END-OF-PERIOD ORDINATES
                      226.      226.
          ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    DB23b
                      TRANSPOSITION AREA        .0 SQ MI

          TOTAL RAINFALL =   1.99, TOTAL LOSS =      .02, TOTAL EXCESS =    1.97

                                                MAXIMUM AVERAGE FLOW
     PEAK FLOW     TIME                  6-HR          24-HR          72-HR      24.92-HR
+      (CFS)       (HR)
                                (CFS)
+        86.       11.92                  9.             3.             3.             3.
                  (INCHES)             1.401          1.968          1.969          1.969
                  (AC-FT)                4.             6.             6.             6.

                        CUMULATIVE AREA =      .06 SQ MI

          ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    DB23b
                      TRANSPOSITION AREA       14.0 SQ MI

          TOTAL RAINFALL =   1.95, TOTAL LOSS =      .02, TOTAL EXCESS =    1.93

                                                MAXIMUM AVERAGE FLOW
     PEAK FLOW     TIME                  6-HR          24-HR          72-HR      24.92-HR
+      (CFS)       (HR)
                                (CFS)
+        84.       11.92                  9.             3.             3.             3.
                  (INCHES)             1.373          1.928          1.929          1.929
                  (AC-FT)                4.             6.             6.             6.

                        CUMULATIVE AREA =      .06 SQ MI

          ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    DB23b
                      TRANSPOSITION AREA       24.0 SQ MI

          TOTAL RAINFALL =   1.93, TOTAL LOSS =      .02, TOTAL EXCESS =    1.91

                                                MAXIMUM AVERAGE FLOW
     PEAK FLOW     TIME                  6-HR          24-HR          72-HR      24.92-HR
+      (CFS)       (HR)
                                (CFS)
+        83.       11.92                  9.             3.             3.             3.
                  (INCHES)             1.359          1.908          1.909          1.909
                  (AC-FT)                4.             6.             6.             6.

                        CUMULATIVE AREA =      .06 SQ MI

          ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    DB23b
                      TRANSPOSITION AREA       36.5 SQ MI

          TOTAL RAINFALL =   1.91, TOTAL LOSS =      .02, TOTAL EXCESS =    1.89

                                                MAXIMUM AVERAGE FLOW
     PEAK FLOW     TIME                  6-HR          24-HR          72-HR      24.92-HR
+      (CFS)       (HR)
                                (CFS)
+        83.       11.92                  8.             3.             3.             3.
                  (INCHES)             1.345          1.888          1.889          1.889
                  (AC-FT)                4.             6.             6.             6.

                        CUMULATIVE AREA =      .06 SQ MI

          ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    DB23b
                      TRANSPOSITION AREA       50.0 SQ MI

          TOTAL RAINFALL =   1.90, TOTAL LOSS =      .02, TOTAL EXCESS =    1.88
```

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
82.	11.92	(CFS)	8.	3.	3.	3.
		(INCHES)	1.335	1.874	1.875	1.875
		(AC-FT)	4.	6.	6.	6.

CUMULATIVE AREA = .06 SQ MI

INTERPOLATED HYDROGRAPH AT DB23b

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	1.	1		1230	151	8.	1		1845	226	1.
1		0005	2	0.	1		0620	77	1.	1		1235	152	7.	1		1850	227	1.
1		0010	3	1.	1		0625	78	1.	1		1240	153	6.	1		1855	228	1.
1		0015	4	1.	1		0630	79	1.	1		1245	154	6.	1		1900	229	1.
1		0020	5	1.	1		0635	80	1.	1		1250	155	5.	1		1905	230	1.
1		0025	6	1.	1		0640	81	1.	1		1255	156	5.	1		1910	231	1.
1		0030	7	1.	1		0645	82	1.	1		1300	157	5.	1		1915	232	1.
1		0035	8	1.	1		0650	83	1.	1		1305	158	5.	1		1920	233	1.
1		0040	9	1.	1		0655	84	1.	1		1310	159	4.	1		1925	234	1.
1		0045	10	1.	1		0700	85	1.	1		1315	160	4.	1		1930	235	1.
1		0050	11	1.	1		0705	86	1.	1		1320	161	4.	1		1935	236	1.
1		0055	12	1.	1		0710	87	1.	1		1325	162	4.	1		1940	237	1.
1		0100	13	1.	1		0715	88	1.	1		1330	163	4.	1		1945	238	1.
1		0105	14	1.	1		0720	89	2.	1		1335	164	3.	1		1950	239	1.
1		0110	15	1.	1		0725	90	2.	1		1340	165	3.	1		1955	240	1.
1		0115	16	1.	1		0730	91	2.	1		1345	166	3.	1		2000	241	1.
1		0120	17	1.	1		0735	92	2.	1		1350	167	3.	1		2005	242	1.
1		0125	18	1.	1		0740	93	2.	1		1355	168	3.	1		2010	243	1.
1		0130	19	1.	1		0745	94	2.	1		1400	169	3.	1		2015	244	1.
1		0135	20	1.	1		0750	95	2.	1		1405	170	3.	1		2020	245	1.
1		0140	21	1.	1		0755	96	2.	1		1410	171	3.	1		2025	246	1.
1		0145	22	1.	1		0800	97	2.	1		1415	172	3.	1		2030	247	1.
1		0150	23	1.	1		0805	98	2.	1		1420	173	3.	1		2035	248	1.
1		0155	24	1.	1		0810	99	2.	1		1425	174	3.	1		2040	249	1.
1		0200	25	1.	1		0815	100	2.	1		1430	175	3.	1		2045	250	1.
1		0205	26	1.	1		0820	101	2.	1		1435	176	2.	1		2050	251	1.
1		0210	27	1.	1		0825	102	2.	1		1440	177	2.	1		2055	252	1.
1		0215	28	1.	1		0830	103	2.	1		1445	178	2.	1		2100	253	1.
1		0220	29	1.	1		0835	104	2.	1		1450	179	2.	1		2105	254	1.
1		0225	30	1.	1		0840	105	2.	1		1455	180	2.	1		2110	255	1.
1		0230	31	1.	1		0845	106	2.	1		1500	181	2.	1		2115	256	1.
1		0235	32	1.	1		0850	107	2.	1		1505	182	2.	1		2120	257	1.
1		0240	33	1.	1		0855	108	2.	1		1510	183	2.	1		2125	258	1.
1		0245	34	1.	1		0900	109	2.	1		1515	184	2.	1		2130	259	1.
1		0250	35	1.	1		0905	110	2.	1		1520	185	2.	1		2135	260	1.
1		0255	36	1.	1		0910	111	2.	1		1525	186	2.	1		2140	261	1.
1		0300	37	1.	1		0915	112	2.	1		1530	187	2.	1		2145	262	1.
1		0305	38	1.	1		0920	113	2.	1		1535	188	2.	1		2150	263	1.
1		0310	39	1.	1		0925	114	2.	1		1540	189	2.	1		2155	264	1.
1		0315	40	1.	1		0930	115	2.	1		1545	190	2.	1		2200	265	1.
1		0320	41	1.	1		0935	116	2.	1		1550	191	2.	1		2205	266	1.
1		0325	42	1.	1		0940	117	2.	1		1555	192	2.	1		2210	267	1.
1		0330	43	1.	1		0945	118	3.	1		1600	193	2.	1		2215	268	1.
1		0335	44	1.	1		0950	119	3.	1		1605	194	2.	1		2220	269	1.
1		0340	45	1.	1		0955	120	3.	1		1610	195	2.	1		2225	270	1.
1		0345	46	1.	1		1000	121	3.	1		1615	196	2.	1		2230	271	1.
1		0350	47	1.	1		1005	122	3.	1		1620	197	2.	1		2235	272	1.
1		0355	48	1.	1		1010	123	3.	1		1625	198	2.	1		2240	273	1.
1		0400	49	1.	1		1015	124	3.	1		1630	199	2.	1		2245	274	1.
1		0405	50	1.	1		1020	125	3.	1		1635	200	2.	1		2250	275	1.
1		0410	51	1.	1		1025	126	4.	1		1640	201	2.	1		2255	276	1.
1		0415	52	1.	1		1030	127	4.	1		1645	202	2.	1		2300	277	1.
1		0420	53	1.	1		1035	128	4.	1		1650	203	2.	1		2305	278	1.
1		0425	54	1.	1		1040	129	4.	1		1655	204	2.	1		2310	279	1.
1		0430	55	1.	1		1045	130	4.	1		1700	205	2.	1		2315	280	1.
1		0435	56	1.	1		1050	131	5.	1		1705	206	2.	1		2320	281	1.
1		0440	57	1.	1		1055	132	5.	1		1710	207	1.	1		2325	282	1.
1		0445	58	1.	1		1100	133	5.	1		1715	208	1.	1		2330	283	1.
1		0450	59	1.	1		1105	134	5.	1		1720	209	1.	1		2335	284	1.
1		0455	60	1.	1		1110	135	6.	1		1725	210	1.	1		2340	285	1.
1		0500	61	1.	1		1115	136	7.	1		1730	211	1.	1		2345	286	1.
1		0505	62	1.	1		1120	137	7.	1		1735	212	1.	1		2350	287	1.
1		0510	63	1.	1		1125	138	8.	1		1740	213	1.	1		2355	288	1.
1		0515	64	1.	1		1130	139	8.	1		1745	214	1.	2		0000	289	1.
1		0520	65	1.	1		1135	140	13.	1		1750	215	1.	2		0005	290	0.
1		0525	66	1.	1		1140	141	25.	1		1755	216	1.	2		0010	291	0.
1		0530	67	1.	1		1145	142	40.	1		1800	217	1.	2		0015	292	0.
1		0535	68	1.	1		1150	143	62.	1		1805	218	1.	2		0020	293	0.
1		0540	69	1.	1		1155	144	86.	1		1810	219	1.	2		0025	294	0.
1		0545	70	1.	1		1200	145	83.	1		1815	220	1.	2		0030	295	0.
1		0550	71	1.	1		1205	146	43.	1		1820	221	1.	2		0035	296	0.
1		0555	72	1.	1		1210	147	13.	1		1825	222	1.	2		0040	297	0.
1		0600	73	1.	1		1215	148	12.	1		1830	223	1.	2		0045	298	0.
1		0605	74	1.	1		1220	149	11.	1		1835	224	1.	2		0050	299	0.
1		0610	75	1.	1		1225	150	9.	1		1840	225	1.	2		0055	300	0.

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
86.	11.92	(CFS)	9.	3.	3.	3.
		(INCHES)	1.394	1.959	1.959	1.959
		(AC-FT)	4.	6.	6.	6.

CUMULATIVE AREA = .06 SQ MI

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173 KK          *          *
                *      C23 *
                *          *
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Combine Hydrograph Basin 23b with 21 and 21a

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175 HC          HYDROGRAPH COMBINATION
                ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                  ***
     ***             ***             ***             ***             ***

                  HYDROGRAPH AT STATION      C23
                TRANSPOSITION AREA        .0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR          24-HR          72-HR      24.92-HR
+   (CFS)        (HR)
                          (CFS)
+     102.       12.00      40.            20.            19.            19.
                  (INCHES)  .521          1.053          1.055          1.055
                  (AC-FT)    20.           40.            40.            40.

                  CUMULATIVE AREA =      .71 SQ MI

     ***             ***             ***             ***             ***

                  HYDROGRAPH AT STATION      C23
                TRANSPOSITION AREA      14.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR          24-HR          72-HR      24.92-HR
+   (CFS)        (HR)
                          (CFS)
+     100.       12.00      39.            20.            19.            19.
                  (INCHES)  .512          1.032          1.034          1.034
                  (AC-FT)    19.           39.            39.            39.

                  CUMULATIVE AREA =      .71 SQ MI

     ***             ***             ***             ***             ***

                  HYDROGRAPH AT STATION      C23
                TRANSPOSITION AREA      24.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR          24-HR          72-HR      24.92-HR
+   (CFS)        (HR)
                          (CFS)
       99.       12.00      39.            20.            19.            19.
                  (INCHES)  .508          1.021          1.023          1.023
                  (AC-FT)    19.           39.            39.            39.

                  CUMULATIVE AREA =      .71 SQ MI

     ***             ***             ***             ***             ***

                  HYDROGRAPH AT STATION      C23
                TRANSPOSITION AREA      36.5 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR          24-HR          72-HR      24.92-HR
+   (CFS)        (HR)
                          (CFS)
+       98.      12.00      39.            19.            19.            19.
                  (INCHES)  .504          1.010          1.012          1.012
                  (AC-FT)    19.           38.            38.            38.

                  CUMULATIVE AREA =      .71 SQ MI

     ***             ***             ***             ***             ***

                  HYDROGRAPH AT STATION      C23
                TRANSPOSITION AREA      50.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR          24-HR          72-HR      24.92-HR
+   (CFS)        (HR)
                          (CFS)
+       98.      12.00      38.            19.            19.            19.
                  (INCHES)  .501          1.003          1.004          1.004
                  (AC-FT)    19.           38.            38.            38.

                  CUMULATIVE AREA =      .71 SQ MI
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INTERPOLATED HYDROGRAPH AT C23

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	4.	1		1230	151	38.	1		1845	226	30.
1		0005	2	0.	1		0620	77	4.	1		1235	152	38.	1		1850	227	30.
1		0010	3	1.	1		0625	78	4.	1		1240	153	38.	1		1855	228	30.
1		0015	4	1.	1		0630	79	4.	1		1245	154	39.	1		1900	229	30.
1		0020	5	1.	1		0635	80	4.	1		1250	155	39.	1		1905	230	30.
1		0025	6	1.	1		0640	81	4.	1		1255	156	39.	1		1910	231	30.
1		0030	7	1.	1		0645	82	4.	1		1300	157	39.	1		1915	232	29.
1		0035	8	1.	1		0650	83	4.	1		1305	158	39.	1		1920	233	29.
1		0040	9	1.	1		0655	84	5.	1		1310	159	39.	1		1925	234	29.
1		0045	10	1.	1		0700	85	5.	1		1315	160	39.	1		1930	235	29.
1		0050	11	1.	1		0705	86	5.	1		1320	161	39.	1		1935	236	29.
1		0055	12	1.	1		0710	87	5.	1		1325	162	39.	1		1940	237	29.
1		0100	13	1.	1		0715	88	5.	1		1330	163	39.	1		1945	238	29.
1		0105	14	1.	1		0720	89	5.	1		1335	164	39.	1		1950	239	28.
1		0110	15	1.	1		0725	90	5.	1		1340	165	39.	1		1955	240	28.

1	0115	16	1.	*	1	0730	91	5.	*	1	1345	166	39.	*	1	2000	241	28.
1	0120	17	2.	*	1	0735	92	5.	*	1	1350	167	39.	*	1	2005	242	28.
1	0125	18	2.	*	1	0740	93	5.	*	1	1355	168	39.	*	1	2010	243	28.
1	0130	19	2.	*	1	0745	94	5.	*	1	1400	169	39.	*	1	2015	244	28.
1	0135	20	2.	*	1	0750	95	5.	*	1	1405	170	38.	*	1	2020	245	27.
1	0140	21	2.	*	1	0755	96	5.	*	1	1410	171	38.	*	1	2025	246	27.
1	0145	22	2.	*	1	0800	97	5.	*	1	1415	172	38.	*	1	2030	247	27.
1	0150	23	2.	*	1	0805	98	5.	*	1	1420	173	38.	*	1	2035	248	27.
1	0155	24	2.	*	1	0810	99	5.	*	1	1425	174	38.	*	1	2040	249	27.
1	0200	25	2.	*	1	0815	100	5.	*	1	1430	175	38.	*	1	2045	250	27.
1	0205	26	2.	*	1	0820	101	5.	*	1	1435	176	38.	*	1	2050	251	27.
1	0210	27	2.	*	1	0825	102	5.	*	1	1440	177	38.	*	1	2055	252	27.
1	0215	28	2.	*	1	0830	103	6.	*	1	1445	178	37.	*	1	2100	253	26.
1	0220	29	2.	*	1	0835	104	6.	*	1	1450	179	37.	*	1	2105	254	26.
1	0225	30	2.	*	1	0840	105	6.	*	1	1455	180	37.	*	1	2110	255	26.
1	0230	31	2.	*	1	0845	106	6.	*	1	1500	181	37.	*	1	2115	256	26.
1	0235	32	3.	*	1	0850	107	6.	*	1	1505	182	37.	*	1	2120	257	26.
1	0240	33	3.	*	1	0855	108	6.	*	1	1510	183	37.	*	1	2125	258	26.
1	0245	34	3.	*	1	0900	109	6.	*	1	1515	184	37.	*	1	2130	259	26.
1	0250	35	3.	*	1	0905	110	6.	*	1	1520	185	36.	*	1	2135	260	25.
1	0255	36	3.	*	1	0910	111	7.	*	1	1525	186	36.	*	1	2140	261	25.
1	0300	37	3.	*	1	0915	112	7.	*	1	1530	187	36.	*	1	2145	262	25.
1	0305	38	3.	*	1	0920	113	7.	*	1	1535	188	36.	*	1	2150	263	25.
1	0310	39	3.	*	1	0925	114	7.	*	1	1540	189	36.	*	1	2155	264	25.
1	0315	40	3.	*	1	0930	115	7.	*	1	1545	190	36.	*	1	2200	265	25.
1	0320	41	3.	*	1	0935	116	7.	*	1	1550	191	36.	*	1	2205	266	25.
1	0325	42	3.	*	1	0940	117	7.	*	1	1555	192	36.	*	1	2210	267	24.
1	0330	43	3.	*	1	0945	118	7.	*	1	1600	193	35.	*	1	2215	268	24.
1	0335	44	3.	*	1	0950	119	7.	*	1	1605	194	35.	*	1	2220	269	24.
1	0340	45	3.	*	1	0955	120	8.	*	1	1610	195	35.	*	1	2225	270	24.
1	0345	46	3.	*	1	1000	121	8.	*	1	1615	196	35.	*	1	2230	271	23.
1	0350	47	3.	*	1	1005	122	8.	*	1	1620	197	35.	*	1	2235	272	23.
1	0355	48	3.	*	1	1010	123	8.	*	1	1625	198	35.	*	1	2240	273	23.
1	0400	49	3.	*	1	1015	124	9.	*	1	1630	199	35.	*	1	2245	274	23.
1	0405	50	3.	*	1	1020	125	9.	*	1	1635	200	34.	*	1	2250	275	23.
1	0410	51	3.	*	1	1025	126	9.	*	1	1640	201	34.	*	1	2255	276	22.
1	0415	52	3.	*	1	1030	127	9.	*	1	1645	202	34.	*	1	2300	277	22.
1	0420	53	3.	*	1	1035	128	10.	*	1	1650	203	34.	*	1	2305	278	22.
1	0425	54	3.	*	1	1040	129	10.	*	1	1655	204	34.	*	1	2310	279	22.
1	0430	55	3.	*	1	1045	130	11.	*	1	1700	205	34.	*	1	2315	280	22.
1	0435	56	3.	*	1	1050	131	11.	*	1	1705	206	34.	*	1	2320	281	21.
1	0440	57	3.	*	1	1055	132	11.	*	1	1710	207	33.	*	1	2325	282	21.
1	0445	58	3.	*	1	1100	133	12.	*	1	1715	208	33.	*	1	2330	283	21.
1	0450	59	4.	*	1	1105	134	12.	*	1	1720	209	33.	*	1	2335	284	21.
1	0455	60	4.	*	1	1110	135	13.	*	1	1725	210	33.	*	1	2340	285	21.
1	0500	61	4.	*	1	1115	136	14.	*	1	1730	211	33.	*	1	2345	286	20.
1	0505	62	4.	*	1	1120	137	15.	*	1	1735	212	33.	*	1	2350	287	20.
1	0510	63	4.	*	1	1125	138	17.	*	1	1740	213	33.	*	1	2355	288	20.
1	0515	64	4.	*	1	1130	139	18.	*	1	1745	214	32.	*	2	0000	289	20.
1	0520	65	4.	*	1	1135	140	24.	*	1	1750	215	32.	*	2	0005	290	19.
1	0525	66	4.	*	1	1140	141	36.	*	1	1755	216	32.	*	2	0010	291	19.
1	0530	67	4.	*	1	1145	142	52.	*	1	1800	217	32.	*	2	0015	292	18.
1	0535	68	4.	*	1	1150	143	74.	*	1	1805	218	32.	*	2	0020	293	18.
1	0540	69	4.	*	1	1155	144	100.	*	1	1810	219	32.	*	2	0025	294	18.
1	0545	70	4.	*	1	1200	145	101.	*	1	1815	220	31.	*	2	0030	295	18.
1	0550	71	4.	*	1	1205	146	64.	*	1	1820	221	31.	*	2	0035	296	18.
1	0555	72	4.	*	1	1210	147	38.	*	1	1825	222	31.	*	2	0040	297	17.
1	0600	73	4.	*	1	1215	148	38.	*	1	1830	223	31.	*	2	0045	298	17.
1	0605	74	4.	*	1	1220	149	39.	*	1	1835	224	31.	*	2	0050	299	17.
1	0610	75	4.	*	1	1225	150	38.	*	1	1840	225	31.	*	2	0055	300	17.
				*					*					*				

****

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 101.	12.00		40.	20.	19.	19.
		(INCHES)	.516	1.041	1.042	1.042
		(AC-FT)	20.	40.	40.	40.

CUMULATIVE AREA = .71 SQ MI

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          ***************
          *             *
176 KK    *     R23b    *
          *             *
          ***************
                    Route Hydrograph Through Basin 23c Pipe

             HYDROGRAPH ROUTING DATA

178 RK          KINEMATIC WAVE STREAM ROUTING
                        L       1000.  CHANNEL LENGTH
                        S       .0140  SLOPE
                        N        .015  CHANNEL ROUGHNESS COEFFICIENT
                       CA         .00  CONTRIBUTING AREA
                    SHAPE        CIRC  CHANNEL SHAPE
                       WD        3.00  BOTTOM WIDTH OR DIAMETER
                        Z         .00  SIDE SLOPE
                   NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                    ***
        *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

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COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	7.62	1.25	.45	333.33	102.08	719.96	1.05	16.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4011E+02 EXCESS= .0000E+00 OUTFLOW= .4008E+02 BASIN STORAGE= .2501E-01 PERCENT ERROR= .0

INTERPOLAIED TO SPECIFIED COMPUTATION INTERVAL

MAIN	7.62	1.25	5.00	102.07	720.00	1.05
***	***	***	***	***		

HYDROGRAPH AT STATION R23b
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)	40.	20.	19.	19.
+ 102.	12.00	(INCHES)	.521	1.053	1.054	1.054
		(AC-FT)	20.	40.	40.	40.

CUMULATIVE AREA = .71 SQ MI

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

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COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	7.62	1.25	.45	333.33	100.08	719.85	1.03	15.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3930E+02 EXCESS= .0000E+00 OUTFLOW= .3927E+02 BASIN STORAGE= .2427E-01 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	7.62	1.25	5.00	100.08	720.00	1.03
***	***	***	***	***		

HYDROGRAPH AT STATION R23b
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)	39.	20.	19.	19.
+ 100.	12.00	(INCHES)	.512	1.031	1.033	1.033
		(AC-FT)	19.	39.	39.	39.

CUMULATIVE AREA = .71 SQ MI

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

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COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	7.62	1.25	.45	333.33	99.10	719.84	1.02	15.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3889E+02 EXCESS= .0000E+00 OUTFLOW= .3886E+02 BASIN STORAGE= .2390E-01 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	7.62	1.25	5.00	99.09	720.00	1.02
***	***	***	***	***		

HYDROGRAPH AT STATION R23b
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
		(CFS)				
99.	12.00		39.	20.	19.	19.
		(INCHES)	.508	1.021	1.022	1.022
		(AC-FT)	19.	39.	39.	39.

CUMULATIVE AREA = .71 SQ MI

*** FOKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

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*** FOKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	7.62	1.25	.45	333.33	98.10	719.81	1.01	15.88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3847E+02 EXCESS= .0000E+00 OUTFLOW= .3844E+02 BASIN STORAGE= .2352E-01 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	7.62	1.25	5.00	98.10	720.00	1.01
***	***	***	***	***		

HYDROGRAPH AT STATION R23b
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
		(CFS)				
98.	12.00		39.	19.	19.	19.
		(INCHES)	.504	1.010	1.011	1.011
		(AC-FT)	19.	38.	38.	38.

CUMULATIVE AREA = .71 SQ MI

*** FOKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

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*** FOKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	7.62	1.25	.45	333.33	97.44	719.95	1.00	15.86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3818E+02 EXCESS= .0000E+00 OUTFLOW= .3815E+02 BASIN STORAGE= .2328E-01 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	7.62	1.25	5.00	97.43	720.00	1.00

*** *** *** *** ***

HYDROGRAPH AT STATION R23b
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
97.	12.00		38.	19.	19.	19.
		(INCHES)	.501	1.002	1.004	1.004
		(AC-FT)	19.	38.	38.	38.

CUMULATIVE AREA = .71 SQ MI

INTERPOLATED HYOROGRAPH AT R23b

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	4.	1		1230	151	38.	1		1845	226	30.
1		0005	2	0.	1		0620	77	4.	1		1235	152	38.	1		1850	227	30.
1		0010	3	1.	1		0625	78	4.	1		1240	153	38.	1		1855	228	30.
1		0015	4	1.	1		0630	79	4.	1		1245	154	38.	1		1900	229	30.
1		0020	5	1.	1		0635	80	4.	1		1250	155	39.	1		1905	230	30.
1		0025	6	1.	1		0640	81	4.	1		1255	156	39.	1		1910	231	30.
1		0030	7	1.	1		0645	82	4.	1		1300	157	39.	1		1915	232	29.
1		0035	8	1.	1		0650	83	4.	1		1305	158	39.	1		1920	233	29.
1		0040	9	1.	1		0655	84	4.	1		1310	159	39.	1		1925	234	29.
1		0045	10	1.	1		0700	85	5.	1		1315	160	39.	1		1930	235	29.
1		0050	11	1.	1		0705	86	5.	1		1320	161	39.	1		1935	236	29.
1		0055	12	1.	1		0710	87	5.	1		1325	162	39.	1		1940	237	29.
1		0100	13	1.	1		0715	88	5.	1		1330	163	39.	1		1945	238	29.
1		0105	14	1.	1		0720	89	5.	1		1335	164	39.	1		1950	239	28.
1		0110	15	1.	1		0725	90	5.	1		1340	165	39.	1		1955	240	28.
1		0115	16	1.	1		0730	91	5.	1		1345	166	39.	1		2000	241	28.
1		0120	17	2.	1		0735	92	5.	1		1350	167	39.	1		2005	242	28.
1		0125	18	2.	1		0740	93	5.	1		1355	168	39.	1		2010	243	28.
1		0130	19	2.	1		0745	94	5.	1		1400	169	39.	1		2015	244	28.
1		0135	20	2.	1		0750	95	5.	1		1405	170	38.	1		2020	245	28.
1		0140	21	2.	1		0755	96	5.	1		1410	171	38.	1		2025	246	27.
1		0145	22	2.	1		0800	97	5.	1		1415	172	38.	1		2030	247	27.
1		0150	23	2.	1		0805	98	5.	1		1420	173	38.	1		2035	248	27.
1		0155	24	2.	1		0810	99	5.	1		1425	174	38.	1		2040	249	27.
1		0200	25	2.	1		0815	100	5.	1		1430	175	38.	1		2045	250	27.
1		0205	26	2.	1		0820	101	5.	1		1435	176	38.	1		2050	251	27.
1		0210	27	2.	1		0825	102	5.	1		1440	177	38.	1		2055	252	27.
1		0215	28	2.	1		0830	103	6.	1		1445	178	37.	1		2100	253	26.
1		0220	29	2.	1		0835	104	6.	1		1450	179	37.	1		2105	254	26.
1		0225	30	2.	1		0840	105	6.	1		1455	180	37.	1		2110	255	26.
1		0230	31	2.	1		0845	106	6.	1		1500	181	37.	1		2115	256	26.
1		0235	32	3.	1		0850	107	6.	1		1505	182	37.	1		2120	257	26.
1		0240	33	3.	1		0855	108	6.	1		1510	183	37.	1		2125	258	26.
1		0245	34	3.	1		0900	109	6.	1		1515	184	37.	1		2130	259	26.
1		0250	35	3.	1		0905	110	6.	1		1520	185	37.	1		2135	260	25.
1		0255	36	3.	1		0910	111	6.	1		1525	186	36.	1		2140	261	25.
1		0300	37	3.	1		0915	112	7.	1		1530	187	36.	1		2145	262	25.
1		0305	38	3.	1		0920	113	7.	1		1535	188	36.	1		2150	263	25.
1		0310	39	3.	1		0925	114	7.	1		1540	189	36.	1		2155	264	25.
1		0315	40	3.	1		0930	115	7.	1		1545	190	36.	1		2200	265	25.
1		0320	41	3.	1		0935	116	7.	1		1550	191	36.	1		2205	266	25.
1		0325	42	3.	1		0940	117	7.	1		1555	192	36.	1		2210	267	24.
1		0330	43	3.	1		0945	118	7.	1		1600	193	35.	1		2215	268	24.
1		0335	44	3.	1		0950	119	7.	1		1605	194	35.	1		2220	269	24.
1		0340	45	3.	1		0955	120	8.	1		1610	195	35.	1		2225	270	24.
1		0345	46	3.	1		1000	121	8.	1		1615	196	35.	1		2230	271	23.
1		0350	47	3.	1		1005	122	8.	1		1620	197	35.	1		2235	272	23.
1		0355	48	3.	1		1010	123	8.	1		1625	198	35.	1		2240	273	23.
1		0400	49	3.	1		1015	124	9.	1		1630	199	35.	1		2245	274	23.
1		0405	50	3.	1		1020	125	9.	1		1635	200	34.	1		2250	275	23.
1		0410	51	3.	1		1025	126	9.	1		1640	201	34.	1		2255	276	22.
1		0415	52	3.	1		1030	127	9.	1		1645	202	34.	1		2300	277	22.
1		0420	53	3.	1		1035	128	10.	1		1650	203	34.	1		2305	278	22.
1		0425	54	3.	1		1040	129	10.	1		1655	204	34.	1		2310	279	22.
1		0430	55	3.	1		1045	130	10.	1		1700	205	34.	1		2315	280	22.
1		0435	56	3.	1		1050	131	11.	1		1705	206	34.	1		2320	281	21.
1		0440	57	3.	1		1055	132	11.	1		1710	207	34.	1		2325	282	21.
1		0445	58	3.	1		1100	133	12.	1		1715	208	33.	1		2330	283	21.
1		0450	59	3.	1		1105	134	12.	1		1720	209	33.	1		2335	284	21.
1		0455	60	4.	1		1110	135	13.	1		1725	210	33.	1		2340	285	21.
1		0500	61	4.	1		1115	136	14.	1		1730	211	33.	1		2345	286	20.
1		0505	62	4.	1		1120	137	15.	1		1735	212	33.	1		2350	287	20.
1		0510	63	4.	1		1125	138	16.	1		1740	213	33.	1		2355	288	20.
1		0515	64	4.	1		1130	139	18.	1		1745	214	32.	2		0000	289	20.
1		0520	65	4.	1		1135	140	23.	1		1750	215	32.	2		0005	290	19.
1		0525	66	4.	1		1140	141	34.	1		1755	216	32.	2		0010	291	19.
1		0530	67	4.	1		1145	142	49.	1		1800	217	32.	2		0015	292	18.
1		0535	68	4.	1		1150	143	71.	1		1805	218	32.	2		0020	293	18.
1		0540	69	4.	1		1155	144	96.	1		1810	219	32.	2		0025	294	18.
1		0545	70	4.	1		1200	145	101.	1		1815	220	31.	2		0030	295	18.
1		0550	71	4.	1		1205	146	70.	1		1820	221	31.	2		0035	296	18.
1		0555	72	4.	1		1210	147	42.	1		1825	222	31.	2		0040	297	17.
1		0600	73	4.	1		1215	148	38.	1		1830	223	31.	2		0045	298	17.
1		0605	74	4.	1		1220	149	39.	1		1835	224	31.	2		0050	299	17.
1		0610	75	4.	1		1225	150	39.	1		1840	225	31.	2		0055	300	17.

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
101.	12.00		40.	20.	19.	19.
		(INCHES)	.516	1.040	1.042	1.042
		(AC-FT)	20.	40.	40.	40.

CUMULATIVE AREA = .71 SQ MI

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*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

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              *            *
179 KK        *     DB23c  *
              *            *
              **************
                        Subbasin

                 SUBBASIN RUNOFF DATA

181 BA             SUBBASIN CHARACTERISTICS
                         TAREA          .08  SUBBASIN AREA

182 LG             GREEN AND AMPT LOSS RATE
                         STRTL          .07  STARTING LOSS
                           DTH          .09  MOISTURE DEFICIT
                          PSIF          .35  WETTING FRONT SUCTION
                         XKSAT          .01  HYDRAULIC CONDUCTIVITY
                         RTIMP        95.00  PERCENT IMPERVIOUS AREA

183 US             SNYDER UNITGRAPH
                           TP           .08  LAG
                           CP           .57  PEAKING COEFFICIENT

                   SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                        ***

                                                  UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=    .11 HR,       R=    .05 HR
                                          SNYDER  TP=    .08 HR,      CP=    .57

                                                    UNIT HYDROGRAPH
                                                4 END-OF-PERIOD ORDINATES
                        226.      297.       77.       6.

                  ***             ***             ***             ***             ***

                                   HYDROGRAPH AT STATION    DB23c
                                  TRANSPOSITION AREA       .0 SQ MI

                TOTAL RAINFALL =   1.99, TOTAL LOSS =     .02, TOTAL EXCESS =    1.97

  PEAK FLOW      TIME                                  MAXIMUM AVERAGE FLOW
                                              6-HR        24-HR        72-HR     24.92-HR
+   (CFS)        (HR)          (CFS)
+     113.      12.00                 12.          4.           4.           4.
                                (INCHES)      1.400       1.967        1.968        1.968
                                 (AC-FT)         6.          8.           8.           8.

                                  CUMULATIVE AREA =     .08 SQ MI

                  ***             ***             ***             ***             ***

                                   HYDROGRAPH AT STATION    DB23c
                                  TRANSPOSITION AREA     14.0 SQ MI

                TOTAL RAINFALL =   1.95, TOTAL LOSS =     .02, TOTAL EXCESS =    1.93

  PEAK FLOW      TIME                                  MAXIMUM AVERAGE FLOW
                                              6-HR        24-HR        72-HR     24.92-HR
+   (CFS)        (HR)          (CFS)
+     110.      12.00                 12.          4.           4.           4.
                                (INCHES)      1.372       1.927        1.928        1.928
                                 (AC-FT)         6.          8.           8.           8.

                                  CUMULATIVE AREA =     .08 SQ MI

                  ***             ***             ***             ***             ***

                                   HYDROGRAPH AT STATION    DB23c
                                  TRANSPOSITION AREA     24.0 SQ MI

                TOTAL RAINFALL =   1.93, TOTAL LOSS =     .02, TOTAL EXCESS =    1.91

  PEAK FLOW      TIME                                  MAXIMUM AVERAGE FLOW
                                              6-HR        24-HR        72-HR     24.92-HR
+   (CFS)        (HR)          (CFS)
+     109.      12.00                 11.          4.           4.           4.
                                (INCHES)      1.358       1.907        1.908        1.908
                                 (AC-FT)         6.          8.           8.           8.

                                  CUMULATIVE AREA =     .08 SQ MI

                  ***             ***             ***             ***             ***

                                   HYDROGRAPH AT STATION    DB23c
                                  TRANSPOSITION AREA     36.5 SQ MI

                TOTAL RAINFALL =   1.91, TOTAL LOSS =     .02, TOTAL EXCESS =    1.89

  PEAK FLOW      TIME                                  MAXIMUM AVERAGE FLOW
                                              6-HR        24-HR        72-HR     24.92-HR
+   (CFS)        (HR)          (CFS)
+     108.      12.00                 11.          4.           4.           4.
                                (INCHES)      1.344       1.887        1.888        1.888
                                 (AC-FT)         6.          8.           8.           8.

                                  CUMULATIVE AREA =     .08 SQ MI

                  ***             ***             ***             ***             ***

                                   HYDROGRAPH AT STATION    DB23c
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TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.90, TOTAL LOSS = .02, TOTAL EXCESS = 1.88

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)			
107.	12.00	11.	4.	4.	4.
		(INCHES) 1.334	1.873	1.874	1.874
		(AC-FT) 6.	8.	8.	8.

CUMULATIVE AREA = .08 SQ MI

INTERPOLATED HYDROGRAPH AT OB23c

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	2.	1		1230	151	11.	1		1845	226	2.
1		0005	2	0.	1		0620	77	2.	1		1235	152	10.	1		1850	227	2.
1		0010	3	1.	1		0625	78	2.	1		1240	153	8.	1		1855	228	2.
1		0015	4	1.	1		0630	79	2.	1		1245	154	8.	1		1900	229	2.
1		0020	5	1.	1		0635	80	2.	1		1250	155	7.	1		1905	230	2.
1		0025	6	1.	1		0640	81	2.	1		1255	156	7.	1		1910	231	2.
1		0030	7	1.	1		0645	82	2.	1		1300	157	7.	1		1915	232	1.
1		0035	8	1.	1		0650	83	2.	1		1305	158	6.	1		1920	233	1.
1		0040	9	1.	1		0655	84	2.	1		1310	159	6.	1		1925	234	1.
1		0045	10	1.	1		0700	85	2.	1		1315	160	6.	1		1930	235	1.
1		0050	11	1.	1		0705	86	2.	1		1320	161	5.	1		1935	236	1.
1		0055	12	1.	1		0710	87	2.	1		1325	162	5.	1		1940	237	1.
1		0100	13	1.	1		0715	88	2.	1		1330	163	5.	1		1945	238	1.
1		0105	14	1.	1		0720	89	2.	1		1335	164	5.	1		1950	239	1.
1		0110	15	1.	1		0725	90	2.	1		1340	165	5.	1		1955	240	1.
1		0115	16	1.	1		0730	91	2.	1		1345	166	4.	1		2000	241	1.
1		0120	17	1.	1		0735	92	2.	1		1350	167	4.	1		2005	242	1.
1		0125	18	1.	1		0740	93	2.	1		1355	168	4.	1		2010	243	1.
1		0130	19	1.	1		0745	94	2.	1		1400	169	4.	1		2015	244	1.
1		0135	20	1.	1		0750	95	2.	1		1405	170	4.	1		2020	245	1.
1		0140	21	1.	1		0755	96	2.	1		1410	171	4.	1		2025	246	1.
1		0145	22	1.	1		0800	97	2.	1		1415	172	4.	1		2030	247	1.
1		0150	23	1.	1		0805	98	2.	1		1420	173	3.	1		2035	248	1.
1		0155	24	1.	1		0810	99	2.	1		1425	174	3.	1		2040	249	1.
1		0200	25	1.	1		0815	100	2.	1		1430	175	3.	1		2045	250	1.
1		0205	26	1.	1		0820	101	2.	1		1435	176	3.	1		2050	251	1.
1		0210	27	1.	1		0825	102	2.	1		1440	177	3.	1		2055	252	1.
1		0215	28	1.	1		0830	103	3.	1		1445	178	3.	1		2100	253	1.
1		0220	29	1.	1		0835	104	3.	1		1450	179	3.	1		2105	254	1.
1		0225	30	1.	1		0840	105	3.	1		1455	180	3.	1		2110	255	1.
1		0230	31	1.	1		0845	106	3.	1		1500	181	3.	1		2115	256	1.
1		0235	32	1.	1		0850	107	3.	1		1505	182	3.	1		2120	257	1.
1		0240	33	1.	1		0855	108	3.	1		1510	183	3.	1		2125	258	1.
1		0245	34	1.	1		0900	109	3.	1		1515	184	3.	1		2130	259	1.
1		0250	35	1.	1		0905	110	3.	1		1520	185	3.	1		2135	260	1.
1		0255	36	1.	1		0910	111	3.	1		1525	186	3.	1		2140	261	1.
1		0300	37	1.	1		0915	112	3.	1		1530	187	3.	1		2145	262	1.
1		0305	38	1.	1		0920	113	3.	1		1535	188	3.	1		2150	263	1.
1		0310	39	1.	1		0925	114	3.	1		1540	189	3.	1		2155	264	1.
1		0315	40	1.	1		0930	115	3.	1		1545	190	3.	1		2200	265	1.
1		0320	41	1.	1		0935	116	3.	1		1550	191	2.	1		2205	266	1.
1		0325	42	1.	1		0940	117	3.	1		1555	192	2.	1		2210	267	1.
1		0330	43	1.	1		0945	118	3.	1		1600	193	2.	1		2215	268	1.
1		0335	44	1.	1		0950	119	4.	1		1605	194	2.	1		2220	269	1.
1		0340	45	1.	1		0955	120	4.	1		1610	195	2.	1		2225	270	1.
1		0345	46	1.	1		1000	121	4.	1		1615	196	2.	1		2230	271	1.
1		0350	47	1.	1		1005	122	4.	1		1620	197	2.	1		2235	272	1.
1		0355	48	1.	1		1010	123	4.	1		1625	198	2.	1		2240	273	1.
1		0400	49	1.	1		1015	124	4.	1		1630	199	2.	1		2245	274	1.
1		0405	50	1.	1		1020	125	5.	1		1635	200	2.	1		2250	275	1.
1		0410	51	1.	1		1025	126	5.	1		1640	201	2.	1		2255	276	1.
1		0415	52	1.	1		1030	127	5.	1		1645	202	2.	1		2300	277	1.
1		0420	53	1.	1		1035	128	5.	1		1650	203	2.	1		2305	278	1.
1		0425	54	1.	1		1040	129	5.	1		1655	204	2.	1		2310	279	1.
1		0430	55	1.	1		1045	130	6.	1		1700	205	2.	1		2315	280	1.
1		0435	56	1.	1		1050	131	6.	1		1705	206	2.	1		2320	281	1.
1		0440	57	1.	1		1055	132	6.	1		1710	207	2.	1		2325	282	1.
1		0445	58	1.	1		1100	133	7.	1		1715	208	2.	1		2330	283	1.
1		0450	59	1.	1		1105	134	7.	1		1720	209	2.	1		2335	284	1.
1		0455	60	1.	1		1110	135	8.	1		1725	210	2.	1		2340	285	1.
1		0500	61	2.	1		1115	136	9.	1		1730	211	2.	1		2345	286	1.
1		0505	62	2.	1		1120	137	9.	1		1735	212	2.	1		2350	287	1.
1		0510	63	2.	1		1125	138	10.	1		1740	213	2.	1		2355	288	1.
1		0515	64	2.	1		1130	139	11.	1		1745	214	2.	2		0000	289	1.
1		0520	65	2.	1		1135	140	16.	1		1750	215	2.	2		0005	290	1.
1		0525	66	2.	1		1140	141	29.	1		1755	216	2.	2		0010	291	0.
1		0530	67	2.	1		1145	142	48.	1		1800	217	2.	2		0015	292	0.
1		0535	68	2.	1		1150	143	75.	1		1805	218	2.	2		0020	293	0.
1		0540	69	2.	1		1155	144	106.	1		1810	219	2.	2		0025	294	0.
1		0545	70	2.	1		1200	145	112.	1		1815	220	2.	2		0030	295	0.
1		0550	71	2.	1		1205	146	71.	1		1820	221	2.	2		0035	296	0.
1		0555	72	2.	1		1210	147	29.	1		1825	222	2.	2		0040	297	0.
1		0600	73	2.	1		1215	148	17.	1		1830	223	2.	2		0045	298	0.
1		0605	74	2.	1		1220	149	15.	1		1835	224	2.	2		0050	299	0.
1		0610	75	2.	1		1225	150	13.	1		1840	225	2.	2		0055	300	0.

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)			
112.	12.00	12.	4.	4.	4.
		(INCHES) 1.392	1.955	1.956	1.956
		(AC-FT) 6.	8.	8.	8.

CUMULATIVE AREA = .08 SQ MI

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*            *
184 KK      *      R23c  *
*            *
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Route R23c Through R23c Ditch

HYDROGRAPH ROUTING DATA

186 RK KINEMATIC WAVE STREAM ROUTING

L	500.	CHANNEL LENGTH
S	.0050	SLOPE
N	.045	CHANNEL ROUGHNESS COEFFICIENT
CA	.00	CONTRIBUTING AREA
SHAPE	TRAP	CHANNEL SHAPE
WD	10.00	BOTTOM WIDTH OR DIAMETER
Z	4.00	SIDE SLOPE
NDXMIN	2	MINIMUM NUMBER OF DX INTERVALS

***

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	.65	1.40	.86	166.67	111.35	720.99	1.97	3.95

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8217E+01 EXCESS= .0000E+00 OUTFLOW= .8223E+01 BASIN STORAGE= .1494E-03 PERCENT ERROR= -.1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	.65	1.40	5.00	110.77	720.00	1.97
***	***	***	***	***		

HYDROGRAPH AT STATION R23c
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)	12.	4.	4.	4.
+ 111.	12.00	(INCHES)	1.403	1.969	1.971	1.971
		(AC-FT)	6.	8.	8.	8.

CUMULATIVE AREA = .08 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	.65	1.40	.74	166.67	109.73	721.37	1.93	3.93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8050E+01 EXCESS= .0000E+00 OUTFLOW= .8057E+01 BASIN STORAGE= .1406E-03 PERCENT ERROR= -.1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	.65	1.40	5.00	108.57	720.00	1.93
***	***	***	***	***		

HYDROGRAPH AT STATION R23c
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)	12.	4.	4.	4.
+ 109.	12.00	(INCHES)	1.375	1.930	1.931	1.931
		(AC-FT)	6.	8.	8.	8.

CUMULATIVE AREA = .08 SQ MI

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	.65	1.40	.88	166.67	108.18	720.89	1.91	3.92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7967E+01 EXCESS= .0000E+00 OUTFLOW= .7973E+01 BASIN STORAGE= .1457E-03 PERCENT ERROR= -.1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	.65	1.40	5.00	107.45	720.00	1.91
***	***	***	***	***		

HYDROGRAPH AT STATION R23C
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)	11.	4.	4.	4.
+ 107.	12.00	(INCHES)	1.360	1.909	1.910	1.910
		(AC-FT)	6.	8.	8.	8.

CUMULATIVE AREA = .08 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	.65	1.40	.76	166.67	107.28	721.37	1.89	3.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7883E+01 EXCESS= .0000E+00 OUTFLOW= .7890E+01 BASIN STORAGE= .1298E-03 PERCENT ERROR= -.1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	.65	1.40	5.00	106.33	720.00	1.89
***	***	***	***	***		

HYDROGRAPH AT STATION R23C
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)	11.	4.	4.	4.
+ 106.	12.00	(INCHES)	1.347	1.889	1.891	1.891
		(AC-FT)	6.	8.	8.	8.

CUMULATIVE AREA = .08 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	.65	1.40	.72	166.67	106.58	720.91	1.88	3.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7825E+01 EXCESS= .0000E+00 OUTFLOW= .7833E+01 BASIN STORAGE= .1335E-03 PERCENT ERROR= -.1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	.65	1.40	5.00	105.55	720.00	1.88
***	***	***	***	***		

HYDROGRAPH AT STATION R23C
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)	11.	4.	4.	4.
+ 106.	12.00	(INCHES)	1.337	1.876	1.877	1.877
		(AC-FT)	6.	8.	8.	8.

CUMULATIVE AREA = .08 SQ MI

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INTERPOLATED HYDROGRAPH AT R23C

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DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	*	1		0615	76	2.	*	1		1230	151	12.	*	1		1845	226	2.
1		0005	2	0.	*	1		0620	77	2.	*	1		1235	152	10.	*	1		1850	227	2.
1		0010	3	0.	*	1		0625	78	2.	*	1		1240	153	9.	*	1		1855	228	2.
1		0015	4	1.	*	1		0630	79	2.	*	1		1245	154	8.	*	1		1900	229	2.
1		0020	5	1.	*	1		0635	80	2.	*	1		1250	155	8.	*	1		1905	230	2.
1		0025	6	1.	*	1		0640	81	2.	*	1		1255	156	7.	*	1		1910	231	2.
1		0030	7	1.	*	1		0645	82	2.	*	1		1300	157	7.	*	1		1915	232	2.
1		0035	8	1.	*	1		0650	83	2.	*	1		1305	158	6.	*	1		1920	233	1.
1		0040	9	1.	*	1		0655	84	2.	*	1		1310	159	6.	*	1		1925	234	1.
1		0045	10	1.	*	1		0700	85	2.	*	1		1315	160	6.	*	1		1930	235	1.
1		0050	11	1.	*	1		0705	86	2.	*	1		1320	161	6.	*	1		1935	236	1.
1		0055	12	1.	*	1		0710	87	2.	*	1		1325	162	5.	*	1		1940	237	1.
1		0100	13	1.	*	1		0715	88	2.	*	1		1330	163	5.	*	1		1945	238	1.
1		0105	14	1.	*	1		0720	89	2.	*	1		1335	164	5.	*	1		1950	239	1.
1		0110	15	1.	*	1		0725	90	2.	*	1		1340	165	5.	*	1		1955	240	1.
1		0115	16	1.	*	1		0730	91	2.	*	1		1345	166	4.	*	1		2000	241	1.
1		0120	17	1.	*	1		0735	92	2.	*	1		1350	167	4.	*	1		2005	242	1.
1		0125	18	1.	*	1		0740	93	2.	*	1		1355	168	4.	*	1		2010	243	1.

1	0130	19	1.	*	1	0745	94	2.	*	1	1400	169	4.	*	1	2015	244	1.
1	0135	20	1.	*	1	0750	95	2.	*	1	1405	170	4.	*	1	2020	245	1.
1	0140	21	1.	*	1	0755	96	2.	*	1	1410	171	4.	*	1	2025	246	1.
1	0145	22	1.	*	1	0800	97	2.	*	1	1415	172	4.	*	1	2030	247	1.
1	0150	23	1.	*	1	0805	98	2.	*	1	1420	173	4.	*	1	2035	248	1.
1	0155	24	1.	*	1	0810	99	2.	*	1	1425	174	3.	*	1	2040	249	1.
1	0200	25	1.	*	1	0815	100	2.	*	1	1430	175	3.	*	1	2045	250	1.
1	0205	26	1.	*	1	0820	101	2.	*	1	1435	176	3.	*	1	2050	251	1.
1	0210	27	1.	*	1	0825	102	2.	*	1	1440	177	3.	*	1	2055	252	1.
1	0215	28	1.	*	1	0830	103	2.	*	1	1445	178	3.	*	1	2100	253	1.
1	0220	29	1.	*	1	0835	104	3.	*	1	1450	179	3.	*	1	2105	254	1.
1	0225	30	1.	*	1	0840	105	3.	*	1	1455	180	3.	*	1	2110	255	1.
1	0230	31	1.	*	1	0845	106	3.	*	1	1500	181	3.	*	1	2115	256	1.
1	0235	32	1.	*	1	0850	107	3.	*	1	1505	182	3.	*	1	2120	257	1.
1	0240	33	1.	*	1	0855	108	3.	*	1	1510	183	3.	*	1	2125	258	1.
1	0245	34	1.	*	1	0900	109	3.	*	1	1515	184	3.	*	1	2130	259	1.
1	0250	35	1.	*	1	0905	110	3.	*	1	1520	185	3.	*	1	2135	260	1.
1	0255	36	1.	*	1	0910	111	3.	*	1	1525	186	3.	*	1	2140	261	1.
1	0300	37	1.	*	1	0915	112	3.	*	1	1530	187	3.	*	1	2145	262	1.
1	0305	38	1.	*	1	0920	113	3.	*	1	1535	188	3.	*	1	2150	263	1.
1	0310	39	1.	*	1	0925	114	3.	*	1	1540	189	3.	*	1	2155	264	1.
1	0315	40	1.	*	1	0930	115	3.	*	1	1545	190	3.	*	1	2200	265	1.
1	0320	41	1.	*	1	0935	116	3.	*	1	1550	191	3.	*	1	2205	266	1.
1	0325	42	1.	*	1	0940	117	3.	*	1	1555	192	2.	*	1	2210	267	1.
1	0330	43	1.	*	1	0945	118	3.	*	1	1600	193	2.	*	1	2215	268	1.
1	0335	44	1.	*	1	0950	119	3.	*	1	1605	194	2.	*	1	2220	269	1.
1	0340	45	1.	*	1	0955	120	4.	*	1	1610	195	2.	*	1	2225	270	1.
1	0345	46	1.	*	1	1000	121	4.	*	1	1615	196	2.	*	1	2230	271	1.
1	0350	47	1.	*	1	1005	122	4.	*	1	1620	197	2.	*	1	2235	272	1.
1	0355	48	1.	*	1	1010	123	4.	*	1	1625	198	2.	*	1	2240	273	1.
1	0400	49	1.	*	1	1015	124	4.	*	1	1630	199	2.	*	1	2245	274	1.
1	0405	50	1.	*	1	1020	125	4.	*	1	1635	200	2.	*	1	2250	275	1.
1	0410	51	1.	*	1	1025	126	5.	*	1	1640	201	2.	*	1	2255	276	1.
1	0415	52	1.	*	1	1030	127	5.	*	1	1645	202	2.	*	1	2300	277	1.
1	0420	53	1.	*	1	1035	128	5.	*	1	1650	203	2.	*	1	2305	278	1.
1	0425	54	1.	*	1	1040	129	5.	*	1	1655	204	2.	*	1	2310	279	1.
1	0430	55	1.	*	1	1045	130	6.	*	1	1700	205	2.	*	1	2315	280	1.
1	0435	56	1.	*	1	1050	131	6.	*	1	1705	206	2.	*	1	2320	281	1.
1	0440	57	1.	*	1	1055	132	6.	*	1	1710	207	2.	*	1	2325	282	1.
1	0445	58	1.	*	1	1100	133	7.	*	1	1715	208	2.	*	1	2330	283	1.
1	0450	59	1.	*	1	1105	134	7.	*	1	1720	209	2.	*	1	2335	284	1.
1	0455	60	1.	*	1	1110	135	7.	*	1	1725	210	2.	*	1	2340	285	1.
1	0500	61	1.	*	1	1115	136	8.	*	1	1730	211	2.	*	1	2345	286	1.
1	0505	62	2.	*	1	1120	137	9.	*	1	1735	212	2.	*	1	2350	287	1.
1	0510	63	2.	*	1	1125	138	10.	*	1	1740	213	2.	*	1	2355	288	1.
1	0515	64	2.	*	1	1130	139	10.	*	1	1745	214	2.	*	2	0000	289	1.
1	0520	65	2.	*	1	1135	140	13.	*	1	1750	215	2.	*	2	0005	290	1.
1	0525	66	2.	*	1	1140	141	23.	*	1	1755	216	2.	*	2	0010	291	1.
1	0530	67	2.	*	1	1145	142	41.	*	1	1800	217	2.	*	2	0015	292	0.
1	0535	68	2.	*	1	1150	143	66.	*	1	1805	218	2.	*	2	0020	293	0.
1	0540	69	2.	*	1	1155	144	97.	*	1	1810	219	2.	*	2	0025	294	0.
1	0545	70	2.	*	1	1200	145	110.	*	1	1815	220	2.	*	2	0030	295	0.
1	0550	71	2.	*	1	1205	146	84.	*	1	1820	221	2.	*	2	0035	296	0.
1	0555	72	2.	*	1	1210	147	44.	*	1	1825	222	2.	*	2	0040	297	0.
1	0600	73	2.	*	1	1215	148	23.	*	1	1830	223	2.	*	2	0045	298	0.
1	0605	74	2.	*	1	1220	149	16.	*	1	1835	224	2.	*	2	0050	299	0.
1	0610	75	2.	*	1	1225	150	14.	*	1	1840	225	2.	*	2	0055	300	0.
				*					*					*				

****

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 110.	12.00		12.	4.	4.	4.
		(INCHES)	1.395	1.958	1.959	1.959
		(AC-FT)	6.	8.	8.	8.

CUMULATIVE AREA = .08 SQ MI

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          ***************
          *             *
187 KK    *     DB23d   *
          *             *
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Subbasin

SUBBASIN RUNOFF DATA

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189 BA          SUBBASIN CHARACTERISTICS
                      TAREA          .02  SUBBASIN AREA

190 LG          GREEN AND AMPT LOSS RATE
                      STRTL          .04  STARTING LOSS
                        DTH          .05  MOISTURE DEFICIT
                       PSIF          .18  WETTING FRONT SUCTION
                      XKSAT          .01  HYDRAULIC CONDUCTIVITY
                      RTIMP       100.00  PERCENT IMPERVIOUS AREA

191 US          SNYDER UNITGRAPH
                        TP           .02  LAG
                        CP           .46  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                      ***
R INCREASED TO MINIMUM OF 0.5

                                        UNIT HYDROGRAPH PARAMETERS
                                  CLARK   TC=   .08 HR,       R=   .17 HR
                                  SNYDER  TP=   .11 HR,       CP=  .47

                                        UNIT HYDROGRAPH
                                    12 END-OF-PERIOD ORDINATES
                26.       42.       26.       16.       10.       6.        4.        2.        1.        1.
                 0.        0.
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*** *** *** *** ***

HYDROGRAPH AT STATION DB23d
TRANSPOSITION AREA .0 SQ MI

TOTAL RAINFALL = 1.99, TOTAL LOSS = .00, TOTAL EXCESS = 1.99

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR	
+ (CFS)	(HR)	(CFS)	3.	1.	1.	1.
+ 20.	12.00	(INCHES)	1.401	1.980	1.983	1.983
		(AC-FT)	1.	2.	2.	2.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB23d
TRANSPOSITION AREA 14.0 SQ MI

TOTAL RAINFALL = 1.95, TOTAL LOSS = .00, TOTAL EXCESS = 1.95

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR	
+ (CFS)	(HR)	(CFS)	3.	1.	1.	1.
+ 20.	12.00	(INCHES)	1.373	1.941	1.943	1.943
		(AC-FT)	1.	2.	2.	2.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB23d
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.93, TOTAL LOSS = .00, TOTAL EXCESS = 1.93

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR	
+ (CFS)	(HR)	(CFS)	3.	1.	1.	1.
+ 19.	12.00	(INCHES)	1.358	1.921	1.923	1.923
		(AC-FT)	1.	2.	2.	2.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB23d
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.91, TOTAL LOSS = .00, TOTAL EXCESS = 1.91

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR	
+ (CFS)	(HR)	(CFS)	3.	1.	1.	1.
+ 19.	12.00	(INCHES)	1.344	1.901	1.903	1.903
		(AC-FT)	1.	2.	2.	2.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB23d
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.90, TOTAL LOSS = .00, TOTAL EXCESS = 1.90

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR	
+ (CFS)	(HR)	(CFS)	2.	1.	1.	1.
+ 19.	12.00	(INCHES)	1.334	1.887	1.889	1.889
		(AC-FT)	1.	2.	2.	2.

CUMULATIVE AREA = .02 SQ MI

INTERPOLATED HYDROGRAPH AT DB23d

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	4.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	3.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	3.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	2.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	2.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	2.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	2.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	2.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	1.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	1.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	1.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	1.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	1.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	1.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	1.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	1.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	1.	1		2005	242	0.

1	0125	18	0.	*	1	0740	93	0.	*	1	1355	168	1.	*	1	2010	243	0.
1	0130	19	0.	*	1	0745	94	0.	*	1	1400	169	1.	*	1	2015	244	0.
1	0135	20	0.	*	1	0750	95	0.	*	1	1405	170	1.	*	1	2020	245	0.
1	0140	21	0.	*	1	0755	96	0.	*	1	1410	171	1.	*	1	2025	246	0.
1	0145	22	0.	*	1	0800	97	0.	*	1	1415	172	1.	*	1	2030	247	0.
1	0150	23	0.	*	1	0805	98	0.	*	1	1420	173	1.	*	1	2035	248	0.
1	0155	24	0.	*	1	0810	99	0.	*	1	1425	174	1.	*	1	2040	249	0.
1	0200	25	0.	*	1	0815	100	1.	*	1	1430	175	1.	*	1	2045	250	0.
1	0205	26	0.	*	1	0820	101	1.	*	1	1435	176	1.	*	1	2050	251	0.
1	0210	27	0.	*	1	0825	102	1.	*	1	1440	177	1.	*	1	2055	252	0.
1	0215	28	0.	*	1	0830	103	1.	*	1	1445	178	1.	*	1	2100	253	0.
1	0220	29	0.	*	1	0835	104	1.	*	1	1450	179	1.	*	1	2105	254	0.
1	0225	30	0.	*	1	0840	105	1.	*	1	1455	180	1.	*	1	2110	255	0.
1	0230	31	0.	*	1	0845	106	1.	*	1	1500	181	1.	*	1	2115	256	0.
1	0235	32	0.	*	1	0850	107	1.	*	1	1505	182	1.	*	1	2120	257	0.
1	0240	33	0.	*	1	0855	108	1.	*	1	1510	183	1.	*	1	2125	258	0.
1	0245	34	0.	*	1	0900	109	1.	*	1	1515	184	1.	*	1	2130	259	0.
1	0250	35	0.	*	1	0905	110	1.	*	1	1520	185	1.	*	1	2135	260	0.
1	0255	36	0.	*	1	0910	111	1.	*	1	1525	186	1.	*	1	2140	261	0.
1	0300	37	0.	*	1	0915	112	1.	*	1	1530	187	1.	*	1	2145	262	0.
1	0305	38	0.	*	1	0920	113	1.	*	1	1535	188	1.	*	1	2150	263	0.
1	0310	39	0.	*	1	0925	114	1.	*	1	1540	189	1.	*	1	2155	264	0.
1	0315	40	0.	*	1	0930	115	1.	*	1	1545	190	1.	*	1	2200	265	0.
1	0320	41	0.	*	1	0935	116	1.	*	1	1550	191	1.	*	1	2205	266	0.
1	0325	42	0.	*	1	0940	117	1.	*	1	1555	192	1.	*	1	2210	267	0.
1	0330	43	0.	*	1	0945	118	1.	*	1	1600	193	1.	*	1	2215	268	0.
1	0335	44	0.	*	1	0950	119	1.	*	1	1605	194	1.	*	1	2220	269	0.
1	0340	45	0.	*	1	0955	120	1.	*	1	1610	195	1.	*	1	2225	270	0.
1	0345	46	0.	*	1	1000	121	1.	*	1	1615	196	1.	*	1	2230	271	0.
1	0350	47	0.	*	1	1005	122	1.	*	1	1620	197	1.	*	1	2235	272	0.
1	0355	48	0.	*	1	1010	123	1.	*	1	1625	198	0.	*	1	2240	273	0.
1	0400	49	0.	*	1	1015	124	1.	*	1	1630	199	0.	*	1	2245	274	0.
1	0405	50	0.	*	1	1020	125	1.	*	1	1635	200	0.	*	1	2250	275	0.
1	0410	51	0.	*	1	1025	126	1.	*	1	1640	201	0.	*	1	2255	276	0.
1	0415	52	0.	*	1	1030	127	1.	*	1	1645	202	0.	*	1	2300	277	0.
1	0420	53	0.	*	1	1035	128	1.	*	1	1650	203	0.	*	1	2305	278	0.
1	0425	54	0.	*	1	1040	129	1.	*	1	1655	204	0.	*	1	2310	279	0.
1	0430	55	0.	*	1	1045	130	1.	*	1	1700	205	0.	*	1	2315	280	0.
1	0435	56	0.	*	1	1050	131	1.	*	1	1705	206	0.	*	1	2320	281	0.
1	0440	57	0.	*	1	1055	132	1.	*	1	1710	207	0.	*	1	2325	282	0.
1	0445	58	0.	*	1	1100	133	1.	*	1	1715	208	0.	*	1	2330	283	0.
1	0450	59	0.	*	1	1105	134	1.	*	1	1720	209	0.	*	1	2335	284	0.
1	0455	60	0.	*	1	1110	135	2.	*	1	1725	210	0.	*	1	2340	285	0.
1	0500	61	0.	*	1	1115	136	2.	*	1	1730	211	0.	*	1	2345	286	0.
1	0505	62	0.	*	1	1120	137	2.	*	1	1735	212	0.	*	1	2350	287	0.
1	0510	63	0.	*	1	1125	138	2.	*	1	1740	213	0.	*	1	2355	288	0.
1	0515	64	0.	*	1	1130	139	2.	*	1	1745	214	0.	*	2	0000	289	0.
1	0520	65	0.	*	1	1135	140	3.	*	1	1750	215	0.	*	2	0005	290	0.
1	0525	66	0.	*	1	1140	141	5.	*	1	1755	216	0.	*	2	0010	291	0.
1	0530	67	0.	*	1	1145	142	7.	*	1	1800	217	0.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	12.	*	1	1805	218	0.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	17.	*	1	1810	219	0.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	20.	*	1	1815	220	0.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	17.	*	1	1820	221	0.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	12.	*	1	1825	222	0.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	9.	*	1	1830	223	0.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	7.	*	1	1835	224	0.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	5.	*	1	1840	225	0.	*	2	0055	300	0.

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
20.	12.00		3.	1.	1.	1.
		(INCHES)	1.399	1.977	1.980	1.980
		(AC-FT)	1.	2.	2.	2.

CUMULATIVE AREA = .02 SQ MI

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192 KK

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* *
* R23d *
* *
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Route Hydrograph Through Basin 23d Pipe

HYDROGRAPH ROUTING DATA

194 RK

KINEMATIC WAVE STREAM ROUTING

L	1200.	CHANNEL LENGTH
S	.0050	SLOPE
N	.015	CHANNEL ROUGHNESS COEFFICIENT
CA	.00	CONTRIBUTING AREA
SHAPE	CIRC	CHANNEL SHAPE
WD	2.00	BOTTOM WIDTH OR DIAMETER
Z	.00	SIDE SLOPE
NDXMIN	2	MINIMUM NUMBER OF DX INTERVALS

***

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	4.25	1.25	.95	400.00	19.92	721.62	1.98	7.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1830E+01 EXCESS= .0000E+00 OUTFLOW= .1830E+01 BASIN STORAGE= .3417E-04 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	4.25	1.25	5.00	18.98	720.00	1.98
***	***	***	***	***		

HYDROGRAPH AT STATION R23d
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
19.	12.00	(CFS)	3.	1.	1.	1.
		(INCHES)	1.402	1.981	1.984	1.984
		(AC-FT)	1.	2.	2.	2.

CUMULATIVE AREA = .02 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	4.25	1.25	.95	400.00	19.57	722.08	1.94	7.23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1793E+01 EXCESS= .0000E+00 OUTFLOW= .1794E+01 BASIN STORAGE= .3236E-04 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	4.25	1.25	5.00	18.59	720.00	1.94
***	***	***	***	***		

HYDROGRAPH AT STATION R23d
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
19.	12.00	(CFS)	3.	1.	1.	1.
		(INCHES)	1.374	1.942	1.944	1.944
		(AC-FT)	1.	2.	2.	2.

CUMULATIVE AREA = .02 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	4.25	1.25	.95	400.00	19.42	721.82	1.92	7.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1774E+01 EXCESS= .0000E+00 OUTFLOW= .1775E+01 BASIN STORAGE= .4030E-04 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	4.25	1.25	5.00	18.40	720.00	1.92
***	***	***	***	***		

HYDROGRAPH AT STATION R23d
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
18.	12.00	(CFS)	3.	1.	1.	1.
		(INCHES)	1.359	1.922	1.924	1.924
		(AC-FT)	1.	2.	2.	2.

CUMULATIVE AREA = .02 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	4.25	1.25	.99	400.00	19.00	721.47	1.90	7.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1756E+01 EXCESS= .0000E+00 OUTFLOW= .1757E+01 BASIN STORAGE= .2782E-04 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	4.25	1.25	5.00	18.21	720.00	1.90
***	***	***	***	***		

HYDROGRAPH AT STATION R23d
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
18.	12.00	(CFS)	3.	1.	1.	1.

(INCHES)	1.346	1.902	1.904	1.904
(AC-FT)	1.	2.	2.	2.

CUMULATIVE AREA = .02 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	4.25	1.25	1.02	400.00	19.04	722.06	1.89	7.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1743E+01 EXCESS= .0000E+00 OUTFLOW= .1744E+01 BASIN STORAGE= .3768E-04 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	4.25	1.25	5.00	18.07	720.00	1.89
***	***	***	***	***		

HYDROGRAPH AT STATION R23d
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
18.	12.00	(CFS)	2.	1.	1.	1.
		(INCHES)	1.336	1.888	1.891	1.891
		(AC-FT)	1.	2.	2.	2.

CUMULATIVE AREA = .02 SQ MI

INTERPOLATED HYDROGRAPH AT R23d

DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	*	1		0615	76	0.	*	1		1230	151	5.	*	1		1845	226	0.
1		0005	2	0.	*	1		0620	77	0.	*	1		1235	152	4.	*	1		1850	227	0.
1		0010	3	0.	*	1		0625	78	0.	*	1		1240	153	3.	*	1		1855	228	0.
1		0015	4	0.	*	1		0630	79	0.	*	1		1245	154	3.	*	1		1900	229	0.
1		0020	5	0.	*	1		0635	80	0.	*	1		1250	155	2.	*	1		1905	230	0.
1		0025	6	0.	*	1		0640	81	0.	*	1		1255	156	2.	*	1		1910	231	0.
1		0030	7	0.	*	1		0645	82	0.	*	1		1300	157	2.	*	1		1915	232	0.
1		0035	8	0.	*	1		0650	83	0.	*	1		1305	158	2.	*	1		1920	233	0.
1		0040	9	0.	*	1		0655	84	0.	*	1		1310	159	1.	*	1		1925	234	0.
1		0045	10	0.	*	1		0700	85	0.	*	1		1315	160	1.	*	1		1930	235	0.
1		0050	11	0.	*	1		0705	86	0.	*	1		1320	161	1.	*	1		1935	236	0.
1		0055	12	0.	*	1		0710	87	0.	*	1		1325	162	1.	*	1		1940	237	0.
1		0100	13	0.	*	1		0715	88	0.	*	1		1330	163	1.	*	1		1945	238	0.
1		0105	14	0.	*	1		0720	89	0.	*	1		1335	164	1.	*	1		1950	239	0.
1		0110	15	0.	*	1		0725	90	0.	*	1		1340	165	1.	*	1		1955	240	0.
1		0115	16	0.	*	1		0730	91	0.	*	1		1345	166	1.	*	1		2000	241	0.
1		0120	17	0.	*	1		0735	92	0.	*	1		1350	167	1.	*	1		2005	242	0.
1		0125	18	0.	*	1		0740	93	0.	*	1		1355	168	1.	*	1		2010	243	0.
1		0130	19	0.	*	1		0745	94	0.	*	1		1400	169	1.	*	1		2015	244	0.
1		0135	20	0.	*	1		0750	95	0.	*	1		1405	170	1.	*	1		2020	245	0.
1		0140	21	0.	*	1		0755	96	0.	*	1		1410	171	1.	*	1		2025	246	0.
1		0145	22	0.	*	1		0800	97	0.	*	1		1415	172	1.	*	1		2030	247	0.
1		0150	23	0.	*	1		0805	98	0.	*	1		1420	173	1.	*	1		2035	248	0.
1		0155	24	0.	*	1		0810	99	0.	*	1		1425	174	1.	*	1		2040	249	0.
1		0200	25	0.	*	1		0815	100	0.	*	1		1430	175	1.	*	1		2045	250	0.
1		0205	26	0.	*	1		0820	101	1.	*	1		1435	176	1.	*	1		2050	251	0.
1		0210	27	0.	*	1		0825	102	1.	*	1		1440	177	1.	*	1		2055	252	0.
1		0215	28	0.	*	1		0830	103	1.	*	1		1445	178	1.	*	1		2100	253	0.
1		0220	29	0.	*	1		0835	104	1.	*	1		1450	179	1.	*	1		2105	254	0.
1		0225	30	0.	*	1		0840	105	1.	*	1		1455	180	1.	*	1		2110	255	0.
1		0230	31	0.	*	1		0845	106	1.	*	1		1500	181	1.	*	1		2115	256	0.
1		0235	32	0.	*	1		0850	107	1.	*	1		1505	182	1.	*	1		2120	257	0.
1		0240	33	0.	*	1		0855	108	1.	*	1		1510	183	1.	*	1		2125	258	0.
1		0245	34	0.	*	1		0900	109	1.	*	1		1515	184	1.	*	1		2130	259	0.
1		0250	35	0.	*	1		0905	110	1.	*	1		1520	185	1.	*	1		2135	260	0.
1		0255	36	0.	*	1		0910	111	1.	*	1		1525	186	1.	*	1		2140	261	0.
1		0300	37	0.	*	1		0915	112	1.	*	1		1530	187	1.	*	1		2145	262	0.
1		0305	38	0.	*	1		0920	113	1.	*	1		1535	188	1.	*	1		2150	263	0.
1		0310	39	0.	*	1		0925	114	1.	*	1		1540	189	1.	*	1		2155	264	0.
1		0315	40	0.	*	1		0930	115	1.	*	1		1545	190	1.	*	1		2200	265	0.
1		0320	41	0.	*	1		0935	116	1.	*	1		1550	191	1.	*	1		2205	266	0.
1		0325	42	0.	*	1		0940	117	1.	*	1		1555	192	1.	*	1		2210	267	0.
1		0330	43	0.	*	1		0945	118	1.	*	1		1600	193	1.	*	1		2215	268	0.
1		0335	44	0.	*	1		0950	119	1.	*	1		1605	194	1.	*	1		2220	269	0.
1		0340	45	0.	*	1		0955	120	1.	*	1		1610	195	1.	*	1		2225	270	0.
1		0345	46	0.	*	1		1000	121	1.	*	1		1615	196	1.	*	1		2230	271	0.
1		0350	47	0.	*	1		1005	122	1.	*	1		1620	197	1.	*	1		2235	272	0.
1		0355	48	0.	*	1		1010	123	1.	*	1		1625	198	1.	*	1		2240	273	0.
1		0400	49	0.	*	1		1015	124	1.	*	1		1630	199	0.	*	1		2245	274	0.
1		0405	50	0.	*	1		1020	125	1.	*	1		1635	200	0.	*	1		2250	275	0.
1		0410	51	0.	*	1		1025	126	1.	*	1		1640	201	0.	*	1		2255	276	0.
1		0415	52	0.	*	1		1030	127	1.	*	1		1645	202	0.	*	1		2300	277	0.
1		0420	53	0.	*	1		1035	128	1.	*	1		1650	203	0.	*	1		2305	278	0.
1		0425	54	0.	*	1		1040	129	1.	*	1		1655	204	0.	*	1		2310	279	0.
1		0430	55	0.	*	1		1045	130	1.	*	1		1700	205	0.	*	1		2315	280	0.
1		0435	56	0.	*	1		1050	131	1.	*	1		1705	206	0.	*	1		2320	281	0.
1		0440	57	0.	*	1		1055	132	1.	*	1		1710	207	0.	*	1		2325	282	0.
1		0445	58	0.	*	1		1100	133	1.	*	1		1715	208	0.	*	1		2330	283	0.
1		0450	59	0.	*	1		1105	134	1.	*	1		1720	209	0.	*	1		2335	284	0.
1		0455	60	0.	*	1		1110	135	2.	*	1		1725	210	0.	*	1		2340	285	0.
1		0500	61	0.	*	1		1115	136	2.	*	1		1730	211	0.	*	1		2345	286	0.
1		0505	62	0.	*	1		1120	137	2.	*	1		1735	212	0.	*	1		2350	287	0.
1		0510	63	0.	*	1		1125	138	2.	*	1		1740	213	0.	*	1		2355	288	0.
1		0515	64	0.	*	1		1130	139	2.	*	1		1745	214	0.	*	2		0000	289	0.
1		0520	65	0.	*	1		1135	140	3.	*	1		1750	215	0.	*	2		0005	290	0.
1		0525	66	0.	*	1		1140	141	4.	*	1		1755	216	0.	*	2		0010	291	0.

1	0530	67	0.	*	1	1145	142	6.	*	1	1800	217	0.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	10.	*	1	1805	218	0.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	15.	*	1	1810	219	0.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	19.	*	1	1815	220	0.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	18.	*	1	1820	221	0.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	14.	*	1	1825	222	0.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	10.	*	1	1830	223	0.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	8.	*	1	1835	224	0.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	6.	*	1	1840	225	0.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)	3.	1.	1.	1.
+ 19.	12.00	(INCHES)	1.400	1.978	1.981	1.981
		(AC-FT)	1.	2.	2.	2.

CUMULATIVE AREA = .02 SQ MI

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195 KK

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* *
* C23 *
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Combine Hydrograph Basins 23c,23d with WF_PD1 and 23b

197 HC HYDROGRAPH COMBINATION
ICOMP 3 NUMBER OF HYDROGRAPHS TO COMBINE

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HYDROGRAPH AT STATION C23
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)	53.	25.	24.	24.
+ 232.	12.00	(INCHES)	.608	1.160	1.163	1.163
		(AC-FT)	26.	50.	50.	50.

CUMULATIVE AREA = .81 SQ MI

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HYDROGRAPH AT STATION C23
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)	52.	25.	24.	24.
+ 227.	12.00	(INCHES)	.598	1.137	1.139	1.139
		(AC-FT)	26.	49.	49.	49.

CUMULATIVE AREA = .81 SQ MI

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HYDROGRAPH AT STATION C23
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)	52.	24.	24.	24.
+ 225.	12.00	(INCHES)	.592	1.125	1.127	1.127
		(AC-FT)	26.	48.	49.	49.

CUMULATIVE AREA = .81 SQ MI

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HYDROGRAPH AT STATION C23
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)	51.	24.	23.	23.
+ 223.	12.00	(INCHES)	.587	1.113	1.115	1.115
		(AC-FT)	25.	48.	48.	48.

CUMULATIVE AREA = .81 SQ MI

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HYDROGRAPH AT STATION C23
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)	51.	24.	23.	23.
+ 221.	12.00					

(INCHES)	.583	1.104	1.107	1.107
(AC-FT)	25.	48.	48.	48.

CUMULATIVE AREA = .81 SQ MI

INTERPOLATED HYDROGRAPH AT C23

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	6.	1		1230	151	55.	1		1845	226	32.
1		0005	2	0.	1		0620	77	6.	1		1235	152	52.	1		1850	227	32.
1		0010	3	1.	1		0625	78	6.	1		1240	153	50.	1		1855	228	32.
1		0015	4	1.	1		0630	79	6.	1		1245	154	49.	1		1900	229	32.
1		0020	5	2.	1		0635	80	7.	1		1250	155	49.	1		1905	230	32.
1		0025	6	2.	1		0640	81	7.	1		1255	156	48.	1		1910	231	31.
1		0030	7	2.	1		0645	82	7.	1		1300	157	47.	1		1915	232	31.
1		0035	8	2.	1		0650	83	7.	1		1305	158	47.	1		1920	233	31.
1		0040	9	2.	1		0655	84	7.	1		1310	159	47.	1		1925	234	31.
1		0045	10	2.	1		0700	85	7.	1		1315	160	46.	1		1930	235	31.
1		0050	11	2.	1		0705	86	7.	1		1320	161	46.	1		1935	236	31.
1		0055	12	2.	1		0710	87	7.	1		1325	162	46.	1		1940	237	30.
1		0100	13	2.	1		0715	88	7.	1		1330	163	45.	1		1945	238	30.
1		0105	14	3.	1		0720	89	7.	1		1335	164	45.	1		1950	239	30.
1		0110	15	3.	1		0725	90	7.	1		1340	165	45.	1		1955	240	30.
1		0115	16	3.	1		0730	91	7.	1		1345	166	44.	1		2000	241	30.
1		0120	17	3.	1		0735	92	7.	1		1350	167	44.	1		2005	242	29.
1		0125	18	3.	1		0740	93	7.	1		1355	168	44.	1		2010	243	29.
1		0130	19	3.	1		0745	94	7.	1		1400	169	43.	1		2015	244	29.
1		0135	20	3.	1		0750	95	7.	1		1405	170	43.	1		2020	245	29.
1		0140	21	3.	1		0755	96	8.	1		1410	171	43.	1		2025	246	29.
1		0145	22	3.	1		0800	97	8.	1		1415	172	43.	1		2030	247	29.
1		0150	23	3.	1		0805	98	8.	1		1420	173	42.	1		2035	248	29.
1		0155	24	3.	1		0810	99	8.	1		1425	174	42.	1		2040	249	28.
1		0200	25	4.	1		0815	100	8.	1		1430	175	42.	1		2045	250	28.
1		0205	26	4.	1		0820	101	8.	1		1435	176	42.	1		2050	251	28.
1		0210	27	4.	1		0825	102	8.	1		1440	177	42.	1		2055	252	28.
1		0215	28	4.	1		0830	103	9.	1		1445	178	41.	1		2100	253	28.
1		0220	29	4.	1		0835	104	9.	1		1450	179	41.	1		2105	254	28.
1		0225	30	4.	1		0840	105	9.	1		1455	180	41.	1		2110	255	28.
1		0230	31	4.	1		0845	106	9.	1		1500	181	41.	1		2115	256	27.
1		0235	32	4.	1		0850	107	9.	1		1505	182	41.	1		2120	257	27.
1		0240	33	4.	1		0855	108	10.	1		1510	183	40.	1		2125	258	27.
1		0245	34	4.	1		0900	109	10.	1		1515	184	40.	1		2130	259	27.
1		0250	35	4.	1		0905	110	10.	1		1520	185	40.	1		2135	260	27.
1		0255	36	4.	1		0910	111	10.	1		1525	186	40.	1		2140	261	27.
1		0300	37	4.	1		0915	112	10.	1		1530	187	40.	1		2145	262	27.
1		0305	38	4.	1		0920	113	10.	1		1535	188	39.	1		2150	263	27.
1		0310	39	4.	1		0925	114	11.	1		1540	189	39.	1		2155	264	26.
1		0315	40	4.	1		0930	115	11.	1		1545	190	39.	1		2200	265	26.
1		0320	41	4.	1		0935	116	11.	1		1550	191	39.	1		2205	266	26.
1		0325	42	4.	1		0940	117	11.	1		1555	192	39.	1		2210	267	26.
1		0330	43	5.	1		0945	118	11.	1		1600	193	38.	1		2215	268	26.
1		0335	44	5.	1		0950	119	12.	1		1605	194	38.	1		2220	269	25.
1		0340	45	5.	1		0955	120	12.	1		1610	195	38.	1		2225	270	25.
1		0345	46	5.	1		1000	121	12.	1		1615	196	38.	1		2230	271	25.
1		0350	47	5.	1		1005	122	13.	1		1620	197	38.	1		2235	272	25.
1		0355	48	5.	1		1010	123	13.	1		1625	198	37.	1		2240	273	24.
1		0400	49	5.	1		1015	124	14.	1		1630	199	37.	1		2245	274	24.
1		0405	50	5.	1		1020	125	14.	1		1635	200	37.	1		2250	275	24.
1		0410	51	5.	1		1025	126	15.	1		1640	201	37.	1		2255	276	24.
1		0415	52	5.	1		1030	127	15.	1		1645	202	37.	1		2300	277	24.
1		0420	53	5.	1		1035	128	16.	1		1650	203	37.	1		2305	278	23.
1		0425	54	5.	1		1040	129	16.	1		1655	204	36.	1		2310	279	23.
1		0430	55	5.	1		1045	130	17.	1		1700	205	36.	1		2315	280	23.
1		0435	56	5.	1		1050	131	18.	1		1705	206	36.	1		2320	281	23.
1		0440	57	5.	1		1055	132	19.	1		1710	207	36.	1		2325	282	22.
1		0445	58	5.	1		1100	133	20.	1		1715	208	36.	1		2330	283	22.
1		0450	59	5.	1		1105	134	21.	1		1720	209	36.	1		2335	284	22.
1		0455	60	5.	1		1110	135	22.	1		1725	210	35.	1		2340	285	22.
1		0500	61	5.	1		1115	136	24.	1		1730	211	35.	1		2345	286	22.
1		0505	62	5.	1		1120	137	26.	1		1735	212	35.	1		2350	287	21.
1		0510	63	6.	1		1125	138	28.	1		1740	213	35.	1		2355	288	21.
1		0515	64	6.	1		1130	139	30.	1		1745	214	35.	2		0000	289	21.
1		0520	65	6.	1		1135	140	38.	1		1750	215	34.	2		0005	290	21.
1		0525	66	6.	1		1140	141	61.	1		1755	216	34.	2		0010	291	20.
1		0530	67	6.	1		1145	142	96.	1		1800	217	34.	2		0015	292	19.
1		0535	68	6.	1		1150	143	147.	1		1805	218	34.	2		0020	293	18.
1		0540	69	6.	1		1155	144	207.	1		1810	219	34.	2		0025	294	18.
1		0545	70	6.	1		1200	145	229.	1		1815	220	34.	2		0030	295	18.
1		0550	71	6.	1		1205	146	171.	1		1820	221	33.	2		0035	296	18.
1		0555	72	6.	1		1210	147	101.	1		1825	222	33.	2		0040	297	17.
1		0600	73	6.	1		1215	148	71.	1		1830	223	33.	2		0045	298	17.
1		0605	74	6.	1		1220	149	62.	1		1835	224	33.	2		0050	299	17.
1		0610	75	6.	1		1225	150	58.	1		1840	225	33.	2		0055	300	17.

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)			
+ 229.	12.00	52.	25.	24.	24.
		(INCHES) .602	1.146	1.149	1.149
		(AC-FT) 26.	49.	50.	50.

CUMULATIVE AREA = .81 SQ MI

198 KK WF_PD2

Route Hydrograph Through New Walker Field On Site Pond 2

HYDROGRAPH ROUTING DATA

)O RS	STORAGE ROUTING	NSTPS	1	NUMBER OF SUBREACHES			
		ITYP	STOR	TYPE OF INITIAL CONDITION			
		RSVRIC	.00	INITIAL CONDITION			
		X	.00	WORKING R AND D COEFFICIENT			
201 SV	STORAGE		.0	.1	.7	1.6	3.2	5.3
202 SQ	DISCHARGE		0.	24.	48.	68.	83.	90.
203 SE	ELEVATION		4793.50	4795.00	4797.00	4799.00	4801.00	4803.00

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*** *** *** *** ***

HYDROGRAPH AT STATION WF_PD2
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)	53.	25.	24.	24.
86.	12.25	(INCHES)	.604	1.159	1.161	1.161
		(AC-FT)	26.	50.	50.	50.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
(AC-FT)	(HR)				
4.	12.25	1.	0.	0.	0.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
(FEET)	(HR)				
4801.85	12.25	4797.65	4795.33	4795.27	4795.27

CUMULATIVE AREA = .81 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION WF_PD2
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)	52.	25.	24.	24.
86.	12.17	(INCHES)	.594	1.135	1.138	1.138
		(AC-FT)	26.	49.	49.	49.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
(AC-FT)	(HR)				
4.	12.17	1.	0.	0.	0.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
(FEET)	(HR)				
4801.74	12.17	4797.56	4795.29	4795.23	4795.23

CUMULATIVE AREA = .81 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION WF_PD2
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)	51.	24.	24.	24.
86.	12.17	(INCHES)	.589	1.123	1.126	1.126
		(AC-FT)	25.	48.	49.	49.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
(AC-FT)	(HR)				
4.	12.17	1.	0.	0.	0.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
(FEET)	(HR)				
4801.69	12.17	4797.51	4795.26	4795.20	4795.20

CUMULATIVE AREA = .81 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION WF_PD2
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)	51.	24.	23.	23.
86.	12.17	(INCHES)	.583	1.111	1.114	1.114
		(AC-FT)	25.	48.	48.	48.

PEAK STORAGE	TIME	MAXIMUM AVERAGE SIORAGE			
		6-HR	24-HR	72-HR	24.92-HR
(AC-FT)	(HR)				
4.	12.17	1.	0.	0.	0.

PEAK STAGE TIME MAXIMUM AVERAGE STAGE

+ (FEET)	(HR)	6-HR	24-HR	72-HR	24.92-HR
4801.63	12.17	4797.46	4795.24	4795.18	4795.18

CUMULATIVE AREA = .81 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION WF_PD2
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
+ (CFS)	(HR)	6-HR	24-HR	72-HR	24.92-HR
+ 85.	12.17	(CFS) 50.	24.	23.	23.
		(INCHES) .580	1.103	1.106	1.106
		(AC-FT) 25.	48.	48.	48.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
+ (AC-FT)	(HR)	6-HR	24-HR	72-HR	24.92-HR
4.	12.17	1.	0.	0.	0.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
+ (FEET)	(HR)	6-HR	24-HR	72-HR	24.92-HR
4801.60	12.17	4797.43	4795.23	4795.17	4795.17

CUMULATIVE AREA = .81 SQ MI

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INTERPOLATED HYDROGRAPH AT WF_PD2

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DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	*	1		0615	76	6.	*	1		1230	151	84.	*	1		1845	226	33.
1		0005	2	0.	*	1		0620	77	6.	*	1		1235	152	84.	*	1		1850	227	33.
1		0010	3	0.	*	1		0625	78	6.	*	1		1240	153	83.	*	1		1855	228	33.
1		0015	4	1.	*	1		0630	79	6.	*	1		1245	154	80.	*	1		1900	229	33.
1		0020	5	2.	*	1		0635	80	7.	*	1		1250	155	78.	*	1		1905	230	32.
1		0025	6	2.	*	1		0640	81	7.	*	1		1255	156	76.	*	1		1910	231	32.
1		0030	7	2.	*	1		0645	82	7.	*	1		1300	157	74.	*	1		1915	232	32.
1		0035	8	2.	*	1		0650	83	7.	*	1		1305	158	72.	*	1		1920	233	32.
1		0040	9	2.	*	1		0655	84	7.	*	1		1310	159	71.	*	1		1925	234	32.
1		0045	10	2.	*	1		0700	85	7.	*	1		1315	160	69.	*	1		1930	235	31.
1		0050	11	2.	*	1		0705	86	7.	*	1		1320	161	67.	*	1		1935	236	31.
1		0055	12	2.	*	1		0710	87	7.	*	1		1325	162	64.	*	1		1940	237	31.
1		0100	13	2.	*	1		0715	88	7.	*	1		1330	163	62.	*	1		1945	238	31.
1		0105	14	3.	*	1		0720	89	7.	*	1		1335	164	59.	*	1		1950	239	31.
1		0110	15	3.	*	1		0725	90	7.	*	1		1340	165	57.	*	1		1955	240	30.
1		0115	16	3.	*	1		0730	91	7.	*	1		1345	166	56.	*	1		2000	241	30.
1		0120	17	3.	*	1		0735	92	7.	*	1		1350	167	54.	*	1		2005	242	30.
1		0125	18	3.	*	1		0740	93	7.	*	1		1355	168	53.	*	1		2010	243	30.
1		0130	19	3.	*	1		0745	94	7.	*	1		1400	169	51.	*	1		2015	244	30.
1		0135	20	3.	*	1		0750	95	7.	*	1		1405	170	50.	*	1		2020	245	30.
1		0140	21	3.	*	1		0755	96	7.	*	1		1410	171	49.	*	1		2025	246	29.
1		0145	22	3.	*	1		0800	97	8.	*	1		1415	172	48.	*	1		2030	247	29.
1		0150	23	3.	*	1		0805	98	8.	*	1		1420	173	47.	*	1		2035	248	29.
1		0155	24	3.	*	1		0810	99	8.	*	1		1425	174	46.	*	1		2040	249	29.
1		0200	25	3.	*	1		0815	100	8.	*	1		1430	175	45.	*	1		2045	250	29.
1		0205	26	4.	*	1		0820	101	8.	*	1		1435	176	44.	*	1		2050	251	29.
1		0210	27	4.	*	1		0825	102	8.	*	1		1440	177	44.	*	1		2055	252	29.
1		0215	28	4.	*	1		0830	103	8.	*	1		1445	178	43.	*	1		2100	253	28.
1		0220	29	4.	*	1		0835	104	9.	*	1		1450	179	43.	*	1		2105	254	28.
1		0225	30	4.	*	1		0840	105	9.	*	1		1455	180	42.	*	1		2110	255	28.
1		0230	31	4.	*	1		0845	106	9.	*	1		1500	181	42.	*	1		2115	256	28.
1		0235	32	4.	*	1		0850	107	9.	*	1		1505	182	42.	*	1		2120	257	28.
1		0240	33	4.	*	1		0855	108	10.	*	1		1510	183	41.	*	1		2125	258	28.
1		0245	34	4.	*	1		0900	109	10.	*	1		1515	184	41.	*	1		2130	259	28.
1		0250	35	4.	*	1		0905	110	10.	*	1		1520	185	41.	*	1		2135	260	27.
1		0255	36	4.	*	1		0910	111	10.	*	1		1525	186	41.	*	1		2140	261	27.
1		0300	37	4.	*	1		0915	112	10.	*	1		1530	187	40.	*	1		2145	262	27.
1		0305	38	4.	*	1		0920	113	10.	*	1		1535	188	40.	*	1		2150	263	27.
1		0310	39	4.	*	1		0925	114	11.	*	1		1540	189	40.	*	1		2155	264	27.
1		0315	40	4.	*	1		0930	115	11.	*	1		1545	190	40.	*	1		2200	265	27.
1		0320	41	4.	*	1		0935	116	11.	*	1		1550	191	40.	*	1		2205	266	27.
1		0325	42	4.	*	1		0940	117	11.	*	1		1555	192	39.	*	1		2210	267	26.
1		0330	43	5.	*	1		0945	118	11.	*	1		1600	193	39.	*	1		2215	268	26.
1		0335	44	5.	*	1		0950	119	11.	*	1		1605	194	39.	*	1		2220	269	26.
1		0340	45	5.	*	1		0955	120	12.	*	1		1610	195	39.	*	1		2225	270	26.
1		0345	46	5.	*	1		1000	121	12.	*	1		1615	196	38.	*	1		2230	271	26.
1		0350	47	5.	*	1		1005	122	12.	*	1		1620	197	38.	*	1		2235	272	25.
1		0355	48	5.	*	1		1010	123	13.	*	1		1625	198	38.	*	1		2240	273	25.
1		0400	49	5.	*	1		1015	124	13.	*	1		1630	199	38.	*	1		2245	274	25.
1		0405	50	5.	*	1		1020	125	14.	*	1		1635	200	38.	*	1		2250	275	25.
1		0410	51	5.	*	1		1025	126	14.	*	1		1640	201	38.	*	1		2255	276	25.
1		0415	52	5.	*	1		1030	127	15.	*	1		1645	202	37.	*	1		2300	277	24.
1		0420	53	5.	*	1		1035	128	15.	*	1		1650	203	37.	*	1		2305	278	24.
1		0425	54	5.	*	1		1040	129	16.	*	1		1655	204	37.	*	1		2310	279	24.
1		0430	55	5.	*	1		1045	130	17.	*	1		1700	205	37.	*	1		2315	280	23.
1		0435	56	5.	*	1		1050	131	17.	*	1		1705	206	37.	*	1		2320	281	23.
1		0440	57	5.	*	1		1055	132	18.	*	1		1710	207	37.	*	1		2325	282	23.
1		0445	58	5.	*	1		1100	133	19.	*	1		1715	208	36.	*	1		2330	283	23.
1		0450	59	5.	*	1		1105	134	20.	*	1		1720	209	36.	*	1		2335	284	22.
1		0455	60	5.	*	1		1110	135	21.	*	1		1725	210	36.	*	1		2340	285	22.
1		0500	61	5.	*	1		1115	136	23.	*	1		1730	211	36.	*	1		2345	286	22.
1		0505	62	5.	*	1		1120	137	24.	*	1		1735	212	36.	*	1		2350	287	22.
1		0510	63	5.	*	1		1125	138	25.	*	1		1740	213	36.	*	1		2355	288	21.
1		0515	64	6.	*	1		1130	139	26.	*	1		1745	214	35.	*	2		0000	289	21.
1		0520	65	6.	*	1		1135	140	28.	*	1		1750	215	35.	*	2		0005	290	21.
1		0525	66	6.	*	1		1140	141	33.	*	1		1755	216	35.	*	2		0010	291	20.
1		0530	67	6.	*	1		1145	142	44.	*	1		1800	217	35.	*	2		0015	292	19.
1		0535	68	6.	*	1		1150	143	56.	*	1		1805	218	35.	*	2		0020	293	19.
1		0540	69	6.	*	1		1155	144	70.	*	1		1810	219	34.	*	2		0025	294	18.
1		0545	70	6.	*	1		1200	145	80.	*	1		1815	220	34.	*	2		0030	295	18.
1		0550	71	6.	*	1		1205	146	85.	*	1		1820	221	34.	*	2		0035	296	18.
1		0555	72	6.	*	1		1210	147	86.	*	1		1825	222	34.	*	2		0040	297	18.
1		0600	73	6.	*	1		1215	148	86.	*	1		1830	223	34.	*	2		0045	298	17.

```
   1    0605   74        6.   *   1     1220  149        86.   *   1     1835  224        33.   *   2     0050  299        17.
   1    0610   75        6.   *   1     1225  150        85.   *   1     1840  225        33.   *   2     0055  300        17.
                         *                                     *                                     *
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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 86.	12.17		52.	25.	24.	24.
		(INCHES)	.598	1.144	1.147	1.147
		(AC-FT)	26.	49.	49.	49.

CUMULATIVE AREA = .81 SQ MI

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          *             *
204 KK    *    RWF_P2   *
          *             *
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Route Hydrograph Through Basin 23e Pipe

HYDROGRAPH ROUTING DATA

206 RK KINEMATIC WAVE STREAM ROUTING

L	1000.	CHANNEL LENGTH
S	.0100	SLOPE
N	.015	CHANNEL ROUGHNESS COEFFICIENT
CA	.00	CONTRIBUTING AREA
SHAPE	CIRC	CHANNEL SHAPE
WD	3.00	BOTTOM WIDTH OR DIAMETER
Z	.00	SIDE SLOPE
NDXMIN	2	MINIMUM NUMBER OF DX INTERVALS

***

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	6.44	1.25	.49	333.33	86.24	735.03	1.16	13.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5008E+02 EXCESS= .0000E+00 OUTFLOW= .5004E+02 BASIN STORAGE= .2884E-01 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	6.44	1.25	5.00	86.24	735.00	1.16
***	***	***	***	***		

HYDROGRAPH AT STATION RWF_P2
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 86.	12.25		53.	25.	24.	24.
		(INCHES)	.604	1.158	1.161	1.161
		(AC-FT)	26.	50.	50.	50.

CUMULATIVE AREA = .81 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	6.44	1.25	.49	333.33	85.88	731.01	1.14	13.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4906E+02 EXCESS= .0000E+00 OUTFLOW= .4904E+02 BASIN STORAGE= .2797E-01 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	6.44	1.25	5.00	85.87	735.00	1.14
***	***	***	***	***		

HYDROGRAPH AT STATION RWF_P2
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 86.	12.25		52.	25.	24.	24.
		(INCHES)	.594	1.135	1.137	1.137
		(AC-FT)	26.	49.	49.	49.

CUMULATIVE AREA = .81 SQ MI

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION= 1

COMPUTEO KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	6.44	1.25	.51	333.33	85.69	731.05	1.13	13.50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4855E+02 EXCESS= .0000E+00 OUTFLOW= .4852E+02 BASIN STORAGE= .2755E-01 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	6.44	1.25	5.00	85.67	735.00	1.13
***	***	***	***	***		

HYDROGRAPH AT STATION RWF_P2
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	24.92-HR
86.	12.25	(CFS)	51.	24.	24.	24.
		(INCHES)	.589	1.123	1.125	1.125
		(AC-FT)	25.	48.	49.	49.

CUMULATIVE AREA = .81 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	6.44	1.25	.50	333.33	85.51	731.40	1.11	13.50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4803E+02 EXCESS= .0000E+00 OUTFLOW= .4801E+02 BASIN STORAGE= .2711E-01 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	6.44	1.25	5.00	85.48	735.00	1.11
***	***	***	***	***		

HYDROGRAPH AT STATION RWF_P2
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	24.92-HR
85.	12.25	(CFS)	51.	24.	23.	23.
		(INCHES)	.583	1.111	1.113	1.113
		(AC-FT)	25.	48.	48.	48.

CUMULATIVE AREA = .81 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	6.44	1.25	.50	333.33	85.39	731.04	1.11	13.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4767E+02 EXCESS= .0000E+00 OUTFLOW= .4765E+02 BASIN STORAGE= .2684E-01 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	6.44	1.25	5.00	85.36	735.00	1.10
***	***	***	***	***		

HYDROGRAPH AT STATION RWF_P2
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	24.92-HR
85.	12.25	(CFS)	50.	24.	23.	23.
		(INCHES)	.580	1.102	1.105	1.105
		(AC-FT)	25.	48.	48.	48.

CUMULATIVE AREA = .81 SQ MI

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INTERPOLATED HYDROGRAPH AT RWF_P2

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DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	*	1		0615	76	6.	*	1		1230	151	85.	*	1		1845	226	33.
1		0005	2	0.	*	1		0620	77	6.	*	1		1235	152	84.	*	1		1850	227	33.
1		0010	3	0.	*	1		0625	78	6.	*	1		1240	153	83.	*	1		1855	228	33.

1	0015	4	1.	*	1	0630	79	6.	*	1	1245	154	81.	*	1	1900	229	33.
1	0020	5	1.	*	1	0635	80	6.	*	1	1250	155	79.	*	1	1905	230	32.
1	0025	6	2.	*	1	0640	81	7.	*	1	1255	156	77.	*	1	1910	231	32.
1	0030	7	2.	*	1	0645	82	7.	*	1	1300	157	75.	*	1	1915	232	32.
1	0035	8	2.	*	1	0650	83	7.	*	1	1305	158	73.	*	1	1920	233	32.
1	0040	9	2.	*	1	0655	84	7.	*	1	1310	159	71.	*	1	1925	234	32.
1	0045	10	2.	*	1	0700	85	7.	*	1	1315	160	69.	*	1	1930	235	31.
1	0050	11	2.	*	1	0705	86	7.	*	1	1320	161	67.	*	1	1935	236	31.
1	0055	12	2.	*	1	0710	87	7.	*	1	1325	162	65.	*	1	1940	237	31.
1	0100	13	2.	*	1	0715	88	7.	*	1	1330	163	62.	*	1	1945	238	31.
1	0105	14	3.	*	1	0720	89	7.	*	1	1335	164	60.	*	1	1950	239	31.
1	0110	15	3.	*	1	0725	90	7.	*	1	1340	165	58.	*	1	1955	240	31.
1	0115	16	3.	*	1	0730	91	7.	*	1	1345	166	56.	*	1	2000	241	30.
1	0120	17	3.	*	1	0735	92	7.	*	1	1350	167	54.	*	1	2005	242	30.
1	0125	18	3.	*	1	0740	93	7.	*	1	1355	168	53.	*	1	2010	243	30.
1	0130	19	3.	*	1	0745	94	7.	*	1	1400	169	52.	*	1	2015	244	30.
1	0135	20	3.	*	1	0750	95	7.	*	1	1405	170	51.	*	1	2020	245	30.
1	0140	21	3.	*	1	0755	96	7.	*	1	1410	171	50.	*	1	2025	246	29.
1	0145	22	3.	*	1	0800	97	8.	*	1	1415	172	49.	*	1	2030	247	29.
1	0150	23	3.	*	1	0805	98	8.	*	1	1420	173	47.	*	1	2035	248	29.
1	0155	24	3.	*	1	0810	99	8.	*	1	1425	174	46.	*	1	2040	249	29.
1	0200	25	3.	*	1	0815	100	8.	*	1	1430	175	45.	*	1	2045	250	29.
1	0205	26	4.	*	1	0820	101	8.	*	1	1435	176	44.	*	1	2050	251	29.
1	0210	27	4.	*	1	0825	102	8.	*	1	1440	177	44.	*	1	2055	252	29.
1	0215	28	4.	*	1	0830	103	8.	*	1	1445	178	43.	*	1	2100	253	28.
1	0220	29	4.	*	1	0835	104	9.	*	1	1450	179	43.	*	1	2105	254	28.
1	0225	30	4.	*	1	0840	105	9.	*	1	1455	180	42.	*	1	2110	255	28.
1	0230	31	4.	*	1	0845	106	9.	*	1	1500	181	42.	*	1	2115	256	28.
1	0235	32	4.	*	1	0850	107	9.	*	1	1505	182	42.	*	1	2120	257	28.
1	0240	33	4.	*	1	0855	108	9.	*	1	1510	183	41.	*	1	2125	258	28.
1	0245	34	4.	*	1	0900	109	10.	*	1	1515	184	41.	*	1	2130	259	28.
1	0250	35	4.	*	1	0905	110	10.	*	1	1520	185	41.	*	1	2135	260	27.
1	0255	36	4.	*	1	0910	111	10.	*	1	1525	186	41.	*	1	2140	261	27.
1	0300	37	4.	*	1	0915	112	10.	*	1	1530	187	40.	*	1	2145	262	27.
1	0305	38	4.	*	1	0920	113	10.	*	1	1535	188	40.	*	1	2150	263	27.
1	0310	39	4.	*	1	0925	114	10.	*	1	1540	189	40.	*	1	2155	264	27.
1	0315	40	4.	*	1	0930	115	11.	*	1	1545	190	40.	*	1	2200	265	27.
1	0320	41	4.	*	1	0935	116	11.	*	1	1550	191	40.	*	1	2205	266	27.
1	0325	42	4.	*	1	0940	117	11.	*	1	1555	192	39.	*	1	2210	267	26.
1	0330	43	4.	*	1	0945	118	11.	*	1	1600	193	39.	*	1	2215	268	26.
1	0335	44	5.	*	1	0950	119	11.	*	1	1605	194	39.	*	1	2220	269	26.
1	0340	45	5.	*	1	0955	120	12.	*	1	1610	195	39.	*	1	2225	270	26.
1	0345	46	5.	*	1	1000	121	12.	*	1	1615	196	38.	*	1	2230	271	26.
1	0350	47	5.	*	1	1005	122	12.	*	1	1620	197	38.	*	1	2235	272	25.
1	0355	48	5.	*	1	1010	123	13.	*	1	1625	198	38.	*	1	2240	273	25.
1	0400	49	5.	*	1	1015	124	13.	*	1	1630	199	38.	*	1	2245	274	25.
1	0405	50	5.	*	1	1020	125	14.	*	1	1635	200	38.	*	1	2250	275	25.
1	0410	51	5.	*	1	1025	126	14.	*	1	1640	201	38.	*	1	2255	276	25.
1	0415	52	5.	*	1	1030	127	15.	*	1	1645	202	37.	*	1	2300	277	24.
1	0420	53	5.	*	1	1035	128	15.	*	1	1650	203	37.	*	1	2305	278	24.
1	0425	54	5.	*	1	1040	129	16.	*	1	1655	204	37.	*	1	2310	279	24.
1	0430	55	5.	*	1	1045	130	16.	*	1	1700	205	37.	*	1	2315	280	23.
1	0435	56	5.	*	1	1050	131	17.	*	1	1705	206	37.	*	1	2320	281	23.
1	0440	57	5.	*	1	1055	132	18.	*	1	1710	207	37.	*	1	2325	282	23.
1	0445	58	5.	*	1	1100	133	19.	*	1	1715	208	36.	*	1	2330	283	23.
1	0450	59	5.	*	1	1105	134	20.	*	1	1720	209	36.	*	1	2335	284	22.
1	0455	60	5.	*	1	1110	135	21.	*	1	1725	210	36.	*	1	2340	285	22.
1	0500	61	5.	*	1	1115	136	22.	*	1	1730	211	36.	*	1	2345	286	22.
1	0505	62	5.	*	1	1120	137	24.	*	1	1735	212	36.	*	1	2350	287	22.
1	0510	63	5.	*	1	1125	138	24.	*	1	1740	213	36.	*	1	2355	288	21.
1	0515	64	6.	*	1	1130	139	25.	*	1	1745	214	35.	*	2	0000	289	21.
1	0520	65	6.	*	1	1135	140	27.	*	1	1750	215	35.	*	2	0005	290	21.
1	0525	66	6.	*	1	1140	141	32.	*	1	1755	216	35.	*	2	0010	291	20.
1	0530	67	6.	*	1	1145	142	42.	*	1	1800	217	35.	*	2	0015	292	20.
1	0535	68	6.	*	1	1150	143	54.	*	1	1805	218	35.	*	2	0020	293	19.
1	0540	69	6.	*	1	1155	144	68.	*	1	1810	219	34.	*	2	0025	294	18.
1	0545	70	6.	*	1	1200	145	79.	*	1	1815	220	34.	*	2	0030	295	18.
1	0550	71	6.	*	1	1205	146	84.	*	1	1820	221	34.	*	2	0035	296	18.
1	0555	72	6.	*	1	1210	147	86.	*	1	1825	222	34.	*	2	0040	297	18.
1	0600	73	6.	*	1	1215	148	86.	*	1	1830	223	34.	*	2	0045	298	17.
1	0605	74	6.	*	1	1220	149	86.	*	1	1835	224	33.	*	2	0050	299	17.
1	0610	75	6.	*	1	1225	150	85.	*	1	1840	225	33.	*	2	0055	300	17.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 86.	12.25		52.	25.	24.	24.
		(INCHES)	.598	1.144	1.146	1.146
		(AC-FT)	26.	49.	49.	49.

CUMULATIVE AREA = .81 SQ MI

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          ***************
          *             *
207 KK    *     DB23e   *
          *             *
          ***************
                  Subasin

             SUBBASIN RUNOFF DATA

209 BA          SUBBASIN CHARACTERISTICS
                     TAREA         .07  SUBBASIN AREA

210 LG          GREEN AND AMPT LOSS RATE
                     STRTL         .04  STARTING LOSS
                       DTH         .05  MOISTURE DEFICIT
                      PSIF         .18  WETTING FRONT SUCTION
                     XKSAT         .01  HYDRAULIC CONDUCTIVITY
                     RTIMP      100.00  PERCENT IMPERVIOUS AREA

211 US          SNYDER UNITGRAPH
                       TP          .07  LAG
                       CP          .57  PEAKING COEFFICIENT
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SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

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UNIT HYDROGRAPH PARAMETERS
CLARK TC= .09 HR, R= .04 HR
SNYDER TP= .07 HR, CP= .51

UNIT HYDROGRAPH
3 END-OF-PERIOD ORDINATES
268. 275. 6.

*** *** *** *** ***

HYDROGRAPH AT STATION DB23e
TRANSPOSITION AREA .0 SQ MI

TOTAL RAINFALL = 1.99, TOTAL LOSS = .00, TOTAL EXCESS = 1.99

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
104.	11.92	(CFS)	11.	4.	4.	4.
		(INCHES)	1.406	1.989	1.990	1.990
		(AC-FT)	5.	8.	8.	8.

CUMULATIVE AREA = .07 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB23e
TRANSPOSITION AREA 14.0 SQ MI

TOTAL RAINFALL = 1.95, TOTAL LOSS = .00, TOTAL EXCESS = 1.95

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
102.	11.92	(CFS)	11.	4.	4.	4.
		(INCHES)	1.378	1.949	1.950	1.950
		(AC-FT)	5.	7.	7.	7.

CUMULATIVE AREA = .07 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB23e
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.93, TOTAL LOSS = .00, TOTAL EXCESS = 1.93

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
101.	11.92	(CFS)	10.	4.	4.	4.
		(INCHES)	1.364	1.929	1.930	1.930
		(AC-FT)	5.	7.	7.	7.

CUMULATIVE AREA = .07 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB23e
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.91, TOTAL LOSS = .00, TOTAL EXCESS = 1.91

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
100.	11.92	(CFS)	10.	4.	4.	4.
		(INCHES)	1.350	1.909	1.910	1.910
		(AC-FT)	5.	7.	7.	7.

CUMULATIVE AREA = .07 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB23e
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.90, TOTAL LOSS = .00, TOTAL EXCESS = 1.90

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
99.	11.92	(CFS)	10.	4.	3.	3.
		(INCHES)	1.340	1.895	1.896	1.896
		(AC-FT)	5.	7.	7.	7.

CUMULATIVE AREA = .07 SQ MI

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INTERPOLATED HYDROGRAPH AT DB23e

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DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	2.	1		1230	151	10.	1		1845	226	1.
1		0005	2	0.	1		0620	77	2.	1		1235	152	8.	1		1850	227	1.
1		0010	3	1.	1		0625	78	2.	1		1240	153	7.	1		1855	228	1.
1		0015	4	1.	1		0630	79	2.	1		1245	154	7.	1		1900	229	1.

1	0020	5	1.	*	1	0635	80	2.	*	1	1250	155	7.	*	1	1905	230	1.
1	0025	6	1.	*	1	0640	81	2.	*	1	1255	156	6.	*	1	1910	231	1.
1	0030	7	1.	*	1	0645	82	2.	*	1	1300	157	6.	*	1	1915	232	1.
1	0035	8	1.	*	1	0650	83	2.	*	1	1305	158	6.	*	1	1920	233	1.
1	0040	9	1.	*	1	0655	84	2.	*	1	1310	159	5.	*	1	1925	234	1.
1	0045	10	1.	*	1	0700	85	2.	*	1	1315	160	5.	*	1	1930	235	1.
1	0050	11	1.	*	1	0705	86	2.	*	1	1320	161	5.	*	1	1935	236	1.
1	0055	12	1.	*	1	0710	87	2.	*	1	1325	162	5.	*	1	1940	237	1.
1	0100	13	1.	*	1	0715	88	2.	*	1	1330	163	4.	*	1	1945	238	1.
1	0105	14	1.	*	1	0720	89	2.	*	1	1335	164	4.	*	1	1950	239	1.
1	0110	15	1.	*	1	0725	90	2.	*	1	1340	165	4.	*	1	1955	240	1.
1	0115	16	1.	*	1	0730	91	2.	*	1	1345	166	4.	*	1	2000	241	1.
1	0120	17	1.	*	1	0735	92	2.	*	1	1350	167	4.	*	1	2005	242	1.
1	0125	18	1.	*	1	0740	93	2.	*	1	1355	168	4.	*	1	2010	243	1.
1	0130	19	1.	*	1	0745	94	2.	*	1	1400	169	4.	*	1	2015	244	1.
1	0135	20	1.	*	1	0750	95	2.	*	1	1405	170	3.	*	1	2020	245	1.
1	0140	21	1.	*	1	0755	96	2.	*	1	1410	171	3.	*	1	2025	246	1.
1	0145	22	1.	*	1	0800	97	2.	*	1	1415	172	3.	*	1	2030	247	1.
1	0150	23	1.	*	1	0805	98	2.	*	1	1420	173	3.	*	1	2035	248	1.
1	0155	24	1.	*	1	0810	99	2.	*	1	1425	174	3.	*	1	2040	249	1.
1	0200	25	1.	*	1	0815	100	2.	*	1	1430	175	3.	*	1	2045	250	1.
1	0205	26	1.	*	1	0820	101	2.	*	1	1435	176	3.	*	1	2050	251	1.
1	0210	27	1.	*	1	0825	102	2.	*	1	1440	177	3.	*	1	2055	252	1.
1	0215	28	1.	*	1	0830	103	2.	*	1	1445	178	3.	*	1	2100	253	1.
1	0220	29	1.	*	1	0835	104	2.	*	1	1450	179	3.	*	1	2105	254	1.
1	0225	30	1.	*	1	0840	105	3.	*	1	1455	180	3.	*	1	2110	255	1.
1	0230	31	1.	*	1	0845	106	3.	*	1	1500	181	3.	*	1	2115	256	1.
1	0235	32	1.	*	1	0850	107	3.	*	1	1505	182	3.	*	1	2120	257	1.
1	0240	33	1.	*	1	0855	108	3.	*	1	1510	183	3.	*	1	2125	258	1.
1	0245	34	1.	*	1	0900	109	3.	*	1	1515	184	3.	*	1	2130	259	1.
1	0250	35	1.	*	1	0905	110	3.	*	1	1520	185	3.	*	1	2135	260	1.
1	0255	36	1.	*	1	0910	111	3.	*	1	1525	186	2.	*	1	2140	261	1.
1	0300	37	1.	*	1	0915	112	3.	*	1	1530	187	2.	*	1	2145	262	1.
1	0305	38	1.	*	1	0920	113	3.	*	1	1535	188	2.	*	1	2150	263	1.
1	0310	39	1.	*	1	0925	114	3.	*	1	1540	189	2.	*	1	2155	264	1.
1	0315	40	1.	*	1	0930	115	3.	*	1	1545	190	2.	*	1	2200	265	1.
1	0320	41	1.	*	1	0935	116	3.	*	1	1550	191	2.	*	1	2205	266	1.
1	0325	42	1.	*	1	0940	117	3.	*	1	1555	192	2.	*	1	2210	267	1.
1	0330	43	1.	*	1	0945	118	3.	*	1	1600	193	2.	*	1	2215	268	1.
1	0335	44	1.	*	1	0950	119	3.	*	1	1605	194	2.	*	1	2220	269	1.
1	0340	45	1.	*	1	0955	120	3.	*	1	1610	195	2.	*	1	2225	270	1.
1	0345	46	1.	*	1	1000	121	3.	*	1	1615	196	2.	*	1	2230	271	1.
1	0350	47	1.	*	1	1005	122	4.	*	1	1620	197	2.	*	1	2235	272	1.
1	0355	48	1.	*	1	1010	123	4.	*	1	1625	198	2.	*	1	2240	273	1.
1	0400	49	1.	*	1	1015	124	4.	*	1	1630	199	2.	*	1	2245	274	1.
1	0405	50	1.	*	1	1020	125	4.	*	1	1635	200	2.	*	1	2250	275	1.
1	0410	51	1.	*	1	1025	126	4.	*	1	1640	201	2.	*	1	2255	276	1.
1	0415	52	1.	*	1	1030	127	5.	*	1	1645	202	2.	*	1	2300	277	1.
1	0420	53	1.	*	1	1035	128	5.	*	1	1650	203	2.	*	1	2305	278	1.
1	0425	54	1.	*	1	1040	129	5.	*	1	1655	204	2.	*	1	2310	279	1.
1	0430	55	1.	*	1	1045	130	5.	*	1	1700	205	2.	*	1	2315	280	1.
1	0435	56	1.	*	1	1050	131	6.	*	1	1705	206	2.	*	1	2320	281	1.
1	0440	57	1.	*	1	1055	132	6.	*	1	1710	207	2.	*	1	2325	282	1.
1	0445	58	1.	*	1	1100	133	6.	*	1	1715	208	2.	*	1	2330	283	1.
1	0450	59	1.	*	1	1105	134	7.	*	1	1720	209	2.	*	1	2335	284	1.
1	0455	60	1.	*	1	1110	135	7.	*	1	1725	210	2.	*	1	2340	285	1.
1	0500	61	1.	*	1	1115	136	8.	*	1	1730	211	2.	*	1	2345	286	1.
1	0505	62	1.	*	1	1120	137	9.	*	1	1735	212	2.	*	1	2350	287	1.
1	0510	63	1.	*	1	1125	138	9.	*	1	1740	213	2.	*	1	2355	288	1.
1	0515	64	1.	*	1	1130	139	10.	*	1	1745	214	2.	*	2	0000	289	1.
1	0520	65	2.	*	1	1135	140	16.	*	1	1750	215	2.	*	2	0005	290	1.
1	0525	66	2.	*	1	1140	141	30.	*	1	1755	216	2.	*	2	0010	291	0.
1	0530	67	1.	*	1	1145	142	48.	*	1	1800	217	2.	*	2	0015	292	0.
1	0535	68	2.	*	1	1150	143	74.	*	1	1805	218	2.	*	2	0020	293	0.
1	0540	69	2.	*	1	1155	144	103.	*	1	1810	219	2.	*	2	0025	294	0.
1	0545	70	2.	*	1	1200	145	101.	*	1	1815	220	2.	*	2	0030	295	0.
1	0550	71	2.	*	1	1205	146	53.	*	1	1820	221	2.	*	2	0035	296	0.
1	0555	72	2.	*	1	1210	147	17.	*	1	1825	222	2.	*	2	0040	297	0.
1	0600	73	2.	*	1	1215	148	15.	*	1	1830	223	2.	*	2	0045	298	0.
1	0605	74	2.	*	1	1220	149	13.	*	1	1835	224	2.	*	2	0050	299	0.
1	0610	75	2.	*	1	1225	150	11.	*	1	1840	225	2.	*	2	0055	300	0.

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 103.	11.92		11.	4.	4.	4.
		(INCHES)	1.398	1.978	1.979	1.979
		(AC-FT)	5.	7.	7.	7.

CUMULATIVE AREA = .07 SQ MI

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          ***************
          *             *
212 KK    *     C23e    *
          *             *
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Combine Hydrograph Basin 23e with WF_PD2

214 HC HYDROGRAPH COMBINATION
ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

*** *** *** *** ***

HYDROGRAPH AT STATION C23e
TRANSPOSITIDN AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 181.	12.00		62.	29.	28.	28.
		(INCHES)	.655	1.224	1.227	1.227
		(AC-FT)	31.	57.	58.	58.

CUMULATIVE AREA = .88 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C23e
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
178.	12.00	(CFS) 61.	28.	27.	27.
		(INCHES) .644	1.199	1.203	1.203
		(AC-FT) 30.	56.	56.	56.

CUMULATIVE AREA = .88 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C23e
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
177.	12.00	(CFS) 60.	28.	27.	27.
		(INCHES) .638	1.186	1.190	1.190
		(AC-FT) 30.	56.	56.	56.

CUMULATIVE AREA = .88 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C23e
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
176.	12.00	(CFS) 60.	28.	27.	27.
		(INCHES) .632	1.174	1.177	1.177
		(AC-FT) 30.	55.	55.	55.

CUMULATIVE AREA = .88 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C23e
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
175.	12.00	(CFS) 59.	28.	27.	27.
		(INCHES) .628	1.165	1.169	1.169
		(AC-FT) 29.	55.	55.	55.

CUMULATIVE AREA = .88 SQ MI

INTERPOLATED HYDROGRAPH AT C23e

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	8.	1		1230	151	94.	1		1845	226	35.
1		0005	2	0.	1		0620	77	8.	1		1235	152	92.	1		1850	227	34.
1		0010	3	1.	1		0625	78	8.	1		1240	153	90.	1		1855	228	34.
1		0015	4	2.	1		0630	79	8.	1		1245	154	88.	1		1900	229	34.
1		0020	5	2.	1		0635	80	8.	1		1250	155	85.	1		1905	230	34.
1		0025	6	3.	1		0640	81	8.	1		1255	156	83.	1		1910	231	34.
1		0030	7	3.	1		0645	82	8.	1		1300	157	81.	1		1915	232	33.
1		0035	8	3.	1		0650	83	8.	1		1305	158	78.	1		1920	233	33.
1		0040	9	3.	1		0655	84	8.	1		1310	159	76.	1		1925	234	33.
1		0045	10	3.	1		0700	85	9.	1		1315	160	74.	1		1930	235	33.
1		0050	11	3.	1		0705	86	9.	1		1320	161	72.	1		1935	236	33.
1		0055	12	3.	1		0710	87	9.	1		1325	162	69.	1		1940	237	32.
1		0100	13	3.	1		0715	88	9.	1		1330	163	67.	1		1945	238	32.
1		0105	14	3.	1		0720	89	9.	1		1335	164	64.	1		1950	239	32.
1		0110	15	4.	1		0725	90	9.	1		1340	165	62.	1		1955	240	32.
1		0115	16	4.	1		0730	91	9.	1		1345	166	60.	1		2000	241	32.
1		0120	17	4.	1		0735	92	9.	1		1350	167	58.	1		2005	242	31.
1		0125	18	4.	1		0740	93	9.	1		1355	168	57.	1		2010	243	31.
1		0130	19	4.	1		0745	94	9.	1		1400	169	55.	1		2015	244	31.
1		0135	20	4.	1		0750	95	9.	1		1405	170	54.	1		2020	245	31.
1		0140	21	4.	1		0755	96	9.	1		1410	171	53.	1		2025	246	31.
1		0145	22	4.	1		0800	97	10.	1		1415	172	52.	1		2030	247	30.
1		0150	23	4.	1		0805	98	10.	1		1420	173	51.	1		2035	248	30.
1		0155	24	4.	1		0810	99	10.	1		1425	174	49.	1		2040	249	30.
1		0200	25	5.	1		0815	100	10.	1		1430	175	48.	1		2045	250	30.
1		0205	26	5.	1		0820	101	10.	1		1435	176	47.	1		2050	251	30.
1		0210	27	5.	1		0825	102	10.	1		1440	177	47.	1		2055	252	30.
1		0215	28	5.	1		0830	103	11.	1		1445	178	46.	1		2100	253	30.
1		0220	29	5.	1		0835	104	11.	1		1450	179	46.	1		2105	254	29.
1		0225	30	5.	1		0840	105	11.	1		1455	180	45.	1		2110	255	29.
1		0230	31	5.	1		0845	106	12.	1		1500	181	45.	1		2115	256	29.
1		0235	32	5.	1		0850	107	12.	1		1505	182	44.	1		2120	257	29.
1		0240	33	5.	1		0855	108	12.	1		1510	183	44.	1		2125	258	29.
1		0245	34	5.	1		0900	109	12.	1		1515	184	44.	1		2130	259	29.
1		0250	35	5.	1		0905	110	13.	1		1520	185	43.	1		2135	260	29.
1		0255	36	5.	1		0910	111	13.	1		1525	186	43.	1		2140	261	28.
1		0300	37	5.	1		0915	112	13.	1		1530	187	43.	1		2145	262	28.
1		0305	38	5.	1		0920	113	13.	1		1535	188	43.	1		2150	263	28.

1	0310	39	5.	*	1	0925	114	13.	*	1	1540	189	42.	*	1	2155	264	28.
1	0315	40	6.	*	1	0930	115	13.	*	1	1545	190	42.	*	1	2200	265	28.
1	0320	41	6.	*	1	0935	116	14.	*	1	1550	191	42.	*	1	2205	266	28.
1	0325	42	6.	*	1	0940	117	14.	*	1	1555	192	42.	*	1	2210	267	27.
1	0330	43	6.	*	1	0945	118	14.	*	1	1600	193	41.	*	1	2215	268	27.
1	0335	44	6.	*	1	0950	119	15.	*	1	1605	194	41.	*	1	2220	269	27.
1	0340	45	6.	*	1	0955	120	15.	*	1	1610	195	41.	*	1	2225	270	27.
1	0345	46	6.	*	1	1000	121	15.	*	1	1615	196	41.	*	1	2230	271	27.
1	0350	47	6.	*	1	1005	122	16.	*	1	1620	197	40.	*	1	2235	272	26.
1	0355	48	6.	*	1	1010	123	16.	*	1	1625	198	40.	*	1	2240	273	26.
1	0400	49	6.	*	1	1015	124	17.	*	1	1630	199	40.	*	1	2245	274	26.
1	0405	50	6.	*	1	1020	125	18.	*	1	1635	200	40.	*	1	2250	275	26.
1	0410	51	6.	*	1	1025	126	18.	*	1	1640	201	39.	*	1	2255	276	26.
1	0415	52	6.	*	1	1030	127	19.	*	1	1645	202	39.	*	1	2300	277	25.
1	0420	53	6.	*	1	1035	128	20.	*	1	1650	203	39.	*	1	2305	278	25.
1	0425	54	6.	*	1	1040	129	21.	*	1	1655	204	39.	*	1	2310	279	25.
1	0430	55	6.	*	1	1045	130	22.	*	1	1700	205	39.	*	1	2315	280	24.
1	0435	56	6.	*	1	1050	131	23.	*	1	1705	206	39.	*	1	2320	281	24.
1	0440	57	7.	*	1	1055	132	24.	*	1	1710	207	38.	*	1	2325	282	24.
1	0445	58	7.	*	1	1100	133	25.	*	1	1715	208	38.	*	1	2330	283	24.
1	0450	59	7.	*	1	1105	134	26.	*	1	1720	209	38.	*	1	2335	284	23.
1	0455	60	7.	*	1	1110	135	28.	*	1	1725	210	38.	*	1	2340	285	23.
1	0500	61	7.	*	1	1115	136	30.	*	1	1730	211	38.	*	1	2345	286	23.
1	0505	62	7.	*	1	1120	137	32.	*	1	1735	212	37.	*	1	2350	287	23.
1	0510	63	7.	*	1	1125	138	34.	*	1	1740	213	37.	*	1	2355	288	22.
1	0515	64	7.	*	1	1130	139	35.	*	1	1745	214	37.	*	2	0000	289	22.
1	0520	65	7.	*	1	1135	140	43.	*	1	1750	215	37.	*	2	0005	290	21.
1	0525	66	7.	*	1	1140	141	62.	*	1	1755	216	37.	*	2	0010	291	20.
1	0530	67	7.	*	1	1145	142	90.	*	1	1800	217	36.	*	2	0015	292	20.
1	0535	68	7.	*	1	1150	143	128.	*	1	1805	218	36.	*	2	0020	293	19.
1	0540	69	7.	*	1	1155	144	171.	*	1	1810	219	36.	*	2	0025	294	18.
1	0545	70	7.	*	1	1200	145	179.	*	1	1815	220	36.	*	2	0030	295	18.
1	0550	71	7.	*	1	1205	146	137.	*	1	1820	221	36.	*	2	0035	296	18.
1	0555	72	8.	*	1	1210	147	103.	*	1	1825	222	35.	*	2	0040	297	18.
1	0600	73	8.	*	1	1215	148	101.	*	1	1830	223	35.	*	2	0045	298	17.
1	0605	74	8.	*	1	1220	149	99.	*	1	1835	224	35.	*	2	0050	299	17.
1	0610	75	8.	*	1	1225	150	97.	*	1	1840	225	35.	*	2	0055	300	17.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 179.	12.00		61.	29.	28.	28.
		(INCHES)	.648	1.208	1.212	1.212
		(AC-FT)	30.	57.	57.	57.

CUMULATIVE AREA = .88 SQ MI

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          *             *
215 KK    *      R23e   *
          *             *
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Route Hydrograph Through Basin 23a Pipe

HYDROGRAPH ROUTING DATA

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217 RK          KINEMATIC WAVE STREAM ROUTING
                      L       1500.  CHANNEL LENGTH
                      S       .0080  SLOPE
                      N        .015  CHANNEL ROUGHNESS COEFFICIENT
                     CA         .00  CONTRIBUTING AREA
                  SHAPE        CIRC  CHANNEL SHAPE
                     WD        4.00  BOTTOM WIDTH OR DIAMETER
                      Z         .00  SIDE SLOPE
                 NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                        ***
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COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	6.04	1.25	.57	500.00	180.59	720.92	1.23	14.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5757E+02 EXCESS= .0000E+00 OUTFLOW= .5752E+02 BASIN STORAGE= .4565E-01 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	6.04	1.25	5.00	179.10	720.00	1.23

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HYDROGRAPH AT STATION R23e
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
179.	12.00		62.	29.	28.	28.
		(INCHES)	.655	1.223	1.226	1.226
		(AC-FT)	31.	57.	58.	58.

CUMULATIVE AREA = .88 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	6.04	1.25	.72	500.00	177.00	720.53	1.20	14.86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5640E+02 EXCESS= .0000E+00 OUTFLOW= .5636E+02 BASIN STORAGE= .4427E-01 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	6.04	1.25	5.00	176.26	720.00	1.20
***	***	***	***	***		

HYDROGRAPH AT STATION R23e
TRANSPOSITION AREA 14.0 SQ MI

	PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+	176.	12.00	(CFS) 61.	28.	27.	27.
			(INCHES) .644	1.198	1.202	1.202
			(AC-FT) 30.	56.	56.	56.

CUMULATIVE AREA = .88 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	6.04	1.25	.72	500.00	175.78	720.64	1.19	14.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5581E+02 EXCESS= .0000E+00 OUTFLOW= .5578E+02 BASIN STORAGE= .4357E-01 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	6.04	1.25	5.00	174.93	720.00	1.19
***	***	***	***	***		

HYDROGRAPH AT STATION R23e
TRANSPOSITION AREA 24.0 SQ MI

	PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+	175.	12.00	(CFS) 60.	28.	27.	27.
			(INCHES) .638	1.186	1.189	1.189
			(AC-FT) 30.	56.	56.	56.

CUMULATIVE AREA = .88 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	6.04	1.25	.73	500.00	173.92	720.97	1.18	14.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5522E+02 EXCESS= .0000E+00 OUTFLOW= .5518E+02 BASIN STORAGE= .4294E-01 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	6.04	1.25	5.00	173.48	720.00	1.18
***	***	***	***	***		

HYDROGRAPH AT STATION R23e
TRANSPOSITION AREA 36.5 SQ MI

	PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+	173.	12.00	(CFS) 60.	28.	27.	27.
			(INCHES) .632	1.173	1.176	1.176
			(AC-FT) 30.	55.	55.	55.

CUMULATIVE AREA = .88 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	6.04	1.25	.73	500.00	172.99	720.95	1.17	14.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5481E+02 EXCESS= .0000E+00 OUTFLOW= .5477E+02 BASIN STORAGE= .4250E-01 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	6.04	1.25	5.00	172.51	720.00	1.17
***	***	***	***	***		

HYDROGRAPH AT STATION R23e
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
173.	12.00	(CFS)	59.	28.	27.	27.
		(INCHES)	.628	1.165	1.168	1.168
		(AC-FT)	29.	55.	55.	55.

CUMULATIVE AREA = .88 SQ MI

INTERPOLATED HYOROGRAPH AT R23e

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	8.	1		1230	151	95.	1		1845	226	35.
1		0005	2	0.	1		0620	77	8.	1		1235	152	93.	1		1850	227	34.
1		0010	3	1.	1		0625	78	8.	1		1240	153	91.	1		1855	228	34.
1		0015	4	1.	1		0630	79	8.	1		1245	154	88.	1		1900	229	34.
1		0020	5	2.	1		0635	80	8.	1		1250	155	86.	1		1905	230	34.
1		0025	6	2.	1		0640	81	8.	1		1255	156	83.	1		1910	231	34.
1		0030	7	3.	1		0645	82	8.	1		1300	157	81.	1		1915	232	33.
1		0035	8	3.	1		0650	83	8.	1		1305	158	79.	1		1920	233	33.
1		0040	9	3.	1		0655	84	8.	1		1310	159	77.	1		1925	234	33.
1		0045	10	3.	1		0700	85	9.	1		1315	160	75.	1		1930	235	33.
1		0050	11	3.	1		0705	86	9.	1		1320	161	73.	1		1935	236	33.
1		0055	12	3.	1		0710	87	9.	1		1325	162	70.	1		1940	237	32.
1		0100	13	3.	1		0715	88	9.	1		1330	163	67.	1		1945	238	32.
1		0105	14	3.	1		0720	89	9.	1		1335	164	65.	1		1950	239	32.
1		0110	15	4.	1		0725	90	9.	1		1340	165	62.	1		1955	240	32.
1		0115	16	4.	1		0730	91	9.	1		1345	166	60.	1		2000	241	32.
1		0120	17	4.	1		0735	92	9.	1		1350	167	59.	1		2005	242	31.
1		0125	18	4.	1		0740	93	9.	1		1355	168	57.	1		2010	243	31.
1		0130	19	4.	1		0745	94	9.	1		1400	169	56.	1		2015	244	31.
1		0135	20	4.	1		0750	95	9.	1		1405	170	54.	1		2020	245	31.
1		0140	21	4.	1		0755	96	9.	1		1410	171	53.	1		2025	246	31.
1		0145	22	4.	1		0800	97	9.	1		1415	172	52.	1		2030	247	30.
1		0150	23	4.	1		0805	98	10.	1		1420	173	51.	1		2035	248	30.
1		0155	24	4.	1		0810	99	10.	1		1425	174	50.	1		2040	249	30.
1		0200	25	4.	1		0815	100	10.	1		1430	175	49.	1		2045	250	30.
1		0205	26	5.	1		0820	101	10.	1		1435	176	48.	1		2050	251	30.
1		0210	27	5.	1		0825	102	10.	1		1440	177	47.	1		2055	252	30.
1		0215	28	5.	1		0830	103	11.	1		1445	178	46.	1		2100	253	30.
1		0220	29	5.	1		0835	104	11.	1		1450	179	46.	1		2105	254	29.
1		0225	30	5.	1		0840	105	11.	1		1455	180	45.	1		2110	255	29.
1		0230	31	5.	1		0845	106	11.	1		1500	181	45.	1		2115	256	29.
1		0235	32	5.	1		0850	107	12.	1		1505	182	45.	1		2120	257	29.
1		0240	33	5.	1		0855	108	12.	1		1510	183	44.	1		2125	258	29.
1		0245	34	5.	1		0900	109	12.	1		1515	184	44.	1		2130	259	29.
1		0250	35	5.	1		0905	110	13.	1		1520	185	44.	1		2135	260	29.
1		0255	36	5.	1		0910	111	13.	1		1525	186	43.	1		2140	261	28.
1		0300	37	5.	1		0915	112	13.	1		1530	187	43.	1		2145	262	28.
1		0305	38	5.	1		0920	113	13.	1		1535	188	43.	1		2150	263	28.
1		0310	39	5.	1		0925	114	13.	1		1540	189	42.	1		2155	264	28.
1		0315	40	5.	1		0930	115	13.	1		1545	190	42.	1		2200	265	28.
1		0320	41	6.	1		0935	116	14.	1		1550	191	42.	1		2205	266	28.
1		0325	42	6.	1		0940	117	14.	1		1555	192	42.	1		2210	267	28.
1		0330	43	6.	1		0945	118	14.	1		1600	193	41.	1		2215	268	27.
1		0335	44	6.	1		0950	119	14.	1		1605	194	41.	1		2220	269	27.
1		0340	45	6.	1		0955	120	15.	1		1610	195	41.	1		2225	270	27.
1		0345	46	6.	1		1000	121	15.	1		1615	196	41.	1		2230	271	27.
1		0350	47	6.	1		1005	122	16.	1		1620	197	40.	1		2235	272	27.
1		0355	48	6.	1		1010	123	16.	1		1625	198	40.	1		2240	273	26.
1		0400	49	6.	1		1015	124	17.	1		1630	199	40.	1		2245	274	26.
1		0405	50	6.	1		1020	125	18.	1		1635	200	40.	1		2250	275	26.
1		0410	51	6.	1		1025	126	18.	1		1640	201	40.	1		2255	276	26.
1		0415	52	6.	1		1030	127	19.	1		1645	202	39.	1		2300	277	25.
1		0420	53	6.	1		1035	128	20.	1		1650	203	39.	1		2305	278	25.
1		0425	54	6.	1		1040	129	20.	1		1655	204	39.	1		2310	279	25.
1		0430	55	6.	1		1045	130	21.	1		1700	205	39.	1		2315	280	25.
1		0435	56	6.	1		1050	131	22.	1		1705	206	39.	1		2320	281	24.
1		0440	57	6.	1		1055	132	24.	1		1710	207	38.	1		2325	282	24.
1		0445	58	7.	1		1100	133	25.	1		1715	208	38.	1		2330	283	24.
1		0450	59	7.	1		1105	134	26.	1		1720	209	38.	1		2335	284	23.
1		0455	60	7.	1		1110	135	28.	1		1725	210	38.	1		2340	285	23.
1		0500	61	7.	1		1115	136	30.	1		1730	211	38.	1		2345	286	23.
1		0505	62	7.	1		1120	137	32.	1		1735	212	37.	1		2350	287	23.
1		0510	63	7.	1		1125	138	33.	1		1740	213	37.	1		2355	288	22.
1		0515	64	7.	1		1130	139	35.	1		1745	214	37.	2		0000	289	22.
1		0520	65	7.	1		1135	140	41.	1		1750	215	37.	2		0005	290	22.
1		0525	66	7.	1		1140	141	56.	1		1755	216	37.	2		0010	291	21.
1		0530	67	7.	1		1145	142	83.	1		1800	217	36.	2		0015	292	20.
1		0535	68	7.	1		1150	143	119.	1		1805	218	36.	2		0020	293	19.
1		0540	69	7.	1		1155	144	161.	1		1810	219	36.	2		0025	294	19.
1		0545	70	7.	1		1200	145	177.	1		1815	220	36.	2		0030	295	18.
1		0550	71	7.	1		1205	146	147.	1		1820	221	36.	2		0035	296	18.
1		0555	72	8.	1		1210	147	111.	1		1825	222	35.	2		0040	297	18.
1		0600	73	8.	1		1215	148	101.	1		1830	223	35.	2		0045	298	18.
1		0605	74	8.	1		1220	149	99.	1		1835	224	35.	2		0050	299	17.
1		0610	75	8.	1		1225	150	97.	1		1840	225	35.	2		0055	300	17.

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
177.	12.00	(CFS)	61.	29.	28.	28.
		(INCHES)	.648	1.208	1.211	1.211
		(AC-FT)	30.	57.	57.	57.

CUMULATIVE AREA = .88 SQ MI

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*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *             *
218 KK      *     DB23a   *
            *             *
            ***************
                        Subbasin

                SUBBASIN RUNOFF DATA

220 BA            SUBBASIN CHARACTERISTICS
                        TAREA          .02  SUBBASIN AREA

221 LG            GREEN AND AMPT LOSS RATE
                        STRTL          .66  STARTING LOSS
                          DTH          .59  MOISTURE DEFICIT
                         PSIF         2.16  WETTING FRONT SUCTION
                        XKSAT          .08  HYDRAULIC CONDUCTIVITY
                        RTIMP        50.00  PERCENT IMPERVIOUS AREA

222 US            SNYDER UNITGRAPH
                           TP          .04  LAG
                           CP          .35  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                                  ***
R INCREASED TO MINIMUM OF 0.5

                                                UNIT HYDROGRAPH PARAMETERS
                                             CLARK   TC=    .08 HR,       R=    .33 HR
                                            SNYDER   TP=    .13 HR,      CP=    .35

                                                    UNIT HYDROGRAPH
                                                22 END-OF-PERIOD ORDINATES
                    17.       30.       24.       18.       14.       11.        8.        7.        5.        4.
                     3.        2.        2.        1.        1.        1.        1.        1.        0.        0.
                     0.        0.

        ***               ***               ***               ***               ***

                                HYDROGRAPH AT STATION    DB23a
                               TRANSPOSITION AREA        .0 SQ MI

        TOTAL RAINFALL =    1.99, TOTAL LOSS =      .80, TOTAL EXCESS =     1.19

    PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                              6-HR        24-HR        72-HR      24.92-HR
+     (CFS)        (HR)          (CFS)
+       13.       12.00                        2.           1.           1.           1.
                                (INCHES)      .893        1.182        1.184        1.184
                                 (AC-FT)        1.           1.           1.           1.

                                CUMULATIVE AREA =      .02 SQ MI

        ***               ***               ***               ***               ***

                                HYDROGRAPH AT STATION    DB23a
                               TRANSPOSITION AREA       14.0 SQ MI

        TOTAL RAINFALL =    1.95, TOTAL LOSS =      .79, TOTAL EXCESS =     1.16

    PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                              6-HR        24-HR        72-HR      24.92-HR
+     (CFS)        (HR)          (CFS)
+       13.       12.00                        2.           1.           1.           1.
                                (INCHES)      .868        1.152        1.154        1.154
                                 (AC-FT)        1.           1.           1.           1.

                                CUMULATIVE AREA =      .02 SQ MI

        ***               ***               ***               ***               ***

                                HYDROGRAPH AT STATION    DB23a
                               TRANSPOSITION AREA       24.0 SQ MI

        TOTAL RAINFALL =    1.93, TOTAL LOSS =      .79, TOTAL EXCESS =     1.14

    PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                              6-HR        24-HR        72-HR      24.92-HR
+     (CFS)        (HR)          (CFS)
+       13.       12.00                        2.           1.           1.           1.
                                (INCHES)      .856        1.136        1.139        1.139
                                 (AC-FT)        1.           1.           1.           1.

                                CUMULATIVE AREA =      .02 SQ MI

        ***               ***               ***               ***               ***

                                HYDROGRAPH AT STATION    DB23a
                               TRANSPOSITION AREA       36.5 SQ MI

        TOTAL RAINFALL =    1.91, TOTAL LOSS =      .78, TOTAL EXCESS =     1.13

    PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                              6-HR        24-HR        72-HR      24.92-HR
+     (CFS)        (HR)          (CFS)
+       12.       12.00                        2.           1.           1.           1.
                                (INCHES)      .844        1.121        1.124        1.124
                                 (AC-FT)        1.           1.           1.           1.
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CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB23a
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.90, TOTAL LOSS = .78, TOTAL EXCESS = 1.12

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
12.	12.00		2.	1.	1.	1.
		(INCHES)	.835	1.111	1.113	1.113
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

INTERPOLATED HYDROGRAPH AT DB23a

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	5.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	4.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	3.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	3.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	2.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	2.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	2.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	2.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	1.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	1.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	1.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	1.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	1.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	1.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	1.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	1.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	1.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	1.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	1.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	1.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	1.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	1.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	0.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	0.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	0.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	0.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	0.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	0.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	0.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	0.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	0.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	0.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	0.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	0.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	0.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	0.	1		2140	261	0.
1		0300	37	0.	1		0915	112	0.	1		1530	187	0.	1		2145	262	0.
1		0305	38	0.	1		0920	113	0.	1		1535	188	0.	1		2150	263	0.
1		0310	39	0.	1		0925	114	0.	1		1540	189	0.	1		2155	264	0.
1		0315	40	0.	1		0930	115	0.	1		1545	190	0.	1		2200	265	0.
1		0320	41	0.	1		0935	116	0.	1		1550	191	0.	1		2205	266	0.
1		0325	42	0.	1		0940	117	0.	1		1555	192	0.	1		2210	267	0.
1		0330	43	0.	1		0945	118	0.	1		1600	193	0.	1		2215	268	0.
1		0335	44	0.	1		0950	119	0.	1		1605	194	0.	1		2220	269	0.
1		0340	45	0.	1		0955	120	0.	1		1610	195	0.	1		2225	270	0.
1		0345	46	0.	1		1000	121	0.	1		1615	196	0.	1		2230	271	0.
1		0350	47	0.	1		1005	122	0.	1		1620	197	0.	1		2235	272	0.
1		0355	48	0.	1		1010	123	0.	1		1625	198	0.	1		2240	273	0.
1		0400	49	0.	1		1015	124	0.	1		1630	199	0.	1		2245	274	0.
1		0405	50	0.	1		1020	125	1.	1		1635	200	0.	1		2250	275	0.
1		0410	51	0.	1		1025	126	1.	1		1640	201	0.	1		2255	276	0.
1		0415	52	0.	1		1030	127	1.	1		1645	202	0.	1		2300	277	0.
1		0420	53	0.	1		1035	128	1.	1		1650	203	0.	1		2305	278	0.
1		0425	54	0.	1		1040	129	1.	1		1655	204	0.	1		2310	279	0.
1		0430	55	0.	1		1045	130	1.	1		1700	205	0.	1		2315	280	0.
1		0435	56	0.	1		1050	131	1.	1		1705	206	0.	1		2320	281	0.
1		0440	57	0.	1		1055	132	1.	1		1710	207	0.	1		2325	282	0.
1		0445	58	0.	1		1100	133	1.	1		1715	208	0.	1		2330	283	0.
1		0450	59	0.	1		1105	134	1.	1		1720	209	0.	1		2335	284	0.
1		0455	60	0.	1		1110	135	1.	1		1725	210	0.	1		2340	285	0.
1		0500	61	0.	1		1115	136	1.	1		1730	211	0.	1		2345	286	0.
1		0505	62	0.	1		1120	137	1.	1		1735	212	0.	1		2350	287	0.
1		0510	63	0.	1		1125	138	1.	1		1740	213	0.	1		2355	288	0.
1		0515	64	0.	1		1130	139	1.	1		1745	214	0.	2		0000	289	0.
1		0520	65	0.	1		1135	140	1.	1		1750	215	0.	2		0005	290	0.
1		0525	66	0.	1		1140	141	2.	1		1755	216	0.	2		0010	291	0.
1		0530	67	0.	1		1145	142	3.	1		1800	217	0.	2		0015	292	0.
1		0535	68	0.	1		1150	143	6.	1		1805	218	0.	2		0020	293	0.
1		0540	69	0.	1		1155	144	10.	1		1810	219	0.	2		0025	294	0.
1		0545	70	0.	1		1200	145	13.	1		1815	220	0.	2		0030	295	0.
1		0550	71	0.	1		1205	146	13.	1		1820	221	0.	2		0035	296	0.
1		0555	72	0.	1		1210	147	10.	1		1825	222	0.	2		0040	297	0.
1		0600	73	0.	1		1215	148	9.	1		1830	223	0.	2		0045	298	0.
1		0605	74	0.	1		1220	149	7.	1		1835	224	0.	2		0050	299	0.
1		0610	75	0.	1		1225	150	6.	1		1840	225	0.	2		0055	300	0.

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
13.	12.00		2.	1.	1.	1.
		(INCHES)	.891	1.179	1.181	1.181
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

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1	0025	6	3.	*	1	0640	81	8.	*	1	1255	156	85.	*	1	1910	231	34.
1	0030	7	3.	*	1	0645	82	9.	*	1	1300	157	83.	*	1	1915	232	34.
1	0035	8	3.	*	1	0650	83	9.	*	1	1305	158	80.	*	1	1920	233	33.
1	0040	9	3.	*	1	0655	84	9.	*	1	1310	159	78.	*	1	1925	234	33.
1	0045	10	3.	*	1	0700	85	9.	*	1	1315	160	76.	*	1	1930	235	33.
1	0050	11	3.	*	1	0705	86	9.	*	1	1320	161	74.	*	1	1935	236	33.
1	0055	12	3.	*	1	0710	87	9.	*	1	1325	162	71.	*	1	1940	237	33.
1	0100	13	3.	*	1	0715	88	9.	*	1	1330	163	68.	*	1	1945	238	32.
1	0105	14	4.	*	1	0720	89	9.	*	1	1335	164	65.	*	1	1950	239	32.
1	0110	15	4.	*	1	0725	90	9.	*	1	1340	165	63.	*	1	1955	240	32.
1	0115	16	4.	*	1	0730	91	9.	*	1	1345	166	61.	*	1	2000	241	32.
1	0120	17	4.	*	1	0735	92	9.	*	1	1350	167	59.	*	1	2005	242	32.
1	0125	18	4.	*	1	0740	93	9.	*	1	1355	168	58.	*	1	2010	243	31.
1	0130	19	4.	*	1	0745	94	10.	*	1	1400	169	56.	*	1	2015	244	31.
1	0135	20	4.	*	1	0750	95	10.	*	1	1405	170	55.	*	1	2020	245	31.
1	0140	21	4.	*	1	0755	96	10.	*	1	1410	171	54.	*	1	2025	246	31.
1	0145	22	4.	*	1	0800	97	10.	*	1	1415	172	53.	*	1	2030	247	31.
1	0150	23	4.	*	1	0805	98	10.	*	1	1420	173	51.	*	1	2035	248	30.
1	0155	24	5.	*	1	0810	99	10.	*	1	1425	174	50.	*	1	2040	249	30.
1	0200	25	5.	*	1	0815	100	10.	*	1	1430	175	49.	*	1	2045	250	30.
1	0205	26	5.	*	1	0820	101	10.	*	1	1435	176	48.	*	1	2050	251	30.
1	0210	27	5.	*	1	0825	102	11.	*	1	1440	177	47.	*	1	2055	252	30.
1	0215	28	5.	*	1	0830	103	11.	*	1	1445	178	47.	*	1	2100	253	30.
1	0220	29	5.	*	1	0835	104	11.	*	1	1450	179	46.	*	1	2105	254	30.
1	0225	30	5.	*	1	0840	105	11.	*	1	1455	180	46.	*	1	2110	255	29.
1	0230	31	5.	*	1	0845	106	12.	*	1	1500	181	45.	*	1	2115	256	29.
1	0235	32	5.	*	1	0850	107	12.	*	1	1505	182	45.	*	1	2120	257	29.
1	0240	33	5.	*	1	0855	108	12.	*	1	1510	183	45.	*	1	2125	258	29.
1	0245	34	5.	*	1	0900	109	13.	*	1	1515	184	44.	*	1	2130	259	29.
1	0250	35	5.	*	1	0905	110	13.	*	1	1520	185	44.	*	1	2135	260	29.
1	0255	36	5.	*	1	0910	111	13.	*	1	1525	186	44.	*	1	2140	261	29.
1	0300	37	5.	*	1	0915	112	13.	*	1	1530	187	43.	*	1	2145	262	28.
1	0305	38	6.	*	1	0920	113	14.	*	1	1535	188	43.	*	1	2150	263	28.
1	0310	39	6.	*	1	0925	114	14.	*	1	1540	189	43.	*	1	2155	264	28.
1	0315	40	6.	*	1	0930	115	14.	*	1	1545	190	42.	*	1	2200	265	28.
1	0320	41	6.	*	1	0935	116	14.	*	1	1550	191	42.	*	1	2205	266	28.
1	0325	42	6.	*	1	0940	117	14.	*	1	1555	192	42.	*	1	2210	267	28.
1	0330	43	6.	*	1	0945	118	14.	*	1	1600	193	42.	*	1	2215	268	28.
1	0335	44	6.	*	1	0950	119	15.	*	1	1605	194	41.	*	1	2220	269	27.
1	0340	45	6.	*	1	0955	120	15.	*	1	1610	195	41.	*	1	2225	270	27.
1	0345	46	6.	*	1	1000	121	16.	*	1	1615	196	41.	*	1	2230	271	27.
1	0350	47	6.	*	1	1005	122	16.	*	1	1620	197	41.	*	1	2235	272	27.
1	0355	48	6.	*	1	1010	123	17.	*	1	1625	198	40.	*	1	2240	273	26.
1	0400	49	6.	*	1	1015	124	17.	*	1	1630	199	40.	*	1	2245	274	26.
1	0405	50	6.	*	1	1020	125	18.	*	1	1635	200	40.	*	1	2250	275	26.
1	0410	51	6.	*	1	1025	126	19.	*	1	1640	201	40.	*	1	2255	276	26.
1	0415	52	6.	*	1	1030	127	19.	*	1	1645	202	40.	*	1	2300	277	26.
1	0420	53	6.	*	1	1035	128	20.	*	1	1650	203	39.	*	1	2305	278	25.
1	0425	54	6.	*	1	1040	129	21.	*	1	1655	204	39.	*	1	2310	279	25.
1	0430	55	7.	*	1	1045	130	22.	*	1	1700	205	39.	*	1	2315	280	25.
1	0435	56	7.	*	1	1050	131	23.	*	1	1705	206	39.	*	1	2320	281	24.
1	0440	57	7.	*	1	1055	132	24.	*	1	1710	207	39.	*	1	2325	282	24.
1	0445	58	7.	*	1	1100	133	25.	*	1	1715	208	39.	*	1	2330	283	24.
1	0450	59	7.	*	1	1105	134	27.	*	1	1720	209	38.	*	1	2335	284	24.
1	0455	60	7.	*	1	1110	135	28.	*	1	1725	210	38.	*	1	2340	285	23.
1	0500	61	7.	*	1	1115	136	30.	*	1	1730	211	38.	*	1	2345	286	23.
1	0505	62	7.	*	1	1120	137	33.	*	1	1735	212	38.	*	1	2350	287	23.
1	0510	63	7.	*	1	1125	138	34.	*	1	1740	213	38.	*	1	2355	288	23.
1	0515	64	7.	*	1	1130	139	36.	*	1	1745	214	37.	*	2	0000	289	22.
1	0520	65	7.	*	1	1135	140	42.	*	1	1750	215	37.	*	2	0005	290	22.
1	0525	66	7.	*	1	1140	141	58.	*	1	1755	216	37.	*	2	0010	291	21.
1	0530	67	7.	*	1	1145	142	86.	*	1	1800	217	37.	*	2	0015	292	20.
1	0535	68	7.	*	1	1150	143	124.	*	1	1805	218	37.	*	2	0020	293	19.
1	0540	69	8.	*	1	1155	144	171.	*	1	1810	219	36.	*	2	0025	294	19.
1	0545	70	8.	*	1	1200	145	190.	*	1	1815	220	36.	*	2	0030	295	18.
1	0550	71	8.	*	1	1205	146	159.	*	1	1820	221	36.	*	2	0035	296	18.
1	0555	72	8.	*	1	1210	147	122.	*	1	1825	222	36.	*	2	0040	297	18.
1	0600	73	8.	*	1	1215	148	110.	*	1	1830	223	35.	*	2	0045	298	18.
1	0605	74	8.	*	1	1220	149	106.	*	1	1835	224	35.	*	2	0050	299	17.
1	0610	75	8.	*	1	1225	150	103.	*	1	1840	225	35.	*	2	0055	300	17.

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 190.	12.00		63.	29.	28.	28.
		(INCHES)	.652	1.207	1.210	1.210
		(AC-FT)	31.	58.	58.	58.

CUMULATIVE AREA = .90 SQ MI

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          ***************
          *             *
226 KK    *    R_PD U   *
          *             *
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Route Hydrograph Through Upper Airport Upper Pond

HYDROGRAPH ROUTING DATA

228 RS STORAGE ROUTING

NSTPS	1	NUMBER OF SUBREACHES
ITYP	STOR	TYPE OF INITIAL CONDITION
RSVRIC	.00	INITIAL CONDITION
X	.00	WORKING R AND D COEFFICIENT

229 SV	STORAGE	.0	.0	.2	6.1	16.2	26.8	29.4
230 SQ	DISCHARGE	0.	11.	11.	12.	13.	14.	162.
231 SE	ELEVATION	4767.00	4767.01	4768.00	4770.00	4772.00	4774.00	4774.50

***

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN 0. TO 11.
THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.

THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

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HYDROGRAPH AT STATION R_PD U
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
+ (CFS)	(HR)		6-HR	24-HR	72-HR	24.92-HR
+ 36.	18.33	(CFS)	31.	16.	15.	15.
		(INCHES)	.322	.662	.665	.665
		(AC-FT)	15.	32.	32.	32.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
+ (AC-FT)	(HR)	6-HR	24-HR	72-HR	24.92-HR
27.	18.25	27.	13.	12.	12.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
+ (FEET)	(HR)	6-HR	24-HR	72-HR	24.92-HR
4774.08	18.33	4774.06	4770.59	4770.46	4770.46

CUMULATIVE AREA = .90 SQ MI

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HYDROGRAPH AT STATION R_PD U
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
+ (CFS)	(HR)		6-HR	24-HR	72-HR	24.92-HR
+ 35.	18.67	(CFS)	30.	15.	15.	15.
		(INCHES)	.306	.637	.640	.640
		(AC-FT)	15.	31.	31.	31.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
+ (AC-FT)	(HR)	6-HR	24-HR	72-HR	24.92-HR
27.	18.58	27.	13.	12.	12.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
+ (FEET)	(HR)	6-HR	24-HR	72-HR	24.92-HR
4774.07	18.58	4774.05	4770.57	4770.44	4770.44

CUMULATIVE AREA = .90 SQ MI

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HYDROGRAPH AT STATION R_PD U
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
+ (CFS)	(HR)		6-HR	24-HR	72-HR	24.92-HR
+ 34.	18.83	(CFS)	29.	15.	15.	15.
		(INCHES)	.298	.625	.628	.628
		(AC-FT)	14.	30.	30.	30.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
+ (AC-FT)	(HR)	6-HR	24-HR	72-HR	24.92-HR
27.	18.75	27.	13.	12.	12.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
+ (FEET)	(HR)	6-HR	24-HR	72-HR	24.92-HR
4774.07	18.75	4774.05	4770.55	4770.42	4770.42

CUMULATIVE AREA = .90 SQ MI

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HYDROGRAPH AT STATION R_PD U
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
+ (CFS)	(HR)		6-HR	24-HR	72-HR	24.92-HR
+ 33.	19.00	(CFS)	28.	15.	14.	14.
		(INCHES)	.290	.612	.615	.615
		(AC-FT)	14.	29.	30.	30.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
+ (AC-FT)	(HR)	6-HR	24-HR	72-HR	24.92-HR
27.	18.92	27.	13.	12.	12.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
+ (FEET)	(HR)	6-HR	24-HR	72-HR	24.92-HR
4774.06	19.00	4774.05	4770.53	4770.40	4770.40

CUMULATIVE AREA = .90 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R_PD U
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
+ (CFS)	(HR)	6-HR	24-HR	72-HR	24.92-HR

		(CFS)					
	33.	19.17		27.	15.	14.	14.
			(INCHES)	.283	.603	.607	.607
			(AC-FT)	14.	29.	29.	29.

	PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	24.92-HR
+	(AC-FT)	(HR)				
	27.	19.08	27.	13.	12.	12.

	PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	24.92-HR
+	(FEET)	(HR)				
	4774.06	19.08	4774.05	4770.52	4770.39	4770.39

CUMULATIVE AREA = .90 SQ MI

INTERPOLATED HYDROGRAPH AT R_PD U

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	8.	1		1230	151	13.	1		1845	226	35.
1		0005	2	0.	1		0620	77	8.	1		1235	152	13.	1		1850	227	35.
1		0010	3	1.	1		0625	78	8.	1		1240	153	13.	1		1855	228	35.
1		0015	4	1.	1		0630	79	8.	1		1245	154	13.	1		1900	229	35.
1		0020	5	2.	1		0635	80	8.	1		1250	155	13.	1		1905	230	34.
1		0025	6	3.	1		0640	81	8.	1		1255	156	13.	1		1910	231	34.
1		0030	7	3.	1		0645	82	9.	1		1300	157	13.	1		1915	232	34.
1		0035	8	3.	1		0650	83	9.	1		1305	158	13.	1		1920	233	34.
1		0040	9	3.	1		0655	84	9.	1		1310	159	13.	1		1925	234	34.
1		0045	10	3.	1		0700	85	9.	1		1315	160	13.	1		1930	235	34.
1		0050	11	3.	1		0705	86	9.	1		1320	161	13.	1		1935	236	33.
1		0055	12	3.	1		0710	87	9.	1		1325	162	13.	1		1940	237	33.
1		0100	13	3.	1		0715	88	9.	1		1330	163	13.	1		1945	238	33.
1		0105	14	4.	1		0720	89	9.	1		1335	164	13.	1		1950	239	33.
1		0110	15	4.	1		0725	90	9.	1		1340	165	13.	1		1955	240	32.
1		0115	16	4.	1		0730	91	9.	1		1345	166	13.	1		2000	241	32.
1		0120	17	4.	1		0735	92	9.	1		1350	167	13.	1		2005	242	32.
1		0125	18	4.	1		0740	93	9.	1		1355	168	13.	1		2010	243	32.
1		0130	19	4.	1		0745	94	10.	1		1400	169	13.	1		2015	244	32.
1		0135	20	4.	1		0750	95	10.	1		1405	170	13.	1		2020	245	31.
1		0140	21	4.	1		0755	96	10.	1		1410	171	13.	1		2025	246	31.
1		0145	22	4.	1		0800	97	10.	1		1415	172	14.	1		2030	247	31.
1		0150	23	4.	1		0805	98	10.	1		1420	173	14.	1		2035	248	31.
1		0155	24	5.	1		0810	99	10.	1		1425	174	14.	1		2040	249	31.
1		0200	25	5.	1		0815	100	10.	1		1430	175	14.	1		2045	250	31.
1		0205	26	5.	1		0820	101	10.	1		1435	176	14.	1		2050	251	30.
1		0210	27	5.	1		0825	102	11.	1		1440	177	14.	1		2055	252	30.
1		0215	28	5.	1		0830	103	11.	1		1445	178	14.	1		2100	253	30.
1		0220	29	5.	1		0835	104	11.	1		1450	179	14.	1		2105	254	30.
1		0225	30	5.	1		0840	105	11.	1		1455	180	14.	1		2110	255	30.
1		0230	31	5.	1		0845	106	11.	1		1500	181	14.	1		2115	256	30.
1		0235	32	5.	1		0850	107	11.	1		1505	182	14.	1		2120	257	30.
1		0240	33	5.	1		0855	108	11.	1		1510	183	14.	1		2125	258	29.
1		0245	34	5.	1		0900	109	11.	1		1515	184	14.	1		2130	259	29.
1		0250	35	5.	1		0905	110	11.	1		1520	185	14.	1		2135	260	29.
1		0255	36	5.	1		0910	111	11.	1		1525	186	14.	1		2140	261	29.
1		0300	37	5.	1		0915	112	11.	1		1530	187	14.	1		2145	262	29.
1		0305	38	6.	1		0920	113	11.	1		1535	188	14.	1		2150	263	29.
1		0310	39	6.	1		0925	114	11.	1		1540	189	14.	1		2155	264	29.
1		0315	40	6.	1		0930	115	11.	1		1545	190	14.	1		2200	265	28.
1		0320	41	6.	1		0935	116	11.	1		1550	191	14.	1		2205	266	28.
1		0325	42	6.	1		0940	117	11.	1		1555	192	14.	1		2210	267	28.
1		0330	43	6.	1		0945	118	11.	1		1600	193	14.	1		2215	268	28.
1		0335	44	6.	1		0950	119	11.	1		1605	194	14.	1		2220	269	28.
1		0340	45	6.	1		0955	120	11.	1		1610	195	14.	1		2225	270	28.
1		0345	46	6.	1		1000	121	11.	1		1615	196	14.	1		2230	271	27.
1		0350	47	6.	1		1005	122	11.	1		1620	197	14.	1		2235	272	27.
1		0355	48	6.	1		1010	123	11.	1		1625	198	14.	1		2240	273	27.
1		0400	49	6.	1		1015	124	11.	1		1630	199	14.	1		2245	274	27.
1		0405	50	6.	1		1020	125	11.	1		1635	200	14.	1		2250	275	27.
1		0410	51	6.	1		1025	126	11.	1		1640	201	14.	1		2255	276	26.
1		0415	52	6.	1		1030	127	11.	1		1645	202	14.	1		2300	277	26.
1		0420	53	6.	1		1035	128	11.	1		1650	203	14.	1		2305	278	26.
1		0425	54	6.	1		1040	129	11.	1		1655	204	14.	1		2310	279	26.
1		0430	55	7.	1		1045	130	11.	1		1700	205	14.	1		2315	280	25.
1		0435	56	7.	1		1050	131	11.	1		1705	206	14.	1		2320	281	25.
1		0440	57	7.	1		1055	132	12.	1		1710	207	14.	1		2325	282	25.
1		0445	58	7.	1		1100	133	12.	1		1715	208	14.	1		2330	283	25.
1		0450	59	7.	1		1105	134	12.	1		1720	209	14.	1		2335	284	24.
1		0455	60	7.	1		1110	135	12.	1		1725	210	14.	1		2340	285	24.
1		0500	61	7.	1		1115	136	12.	1		1730	211	14.	1		2345	286	24.
1		0505	62	7.	1		1120	137	12.	1		1735	212	16.	1		2350	287	23.
1		0510	63	7.	1		1125	138	12.	1		1740	213	19.	1		2355	288	23.
1		0515	64	7.	1		1130	139	12.	1		1745	214	20.	2		0000	289	23.
1		0520	65	7.	1		1135	140	12.	1		1750	215	21.	2		0005	290	23.
1		0525	66	7.	1		1140	141	12.	1		1755	216	25.	2		0010	291	22.
1		0530	67	7.	1		1145	142	12.	1		1800	217	29.	2		0015	292	22.
1		0535	68	7.	1		1150	143	12.	1		1805	218	32.	2		0020	293	21.
1		0540	69	8.	1		1155	144	12.	1		1810	219	33.	2		0025	294	20.
1		0545	70	8.	1		1200	145	12.	1		1815	220	34.	2		0030	295	20.
1		0550	71	8.	1		1205	146	12.	1		1820	221	35.	2		0035	296	19.
1		0555	72	8.	1		1210	147	13.	1		1825	222	35.	2		0040	297	19.
1		0600	73	8.	1		1215	148	13.	1		1830	223	35.	2		0045	298	18.
1		0605	74	8.	1		1220	149	13.	1		1835	224	35.	2		0050	299	18.
1		0610	75	8.	1		1225	150	13.	1		1840	225	35.	2		0055	300	18.

	PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
	(CFS)	(HR)	(CFS)			
+	35.	18.58	30.	16.	15.	15.
			(INCHES) .311	.646	.650	.650
			(AC-FT) 15.	31.	31.	31.

CUMULATIVE AREA = .90 SQ MI

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          **************
          *            *
232 KK    *  D_Pd U    *
          *            *
          **************
                    Weir Flow Into Lower Pond

     DT          DIVERSION
                      ISTAD      U_Pipe  DIVERSION HYDROGRAPH IDENTIFICATION

     DI              INFLOW         .00     14.20     14.30     100.00   1000.00

     DQ       DIVERTED FLOW         .00     14.20     14.20      14.20     14.20
                                                                   ***

      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH   U_Pipe
                       TRANSPOSITION AREA       .0 SQ MI

   PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     24.92-HR
+    (CFS)       (HR)
                    (CFS)
+       14.     17.58                 14.          11.          11.          11.
                (INCHES)             .147         .469         .473         .473
                  (AC-FT)               7.          22.          23.          23.

                       CUMULATIVE AREA =      .90 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   D_Pd U
                       TRANSPDSITION AREA       .0 SQ MI

   PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     24.92-HR
+    (CFS)       (HR)
                    (CFS)
+       22.     18.33                 17.           5.           4.           4.
                (INCHES)             .175         .192         .192         .192
                  (AC-FT)               8.           9.           9.           9.

                       CUMULATIVE AREA =      .90 SQ MI

      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH   U_Pipe
                       TRANSPOSITION AREA      14.0 SQ MI

   PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     24.92-HR
+    (CFS)       (HR)
                    (CFS)
+       14.     17.92                 14.          11.          11.          11.
                (INCHES)             .147         .467         .470         .470
                  (AC-FT)               7.          22.          23.          23.

                       CUMULATIVE AREA =      .90 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   D_Pd U
                       TRANSPOSITION AREA      14.0 SQ MI

   PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     24.92-HR
+    (CFS)       (HR)
                    (CFS)
+       21.     18.67                 15.           4.           4.           4.
                (INCHES)             .160         .170         .170         .170
                  (AC-FT)               8.           8.           8.           8.

                       CUMULATIVE AREA =      .90 SQ MI

      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH   U_Pipe
                       TRANSPOSITION AREA      24.0 SQ MI

   PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     24.92-HR
+    (CFS)       (HR)
                    (CFS)
+       14.     18.08                 14.          11.          11.          11.
                (INCHES)             .147         .466         .469         .469
                  (AC-FT)               7.          22.          22.          22.

                       CUMULATIVE AREA =      .90 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   D_Pd U
                       TRANSPOSITION AREA      24.0 SQ MI

   PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     24.92-HR
+    (CFS)       (HR)
                    (CFS)
+       20.     18.83                 15.           4.           4.           4.
                (INCHES)             .151         .159         .159         .159
                  (AC-FT)               7.           8.           8.           8.
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CUMULATIVE AREA = .90 SQ MI

*** *** *** *** ***

DIVERSION HYDROGRAPH U_Pipe
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
14.	18.25	(CFS)	14.	11.	11.	11.
		(INCHES)	.147	.464	.468	.468
		(AC-FT)	7.	22.	22.	22.

CUMULATIVE AREA = .90 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION D_Pd U
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
19.	19.00	(CFS)	14.	4.	3.	3.
		(INCHES)	.143	.148	.148	.148
		(AC-FT)	7.	7.	7.	7.

CUMULATIVE AREA = .90 SQ MI

*** *** *** *** ***

DIVERSION HYDROGRAPH U_Pipe
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
14.	18.42	(CFS)	14.	11.	11.	11.
		(INCHES)	.147	.464	.467	.467
		(AC-FT)	7.	22.	22.	22.

CUMULATIVE AREA = .90 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION D_Pd U
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
18.	19.17	(CFS)	13.	3.	3.	3.
		(INCHES)	.137	.140	.140	.140
		(AC-FT)	7.	7.	7.	7.

CUMULATIVE AREA = .90 SQ MI

INTERPOLATED DIVERSION HYDROGRAPH AT U_Pipe

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	8.	1		1230	151	13.	1		1845	226	14.
1		0005	2	0.	1		0620	77	8.	1		1235	152	13.	1		1850	227	14.
1		0010	3	1.	1		0625	78	8.	1		1240	153	13.	1		1855	228	14.
1		0015	4	1.	1		0630	79	8.	1		1245	154	13.	1		1900	229	14.
1		0020	5	2.	1		0635	80	8.	1		1250	155	13.	1		1905	230	14.
1		0025	6	3.	1		0640	81	8.	1		1255	156	13.	1		1910	231	14.
1		0030	7	3.	1		0645	82	9.	1		1300	157	13.	1		1915	232	14.
1		0035	8	3.	1		0650	83	9.	1		1305	158	13.	1		1920	233	14.
1		0040	9	3.	1		0655	84	9.	1		1310	159	13.	1		1925	234	14.
1		0045	10	3.	1		0700	85	9.	1		1315	160	13.	1		1930	235	14.
1		0050	11	3.	1		0705	86	9.	1		1320	161	13.	1		1935	236	14.
1		0055	12	3.	1		0710	87	9.	1		1325	162	13.	1		1940	237	14.
1		0100	13	3.	1		0715	88	9.	1		1330	163	13.	1		1945	238	14.
1		0105	14	4.	1		0720	89	9.	1		1335	164	13.	1		1950	239	14.
1		0110	15	4.	1		0725	90	9.	1		1340	165	13.	1		1955	240	14.
1		0115	16	4.	1		0730	91	9.	1		1345	166	13.	1		2000	241	14.
1		0120	17	4.	1		0735	92	9.	1		1350	167	13.	1		2005	242	14.
1		0125	18	4.	1		0740	93	9.	1		1355	168	13.	1		2010	243	14.
1		0130	19	4.	1		0745	94	10.	1		1400	169	13.	1		2015	244	14.
1		0135	20	4.	1		0750	95	10.	1		1405	170	13.	1		2020	245	14.
1		0140	21	4.	1		0755	96	10.	1		1410	171	13.	1		2025	246	14.
1		0145	22	4.	1		0800	97	10.	1		1415	172	14.	1		2030	247	14.
1		0150	23	4.	1		0805	98	10.	1		1420	173	14.	1		2035	248	14.
1		0155	24	5.	1		0810	99	10.	1		1425	174	14.	1		2040	249	14.
1		0200	25	5.	1		0815	100	10.	1		1430	175	14.	1		2045	250	14.
1		0205	26	5.	1		0820	101	10.	1		1435	176	14.	1		2050	251	14.
1		0210	27	5.	1		0825	102	11.	1		1440	177	14.	1		2055	252	14.
1		0215	28	5.	1		0830	103	11.	1		1445	178	14.	1		2100	253	14.
1		0220	29	5.	1		0835	104	11.	1		1450	179	14.	1		2105	254	14.
1		0225	30	5.	1		0840	105	11.	1		1455	180	14.	1		2110	255	14.
1		0230	31	5.	1		0845	106	11.	1		1500	181	14.	1		2115	256	14.
1		0235	32	5.	1		0850	107	11.	1		1505	182	14.	1		2120	257	14.
1		0240	33	5.	1		0855	108	11.	1		1510	183	14.	1		2125	258	14.
1		0245	34	5.	1		0900	109	11.	1		1515	184	14.	1		2130	259	14.
1		0250	35	5.	1		0905	110	11.	1		1520	185	14.	1		2135	260	14.
1		0255	36	5.	1		0910	111	11.	1		1525	186	14.	1		2140	261	14.
1		0300	37	5.	1		0915	112	11.	1		1530	187	14.	1		2145	262	14.
1		0305	38	6.	1		0920	113	11.	1		1535	188	14.	1		2150	263	14.

1	0310	39	6.	*	1	0925	114	11.	*	1	1540	189	14.	*	1	2155	264	14.
1	0315	40	6.	*	1	0930	115	11.	*	1	1545	190	14.	*	1	2200	265	14.
1	0320	41	6.	*	1	0935	116	11.	*	1	1550	191	14.	*	1	2205	266	14.
1	0325	42	6.	*	1	0940	117	11.	*	1	1555	192	14.	*	1	2210	267	14.
1	0330	43	6.	*	1	0945	118	11.	*	1	1600	193	14.	*	1	2215	268	14.
1	0335	44	6.	*	1	0950	119	11.	*	1	1605	194	14.	*	1	2220	269	14.
1	0340	45	6.	*	1	0955	120	11.	*	1	1610	195	14.	*	1	2225	270	14.
1	0345	46	6.	*	1	1000	121	11.	*	1	1615	196	14.	*	1	2230	271	14.
1	0350	47	6.	*	1	1005	122	11.	*	1	1620	197	14.	*	1	2235	272	14.
1	0355	48	6.	*	1	1010	123	11.	*	1	1625	198	14.	*	1	2240	273	14.
1	0400	49	6.	*	1	1015	124	11.	*	1	1630	199	14.	*	1	2245	274	14.
1	0405	50	6.	*	1	1020	125	11.	*	1	1635	200	14.	*	1	2250	275	14.
1	0410	51	6.	*	1	1025	126	11.	*	1	1640	201	14.	*	1	2255	276	14.
1	0415	52	6.	*	1	1030	127	11.	*	1	1645	202	14.	*	1	2300	277	14.
1	0420	53	6.	*	1	1035	128	11.	*	1	1650	203	14.	*	1	2305	278	14.
1	0425	54	6.	*	1	1040	129	11.	*	1	1655	204	14.	*	1	2310	279	14.
1	0430	55	7.	*	1	1045	130	11.	*	1	1700	205	14.	*	1	2315	280	14.
1	0435	56	7.	*	1	1050	131	11.	*	1	1705	206	14.	*	1	2320	281	14.
1	0440	57	7.	*	1	1055	132	12.	*	1	1710	207	14.	*	1	2325	282	14.
1	0445	58	7.	*	1	1100	133	12.	*	1	1715	208	14.	*	1	2330	283	14.
1	0450	59	7.	*	1	1105	134	12.	*	1	1720	209	14.	*	1	2335	284	14.
1	0455	60	7.	*	1	1110	135	12.	*	1	1725	210	14.	*	1	2340	285	14.
1	0500	61	7.	*	1	1115	136	12.	*	1	1730	211	14.	*	1	2345	286	14.
1	0505	62	7.	*	1	1120	137	12.	*	1	1735	212	14.	*	1	2350	287	14.
1	0510	63	7.	*	1	1125	138	12.	*	1	1740	213	14.	*	1	2355	288	14.
1	0515	64	7.	*	1	1130	139	12.	*	1	1745	214	14.	*	2	0000	289	14.
1	0520	65	7.	*	1	1135	140	12.	*	1	1750	215	14.	*	2	0005	290	14.
1	0525	66	7.	*	1	1140	141	12.	*	1	1755	216	14.	*	2	0010	291	14.
1	0530	67	7.	*	1	1145	142	12.	*	1	1800	217	14.	*	2	0015	292	14.
1	0535	68	7.	*	1	1150	143	12.	*	1	1805	218	14.	*	2	0020	293	14.
1	0540	69	8.	*	1	1155	144	12.	*	1	1810	219	14.	*	2	0025	294	14.
1	0545	70	8.	*	1	1200	145	12.	*	1	1815	220	14.	*	2	0030	295	14.
1	0550	71	8.	*	1	1205	146	12.	*	1	1820	221	14.	*	2	0035	296	14.
1	0555	72	8.	*	1	1210	147	13.	*	1	1825	222	14.	*	2	0040	297	14.
1	0600	73	8.	*	1	1215	148	13.	*	1	1830	223	14.	*	2	0045	298	14.
1	0605	74	8.	*	1	1220	149	13.	*	1	1835	224	14.	*	2	0050	299	14.
1	0610	75	8.	*	1	1225	150	13.	*	1	1840	225	14.	*	2	0055	300	14.
				*					*					*				

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PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
	(CFS)				
+ 14.	17.92	14.	11.	11.	11.
	(INCHES)	.147	.468	.471	.471
	(AC-FT)	7.	22.	23.	23.

CUMULATIVE AREA = .90 SQ MI

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INTERPOLATED HYDROGRAPH AT D_Pd U

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DA	MON	HRMN	ORD	FLOW		DA	MON	HRMN	ORD	FLOW		DA	MON	HRMN	ORD	FLOW		DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	*	1		0615	76	0.	*	1		1230	151	0.	*	1		1845	226	21.
1		0005	2	0.	*	1		0620	77	0.	*	1		1235	152	0.	*	1		1850	227	21.
1		0010	3	0.	*	1		0625	78	0.	*	1		1240	153	0.	*	1		1855	228	21.
1		0015	4	0.	*	1		0630	79	0.	*	1		1245	154	0.	*	1		1900	229	20.
1		0020	5	0.	*	1		0635	80	0.	*	1		1250	155	0.	*	1		1905	230	20.
1		0025	6	0.	*	1		0640	81	0.	*	1		1255	156	0.	*	1		1910	231	20.
1		0030	7	0.	*	1		0645	82	0.	*	1		1300	157	0.	*	1		1915	232	20.
1		0035	8	0.	*	1		0650	83	0.	*	1		1305	158	0.	*	1		1920	233	20.
1		0040	9	0.	*	1		0655	84	0.	*	1		1310	159	0.	*	1		1925	234	20.
1		0045	10	0.	*	1		0700	85	0.	*	1		1315	160	0.	*	1		1930	235	19.
1		0050	11	0.	*	1		0705	86	0.	*	1		1320	161	0.	*	1		1935	236	19.
1		0055	12	0.	*	1		0710	87	0.	*	1		1325	162	0.	*	1		1940	237	19.
1		0100	13	0.	*	1		0715	88	0.	*	1		1330	163	0.	*	1		1945	238	19.
1		0105	14	0.	*	1		0720	89	0.	*	1		1335	164	0.	*	1		1950	239	18.
1		0110	15	0.	*	1		0725	90	0.	*	1		1340	165	0.	*	1		1955	240	18.
1		0115	16	0.	*	1		0730	91	0.	*	1		1345	166	0.	*	1		2000	241	18.
1		0120	17	0.	*	1		0735	92	0.	*	1		1350	167	0.	*	1		2005	242	18.
1		0125	18	0.	*	1		0740	93	0.	*	1		1355	168	0.	*	1		2010	243	18.
1		0130	19	0.	*	1		0745	94	0.	*	1		1400	169	0.	*	1		2015	244	17.
1		0135	20	0.	*	1		0750	95	0.	*	1		1405	170	0.	*	1		2020	245	17.
1		0140	21	0.	*	1		0755	96	0.	*	1		1410	171	0.	*	1		2025	246	17.
1		0145	22	0.	*	1		0800	97	0.	*	1		1415	172	0.	*	1		2030	247	17.
1		0150	23	0.	*	1		0805	98	0.	*	1		1420	173	0.	*	1		2035	248	17.
1		0155	24	0.	*	1		0810	99	0.	*	1		1425	174	0.	*	1		2040	249	17.
1		0200	25	0.	*	1		0815	100	0.	*	1		1430	175	0.	*	1		2045	250	16.
1		0205	26	0.	*	1		0820	101	0.	*	1		1435	176	0.	*	1		2050	251	16.
1		0210	27	0.	*	1		0825	102	0.	*	1		1440	177	0.	*	1		2055	252	16.
1		0215	28	0.	*	1		0830	103	0.	*	1		1445	178	0.	*	1		2100	253	16.
1		0220	29	0.	*	1		0835	104	0.	*	1		1450	179	0.	*	1		2105	254	16.
1		0225	30	0.	*	1		0840	105	0.	*	1		1455	180	0.	*	1		2110	255	16.
1		0230	31	0.	*	1		0845	106	0.	*	1		1500	181	0.	*	1		2115	256	15.
1		0235	32	0.	*	1		0850	107	0.	*	1		1505	182	0.	*	1		2120	257	15.
1		0240	33	0.	*	1		0855	108	0.	*	1		1510	183	0.	*	1		2125	258	15.
1		0245	34	0.	*	1		0900	109	0.	*	1		1515	184	0.	*	1		2130	259	15.
1		0250	35	0.	*	1		0905	110	0.	*	1		1520	185	0.	*	1		2135	260	15.
1		0255	36	0.	*	1		0910	111	0.	*	1		1525	186	0.	*	1		2140	261	15.
1		0300	37	0.	*	1		0915	112	0.	*	1		1530	187	0.	*	1		2145	262	15.
1		0305	38	0.	*	1		0920	113	0.	*	1		1535	188	0.	*	1		2150	263	14.
1		0310	39	0.	*	1		0925	114	0.	*	1		1540	189	0.	*	1		2155	264	14.
1		0315	40	0.	*	1		0930	115	0.	*	1		1545	190	0.	*	1		2200	265	14.
1		0320	41	0.	*	1		0935	116	0.	*	1		1550	191	0.	*	1		2205	266	14.
1		0325	42	0.	*	1		0940	117	0.	*	1		1555	192	0.	*	1		2210	267	14.
1		0330	43	0.	*	1		0945	118	0.	*	1		1600	193	0.	*	1		2215	268	14.
1		0335	44	0.	*	1		0950	119	0.	*	1		1605	194	0.	*	1		2220	269	14.
1		0340	45	0.	*	1		0955	120	0.	*	1		1610	195	0.	*	1		2225	270	13.
1		0345	46	0.	*	1		1000	121	0.	*	1		1615	196	0.	*	1		2230	271	13.
1		0350	47	0.	*	1		1005	122	0.	*	1		1620	197	0.	*	1		2235	272	13.
1		0355	48	0.	*	1		1010	123	0.	*	1		1625	198	0.	*	1		2240	273	13.
1		0400	49	0.	*	1		1015	124	0.	*	1		1630	199	0.	*	1		2245	274	13.
1		0405	50	0.	*	1		1020	125	0.	*	1		1635	200	0.	*	1		2250	275	12.
1		0410	51	0.	*	1		1025	126	0.	*	1		1640	201	0.	*	1		2255	276	12.
1		0415	52	0.	*	1		1030	127	0.	*	1		1645	202	0.	*	1		2300	277	12.
1		0420	53	0.	*	1		1035	128	0.	*	1		1650	203	0.	*	1		2305	278	12.
1		0425	54	0.	*	1		1040	129	0.	*	1		1655	204	0.	*	1		2310	279	12.
1		0430	55	0.	*	1		1045	130	0.	*	1		1700	205	0.	*	1		2315	280	11.

1	0435	56	0.	*	1	1050	131	0.	*	1	1705	206	0.	*	1	2320	281	11.
1	0440	57	0.	*	1	1055	132	0.	*	1	1710	207	0.	*	1	2325	282	11.
1	0445	58	0.	*	1	1100	133	0.	*	1	1715	208	0.	*	1	2330	283	10.
1	0450	59	0.	*	1	1105	134	0.	*	1	1720	209	0.	*	1	2335	284	10.
1	0455	60	0.	*	1	1110	135	0.	*	1	1725	210	0.	*	1	2340	285	10.
1	0500	61	0.	*	1	1115	136	0.	*	1	1730	211	0.	*	1	2345	286	10.
1	0505	62	0.	*	1	1120	137	0.	*	1	1735	212	2.	*	1	2350	287	9.
1	0510	63	0.	*	1	1125	138	0.	*	1	1740	213	5.	*	1	2355	288	9.
1	0515	64	0.	*	1	1130	139	0.	*	1	1745	214	6.	*	2	0000	289	9.
1	0520	65	0.	*	1	1135	140	0.	*	1	1750	215	7.	*	2	0005	290	9.
1	0525	66	0.	*	1	1140	141	0.	*	1	1755	216	11.	*	2	0010	291	8.
1	0530	67	0.	*	1	1145	142	0.	*	1	1800	217	15.	*	2	0015	292	7.
1	0535	68	0.	*	1	1150	143	0.	*	1	1805	218	17.	*	2	0020	293	7.
1	0540	69	0.	*	1	1155	144	0.	*	1	1810	219	19.	*	2	0025	294	6.
1	0545	70	0.	*	1	1200	145	0.	*	1	1815	220	20.	*	2	0030	295	5.
1	0550	71	0.	*	1	1205	146	0.	*	1	1820	221	21.	*	2	0035	296	5.
1	0555	72	0.	*	1	1210	147	0.	*	1	1825	222	21.	*	2	0040	297	5.
1	0600	73	0.	*	1	1215	148	0.	*	1	1830	223	21.	*	2	0045	298	4.
1	0605	74	0.	*	1	1220	149	0.	*	1	1835	224	21.	*	2	0050	299	4.
1	0610	75	0.	*	1	1225	150	0.	*	1	1840	225	21.	*	2	0055	300	4.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 21.	18.58		16.	4.	4.	4.
		(INCHES)	.164	.179	.179	.179
		(AC-FT)	8.	9.	9.	9.

CUMULATIVE AREA = .90 SQ MI

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TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.93, TOTAL LOSS = .67, TOTAL EXCESS = 1.26

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
188.	12.00	(CFS)	25.	8.	7.	7.
		(INCHES)	1.059	1.255	1.256	1.256
		(AC-FT)	13.	15.	15.	15.

CUMULATIVE AREA = .22 SQ MI

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HYDROGRAPH AT STATION DB22
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.91, TOTAL LOSS = .66, TOTAL EXCESS = 1.25

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
186.	12.00	(CFS)	25.	7.	7.	7.
		(INCHES)	1.044	1.239	1.240	1.240
		(AC-FT)	12.	15.	15.	15.

CUMULATIVE AREA = .22 SQ MI

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HYDROGRAPH AT STATION DB22
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.90, TOTAL LOSS = .66, TOTAL EXCESS = 1.23

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
184.	12.00	(CFS)	25.	7.	7.	7.
		(INCHES)	1.034	1.227	1.229	1.229
		(AC-FT)	12.	15.	15.	15.

CUMULATIVE AREA = .22 SQ MI

INTERPOLATED HYDROGRAPH AT DB22

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	2.	1		1230	151	69.	1		1845	226	2.
1		0005	2	0.	1		0620	77	2.	1		1235	152	57.	1		1850	227	2.
1		0010	3	0.	1		0625	78	2.	1		1240	153	47.	1		1855	228	2.
1		0015	4	0.	1		0630	79	2.	1		1245	154	40.	1		1900	229	2.
1		0020	5	1.	1		0635	80	2.	1		1250	155	33.	1		1905	230	2.
1		0025	6	1.	1		0640	81	2.	1		1255	156	28.	1		1910	231	2.
1		0030	7	1.	1		0645	82	2.	1		1300	157	24.	1		1915	232	2.
1		0035	8	1.	1		0650	83	2.	1		1305	158	21.	1		1920	233	2.
1		0040	9	1.	1		0655	84	2.	1		1310	159	18.	1		1925	234	2.
1		0045	10	1.	1		0700	85	2.	1		1315	160	16.	1		1930	235	1.
1		0050	11	1.	1		0705	86	2.	1		1320	161	14.	1		1935	236	1.
1		0055	12	1.	1		0710	87	2.	1		1325	162	13.	1		1940	237	1.
1		0100	13	1.	1		0715	88	2.	1		1330	163	11.	1		1945	238	1.
1		0105	14	1.	1		0720	89	2.	1		1335	164	10.	1		1950	239	1.
1		0110	15	1.	1		0725	90	2.	1		1340	165	9.	1		1955	240	1.
1		0115	16	1.	1		0730	91	2.	1		1345	166	8.	1		2000	241	1.
1		0120	17	1.	1		0735	92	2.	1		1350	167	7.	1		2005	242	1.
1		0125	18	1.	1		0740	93	2.	1		1355	168	7.	1		2010	243	1.
1		0130	19	1.	1		0745	94	2.	1		1400	169	6.	1		2015	244	1.
1		0135	20	1.	1		0750	95	2.	1		1405	170	6.	1		2020	245	1.
1		0140	21	1.	1		0755	96	2.	1		1410	171	5.	1		2025	246	1.
1		0145	22	1.	1		0800	97	2.	1		1415	172	5.	1		2030	247	1.
1		0150	23	1.	1		0805	98	2.	1		1420	173	5.	1		2035	248	1.
1		0155	24	1.	1		0810	99	2.	1		1425	174	5.	1		2040	249	1.
1		0200	25	1.	1		0815	100	2.	1		1430	175	4.	1		2045	250	1.
1		0205	26	1.	1		0820	101	2.	1		1435	176	4.	1		2050	251	1.
1		0210	27	1.	1		0825	102	2.	1		1440	177	4.	1		2055	252	1.
1		0215	28	1.	1		0830	103	2.	1		1445	178	4.	1		2100	253	1.
1		0220	29	1.	1		0835	104	2.	1		1450	179	4.	1		2105	254	1.
1		0225	30	1.	1		0840	105	3.	1		1455	180	4.	1		2110	255	1.
1		0230	31	1.	1		0845	106	3.	1		1500	181	3.	1		2115	256	1.
1		0235	32	1.	1		0850	107	3.	1		1505	182	3.	1		2120	257	1.
1		0240	33	1.	1		0855	108	3.	1		1510	183	3.	1		2125	258	1.
1		0245	34	1.	1		0900	109	3.	1		1515	184	3.	1		2130	259	1.
1		0250	35	1.	1		0905	110	3.	1		1520	185	3.	1		2135	260	1.
1		0255	36	1.	1		0910	111	3.	1		1525	186	3.	1		2140	261	1.
1		0300	37	1.	1		0915	112	3.	1		1530	187	3.	1		2145	262	1.
1		0305	38	1.	1		0920	113	3.	1		1535	188	3.	1		2150	263	1.
1		0310	39	1.	1		0925	114	3.	1		1540	189	3.	1		2155	264	1.
1		0315	40	1.	1		0930	115	3.	1		1545	190	3.	1		2200	265	1.
1		0320	41	1.	1		0935	116	3.	1		1550	191	3.	1		2205	266	1.
1		0325	42	1.	1		0940	117	3.	1		1555	192	3.	1		2210	267	1.
1		0330	43	1.	1		0945	118	3.	1		1600	193	3.	1		2215	268	1.
1		0335	44	1.	1		0950	119	3.	1		1605	194	2.	1		2220	269	1.
1		0340	45	1.	1		0955	120	3.	1		1610	195	2.	1		2225	270	1.
1		0345	46	1.	1		1000	121	4.	1		1615	196	2.	1		2230	271	1.
1		0350	47	1.	1		1005	122	4.	1		1620	197	2.	1		2235	272	1.
1		0355	48	1.	1		1010	123	4.	1		1625	198	2.	1		2240	273	1.
1		0400	49	1.	1		1015	124	4.	1		1630	199	2.	1		2245	274	1.
1		0405	50	1.	1		1020	125	4.	1		1635	200	2.	1		2250	275	1.
1		0410	51	1.	1		1025	126	4.	1		1640	201	2.	1		2255	276	1.
1		0415	52	1.	1		1030	127	4.	1		1645	202	2.	1		2300	277	1.
1		0420	53	1.	1		1035	128	5.	1		1650	203	2.	1		2305	278	1.
1		0425	54	1.	1		1040	129	5.	1		1655	204	2.	1		2310	279	1.
1		0430	55	1.	1		1045	130	5.	1		1700	205	2.	1		2315	280	1.

1	0435	56	1.	*	1	1050	131	6.	*	1	1705	206	2.	*	1	2320	281	1.
1	0440	57	1.	*	1	1055	132	6.	*	1	1710	207	2.	*	1	2325	282	1.
1	0445	58	1.	*	1	1100	133	7.	*	1	1715	208	2.	*	1	2330	283	1.
1	0450	59	1.	*	1	1105	134	8.	*	1	1720	209	2.	*	1	2335	284	1.
1	0455	60	1.	*	1	1110	135	10.	*	1	1725	210	2.	*	1	2340	285	1.
1	0500	61	2.	*	1	1115	136	11.	*	1	1730	211	2.	*	1	2345	286	1.
1	0505	62	2.	*	1	1120	137	13.	*	1	1735	212	2.	*	1	2350	287	1.
1	0510	63	2.	*	1	1125	138	15.	*	1	1740	213	2.	*	1	2355	288	1.
1	0515	64	2.	*	1	1130	139	17.	*	1	1745	214	2.	*	2	0000	289	1.
1	0520	65	2.	*	1	1135	140	23.	*	1	1750	215	2.	*	2	0005	290	1.
1	0525	66	2.	*	1	1140	141	38.	*	1	1755	216	2.	*	2	0010	291	1.
1	0530	67	2.	*	1	1145	142	64.	*	1	1800	217	2.	*	2	0015	292	1.
1	0535	68	2.	*	1	1150	143	103.	*	1	1805	218	2.	*	2	0020	293	0.
1	0540	69	2.	*	1	1155	144	155.	*	1	1810	219	2.	*	2	0025	294	0.
1	0545	70	2.	*	1	1200	145	192.	*	1	1815	220	2.	*	2	0030	295	0.
1	0550	71	2.	*	1	1205	146	183.	*	1	1820	221	2.	*	2	0035	296	0.
1	0555	72	2.	*	1	1210	147	149.	*	1	1825	222	2.	*	2	0040	297	0.
1	0600	73	2.	*	1	1215	148	123.	*	1	1830	223	2.	*	2	0045	298	0.
1	0605	74	2.	*	1	1220	149	101.	*	1	1835	224	2.	*	2	0050	299	0.
1	0610	75	2.	*	1	1225	150	84.	*	1	1840	225	2.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 192.	12.00		26.	8.	7.	7.
		(INCHES)	1.089	1.290	1.291	1.291
		(AC-FT)	13.	15.	15.	15.

CUMULATIVE AREA = .22 SQ MI

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242 KK

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* *
* R24_P *
* *
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Route Hydrograph Through Basin 24 Pipe

HYDROGRAPH ROUTING DATA

244 RK

KINEMATIC WAVE STREAM ROUTING

L	3076.	CHANNEL LENGTH
S	.0140	SLOPE
N	.015	CHANNEL ROUGHNESS COEFFICIENT
CA	.00	CONTRIBUTING AREA
SHAPE	CIRC	CHANNEL SHAPE
WD	4.50	BOTTOM WIDTH OR DIAMETER
Z	.00	SIDE SLOPE
NDXMIN	2	MINIMUM NUMBER OF DX INTERVALS

***

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	8.15	1.25	.96	1025.33	192.96	722.34	1.31	19.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1550E+02 EXCESS= .0000E+00 OUTFLOW= .1550E+02 BASIN STORAGE= .1026E-02 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	8.15	1.25	5.00	188.06	725.00	1.31

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HYDROGRAPH AT STATION R24_P
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 188.	12.08		26.	8.	8.	8.
		(INCHES)	1.102	1.305	1.306	1.306
		(AC-FT)	13.	15.	16.	16.

CUMULATIVE AREA = .22 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	8.15	1.25	.96	1025.33	189.40	721.88	1.27	19.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1511E+02 EXCESS= .0000E+00 OUTFLOW= .1511E+02 BASIN STORAGE= .9529E-03 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	8.15	1.25	5.00	184.02	725.00	1.27

*** *** *** *** ***

HYDROGRAPH AT STATION R24_P
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+ 184.	12.08	(CFS)	26.	8.	7.	7.
		(INCHES)	1.074	1.272	1.273	1.273
		(AC-FT)	13.	15.	15.	15.

CUMULATIVE AREA = .22 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	8.15	1.25	.96	1025.33	186.41	722.53	1.26	19.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1491E+02 EXCESS= .0000E+00 OUTFLOW= .1492E+02 BASIN STORAGE= .9918E-03 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	8.15	1.25	5.00		182.01	725.00	1.26
***	***	***	***		***		

HYDROGRAPH AT STATION R24_P
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+ 182.	12.08	(CFS)	25.	8.	7.	7.
		(INCHES)	1.059	1.256	1.257	1.257
		(AC-FT)	13.	15.	15.	15.

CUMULATIVE AREA = .22 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	8.15	1.25	.92	1025.33	184.65	722.36	1.24	19.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1472E+02 EXCESS= .0000E+00 OUTFLOW= .1473E+02 BASIN STORAGE= .9373E-03 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	8.15	1.25	5.00		179.99	725.00	1.24
***	***	***	***		***		

HYDROGRAPH AT STATION R24_P
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+ 180.	12.08	(CFS)	25.	7.	7.	7.
		(INCHES)	1.045	1.239	1.241	1.241
		(AC-FT)	12.	15.	15.	15.

CUMULATIVE AREA = .22 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	8.15	1.25	.96	1025.33	183.92	721.95	1.23	19.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1459E+02 EXCESS= .0000E+00 OUTFLOW= .1459E+02 BASIN STORAGE= .9871E-03 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	8.15	1.25	5.00		178.57	725.00	1.23
***	***	***	***		***		

HYDROGRAPH AT STATION R24_P
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+ 179.	12.08	(CFS)	25.	7.	7.	7.
		(INCHES)	1.035	1.228	1.229	1.229
		(AC-FT)	12.	15.	15.	15.

CUMULATIVE AREA = .22 SQ MI

INTERPOLATED HYDROGRAPH AT R24_P

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	2.	1		1230	151	75.	1		1845	226	2.
1		0005	2	0.	1		0620	77	2.	1		1235	152	62.	1		1850	227	2.
1		0010	3	0.	1		0625	78	2.	1		1240	153	52.	1		1855	228	2.
1		0015	4	0.	1		0630	79	2.	1		1245	154	43.	1		1900	229	2.
1		0020	5	0.	1		0635	80	2.	1		1250	155	36.	1		1905	230	2.
1		0025	6	1.	1		0640	81	2.	1		1255	156	31.	1		1910	231	2.
1		0030	7	1.	1		0645	82	2.	1		1300	157	27.	1		1915	232	2.
1		0035	8	1.	1		0650	83	2.	1		1305	158	23.	1		1920	233	2.
1		0040	9	1.	1		0655	84	2.	1		1310	159	20.	1		1925	234	2.
1		0045	10	1.	1		0700	85	2.	1		1315	160	17.	1		1930	235	2.
1		0050	11	1.	1		0705	86	2.	1		1320	161	15.	1		1935	236	1.
1		0055	12	1.	1		0710	87	2.	1		1325	162	14.	1		1940	237	1.
1		0100	13	1.	1		0715	88	2.	1		1330	163	12.	1		1945	238	1.
1		0105	14	1.	1		0720	89	2.	1		1335	164	11.	1		1950	239	1.
1		0110	15	1.	1		0725	90	2.	1		1340	165	9.	1		1955	240	1.
1		0115	16	1.	1		0730	91	2.	1		1345	166	8.	1		2000	241	1.
1		0120	17	1.	1		0735	92	2.	1		1350	167	8.	1		2005	242	1.
1		0125	18	1.	1		0740	93	2.	1		1355	168	7.	1		2010	243	1.
1		0130	19	1.	1		0745	94	2.	1		1400	169	7.	1		2015	244	1.
1		0135	20	1.	1		0750	95	2.	1		1405	170	6.	1		2020	245	1.
1		0140	21	1.	1		0755	96	2.	1		1410	171	6.	1		2025	246	1.
1		0145	22	1.	1		0800	97	2.	1		1415	172	5.	1		2030	247	1.
1		0150	23	1.	1		0805	98	2.	1		1420	173	5.	1		2035	248	1.
1		0155	24	1.	1		0810	99	2.	1		1425	174	5.	1		2040	249	1.
1		0200	25	1.	1		0815	100	2.	1		1430	175	4.	1		2045	250	1.
1		0205	26	1.	1		0820	101	2.	1		1435	176	4.	1		2050	251	1.
1		0210	27	1.	1		0825	102	2.	1		1440	177	4.	1		2055	252	1.
1		0215	28	1.	1		0830	103	2.	1		1445	178	4.	1		2100	253	1.
1		0220	29	1.	1		0835	104	2.	1		1450	179	4.	1		2105	254	1.
1		0225	30	1.	1		0840	105	2.	1		1455	180	4.	1		2110	255	1.
1		0230	31	1.	1		0845	106	3.	1		1500	181	3.	1		2115	256	1.
1		0235	32	1.	1		0850	107	3.	1		1505	182	3.	1		2120	257	1.
1		0240	33	1.	1		0855	108	3.	1		1510	183	3.	1		2125	258	1.
1		0245	34	1.	1		0900	109	3.	1		1515	184	3.	1		2130	259	1.
1		0250	35	1.	1		0905	110	3.	1		1520	185	3.	1		2135	260	1.
1		0255	36	1.	1		0910	111	3.	1		1525	186	3.	1		2140	261	1.
1		0300	37	1.	1		0915	112	3.	1		1530	187	3.	1		2145	262	1.
1		0305	38	1.	1		0920	113	3.	1		1535	188	3.	1		2150	263	1.
1		0310	39	1.	1		0925	114	3.	1		1540	189	3.	1		2155	264	1.
1		0315	40	1.	1		0930	115	3.	1		1545	190	3.	1		2200	265	1.
1		0320	41	1.	1		0935	116	3.	1		1550	191	3.	1		2205	266	1.
1		0325	42	1.	1		0940	117	3.	1		1555	192	3.	1		2210	267	1.
1		0330	43	1.	1		0945	118	3.	1		1600	193	3.	1		2215	268	1.
1		0335	44	1.	1		0950	119	3.	1		1605	194	3.	1		2220	269	1.
1		0340	45	1.	1		0955	120	3.	1		1610	195	2.	1		2225	270	1.
1		0345	46	1.	1		1000	121	3.	1		1615	196	2.	1		2230	271	1.
1		0350	47	1.	1		1005	122	4.	1		1620	197	2.	1		2235	272	1.
1		0355	48	1.	1		1010	123	4.	1		1625	198	2.	1		2240	273	1.
1		0400	49	1.	1		1015	124	4.	1		1630	199	2.	1		2245	274	1.
1		0405	50	1.	1		1020	125	4.	1		1635	200	2.	1		2250	275	1.
1		0410	51	1.	1		1025	126	4.	1		1640	201	2.	1		2255	276	1.
1		0415	52	1.	1		1030	127	4.	1		1645	202	2.	1		2300	277	1.
1		0420	53	1.	1		1035	128	4.	1		1650	203	2.	1		2305	278	1.
1		0425	54	1.	1		1040	129	5.	1		1655	204	2.	1		2310	279	1.
1		0430	55	1.	1		1045	130	5.	1		1700	205	2.	1		2315	280	1.
1		0435	56	1.	1		1050	131	5.	1		1705	206	2.	1		2320	281	1.
1		0440	57	1.	1		1055	132	6.	1		1710	207	2.	1		2325	282	1.
1		0445	58	1.	1		1100	133	7.	1		1715	208	2.	1		2330	283	1.
1		0450	59	1.	1		1105	134	8.	1		1720	209	2.	1		2335	284	1.
1		0455	60	1.	1		1110	135	9.	1		1725	210	2.	1		2340	285	1.
1		0500	61	1.	1		1115	136	10.	1		1730	211	2.	1		2345	286	1.
1		0505	62	2.	1		1120	137	12.	1		1735	212	2.	1		2350	287	1.
1		0510	63	2.	1		1125	138	14.	1		1740	213	2.	1		2355	288	1.
1		0515	64	2.	1		1130	139	16.	1		1745	214	2.	2		0000	289	1.
1		0520	65	2.	1		1135	140	20.	1		1750	215	2.	2		0005	290	1.
1		0525	66	2.	1		1140	141	30.	1		1755	216	2.	2		0010	291	1.
1		0530	67	2.	1		1145	142	52.	1		1800	217	2.	2		0015	292	1.
1		0535	68	2.	1		1150	143	87.	1		1805	218	2.	2		0020	293	1.
1		0540	69	2.	1		1155	144	135.	1		1810	219	2.	2		0025	294	0.
1		0545	70	2.	1		1200	145	179.	1		1815	220	2.	2		0030	295	0.
1		0550	71	2.	1		1205	146	186.	1		1820	221	2.	2		0035	296	0.
1		0555	72	2.	1		1210	147	162.	1		1825	222	2.	2		0040	297	0.
1		0600	73	2.	1		1215	148	133.	1		1830	223	2.	2		0045	298	0.
1		0605	74	2.	1		1220	149	110.	1		1835	224	2.	2		0050	299	0.
1		0610	75	2.	1		1225	150	91.	1		1840	225	2.	2		0055	300	0.

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
186.	12.08		26.	8.	7.	7.
		(INCHES)	1.090	1.291	1.292	1.292
		(AC-FT)	13.	15.	15.	15.

CUMULATIVE AREA = .22 SQ MI

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245 KK          ***************
                *             *
                *     R24_O   *
                *             *
                ***************
                Route Hydrograph Through Basin 24 Overland

                HYDROGRAPH ROUTING DATA

247 RK          KINEMATIC WAVE STREAM ROUTING
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L	1506.	CHANNEL LENGTH
S	.0190	SLOPE
N	.030	CHANNEL ROUGHNESS COEFFICIENT
CA	.00	CONTRIBUTING AREA
SHAPE	TRAP	CHANNEL SHAPE
WD	10.00	BOTTOM WIDTH OR DIAMETER
Z	12.00	SIDE SLOPE
NDXMIN	2	MINIMUM NUMBER OF DX INTERVALS

***

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.67	1.35	1.22	502.00	186.53	726.34	1.31	7.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1551E+02 EXCESS= .0000E+00 OUTFLOW= .1551E+02 BASIN STORAGE= .3236E-02 PERCENT ERROR= -.1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.67	1.35	5.00	184.74	725.00	1.31
***	***	***	***	***		

HYDROGRAPH AT STATION R24_O
TRANSPOSITION AREA .0 SQ MI

	PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+	185.	12.08	(CFS) 26.	8.	8.	8.
			(INCHES) 1.103	1.305	1.307	1.307
			(AC-FT) 13.	15.	16.	16.

CUMULATIVE AREA = .22 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.67	1.35	1.23	502.00	182.53	726.50	1.27	7.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1512E+02 EXCESS= .0000E+00 OUTFLOW= .1512E+02 BASIN STORAGE= .3340E-02 PERCENT ERROR= -.1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.67	1.35	5.00	180.72	725.00	1.27
***	***	***	***	***		

HYDROGRAPH AT STATION R24_O
TRANSPOSITION AREA 14.0 SQ MI

	PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+	181.	12.08	(CFS) 26.	8.	7.	7.
			(INCHES) 1.074	1.272	1.273	1.273
			(AC-FT) 13.	15.	15.	15.

CUMULATIVE AREA = .22 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME SIEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.67	1.35	1.20	502.00	180.79	727.44	1.26	7.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1492E+02 EXCESS= .0000E+00 OUTFLOW= .1493E+02 BASIN STORAGE= .3136E-02 PERCENT ERROR= -.1

INTERPOLATEO TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.67	1.35	5.00	178.72	725.00	1.26
***	***	***	***	***		

HYDROGRAPH AT STATION R24_O
TRANSPOSITION AREA 24.0 SQ MI

	PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+	179.	12.08	(CFS) 25.	8.	7.	7.
			(INCHES) 1.060	1.256	1.257	1.257
			(AC-FT) 13.	15.	15.	15.

CUMULATIVE AREA = .22 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP

(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.67	1.35	1.19	502.00	178.89	726.95	1.24	7.67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1473E+02 EXCESS= .0000E+00 OUTFLOW= .1474E+02 BASIN STORAGE= .3654E-02 PERCENT ERROR= -.1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.67	1.35	5.00	176.71	725.00	1.24
***	***	***	***	***		

HYDROGRAPH AT STATION R24_O
TRANSPOSITION AREA 36.5 SQ MI

	PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)	(CFS)				
+	177.	12.08		25.	7.	7.	7.
			(INCHES)	1.045	1.239	1.240	1.240
			(AC-FT)	12.	15.	15.	15.

CUMULATIVE AREA = .22 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.67	1.35	1.10	502.00	178.39	727.13	1.23	7.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1459E+02 EXCESS= .0000E+00 OUTFLOW= .1460E+02 BASIN STORAGE= .3383E-02 PERCENT ERROR= -.1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.67	1.35	5.00	175.31	725.00	1.23
***	***	***	***	***		

HYDROGRAPH AT STATION R24_O
TRANSPOSITION AREA 50.0 SQ MI

	PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)	(CFS)				
+	175.	12.08		25.	7.	7.	7.
			(INCHES)	1.036	1.228	1.229	1.229
			(AC-FT)	12.	15.	15.	15.

CUMULATIVE AREA = .22 SQ MI

INTERPOLATED HYDROGRAPH AT R24_O

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	2.	1		1230	151	84.	1		1845	226	2.
1		0005	2	0.	1		0620	77	2.	1		1235	152	70.	1		1850	227	2.
1		0010	3	0.	1		0625	78	2.	1		1240	153	58.	1		1855	228	2.
1		0015	4	0.	1		0630	79	2.	1		1245	154	49.	1		1900	229	2.
1		0020	5	0.	1		0635	80	2.	1		1250	155	41.	1		1905	230	2.
1		0025	6	0.	1		0640	81	2.	1		1255	156	35.	1		1910	231	2.
1		0030	7	0.	1		0645	82	2.	1		1300	157	30.	1		1915	232	2.
1		0035	8	1.	1		0650	83	2.	1		1305	158	26.	1		1920	233	2.
1		0040	9	1.	1		0655	84	2.	1		1310	159	22.	1		1925	234	2.
1		0045	10	1.	1		0700	85	2.	1		1315	160	19.	1		1930	235	2.
1		0050	11	1.	1		0705	86	2.	1		1320	161	17.	1		1935	236	2.
1		0055	12	1.	1		0710	87	2.	1		1325	162	15.	1		1940	237	2.
1		0100	13	1.	1		0715	88	2.	1		1330	163	13.	1		1945	238	1.
1		0105	14	1.	1		0720	89	2.	1		1335	164	12.	1		1950	239	1.
1		0110	15	1.	1		0725	90	2.	1		1340	165	11.	1		1955	240	1.
1		0115	16	1.	1		0730	91	2.	1		1345	166	9.	1		2000	241	1.
1		0120	17	1.	1		0735	92	2.	1		1350	167	8.	1		2005	242	1.
1		0125	18	1.	1		0740	93	2.	1		1355	168	8.	1		2010	243	1.
1		0130	19	1.	1		0745	94	2.	1		1400	169	7.	1		2015	244	1.
1		0135	20	1.	1		0750	95	2.	1		1405	170	7.	1		2020	245	1.
1		0140	21	1.	1		0755	96	2.	1		1410	171	6.	1		2025	246	1.
1		0145	22	1.	1		0800	97	2.	1		1415	172	6.	1		2030	247	1.
1		0150	23	1.	1		0805	98	2.	1		1420	173	5.	1		2035	248	1.
1		0155	24	1.	1		0810	99	2.	1		1425	174	5.	1		2040	249	1.
1		0200	25	1.	1		0815	100	2.	1		1430	175	5.	1		2045	250	1.
1		0205	26	1.	1		0820	101	2.	1		1435	176	5.	1		2050	251	1.
1		0210	27	1.	1		0825	102	2.	1		1440	177	4.	1		2055	252	1.
1		0215	28	1.	1		0830	103	2.	1		1445	178	4.	1		2100	253	1.
1		0220	29	1.	1		0835	104	2.	1		1450	179	4.	1		2105	254	1.
1		0225	30	1.	1		0840	105	2.	1		1455	180	4.	1		2110	255	1.
1		0230	31	1.	1		0845	106	2.	1		1500	181	4.	1		2115	256	1.
1		0235	32	1.	1		0850	107	3.	1		1505	182	4.	1		2120	257	1.
1		0240	33	1.	1		0855	108	3.	1		1510	183	3.	1		2125	258	1.
1		0245	34	1.	1		0900	109	3.	1		1515	184	3.	1		2130	259	1.
1		0250	35	1.	1		0905	110	3.	1		1520	185	3.	1		2135	260	1.
1		0255	36	1.	1		0910	111	3.	1		1525	186	3.	1		2140	261	1.
1		0300	37	1.	1		0915	112	3.	1		1530	187	3.	1		2145	262	1.
1		0305	38	1.	1		0920	113	3.	1		1535	188	3.	1		2150	263	1.
1		0310	39	1.	1		0925	114	3.	1		1540	189	3.	1		2155	264	1.

1	0315	40	1.	*	1	0930	115	3.	*	1	1545	190	3.	*	1	2200	265	1.
1	0320	41	1.	*	1	0935	116	3.	*	1	1550	191	3.	*	1	2205	266	1.
1	0325	42	1.	*	1	0940	117	3.	*	1	1555	192	3.	*	1	2210	267	1.
1	0330	43	1.	*	1	0945	118	3.	*	1	1600	193	3.	*	1	2215	268	1.
1	0335	44	1.	*	1	0950	119	3.	*	1	1605	194	3.	*	1	2220	269	1.
1	0340	45	1.	*	1	0955	120	3.	*	1	1610	195	3.	*	1	2225	270	1.
1	0345	46	1.	*	1	1000	121	3.	*	1	1615	196	2.	*	1	2230	271	1.
1	0350	47	1.	*	1	1005	122	3.	*	1	1620	197	2.	*	1	2235	272	1.
1	0355	48	1.	*	1	1010	123	4.	*	1	1625	198	2.	*	1	2240	273	1.
1	0400	49	1.	*	1	1015	124	4.	*	1	1630	199	2.	*	1	2245	274	1.
1	0405	50	1.	*	1	1020	125	4.	*	1	1635	200	2.	*	1	2250	275	1.
1	0410	51	1.	*	1	1025	126	4.	*	1	1640	201	2.	*	1	2255	276	1.
1	0415	52	1.	*	1	1030	127	4.	*	1	1645	202	2.	*	1	2300	277	1.
1	0420	53	1.	*	1	1035	128	4.	*	1	1650	203	2.	*	1	2305	278	1.
1	0425	54	1.	*	1	1040	129	4.	*	1	1655	204	2.	*	1	2310	279	1.
1	0430	55	1.	*	1	1045	130	5.	*	1	1700	205	2.	*	1	2315	280	1.
1	0435	56	1.	*	1	1050	131	5.	*	1	1705	206	2.	*	1	2320	281	1.
1	0440	57	1.	*	1	1055	132	5.	*	1	1710	207	2.	*	1	2325	282	1.
1	0445	58	1.	*	1	1100	133	6.	*	1	1715	208	2.	*	1	2330	283	1.
1	0450	59	1.	*	1	1105	134	7.	*	1	1720	209	2.	*	1	2335	284	1.
1	0455	60	1.	*	1	1110	135	8.	*	1	1725	210	2.	*	1	2340	285	1.
1	0500	61	1.	*	1	1115	136	9.	*	1	1730	211	2.	*	1	2345	286	1.
1	0505	62	1.	*	1	1120	137	10.	*	1	1735	212	2.	*	1	2350	287	1.
1	0510	63	2.	*	1	1125	138	12.	*	1	1740	213	2.	*	1	2355	288	1.
1	0515	64	2.	*	1	1130	139	14.	*	1	1745	214	2.	*	2	0000	289	1.
1	0520	65	2.	*	1	1135	140	16.	*	1	1750	215	2.	*	2	0005	290	1.
1	0525	66	2.	*	1	1140	141	22.	*	1	1755	216	2.	*	2	0010	291	1.
1	0530	67	2.	*	1	1145	142	38.	*	1	1800	217	2.	*	2	0015	292	1.
1	0535	68	2.	*	1	1150	143	67.	*	1	1805	218	2.	*	2	0020	293	1.
1	0540	69	2.	*	1	1155	144	111.	*	1	1810	219	2.	*	2	0025	294	1.
1	0545	70	2.	*	1	1200	145	159.	*	1	1815	220	2.	*	2	0030	295	1.
1	0550	71	2.	*	1	1205	146	183.	*	1	1820	221	2.	*	2	0035	296	0.
1	0555	72	2.	*	1	1210	147	173.	*	1	1825	222	2.	*	2	0040	297	0.
1	0600	73	2.	*	1	1215	148	146.	*	1	1830	223	2.	*	2	0045	298	0.
1	0605	74	2.	*	1	1220	149	121.	*	1	1835	224	2.	*	2	0050	299	0.
1	0610	75	2.	*	1	1225	150	101.	*	1	1840	225	2.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW TIME MAXIMUM AVERAGE FLOW

			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 183.	12.08		26.	8.	7.	7.
		(INCHES)	1.091	1.291	1.292	1.292
		(AC-FT)	13.	15.	15.	15.

CUMULATIVE AREA = .22 SQ MI

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248 KK DB24a

Subbasin

SUBBASIN RUNOFF DATA

250 BA SUBBASIN CHARACTERISTICS

TAREA	.02	SUBBASIN AREA

251 LG GREEN AND AMPT LOSS RATE

STRTL	.53	STARTING LOSS
DTH	.50	MOISTURE DEFICIT
PSIF	1.86	WETTING FRONT SUCTION
XKSAT	.07	HYDRAULIC CONDUCTIVITY
RTIMP	40.00	PERCENT IMPERVIOUS AREA

252 US SNYDER UNITGRAPH

TP	.09	LAG
CP	.29	PEAKING COEFFICIENT

SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

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UNIT HYDROGRAPH PARAMETERS

CLARK TC= .08 HR, R= .42 HR
SNYDER TP= .14 HR, CP= .29

UNIT HYDROGRAPH
28 END-OF-PERIOD ORDINATES

15.	27.	22.	18.	15.	12.	10.	8.	7.	5.
5.	4.	3.	2.	2.	2.	1.	1.	1.	1.
1.	1.	0.	0.	0.	0.	0.	0.		

*** *** *** *** ***

HYOROGRAPH AT STATION DB24a
TRANSPOSITION AREA .0 SQ MI

TOTAL RAINFALL = 1.99, TOTAL LOSS = .87, TOTAL EXCESS = 1.12

PEAK FLOW TIME MAXIMUM AVERAGE FLOW

			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 13.	12.00		2.	1.	1.	1.
		(INCHES)	.887	1.118	1.120	1.120
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB24a
TRANSPOSITION AREA 14.0 SQ MI

TOTAL RAINFALL = 1.95, TOTAL LOSS = .86, TOTAL EXCESS = 1.09

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
13.	12.00	(CFS)	2.	1.	1.	1.
		(INCHES)	.860	1.087	1.089	1.089
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB24a
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.93, TOTAL LOSS = .85, TOTAL EXCESS = 1.08

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
13.	12.00	(CFS)	2.	1.	1.	1.
		(INCHES)	.847	1.071	1.073	1.073
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB24a
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.91, TOTAL LOSS = .85, TOTAL EXCESS = 1.06

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
12.	12.00	(CFS)	2.	1.	1.	1.
		(INCHES)	.834	1.056	1.058	1.058
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB24a
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.90, TOTAL LOSS = .84, TOTAL EXCESS = 1.05

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
12.	12.00	(CFS)	2.	1.	1.	1.
		(INCHES)	.825	1.045	1.047	1.047
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

INTERPOLATED HYDROGRAPH AT DB24a

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	6.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	5.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	4.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	4.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	3.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	3.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	2.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	2.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	2.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	2.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	1.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	1.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	1.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	1.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	1.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	1.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	1.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	1.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	1.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	1.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	1.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	0.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	0.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	0.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	0.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	0.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	0.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	0.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	0.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	0.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	0.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	0.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	0.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	0.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	0.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	0.	1		2140	261	0.
1		0300	37	0.	1		0915	112	0.	1		1530	187	0.	1		2145	262	0.
1		0305	38	0.	1		0920	113	0.	1		1535	188	0.	1		2150	263	0.

1	0310	39	0.	*	1	0925	114	0.	*	1	1540	189	0.	*	1	2155	264	0.
1	0315	40	0.	*	1	0930	115	0.	*	1	1545	190	0.	*	1	2200	265	0.
1	0320	41	0.	*	1	0935	116	0.	*	1	1550	191	0.	*	1	2205	266	0.
1	0325	42	0.	*	1	0940	117	0.	*	1	1555	192	0.	*	1	2210	267	0.
1	0330	43	0.	*	1	0945	118	0.	*	1	1600	193	0.	*	1	2215	268	0.
1	0335	44	0.	*	1	0950	119	0.	*	1	1605	194	0.	*	1	2220	269	0.
1	0340	45	0.	*	1	0955	120	0.	*	1	1610	195	0.	*	1	2225	270	0.
1	0345	46	0.	*	1	1000	121	0.	*	1	1615	196	0.	*	1	2230	271	0.
1	0350	47	0.	*	1	1005	122	0.	*	1	1620	197	0.	*	1	2235	272	0.
1	0355	48	0.	*	1	1010	123	0.	*	1	1625	198	0.	*	1	2240	273	0.
1	0400	49	0.	*	1	1015	124	0.	*	1	1630	199	0.	*	1	2245	274	0.
1	0405	50	0.	*	1	1020	125	0.	*	1	1635	200	0.	*	1	2250	275	0.
1	0410	51	0.	*	1	1025	126	0.	*	1	1640	201	0.	*	1	2255	276	0.
1	0415	52	0.	*	1	1030	127	0.	*	1	1645	202	0.	*	1	2300	277	0.
1	0420	53	0.	*	1	1035	128	0.	*	1	1650	203	0.	*	1	2305	278	0.
1	0425	54	0.	*	1	1040	129	1.	*	1	1655	204	0.	*	1	2310	279	0.
1	0430	55	0.	*	1	1045	130	1.	*	1	1700	205	0.	*	1	2315	280	0.
1	0435	56	0.	*	1	1050	131	1.	*	1	1705	206	0.	*	1	2320	281	0.
1	0440	57	0.	*	1	1055	132	1.	*	1	1710	207	0.	*	1	2325	282	0.
1	0445	58	0.	*	1	1100	133	1.	*	1	1715	208	0.	*	1	2330	283	0.
1	0450	59	0.	*	1	1105	134	1.	*	1	1720	209	0.	*	1	2335	284	0.
1	0455	60	0.	*	1	1110	135	1.	*	1	1725	210	0.	*	1	2340	285	0.
1	0500	61	0.	*	1	1115	136	1.	*	1	1730	211	0.	*	1	2345	286	0.
1	0505	62	0.	*	1	1120	137	1.	*	1	1735	212	0.	*	1	2350	287	0.
1	0510	63	0.	*	1	1125	138	1.	*	1	1740	213	0.	*	1	2355	288	0.
1	0515	64	0.	*	1	1130	139	1.	*	1	1745	214	0.	*	2	0000	289	0.
1	0520	65	0.	*	1	1135	140	1.	*	1	1750	215	0.	*	2	0005	290	0.
1	0525	66	0.	*	1	1140	141	2.	*	1	1755	216	0.	*	2	0010	291	0.
1	0530	67	0.	*	1	1145	142	3.	*	1	1800	217	0.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	6.	*	1	1805	218	0.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	10.	*	1	1810	219	0.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	13.	*	1	1815	220	0.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	13.	*	1	1820	221	0.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	11.	*	1	1825	222	0.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	10.	*	1	1830	223	0.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	8.	*	1	1835	224	0.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	7.	*	1	1840	225	0.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 13.	12.00		2.	1.	1.	1.
		(INCHES)	.884	1.114	1.117	1.117
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

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253 KK — B4aDIV

Divert Basin 24a overflow

DT	DIVERSION ISTAD	B4aDIV	DIVERSION HYDROGRAPH IDENTIFICATION		
DI	INFLOW	.00	14.00	100.00	1000.00
DQ	DIVERTED FLOW	.00	.01	86.00	986.00

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DIVERSION HYDROGRAPH B4aDIV
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 0.	12.00		0.	0.	0.	0.
		(INCHES)	.001	.001	.001	.001
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

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HYDROGRAPH AT STATION B4aDIV
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 13.	12.00		2.	1.	1.	1.
		(INCHES)	.886	1.117	1.119	1.119
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

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DIVERSION HYDROGRAPH B4aDIV
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 0.	12.00		0.	0.	0.	0.

(INCHES)	.001	.001	.001	.001
(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION B4aDIV
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 13.	12.00	2.	1.	1.	1.
		(INCHES) .860	1.086	1.088	1.088
		(AC-FT) 1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

DIVERSION HYDROGRAPH B4aDIV
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 0.	12.00	0.	0.	0.	0.
		(INCHES) .001	.001	.001	.001
		(AC-FT) 0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

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HYDROGRAPH AT STATION B4aDIV
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 13.	12.00	2.	1.	1.	1.
		(INCHES) .847	1.071	1.073	1.073
		(AC-FT) 1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

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DIVERSION HYDROGRAPH B4aDIV
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 0.	12.00	0.	0.	0.	0.
		(INCHES) .001	.001	.001	.001
		(AC-FT) 0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION B4aDIV
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 12.	12.00	2.	1.	1.	1.
		(INCHES) .834	1.055	1.057	1.057
		(AC-FT) 1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

DIVERSION HYDROGRAPH B4aDIV
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 0.	12.00	0.	0.	0.	0.
		(INCHES) .001	.001	.001	.001
		(AC-FT) 0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION B4aDIV
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 12.	12.00	2.	1.	1.	1.
		(INCHES) .825	1.045	1.047	1.047
		(AC-FT) 1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

INTERPOLATED DIVERSION HYDROGRAPH AT B4aDIV

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	0.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	0.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	0.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	0.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	0.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	0.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	0.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	0.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	0.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	0.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	0.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	0.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	0.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	0.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	0.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	0.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	0.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	0.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	0.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	0.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	0.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	0.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	0.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	0.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	0.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	0.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	0.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	0.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	0.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	0.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	0.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	0.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	0.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	0.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	0.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	0.	1		2140	261	0.
1		0300	37	0.	1		0915	112	0.	1		1530	187	0.	1		2145	262	0.
1		0305	38	0.	1		0920	113	0.	1		1535	188	0.	1		2150	263	0.
1		0310	39	0.	1		0925	114	0.	1		1540	189	0.	1		2155	264	0.
1		0315	40	0.	1		0930	115	0.	1		1545	190	0.	1		2200	265	0.
1		0320	41	0.	1		0935	116	0.	1		1550	191	0.	1		2205	266	0.
1		0325	42	0.	1		0940	117	0.	1		1555	192	0.	1		2210	267	0.
1		0330	43	0.	1		0945	118	0.	1		1600	193	0.	1		2215	268	0.
1		0335	44	0.	1		0950	119	0.	1		1605	194	0.	1		2220	269	0.
1		0340	45	0.	1		0955	120	0.	1		1610	195	0.	1		2225	270	0.
1		0345	46	0.	1		1000	121	0.	1		1615	196	0.	1		2230	271	0.
1		0350	47	0.	1		1005	122	0.	1		1620	197	0.	1		2235	272	0.
1		0355	48	0.	1		1010	123	0.	1		1625	198	0.	1		2240	273	0.
1		0400	49	0.	1		1015	124	0.	1		1630	199	0.	1		2245	274	0.
1		0405	50	0.	1		1020	125	0.	1		1635	200	0.	1		2250	275	0.
1		0410	51	0.	1		1025	126	0.	1		1640	201	0.	1		2255	276	0.
1		0415	52	0.	1		1030	127	0.	1		1645	202	0.	1		2300	277	0.
1		0420	53	0.	1		1035	128	0.	1		1650	203	0.	1		2305	278	0.
1		0425	54	0.	1		1040	129	0.	1		1655	204	0.	1		2310	279	0.
1		0430	55	0.	1		1045	130	0.	1		1700	205	0.	1		2315	280	0.
1		0435	56	0.	1		1050	131	0.	1		1705	206	0.	1		2320	281	0.
1		0440	57	0.	1		1055	132	0.	1		1710	207	0.	1		2325	282	0.
1		0445	58	0.	1		1100	133	0.	1		1715	208	0.	1		2330	283	0.
1		0450	59	0.	1		1105	134	0.	1		1720	209	0.	1		2335	284	0.
1		0455	60	0.	1		1110	135	0.	1		1725	210	0.	1		2340	285	0.
1		0500	61	0.	1		1115	136	0.	1		1730	211	0.	1		2345	286	0.
1		0505	62	0.	1		1120	137	0.	1		1735	212	0.	1		2350	287	0.
1		0510	63	0.	1		1125	138	0.	1		1740	213	0.	1		2355	288	0.
1		0515	64	0.	1		1130	139	0.	1		1745	214	0.	2		0000	289	0.
1		0520	65	0.	1		1135	140	0.	1		1750	215	0.	2		0005	290	0.
1		0525	66	0.	1		1140	141	0.	1		1755	216	0.	2		0010	291	0.
1		0530	67	0.	1		1145	142	0.	1		1800	217	0.	2		0015	292	0.
1		0535	68	0.	1		1150	143	0.	1		1805	218	0.	2		0020	293	0.
1		0540	69	0.	1		1155	144	0.	1		1810	219	0.	2		0025	294	0.
1		0545	70	0.	1		1200	145	0.	1		1815	220	0.	2		0030	295	0.
1		0550	71	0.	1		1205	146	0.	1		1820	221	0.	2		0035	296	0.
1		0555	72	0.	1		1210	147	0.	1		1825	222	0.	2		0040	297	0.
1		0600	73	0.	1		1215	148	0.	1		1830	223	0.	2		0045	298	0.
1		0605	74	0.	1		1220	149	0.	1		1835	224	0.	2		0050	299	0.
1		0610	75	0.	1		1225	150	0.	1		1840	225	0.	2		0055	300	0.

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
0.	12.00	(CFS) 0.	0.	0.	0.
		(INCHES) .001	.001	.001	.001
		(AC-FT) 0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

INTERPOLATED HYDROGRAPH AT B4aDIV

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	6.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	5.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	4.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	4.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	3.	1		1905	230	0.

1	0025	6	0.	*	1	0640	81	0.	*	1	1255	156	3.	*	1	1910	231	0.
1	0030	7	0.	*	1	0645	82	0.	*	1	1300	157	2.	*	1	1915	232	0.
1	0035	8	0.	*	1	0650	83	0.	*	1	1305	158	2.	*	1	1920	233	0.
1	0040	9	0.	*	1	0655	84	0.	*	1	1310	159	2.	*	1	1925	234	0.
1	0045	10	0.	*	1	0700	85	0.	*	1	1315	160	2.	*	1	1930	235	0.
1	0050	11	0.	*	1	0705	86	0.	*	1	1320	161	1.	*	1	1935	236	0.
1	0055	12	0.	*	1	0710	87	0.	*	1	1325	162	1.	*	1	1940	237	0.
1	0100	13	0.	*	1	0715	88	0.	*	1	1330	163	1.	*	1	1945	238	0.
1	0105	14	0.	*	1	0720	89	0.	*	1	1335	164	1.	*	1	1950	239	0.
1	0110	15	0.	*	1	0725	90	0.	*	1	1340	165	1.	*	1	1955	240	0.
1	0115	16	0.	*	1	0730	91	0.	*	1	1345	166	1.	*	1	2000	241	0.
1	0120	17	0.	*	1	0735	92	0.	*	1	1350	167	1.	*	1	2005	242	0.
1	0125	18	0.	*	1	0740	93	0.	*	1	1355	168	1.	*	1	2010	243	0.
1	0130	19	0.	*	1	0745	94	0.	*	1	1400	169	1.	*	1	2015	244	0.
1	0135	20	0.	*	1	0750	95	0.	*	1	1405	170	1.	*	1	2020	245	0.
1	0140	21	0.	*	1	0755	96	0.	*	1	1410	171	1.	*	1	2025	246	0.
1	0145	22	0.	*	1	0800	97	0.	*	1	1415	172	0.	*	1	2030	247	0.
1	0150	23	0.	*	1	0805	98	0.	*	1	1420	173	0.	*	1	2035	248	0.
1	0155	24	0.	*	1	0810	99	0.	*	1	1425	174	0.	*	1	2040	249	0.
1	0200	25	0.	*	1	0815	100	0.	*	1	1430	175	0.	*	1	2045	250	0.
1	0205	26	0.	*	1	0820	101	0.	*	1	1435	176	0.	*	1	2050	251	0.
1	0210	27	0.	*	1	0825	102	0.	*	1	1440	177	0.	*	1	2055	252	0.
1	0215	28	0.	*	1	0830	103	0.	*	1	1445	178	0.	*	1	2100	253	0.
1	0220	29	0.	*	1	0835	104	0.	*	1	1450	179	0.	*	1	2105	254	0.
1	0225	30	0.	*	1	0840	105	0.	*	1	1455	180	0.	*	1	2110	255	0.
1	0230	31	0.	*	1	0845	106	0.	*	1	1500	181	0.	*	1	2115	256	0.
1	0235	32	0.	*	1	0850	107	0.	*	1	1505	182	0.	*	1	2120	257	0.
1	0240	33	0.	*	1	0855	108	0.	*	1	1510	183	0.	*	1	2125	258	0.
1	0245	34	0.	*	1	0900	109	0.	*	1	1515	184	0.	*	1	2130	259	0.
1	0250	35	0.	*	1	0905	110	0.	*	1	1520	185	0.	*	1	2135	260	0.
1	0255	36	0.	*	1	0910	111	0.	*	1	1525	186	0.	*	1	2140	261	0.
1	0300	37	0.	*	1	0915	112	0.	*	1	1530	187	0.	*	1	2145	262	0.
1	0305	38	0.	*	1	0920	113	0.	*	1	1535	188	0.	*	1	2150	263	0.
1	0310	39	0.	*	1	0925	114	0.	*	1	1540	189	0.	*	1	2155	264	0.
1	0315	40	0.	*	1	0930	115	0.	*	1	1545	190	0.	*	1	2200	265	0.
1	0320	41	0.	*	1	0935	116	0.	*	1	1550	191	0.	*	1	2205	266	0.
1	0325	42	0.	*	1	0940	117	0.	*	1	1555	192	0.	*	1	2210	267	0.
1	0330	43	0.	*	1	0945	118	0.	*	1	1600	193	0.	*	1	2215	268	0.
1	0335	44	0.	*	1	0950	119	0.	*	1	1605	194	0.	*	1	2220	269	0.
1	0340	45	0.	*	1	0955	120	0.	*	1	1610	195	0.	*	1	2225	270	0.
1	0345	46	0.	*	1	1000	121	0.	*	1	1615	196	0.	*	1	2230	271	0.
1	0350	47	0.	*	1	1005	122	0.	*	1	1620	197	0.	*	1	2235	272	0.
1	0355	48	0.	*	1	1010	123	0.	*	1	1625	198	0.	*	1	2240	273	0.
1	0400	49	0.	*	1	1015	124	0.	*	1	1630	199	0.	*	1	2245	274	0.
1	0405	50	0.	*	1	1020	125	0.	*	1	1635	200	0.	*	1	2250	275	0.
1	0410	51	0.	*	1	1025	126	0.	*	1	1640	201	0.	*	1	2255	276	0.
1	0415	52	0.	*	1	1030	127	0.	*	1	1645	202	0.	*	1	2300	277	0.
1	0420	53	0.	*	1	1035	128	0.	*	1	1650	203	0.	*	1	2305	278	0.
1	0425	54	0.	*	1	1040	129	1.	*	1	1655	204	0.	*	1	2310	279	0.
1	0430	55	0.	*	1	1045	130	1.	*	1	1700	205	0.	*	1	2315	280	0.
1	0435	56	0.	*	1	1050	131	1.	*	1	1705	206	0.	*	1	2320	281	0.
1	0440	57	0.	*	1	1055	132	1.	*	1	1710	207	0.	*	1	2325	282	0.
1	0445	58	0.	*	1	1100	133	1.	*	1	1715	208	0.	*	1	2330	283	0.
1	0450	59	0.	*	1	1105	134	1.	*	1	1720	209	0.	*	1	2335	284	0.
1	0455	60	0.	*	1	1110	135	1.	*	1	1725	210	0.	*	1	2340	285	0.
1	0500	61	0.	*	1	1115	136	1.	*	1	1730	211	0.	*	1	2345	286	0.
1	0505	62	0.	*	1	1120	137	1.	*	1	1735	212	0.	*	1	2350	287	0.
1	0510	63	0.	*	1	1125	138	1.	*	1	1740	213	0.	*	1	2355	288	0.
1	0515	64	0.	*	1	1130	139	1.	*	1	1745	214	0.	*	2	0000	289	0.
1	0520	65	0.	*	1	1135	140	1.	*	1	1750	215	0.	*	2	0005	290	0.
1	0525	66	0.	*	1	1140	141	2.	*	1	1755	216	0.	*	2	0010	291	0.
1	0530	67	0.	*	1	1145	142	3.	*	1	1800	217	0.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	6.	*	1	1805	218	0.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	10.	*	1	1810	219	0.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	13.	*	1	1815	220	0.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	13.	*	1	1820	221	0.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	11.	*	1	1825	222	0.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	10.	*	1	1830	223	0.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	8.	*	1	1835	224	0.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	7.	*	1	1840	225	0.	*	2	0055	300	0.

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 13.	12.00		2.	1.	1.	1.
		(INCHES)	.883	1.114	1.116	1.116
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

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258 KK

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* RZ4_P *
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Route Hydrograph Through Basin 24 Pipe

HYDROGRAPH ROUTING DATA

260 RK

KINEMATIC WAVE STREAM ROUTING

L	800.	CHANNEL LENGTH
S	.0140	SLOPE
N	.015	CHANNEL ROUGHNESS COEFFICIENT
CA	.00	CONTRIBUTING AREA
SHAPE	CIRC	CHANNEL SHAPE
WD	4.50	BOTTOM WIDTH OR DIAMETER
Z	.00	SIDE SLOPE
NDXMIN	2	MINIMUM NUMBER OF DX INTERVALS

***

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT	DX	PEAK	TIME TO	VOLUME	MAXIMUM

			(MIN)	(FT)	(CFS)	PEAK (MIN)	(IN)	CELERITY (FPS)
MAIN	8.15	1.25	.45	266.67	13.16	721.34	1.12	11.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1265E+01 EXCESS= .0000E+00 OUTFLOW= .1265E+01 BASIN STORAGE= .7137E-04 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	8.15	1.25	5.00	13.14	725.00	1.12
***	***	***	***	***		

HYDROGRAPH AT STATION R24_P
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)				
+ 13.	12.08		2.	1.	1.	1.
		(INCHES)	.887	1.118	1.120	1.120
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	8.15	1.25	.47	266.67	12.77	721.29	1.09	11.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1230E+01 EXCESS= .0000E+00 OUTFLOW= .1230E+01 BASIN STORAGE= .6904E-04 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	8.15	1.25	5.00	12.76	725.00	1.09
***	***	***	***	***		

HYOROGRAPH AT STATION R24_P
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)				
+ 13.	12.08		2.	1.	1.	1.
		(INCHES)	.860	1.087	1.089	1.089
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION= 1

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

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COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	8.15	1.25	.45	266.67	12.58	720.94	1.07	11.11

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1213E+01 EXCESS= .0000E+00 OUTFLOW= .1213E+01 BASIN STORAGE= .6705E-04 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	8.15	1.25	5.00		12.57	725.00	1.07
***	***	***	***	***			

HYDROGRAPH AT STATION R24_P
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)	2.	1.	1.	1.
+ 13.	12.08	(INCHES)	.847	1.071	1.073	1.073
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	8.15	1.25	.47	266.67	12.39	721.17	1.06	11.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1195E+01 EXCESS= .0000E+00 OUTFLOW= .1195E+01 BASIN STORAGE= .6644E-04 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	8.15	1.25	5.00		12.38	725.00	1.06
***	***	***	***	***			

HYDROGRAPH AT STATION R24_P
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)	2.	1.	1.	1.
+ 12.	12.08	(INCHES)	.834	1.056	1.058	1.058
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	8.15	1.25	.57	266.67	12.25	721.37	1.05	11.05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1183E+01 EXCESS= .0000E+00 OUTFLOW= .1183E+01 BASIN STORAGE= .6800E-04 PERCENT ERROR= .0

INTERPOLATEO TO SPECIFIED COMPUTATION INTERVAL

MAIN	8.15	1.25	5.00		12.24	725.00	1.05
***	***	***	***	***			

HYDROGRAPH AT STATION R24_P
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)	2.	1.	1.	1.
+ 12.	12.08	(INCHES)	.825	1.045	1.047	1.047
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

****

INTERPOLATED HYDROGRAPH AT R24_P

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	6.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	5.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	4.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	4.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	3.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	3.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	2.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	2.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	2.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	2.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	1.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	1.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	1.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	1.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	1.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	1.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	1.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	1.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	1.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	1.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	1.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	1.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	0.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	0.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	0.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	0.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	0.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	0.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	0.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	0.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	0.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	0.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	0.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	0.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	0.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	0.	1		2140	261	0.
1		0300	37	0.	1		0915	112	0.	1		1530	187	0.	1		2145	262	0.
1		0305	38	0.	1		0920	113	0.	1		1535	188	0.	1		2150	263	0.
1		0310	39	0.	1		0925	114	0.	1		1540	189	0.	1		2155	264	0.
1		0315	40	0.	1		0930	115	0.	1		1545	190	0.	1		2200	265	0.
1		0320	41	0.	1		0935	116	0.	1		1550	191	0.	1		2205	266	0.
1		0325	42	0.	1		0940	117	0.	1		1555	192	0.	1		2210	267	0.
1		0330	43	0.	1		0945	118	0.	1		1600	193	0.	1		2215	268	0.
1		0335	44	0.	1		0950	119	0.	1		1605	194	0.	1		2220	269	0.
1		0340	45	0.	1		0955	120	0.	1		1610	195	0.	1		2225	270	0.
1		0345	46	0.	1		1000	121	0.	1		1615	196	0.	1		2230	271	0.
1		0350	47	0.	1		1005	122	0.	1		1620	197	0.	1		2235	272	0.
1		0355	48	0.	1		1010	123	0.	1		1625	198	0.	1		2240	273	0.
1		0400	49	0.	1		1015	124	0.	1		1630	199	0.	1		2245	274	0.
1		0405	50	0.	1		1020	125	0.	1		1635	200	0.	1		2250	275	0.
1		0410	51	0.	1		1025	126	0.	1		1640	201	0.	1		2255	276	0.
1		0415	52	0.	1		1030	127	0.	1		1645	202	0.	1		2300	277	0.
1		0420	53	0.	1		1035	128	0.	1		1650	203	0.	1		2305	278	0.
1		0425	54	0.	1		1040	129	0.	1		1655	204	0.	1		2310	279	0.
1		0430	55	0.	1		1045	130	1.	1		1700	205	0.	1		2315	280	0.
1		0435	56	0.	1		1050	131	1.	1		1705	206	0.	1		2320	281	0.
1		0440	57	0.	1		1055	132	1.	1		1710	207	0.	1		2325	282	0.
1		0445	58	0.	1		1100	133	1.	1		1715	208	0.	1		2330	283	0.
1		0450	59	0.	1		1105	134	1.	1		1720	209	0.	1		2335	284	0.
1		0455	60	0.	1		1110	135	1.	1		1725	210	0.	1		2340	285	0.
1		0500	61	0.	1		1115	136	1.	1		1730	211	0.	1		2345	286	0.
1		0505	62	0.	1		1120	137	1.	1		1735	212	0.	1		2350	287	0.
1		0510	63	0.	1		1125	138	1.	1		1740	213	0.	1		2355	288	0.
1		0515	64	0.	1		1130	139	1.	1		1745	214	0.	2		0000	289	0.
1		0520	65	0.	1		1135	140	1.	1		1750	215	0.	2		0005	290	0.
1		0525	66	0.	1		1140	141	2.	1		1755	216	0.	2		0010	291	0.
1		0530	67	0.	1		1145	142	3.	1		1800	217	0.	2		0015	292	0.
1		0535	68	0.	1		1150	143	5.	1		1805	218	0.	2		0020	293	0.
1		0540	69	0.	1		1155	144	9.	1		1810	219	0.	2		0025	294	0.
1		0545	70	0.	1		1200	145	13.	1		1815	220	0.	2		0030	295	0.
1		0550	71	0.	1		1205	146	13.	1		1820	221	0.	2		0035	296	0.
1		0555	72	0.	1		1210	147	12.	1		1825	222	0.	2		0040	297	0.
1		0600	73	0.	1		1215	148	10.	1		1830	223	0.	2		0045	298	0.
1		0605	74	0.	1		1220	149	8.	1		1835	224	0.	2		0050	299	0.
1		0610	75	0.	1		1225	150	7.	1		1840	225	0.	2		0055	300	0.

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)			
13.	12.08	2.	1.	1.	1.
		(INCHES) .884	1.114	1.116	1.116
		(AC-FT) 1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

261 KK R24_O

Route Hydrograph Through Basin 24 Overland

HYDROGRAPH ROUTING DATA

263 RK KINEMATIC WAVE STREAM ROUTING

L	1506.	CHANNEL LENGTH
S	.0190	SLOPE
N	.030	CHANNEL ROUGHNESS COEFFICIENT
CA	.00	CONTRIBUTING AREA

SHAPE	TRAP	CHANNEL SHAPE
WD	10.00	BOTTOM WIDTH OR DIAMETER
Z	12.00	SIDE SLOPE
NDXMIN	2	MINIMUM NUMBER OF DX INTERVALS

***

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.67	1.35	2.29	502.00	13.03	729.08	1.12	3.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1266E+01 EXCESS= .0000E+00 OUTFLOW= .1265E+01 BASIN STORAGE= .1105E-02 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.67	1.35	5.00	12.82	730.00	1.12
***	***	***	***	***		

HYDROGRAPH AT STATION R24_O
TRANSPOSITION AREA .0 SQ MI

	PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)	(CFS)			
+	13.	12.17	2.	1.	1.	1.
			(INCHES) .887	1.117	1.118	1.118
			(AC-FT) 1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.67	1.35	2.23	502.00	12.61	727.93	1.09	3.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1231E+01 EXCESS= .0000E+00 OUTFLOW= .1230E+01 BASIN STORAGE= .1056E-02 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.67	1.35	5.00	12.53	730.00	1.09
***	***	***	***	***		

HYDROGRAPH AT STATION R24_O
TRANSPOSITION AREA 14.0 SQ MI

	PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)	(CFS)			
+	13.	12.17	2.	1.	1.	1.
			(INCHES) .861	1.087	1.088	1.088
			(AC-FT) 1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.67	1.35	2.33	502.00	12.46	729.11	1.07	3.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1213E+01 EXCESS= .0000E+00 OUTFLOW= .1213E+01 BASIN STORAGE= .1031E-02 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.67	1.35	5.00	12.27	730.00	1.07
***	***	***	***	***		

HYDROGRAPH AT STATION R24_O
TRANSPOSITION AREA 24.0 SQ MI

	PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)	(CFS)			
+	12.	12.17	2.	1.	1.	1.
			(INCHES) .847	1.071	1.072	1.072
			(AC-FT) 1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT	DX	PEAK	TIME TO PEAK	VOLUME	MAXIMUM CELERITY

		(MIN)	(FT)	(CFS)	(MIN)	(IN)	(FPS)
MAIN	1.67	1.35	2.32	502.00	12.24	729.87	1.06	3.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1196E+01 EXCESS= .0000E+00 OUTFLOW= .1196E+01 BASIN STORAGE= .8626E-03 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.67	1.35	5.00		12.21	730.00	1.06
***	***	***	***		***		

HYDROGRAPH AT STATION R24_O
TRANSPOSITION AREA 36.5 SQ MI

	PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR	
+	(CFS)	(HR)	(CFS)				
+	12.	12.17	2.	1.	1.	1.	
			(INCHES) .835	1.057	1.058	1.058	
			(AC-FT) 1.	1.	1.	1.	

CUMULATIVE AREA = .02 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.67	1.35	2.31	502.00	12.08	727.97	1.05	3.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1184E+01 EXCESS= .0000E+00 OUTFLOW= .1183E+01 BASIN STORAGE= .9888E-03 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.67	1.35	5.00		12.00	730.00	1.05
***	***	***	***		***		

HYDROGRAPH AT STATION R24_O
TRANSPOSITION AREA 50.0 SQ MI

	PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR	
+	(CFS)	(HR)	(CFS)				
+	12.	12.17	2.	1.	1.	1.	
			(INCHES) .825	1.045	1.046	1.046	
			(AC-FT) 1.	1.	1.	1.	

CUMULATIVE AREA = .02 SQ MI

INTERPOLATED HYDROGRAPH AT R24_O

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	7.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	6.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	5.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	5.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	4.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	3.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	3.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	3.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	2.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	2.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	2.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	2.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	1.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	1.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	1.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	1.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	1.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	1.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	1.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	1.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	1.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	1.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	1.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	1.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	0.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	0.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	0.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	0.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	0.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	0.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	0.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	0.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	0.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	0.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	0.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	0.	1		2140	261	0.
1		0300	37	0.	1		0915	112	0.	1		1530	187	0.	1		2145	262	0.
1		0305	38	0.	1		0920	113	0.	1		1535	188	0.	1		2150	263	0.
1		0310	39	0.	1		0925	114	0.	1		1540	189	0.	1		2155	264	0.
1		0315	40	0.	1		0930	115	0.	1		1545	190	0.	1		2200	265	0.
1		0320	41	0.	1		0935	116	0.	1		1550	191	0.	1		2205	266	0.
1		0325	42	0.	1		0940	117	0.	1		1555	192	0.	1		2210	267	0.
1		0330	43	0.	1		0945	118	0.	1		1600	193	0.	1		2215	268	0.

1	0335	44	0.	*	1	0950	119	0.	*	1	1605	194	0.	*	1	2220	269	0.
1	0340	45	0.	*	1	0955	120	0.	*	1	1610	195	0.	*	1	2225	270	0.
1	0345	46	0.	*	1	1000	121	0.	*	1	1615	196	0.	*	1	2230	271	0.
1	0350	47	0.	*	1	1005	122	0.	*	1	1620	197	0.	*	1	2235	272	0.
1	0355	48	0.	*	1	1010	123	0.	*	1	1625	198	0.	*	1	2240	273	0.
1	0400	49	0.	*	1	1015	124	0.	*	1	1630	199	0.	*	1	2245	274	0.
1	0405	50	0.	*	1	1020	125	0.	*	1	1635	200	0.	*	1	2250	275	0.
1	0410	51	0.	*	1	1025	126	0.	*	1	1640	201	0.	*	1	2255	276	0.
1	0415	52	0.	*	1	1030	127	0.	*	1	1645	202	0.	*	1	2300	277	0.
1	0420	53	0.	*	1	1035	128	0.	*	1	1650	203	0.	*	1	2305	278	0.
1	0425	54	0.	*	1	1040	129	0.	*	1	1655	204	0.	*	1	2310	279	0.
1	0430	55	0.	*	1	1045	130	0.	*	1	1700	205	0.	*	1	2315	280	0.
1	0435	56	0.	*	1	1050	131	0.	*	1	1705	206	0.	*	1	2320	281	0.
1	0440	57	0.	*	1	1055	132	1.	*	1	1710	207	0.	*	1	2325	282	0.
1	0445	58	0.	*	1	1100	133	1.	*	1	1715	208	0.	*	1	2330	283	0.
1	0450	59	0.	*	1	1105	134	1.	*	1	1720	209	0.	*	1	2335	284	0.
1	0455	60	0.	*	1	1110	135	1.	*	1	1725	210	0.	*	1	2340	285	0.
1	0500	61	0.	*	1	1115	136	1.	*	1	1730	211	0.	*	1	2345	286	0.
1	0505	62	0.	*	1	1120	137	1.	*	1	1735	212	0.	*	1	2350	287	0.
1	0510	63	0.	*	1	1125	138	1.	*	1	1740	213	0.	*	1	2355	288	0.
1	0515	64	0.	*	1	1130	139	1.	*	1	1745	214	0.	*	2	0000	289	0.
1	0520	65	0.	*	1	1135	140	1.	*	1	1750	215	0.	*	2	0005	290	0.
1	0525	66	0.	*	1	1140	141	1.	*	1	1755	216	0.	*	2	0010	291	0.
1	0530	67	0.	*	1	1145	142	1.	*	1	1800	217	0.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	2.	*	1	1805	218	0.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	5.	*	1	1810	219	0.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	9.	*	1	1815	220	0.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	13.	*	1	1820	221	0.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	13.	*	1	1825	222	0.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	11.	*	1	1830	223	0.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	10.	*	1	1835	224	0.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	8.	*	1	1840	225	0.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
13.	12.17		2.	1.	1.	1.
		(INCHES)	.884	1.114	1.115	1.115
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

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          *             *
264 KK    *      DB24   *
          *             *
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Subbasin

SUBBASIN RUNOFF DATA

266 BA SUBBASIN CHARACTERISTICS

TAREA	.23	SUBBASIN AREA

267 LG GREEN AND AMPT LOSS RATE

STRTL	.06	STARTING LOSS
DTH	.07	MOISTURE DEFICIT
PSIF	.26	WETTING FRONT SUCTION
XKSAT	.01	HYDRAULIC CONDUCTIVITY
RTIMP	95.00	PERCENT IMPERVIOUS AREA

268 US SNYDER UNITGRAPH

TP	.15	LAG
CP	.67	PEAKING COEFFICIENT

SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

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UNIT HYDROGRAPH PARAMETERS

CLARK TC= .21 HR, R= .08 HR
SNYDER TP= .15 HR, CP= .67

UNIT HYDROGRAPH
7 END-OF-PERIOD ORDINATES

220.	607.	586.	262.	82.	26.	8.

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HYDROGRAPH AT STATION DB24
TRANSPOSITION AREA .0 SQ MI

TOTAL RAINFALL = 1.99, TOTAL LOSS = .02, TOTAL EXCESS = 1.97

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
297.	12.00		35.	12.	12.	12.
		(INCHES)	1.400	1.968	1.970	1.970
		(AC-FT)	17.	24.	24.	24.

CUMULATIVE AREA = .23 SQ MI

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HYDROGRAPH AT STATION DB24
TRANSPOSITION AREA 14.0 SQ MI

TOTAL RAINFALL = 1.95, TOTAL LOSS = .02, TOTAL EXCESS = 1.93

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				

		(CFS)				
291.	12.00		34.	12.	12.	12.
		(INCHES)	1.371	1.928	1.930	1.930
		(AC-FT)	17.	24.	24.	24.

CUMULATIVE AREA = .23 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB24
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.93, TOTAL LOSS = .02, TOTAL EXCESS = 1.91

	PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)	(CFS)			
+	288.	12.00	34.	12.	11.	11.
			(INCHES) 1.357	1.908	1.910	1.910
			(AC-FT) 17.	24.	24.	24.

CUMULATIVE AREA = .23 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB24
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.91, TOTAL LOSS = .02, TOTAL EXCESS = 1.89

	PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)	(CFS)			
+	285.	12.00	33.	12.	11.	11.
			(INCHES) 1.343	1.889	1.890	1.890
			(AC-FT) 17.	23.	23.	23.

CUMULATIVE AREA = .23 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB24
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.90, TOTAL LOSS = .02, TOTAL EXCESS = 1.88

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)			
283.	12.00	33.	12.	11.	11.
		(INCHES) 1.333	1.875	1.876	1.876
		(AC-FT) 16.	23.	23.	23.

CUMULATIVE AREA = .23 SQ MI

INTERPOLATED HYDROGRAPH AT DB24

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	5.	1		1230	151	39.	1		1845	226	5.
1		0005	2	0.	1		0620	77	5.	1		1235	152	33.	1		1850	227	5.
1		0010	3	1.	1		0625	78	5.	1		1240	153	28.	1		1855	228	5.
1		0015	4	2.	1		0630	79	5.	1		1245	154	25.	1		1900	229	5.
1		0020	5	3.	1		0635	80	5.	1		1250	155	24.	1		1905	230	5.
1		0025	6	3.	1		0640	81	5.	1		1255	156	22.	1		1910	231	4.
1		0030	7	3.	1		0645	82	6.	1		1300	157	21.	1		1915	232	4.
1		0035	8	3.	1		0650	83	6.	1		1305	158	20.	1		1920	233	4.
1		0040	9	3.	1		0655	84	6.	1		1310	159	18.	1		1925	234	4.
1		0045	10	3.	1		0700	85	6.	1		1315	160	17.	1		1930	235	4.
1		0050	11	3.	1		0705	86	6.	1		1320	161	17.	1		1935	236	4.
1		0055	12	3.	1		0710	87	6.	1		1325	162	16.	1		1940	237	4.
1		0100	13	3.	1		0715	88	6.	1		1330	163	15.	1		1945	238	4.
1		0105	14	3.	1		0720	89	6.	1		1335	164	15.	1		1950	239	4.
1		0110	15	3.	1		0725	90	6.	1		1340	165	14.	1		1955	240	4.
1		0115	16	3.	1		0730	91	6.	1		1345	166	13.	1		2000	241	4.
1		0120	17	3.	1		0735	92	6.	1		1350	167	13.	1		2005	242	4.
1		0125	18	3.	1		0740	93	6.	1		1355	168	12.	1		2010	243	4.
1		0130	19	3.	1		0745	94	6.	1		1400	169	12.	1		2015	244	4.
1		0135	20	3.	1		0750	95	6.	1		1405	170	11.	1		2020	245	4.
1		0140	21	3.	1		0755	96	6.	1		1410	171	11.	1		2025	246	4.
1		0145	22	3.	1		0800	97	6.	1		1415	172	11.	1		2030	247	4.
1		0150	23	3.	1		0805	98	6.	1		1420	173	11.	1		2035	248	4.
1		0155	24	3.	1		0810	99	7.	1		1425	174	10.	1		2040	249	4.
1		0200	25	3.	1		0815	100	7.	1		1430	175	10.	1		2045	250	4.
1		0205	26	3.	1		0820	101	7.	1		1435	176	10.	1		2050	251	4.
1		0210	27	3.	1		0825	102	7.	1		1440	177	10.	1		2055	252	4.
1		0215	28	3.	1		0830	103	7.	1		1445	178	10.	1		2100	253	4.
1		0220	29	3.	1		0835	104	8.	1		1450	179	10.	1		2105	254	4.
1		0225	30	3.	1		0840	105	8.	1		1455	180	9.	1		2110	255	4.
1		0230	31	3.	1		0845	106	8.	1		1500	181	9.	1		2115	256	4.
1		0235	32	3.	1		0850	107	8.	1		1505	182	9.	1		2120	257	4.
1		0240	33	3.	1		0855	108	9.	1		1510	183	9.	1		2125	258	4.
1		0245	34	4.	1		0900	109	9.	1		1515	184	9.	1		2130	259	4.
1		0250	35	4.	1		0905	110	9.	1		1520	185	8.	1		2135	260	4.
1		0255	36	4.	1		0910	111	9.	1		1525	186	8.	1		2140	261	4.
1		0300	37	4.	1		0915	112	9.	1		1530	187	8.	1		2145	262	4.
1		0305	38	4.	1		0920	113	9.	1		1535	188	8.	1		2150	263	4.
1		0310	39	4.	1		0925	114	9.	1		1540	189	8.	1		2155	264	3.
1		0315	40	4.	1		0930	115	9.	1		1545	190	8.	1		2200	265	3.
1		0320	41	4.	1		0935	116	9.	1		1550	191	7.	1		2205	266	3.
1		0325	42	4.	1		0940	117	9.	1		1555	192	7.	1		2210	267	3.
1		0330	43	4.	1		0945	118	10.	1		1600	193	7.	1		2215	268	3.
1		0335	44	4.	1		0950	119	10.	1		1605	194	7.	1		2220	269	3.

1	0340	45	4.	*	1	0955	120	10.	*	1	1610	195	7.	*	1	2225	270	3.
1	0345	46	4.	*	1	1000	121	11.	*	1	1615	196	7.	*	1	2230	271	3.
1	0350	47	4.	*	1	1005	122	11.	*	1	1620	197	7.	*	1	2235	272	3.
1	0355	48	4.	*	1	1010	123	12.	*	1	1625	198	6.	*	1	2240	273	3.
1	0400	49	4.	*	1	1015	124	12.	*	1	1630	199	6.	*	1	2245	274	3.
1	0405	50	4.	*	1	1020	125	13.	*	1	1635	200	6.	*	1	2250	275	3.
1	0410	51	4.	*	1	1025	126	13.	*	1	1640	201	6.	*	1	2255	276	3.
1	0415	52	4.	*	1	1030	127	14.	*	1	1645	202	6.	*	1	2300	277	3.
1	0420	53	4.	*	1	1035	128	15.	*	1	1650	203	6.	*	1	2305	278	3.
1	0425	54	4.	*	1	1040	129	15.	*	1	1655	204	6.	*	1	2310	279	3.
1	0430	55	4.	*	1	1045	130	16.	*	1	1700	205	6.	*	1	2315	280	3.
1	0435	56	4.	*	1	1050	131	17.	*	1	1705	206	6.	*	1	2320	281	3.
1	0440	57	4.	*	1	1055	132	18.	*	1	1710	207	6.	*	1	2325	282	3.
1	0445	58	4.	*	1	1100	133	19.	*	1	1715	208	6.	*	1	2330	283	3.
1	0450	59	4.	*	1	1105	134	20.	*	1	1720	209	6.	*	1	2335	284	3.
1	0455	60	4.	*	1	1110	135	21.	*	1	1725	210	6.	*	1	2340	285	3.
1	0500	61	4.	*	1	1115	136	23.	*	1	1730	211	6.	*	1	2345	286	3.
1	0505	62	5.	*	1	1120	137	25.	*	1	1735	212	6.	*	1	2350	287	3.
1	0510	63	5.	*	1	1125	138	28.	*	1	1740	213	6.	*	1	2355	288	3.
1	0515	64	5.	*	1	1130	139	30.	*	1	1745	214	6.	*	2	0000	289	3.
1	0520	65	5.	*	1	1135	140	36.	*	1	1750	215	6.	*	2	0005	290	3.
1	0525	66	5.	*	1	1140	141	57.	*	1	1755	216	5.	*	2	0010	291	2.
1	0530	67	5.	*	1	1145	142	96.	*	1	1800	217	5.	*	2	0015	292	1.
1	0535	68	5.	*	1	1150	143	155.	*	1	1805	218	5.	*	2	0020	293	0.
1	0540	69	5.	*	1	1155	144	232.	*	1	1810	219	5.	*	2	0025	294	0.
1	0545	70	5.	*	1	1200	145	295.	*	1	1815	220	5.	*	2	0030	295	0.
1	0550	71	5.	*	1	1205	146	280.	*	1	1820	221	5.	*	2	0035	296	0.
1	0555	72	5.	*	1	1210	147	189.	*	1	1825	222	5.	*	2	0040	297	0.
1	0600	73	5.	*	1	1215	148	104.	*	1	1830	223	5.	*	2	0045	298	0.
1	0605	74	5.	*	1	1220	149	64.	*	1	1835	224	5.	*	2	0050	299	0.
1	0610	75	5.	*	1	1225	150	48.	*	1	1840	225	5.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 295.	12.00		35.	12.	12.	12.
		(INCHES)	1.387	1.951	1.953	1.953
		(AC-FT)	17.	24.	24.	24.

CUMULATIVE AREA = .23 SQ MI

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*             *
*             *
*     C24     *
*             *
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269 KK

Combine Hydrographs (Basin22, Basin 24a, Basin 24)

271 HC HYDROGRAPH COMBINATION
ICOMP 3 NUMBER OF HYDROGRAPHS TO COMBINE

*** *** *** *** ***

HYDROGRAPH AT STATION C24
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 480.	12.08		63.	21.	20.	20.
		(INCHES)	1.238	1.619	1.621	1.621
		(AC-FT)	31.	41.	41.	41.

CUMULATIVE AREA = .48 SQ MI

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HYDROGRAPH AT STATION C24
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 470.	12.08		62.	20.	20.	20.
		(INCHES)	1.209	1.583	1.585	1.585
		(AC-FT)	31.	40.	40.	40.

CUMULATIVE AREA = .48 SQ MI

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HYDROGRAPH AT STATION C24
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 465.	12.08		61.	20.	19.	19.
		(INCHES)	1.195	1.565	1.567	1.567
		(AC-FT)	30.	40.	40.	40.

CUMULATIVE AREA = .48 SQ MI

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HYDROGRAPH AT STATION C24
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
		(CFS)				
+ 460.	12.08		60.	20.	19.	19.
		(INCHES)	1.181	1.547	1.549	1.549
		(AC-FT)	30.	39.	39.	39.

CUMULATIVE AREA = .48 SQ MI

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HYDROGRAPH AT STATION C24
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
		(CFS)				
+ 456.	12.08		60.	20.	19.	19.
		(INCHES)	1.171	1.534	1.536	1.536
		(AC-FT)	30.	39.	39.	39.

CUMULATIVE AREA = .48 SQ MI

INTERPOLATED HYDROGRAPH AT C24

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	7.	1		1230	151	130.	1		1845	226	7.
1		0005	2	0.	1		0620	77	7.	1		1235	152	109.	1		1850	227	7.
1		0010	3	1.	1		0625	78	7.	1		1240	153	92.	1		1855	228	7.
1		0015	4	2.	1		0630	79	7.	1		1245	154	78.	1		1900	229	6.
1		0020	5	3.	1		0635	80	7.	1		1250	155	68.	1		1905	230	6.
1		0025	6	3.	1		0640	81	7.	1		1255	156	60.	1		1910	231	6.
1		0030	7	3.	1		0645	82	8.	1		1300	157	53.	1		1915	232	6.
1		0035	8	3.	1		0650	83	8.	1		1305	158	48.	1		1920	233	6.
1		0040	9	4.	1		0655	84	8.	1		1310	159	43.	1		1925	234	6.
1		0045	10	4.	1		0700	85	8.	1		1315	160	39.	1		1930	235	6.
1		0050	11	4.	1		0705	86	8.	1		1320	161	35.	1		1935	236	6.
1		0055	12	4.	1		0710	87	8.	1		1325	162	33.	1		1940	237	6.
1		0100	13	4.	1		0715	88	8.	1		1330	163	30.	1		1945	238	6.
1		0105	14	4.	1		0720	89	8.	1		1335	164	28.	1		1950	239	6.
1		0110	15	4.	1		0725	90	8.	1		1340	165	26.	1		1955	240	6.
1		0115	16	4.	1		0730	91	8.	1		1345	166	24.	1		2000	241	5.
1		0120	17	4.	1		0735	92	8.	1		1350	167	22.	1		2005	242	5.
1		0125	18	4.	1		0740	93	8.	1		1355	168	21.	1		2010	243	5.
1		0130	19	4.	1		0745	94	8.	1		1400	169	20.	1		2015	244	5.
1		0135	20	4.	1		0750	95	8.	1		1405	170	19.	1		2020	245	5.
1		0140	21	4.	1		0755	96	8.	1		1410	171	18.	1		2025	246	5.
1		0145	22	4.	1		0800	97	9.	1		1415	172	17.	1		2030	247	5.
1		0150	23	4.	1		0805	98	9.	1		1420	173	16.	1		2035	248	5.
1		0155	24	4.	1		0810	99	9.	1		1425	174	16.	1		2040	249	5.
1		0200	25	5.	1		0815	100	9.	1		1430	175	15.	1		2045	250	5.
1		0205	26	5.	1		0820	101	9.	1		1435	176	15.	1		2050	251	5.
1		0210	27	5.	1		0825	102	9.	1		1440	177	14.	1		2055	252	5.
1		0215	28	5.	1		0830	103	10.	1		1445	178	14.	1		2100	253	5.
1		0220	29	5.	1		0835	104	10.	1		1450	179	14.	1		2105	254	5.
1		0225	30	5.	1		0840	105	10.	1		1455	180	14.	1		2110	255	5.
1		0230	31	5.	1		0845	106	11.	1		1500	181	13.	1		2115	256	5.
1		0235	32	5.	1		0850	107	11.	1		1505	182	13.	1		2120	257	5.
1		0240	33	5.	1		0855	108	11.	1		1510	183	13.	1		2125	258	5.
1		0245	34	5.	1		0900	109	12.	1		1515	184	12.	1		2130	259	5.
1		0250	35	5.	1		0905	110	12.	1		1520	185	12.	1		2135	260	5.
1		0255	36	5.	1		0910	111	12.	1		1525	186	12.	1		2140	261	5.
1		0300	37	5.	1		0915	112	12.	1		1530	187	11.	1		2145	262	5.
1		0305	38	5.	1		0920	113	13.	1		1535	188	11.	1		2150	263	5.
1		0310	39	5.	1		0925	114	13.	1		1540	189	11.	1		2155	264	5.
1		0315	40	5.	1		0930	115	13.	1		1545	190	11.	1		2200	265	5.
1		0320	41	5.	1		0935	116	13.	1		1550	191	11.	1		2205	266	5.
1		0325	42	5.	1		0940	117	13.	1		1555	192	10.	1		2210	267	5.
1		0330	43	5.	1		0945	118	13.	1		1600	193	10.	1		2215	268	5.
1		0335	44	5.	1		0950	119	14.	1		1605	194	10.	1		2220	269	5.
1		0340	45	5.	1		0955	120	14.	1		1610	195	10.	1		2225	270	5.
1		0345	46	5.	1		1000	121	14.	1		1615	196	9.	1		2230	271	5.
1		0350	47	5.	1		1005	122	15.	1		1620	197	9.	1		2235	272	5.
1		0355	48	5.	1		1010	123	16.	1		1625	198	9.	1		2240	273	5.
1		0400	49	5.	1		1015	124	16.	1		1630	199	9.	1		2245	274	5.
1		0405	50	5.	1		1020	125	17.	1		1635	200	9.	1		2250	275	5.
1		0410	51	5.	1		1025	126	18.	1		1640	201	9.	1		2255	276	5.
1		0415	52	6.	1		1030	127	18.	1		1645	202	9.	1		2300	277	5.
1		0420	53	6.	1		1035	128	19.	1		1650	203	9.	1		2305	278	5.
1		0425	54	6.	1		1040	129	20.	1		1655	204	9.	1		2310	279	5.
1		0430	55	6.	1		1045	130	21.	1		1700	205	8.	1		2315	280	5.
1		0435	56	6.	1		1050	131	22.	1		1705	206	8.	1		2320	281	5.
1		0440	57	6.	1		1055	132	24.	1		1710	207	8.	1		2325	282	5.
1		0445	58	6.	1		1100	133	25.	1		1715	208	8.	1		2330	283	4.
1		0450	59	6.	1		1105	134	27.	1		1720	209	8.	1		2335	284	4.
1		0455	60	6.	1		1110	135	30.	1		1725	210	8.	1		2340	285	5.
1		0500	61	6.	1		1115	136	33.	1		1730	211	8.	1		2345	286	5.
1		0505	62	6.	1		1120	137	36.	1		1735	212	8.	1		2350	287	4.
1		0510	63	6.	1		1125	138	40.	1		1740	213	8.	1		2355	288	4.
1		0515	64	6.	1		1130	139	45.	1		1745	214	8.	2		0000	289	4.
1		0520	65	6.	1		1135	140	54.	1		1750	215	8.	2		0005	290	4.
1		0525	66	6.	1		1140	141	80.	1		1755	216	8.	2		0010	291	3.
1		0530	67	7.	1		1145	142	135.	1		1800	217	7.	2		0015	292	2.
1		0535	68	7.	1		1150	143	224.	1		1805	218	7.	2		0020	293	1.
1		0540	69	7.	1		1155	144	347.	1		1810	219	7.	2		0025	294	1.
1		0545	70	7.	1		1200	145	462.	1		1815	220	7.	2		0030	295	1.
1		0550	71	7.	1		1205	146	474.	1		1820	221	7.	2		0035	296	1.
1		0555	72	7.	1		1210	147	374.	1		1825	222	7.	2		0040	297	0.
1		0600	73	7.	1		1215	148	261.	1		1830	223	7.	2		0045	298	0.
1		0605	74	7.	1		1220	149	195.	1		1835	224	7.	2		0050	299	0.
1		0610	75	7.	1		1225	150	157.	1		1840	225	7.	2		0055	300	0.

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+ 474.	12.08	(CFS)	63.	20.	20.	20.
		(INCHES)	1.222	1.600	1.602	1.602
		(AC-FT)	31.	41.	41.	41.

CUMULATIVE AREA = .48 SQ MI

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*     DR24a   *
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272 KK

Retrieve 24a diversion

274 DR RETRIEVE DIVERSION HYDROGRAPH
ISTAD B4aDIV DIVERSION HYDROGRAPH IDENTIFICATION

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HYDROGRAPH AT STATION DR24a
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+ 0.	12.00	(CFS)	0.	0.	0.	0.
		(INCHES)	.000	.000	.000	.000
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

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HYDROGRAPH AT STATION DR24a
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+ 0.	12.00	(CFS)	0.	0.	0.	0.
		(INCHES)	.000	.000	.000	.000
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

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HYDROGRAPH AT STATION DR24a
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+ 0.	12.00	(CFS)	0.	0.	0.	0.
		(INCHES)	.000	.000	.000	.000
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

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HYDROGRAPH AT STATION DR24a
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+ 0.	12.00	(CFS)	0.	0.	0.	0.
		(INCHES)	.000	.000	.000	.000
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

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HYDROGRAPH AT STATION DR24a
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+ 0.	12.00	(CFS)	0.	0.	0.	0.
		(INCHES)	.000	.000	.000	.000
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

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INTERPOLATED HYDROGRAPH AT DR24a

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DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	*	1		0615	76	0.	*	1		1230	151	0.	*	1		1845	226	0.
1		0005	2	0.	*	1		0620	77	0.	*	1		1235	152	0.	*	1		1850	227	0.
1		0010	3	0.	*	1		0625	78	0.	*	1		1240	153	0.	*	1		1855	228	0.
1		0015	4	0.	*	1		0630	79	0.	*	1		1245	154	0.	*	1		1900	229	0.
1		0020	5	0.	*	1		0635	80	0.	*	1		1250	155	0.	*	1		1905	230	0.
1		0025	6	0.	*	1		0640	81	0.	*	1		1255	156	0.	*	1		1910	231	0.
1		0030	7	0.	*	1		0645	82	0.	*	1		1300	157	0.	*	1		1915	232	0.
1		0035	8	0.	*	1		0650	83	0.	*	1		1305	158	0.	*	1		1920	233	0.
1		0040	9	0.	*	1		0655	84	0.	*	1		1310	159	0.	*	1		1925	234	0.
1		0045	10	0.	*	1		0700	85	0.	*	1		1315	160	0.	*	1		1930	235	0.
1		0050	11	0.	*	1		0705	86	0.	*	1		1320	161	0.	*	1		1935	236	0.
1		0055	12	0.	*	1		0710	87	0.	*	1		1325	162	0.	*	1		1940	237	0.
1		0100	13	0.	*	1		0715	88	0.	*	1		1330	163	0.	*	1		1945	238	0.
1		0105	14	0.	*	1		0720	89	0.	*	1		1335	164	0.	*	1		1950	239	0.
1		0110	15	0.	*	1		0725	90	0.	*	1		1340	165	0.	*	1		1955	240	0.
1		0115	16	0.	*	1		0730	91	0.	*	1		1345	166	0.	*	1		2000	241	0.
1		0120	17	0.	*	1		0735	92	0.	*	1		1350	167	0.	*	1		2005	242	0.
1		0125	18	0.	*	1		0740	93	0.	*	1		1355	168	0.	*	1		2010	243	0.
1		0130	19	0.	*	1		0745	94	0.	*	1		1400	169	0.	*	1		2015	244	0.
1		0135	20	0.	*	1		0750	95	0.	*	1		1405	170	0.	*	1		2020	245	0.
1		0140	21	0.	*	1		0755	96	0.	*	1		1410	171	0.	*	1		2025	246	0.
1		0145	22	0.	*	1		0800	97	0.	*	1		1415	172	0.	*	1		2030	247	0.
1		0150	23	0.	*	1		0805	98	0.	*	1		1420	173	0.	*	1		2035	248	0.
1		0155	24	0.	*	1		0810	99	0.	*	1		1425	174	0.	*	1		2040	249	0.
1		0200	25	0.	*	1		0815	100	0.	*	1		1430	175	0.	*	1		2045	250	0.
1		0205	26	0.	*	1		0820	101	0.	*	1		1435	176	0.	*	1		2050	251	0.
1		0210	27	0.	*	1		0825	102	0.	*	1		1440	177	0.	*	1		2055	252	0.
1		0215	28	0.	*	1		0830	103	0.	*	1		1445	178	0.	*	1		2100	253	0.
1		0220	29	0.	*	1		0835	104	0.	*	1		1450	179	0.	*	1		2105	254	0.
1		0225	30	0.	*	1		0840	105	0.	*	1		1455	180	0.	*	1		2110	255	0.
1		0230	31	0.	*	1		0845	106	0.	*	1		1500	181	0.	*	1		2115	256	0.
1		0235	32	0.	*	1		0850	107	0.	*	1		1505	182	0.	*	1		2120	257	0.
1		0240	33	0.	*	1		0855	108	0.	*	1		1510	183	0.	*	1		2125	258	0.
1		0245	34	0.	*	1		0900	109	0.	*	1		1515	184	0.	*	1		2130	259	0.
1		0250	35	0.	*	1		0905	110	0.	*	1		1520	185	0.	*	1		2135	260	0.
1		0255	36	0.	*	1		0910	111	0.	*	1		1525	186	0.	*	1		2140	261	0.
1		0300	37	0.	*	1		0915	112	0.	*	1		1530	187	0.	*	1		2145	262	0.
1		0305	38	0.	*	1		0920	113	0.	*	1		1535	188	0.	*	1		2150	263	0.
1		0310	39	0.	*	1		0925	114	0.	*	1		1540	189	0.	*	1		2155	264	0.
1		0315	40	0.	*	1		0930	115	0.	*	1		1545	190	0.	*	1		2200	265	0.
1		0320	41	0.	*	1		0935	116	0.	*	1		1550	191	0.	*	1		2205	266	0.
1		0325	42	0.	*	1		0940	117	0.	*	1		1555	192	0.	*	1		2210	267	0.
1		0330	43	0.	*	1		0945	118	0.	*	1		1600	193	0.	*	1		2215	268	0.
1		0335	44	0.	*	1		0950	119	0.	*	1		1605	194	0.	*	1		2220	269	0.
1		0340	45	0.	*	1		0955	120	0.	*	1		1610	195	0.	*	1		2225	270	0.
1		0345	46	0.	*	1		1000	121	0.	*	1		1615	196	0.	*	1		2230	271	0.
1		0350	47	0.	*	1		1005	122	0.	*	1		1620	197	0.	*	1		2235	272	0.
1		0355	48	0.	*	1		1010	123	0.	*	1		1625	198	0.	*	1		2240	273	0.
1		0400	49	0.	*	1		1015	124	0.	*	1		1630	199	0.	*	1		2245	274	0.
1		0405	50	0.	*	1		1020	125	0.	*	1		1635	200	0.	*	1		2250	275	0.
1		0410	51	0.	*	1		1025	126	0.	*	1		1640	201	0.	*	1		2255	276	0.
1		0415	52	0.	*	1		1030	127	0.	*	1		1645	202	0.	*	1		2300	277	0.
1		0420	53	0.	*	1		1035	128	0.	*	1		1650	203	0.	*	1		2305	278	0.
1		0425	54	0.	*	1		1040	129	0.	*	1		1655	204	0.	*	1		2310	279	0.
1		0430	55	0.	*	1		1045	130	0.	*	1		1700	205	0.	*	1		2315	280	0.
1		0435	56	0.	*	1		1050	131	0.	*	1		1705	206	0.	*	1		2320	281	0.
1		0440	57	0.	*	1		1055	132	0.	*	1		1710	207	0.	*	1		2325	282	0.
1		0445	58	0.	*	1		1100	133	0.	*	1		1715	208	0.	*	1		2330	283	0.
1		0450	59	0.	*	1		1105	134	0.	*	1		1720	209	0.	*	1		2335	284	0.
1		0455	60	0.	*	1		1110	135	0.	*	1		1725	210	0.	*	1		2340	285	0.
1		0500	61	0.	*	1		1115	136	0.	*	1		1730	211	0.	*	1		2345	286	0.
1		0505	62	0.	*	1		1120	137	0.	*	1		1735	212	0.	*	1		2350	287	0.
1		0510	63	0.	*	1		1125	138	0.	*	1		1740	213	0.	*	1		2355	288	0.
1		0515	64	0.	*	1		1130	139	0.	*	1		1745	214	0.	*	2		0000	289	0.
1		0520	65	0.	*	1		1135	140	0.	*	1		1750	215	0.	*	2		0005	290	0.
1		0525	66	0.	*	1		1140	141	0.	*	1		1755	216	0.	*	2		0010	291	0.
1		0530	67	0.	*	1		1145	142	0.	*	1		1800	217	0.	*	2		0015	292	0.
1		0535	68	0.	*	1		1150	143	0.	*	1		1805	218	0.	*	2		0020	293	0.
1		0540	69	0.	*	1		1155	144	0.	*	1		1810	219	0.	*	2		0025	294	0.
1		0545	70	0.	*	1		1200	145	0.	*	1		1815	220	0.	*	2		0030	295	0.
1		0550	71	0.	*	1		1205	146	0.	*	1		1820	221	0.	*	2		0035	296	0.
1		0555	72	0.	*	1		1210	147	0.	*	1		1825	222	0.	*	2		0040	297	0.
1		0600	73	0.	*	1		1215	148	0.	*	1		1830	223	0.	*	2		0045	298	0.
1		0605	74	0.	*	1		1220	149	0.	*	1		1835	224	0.	*	2		0050	299	0.
1		0610	75	0.	*	1		1225	150	0.	*	1		1840	225	0.	*	2		0055	300	0.

****

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+ 0.	12.00	(CFS)	0.	0.	0.	0.
		(INCHES)	.001	.001	.001	.001
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

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          ***************
          *             *
275 KK    *     R25_O   *
          *             *
          ***************
                    Route 24a diversion through Basin 25 overland

            HYDROGRAPH ROUTING DATA

 77 RK          KINEMATIC WAVE STREAM ROUTING
                        L       800.  CHANNEL LENGTH
                        S      .0150  SLOPE
                        N       .030  CHANNEL ROUGHNESS COEFFICIENT
                       CA        .00  CONTRIBUTING AREA
                    SHAPE       TRAP  CHANNEL SHAPE
                       WD      30.00  BOTTOM WIDTH OR DIAMETER
                        Z      10.00  SIDE SLOPE
                    NDXMIN          2  MINIMUM NUMBER OF DX INTERVALS
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COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.07	1.42	5.00	114.29	.01	755.40	.00	.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9043E-03 EXCESS= .0000E+00 OUTFLOW= .9284E-03 BASIN STORAGE= .1700E-04 PERCENT ERROR= -4.5

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.07	1.42	5.00	.01	755.00	.00

*** *** *** *** ***

HYDROGRAPH AT STATION R25_O
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	24.92-HR
0.	12.50	(CFS)	0.	0.	0.	0.
		(INCHES)	.001	.001	.001	.001
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.07	1.42	5.00	114.29	.01	754.76	.00	.37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8793E-03 EXCESS= .0000E+00 OUTFLOW= .9070E-03 BASIN STORAGE= .1585E-04 PERCENT ERROR= -5.0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.07	1.42	5.00	.01	755.00	.00

*** *** *** *** ***

HYDROGRAPH AT STATION R25_O
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	24.92-HR
0.	12.50	(CFS)	0.	0.	0.	0.
		(INCHES)	.001	.001	.001	.001
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.07	1.42	5.00	114.29	.01	753.47	.00	.37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8669E-03 EXCESS= .0000E+00 OUTFLOW= .8691E-03 BASIN STORAGE= .1601E-04 PERCENT ERROR= -2.1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.07	1.42	5.00	.01	755.00	.00

*** *** *** *** ***

HYDROGRAPH AT STATION R25_O
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	24.92-HR
0.	12.58	(CFS)	0.	0.	0.	0.
		(INCHES)	.001	.001	.001	.001
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.07	1.42	5.00	114.29	.01	754.05	.00	.37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8545E-03 EXCESS= .0000E+00 OUTFLOW= .8560E-03 BASIN STORAGE= .1499E-04 PERCENT ERROR= -1.9

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

	MAIN	1.07	1.42	5.00		.01	755.00	.00
	***	***	***	***	***			

HYDROGRAPH AT STATION R25_O
TRANSPOSITION AREA 36.5 SQ MI

	PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)				
			(CFS)			
+	0.	12.58	0.	0.	0.	0.
			(INCHES) .001	.001	.001	.001
			(AC-FT) 0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.07	1.42	5.00	114.29	.01	755.40	.00	.37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8458E-03 EXCESS= .0000E+00 OUTFLOW= .8745E-03 BASIN STORAGE= .1461E-04 PERCENT ERROR= -5.1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

	MAIN	1.07	1.42	5.00		.01	755.00	.00
	***	***	***	***	***			

HYDROGRAPH AT STATION R25_O
TRANSPOSITION AREA 50.0 SQ MI

	PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)				
			(CFS)			
+	0.	12.50	0.	0.	0.	0.
			(INCHES) .001	.001	.001	.001
			(AC-FT) 0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

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INTERPOLATED HYDROGRAPH AT R25_O

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DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	0.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	0.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	0.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	0.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	0.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	0.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	0.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	0.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	0.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	0.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	0.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	0.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	0.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	0.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	0.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	0.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	0.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	0.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	0.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	0.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	0.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	0.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	0.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	0.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	0.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	0.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	0.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	0.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	0.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	0.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	0.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	0.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	0.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	0.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	0.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	0.	1		2140	261	0.
1		0300	37	0.	1		0915	112	0.	1		1530	187	0.	1		2145	262	0.
1		0305	38	0.	1		0920	113	0.	1		1535	188	0.	1		2150	263	0.
1		0310	39	0.	1		0925	114	0.	1		1540	189	0.	1		2155	264	0.
1		0315	40	0.	1		0930	115	0.	1		1545	190	0.	1		2200	265	0.
1		0320	41	0.	1		0935	116	0.	1		1550	191	0.	1		2205	266	0.
1		0325	42	0.	1		0940	117	0.	1		1555	192	0.	1		2210	267	0.
1		0330	43	0.	1		0945	118	0.	1		1600	193	0.	1		2215	268	0.
1		0335	44	0.	1		0950	119	0.	1		1605	194	0.	1		2220	269	0.
1		0340	45	0.	1		0955	120	0.	1		1610	195	0.	1		2225	270	0.
1		0345	46	0.	1		1000	121	0.	1		1615	196	0.	1		2230	271	0.
1		0350	47	0.	1		1005	122	0.	1		1620	197	0.	1		2235	272	0.

1	0355	48	0.	*	1	1010	123	0.	*	1	1625	198	0.	*	1	2240	273	0.
1	0400	49	0.	*	1	1015	124	0.	*	1	1630	199	0.	*	1	2245	274	0.
1	0405	50	0.	*	1	1020	125	0.	*	1	1635	200	0.	*	1	2250	275	0.
1	0410	51	0.	*	1	1025	126	0.	*	1	1640	201	0.	*	1	2255	276	0.
1	0415	52	0.	*	1	1030	127	0.	*	1	1645	202	0.	*	1	2300	277	0.
1	0420	53	0.	*	1	1035	128	0.	*	1	1650	203	0.	*	1	2305	278	0.
1	0425	54	0.	*	1	1040	129	0.	*	1	1655	204	0.	*	1	2310	279	0.
1	0430	55	0.	*	1	1045	130	0.	*	1	1700	205	0.	*	1	2315	280	0.
1	0435	56	0.	*	1	1050	131	0.	*	1	1705	206	0.	*	1	2320	281	0.
1	0440	57	0.	*	1	1055	132	0.	*	1	1710	207	0.	*	1	2325	282	0.
1	0445	58	0.	*	1	1100	133	0.	*	1	1715	208	0.	*	1	2330	283	0.
1	0450	59	0.	*	1	1105	134	0.	*	1	1720	209	0.	*	1	2335	284	0.
1	0455	60	0.	*	1	1110	135	0.	*	1	1725	210	0.	*	1	2340	285	0.
1	0500	61	0.	*	1	1115	136	0.	*	1	1730	211	0.	*	1	2345	286	0.
1	0505	62	0.	*	1	1120	137	0.	*	1	1735	212	0.	*	1	2350	287	0.
1	0510	63	0.	*	1	1125	138	0.	*	1	1740	213	0.	*	1	2355	288	0.
1	0515	64	0.	*	1	1130	139	0.	*	1	1745	214	0.	*	2	0000	289	0.
1	0520	65	0.	*	1	1135	140	0.	*	1	1750	215	0.	*	2	0005	290	0.
1	0525	66	0.	*	1	1140	141	0.	*	1	1755	216	0.	*	2	0010	291	0.
1	0530	67	0.	*	1	1145	142	0.	*	1	1800	217	0.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	0.	*	1	1805	218	0.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	0.	*	1	1810	219	0.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	0.	*	1	1815	220	0.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	0.	*	1	1820	221	0.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	0.	*	1	1825	222	0.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	0.	*	1	1830	223	0.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	0.	*	1	1835	224	0.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	0.	*	1	1840	225	0.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 0.	12.50		0.	0.	0.	0.
		(INCHES)	.001	.001	.001	.001
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

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278 KK

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* *
* R25_P *
* *
****

Route 24a diversion through Basin 25 pipe

HYDROGRAPH ROUTING DATA

280 RK

KINEMATIC WAVE STREAM ROUTING

L	1600.	CHANNEL LENGTH
S	.0130	SLOPE
N	.015	CHANNEL ROUGHNESS COEFFICIENT
CA	.00	CONTRIBUTING AREA
SHAPE	CIRC	CHANNEL SHAPE
WD	4.00	BOTTOM WIDTH OR DIAMETER
Z	.00	SIDE SLOPE
NDXMIN	2	MINIMUM NUMBER OF DX INTERVALS

***

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	7.70	1.25	3.67	533.33	.01	760.37	.00	2.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9281E-03 EXCESS= .0000E+00 OUTFLOW= .9332E-03 BASIN STORAGE= .2399E-05 PERCENT ERROR= -.8

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	7.70	1.25	5.00		.01	760.00	.00

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HYDROGRAPH AT STATION R25_P
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 0.	12.67		0.	0.	0.	0.
		(INCHES)	.001	.001	.001	.001
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	7.70	1.25	3.61	533.33	.01	761.22	.00	2.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9072E-03 EXCESS= .0000E+00 OUTFLOW= .9118E-03 BASIN STORAGE= .2347E-05 PERCENT ERROR= -.8

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	7.70	1.25	5.00		.01	760.00	.00
***	***	***	***	***			

HYDROGRAPH AT STATION R25_P
TRANSPOSITION AREA 14.0 SQ MI

	PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)				
		(CFS)				
+	0.	12.67	0.	0.	0.	0.
		(INCHES)	.001	.001	.001	.001
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	7.70	1.25	3.58	533.33	.01	762.72	.00	2.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8683E-03 EXCESS= .0000E+00 OUTFLOW= .8671E-03 BASIN STORAGE= .2337E-05 PERCENT ERROR= -.1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	7.70	1.25	5.00		.01	765.00	.00
***	***	***	***	***			

HYDROGRAPH AT STATION R25_P
TRANSPOSITION AREA 24.0 SQ MI

	PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)				
		(CFS)				
+	0.	12.75	0.	0.	0.	0.
		(INCHES)	.001	.001	.001	.001
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	7.70	1.25	3.58	533.33	.01	763.71	.00	2.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8547E-03 EXCESS= .0000E+00 OUTFLOW= .8512E-03 BASIN STORAGE= .2308E-05 PERCENT ERROR= .1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	7.70	1.25	5.00		.01	765.00	.00
***	***	***	***	***			

HYDROGRAPH AT STATION R25_P
TRANSPOSITION AREA 36.5 SQ MI

	PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)				
		(CFS)				
+	0.	12.75	0.	0.	0.	0.
		(INCHES)	.001	.001	.001	.001
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	7.70	1.25	3.59	533.33	.01	763.82	.00	2.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8730E-03 EXCESS= .0000E+00 OUTFLOW= .8727E-03 BASIN STORAGE= .2305E-05 PERCENT ERROR= -.2

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	7.70	1.25	5.00		.01	765.00	.00
***	***	***	***	***			

HYDROGRAPH AT STATION R25_P
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW

			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 0.	12.67		0.	0.	0.	0.
		(INCHES)	.001	.001	.001	.001
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

INTERPOLATED HYDROGRAPH AT R25_P

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	0.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	0.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	0.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	0.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	0.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	0.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	0.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	0.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	0.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	0.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	0.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	0.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	0.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	0.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	0.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	0.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	0.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	0.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	0.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	0.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	0.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	0.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	0.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	0.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	0.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	0.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	0.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	0.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	0.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	0.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	0.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	0.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	0.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	0.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	0.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	0.	1		2140	261	0.
1		0300	37	0.	1		0915	112	0.	1		1530	187	0.	1		2145	262	0.
1		0305	38	0.	1		0920	113	0.	1		1535	188	0.	1		2150	263	0.
1		0310	39	0.	1		0925	114	0.	1		1540	189	0.	1		2155	264	0.
1		0315	40	0.	1		0930	115	0.	1		1545	190	0.	1		2200	265	0.
1		0320	41	0.	1		0935	116	0.	1		1550	191	0.	1		2205	266	0.
1		0325	42	0.	1		0940	117	0.	1		1555	192	0.	1		2210	267	0.
1		0330	43	0.	1		0945	118	0.	1		1600	193	0.	1		2215	268	0.
1		0335	44	0.	1		0950	119	0.	1		1605	194	0.	1		2220	269	0.
1		0340	45	0.	1		0955	120	0.	1		1610	195	0.	1		2225	270	0.
1		0345	46	0.	1		1000	121	0.	1		1615	196	0.	1		2230	271	0.
1		0350	47	0.	1		1005	122	0.	1		1620	197	0.	1		2235	272	0.
1		0355	48	0.	1		1010	123	0.	1		1625	198	0.	1		2240	273	0.
1		0400	49	0.	1		1015	124	0.	1		1630	199	0.	1		2245	274	0.
1		0405	50	0.	1		1020	125	0.	1		1635	200	0.	1		2250	275	0.
1		0410	51	0.	1		1025	126	0.	1		1640	201	0.	1		2255	276	0.
1		0415	52	0.	1		1030	127	0.	1		1645	202	0.	1		2300	277	0.
1		0420	53	0.	1		1035	128	0.	1		1650	203	0.	1		2305	278	0.
1		0425	54	0.	1		1040	129	0.	1		1655	204	0.	1		2310	279	0.
1		0430	55	0.	1		1045	130	0.	1		1700	205	0.	1		2315	280	0.
1		0435	56	0.	1		1050	131	0.	1		1705	206	0.	1		2320	281	0.
1		0440	57	0.	1		1055	132	0.	1		1710	207	0.	1		2325	282	0.
1		0445	58	0.	1		1100	133	0.	1		1715	208	0.	1		2330	283	0.
1		0450	59	0.	1		1105	134	0.	1		1720	209	0.	1		2335	284	0.
1		0455	60	0.	1		1110	135	0.	1		1725	210	0.	1		2340	285	0.
1		0500	61	0.	1		1115	136	0.	1		1730	211	0.	1		2345	286	0.
1		0505	62	0.	1		1120	137	0.	1		1735	212	0.	1		2350	287	0.
1		0510	63	0.	1		1125	138	0.	1		1740	213	0.	1		2355	288	0.
1		0515	64	0.	1		1130	139	0.	1		1745	214	0.	2		0000	289	0.
1		0520	65	0.	1		1135	140	0.	1		1750	215	0.	2		0005	290	0.
1		0525	66	0.	1		1140	141	0.	1		1755	216	0.	2		0010	291	0.
1		0530	67	0.	1		1145	142	0.	1		1800	217	0.	2		0015	292	0.
1		0535	68	0.	1		1150	143	0.	1		1805	218	0.	2		0020	293	0.
1		0540	69	0.	1		1155	144	0.	1		1810	219	0.	2		0025	294	0.
1		0545	70	0.	1		1200	145	0.	1		1815	220	0.	2		0030	295	0.
1		0550	71	0.	1		1205	146	0.	1		1820	221	0.	2		0035	296	0.
1		0555	72	0.	1		1210	147	0.	1		1825	222	0.	2		0040	297	0.
1		0600	73	0.	1		1215	148	0.	1		1830	223	0.	2		0045	298	0.
1		0605	74	0.	1		1220	149	0.	1		1835	224	0.	2		0050	299	0.
1		0610	75	0.	1		1225	150	0.	1		1840	225	0.	2		0055	300	0.

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
	(CFS)				
+ 0.	12.67	0.	0.	0.	0.
	(INCHES)	.001	.001	.001	.001
	(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

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281 KK      *      DB25  *
            *            *
            **************
                        Subbasin

                  SUBBASIN RUNOFF OATA

283 BA              SUBBASIN CHARACTERISTICS
                          TAREA          .02  SUBBASIN AREA

284 LG              GREEN AND AMPT LOSS RATE
                          STRTL          .53  STARTING LOSS
                            DTH          .50  MOISTURE DEFICIT
                           PSIF         1.86  WETTING FRONT SUCTION
                          XKSAT          .07  HYDRAULIC CONDUCTIVITY
                          RTIMP        40.00  PERCENT IMPERVIOUS AREA

285 US              SNYDER UNITGRAPH
                            TP          .10  LAG
                            CP          .30  PEAKING COEFFICIENT

                    SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                          ***

                                                  UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=   .08 HR,       R=    .41 HR
                                          SNYDER  TP=   .13 HR,       CP=   .30

                                                    UNIT HYDROGRAPH
                                              27 END-OF-PERIDD ORDINATES
                      18.       32.       26.       21.       17.       14.       11.       9.        8.        6.
                       5.        4.        3.        3.        2.        2.        1.       1.        1.        1.
                       1.        1.        0.        0.        0.        0.        0.

          ***               ***               ***               ***               ***

                            HYDROGRAPH AT STATION     DB25
                          TRANSPOSITION AREA       .0 SQ MI

          TOTAL RAINFALL =    1.99, TOTAL LOSS =      .87, TOTAL EXCESS =    1.12

        PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                                 6-HR        24-HR       72-HR      24.92-HR
+       (CFS)         (HR)
                                  (CFS)
+           16.      12.00                2.          1.          1.          1.
                                (INCHES)          .887       1.118       1.120       1.120
                                 (AC-FT)             1.          1.          1.          1.

                            CUMULATIVE AREA =      .02 SQ MI

          ***               ***               ***               ***               ***

                            HYDROGRAPH AT STATION     DB25
                          TRANSPOSITION AREA     14.0 SQ MI

          TOTAL RAINFALL =    1.95, TOTAL LOSS =      .86, TOTAL EXCESS =    1.09

        PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                                 6-HR        24-HR       72-HR      24.92-HR
+       (CFS)         (HR)
                                  (CFS)
+           15.      12.00                2.          1.          1.          1.
                                (INCHES)          .860       1.087       1.089       1.089
                                 (AC-FT)             1.          1.          1.          1.

                            CUMULATIVE AREA =      .02 SQ MI

          ***               ***               ***               ***               ***

                            HYDROGRAPH AT STATION     DB25
                          TRANSPOSITION AREA     24.0 SQ MI

          TOTAL RAINFALL =    1.93, TOTAL LOSS =      .85, TOTAL EXCESS =    1.08

        PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                                 6-HR        24-HR       72-HR      24.92-HR
+       (CFS)         (HR)
                                  (CFS)
+           15.      12.00                2.          1.          1.          1.
                                (INCHES)          .847       1.071       1.073       1.073
                                 (AC-FT)             1.          1.          1.          1.

                            CUMULATIVE AREA =      .02 SQ MI

          ***               ***               ***               ***               ***

                            HYDROGRAPH AT STATION     DB25
                          TRANSPOSITION AREA     36.5 SQ MI

          TOTAL RAINFALL =    1.91, TOTAL LOSS =      .85, TOTAL EXCESS =    1.06

        PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                                 6-HR        24-HR       72-HR      24.92-HR
+       (CFS)         (HR)
                                  (CFS)
+           15.      12.00                2.          1.          1.          1.
                                (INCHES)          .834       1.056       1.058       1.058
                                 (AC-FT)             1.          1.          1.          1.

                            CUMULATIVE AREA =      .02 SQ MI

          ***               ***               ***               ***               ***

                            HYDROGRAPH AT STATION     DB25
                          TRANSPOSITION AREA     50.0 SQ MI

          TOTAL RAINFALL =    1.90, TOTAL LOSS =      .84, TOTAL EXCESS =    1.05
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PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
14.	12.00	(CFS)	2.	1.	1.	1.
		(INCHES)	.825	1.045	1.047	1.047
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

INTERPOLATED HYDROGRAPH AT DB25

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	7.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	6.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	5.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	4.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	4.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	3.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	3.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	2.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	2.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	2.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	2.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	1.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	1.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	1.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	1.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	1.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	1.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	1.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	1.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	1.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	1.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	1.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	1.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	0.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	0.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	0.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	0.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	0.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	0.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	0.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	0.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	0.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	0.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	0.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	0.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	0.	1		2140	261	0.
1		0300	37	0.	1		0915	112	0.	1		1530	187	0.	1		2145	262	0.
1		0305	38	0.	1		0920	113	0.	1		1535	188	0.	1		2150	263	0.
1		0310	39	0.	1		0925	114	0.	1		1540	189	0.	1		2155	264	0.
1		0315	40	0.	1		0930	115	0.	1		1545	190	0.	1		2200	265	0.
1		0320	41	0.	1		0935	116	0.	1		1550	191	0.	1		2205	266	0.
1		0325	42	0.	1		0940	117	0.	1		1555	192	0.	1		2210	267	0.
1		0330	43	0.	1		0945	118	0.	1		1600	193	0.	1		2215	268	0.
1		0335	44	0.	1		0950	119	0.	1		1605	194	0.	1		2220	269	0.
1		0340	45	0.	1		0955	120	0.	1		1610	195	0.	1		2225	270	0.
1		0345	46	0.	1		1000	121	0.	1		1615	196	0.	1		2230	271	0.
1		0350	47	0.	1		1005	122	0.	1		1620	197	0.	1		2235	272	0.
1		0355	48	0.	1		1010	123	0.	1		1625	198	0.	1		2240	273	0.
1		0400	49	0.	1		1015	124	0.	1		1630	199	0.	1		2245	274	0.
1		0405	50	0.	1		1020	125	0.	1		1635	200	0.	1		2250	275	0.
1		0410	51	0.	1		1025	126	1.	1		1640	201	0.	1		2255	276	0.
1		0415	52	0.	1		1030	127	1.	1		1645	202	0.	1		2300	277	0.
1		0420	53	0.	1		1035	128	1.	1		1650	203	0.	1		2305	278	0.
1		0425	54	0.	1		1040	129	1.	1		1655	204	0.	1		2310	279	0.
1		0430	55	0.	1		1045	130	1.	1		1700	205	0.	1		2315	280	0.
1		0435	56	0.	1		1050	131	1.	1		1705	206	0.	1		2320	281	0.
1		0440	57	0.	1		1055	132	1.	1		1710	207	0.	1		2325	282	0.
1		0445	58	0.	1		1100	133	1.	1		1715	208	0.	1		2330	283	0.
1		0450	59	0.	1		1105	134	1.	1		1720	209	0.	1		2335	284	0.
1		0455	60	0.	1		1110	135	1.	1		1725	210	0.	1		2340	285	0.
1		0500	61	0.	1		1115	136	1.	1		1730	211	0.	1		2345	286	0.
1		0505	62	0.	1		1120	137	1.	1		1735	212	0.	1		2350	287	0.
1		0510	63	0.	1		1125	138	1.	1		1740	213	0.	1		2355	288	0.
1		0515	64	0.	1		1130	139	1.	1		1745	214	0.	2		0000	289	0.
1		0520	65	0.	1		1135	140	1.	1		1750	215	0.	2		0005	290	0.
1		0525	66	0.	1		1140	141	2.	1		1755	216	0.	2		0010	291	0.
1		0530	67	0.	1		1145	142	4.	1		1800	217	0.	2		0015	292	0.
1		0535	68	0.	1		1150	143	7.	1		1805	218	0.	2		0020	293	0.
1		0540	69	0.	1		1155	144	12.	1		1810	219	0.	2		0025	294	0.
1		0545	70	0.	1		1200	145	15.	1		1815	220	0.	2		0030	295	0.
1		0550	71	0.	1		1205	146	15.	1		1820	221	0.	2		0035	296	0.
1		0555	72	0.	1		1210	147	13.	1		1825	222	0.	2		0040	297	0.
1		0600	73	0.	1		1215	148	11.	1		1830	223	0.	2		0045	298	0.
1		0605	74	0.	1		1220	149	9.	1		1835	224	0.	2		0050	299	0.
1		0610	75	0.	1		1225	150	8.	1		1840	225	0.	2		0055	300	0.

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
15.	12.00	(CFS)	2.	1.	1.	1.
		(INCHES)	.883	1.114	1.116	1.116
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

```
286 KK          *           *
                *     C25   *
                *           *
                ***************
                Combine Hydrograph with 24a diversion

288 HC          HYDROGRAPH COMBINATION
                     ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                  ***
      ***             ***             ***             ***             ***

                  HYDROGRAPH AT STATION      C25
                 TRANSPOSITION AREA        .0 SQ MI

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                      6-HR          24-HR          72-HR       24.92-HR
+   (CFS)       (HR)
                          (CFS)
+      16.      12.00                  2.             1.             1.             1.
                       (INCHES)      .887          1.118          1.120          1.120
                        (AC-FT)        1.             1.             1.             1.

                  CUMULATIVE AREA =      .02 SQ MI

      ***             ***             ***             ***             ***

                  HYDROGRAPH AT STATION      C25
                 TRANSPOSITION AREA      14.0 SQ MI

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                      6-HR          24-HR          72-HR       24.92-HR
+   (CFS)       (HR)
                          (CFS)
+      15.      12.00                  2.             1.             1.             1.
                       (INCHES)      .861          1.088          1.090          1.090
                        (AC-FT)        1.             1.             1.             1.

                  CUMULATIVE AREA =      .02 SQ MI

      ***             ***             ***             ***             ***

                  HYDROGRAPH AT STATION      C25
                 TRANSPOSITION AREA      24.0 SQ MI

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                      6-HR          24-HR          72-HR       24.92-HR
+   (CFS)       (HR)
                          (CFS)
       15.      12.00                  2.             1.             1.             1.
                       (INCHES)      .848          1.072          1.074          1.074
                        (AC-FT)        1.             1.             1.             1.

                  CUMULATIVE AREA =      .02 SQ MI

      ***             ***             ***             ***             ***

                  HYDROGRAPH AT STATION      C25
                 TRANSPOSITION AREA      36.5 SQ MI

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                      6-HR          24-HR          72-HR       24.92-HR
+   (CFS)       (HR)
                          (CFS)
+      15.      12.00                  2.             1.             1.             1.
                       (INCHES)      .835          1.057          1.059          1.059
                        (AC-FT)        1.             1.             1.             1.

                  CUMULATIVE AREA =      .02 SQ MI

      ***             ***             ***             ***             ***

                  HYDROGRAPH AT STATION      C25
                 TRANSPOSITION AREA      50.0 SQ MI

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                      6-HR          24-HR          72-HR       24.92-HR
+   (CFS)       (HR)
                          (CFS)
+      14.      12.00                  2.             1.             1.             1.
                       (INCHES)      .826          1.046          1.048          1.048
                        (AC-FT)        1.             1.             1.             1.

                  CUMULATIVE AREA =      .02 SQ MI

*****************************************************************************************************************************************************

                                                INTERPOLATED HYDROGRAPH AT      C25

*****************************************************************************************************************************************************

   DA MON HRMN   ORD     FLOW    *    DA MON HRMN   ORD     FLOW    *    DA MON HRMN   ORD     FLOW    *    DA MON HRMN   ORD     FLOW
                                 *                                   *                                   *                                   *
    1     0000    1       0.     *     1     0615   76       0.     *     1     1230   151     7.     *     1     1845   226     0.
    1     0005    2       0.     *     1     0620   77       0.     *     1     1235   152     6.     *     1     1850   227     0.
    1     0010    3       0.     *     1     0625   78       0.     *     1     1240   153     5.     *     1     1855   228     0.
    1     0015    4       0.     *     1     0630   79       0.     *     1     1245   154     4.     *     1     1900   229     0.
    1     0020    5       0.     *     1     0635   80       0.     *     1     1250   155     4.     *     1     1905   230     0.
    1     0025    6       0.     *     1     0640   81       0.     *     1     1255   156     3.     *     1     1910   231     0.
    1     0030    7       0.     *     1     0645   82       0.     *     1     1300   157     3.     *     1     1915   232     0.
    1     0035    8       0.     *     1     0650   83       0.     *     1     1305   158     2.     *     1     1920   233     0.
    1     0040    9       0.     *     1     0655   84       0.     *     1     1310   159     2.     *     1     1925   234     0.
    1     0045   10       0.     *     1     0700   85       0.     *     1     1315   160     2.     *     1     1930   235     0.
    1     0050   11       0.     *     1     0705   86       0.     *     1     1320   161     2.     *     1     1935   236     0.
    1     0055   12       0.     *     1     0710   87       0.     *     1     1325   162     1.     *     1     1940   237     0.
    1     0100   13       0.     *     1     0715   88       0.     *     1     1330   163     1.     *     1     1945   238     0.
    1     0105   14       0.     *     1     0720   89       0.     *     1     1335   164     1.     *     1     1950   239     0.
    1     0110   15       0.     *     1     0725   90       0.     *     1     1340   165     1.     *     1     1955   240     0.
```

1	0115	16	0.	*	1	0730	91	0.	*	1	1345	166	1.	*	1	2000	241	0.
1	0120	17	0.	*	1	0735	92	0.	*	1	1350	167	1.	*	1	2005	242	0.
1	0125	18	0.	*	1	0740	93	0.	*	1	1355	168	1.	*	1	2010	243	0.
1	0130	19	0.	*	1	0745	94	0.	*	1	1400	169	1.	*	1	2015	244	0.
1	0135	20	0.	*	1	0750	95	0.	*	1	1405	170	1.	*	1	2020	245	0.
1	0140	21	0.	*	1	0755	96	0.	*	1	1410	171	1.	*	1	2025	246	0.
1	0145	22	0.	*	1	0800	97	0.	*	1	1415	172	1.	*	1	2030	247	0.
1	0150	23	0.	*	1	0805	98	0.	*	1	1420	173	1.	*	1	2035	248	0.
1	0155	24	0.	*	1	0810	99	0.	*	1	1425	174	0.	*	1	2040	249	0.
1	0200	25	0.	*	1	0815	100	0.	*	1	1430	175	0.	*	1	2045	250	0.
1	0205	26	0.	*	1	0820	101	0.	*	1	1435	176	0.	*	1	2050	251	0.
1	0210	27	0.	*	1	0825	102	0.	*	1	1440	177	0.	*	1	2055	252	0.
1	0215	28	0.	*	1	0830	103	0.	*	1	1445	178	0.	*	1	2100	253	0.
1	0220	29	0.	*	1	0835	104	0.	*	1	1450	179	0.	*	1	2105	254	0.
1	0225	30	0.	*	1	0840	105	0.	*	1	1455	180	0.	*	1	2110	255	0.
1	0230	31	0.	*	1	0845	106	0.	*	1	1500	181	0.	*	1	2115	256	0.
1	0235	32	0.	*	1	0850	107	0.	*	1	1505	182	0.	*	1	2120	257	0.
1	0240	33	0.	*	1	0855	108	0.	*	1	1510	183	0.	*	1	2125	258	0.
1	0245	34	0.	*	1	0900	109	0.	*	1	1515	184	0.	*	1	2130	259	0.
1	0250	35	0.	*	1	0905	110	0.	*	1	1520	185	0.	*	1	2135	260	0.
1	0255	36	0.	*	1	0910	111	0.	*	1	1525	186	0.	*	1	2140	261	0.
1	0300	37	0.	*	1	0915	112	0.	*	1	1530	187	0.	*	1	2145	262	0.
1	0305	38	0.	*	1	0920	113	0.	*	1	1535	188	0.	*	1	2150	263	0.
1	0310	39	0.	*	1	0925	114	0.	*	1	1540	189	0.	*	1	2155	264	0.
1	0315	40	0.	*	1	0930	115	0.	*	1	1545	190	0.	*	1	2200	265	0.
1	0320	41	0.	*	1	0935	116	0.	*	1	1550	191	0.	*	1	2205	266	0.
1	0325	42	0.	*	1	0940	117	0.	*	1	1555	192	0.	*	1	2210	267	0.
1	0330	43	0.	*	1	0945	118	0.	*	1	1600	193	0.	*	1	2215	268	0.
1	0335	44	0.	*	1	0950	119	0.	*	1	1605	194	0.	*	1	2220	269	0.
1	0340	45	0.	*	1	0955	120	0.	*	1	1610	195	0.	*	1	2225	270	0.
1	0345	46	0.	*	1	1000	121	0.	*	1	1615	196	0.	*	1	2230	271	0.
1	0350	47	0.	*	1	1005	122	0.	*	1	1620	197	0.	*	1	2235	272	0.
1	0355	48	0.	*	1	1010	123	0.	*	1	1625	198	0.	*	1	2240	273	0.
1	0400	49	0.	*	1	1015	124	0.	*	1	1630	199	0.	*	1	2245	274	0.
1	0405	50	0.	*	1	1020	125	0.	*	1	1635	200	0.	*	1	2250	275	0.
1	0410	51	0.	*	1	1025	126	1.	*	1	1640	201	0.	*	1	2255	276	0.
1	0415	52	0.	*	1	1030	127	1.	*	1	1645	202	0.	*	1	2300	277	0.
1	0420	53	0.	*	1	1035	128	1.	*	1	1650	203	0.	*	1	2305	278	0.
1	0425	54	0.	*	1	1040	129	1.	*	1	1655	204	0.	*	1	2310	279	0.
1	0430	55	0.	*	1	1045	130	1.	*	1	1700	205	0.	*	1	2315	280	0.
1	0435	56	0.	*	1	1050	131	1.	*	1	1705	206	0.	*	1	2320	281	0.
1	0440	57	0.	*	1	1055	132	1.	*	1	1710	207	0.	*	1	2325	282	0.
1	0445	58	0.	*	1	1100	133	1.	*	1	1715	208	0.	*	1	2330	283	0.
1	0450	59	0.	*	1	1105	134	1.	*	1	1720	209	0.	*	1	2335	284	0.
1	0455	60	0.	*	1	1110	135	1.	*	1	1725	210	0.	*	1	2340	285	0.
1	0500	61	0.	*	1	1115	136	1.	*	1	1730	211	0.	*	1	2345	286	0.
1	0505	62	0.	*	1	1120	137	1.	*	1	1735	212	0.	*	1	2350	287	0.
1	0510	63	0.	*	1	1125	138	1.	*	1	1740	213	0.	*	1	2355	288	0.
1	0515	64	0.	*	1	1130	139	1.	*	1	1745	214	0.	*	2	0000	289	0.
1	0520	65	0.	*	1	1135	140	1.	*	1	1750	215	0.	*	2	0005	290	0.
1	0525	66	0.	*	1	1140	141	2.	*	1	1755	216	0.	*	2	0010	291	0.
1	0530	67	0.	*	1	1145	142	4.	*	1	1800	217	0.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	7.	*	1	1805	218	0.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	12.	*	1	1810	219	0.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	15.	*	1	1815	220	0.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	15.	*	1	1820	221	0.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	13.	*	1	1825	222	0.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	11.	*	1	1830	223	0.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	9.	*	1	1835	224	0.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	8.	*	1	1840	225	0.	*	2	0055	300	0.
				*					*					*				

****

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 15.	12.00		2.	1.	1.	1.
		(INCHES)	.884	1.115	1.117	1.117
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

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              ***************
              *             *
289 KK        *     B5DIV   *
              *             *
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Divert Basin 25 storm sewer overflow

DT	DIVERSION ISTAD	B5DIV	DIVERSION HYDROGRAPH IDENTIFICATION		
DI	INFLOW	.00	14.00	100.00	1000.00
DQ	DIVERTED FLOW	.00	.00	86.00	986.00

*** *** *** *** ***

DIVERSION HYDROGRAPH B5DIV
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 2.	12.00		0.	0.	0.	0.
		(INCHES)	.016	.016	.016	.016
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION B5DIV

TRANSPOSITION AREA .0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		6-HR	MAXIMUM AVERAGE FLOW 24-HR	72-HR	24.92-HR
+ 14.	12.00	(CFS)	2.	1.	1.	1.
		(INCHES)	.872	1.103	1.105	1.105
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

DIVERSION HYDROGRAPH B5DIV
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		6-HR	MAXIMUM AVERAGE FLOW 24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
+ 1.	12.00	(CFS)	0.	0.	0.	0.
		(INCHES)	.011	.011	.011	.011
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION B5DIV
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		6-HR	MAXIMUM AVERAGE FLOW 24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
+ 14.	12.00	(CFS)	2.	1.	1.	1.
		(INCHES)	.850	1.077	1.079	1.079
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

DIVERSION HYDROGRAPH B5DIV
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		6-HR	MAXIMUM AVERAGE FLOW 24-HR	72-HR	24.92-HR
1.	12.00	(CFS)	0.	0.	0.	0.
		(INCHES)	.008	.008	.008	.008
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION B5DIV
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		6-HR	MAXIMUM AVERAGE FLOW 24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
+ 14.	12.00	(CFS)	2.	1.	1.	1.
		(INCHES)	.839	1.064	1.066	1.066
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

DIVERSION HYDROGRAPH B5DIV
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		6-HR	MAXIMUM AVERAGE FLOW 24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
+ 1.	12.00	(CFS)	0.	0.	0.	0.
		(INCHES)	.006	.006	.006	.006
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION B5DIV
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		6-HR	MAXIMUM AVERAGE FLOW 24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
+ 14.	12.00	(CFS)	2.	1.	1.	1.
		(INCHES)	.829	1.051	1.053	1.053
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

DIVERSION HYDROGRAPH B5DIV
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
0.	12.00	(CFS)	0.	0.	0.	0.
		(INCHES)	.004	.004	.004	.004
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION B5DIV
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
14.	12.00	(CFS)	2.	1.	1.	1.
		(INCHES)	.821	1.042	1.044	1.044
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

INTERPOLATED DIVERSION HYDROGRAPH AT B5DIV

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	0.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	0.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	0.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	0.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	0.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	0.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	0.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	0.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	0.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	0.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	0.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	0.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	0.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	0.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	0.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	0.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	0.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	0.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	0.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	0.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	0.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	0.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	0.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	0.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	0.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	0.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	0.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	0.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	0.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	0.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	0.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	0.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	0.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	0.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	0.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	0.	1		2140	261	0.
1		0300	37	0.	1		0915	112	0.	1		1530	187	0.	1		2145	262	0.
1		0305	38	0.	1		0920	113	0.	1		1535	188	0.	1		2150	263	0.
1		0310	39	0.	1		0925	114	0.	1		1540	189	0.	1		2155	264	0.
1		0315	40	0.	1		0930	115	0.	1		1545	190	0.	1		2200	265	0.
1		0320	41	0.	1		0935	116	0.	1		1550	191	0.	1		2205	266	0.
1		0325	42	0.	1		0940	117	0.	1		1555	192	0.	1		2210	267	0.
1		0330	43	0.	1		0945	118	0.	1		1600	193	0.	1		2215	268	0.
1		0335	44	0.	1		0950	119	0.	1		1605	194	0.	1		2220	269	0.
1		0340	45	0.	1		0955	120	0.	1		1610	195	0.	1		2225	270	0.
1		0345	46	0.	1		1000	121	0.	1		1615	196	0.	1		2230	271	0.
1		0350	47	0.	1		1005	122	0.	1		1620	197	0.	1		2235	272	0.
1		0355	48	0.	1		1010	123	0.	1		1625	198	0.	1		2240	273	0.
1		0400	49	0.	1		1015	124	0.	1		1630	199	0.	1		2245	274	0.
1		0405	50	0.	1		1020	125	0.	1		1635	200	0.	1		2250	275	0.
1		0410	51	0.	1		1025	126	0.	1		1640	201	0.	1		2255	276	0.
1		0415	52	0.	1		1030	127	0.	1		1645	202	0.	1		2300	277	0.
1		0420	53	0.	1		1035	128	0.	1		1650	203	0.	1		2305	278	0.
1		0425	54	0.	1		1040	129	0.	1		1655	204	0.	1		2310	279	0.
1		0430	55	0.	1		1045	130	0.	1		1700	205	0.	1		2315	280	0.
1		0435	56	0.	1		1050	131	0.	1		1705	206	0.	1		2320	281	0.
1		0440	57	0.	1		1055	132	0.	1		1710	207	0.	1		2325	282	0.
1		0445	58	0.	1		1100	133	0.	1		1715	208	0.	1		2330	283	0.
1		0450	59	0.	1		1105	134	0.	1		1720	209	0.	1		2335	284	0.
1		0455	60	0.	1		1110	135	0.	1		1725	210	0.	1		2340	285	0.
1		0500	61	0.	1		1115	136	0.	1		1730	211	0.	1		2345	286	0.
1		0505	62	0.	1		1120	137	0.	1		1735	212	0.	1		2350	287	0.
1		0510	63	0.	1		1125	138	0.	1		1740	213	0.	1		2355	288	0.
1		0515	64	0.	1		1130	139	0.	1		1745	214	0.	2		0000	289	0.
1		0520	65	0.	1		1135	140	0.	1		1750	215	0.	2		0005	290	0.
1		0525	66	0.	1		1140	141	0.	1		1755	216	0.	2		0010	291	0.
1		0530	67	0.	1		1145	142	0.	1		1800	217	0.	2		0015	292	0.
1		0535	68	0.	1		1150	143	0.	1		1805	218	0.	2		0020	293	0.
1		0540	69	0.	1		1155	144	0.	1		1810	219	0.	2		0025	294	0.
1		0545	70	0.	1		1200	145	1.	1		1815	220	0.	2		0030	295	0.
1		0550	71	0.	1		1205	146	1.	1		1820	221	0.	2		0035	296	0.
1		0555	72	0.	1		1210	147	0.	1		1825	222	0.	2		0040	297	0.
1		0600	73	0.	1		1215	148	0.	1		1830	223	0.	2		0045	298	0.
1		0605	74	0.	1		1220	149	0.	1		1835	224	0.	2		0050	299	0.
1		0610	75	0.	1		1225	150	0.	1		1840	225	0.	2		0055	300	0.

PEAK FLOW TIME MAXIMUM AVERAGE FLOW

(CFS)	(HR)		6-HR	24-HR	72-HR	24.92-HR
		(CFS)				
1.	12.00		0.	0.	0.	0.
		(INCHES)	.015	.015	.015	.015
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

INTERPOLATED HYDROGRAPH AT BSDIV

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MDN	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	7.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	6.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	5.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	4.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	4.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	3.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	3.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	2.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	2.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	2.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	2.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	1.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	1.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	1.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	1.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	1.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	1.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	1.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	1.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	1.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	1.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	1.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	1.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	0.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	0.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	0.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	0.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	0.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	0.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	0.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	0.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	0.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	0.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	0.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	0.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	0.	1		2140	261	0.
1		0300	37	0.	1		0915	112	0.	1		1530	187	0.	1		2145	262	0.
1		0305	38	0.	1		0920	113	0.	1		1535	188	0.	1		2150	263	0.
1		0310	39	0.	1		0925	114	0.	1		1540	189	0.	1		2155	264	0.
1		0315	40	0.	1		0930	115	0.	1		1545	190	0.	1		2200	265	0.
1		0320	41	0.	1		0935	116	0.	1		1550	191	0.	1		2205	266	0.
1		0325	42	0.	1		0940	117	0.	1		1555	192	0.	1		2210	267	0.
1		0330	43	0.	1		0945	118	0.	1		1600	193	0.	1		2215	268	0.
1		0335	44	0.	1		0950	119	0.	1		1605	194	0.	1		2220	269	0.
1		0340	45	0.	1		0955	120	0.	1		1610	195	0.	1		2225	270	0.
1		0345	46	0.	1		1000	121	0.	1		1615	196	0.	1		2230	271	0.
1		0350	47	0.	1		1005	122	0.	1		1620	197	0.	1		2235	272	0.
1		0355	48	0.	1		1010	123	0.	1		1625	198	0.	1		2240	273	0.
1		0400	49	0.	1		1015	124	0.	1		1630	199	0.	1		2245	274	0.
1		0405	50	0.	1		1020	125	0.	1		1635	200	0.	1		2250	275	0.
1		0410	51	0.	1		1025	126	1.	1		1640	201	0.	1		2255	276	0.
1		0415	52	0.	1		1030	127	1.	1		1645	202	0.	1		2300	277	0.
1		0420	53	0.	1		1035	128	1.	1		1650	203	0.	1		2305	278	0.
1		0425	54	0.	1		1040	129	1.	1		1655	204	0.	1		2310	279	0.
1		0430	55	0.	1		1045	130	1.	1		1700	205	0.	1		2315	280	0.
1		0435	56	0.	1		1050	131	1.	1		1705	206	0.	1		2320	281	0.
1		0440	57	0.	1		1055	132	1.	1		1710	207	0.	1		2325	282	0.
1		0445	58	0.	1		1100	133	1.	1		1715	208	0.	1		2330	283	0.
1		0450	59	0.	1		1105	134	1.	1		1720	209	0.	1		2335	284	0.
1		0455	60	0.	1		1110	135	1.	1		1725	210	0.	1		2340	285	0.
1		0500	61	0.	1		1115	136	1.	1		1730	211	0.	1		2345	286	0.
1		0505	62	0.	1		1120	137	1.	1		1735	212	0.	1		2350	287	0.
1		0510	63	0.	1		1125	138	1.	1		1740	213	0.	1		2355	288	0.
1		0515	64	0.	1		1130	139	1.	1		1745	214	0.	2		0000	289	0.
1		0520	65	0.	1		1135	140	1.	1		1750	215	0.	2		0005	290	0.
1		0525	66	0.	1		1140	141	2.	1		1755	216	0.	2		0010	291	0.
1		0530	67	0.	1		1145	142	4.	1		1800	217	0.	2		0015	292	0.
1		0535	68	0.	1		1150	143	7.	1		1805	218	0.	2		0020	293	0.
1		0540	69	0.	1		1155	144	12.	1		1810	219	0.	2		0025	294	0.
1		0545	70	0.	1		1200	145	14.	1		1815	220	0.	2		0030	295	0.
1		0550	71	0.	1		1205	146	14.	1		1820	221	0.	2		0035	296	0.
1		0555	72	0.	1		1210	147	13.	1		1825	222	0.	2		0040	297	0.
1		0600	73	0.	1		1215	148	11.	1		1830	223	0.	2		0045	298	0.
1		0605	74	0.	1		1220	149	9.	1		1835	224	0.	2		0050	299	0.
1		0610	75	0.	1		1225	150	8.	1		1840	225	0.	2		0055	300	0.

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 14.	12.00		2.	1.	1.	1.
		(INCHES)	.869	1.100	1.102	1.102
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .02 SQ MI

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294 KK      *     DB25a  *
            *            *
            **************
                        Subbasin

                  SUBBASIN RUNOFF DATA

296 BA            SUBBASIN CHARACTERISTICS
                        TAREA         .03  SUBBASIN AREA

297 LG            GREEN AND AMPT LOSS RATE
                        STRTL         .85  STARTING LOSS
                          DTH         .71  MOISTURE DEFICIT
                         PSIF        1.60  WETTING FRONT SUCTION
                        XKSAT         .16  HYORAULIC CONDUCTIVITY
                        RTIMP       12.00  PERCENT IMPERVIOUS AREA

298 US            SNYDER UNITGRAPH
                           TP         .03  LAG
                           CP         .17  PEAKING COEFFICIENT

                  SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                                  ***
R INCREASED TO MINIMUM OF 0.5

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=   .08 HR,       R=   .83 HR
                                          SNYDER  TP=   .14 HR,       CP=   .17

                                                UNIT HYDROGRAPH
                                          53 END-OF-PERIOD ORDINATES
                  12.      22.      20.      18.      17.      15.      14.      12.      11.      10.
                   9.       8.       7.       7.       6.       5.       5.       4.       4.       4.
                   3.       3.       3.       2.       2.       2.       2.       2.       1.       1.
                   1.       1.       1.       1.       1.       1.       1.       1.       1.       0.
                   0.       0.       0.       0.       0.       0.       0.       0.       0.       0.
                   0.       0.       0.

      ***              ***              ***              ***              ***

                    HYDROGRAPH AT STATION    DB25a
                   TRANSPOSITION AREA        .0 SQ MI

      TOTAL RAINFALL =    1.99, TOTAL LOSS =     1.59, TOTAL EXCESS =      .40

   PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR         24-HR         72-HR      24.92-HR
+   (CFS)         (HR)          (CFS)
+        5.       12.08                      1.           0.            0.            0.
                             (INCHES)      .330         .399          .400          .400
                              (AC-FT)         1.           1.            1.            1.

                    CUMULATIVE AREA =      .03 SQ MI

      ***              ***              ***              ***              ***

                    HYDROGRAPH AT STATION    DB25a
                   TRANSPOSITION AREA       14.0 SQ MI

      TOTAL RAINFALL =    1.95, TOTAL LOSS =     1.57, TOTAL EXCESS =      .38

   PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR         24-HR         72-HR      24.92-HR
+   (CFS)         (HR)          (CFS)
+        5.       12.08                      1.           0.            0.            0.
                             (INCHES)      .309         .378          .378          .378
                              (AC-FT)         1.           1.            1.            1.

                    CUMULATIVE AREA =      .03 SQ MI

      ***              ***              ***              ***              ***

                    HYDROGRAPH AT STATION    DB25a
                   TRANSPOSITION AREA       24.0 SQ MI

      TOTAL RAINFALL =    1.93, TOTAL LOSS =     1.56, TOTAL EXCESS =      .37

   PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR         24-HR         72-HR      24.92-HR
+   (CFS)         (HR)          (CFS)
+        5.       12.08                      1.           0.            0.            0.
                             (INCHES)      .299         .366          .367          .367
                              (AC-FT)         1.           1.            1.            1.

                    CUMULATIVE AREA =      .03 SQ MI

      ***              ***              ***              ***              ***

                    HYDROGRAPH AT STATION    DB25a
                   TRANSPOSITION AREA       36.5 SQ MI

      TOTAL RAINFALL =    1.91, TOTAL LOSS =     1.55, TOTAL EXCESS =      .36

   PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR         24-HR         72-HR      24.92-HR
+   (CFS)         (HR)          (CFS)
+        5.       12.08                      1.           0.            0.            0.
                             (INCHES)      .288         .355          .356          .356
                              (AC-FT)         0.           1.            1.            1.

                    CUMULATIVE AREA =      .03 SQ MI

      ***              ***              ***              ***              ***

                    HYDROGRAPH AT STATION    DB25a
```

TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.90, TOTAL LOSS = 1.55, TOTAL EXCESS = .35

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
4.	12.08	(CFS)	1.	0.	0.	0.
		(INCHES)	.281	.347	.348	.348
		(AC-FT)	0.	1.	1.	1.

CUMULATIVE AREA = .03 SQ MI

INTERPOLATED HYDROGRAPH AT DB25a

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	4.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	3.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	3.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	3.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	2.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	2.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	2.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	2.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	2.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	2.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	1.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	1.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	1.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	1.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	1.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	1.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	1.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	1.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	1.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	1.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	1.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	1.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	1.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	1.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	1.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	0.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	0.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	0.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	0.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	0.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	0.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	0.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	0.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	0.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	0.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	0.	1		2140	261	0.
1		0300	37	0.	1		0915	112	0.	1		1530	187	0.	1		2145	262	0.
1		0305	38	0.	1		0920	113	0.	1		1535	188	0.	1		2150	263	0.
1		0310	39	0.	1		0925	114	0.	1		1540	189	0.	1		2155	264	0.
1		0315	40	0.	1		0930	115	0.	1		1545	190	0.	1		2200	265	0.
1		0320	41	0.	1		0935	116	0.	1		1550	191	0.	1		2205	266	0.
1		0325	42	0.	1		0940	117	0.	1		1555	192	0.	1		2210	267	0.
1		0330	43	0.	1		0945	118	0.	1		1600	193	0.	1		2215	268	0.
1		0335	44	0.	1		0950	119	0.	1		1605	194	0.	1		2220	269	0.
1		0340	45	0.	1		0955	120	0.	1		1610	195	0.	1		2225	270	0.
1		0345	46	0.	1		1000	121	0.	1		1615	196	0.	1		2230	271	0.
1		0350	47	0.	1		1005	122	0.	1		1620	197	0.	1		2235	272	0.
1		0355	48	0.	1		1010	123	0.	1		1625	198	0.	1		2240	273	0.
1		0400	49	0.	1		1015	124	0.	1		1630	199	0.	1		2245	274	0.
1		0405	50	0.	1		1020	125	0.	1		1635	200	0.	1		2250	275	0.
1		0410	51	0.	1		1025	126	0.	1		1640	201	0.	1		2255	276	0.
1		0415	52	0.	1		1030	127	0.	1		1645	202	0.	1		2300	277	0.
1		0420	53	0.	1		1035	128	0.	1		1650	203	0.	1		2305	278	0.
1		0425	54	0.	1		1040	129	0.	1		1655	204	0.	1		2310	279	0.
1		0430	55	0.	1		1045	130	0.	1		1700	205	0.	1		2315	280	0.
1		0435	56	0.	1		1050	131	0.	1		1705	206	0.	1		2320	281	0.
1		0440	57	0.	1		1055	132	0.	1		1710	207	0.	1		2325	282	0.
1		0445	58	0.	1		1100	133	0.	1		1715	208	0.	1		2330	283	0.
1		0450	59	0.	1		1105	134	0.	1		1720	209	0.	1		2335	284	0.
1		0455	60	0.	1		1110	135	0.	1		1725	210	0.	1		2340	285	0.
1		0500	61	0.	1		1115	136	0.	1		1730	211	0.	1		2345	286	0.
1		0505	62	0.	1		1120	137	0.	1		1735	212	0.	1		2350	287	0.
1		0510	63	0.	1		1125	138	0.	1		1740	213	0.	1		2355	288	0.
1		0515	64	0.	1		1130	139	0.	1		1745	214	0.	2		0000	289	0.
1		0520	65	0.	1		1135	140	0.	1		1750	215	0.	2		0005	290	0.
1		0525	66	0.	1		1140	141	1.	1		1755	216	0.	2		0010	291	0.
1		0530	67	0.	1		1145	142	1.	1		1800	217	0.	2		0015	292	0.
1		0535	68	0.	1		1150	143	1.	1		1805	218	0.	2		0020	293	0.
1		0540	69	0.	1		1155	144	3.	1		1810	219	0.	2		0025	294	0.
1		0545	70	0.	1		1200	145	5.	1		1815	220	0.	2		0030	295	0.
1		0550	71	0.	1		1205	146	5.	1		1820	221	0.	2		0035	296	0.
1		0555	72	0.	1		1210	147	5.	1		1825	222	0.	2		0040	297	0.
1		0600	73	0.	1		1215	148	5.	1		1830	223	0.	2		0045	298	0.
1		0605	74	0.	1		1220	149	4.	1		1835	224	0.	2		0050	299	0.
1		0610	75	0.	1		1225	150	4.	1		1840	225	0.	2		0055	300	0.

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
5.	12.08	(CFS)	1.	0.	0.	0.
		(INCHES)	.326	.396	.397	.397
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .03 SQ MI

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*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

           ***************
           *             *
299 KK     *       C_6   *
           *             *
           ***************
                    Combine Basins 25a 25 24a 24 22

301 HC          HYDROGRAPH COMBINATION
                     ICOMP          3  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                    ***

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION      C_6
                   TRANSPOSITION AREA       .0 SQ MI

   PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR          24-HR         72-HR      24.92-HR
+    (CFS)       (HR)
                                  (CFS)
+     499.      12.08             67.           22.           21.           21.
                               (INCHES)        1.167         1.523         1.525         1.525
                                (AC-FT)          33.           43.           43.           43.

                    CUMULATIVE AREA =      .53 SQ MI

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION      C_6
                   TRANSPOSITION AREA      14.0 SQ MI

   PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR          24-HR         72-HR      24.92-HR
+    (CFS)       (HR)
                                  (CFS)
+     489.      12.08             65.           21.           21.           21.
                               (INCHES)        1.139         1.488         1.490         1.490
                                (AC-FT)          32.           42.           42.           42.

                    CUMULATIVE AREA =      .53 SQ MI

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION      C_6
                   TRANSPOSITION AREA      24.0 SQ MI

   PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR          24-HR         72-HR      24.92-HR
+    (CFS)       (HR)
                                  (CFS)
+     483.      12.08             64.           21.           20.           20.
                               (INCHES)        1.125         1.471         1.473         1.473
                                (AC-FT)          32.           42.           42.           42.

                    CUMULATIVE AREA =      .53 SQ MI

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION      C_6
                   TRANSPOSITION AREA      36.5 SQ MI

   PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR          24-HR         72-HR      24.92-HR
+    (CFS)       (HR)
                                  (CFS)
+     478.      12.08             64.           21.           20.           20.
                               (INCHES)        1.111         1.453         1.455         1.455
                                (AC-FT)          32.           41.           41.           41.

                    CUMULATIVE AREA =      .53 SQ MI

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION      C_6
                   TRANSPOSITION AREA      50.0 SQ MI

   PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR          24-HR         72-HR      24.92-HR
+    (CFS)       (HR)
                                  (CFS)
+     474.      12.08             63.           21.           20.           20.
                               (INCHES)        1.102         1.441         1.443         1.443
                                (AC-FT)          31.           41.           41.           41.

                    CUMULATIVE AREA =      .53 SQ MI

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                                        INTERPOLATED HYDROGRAPH AT      C_6

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   DA MON HRMN  ORD      FLOW     *   DA MON HRMN  ORD      FLOW     *   DA MON HRMN  ORD      FLOW     *   DA MON HRMN  ORD      FLOW
                                   *                                  *                                  *
    1     0000    1        0.     *    1     0615   76        7.     *    1     1230  151      140.     *    1     1845  226        7.
    1     0005    2        0.     *    1     0620   77        8.     *    1     1235  152      117.     *    1     1850  227        7.
    1     0010    3        1.     *    1     0625   78        8.     *    1     1240  153       99.     *    1     1855  228        7.
    1     0015    4        2.     *    1     0630   79        8.     *    1     1245  154       85.     *    1     1900  229        7.
    1     0020    5        3.     *    1     0635   80        8.     *    1     1250  155       74.     *    1     1905  230        7.
    1     0025    6        3.     *    1     0640   81        8.     *    1     1255  156       65.     *    1     1910  231        7.
    1     0030    7        3.     *    1     0645   82        8.     *    1     1300  157       58.     *    1     1915  232        7.
    1     0035    8        4.     *    1     0650   83        8.     *    1     1305  158       52.     *    1     1920  233        6.
    1     0040    9        4.     *    1     0655   84        8.     *    1     1310  159       46.     *    1     1925  234        6.
    1     0045   10        4.     *    1     0700   85        8.     *    1     1315  160       42.     *    1     1930  235        6.
    1     0050   11        4.     *    1     0705   86        8.     *    1     1320  161       38.     *    1     1935  236        6.
```

1	0055	12	4.	*	1	0710	87	8.	*	1	1325	162	35.	*	1	1940	237	6.
1	0100	13	4.	*	1	0715	88	8.	*	1	1330	163	33.	*	1	1945	238	6.
1	0105	14	4.	*	1	0720	89	8.	*	1	1335	164	30.	*	1	1950	239	6.
1	0110	15	4.	*	1	0725	90	8.	*	1	1340	165	28.	*	1	1955	240	6.
1	0115	16	4.	*	1	0730	91	9.	*	1	1345	166	26.	*	1	2000	241	6.
1	0120	17	4.	*	1	0735	92	9.	*	1	1350	167	24.	*	1	2005	242	6.
1	0125	18	4.	*	1	0740	93	9.	*	1	1355	168	23.	*	1	2010	243	6.
1	0130	19	5.	*	1	0745	94	9.	*	1	1400	169	21.	*	1	2015	244	5.
1	0135	20	5.	*	1	0750	95	9.	*	1	1405	170	20.	*	1	2020	245	5.
1	0140	21	5.	*	1	0755	96	9.	*	1	1410	171	19.	*	1	2025	246	5.
1	0145	22	5.	*	1	0800	97	9.	*	1	1415	172	18.	*	1	2030	247	5.
1	0150	23	5.	*	1	0805	98	9.	*	1	1420	173	17.	*	1	2035	248	5.
1	0155	24	5.	*	1	0810	99	9.	*	1	1425	174	17.	*	1	2040	249	5.
1	0200	25	5.	*	1	0815	100	9.	*	1	1430	175	16.	*	1	2045	250	5.
1	0205	26	5.	*	1	0820	101	10.	*	1	1435	176	16.	*	1	2050	251	5.
1	0210	27	5.	*	1	0825	102	10.	*	1	1440	177	15.	*	1	2055	252	5.
1	0215	28	5.	*	1	0830	103	10.	*	1	1445	178	15.	*	1	2100	253	5.
1	0220	29	5.	*	1	0835	104	10.	*	1	1450	179	15.	*	1	2105	254	5.
1	0225	30	5.	*	1	0840	105	11.	*	1	1455	180	14.	*	1	2110	255	5.
1	0230	31	5.	*	1	0845	106	11.	*	1	1500	181	14.	*	1	2115	256	5.
1	0235	32	5.	*	1	0850	107	11.	*	1	1505	182	14.	*	1	2120	257	5.
1	0240	33	5.	*	1	0855	108	12.	*	1	1510	183	13.	*	1	2125	258	5.
1	0245	34	5.	*	1	0900	109	12.	*	1	1515	184	13.	*	1	2130	259	5.
1	0250	35	5.	*	1	0905	110	12.	*	1	1520	185	13.	*	1	2135	260	5.
1	0255	36	5.	*	1	0910	111	13.	*	1	1525	186	12.	*	1	2140	261	5.
1	0300	37	5.	*	1	0915	112	13.	*	1	1530	187	12.	*	1	2145	262	5.
1	0305	38	5.	*	1	0920	113	13.	*	1	1535	188	12.	*	1	2150	263	5.
1	0310	39	5.	*	1	0925	114	13.	*	1	1540	189	11.	*	1	2155	264	5.
1	0315	40	5.	*	1	0930	115	13.	*	1	1545	190	11.	*	1	2200	265	5.
1	0320	41	5.	*	1	0935	116	13.	*	1	1550	191	11.	*	1	2205	266	5.
1	0325	42	5.	*	1	0940	117	13.	*	1	1555	192	11.	*	1	2210	267	5.
1	0330	43	5.	*	1	0945	118	14.	*	1	1600	193	11.	*	1	2215	268	5.
1	0335	44	5.	*	1	0950	119	14.	*	1	1605	194	10.	*	1	2220	269	5.
1	0340	45	5.	*	1	0955	120	15.	*	1	1610	195	10.	*	1	2225	270	5.
1	0345	46	5.	*	1	1000	121	15.	*	1	1615	196	10.	*	1	2230	271	5.
1	0350	47	6.	*	1	1005	122	16.	*	1	1620	197	10.	*	1	2235	272	5.
1	0355	48	6.	*	1	1010	123	16.	*	1	1625	198	10.	*	1	2240	273	5.
1	0400	49	6.	*	1	1015	124	17.	*	1	1630	199	9.	*	1	2245	274	5.
1	0405	50	6.	*	1	1020	125	18.	*	1	1635	200	9.	*	1	2250	275	5.
1	0410	51	6.	*	1	1025	126	18.	*	1	1640	201	9.	*	1	2255	276	5.
1	0415	52	6.	*	1	1030	127	19.	*	1	1645	202	9.	*	1	2300	277	5.
1	0420	53	6.	*	1	1035	128	20.	*	1	1650	203	9.	*	1	2305	278	5.
1	0425	54	6.	*	1	1040	129	21.	*	1	1655	204	9.	*	1	2310	279	5.
1	0430	55	6.	*	1	1045	130	22.	*	1	1700	205	9.	*	1	2315	280	5.
1	0435	56	6.	*	1	1050	131	23.	*	1	1705	206	9.	*	1	2320	281	5.
1	0440	57	6.	*	1	1055	132	25.	*	1	1710	207	9.	*	1	2325	282	5.
1	0445	58	6.	*	1	1100	133	26.	*	1	1715	208	9.	*	1	2330	283	5.
1	0450	59	6.	*	1	1105	134	28.	*	1	1720	209	8.	*	1	2335	284	5.
1	0455	60	6.	*	1	1110	135	31.	*	1	1725	210	8.	*	1	2340	285	5.
1	0500	61	6.	*	1	1115	136	34.	*	1	1730	211	8.	*	1	2345	286	5.
1	0505	62	6.	*	1	1120	137	37.	*	1	1735	212	8.	*	1	2350	287	5.
1	0510	63	6.	*	1	1125	138	42.	*	1	1740	213	8.	*	1	2355	288	5.
1	0515	64	7.	*	1	1130	139	46.	*	1	1745	214	8.	*	2	0000	289	5.
1	0520	65	7.	*	1	1135	140	55.	*	1	1750	215	8.	*	2	0005	290	4.
1	0525	66	7.	*	1	1140	141	82.	*	1	1755	216	8.	*	2	0010	291	3.
1	0530	67	7.	*	1	1145	142	139.	*	1	1800	217	8.	*	2	0015	292	2.
1	0535	68	7.	*	1	1150	143	232.	*	1	1805	218	8.	*	2	0020	293	1.
1	0540	69	7.	*	1	1155	144	361.	*	1	1810	219	8.	*	2	0025	294	1.
1	0545	70	7.	*	1	1200	145	480.	*	1	1815	220	8.	*	2	0030	295	1.
1	0550	71	7.	*	1	1205	146	493.	*	1	1820	221	7.	*	2	0035	296	1.
1	0555	72	7.	*	1	1210	147	391.	*	1	1825	222	7.	*	2	0040	297	0.
1	0600	73	7.	*	1	1215	148	277.	*	1	1830	223	7.	*	2	0045	298	0.
1	0605	74	7.	*	1	1220	149	208.	*	1	1835	224	7.	*	2	0050	299	0.
1	0610	75	7.	*	1	1225	150	168.	*	1	1840	225	7.	*	2	0055	300	0.
				*					*					*				

****

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 493.	12.08		66.	21.	21.	21.
		(INCHES)	1.151	1.504	1.506	1.506
		(AC-FT)	33.	43.	43.	43.

CUMULATIVE AREA = .53 SQ MI

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          ***************
          *             *
302 KK    *      C_7    *
          *             *
          ***************
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Combine all Basins

304 HC HYDROGRAPH COMBINATION
ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

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*** *** *** *** ***

HYDROGRAPH AT STATION C_7
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
499.	12.08		67.	26.	25.	25.
		(INCHES)	.434	.685	.688	.688
		(AC-FT)	33.	52.	52.	52.

CUMULATIVE AREA = 1.43 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_7

TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
489.	12.08	65. (CFS)	25.	24.	24.
		.423 (INCHES)	.658	.661	.661
		32. (AC-FT)	50.	50.	50.

CUMULATIVE AREA = 1.43 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_7
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
483.	12.08	64. (CFS)	25.	24.	24.
		.418 (INCHES)	.644	.647	.647
		32. (AC-FT)	49.	49.	49.

CUMULATIVE AREA = 1.43 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_7
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
478.	12.08	64. (CFS)	24.	23.	23.
		.413 (INCHES)	.631	.634	.634
		32. (AC-FT)	48.	48.	48.

CUMULATIVE AREA = 1.43 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_7
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
474.	12.08	63. (CFS)	24.	23.	23.
		.409 (INCHES)	.622	.624	.624
		31. (AC-FT)	47.	48.	48.

CUMULATIVE AREA = 1.43 SQ MI

INTERPOLATED HYDROGRAPH AT C_7

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	7.	1		1230	151	139.	1		1845	226	28.
1		0005	2	0.	1		0620	77	7.	1		1235	152	117.	1		1850	227	28.
1		0010	3	1.	1		0625	78	8.	1		1240	153	99.	1		1855	228	27.
1		0015	4	2.	1		0630	79	8.	1		1245	154	85.	1		1900	229	27.
1		0020	5	3.	1		0635	80	8.	1		1250	155	74.	1		1905	230	27.
1		0025	6	3.	1		0640	81	8.	1		1255	156	65.	1		1910	231	27.
1		0030	7	3.	1		0645	82	8.	1		1300	157	58.	1		1915	232	26.
1		0035	8	4.	1		0650	83	8.	1		1305	158	51.	1		1920	233	26.
1		0040	9	4.	1		0655	84	8.	1		1310	159	46.	1		1925	234	26.
1		0045	10	4.	1		0700	85	8.	1		1315	160	42.	1		1930	235	26.
1		0050	11	4.	1		0705	86	8.	1		1320	161	38.	1		1935	236	25.
1		0055	12	4.	1		0710	87	8.	1		1325	162	35.	1		1940	237	25.
1		0100	13	4.	1		0715	88	8.	1		1330	163	32.	1		1945	238	25.
1		0105	14	4.	1		0720	89	8.	1		1335	164	30.	1		1950	239	24.
1		0110	15	4.	1		0725	90	8.	1		1340	165	27.	1		1955	240	24.
1		0115	16	4.	1		0730	91	9.	1		1345	166	25.	1		2000	241	24.
1		0120	17	4.	1		0735	92	9.	1		1350	167	24.	1		2005	242	23.
1		0125	18	4.	1		0740	93	9.	1		1355	168	22.	1		2010	243	23.
1		0130	19	5.	1		0745	94	9.	1		1400	169	21.	1		2015	244	23.
1		0135	20	5.	1		0750	95	9.	1		1405	170	20.	1		2020	245	23.
1		0140	21	5.	1		0755	96	9.	1		1410	171	19.	1		2025	246	22.
1		0145	22	5.	1		0800	97	9.	1		1415	172	18.	1		2030	247	22.
1		0150	23	5.	1		0805	98	9.	1		1420	173	17.	1		2035	248	22.
1		0155	24	5.	1		0810	99	9.	1		1425	174	17.	1		2040	249	22.
1		0200	25	5.	1		0815	100	9.	1		1430	175	16.	1		2045	250	22.
1		0205	26	5.	1		0820	101	10.	1		1435	176	16.	1		2050	251	21.
1		0210	27	5.	1		0825	102	10.	1		1440	177	15.	1		2055	252	21.
1		0215	28	5.	1		0830	103	10.	1		1445	178	15.	1		2100	253	21.
1		0220	29	5.	1		0835	104	10.	1		1450	179	15.	1		2105	254	21.
1		0225	30	5.	1		0840	105	11.	1		1455	180	14.	1		2110	255	21.
1		0230	31	5.	1		0845	106	11.	1		1500	181	14.	1		2115	256	21.
1		0235	32	5.	1		0850	107	11.	1		1505	182	13.	1		2120	257	20.
1		0240	33	5.	1		0855	108	12.	1		1510	183	13.	1		2125	258	20.
1		0245	34	5.	1		0900	109	12.	1		1515	184	13.	1		2130	259	20.
1		0250	35	5.	1		0905	110	12.	1		1520	185	13.	1		2135	260	20.
1		0255	36	5.	1		0910	111	13.	1		1525	186	12.	1		2140	261	20.
1		0300	37	5.	1		0915	112	13.	1		1530	187	12.	1		2145	262	20.
1		0305	38	5.	1		0920	113	13.	1		1535	188	12.	1		2150	263	19.
1		0310	39	5.	1		0925	114	13.	1		1540	189	11.	1		2155	264	19.
1		0315	40	5.	1		0930	115	13.	1		1545	190	11.	1		2200	265	19.
1		0320	41	5.	1		0935	116	13.	1		1550	191	11.	1		2205	266	19.
1		0325	42	5.	1		0940	117	13.	1		1555	192	11.	1		2210	267	19.
1		0330	43	5.	1		0945	118	14.	1		1600	193	10.	1		2215	268	19.
1		0335	44	5.	1		0950	119	14.	1		1605	194	10.	1		2220	269	18.
1		0340	45	5.	1		0955	120	14.	1		1610	195	10.	1		2225	270	18.

1	0345	46	5.	*	1	1000	121	15.	*	1	1615	196	10.	*	1	2230	271	18.
1	0350	47	6.	*	1	1005	122	15.	*	1	1620	197	10.	*	1	2235	272	18.
1	0355	48	6.	*	1	1010	123	16.	*	1	1625	198	10.	*	1	2240	273	18.
1	0400	49	6.	*	1	1015	124	17.	*	1	1630	199	9.	*	1	2245	274	17.
1	0405	50	6.	*	1	1020	125	18.	*	1	1635	200	9.	*	1	2250	275	17.
1	0410	51	6.	*	1	1025	126	18.	*	1	1640	201	9.	*	1	2255	276	17.
1	0415	52	6.	*	1	1030	127	19.	*	1	1645	202	9.	*	1	2300	277	17.
1	0420	53	6.	*	1	1035	128	20.	*	1	1650	203	9.	*	1	2305	278	17.
1	0425	54	6.	*	1	1040	129	21.	*	1	1655	204	9.	*	1	2310	279	16.
1	0430	55	6.	*	1	1045	130	22.	*	1	1700	205	9.	*	1	2315	280	16.
1	0435	56	6.	*	1	1050	131	23.	*	1	1705	206	9.	*	1	2320	281	16.
1	0440	57	6.	*	1	1055	132	24.	*	1	1710	207	9.	*	1	2325	282	15.
1	0445	58	6.	*	1	1100	133	26.	*	1	1715	208	9.	*	1	2330	283	15.
1	0450	59	6.	*	1	1105	134	28.	*	1	1720	209	8.	*	1	2335	284	15.
1	0455	60	6.	*	1	1110	135	30.	*	1	1725	210	8.	*	1	2340	285	14.
1	0500	61	6.	*	1	1115	136	34.	*	1	1730	211	8.	*	1	2345	286	14.
1	0505	62	6.	*	1	1120	137	37.	*	1	1735	212	10.	*	1	2350	287	14.
1	0510	63	6.	*	1	1125	138	41.	*	1	1740	213	12.	*	1	2355	288	14.
1	0515	64	7.	*	1	1130	139	46.	*	1	1745	214	13.	*	2	0000	289	13.
1	0520	65	7.	*	1	1135	140	55.	*	1	1750	215	14.	*	2	0005	290	13.
1	0525	66	7.	*	1	1140	141	82.	*	1	1755	216	18.	*	2	0010	291	11.
1	0530	67	7.	*	1	1145	142	139.	*	1	1800	217	22.	*	2	0015	292	9.
1	0535	68	7.	*	1	1150	143	231.	*	1	1805	218	25.	*	2	0020	293	8.
1	0540	69	7.	*	1	1155	144	360.	*	1	1810	219	26.	*	2	0025	294	7.
1	0545	70	7.	*	1	1200	145	479.	*	1	1815	220	27.	*	2	0030	295	6.
1	0550	71	7.	*	1	1205	146	492.	*	1	1820	221	28.	*	2	0035	296	6.
1	0555	72	7.	*	1	1210	147	390.	*	1	1825	222	28.	*	2	0040	297	5.
1	0600	73	7.	*	1	1215	148	276.	*	1	1830	223	28.	*	2	0045	298	5.
1	0605	74	7.	*	1	1220	149	207.	*	1	1835	224	28.	*	2	0050	299	4.
1	0610	75	7.	*	1	1225	150	168.	*	1	1840	225	28.	*	2	0055	300	4.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 492.	12.08		66.	26.	25.	25.
		(INCHES)	.426	.666	.669	.669
		(AC-FT)	33.	51.	51.	51.

CUMULATIVE AREA = 1.43 SQ MI

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          *             *
305 KK    *    R_PD L   *
          *             *
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route Hydrograph Through Lower Airport East Pond

HYDROGRAPH ROUTING DATA

307 RS STORAGE ROUTING

NSTPS	1	NUMBER OF SUBREACHES
ITYP	STOR	TYPE OF INITIAL CONDITION
RSVRIC	.00	INITIAL CONDITION
X	.00	WORKING R AND D COEFFICIENT

308 SV	STORAGE	.0	.1	4.3	13.8	24.6	30.0
309 SQ	DISCHARGE	0.	6.	8.	10.	11.	14.
310 SE	ELEVATION	4758.40	4760.00	4762.00	4764.00	4766.00	4766.20

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WARNING --- ROUTED OUTFLOW (14.) IS GREATER THAN MAXIMUM OUTFLOW (14.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (14.) IS GREATER THAN MAXIMUM OUTFLOW (14.) IN STORAGE-OUTFLOW TABLE
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WARNING --- ROUTED OUTFLOW (15.) IS GREATER THAN MAXIMUM OUTFLOW (14.) IN STORAGE-OUTFLOW TABLE
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WARNING --- ROUTED OUTFLOW (15.) IS GREATER THAN MAXIMUM OUTFLOW (14.) IN STORAGE-OUTFLOW TABLE

		(CFS)				
15.	23.58		15.	10.	10.	10.
		(INCHES)	.098	.265	.268	.268
		(AC-FT)	7.	20.	20.	20.

			MAXIMUM AVERAGE STORAGE			
PEAK STORAGE	TIME		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)					
33.	23.58		32.	16.	16.	16.

			MAXIMUM AVERAGE STAGE			
PEAK STAGE	TIME		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)					
4766.30	23.50		4766.27	4763.47	4763.30	4763.30

CUMULATIVE AREA = 1.43 SQ MI

WARNING --- ROUTED OUTFLOW (14.) IS GREATER THAN MAXIMUM OUTFLOW (14.) IN STORAGE-OUTFLOW TABLE

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 WARNING --- ROUTED OUTFLOW (     15.) IS GREATER THAN MAXIMUM OUTFLOW (     14.) IN STORAGE-OUTFLOW TABLE
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WARNING --- ROUTED OUTFLOW (14.) IS GREATER THAN MAXIMUM OUTFLOW (14.) IN STORAGE-OUTFLOW TABLE

'ARNING --- ROUTED OUTFLOW (14.) IS GREATER THAN MAXIMUM OUTFLOW (14.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (14.) IS GREATER THAN MAXIMUM OUTFLOW (14.) IN STORAGE-OUTFLOW TABLE

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WARNING --- ROUTED OUTFLOW (14.) IS GREATER THAN MAXIMUM OUTFLOW (14.) IN STORAGE-OUTFLOW TABLE

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HYDROGRAPH AT STATION R_PD L
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
14.	23.33		14.	10.	9.	9.
		(INCHES)	.091	.252	.255	.255
		(AC-FT)	7.	19.	19.	19.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
(AC-FT)	(HR)				
31.	23.33	30.	16.	15.	15.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
(FEET)	(HR)				
4766.22	23.17	4766.20	4763.42	4763.26	4763.26

CUMULATIVE AREA = 1.43 SQ MI

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HYDROGRAPH AT STATION R_PD L
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
14.	23.25		14.	10.	9.	9.
		(INCHES)	.088	.248	.250	.250
		(AC-FT)	7.	19.	19.	19.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
(AC-FT)	(HR)				
30.	23.33	29.	15.	15.	15.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
(FEET)	(HR)				
4766.19	23.17	4766.17	4763.40	4763.24	4763.24

CUMULATIVE AREA = 1.43 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R_PD L
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
14.	23.25		13.	9.	9.	9.
		(INCHES)	.086	.245	.247	.247
		(AC-FT)	7.	19.	19.	19.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
(AC-FT)	(HR)				
29.	23.25	29.	15.	15.	15.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
(FEET)	(HR)				
4766.18	23.25	4766.15	4763.38	4763.22	4763.22

CUMULATIVE AREA = 1.43 SQ MI

INTERPOLATED HYDROGRAPH AT R_PD L

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	6.	1		1230	151	11.	1		1845	226	13.
1		0005	2	0.	1		0620	77	6.	1		1235	152	11.	1		1850	227	14.
1		0010	3	1.	1		0625	78	6.	1		1240	153	11.	1		1855	228	14.
1		0015	4	1.	1		0630	79	6.	1		1245	154	12.	1		1900	229	14.
1		0020	5	2.	1		0635	80	6.	1		1250	155	12.	1		1905	230	14.
1		0025	6	2.	1		0640	81	6.	1		1255	156	12.	1		1910	231	14.
1		0030	7	3.	1		0645	82	6.	1		1300	157	12.	1		1915	232	14.
1		0035	8	3.	1		0650	83	6.	1		1305	158	12.	1		1920	233	14.
1		0040	9	3.	1		0655	84	6.	1		1310	159	12.	1		1925	234	14.
1		0045	10	4.	1		0700	85	6.	1		1315	160	13.	1		1930	235	14.
1		0050	11	4.	1		0705	86	6.	1		1320	161	13.	1		1935	236	14.
1		0055	12	4.	1		0710	87	6.	1		1325	162	13.	1		1940	237	14.
1		0100	13	4.	1		0715	88	6.	1		1330	163	13.	1		1945	238	14.
1		0105	14	4.	1		0720	89	6.	1		1335	164	13.	1		1950	239	14.

1	0110	15	4.	*	1	0725	90	6.	*	1	1340	165	13.	*	1	1955	240	14.		
1	0115	16	4.	*	1	0730	91	6.	*	1	1345	166	13.	*	1	2000	241	14.		
1	0120	17	4.	*	1	0735	92	6.	*	1	1350	167	13.	*	1	2005	242	14.		
1	0125	18	4.	*	1	0740	93	6.	*	1	1355	168	13.	*	1	2010	243	14.		
1	0130	19	4.	*	1	0745	94	6.	*	1	1400	169	13.	*	1	2015	244	14.		
1	0135	20	4.	*	1	0750	95	6.	*	1	1405	170	13.	*	1	2020	245	14.		
1	0140	21	5.	*	1	0755	96	6.	*	1	1410	171	13.	*	1	2025	246	14.		
1	0145	22	5.	*	1	0800	97	6.	*	1	1415	172	13.	*	1	2030	247	14.		
1	0150	23	5.	*	1	0805	98	6.	*	1	1420	173	13.	*	1	2035	248	14.		
1	0155	24	5.	*	1	0810	99	6.	*	1	1425	174	13.	*	1	2040	249	14.		
1	0200	25	5.	*	1	0815	100	6.	*	1	1430	175	13.	*	1	2045	250	14.		
1	0205	26	5.	*	1	0820	101	6.	*	1	1435	176	13.	*	1	2050	251	14.		
1	0210	27	5.	*	1	0825	102	6.	*	1	1440	177	13.	*	1	2055	252	14.		
1	0215	28	5.	*	1	0830	103	6.	*	1	1445	178	13.	*	1	2100	253	15.		
1	0220	29	5.	*	1	0835	104	6.	*	1	1450	179	13.	*	1	2105	254	15.		
1	0225	30	5.	*	1	0840	105	6.	*	1	1455	180	13.	*	1	2110	255	15.		
1	0230	31	5.	*	1	0845	106	6.	*	1	1500	181	13.	*	1	2115	256	15.		
1	0235	32	5.	*	1	0850	107	6.	*	1	1505	182	13.	*	1	2120	257	15.		
1	0240	33	5.	*	1	0855	108	6.	*	1	1510	183	13.	*	1	2125	258	15.		
1	0245	34	5.	*	1	0900	109	6.	*	1	1515	184	13.	*	1	2130	259	15.		
1	0250	35	5.	*	1	0905	110	6.	*	1	1520	185	13.	*	1	2135	260	15.		
1	0255	36	5.	*	1	0910	111	6.	*	1	1525	186	13.	*	1	2140	261	15.		
1	0300	37	5.	*	1	0915	112	6.	*	1	1530	187	13.	*	1	2145	262	15.		
1	0305	38	5.	*	1	0920	113	6.	*	1	1535	188	13.	*	1	2150	263	15.		
1	0310	39	5.	*	1	0925	114	6.	*	1	1540	189	13.	*	1	2155	264	15.		
1	0315	40	5.	*	1	0930	115	6.	*	1	1545	190	13.	*	1	2200	265	15.		
1	0320	41	5.	*	1	0935	116	6.	*	1	1550	191	13.	*	1	2205	266	15.		
1	0325	42	5.	*	1	0940	117	6.	*	1	1555	192	13.	*	1	2210	267	15.		
1	0330	43	5.	*	1	0945	118	6.	*	1	1600	193	13.	*	1	2215	268	15.		
1	0335	44	5.	*	1	0950	119	6.	*	1	1605	194	13.	*	1	2220	269	15.		
1	0340	45	5.	*	1	0955	120	6.	*	1	1610	195	13.	*	1	2225	270	15.		
1	0345	46	5.	*	1	1000	121	6.	*	1	1615	196	13.	*	1	2230	271	15.		
1	0350	47	5.	*	1	1005	122	6.	*	1	1620	197	13.	*	1	2235	272	15.		
1	0355	48	5.	*	1	1010	123	6.	*	1	1625	198	13.	*	1	2240	273	15.		
1	0400	49	6.	*	1	1015	124	6.	*	1	1630	199	13.	*	1	2245	274	15.		
1	0405	50	6.	*	1	1020	125	6.	*	1	1635	200	13.	*	1	2250	275	15.		
1	0410	51	6.	*	1	1025	126	7.	*	1	1640	201	13.	*	1	2255	276	15.		
1	0415	52	6.	*	1	1030	127	7.	*	1	1645	202	13.	*	1	2300	277	15.		
1	0420	53	6.	*	1	1035	128	7.	*	1	1650	203	13.	*	1	2305	278	15.		
1	0425	54	6.	*	1	1040	129	7.	*	1	1655	204	13.	*	1	2310	279	15.		
1	0430	55	6.	*	1	1045	130	7.	*	1	1700	205	13.	*	1	2315	280	15.		
1	0435	56	6.	*	1	1050	131	7.	*	1	1705	206	13.	*	1	2320	281	15.		
1	0440	57	6.	*	1	1055	132	7.	*	1	1710	207	13.	*	1	2325	282	15.		
1	0445	58	6.	*	1	1100	133	7.	*	1	1715	208	13.	*	1	2330	283	15.		
1	0450	59	6.	*	1	1105	134	7.	*	1	1720	209	13.	*	1	2335	284	15.		
1	0455	60	6.	*	1	1110	135	7.	*	1	1725	210	13.	*	1	2340	285	15.		
1	0500	61	6.	*	1	1115	136	7.	*	1	1730	211	13.	*	1	2345	286	15.		
1	0505	62	6.	*	1	1120	137	7.	*	1	1735	212	13.	*	1	2350	287	15.		
1	0510	63	6.	*	1	1125	138	7.	*	1	1740	213	13.	*	1	2355	288	15.		
1	0515	64	6.	*	1	1130	139	8.	*	1	1745	214	13.	*	2	0000	289	15.		
1	0520	65	6.	*	1	1135	140	8.	*	1	1750	215	13.	*	2	0005	290	15.		
1	0525	66	6.	*	1	1140	141	8.	*	1	1755	216	13.	*	2	0010	291	15.		
1	0530	67	6.	*	1	1145	142	8.	*	1	1800	217	13.	*	2	0015	292	15.		
1	0535	68	6.	*	1	1150	143	8.	*	1	1805	218	13.	*	2	0020	293	15.		
1	0540	69	6.	*	1	1155	144	9.	*	1	1810	219	13.	*	2	0025	294	15.		
1	0545	70	6.	*	1	1200	145	9.	*	1	1815	220	13.	*	2	0030	295	15.		
1	0550	71	6.	*	1	1205	146	10.	*	1	1820	221	13.	*	2	0035	296	15.		
1	0555	72	6.	*	1	1210	147	10.	*	1	1825	222	13.	*	2	0040	297	15.		
1	0600	73	6.	*	1	1215	148	10.	*	1	1830	223	13.	*	2	0045	298	15.		
1	0605	74	6.	*	1	1220	149	11.	*	1	1835	224	13.	*	2	0050	299	15.		
1	0610	75	6.	*	1	1225	150	11.	*	1	1840	225	13.	*	2	0055	300	15.		

****

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 15.	23.42		15.	10.	10.	10.
		(INCHES)	.095	.259	.262	.262
		(AC-FT)	7.	20.	20.	20.

CUMULATIVE AREA = 1.43 SQ MI

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311 KK      ***************
            *             *
            *      PR_U   *
            *             *
            ***************
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Retrieve Upper Pond Pipe Flow

313 DR RETRIEVE DIVERSION HYDROGRAPH
ISTAD U_Pipe DIVERSION HYDROGRAPH IDENTIFICATION

*** *** *** *** ***

HYDROGRAPH AT STATION PR_U
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 14.	17.58		14.	11.	11.	11.
		(INCHES)	.092	.295	.297	.297
		(AC-FT)	7.	22.	23.	23.

CUMULATIVE AREA = .90 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION PR_U
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW TIME MAXIMUM AVERAGE FLOW

			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
14.	17.92		14.	11.	11.	11.
		(INCHES)	.092	.293	.296	.296
		(AC-FT)	7.	22.	23.	23.

CUMULATIVE AREA = .90 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION PR_U
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 14.	18.08		14.	11.	11.	11.
		(INCHES)	.092	.293	.295	.295
		(AC-FT)	7.	22.	22.	22.

CUMULATIVE AREA = .90 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION PR_U
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 14.	18.25		14.	11.	11.	11.
		(INCHES)	.092	.292	.294	.294
		(AC-FT)	7.	22.	22.	22.

CUMULATIVE AREA = .90 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION PR_U
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 14.	18.42		14.	11.	11.	11.
		(INCHES)	.092	.291	.293	.293
		(AC-FT)	7.	22.	22.	22.

CUMULATIVE AREA = .90 SQ MI

INTERPOLATED HYDROGRAPH AT PR_U

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	8.	1		1230	151	13.	1		1845	226	14.
1		0005	2	0.	1		0620	77	8.	1		1235	152	13.	1		1850	227	14.
1		0010	3	1.	1		0625	78	8.	1		1240	153	13.	1		1855	228	14.
1		0015	4	1.	1		0630	79	8.	1		1245	154	13.	1		1900	229	14.
1		0020	5	2.	1		0635	80	8.	1		1250	155	13.	1		1905	230	14.
1		0025	6	3.	1		0640	81	8.	1		1255	156	13.	1		1910	231	14.
1		0030	7	3.	1		0645	82	9.	1		1300	157	13.	1		1915	232	14.
1		0035	8	3.	1		0650	83	9.	1		1305	158	13.	1		1920	233	14.
1		0040	9	3.	1		0655	84	9.	1		1310	159	13.	1		1925	234	14.
1		0045	10	3.	1		0700	85	9.	1		1315	160	13.	1		1930	235	14.
1		0050	11	3.	1		0705	86	9.	1		1320	161	13.	1		1935	236	14.
1		0055	12	3.	1		0710	87	9.	1		1325	162	13.	1		1940	237	14.
1		0100	13	3.	1		0715	88	9.	1		1330	163	13.	1		1945	238	14.
1		0105	14	4.	1		0720	89	9.	1		1335	164	13.	1		1950	239	14.
1		0110	15	4.	1		0725	90	9.	1		1340	165	13.	1		1955	240	14.
1		0115	16	4.	1		0730	91	9.	1		1345	166	13.	1		2000	241	14.
1		0120	17	4.	1		0735	92	9.	1		1350	167	13.	1		2005	242	14.
1		0125	18	4.	1		0740	93	9.	1		1355	168	13.	1		2010	243	14.
1		0130	19	4.	1		0745	94	10.	1		1400	169	13.	1		2015	244	14.
1		0135	20	4.	1		0750	95	10.	1		1405	170	13.	1		2020	245	14.
1		0140	21	4.	1		0755	96	10.	1		1410	171	13.	1		2025	246	14.
1		0145	22	4.	1		0800	97	10.	1		1415	172	14.	1		2030	247	14.
1		0150	23	4.	1		0805	98	10.	1		1420	173	14.	1		2035	248	14.
1		0155	24	5.	1		0810	99	10.	1		1425	174	14.	1		2040	249	14.
1		0200	25	5.	1		0815	100	10.	1		1430	175	14.	1		2045	250	14.
1		0205	26	5.	1		0820	101	10.	1		1435	176	14.	1		2050	251	14.
1		0210	27	5.	1		0825	102	11.	1		1440	177	14.	1		2055	252	14.
1		0215	28	5.	1		0830	103	11.	1		1445	178	14.	1		2100	253	14.
1		0220	29	5.	1		0835	104	11.	1		1450	179	14.	1		2105	254	14.
1		0225	30	5.	1		0840	105	11.	1		1455	180	14.	1		2110	255	14.
1		0230	31	5.	1		0845	106	11.	1		1500	181	14.	1		2115	256	14.
1		0235	32	5.	1		0850	107	11.	1		1505	182	14.	1		2120	257	14.
1		0240	33	5.	1		0855	108	11.	1		1510	183	14.	1		2125	258	14.
1		0245	34	5.	1		0900	109	11.	1		1515	184	14.	1		2130	259	14.
1		0250	35	5.	1		0905	110	11.	1		1520	185	14.	1		2135	260	14.
1		0255	36	5.	1		0910	111	11.	1		1525	186	14.	1		2140	261	14.
1		0300	37	5.	1		0915	112	11.	1		1530	187	14.	1		2145	262	14.
1		0305	38	6.	1		0920	113	11.	1		1535	188	14.	1		2150	263	14.
1		0310	39	6.	1		0925	114	11.	1		1540	189	14.	1		2155	264	14.
1		0315	40	6.	1		0930	115	11.	1		1545	190	14.	1		2200	265	14.
1		0320	41	6.	1		0935	116	11.	1		1550	191	14.	1		2205	266	14.
1		0325	42	6.	1		0940	117	11.	1		1555	192	14.	1		2210	267	14.
1		0330	43	6.	1		0945	118	11.	1		1600	193	14.	1		2215	268	14.
1		0335	44	6.	1		0950	119	11.	1		1605	194	14.	1		2220	269	14.
1		0340	45	6.	1		0955	120	11.	1		1610	195	14.	1		2225	270	14.
1		0345	46	6.	1		1000	121	11.	1		1615	196	14.	1		2230	271	14.
1		0350	47	6.	1		1005	122	11.	1		1620	197	14.	1		2235	272	14.
1		0355	48	6.	1		1010	123	11.	1		1625	198	14.	1		2240	273	14.

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      1    0400   49        6.   *    1     1015  124        11.   *    1     1630  199        14.   *    1     2245  274        14.
      1    0405   50        6.   *    1     1020  125        11.   *    1     1635  200        14.   *    1     2250  275        14.
      1    0410   51        6.   *    1     1025  126        11.   *    1     1640  201        14.   *    1     2255  276        14.
      1    0415   52        6.   *    1     1030  127        11.   *    1     1645  202        14.   *    1     2300  277        14.
      1    0420   53        6.   *    1     1035  128        11.   *    1     1650  203        14.   *    1     2305  278        14.
      1    0425   54        6.   *    1     1040  129        11.   *    1     1655  204        14.   *    1     2310  279        14.
      1    0430   55        7.   *    1     1045  130        11.   *    1     1700  205        14.   *    1     2315  280        14.
      1    0435   56        7.   *    1     1050  131        11.   *    1     1705  206        14.   *    1     2320  281        14.
      1    0440   57        7.   *    1     1055  132        12.   *    1     1710  207        14.   *    1     2325  282        14.
      1    0445   58        7.   *    1     1100  133        12.   *    1     1715  208        14.   *    1     2330  283        14.
      1    0450   59        7.   *    1     1105  134        12.   *    1     1720  209        14.   *    1     2335  284        14.
      1    0455   60        7.   *    1     1110  135        12.   *    1     1725  210        14.   *    1     2340  285        14.
      1    0500   61        7.   *    1     1115  136        12.   *    1     1730  211        14.   *    1     2345  286        14.
      1    0505   62        7.   *    1     1120  137        12.   *    1     1735  212        14.   *    1     2350  287        14.
      1    0510   63        7.   *    1     1125  138        12.   *    1     1740  213        14.   *    1     2355  288        14.
      1    0515   64        7.   *    1     1130  139        12.   *    1     1745  214        14.   *    2     0000  289        14.
      1    0520   65        7.   *    1     1135  140        12.   *    1     1750  215        14.   *    2     0005  290        14.
      1    0525   66        7.   *    1     1140  141        12.   *    1     1755  216        14.   *    2     0010  291        14.
      1    0530   67        7.   *    1     1145  142        12.   *    1     1800  217        14.   *    2     0015  292        14.
      1    0535   68        7.   *    1     1150  143        12.   *    1     1805  218        14.   *    2     0020  293        14.
      1    0540   69        8.   *    1     1155  144        12.   *    1     1810  219        14.   *    2     0025  294        14.
      1    0545   70        8.   *    1     1200  145        12.   *    1     1815  220        14.   *    2     0030  295        14.
      1    0550   71        8.   *    1     1205  146        12.   *    1     1820  221        14.   *    2     0035  296        14.
      1    0555   72        8.   *    1     1210  147        13.   *    1     1825  222        14.   *    2     0040  297        14.
      1    0600   73        8.   *    1     1215  148        13.   *    1     1830  223        14.   *    2     0045  298        14.
      1    0605   74        8.   *    1     1220  149        13.   *    1     1835  224        14.   *    2     0050  299        14.
      1    0610   75        8.   *    1     1225  150        13.   *    1     1840  225        14.   *    2     0055  300        14.
                             *                                *                                *

**********************************************************************************************************************************************************

   PEAK FLOW     TIME                                  MAXIMUM AVERAGE FLOW
                                        6-HR          24-HR          72-HR       24.92-HR
+    (CFS)        (HR)          (CFS)
+       14.      17.92                  14.            11.            11.            11.
                              (INCHES)  .147           .468           .471           .471
                                (AC-FT)   7.            22.            23.            23.

                              CUMULATIVE AREA =      .90 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

               ***************
               *             *
   314 KK      *     C_Out   *
               *             *
               ***************
                        Combine 2 Outflow Hydrographs at Canal

   316 HC            HYDROGRAPH COMBINATION
                          ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                    ***

         ***               ***               ***               ***               ***

                           HYDROGRAPH AT STATION    C_Out
                          TRANSPOSITION AREA        .0 SQ MI

   PEAK FLOW     TIME                                  MAXIMUM AVERAGE FLOW
                                        6-HR          24-HR          72-HR       24.92-HR
+    (CFS)        (HR)          (CFS)
+       30.      23.58                  29.            22.            21.            21.
                              (INCHES)  .190           .560           .565           .565
                                (AC-FT)  15.            43.            43.            43.

                              CUMULATIVE AREA =     1.43 SQ MI

         ***               ***               ***               ***               ***

                           HYDROGRAPH AT STATION    C_Out
                          TRANSPOSITION AREA       14.0 SQ MI

   PEAK FLOW     TIME                                  MAXIMUM AVERAGE FLOW
                                        6-HR          24-HR          72-HR       24.92-HR
+    (CFS)        (HR)          (CFS)
+       29.      23.42                  29.            21.            21.            21.
                              (INCHES)  .185           .550           .554           .554
                                (AC-FT)  14.            42.            42.            42.

                              CUMULATIVE AREA =     1.43 SQ MI

         ***               ***               ***               ***               ***

                           HYDROGRAPH AT STATION    C_Out
                          TRANSPOSITION AREA       24.0 SQ MI

   PEAK FLOW     TIME                                  MAXIMUM AVERAGE FLOW
                                        6-HR          24-HR          72-HR       24.92-HR
+    (CFS)        (HR)          (CFS)
+       28.      23.33                  28.            21.            20.            20.
                              (INCHES)  .183           .545           .549           .549
                                (AC-FT)  14.            42.            42.            42.

                              CUMULATIVE AREA =     1.43 SQ MI

         ***               ***               ***               ***               ***

                           HYDROGRAPH AT STATION    C_Out
                          TRANSPOSITION AREA       36.5 SQ MI

   PEAK FLOW     TIME                                  MAXIMUM AVERAGE FLOW
                                        6-HR          24-HR          72-HR       24.92-HR
+    (CFS)        (HR)
```

		(CFS)				
28.	23.25		28.	21.	20.	20.
		(INCHES)	.180	.540	.544	.544
		(AC-FT)	14.	41.	42.	42.

CUMULATIVE AREA = 1.43 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_Out
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 28.	23.25		27.	21.	20.	20.
		(INCHES)	.179	.537	.541	.541
		(AC-FT)	14.	41.	41.	41.

CUMULATIVE AREA = 1.43 SQ MI

INTERPOLATED HYDROGRAPH AT C_Out

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	14.	1		1230	151	24.	1		1845	226	28.
1		0005	2	0.	1		0620	77	14.	1		1235	152	24.	1		1850	227	28.
1		0010	3	1.	1		0625	78	14.	1		1240	153	24.	1		1855	228	28.
1		0015	4	3.	1		0630	79	14.	1		1245	154	24.	1		1900	229	28.
1		0020	5	4.	1		0635	80	14.	1		1250	155	25.	1		1905	230	28.
1		0025	6	5.	1		0640	81	14.	1		1255	156	25.	1		1910	231	28.
1		0030	7	6.	1		0645	82	14.	1		1300	157	25.	1		1915	232	28.
1		0035	8	6.	1		0650	83	14.	1		1305	158	25.	1		1920	233	28.
1		0040	9	7.	1		0655	84	14.	1		1310	159	26.	1		1925	234	28.
1		0045	10	7.	1		0700	85	14.	1		1315	160	26.	1		1930	235	28.
1		0050	11	7.	1		0705	86	15.	1		1320	161	26.	1		1935	236	28.
1		0055	12	7.	1		0710	87	15.	1		1325	162	26.	1		1940	237	28.
1		0100	13	8.	1		0715	88	15.	1		1330	163	26.	1		1945	238	28.
1		0105	14	8.	1		0720	89	15.	1		1335	164	26.	1		1950	239	28.
1		0110	15	8.	1		0725	90	15.	1		1340	165	26.	1		1955	240	28.
1		0115	16	8.	1		0730	91	15.	1		1345	166	26.	1		2000	241	28.
1		0120	17	8.	1		0735	92	15.	1		1350	167	26.	1		2005	242	28.
1		0125	18	8.	1		0740	93	15.	1		1355	168	27.	1		2010	243	28.
1		0130	19	8.	1		0745	94	15.	1		1400	169	27.	1		2015	244	28.
1		0135	20	9.	1		0750	95	15.	1		1405	170	27.	1		2020	245	28.
1		0140	21	9.	1		0755	96	15.	1		1410	171	27.	1		2025	246	29.
1		0145	22	9.	1		0800	97	16.	1		1415	172	27.	1		2030	247	29.
1		0150	23	9.	1		0805	98	16.	1		1420	173	27.	1		2035	248	29.
1		0155	24	9.	1		0810	99	16.	1		1425	174	27.	1		2040	249	29.
1		0200	25	9.	1		0815	100	16.	1		1430	175	27.	1		2045	250	29.
1		0205	26	9.	1		0820	101	16.	1		1435	176	27.	1		2050	251	29.
1		0210	27	10.	1		0825	102	16.	1		1440	177	27.	1		2055	252	29.
1		0215	28	10.	1		0830	103	17.	1		1445	178	27.	1		2100	253	29.
1		0220	29	10.	1		0835	104	17.	1		1450	179	27.	1		2105	254	29.
1		0225	30	10.	1		0840	105	17.	1		1455	180	27.	1		2110	255	29.
1		0230	31	10.	1		0845	106	17.	1		1500	181	27.	1		2115	256	29.
1		0235	32	10.	1		0850	107	17.	1		1505	182	27.	1		2120	257	29.
1		0240	33	10.	1		0855	108	17.	1		1510	183	27.	1		2125	258	29.
1		0245	34	10.	1		0900	109	17.	1		1515	184	27.	1		2130	259	29.
1		0250	35	10.	1		0905	110	17.	1		1520	185	27.	1		2135	260	29.
1		0255	36	10.	1		0910	111	17.	1		1525	186	27.	1		2140	261	29.
1		0300	37	11.	1		0915	112	17.	1		1530	187	27.	1		2145	262	29.
1		0305	38	11.	1		0920	113	17.	1		1535	188	27.	1		2150	263	29.
1		0310	39	11.	1		0925	114	17.	1		1540	189	27.	1		2155	264	29.
1		0315	40	11.	1		0930	115	17.	1		1545	190	27.	1		2200	265	29.
1		0320	41	11.	1		0935	116	17.	1		1550	191	27.	1		2205	266	29.
1		0325	42	11.	1		0940	117	17.	1		1555	192	27.	1		2210	267	29.
1		0330	43	11.	1		0945	118	18.	1		1600	193	27.	1		2215	268	29.
1		0335	44	11.	1		0950	119	18.	1		1605	194	27.	1		2220	269	29.
1		0340	45	11.	1		0955	120	18.	1		1610	195	27.	1		2225	270	29.
1		0345	46	11.	1		1000	121	18.	1		1615	196	27.	1		2230	271	29.
1		0350	47	11.	1		1005	122	18.	1		1620	197	27.	1		2235	272	29.
1		0355	48	12.	1		1010	123	18.	1		1625	198	27.	1		2240	273	29.
1		0400	49	12.	1		1015	124	18.	1		1630	199	27.	1		2245	274	29.
1		0405	50	12.	1		1020	125	18.	1		1635	200	27.	1		2250	275	29.
1		0410	51	12.	1		1025	126	18.	1		1640	201	27.	1		2255	276	29.
1		0415	52	12.	1		1030	127	18.	1		1645	202	27.	1		2300	277	29.
1		0420	53	12.	1		1035	128	18.	1		1650	203	27.	1		2305	278	29.
1		0425	54	12.	1		1040	129	18.	1		1655	204	27.	1		2310	279	29.
1		0430	55	12.	1		1045	130	18.	1		1700	205	27.	1		2315	280	29.
1		0435	56	12.	1		1050	131	18.	1		1705	206	27.	1		2320	281	29.
1		0440	57	12.	1		1055	132	18.	1		1710	207	27.	1		2325	282	29.
1		0445	58	12.	1		1100	133	18.	1		1715	208	27.	1		2330	283	29.
1		0450	59	12.	1		1105	134	19.	1		1720	209	27.	1		2335	284	29.
1		0455	60	12.	1		1110	135	19.	1		1725	210	27.	1		2340	285	29.
1		0500	61	12.	1		1115	136	19.	1		1730	211	27.	1		2345	286	29.
1		0505	62	13.	1		1120	137	19.	1		1735	212	27.	1		2350	287	29.
1		0510	63	13.	1		1125	138	19.	1		1740	213	27.	1		2355	288	29.
1		0515	64	13.	1		1130	139	19.	1		1745	214	27.	2		0000	289	29.
1		0520	65	13.	1		1135	140	19.	1		1750	215	27.	2		0005	290	29.
1		0525	66	13.	1		1140	141	20.	1		1755	216	27.	2		0010	291	29.
1		0530	67	13.	1		1145	142	20.	1		1800	217	27.	2		0015	292	29.
1		0535	68	13.	1		1150	143	20.	1		1805	218	27.	2		0020	293	29.
1		0540	69	13.	1		1155	144	21.	1		1810	219	27.	2		0025	294	29.
1		0545	70	13.	1		1200	145	21.	1		1815	220	27.	2		0030	295	29.
1		0550	71	13.	1		1205	146	22.	1		1820	221	27.	2		0035	296	29.
1		0555	72	13.	1		1210	147	23.	1		1825	222	27.	2		0040	297	29.
1		0600	73	13.	1		1215	148	23.	1		1830	223	28.	2		0045	298	29.
1		0605	74	14.	1		1220	149	23.	1		1835	224	28.	2		0050	299	29.
1		0610	75	14.	1		1225	150	23.	1		1840	225	28.	2		0055	300	29.

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				

```
+      29.     23.42                    29.         21.         21.         21.
                          (INCHES)      .187        .553        .558        .558
                          (AC-FT)        14.         42.         43.         43.

                          CUMULATIVE AREA =    1.43 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

               ***************
               *             *
 317 KK        *       R16   *
               *             *
               ***************
                        Subbasin

                  SUBBASIN RUNOFF DATA

 319 BA             SUBBASIN CHARACTERISTICS
                          TAREA         .16  SUBBASIN AREA

 320 LG             GREEN AND AMPT LOSS RATE
                          STRTL         .34  STARTING LOSS
                            DTH         .35  MOISTURE DEFICIT
                           PSIF        1.33  WETTING FRONT SUCTION
                          XKSAT         .05  HYDRAULIC CONDUCTIVITY
                          RTIMP       51.00  PERCENT IMPERVIOUS AREA

 321 US             SNYDER UNITGRAPH
                            TP          .08  LAG
                            CP          .48  PEAKING COEFFICIENT

                  SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                        ***

                                                  UNIT HYDROGRAPH PARAMETERS
                                             CLARK   TC=    .08 HR,       R=    .15 HR
                                             SNYDER  TP=    .10 HR,      CP=    .48

                                                    UNIT HYDROGRAPH
                                                10 END-OF-PERIOD ORDINATES
                       262.      410.      231.      130.       73.       41.       23.       13.        7.        4.

                        ***               ***               ***               ***               ***

                                    HYDROGRAPH AT STATION      R16
                                   TRANSPOSITION AREA       .0 SQ MI

                          TOTAL RAINFALL =   1.99, TOTAL LOSS =     .58, TOTAL EXCESS =    1.41

                     PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                                          6-HR        24-HR        72-HR      24.92-HR
+                       (CFS)        (HR)                (CFS)
+                        182.      12.00                   18.           6.           6.           6.
                                                    (INCHES)         1.106        1.401        1.402        1.402
                                                    (AC-FT)              9.          12.          12.          12.

                                    CUMULATIVE AREA =     .16 SQ MI

                        ***               ***               ***               ***               ***

                                    HYDROGRAPH AT STATION      R16
                                   TRANSPOSITION AREA      14.0 SQ MI

                          TOTAL RAINFALL =   1.95, TOTAL LOSS =     .57, TOTAL EXCESS =    1.38

                     PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                                          6-HR        24-HR        72-HR      24.92-HR
+                       (CFS)        (HR)                (CFS)
+                        178.      12.00                   18.           6.           5.           5.
                                                    (INCHES)         1.079        1.368        1.369        1.369
                                                    (AC-FT)              9.          11.          11.          11.

                                    CUMULATIVE AREA =     .16 SQ MI

                        ***               ***               ***               ***               ***

                                    HYDROGRAPH AT STATION      R16
                                   TRANSPOSITION AREA      24.0 SQ MI

                          TOTAL RAINFALL =   1.93, TOTAL LOSS =     .57, TOTAL EXCESS =    1.36

                     PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                                          6-HR        24-HR        72-HR      24.92-HR
+                       (CFS)        (HR)                (CFS)
+                        176.      12.00                   18.           6.           5.           5.
                                                    (INCHES)         1.065        1.352        1.353        1.353
                                                    (AC-FT)              9.          11.          11.          11.

                                    CUMULATIVE AREA =     .16 SQ MI

                        ***               ***               ***               ***               ***

                                    HYDROGRAPH AT STATION      R16
                                   TRANSPOSITION AREA      36.5 SQ MI

                          TOTAL RAINFALL =   1.91, TOTAL LOSS =     .57, TOTAL EXCESS =    1.34

                     PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                                          6-HR        24-HR        72-HR      24.92-HR
+                       (CFS)        (HR)                (CFS)
+                        174.      12.00                   18.           6.           5.           5.
                                                    (INCHES)         1.051        1.335        1.336        1.336
```

(AC-FT)	9.	11.	11.	11.

CUMULATIVE AREA = .16 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R16
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.90, TOTAL LOSS = .57, TOTAL EXCESS = 1.33

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+ 173.	12.00	(CFS)	17.	6.	5.	5.
		(INCHES)	1.042	1.324	1.325	1.325
		(AC-FT)	9.	11.	11.	11.

CUMULATIVE AREA = .16 SQ MI

INTERPOLATED HYDROGRAPH AT R16

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	2.	1		1230	151	26.	1		1845	226	2.
1		0005	2	0.	1		0620	77	2.	1		1235	152	20.	1		1850	227	2.
1		0010	3	1.	1		0625	78	2.	1		1240	153	16.	1		1855	228	2.
1		0015	4	1.	1		0630	79	2.	1		1245	154	13.	1		1900	229	2.
1		0020	5	1.	1		0635	80	2.	1		1250	155	11.	1		1905	230	2.
1		0025	6	1.	1		0640	81	2.	1		1255	156	10.	1		1910	231	2.
1		0030	7	1.	1		0645	82	2.	1		1300	157	9.	1		1915	232	2.
1		0035	8	1.	1		0650	83	2.	1		1305	158	8.	1		1920	233	2.
1		0040	9	1.	1		0655	84	2.	1		1310	159	7.	1		1925	234	2.
1		0045	10	1.	1		0700	85	2.	1		1315	160	7.	1		1930	235	1.
1		0050	11	1.	1		0705	86	2.	1		1320	161	6.	1		1935	236	1.
1		0055	12	1.	1		0710	87	2.	1		1325	162	6.	1		1940	237	1.
1		0100	13	1.	1		0715	88	2.	1		1330	163	5.	1		1945	238	1.
1		0105	14	1.	1		0720	89	2.	1		1335	164	5.	1		1950	239	1.
1		0110	15	1.	1		0725	90	2.	1		1340	165	5.	1		1955	240	1.
1		0115	16	1.	1		0730	91	2.	1		1345	166	5.	1		2000	241	1.
1		0120	17	1.	1		0735	92	2.	1		1350	167	4.	1		2005	242	1.
1		0125	18	1.	1		0740	93	2.	1		1355	168	4.	1		2010	243	1.
1		0130	19	1.	1		0745	94	2.	1		1400	169	4.	1		2015	244	1.
1		0135	20	1.	1		0750	95	2.	1		1405	170	4.	1		2020	245	1.
1		0140	21	1.	1		0755	96	2.	1		1410	171	4.	1		2025	246	1.
1		0145	22	1.	1		0800	97	2.	1		1415	172	4.	1		2030	247	1.
1		0150	23	1.	1		0805	98	2.	1		1420	173	4.	1		2035	248	1.
1		0155	24	1.	1		0810	99	2.	1		1425	174	4.	1		2040	249	1.
1		0200	25	1.	1		0815	100	2.	1		1430	175	3.	1		2045	250	1.
1		0205	26	1.	1		0820	101	2.	1		1435	176	3.	1		2050	251	1.
1		0210	27	1.	1		0825	102	2.	1		1440	177	3.	1		2055	252	1.
1		0215	28	1.	1		0830	103	3.	1		1445	178	3.	1		2100	253	1.
1		0220	29	1.	1		0835	104	3.	1		1450	179	3.	1		2105	254	1.
1		0225	30	1.	1		0840	105	3.	1		1455	180	3.	1		2110	255	1.
1		0230	31	1.	1		0845	106	3.	1		1500	181	3.	1		2115	256	1.
1		0235	32	1.	1		0850	107	3.	1		1505	182	3.	1		2120	257	1.
1		0240	33	1.	1		0855	108	3.	1		1510	183	3.	1		2125	258	1.
1		0245	34	1.	1		0900	109	3.	1		1515	184	3.	1		2130	259	1.
1		0250	35	1.	1		0905	110	3.	1		1520	185	3.	1		2135	260	1.
1		0255	36	1.	1		0910	111	3.	1		1525	186	3.	1		2140	261	1.
1		0300	37	1.	1		0915	112	3.	1		1530	187	3.	1		2145	262	1.
1		0305	38	1.	1		0920	113	3.	1		1535	188	3.	1		2150	263	1.
1		0310	39	1.	1		0925	114	3.	1		1540	189	3.	1		2155	264	1.
1		0315	40	1.	1		0930	115	3.	1		1545	190	3.	1		2200	265	1.
1		0320	41	1.	1		0935	116	3.	1		1550	191	3.	1		2205	266	1.
1		0325	42	1.	1		0940	117	3.	1		1555	192	3.	1		2210	267	1.
1		0330	43	1.	1		0945	118	3.	1		1600	193	2.	1		2215	268	1.
1		0335	44	1.	1		0950	119	3.	1		1605	194	2.	1		2220	269	1.
1		0340	45	1.	1		0955	120	4.	1		1610	195	2.	1		2225	270	1.
1		0345	46	1.	1		1000	121	4.	1		1615	196	2.	1		2230	271	1.
1		0350	47	1.	1		1005	122	4.	1		1620	197	2.	1		2235	272	1.
1		0355	48	1.	1		1010	123	4.	1		1625	198	2.	1		2240	273	1.
1		0400	49	1.	1		1015	124	4.	1		1630	199	2.	1		2245	274	1.
1		0405	50	1.	1		1020	125	4.	1		1635	200	2.	1		2250	275	1.
1		0410	51	1.	1		1025	126	5.	1		1640	201	2.	1		2255	276	1.
1		0415	52	1.	1		1030	127	5.	1		1645	202	2.	1		2300	277	1.
1		0420	53	1.	1		1035	128	5.	1		1650	203	2.	1		2305	278	1.
1		0425	54	1.	1		1040	129	5.	1		1655	204	2.	1		2310	279	1.
1		0430	55	1.	1		1045	130	6.	1		1700	205	2.	1		2315	280	1.
1		0435	56	1.	1		1050	131	6.	1		1705	206	2.	1		2320	281	1.
1		0440	57	1.	1		1055	132	6.	1		1710	207	2.	1		2325	282	1.
1		0445	58	2.	1		1100	133	6.	1		1715	208	2.	1		2330	283	1.
1		0450	59	2.	1		1105	134	7.	1		1720	209	2.	1		2335	284	1.
1		0455	60	2.	1		1110	135	7.	1		1725	210	2.	1		2340	285	1.
1		0500	61	2.	1		1115	136	8.	1		1730	211	2.	1		2345	286	1.
1		0505	62	2.	1		1120	137	9.	1		1735	212	2.	1		2350	287	1.
1		0510	63	2.	1		1125	138	10.	1		1740	213	2.	1		2355	288	1.
1		0515	64	2.	1		1130	139	12.	1		1745	214	2.	2		0000	289	1.
1		0520	65	2.	1		1135	140	19.	1		1750	215	2.	2		0005	290	1.
1		0525	66	2.	1		1140	141	36.	1		1755	216	2.	2		0010	291	0.
1		0530	67	2.	1		1145	142	64.	1		1800	217	2.	2		0015	292	0.
1		0535	68	2.	1		1150	143	104.	1		1805	218	2.	2		0020	293	0.
1		0540	69	2.	1		1155	144	155.	1		1810	219	2.	2		0025	294	0.
1		0545	70	2.	1		1200	145	181.	1		1815	220	2.	2		0030	295	0.
1		0550	71	2.	1		1205	146	148.	1		1820	221	2.	2		0035	296	0.
1		0555	72	2.	1		1210	147	96.	1		1825	222	2.	2		0040	297	0.
1		0600	73	2.	1		1215	148	66.	1		1830	223	2.	2		0045	298	0.
1		0605	74	2.	1		1220	149	47.	1		1835	224	2.	2		0050	299	0.
1		0610	75	2.	1		1225	150	35.	1		1840	225	2.	2		0055	300	0.

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+ 181.	12.00	(CFS)	18.	6.	6.	6.

(INCHES)	1.095	1.389	1.390	1.390
(AC-FT)	9.	11.	11.	11.

CUMULATIVE AREA = .16 SQ MI

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322 KK * R_14a *
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Route Hydrograph through R14A overland

HYDROGRAPH ROUTING DATA

324 RK KINEMATIC WAVE STREAM ROUTING

L	2500.	CHANNEL LENGTH
S	.0050	SLOPE
N	.040	CHANNEL ROUGHNESS COEFFICIENT
CA	.00	CONTRIBUTING AREA
SHAPE	TRAP	CHANNEL SHAPE
WD	10.00	BOTTOM WIDTH OR DIAMETER
Z	10.00	SIDE SLOPE
NDXMIN	2	MINIMUM NUMBER OF DX INTERVALS

***

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	.66	1.36	3.57	833.33	175.14	728.31	1.41	3.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1159E+02 EXCESS= .0000E+00 OUTFLOW= .1163E+02 BASIN STORAGE= .1245E-01 PERCENT ERROR= -.4

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	.66	1.36	5.00	170.21	725.00	1.41
***	***	***	***	***		

HYDROGRAPH AT STATION R_14a
TRANSPOSITION AREA .0 SQ MI

	PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)	(CFS)			
+	170.	12.08	19.	6.	6.	6.
			(INCHES) 1.112	1.406	1.407	1.407
			(AC-FT) 9.	12.	12.	12.

CUMULATIVE AREA = .16 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	.66	1.36	3.52	833.33	172.67	728.12	1.37	3.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1132E+02 EXCESS= .0000E+00 OUTFLOW= .1136E+02 BASIN STORAGE= .9390E-02 PERCENT ERROR= -.5

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	.66	1.36	5.00	164.48	725.00	1.37
***	***	***	***	***		

HYDROGRAPH AT STATION R_14a
TRANSPOSITION AREA 14.0 SQ MI

	PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)	(CFS)			
+	164.	12.08	18.	6.	6.	6.
			(INCHES) 1.084	1.372	1.373	1.373
			(AC-FT) 9.	11.	11.	11.

CUMULATIVE AREA = .16 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	.66	1.36	3.64	833.33	175.67	727.23	1.36	3.93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1118E+02 EXCESS= .0000E+00 OUTFLOW= .1122E+02 BASIN STORAGE= .9246E-02 PERCENT ERROR= -.4

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	.66	1.36	5.00		164.95	725.00	1.36
***	***	***	***		***		

HYDROGRAPH AT STATION R_14a
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR	
(CFS)	(HR)	(CFS)				
165.	12.08	18.	6.	5.	5.	
		(INCHES) 1.069	1.355	1.356	1.356	
		(AC-FT) 9.	11.	11.	11.	

CUMULATIVE AREA = .16 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	.66	1.36	3.56	833.33	165.68	725.50	1.34	3.92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1105E+02 EXCESS= .0000E+00 OUTFLOW= .1108E+02 BASIN STORAGE= .9855E-02 PERCENT ERRDR= -.4

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	.66	1.36	5.00		162.30	725.00	1.34
***	***	***	***		***		

HYOROGRAPH AT STATION R_14a
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR	
(CFS)	(HR)	(CFS)				
162.	12.08	18.	6.	5.	5.	
		(INCHES) 1.056	1.338	1.339	1.339	
		(AC-FT) 9.	11.	11.	11.	

CUMULATIVE AREA = .16 SQ MI

COMPUTEO KINEMATIC PARAMETERS
VARIABLE TIME STEP
(OT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	.66	1.36	3.70	833.33	167.26	726.34	1.33	3.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1095E+02 EXCESS= .0000E+00 OUTFLOW= .1099E+02 BASIN STORAGE= .8732E-02 PERCENT ERROR= -.4

INTERPOLATED TO SPECIFIED COMPUTATIDN INTERVAL

MAIN	.66	1.36	5.00		160.98	725.00	1.33
***	***	***	***		***		

HYOROGRAPH AT STATION R_14a
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR	
(CFS)	(HR)	(CFS)				
161.	12.08	17.	6.	5.	5.	
		(INCHES) 1.048	1.329	1.330	1.330	
		(AC-FT) 9.	11.	11.	11.	

CUMULATIVE AREA = .16 SQ MI

INTERPOLATED HYDROGRAPH AT R_14a

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	2.	1		1230	151	50.	1		1845	226	2.
1		0005	2	0.	1		0620	77	2.	1		1235	152	38.	1		1850	227	2.
1		0010	3	0.	1		0625	78	2.	1		1240	153	30.	1		1855	228	2.
1		0015	4	0.	1		0630	79	2.	1		1245	154	24.	1		1900	229	2.
1		0020	5	0.	1		0635	80	2.	1		1250	155	19.	1		1905	230	2.
1		0025	6	0.	1		0640	81	2.	1		1255	156	15.	1		1910	231	2.
1		0030	7	0.	1		0645	82	2.	1		1300	157	13.	1		1915	232	2.
1		0035	8	0.	1		0650	83	2.	1		1305	158	11.	1		1920	233	2.
1		0040	9	0.	1		0655	84	2.	1		1310	159	10.	1		1925	234	2.
1		0045	10	0.	1		0700	85	2.	1		1315	160	9.	1		1930	235	2.
1		0050	11	1.	1		0705	86	2.	1		1320	161	8.	1		1935	236	2.
1		0055	12	1.	1		0710	87	2.	1		1325	162	8.	1		1940	237	2.
1		0100	13	1.	1		0715	88	2.	1		1330	163	7.	1		1945	238	2.
1		0105	14	1.	1		0720	89	2.	1		1335	164	6.	1		1950	239	2.
1		0110	15	1.	1		0725	90	2.	1		1340	165	6.	1		1955	240	1.
1		0115	16	1.	1		0730	91	2.	1		1345	166	6.	1		2000	241	1.
1		0120	17	1.	1		0735	92	2.	1		1350	167	5.	1		2005	242	1.
1		0125	18	1.	1		0740	93	2.	1		1355	168	5.	1		2010	243	1.

1	0130	19	1.	*	1	0745	94	2.	*	1	1400	169	5.	*	1	2015	244	1.
1	0135	20	1.	*	1	0750	95	2.	*	1	1405	170	5.	*	1	2020	245	1.
1	0140	21	1.	*	1	0755	96	2.	*	1	1410	171	4.	*	1	2025	246	1.
1	0145	22	1.	*	1	0800	97	2.	*	1	1415	172	4.	*	1	2030	247	1.
1	0150	23	1.	*	1	0805	98	2.	*	1	1420	173	4.	*	1	2035	248	1.
1	0155	24	1.	*	1	0810	99	2.	*	1	1425	174	4.	*	1	2040	249	1.
1	0200	25	1.	*	1	0815	100	2.	*	1	1430	175	4.	*	1	2045	250	1.
1	0205	26	1.	*	1	0820	101	2.	*	1	1435	176	4.	*	1	2050	251	1.
1	0210	27	1.	*	1	0825	102	2.	*	1	1440	177	4.	*	1	2055	252	1.
1	0215	28	1.	*	1	0830	103	2.	*	1	1445	178	4.	*	1	2100	253	1.
1	0220	29	1.	*	1	0835	104	2.	*	1	1450	179	3.	*	1	2105	254	1.
1	0225	30	1.	*	1	0840	105	2.	*	1	1455	180	3.	*	1	2110	255	1.
1	0230	31	1.	*	1	0845	106	2.	*	1	1500	181	3.	*	1	2115	256	1.
1	0235	32	1.	*	1	0850	107	2.	*	1	1505	182	3.	*	1	2120	257	1.
1	0240	33	1.	*	1	0855	108	3.	*	1	1510	183	3.	*	1	2125	258	1.
1	0245	34	1.	*	1	0900	109	3.	*	1	1515	184	3.	*	1	2130	259	1.
1	0250	35	1.	*	1	0905	110	3.	*	1	1520	185	3.	*	1	2135	260	1.
1	0255	36	1.	*	1	0910	111	3.	*	1	1525	186	3.	*	1	2140	261	1.
1	0300	37	1.	*	1	0915	112	3.	*	1	1530	187	3.	*	1	2145	262	1.
1	0305	38	1.	*	1	0920	113	3.	*	1	1535	188	3.	*	1	2150	263	1.
1	0310	39	1.	*	1	0925	114	3.	*	1	1540	189	3.	*	1	2155	264	1.
1	0315	40	1.	*	1	0930	115	3.	*	1	1545	190	3.	*	1	2200	265	1.
1	0320	41	1.	*	1	0935	116	3.	*	1	1550	191	3.	*	1	2205	266	1.
1	0325	42	1.	*	1	0940	117	3.	*	1	1555	192	3.	*	1	2210	267	1.
1	0330	43	1.	*	1	0945	118	3.	*	1	1600	193	3.	*	1	2215	268	1.
1	0335	44	1.	*	1	0950	119	3.	*	1	1605	194	3.	*	1	2220	269	1.
1	0340	45	1.	*	1	0955	120	3.	*	1	1610	195	3.	*	1	2225	270	1.
1	0345	46	1.	*	1	1000	121	3.	*	1	1615	196	3.	*	1	2230	271	1.
1	0350	47	1.	*	1	1005	122	3.	*	1	1620	197	2.	*	1	2235	272	1.
1	0355	48	1.	*	1	1010	123	3.	*	1	1625	198	2.	*	1	2240	273	1.
1	0400	49	1.	*	1	1015	124	4.	*	1	1630	199	2.	*	1	2245	274	1.
1	0405	50	1.	*	1	1020	125	4.	*	1	1635	200	2.	*	1	2250	275	1.
1	0410	51	1.	*	1	1025	126	4.	*	1	1640	201	2.	*	1	2255	276	1.
1	0415	52	1.	*	1	1030	127	4.	*	1	1645	202	2.	*	1	2300	277	1.
1	0420	53	1.	*	1	1035	128	4.	*	1	1650	203	2.	*	1	2305	278	1.
1	0425	54	1.	*	1	1040	129	4.	*	1	1655	204	2.	*	1	2310	279	1.
1	0430	55	1.	*	1	1045	130	5.	*	1	1700	205	2.	*	1	2315	280	1.
1	0435	56	1.	*	1	1050	131	5.	*	1	1705	206	2.	*	1	2320	281	1.
1	0440	57	1.	*	1	1055	132	5.	*	1	1710	207	2.	*	1	2325	282	1.
1	0445	58	1.	*	1	1100	133	5.	*	1	1715	208	2.	*	1	2330	283	1.
1	0450	59	1.	*	1	1105	134	6.	*	1	1720	209	2.	*	1	2335	284	1.
1	0455	60	1.	*	1	1110	135	6.	*	1	1725	210	2.	*	1	2340	285	1.
1	0500	61	1.	*	1	1115	136	6.	*	1	1730	211	2.	*	1	2345	286	1.
1	0505	62	2.	*	1	1120	137	7.	*	1	1735	212	2.	*	1	2350	287	1.
1	0510	63	2.	*	1	1125	138	7.	*	1	1740	213	2.	*	1	2355	288	1.
1	0515	64	2.	*	1	1130	139	8.	*	1	1745	214	2.	*	2	0000	289	1.
1	0520	65	2.	*	1	1135	140	9.	*	1	1750	215	2.	*	2	0005	290	1.
1	0525	66	2.	*	1	1140	141	11.	*	1	1755	216	2.	*	2	0010	291	1.
1	0530	67	2.	*	1	1145	142	16.	*	1	1800	217	2.	*	2	0015	292	1.
1	0535	68	2.	*	1	1150	143	32.	*	1	1805	218	2.	*	2	0020	293	1.
1	0540	69	2.	*	1	1155	144	69.	*	1	1810	219	2.	*	2	0025	294	1.
1	0545	70	2.	*	1	1200	145	123.	*	1	1815	220	2.	*	2	0030	295	1.
1	0550	71	2.	*	1	1205	146	168.	*	1	1820	221	2.	*	2	0035	296	1.
1	0555	72	2.	*	1	1210	147	163.	*	1	1825	222	2.	*	2	0040	297	1.
1	0600	73	2.	*	1	1215	148	124.	*	1	1830	223	2.	*	2	0045	298	0.
1	0605	74	2.	*	1	1220	149	90.	*	1	1835	224	2.	*	2	0050	299	0.
1	0610	75	2.	*	1	1225	150	66.	*	1	1840	225	2.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)			
168.	12.08	18.	6.	6.	6.
		(INCHES) 1.101	1.393	1.394	1.394
		(AC-FT) 9.	12.	12.	12.

CUMULATIVE AREA = .16 SQ MI

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          *            *
325 KK    *     R14A   *
          *            *
          **************
                  Subbasin

     SUBBASIN RUNOFF DATA

327 BA       SUBBASIN CHARACTERISTICS
                  TAREA         .04  SUBBASIN AREA

328 LG       GREEN AND AMPT LOSS RATE
                  STRTL         .18  STARTING LOSS
                    DTH         .19  MOISTURE DEFICIT
                   PSIF         .71  WETTING FRONT SUCTION
                  XKSAT         .03  HYDRAULIC CONDUCTIVITY
                  RTIMP       75.00  PERCENT IMPERVIOUS AREA

329 US       SNYDER UNITGRAPH
                     TP         .04  LAG
                     CP         .48  PEAKING COEFFICIENT

             SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                    ***
R INCREASED TO MINIMUM OF 0.5

                                        UNIT HYDROGRAPH PARAMETERS
                                  CLARK   TC=   .08 HR,       R=   .14 HR
                                SNYDER   TP=   .10 HR,      CP=   .49

                                          UNIT HYDROGRAPH
                                      10 END-OF-PERIOD ORDINATES
            69.      107.       58.       32.       17.       10.        5.        3.        2.        1.

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HYDROGRAPH AT STATION R14A
TRANSPOSITION AREA .0 SQ MI

TOTAL RAINFALL = 1.99, TOTAL LOSS = .20, TOTAL EXCESS = 1.79

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
48.	12.00	(CFS) 6.	2.	2.	2.
		(INCHES) 1.341	1.785	1.787	1.787
		(AC-FT) 3.	4.	4.	4.

CUMULATIVE AREA = .04 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R14A
TRANSPOSITION AREA 14.0 SQ MI

TOTAL RAINFALL = 1.95, TOTAL LOSS = .20, TOTAL EXCESS = 1.75

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
47.	12.00	(CFS) 6.	2.	2.	2.
		(INCHES) 1.312	1.747	1.748	1.748
		(AC-FT) 3.	4.	4.	4.

CUMULATIVE AREA = .04 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R14A
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.93, TOTAL LOSS = .20, TOTAL EXCESS = 1.73

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
47.	12.00	(CFS) 5.	2.	2.	2.
		(INCHES) 1.298	1.727	1.729	1.729
		(AC-FT) 3.	4.	4.	4.

CUMULATIVE AREA = .04 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R14A
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.91, TOTAL LOSS = .19, TOTAL EXCESS = 1.72

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
46.	12.00	(CFS) 5.	2.	2.	2.
		(INCHES) 1.283	1.708	1.710	1.710
		(AC-FT) 3.	4.	4.	4.

CUMULATIVE AREA = .04 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R14A
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.90, TOTAL LOSS = .19, TOTAL EXCESS = 1.70

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
46.	12.00	(CFS) 5.	2.	2.	2.
		(INCHES) 1.273	1.695	1.696	1.696
		(AC-FT) 3.	4.	4.	4.

CUMULATIVE AREA = .04 SQ MI

INTERPOLATED HYDROGRAPH AT R14A

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	1.	1		1230	151	8.	1		1845	226	1.
1		0005	2	0.	1		0620	77	1.	1		1235	152	6.	1		1850	227	1.
1		0010	3	0.	1		0625	78	1.	1		1240	153	5.	1		1855	228	1.
1		0015	4	0.	1		0630	79	1.	1		1245	154	4.	1		1900	229	1.
1		0020	5	0.	1		0635	80	1.	1		1250	155	4.	1		1905	230	1.
1		0025	6	0.	1		0640	81	1.	1		1255	156	4.	1		1910	231	1.
1		0030	7	0.	1		0645	82	1.	1		1300	157	3.	1		1915	232	1.
1		0035	8	0.	1		0650	83	1.	1		1305	158	3.	1		1920	233	1.
1		0040	9	0.	1		0655	84	1.	1		1310	159	3.	1		1925	234	1.
1		0045	10	0.	1		0700	85	1.	1		1315	160	3.	1		1930	235	1.
1		0050	11	0.	1		0705	86	1.	1		1320	161	3.	1		1935	236	1.
1		0055	12	0.	1		0710	87	1.	1		1325	162	3.	1		1940	237	1.
1		0100	13	0.	1		0715	88	1.	1		1330	163	2.	1		1945	238	1.
1		0105	14	0.	1		0720	89	1.	1		1335	164	2.	1		1950	239	1.
1		0110	15	0.	1		0725	90	1.	1		1340	165	2.	1		1955	240	1.
1		0115	16	0.	1		0730	91	1.	1		1345	166	2.	1		2000	241	1.
1		0120	17	0.	1		0735	92	1.	1		1350	167	2.	1		2005	242	0.
1		0125	18	0.	1		0740	93	1.	1		1355	168	2.	1		2010	243	0.

1	0130	19	0.	*	1	0745	94	1.	*	1	1400	169	2.	*	1	2015	244	0.
1	0135	20	0.	*	1	0750	95	1.	*	1	1405	170	2.	*	1	2020	245	0.
1	0140	21	0.	*	1	0755	96	1.	*	1	1410	171	2.	*	1	2025	246	0.
1	0145	22	0.	*	1	0800	97	1.	*	1	1415	172	2.	*	1	2030	247	0.
1	0150	23	0.	*	1	0805	98	1.	*	1	1420	173	2.	*	1	2035	248	0.
1	0155	24	0.	*	1	0810	99	1.	*	1	1425	174	2.	*	1	2040	249	0.
1	0200	25	0.	*	1	0815	100	1.	*	1	1430	175	2.	*	1	2045	250	0.
1	0205	26	0.	*	1	0820	101	1.	*	1	1435	176	1.	*	1	2050	251	0.
1	0210	27	0.	*	1	0825	102	1.	*	1	1440	177	1.	*	1	2055	252	0.
1	0215	28	0.	*	1	0830	103	1.	*	1	1445	178	1.	*	1	2100	253	0.
1	0220	29	0.	*	1	0835	104	1.	*	1	1450	179	1.	*	1	2105	254	0.
1	0225	30	0.	*	1	0840	105	1.	*	1	1455	180	1.	*	1	2110	255	0.
1	0230	31	0.	*	1	0845	106	1.	*	1	1500	181	1.	*	1	2115	256	0.
1	0235	32	0.	*	1	0850	107	1.	*	1	1505	182	1.	*	1	2120	257	0.
1	0240	33	0.	*	1	0855	108	1.	*	1	1510	183	1.	*	1	2125	258	0.
1	0245	34	0.	*	1	0900	109	1.	*	1	1515	184	1.	*	1	2130	259	0.
1	0250	35	0.	*	1	0905	110	1.	*	1	1520	185	1.	*	1	2135	260	0.
1	0255	36	0.	*	1	0910	111	1.	*	1	1525	186	1.	*	1	2140	261	0.
1	0300	37	0.	*	1	0915	112	1.	*	1	1530	187	1.	*	1	2145	262	0.
1	0305	38	0.	*	1	0920	113	1.	*	1	1535	188	1.	*	1	2150	263	0.
1	0310	39	0.	*	1	0925	114	1.	*	1	1540	189	1.	*	1	2155	264	0.
1	0315	40	0.	*	1	0930	115	1.	*	1	1545	190	1.	*	1	2200	265	0.
1	0320	41	0.	*	1	0935	116	1.	*	1	1550	191	1.	*	1	2205	266	0.
1	0325	42	1.	*	1	0940	117	1.	*	1	1555	192	1.	*	1	2210	267	0.
1	0330	43	1.	*	1	0945	118	1.	*	1	1600	193	1.	*	1	2215	268	0.
1	0335	44	1.	*	1	0950	119	1.	*	1	1605	194	1.	*	1	2220	269	0.
1	0340	45	1.	*	1	0955	120	2.	*	1	1610	195	1.	*	1	2225	270	0.
1	0345	46	1.	*	1	1000	121	2.	*	1	1615	196	1.	*	1	2230	271	0.
1	0350	47	1.	*	1	1005	122	2.	*	1	1620	197	1.	*	1	2235	272	0.
1	0355	48	1.	*	1	1010	123	2.	*	1	1625	198	1.	*	1	2240	273	0.
1	0400	49	1.	*	1	1015	124	2.	*	1	1630	199	1.	*	1	2245	274	0.
1	0405	50	1.	*	1	1020	125	2.	*	1	1635	200	1.	*	1	2250	275	0.
1	0410	51	1.	*	1	1025	126	2.	*	1	1640	201	1.	*	1	2255	276	0.
1	0415	52	1.	*	1	1030	127	2.	*	1	1645	202	1.	*	1	2300	277	0.
1	0420	53	1.	*	1	1035	128	2.	*	1	1650	203	1.	*	1	2305	278	0.
1	0425	54	1.	*	1	1040	129	2.	*	1	1655	204	1.	*	1	2310	279	0.
1	0430	55	1.	*	1	1045	130	3.	*	1	1700	205	1.	*	1	2315	280	0.
1	0435	56	1.	*	1	1050	131	3.	*	1	1705	206	1.	*	1	2320	281	0.
1	0440	57	1.	*	1	1055	132	3.	*	1	1710	207	1.	*	1	2325	282	0.
1	0445	58	1.	*	1	1100	133	3.	*	1	1715	208	1.	*	1	2330	283	0.
1	0450	59	1.	*	1	1105	134	3.	*	1	1720	209	1.	*	1	2335	284	0.
1	0455	60	1.	*	1	1110	135	3.	*	1	1725	210	1.	*	1	2340	285	0.
1	0500	61	1.	*	1	1115	136	4.	*	1	1730	211	1.	*	1	2345	286	0.
1	0505	62	1.	*	1	1120	137	4.	*	1	1735	212	1.	*	1	2350	287	0.
1	0510	63	1.	*	1	1125	138	5.	*	1	1740	213	1.	*	1	2355	288	0.
1	0515	64	1.	*	1	1130	139	5.	*	1	1745	214	1.	*	2	0000	289	0.
1	0520	65	1.	*	1	1135	140	7.	*	1	1750	215	1.	*	2	0005	290	0.
1	0525	66	1.	*	1	1140	141	11.	*	1	1755	216	1.	*	2	0010	291	0.
1	0530	67	1.	*	1	1145	142	18.	*	1	1800	217	1.	*	2	0015	292	0.
1	0535	68	1.	*	1	1150	143	29.	*	1	1805	218	1.	*	2	0020	293	0.
1	0540	69	1.	*	1	1155	144	42.	*	1	1810	219	1.	*	2	0025	294	0.
1	0545	70	1.	*	1	1200	145	48.	*	1	1815	220	1.	*	2	0030	295	0.
1	0550	71	1.	*	1	1205	146	39.	*	1	1820	221	1.	*	2	0035	296	0.
1	0555	72	1.	*	1	1210	147	25.	*	1	1825	222	1.	*	2	0040	297	0.
1	0600	73	1.	*	1	1215	148	17.	*	1	1830	223	1.	*	2	0045	298	0.
1	0605	74	1.	*	1	1220	149	13.	*	1	1835	224	1.	*	2	0050	299	0.
1	0610	75	1.	*	1	1225	150	10.	*	1	1840	225	1.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)			
+ 48.	12.00	6.	2.	2.	2.
		(INCHES) 1.335	1.778	1.779	1.779
		(AC-FT) 3.	4.	4.	4.

CUMULATIVE AREA = .04 SQ MI

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330 KK C_14A

Combine Hydrographs (R16, R14A)

332 HC HYDROGRAPH COMBINATION
ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

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HYDROGRAPH AT STATION C_14A
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)			
+ 210.	12.08	24.	8.	7.	7.
		(INCHES) 1.158	1.481	1.484	1.484
		(AC-FT) 12.	15.	15.	15.

CUMULATIVE AREA = .19 SQ MI

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HYDROGRAPH AT STATION C_14A
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)			
+ 203.	12.08	24.	8.	7.	7.

(INCHES)	1.130	1.446	1.449	1.449
(AC-FT)	12.	15.	15.	15.

CUMULATIVE AREA = .19 SQ MI

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HYDROGRAPH AT STATION C_14A
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)			
+ 203.	12.08	23.	7.	7.	7.
		(INCHES) 1.116	1.429	1.431	1.431
		(AC-FT) 12.	15.	15.	15.

CUMULATIVE AREA = .19 SQ MI

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HYDROGRAPH AT STATION C_14A
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)			
+ 200.	12.08	23.	7.	7.	7.
		(INCHES) 1.102	1.412	1.414	1.414
		(AC-FT) 11.	15.	15.	15.

CUMULATIVE AREA = .19 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_14A
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)			
+ 198.	12.08	23.	7.	7.	7.
		(INCHES) 1.094	1.401	1.404	1.404
		(AC-FT) 11.	15.	15.	15.

CUMULATIVE AREA = .19 SQ MI

INTERPOLATED HYDROGRAPH AT C_14A

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	2.	1		1230	151	57.	1		1845	226	2.
1		0005	2	0.	1		0620	77	2.	1		1235	152	44.	1		1850	227	2.
1		0010	3	0.	1		0625	78	2.	1		1240	153	35.	1		1855	228	2.
1		0015	4	0.	1		0630	79	2.	1		1245	154	28.	1		1900	229	2.
1		0020	5	0.	1		0635	80	3.	1		1250	155	23.	1		1905	230	2.
1		0025	6	0.	1		0640	81	3.	1		1255	156	19.	1		1910	231	2.
1		0030	7	0.	1		0645	82	3.	1		1300	157	16.	1		1915	232	2.
1		0035	8	0.	1		0650	83	3.	1		1305	158	14.	1		1920	233	2.
1		0040	9	1.	1		0655	84	3.	1		1310	159	13.	1		1925	234	2.
1		0045	10	1.	1		0700	85	3.	1		1315	160	12.	1		1930	235	2.
1		0050	11	1.	1		0705	86	3.	1		1320	161	11.	1		1935	236	2.
1		0055	12	1.	1		0710	87	3.	1		1325	162	10.	1		1940	237	2.
1		0100	13	1.	1		0715	88	3.	1		1330	163	9.	1		1945	238	2.
1		0105	14	1.	1		0720	89	3.	1		1335	164	9.	1		1950	239	2.
1		0110	15	1.	1		0725	90	3.	1		1340	165	8.	1		1955	240	2.
1		0115	16	1.	1		0730	91	3.	1		1345	166	8.	1		2000	241	2.
1		0120	17	1.	1		0735	92	3.	1		1350	167	7.	1		2005	242	2.
1		0125	18	1.	1		0740	93	3.	1		1355	168	7.	1		2010	243	2.
1		0130	19	2.	1		0745	94	3.	1		1400	169	7.	1		2015	244	2.
1		0135	20	2.	1		0750	95	3.	1		1405	170	6.	1		2020	245	2.
1		0140	21	2.	1		0755	96	3.	1		1410	171	6.	1		2025	246	2.
1		0145	22	2.	1		0800	97	3.	1		1415	172	6.	1		2030	247	2.
1		0150	23	2.	1		0805	98	3.	1		1420	173	6.	1		2035	248	2.
1		0155	24	2.	1		0810	99	3.	1		1425	174	5.	1		2040	249	2.
1		0200	25	2.	1		0815	100	3.	1		1430	175	5.	1		2045	250	2.
1		0205	26	2.	1		0820	101	3.	1		1435	176	5.	1		2050	251	2.
1		0210	27	2.	1		0825	102	3.	1		1440	177	5.	1		2055	252	2.
1		0215	28	2.	1		0830	103	3.	1		1445	178	5.	1		2100	253	2.
1		0220	29	2.	1		0835	104	3.	1		1450	179	5.	1		2105	254	2.
1		0225	30	2.	1		0840	105	3.	1		1455	180	5.	1		2110	255	2.
1		0230	31	2.	1		0845	106	3.	1		1500	181	5.	1		2115	256	2.
1		0235	32	2.	1		0850	107	4.	1		1505	182	5.	1		2120	257	2.
1		0240	33	2.	1		0855	108	4.	1		1510	183	5.	1		2125	258	2.
1		0245	34	2.	1		0900	109	4.	1		1515	184	4.	1		2130	259	2.
1		0250	35	2.	1		0905	110	4.	1		1520	185	4.	1		2135	260	2.
1		0255	36	2.	1		0910	111	4.	1		1525	186	4.	1		2140	261	2.
1		0300	37	2.	1		0915	112	4.	1		1530	187	4.	1		2145	262	2.
1		0305	38	2.	1		0920	113	4.	1		1535	188	4.	1		2150	263	2.
1		0310	39	2.	1		0925	114	4.	1		1540	189	4.	1		2155	264	2.
1		0315	40	2.	1		0930	115	4.	1		1545	190	4.	1		2200	265	2.
1		0320	41	2.	1		0935	116	4.	1		1550	191	4.	1		2205	266	2.
1		0325	42	2.	1		0940	117	4.	1		1555	192	4.	1		2210	267	2.
1		0330	43	2.	1		0945	118	5.	1		1600	193	4.	1		2215	268	2.
1		0335	44	2.	1		0950	119	5.	1		1605	194	4.	1		2220	269	2.
1		0340	45	2.	1		0955	120	5.	1		1610	195	4.	1		2225	270	2.
1		0345	46	2.	1		1000	121	5.	1		1615	196	3.	1		2230	271	2.
1		0350	47	2.	1		1005	122	5.	1		1620	197	3.	1		2235	272	2.
1		0355	48	2.	1		1010	123	5.	1		1625	198	3.	1		2240	273	2.
1		0400	49	2.	1		1015	124	5.	1		1630	199	3.	1		2245	274	2.
1		0405	50	2.	1		1020	125	6.	1		1635	200	3.	1		2250	275	2.
1		0410	51	2.	1		1025	126	6.	1		1640	201	3.	1		2255	276	2.
1		0415	52	2.	1		1030	127	6.	1		1645	202	3.	1		2300	277	2.

1	0420	53	2.	*	1	1035	128	6.	*	1	1650	203	3.	*	1	2305	278	2.
1	0425	54	2.	*	1	1040	129	7.	*	1	1655	204	3.	*	1	2310	279	2.
1	0430	55	2.	*	1	1045	130	7.	*	1	1700	205	3.	*	1	2315	280	2.
1	0435	56	2.	*	1	1050	131	7.	*	1	1705	206	3.	*	1	2320	281	2.
1	0440	57	2.	*	1	1055	132	8.	*	1	1710	207	3.	*	1	2325	282	2.
1	0445	58	2.	*	1	1100	133	8.	*	1	1715	208	3.	*	1	2330	283	2.
1	0450	59	2.	*	1	1105	134	9.	*	1	1720	209	3.	*	1	2335	284	2.
1	0455	60	2.	*	1	1110	135	9.	*	1	1725	210	3.	*	1	2340	285	2.
1	0500	61	2.	*	1	1115	136	10.	*	1	1730	211	3.	*	1	2345	286	2.
1	0505	62	2.	*	1	1120	137	11.	*	1	1735	212	3.	*	1	2350	287	2.
1	0510	63	2.	*	1	1125	138	12.	*	1	1740	213	3.	*	1	2355	288	2.
1	0515	64	2.	*	1	1130	139	13.	*	1	1745	214	3.	*	2	0000	289	2.
1	0520	65	2.	*	1	1135	140	16.	*	1	1750	215	3.	*	2	0005	290	1.
1	0525	66	2.	*	1	1140	141	22.	*	1	1755	216	3.	*	2	0010	291	1.
1	0530	67	2.	*	1	1145	142	34.	*	1	1800	217	3.	*	2	0015	292	1.
1	0535	68	2.	*	1	1150	143	61.	*	1	1805	218	3.	*	2	0020	293	1.
1	0540	69	2.	*	1	1155	144	110.	*	1	1810	219	3.	*	2	0025	294	1.
1	0545	70	2.	*	1	1200	145	171.	*	1	1815	220	3.	*	2	0030	295	1.
1	0550	71	2.	*	1	1205	146	207.	*	1	1820	221	3.	*	2	0035	296	1.
1	0555	72	2.	*	1	1210	147	188.	*	1	1825	222	3.	*	2	0040	297	1.
1	0600	73	2.	*	1	1215	148	141.	*	1	1830	223	2.	*	2	0045	298	0.
1	0605	74	2.	*	1	1220	149	102.	*	1	1835	224	2.	*	2	0050	299	0.
1	0610	75	2.	*	1	1225	150	75.	*	1	1840	225	2.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 207.	12.08		24.	8.	7.	7.
		(INCHES)	1.146	1.467	1.470	1.470
		(AC-FT)	12.	15.	15.	15.

CUMULATIVE AREA = .19 SQ MI

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*             *
*     C_14A   *
*             *
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333 KK

Combine Hydrograph with Lower Pond Outfall

335 HC HYDROGRAPH COMBINATION

ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

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HYDROGRAPH AT STATION C_14A
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 232.	12.08		49.	29.	28.	28.
		(INCHES)	.280	.670	.674	.674
		(AC-FT)	24.	58.	58.	58.

CUMULATIVE AREA = 1.62 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_14A
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 225.	12.08		48.	29.	28.	28.
		(INCHES)	.275	.657	.661	.661
		(AC-FT)	24.	57.	57.	57.

CUMULATIVE AREA = 1.62 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_14A
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 225.	12.08		48.	28.	28.	28.
		(INCHES)	.272	.651	.655	.655
		(AC-FT)	24.	56.	57.	57.

CUMULATIVE AREA = 1.62 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_14A
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 222.	12.08		47.	28.	27.	27.
		(INCHES)	.270	.644	.648	.648
		(AC-FT)	23.	56.	56.	56.

CUMULATIVE AREA = 1.62 SQ MI

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HYDROGRAPH AT STATION C_14A
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
220.	12.08	(CFS)	47.	28.	27.	27.
		(INCHES)	.268	.640	.644	.644
		(AC-FT)	23.	55.	56.	56.

CUMULATIVE AREA = 1.62 SQ MI

INTERPOLATED HYDROGRAPH AT C_14A

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	16.	1		1230	151	80.	1		1845	226	30.
1		0005	2	0.	1		0620	77	16.	1		1235	152	68.	1		1850	227	30.
1		0010	3	1.	1		0625	78	16.	1		1240	153	59.	1		1855	228	30.
1		0015	4	3.	1		0630	79	16.	1		1245	154	52.	1		1900	229	30.
1		0020	5	4.	1		0635	80	16.	1		1250	155	47.	1		1905	230	30.
1		0025	6	5.	1		0640	81	17.	1		1255	156	44.	1		1910	231	30.
1		0030	7	6.	1		0645	82	17.	1		1300	157	41.	1		1915	232	30.
1		0035	8	7.	1		0650	83	17.	1		1305	158	40.	1		1920	233	30.
1		0040	9	7.	1		0655	84	17.	1		1310	159	39.	1		1925	234	30.
1		0045	10	8.	1		0700	85	17.	1		1315	160	37.	1		1930	235	30.
1		0050	11	8.	1		0705	86	17.	1		1320	161	37.	1		1935	236	30.
1		0055	12	8.	1		0710	87	17.	1		1325	162	36.	1		1940	237	30.
1		0100	13	9.	1		0715	88	17.	1		1330	163	35.	1		1945	238	30.
1		0105	14	9.	1		0720	89	18.	1		1335	164	35.	1		1950	239	30.
1		0110	15	9.	1		0725	90	18.	1		1340	165	34.	1		1955	240	30.
1		0115	16	9.	1		0730	91	18.	1		1345	166	34.	1		2000	241	30.
1		0120	17	10.	1		0735	92	18.	1		1350	167	34.	1		2005	242	30.
1		0125	18	10.	1		0740	93	18.	1		1355	168	33.	1		2010	243	30.
1		0130	19	10.	1		0745	94	18.	1		1400	169	33.	1		2015	244	30.
1		0135	20	10.	1		0750	95	18.	1		1405	170	33.	1		2020	245	30.
1		0140	21	10.	1		0755	96	18.	1		1410	171	33.	1		2025	246	30.
1		0145	22	11.	1		0800	97	18.	1		1415	172	33.	1		2030	247	30.
1		0150	23	11.	1		0805	98	19.	1		1420	173	32.	1		2035	248	30.
1		0155	24	11.	1		0810	99	19.	1		1425	174	32.	1		2040	249	30.
1		0200	25	11.	1		0815	100	19.	1		1430	175	32.	1		2045	250	30.
1		0205	26	11.	1		0820	101	19.	1		1435	176	32.	1		2050	251	30.
1		0210	27	11.	1		0825	102	20.	1		1440	177	32.	1		2055	252	30.
1		0215	28	11.	1		0830	103	20.	1		1445	178	32.	1		2100	253	30.
1		0220	29	11.	1		0835	104	20.	1		1450	179	32.	1		2105	254	30.
1		0225	30	12.	1		0840	105	20.	1		1455	180	32.	1		2110	255	30.
1		0230	31	12.	1		0845	106	20.	1		1500	181	32.	1		2115	256	30.
1		0235	32	12.	1		0850	107	20.	1		1505	182	32.	1		2120	257	31.
1		0240	33	12.	1		0855	108	21.	1		1510	183	32.	1		2125	258	31.
1		0245	34	12.	1		0900	109	21.	1		1515	184	31.	1		2130	259	31.
1		0250	35	12.	1		0905	110	21.	1		1520	185	31.	1		2135	260	31.
1		0255	36	12.	1		0910	111	21.	1		1525	186	31.	1		2140	261	31.
1		0300	37	12.	1		0915	112	21.	1		1530	187	31.	1		2145	262	31.
1		0305	38	12.	1		0920	113	21.	1		1535	188	31.	1		2150	263	31.
1		0310	39	12.	1		0925	114	22.	1		1540	189	31.	1		2155	264	31.
1		0315	40	13.	1		0930	115	22.	1		1545	190	31.	1		2200	265	31.
1		0320	41	13.	1		0935	116	22.	1		1550	191	31.	1		2205	266	31.
1		0325	42	13.	1		0940	117	22.	1		1555	192	31.	1		2210	267	31.
1		0330	43	13.	1		0945	118	22.	1		1600	193	31.	1		2215	268	31.
1		0335	44	13.	1		0950	119	22.	1		1605	194	31.	1		2220	269	31.
1		0340	45	13.	1		0955	120	22.	1		1610	195	31.	1		2225	270	31.
1		0345	46	13.	1		1000	121	23.	1		1615	196	31.	1		2230	271	31.
1		0350	47	13.	1		1005	122	23.	1		1620	197	31.	1		2235	272	31.
1		0355	48	13.	1		1010	123	23.	1		1625	198	30.	1		2240	273	31.
1		0400	49	13.	1		1015	124	23.	1		1630	199	30.	1		2245	274	31.
1		0405	50	14.	1		1020	125	23.	1		1635	200	30.	1		2250	275	31.
1		0410	51	14.	1		1025	126	24.	1		1640	201	30.	1		2255	276	31.
1		0415	52	14.	1		1030	127	24.	1		1645	202	30.	1		2300	277	31.
1		0420	53	14.	1		1035	128	24.	1		1650	203	30.	1		2305	278	31.
1		0425	54	14.	1		1040	129	25.	1		1655	204	30.	1		2310	279	31.
1		0430	55	14.	1		1045	130	25.	1		1700	205	30.	1		2315	280	31.
1		0435	56	14.	1		1050	131	26.	1		1705	206	30.	1		2320	281	31.
1		0440	57	14.	1		1055	132	26.	1		1710	207	30.	1		2325	282	31.
1		0445	58	14.	1		1100	133	27.	1		1715	208	30.	1		2330	283	31.
1		0450	59	14.	1		1105	134	27.	1		1720	209	30.	1		2335	284	31.
1		0455	60	14.	1		1110	135	28.	1		1725	210	30.	1		2340	285	31.
1		0500	61	14.	1		1115	136	29.	1		1730	211	30.	1		2345	286	31.
1		0505	62	15.	1		1120	137	30.	1		1735	212	30.	1		2350	287	31.
1		0510	63	15.	1		1125	138	31.	1		1740	213	30.	1		2355	288	31.
1		0515	64	15.	1		1130	139	32.	1		1745	214	30.	2		0000	289	31.
1		0520	65	15.	1		1135	140	35.	1		1750	215	30.	2		0005	290	31.
1		0525	66	15.	1		1140	141	41.	1		1755	216	30.	2		0010	291	30.
1		0530	67	15.	1		1145	142	53.	1		1800	217	30.	2		0015	292	30.
1		0535	68	15.	1		1150	143	80.	1		1805	218	30.	2		0020	293	30.
1		0540	69	15.	1		1155	144	130.	1		1810	219	30.	2		0025	294	30.
1		0545	70	15.	1		1200	145	192.	1		1815	220	30.	2		0030	295	30.
1		0550	71	16.	1		1205	146	227.	1		1820	221	30.	2		0035	296	30.
1		0555	72	16.	1		1210	147	210.	1		1825	222	30.	2		0040	297	29.
1		0600	73	16.	1		1215	148	164.	1		1830	223	30.	2		0045	298	29.
1		0605	74	16.	1		1220	149	125.	1		1835	224	30.	2		0050	299	29.
1		0610	75	16.	1		1225	150	98.	1		1840	225	30.	2		0055	300	29.

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
227.	12.08	(CFS)	48.	29.	28.	28.
		(INCHES)	.277	.661	.665	.665
		(AC-FT)	24.	57.	58.	58.

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                    CUMULATIVE AREA =    1.62 SQ MI


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            *             *
336 KK      *       R15   *      Subbasin
            *             *
            ***************

              SUBBASIN RUNOFF DATA

337 BA          SUBBASIN CHARACTERISTICS
                      TAREA          .30  SUBBASIN AREA

338 LG          GREEN AND AMPT LOSS RATE
                      STRTL          .48  STARTING LOSS
                        DTH          .45  MOISTURE DEFICIT
                       PSIF         1.68  WETTING FRONT SUCTION
                      XKSAT          .06  HYDRAULIC CONDUCTIVITY
                      RTIMP        30.00  PERCENT IMPERVIOUS AREA

339 US          SNYDER UNITGRAPH
                        TP           .14  LAG
                        CP           .33  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                        ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=    .11 HR,       R=    .35 HR
                                          SNYDER  TP=    .14 HR,      CP=    .34

                                                UNIT HYDROGRAPH
                                          23 END-OF-PERIOD ORDINATES
                    210.      414.      364.      286.      225.      176.      138.      109.       85.       67.
                     53.       41.       32.       25.       20.       16.       12.       10.        8.        6.
                      5.        4.        3.

                ***           ***           ***           ***           ***

                                HYDROGRAPH AT STATION      R15
                               TRANSPOSITION AREA       .0 SQ MI

                TOTAL RAINFALL =   1.99, TOTAL LOSS =     .95, TOTAL EXCESS =    1.04

  PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR        72-HR      24.92-HR
+   (CFS)        (HR)          (CFS)
+     210.      12.08                      28.           8.           8.           8.
                              (INCHES)     .857        1.030        1.032        1.032
                               (AC-FT)      14.          16.          16.          16.

                               CUMULATIVE AREA =     .30 SQ MI

                ***           ***           ***           ***           ***

                                HYDROGRAPH AT STATION      R15
                               TRANSPOSITIDN AREA     14.0 SQ MI

                TOTAL RAINFALL =   1.95, TOTAL LOSS =     .94, TOTAL EXCESS =    1.01

  PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR        72-HR      24.92-HR
+   (CFS)        (HR)          (CFS)
+     204.      12.08                      27.           8.           8.           8.
                              (INCHES)     .832        1.001        1.003        1.003
                               (AC-FT)      13.          16.          16.          16.

                               CUMULATIVE AREA =     .30 SQ MI

                ***           ***           ***           ***           ***

                                HYDROGRAPH AT STATION      R15
                               TRANSPOSITION AREA     24.0 SQ MI

                TOTAL RAINFALL =   1.93, TOTAL LOSS =     .94, TOTAL EXCESS =     .99

  PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR        72-HR      24.92-HR
+   (CFS)        (HR)          (CFS)
+     202.      12.08                      26.           8.           8.           8.
                              (INCHES)     .819         .987         .988         .988
                               (AC-FT)      13.          16.          16.          16.

                               CUMULATIVE AREA =     .30 SQ MI

                ***           ***           ***           ***           ***

                                HYDROGRAPH AT STATION      R15
                               TRANSPDSITION AREA     36.5 SQ MI

                TOTAL RAINFALL =   1.91, TOTAL LOSS =     .93, TOTAL EXCESS =     .98

  PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR        72-HR      24.92-HR
+   (CFS)        (HR)          (CFS)
+     199.      12.08                      26.           8.           8.           8.
                              (INCHES)     .806         .973         .974         .974
                               (AC-FT)      13.          16.          16.          16.

                               CUMULATIVE AREA =     .30 SQ MI
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HYDROGRAPH AT STATION R15
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.90, TOTAL LOSS = .93, TOTAL EXCESS = .97

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
197.	12.08		26.	8.	7.	7.
		(INCHES)	.797	.962	.964	.964
		(AC-FT)	13.	15.	15.	15.

CUMULATIVE AREA = .30 SQ MI

INTERPOLATED HYDROGRAPH AT R15

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	2.	1		1230	151	81.	1		1845	226	2.
1		0005	2	0.	1		0620	77	2.	1		1235	152	66.	1		1850	227	2.
1		0010	3	0.	1		0625	78	2.	1		1240	153	54.	1		1855	228	2.
1		0015	4	0.	1		0630	79	2.	1		1245	154	44.	1		1900	229	2.
1		0020	5	1.	1		0635	80	2.	1		1250	155	36.	1		1905	230	2.
1		0025	6	1.	1		0640	81	2.	1		1255	156	30.	1		1910	231	2.
1		0030	7	1.	1		0645	82	2.	1		1300	157	25.	1		1915	232	2.
1		0035	8	1.	1		0650	83	2.	1		1305	158	22.	1		1920	233	2.
1		0040	9	1.	1		0655	84	2.	1		1310	159	18.	1		1925	234	2.
1		0045	10	1.	1		0700	85	2.	1		1315	160	16.	1		1930	235	2.
1		0050	11	1.	1		0705	86	2.	1		1320	161	14.	1		1935	236	2.
1		0055	12	1.	1		0710	87	2.	1		1325	162	12.	1		1940	237	2.
1		0100	13	1.	1		0715	88	2.	1		1330	163	11.	1		1945	238	2.
1		0105	14	1.	1		0720	89	2.	1		1335	164	9.	1		1950	239	2.
1		0110	15	1.	1		0725	90	2.	1		1340	165	8.	1		1955	240	2.
1		0115	16	1.	1		0730	91	2.	1		1345	166	7.	1		2000	241	2.
1		0120	17	1.	1		0735	92	2.	1		1350	167	6.	1		2005	242	2.
1		0125	18	1.	1		0740	93	2.	1		1355	168	6.	1		2010	243	2.
1		0130	19	1.	1		0745	94	2.	1		1400	169	5.	1		2015	244	2.
1		0135	20	1.	1		0750	95	2.	1		1405	170	5.	1		2020	245	2.
1		0140	21	1.	1		0755	96	2.	1		1410	171	5.	1		2025	246	2.
1		0145	22	1.	1		0800	97	2.	1		1415	172	5.	1		2030	247	1.
1		0150	23	1.	1		0805	98	2.	1		1420	173	5.	1		2035	248	1.
1		0155	24	1.	1		0810	99	2.	1		1425	174	4.	1		2040	249	1.
1		0200	25	1.	1		0815	100	3.	1		1430	175	4.	1		2045	250	1.
1		0205	26	1.	1		0820	101	3.	1		1435	176	4.	1		2050	251	1.
1		0210	27	1.	1		0825	102	3.	1		1440	177	4.	1		2055	252	1.
1		0215	28	1.	1		0830	103	3.	1		1445	178	4.	1		2100	253	1.
1		0220	29	1.	1		0835	104	3.	1		1450	179	4.	1		2105	254	1.
1		0225	30	1.	1		0840	105	3.	1		1455	180	4.	1		2110	255	1.
1		0230	31	1.	1		0845	106	3.	1		1500	181	4.	1		2115	256	1.
1		0235	32	1.	1		0850	107	3.	1		1505	182	4.	1		2120	257	1.
1		0240	33	1.	1		0855	108	3.	1		1510	183	4.	1		2125	258	1.
1		0245	34	1.	1		0900	109	3.	1		1515	184	4.	1		2130	259	1.
1		0250	35	1.	1		0905	110	3.	1		1520	185	3.	1		2135	260	1.
1		0255	36	1.	1		0910	111	3.	1		1525	186	3.	1		2140	261	1.
1		0300	37	1.	1		0915	112	3.	1		1530	187	3.	1		2145	262	1.
1		0305	38	1.	1		0920	113	3.	1		1535	188	3.	1		2150	263	1.
1		0310	39	1.	1		0925	114	4.	1		1540	189	3.	1		2155	264	1.
1		0315	40	1.	1		0930	115	4.	1		1545	190	3.	1		2200	265	1.
1		0320	41	1.	1		0935	116	4.	1		1550	191	3.	1		2205	266	1.
1		0325	42	1.	1		0940	117	4.	1		1555	192	3.	1		2210	267	1.
1		0330	43	1.	1		0945	118	4.	1		1600	193	3.	1		2215	268	1.
1		0335	44	2.	1		0950	119	4.	1		1605	194	3.	1		2220	269	1.
1		0340	45	2.	1		0955	120	4.	1		1610	195	3.	1		2225	270	1.
1		0345	46	2.	1		1000	121	4.	1		1615	196	3.	1		2230	271	1.
1		0350	47	2.	1		1005	122	4.	1		1620	197	3.	1		2235	272	1.
1		0355	48	2.	1		1010	123	4.	1		1625	198	3.	1		2240	273	1.
1		0400	49	2.	1		1015	124	4.	1		1630	199	3.	1		2245	274	1.
1		0405	50	2.	1		1020	125	5.	1		1635	200	3.	1		2250	275	1.
1		0410	51	2.	1		1025	126	5.	1		1640	201	3.	1		2255	276	1.
1		0415	52	2.	1		1030	127	5.	1		1645	202	3.	1		2300	277	1.
1		0420	53	2.	1		1035	128	5.	1		1650	203	3.	1		2305	278	1.
1		0425	54	2.	1		1040	129	5.	1		1655	204	2.	1		2310	279	1.
1		0430	55	2.	1		1045	130	6.	1		1700	205	2.	1		2315	280	1.
1		0435	56	2.	1		1050	131	6.	1		1705	206	2.	1		2320	281	1.
1		0440	57	2.	1		1055	132	6.	1		1710	207	2.	1		2325	282	1.
1		0445	58	2.	1		1100	133	7.	1		1715	208	2.	1		2330	283	1.
1		0450	59	2.	1		1105	134	7.	1		1720	209	2.	1		2335	284	1.
1		0455	60	2.	1		1110	135	7.	1		1725	210	2.	1		2340	285	1.
1		0500	61	2.	1		1115	136	8.	1		1730	211	2.	1		2345	286	1.
1		0505	62	2.	1		1120	137	9.	1		1735	212	2.	1		2350	287	1.
1		0510	63	2.	1		1125	138	9.	1		1740	213	2.	1		2355	288	1.
1		0515	64	2.	1		1130	139	10.	1		1745	214	2.	2		0000	289	1.
1		0520	65	2.	1		1135	140	12.	1		1750	215	2.	2		0005	290	1.
1		0525	66	2.	1		1140	141	22.	1		1755	216	2.	2		0010	291	1.
1		0530	67	2.	1		1145	142	48.	1		1800	217	2.	2		0015	292	1.
1		0535	68	2.	1		1150	143	92.	1		1805	218	2.	2		0020	293	1.
1		0540	69	2.	1		1155	144	154.	1		1810	219	2.	2		0025	294	0.
1		0545	70	2.	1		1200	145	205.	1		1815	220	2.	2		0030	295	0.
1		0550	71	2.	1		1205	146	208.	1		1820	221	2.	2		0035	296	0.
1		0555	72	2.	1		1210	147	176.	1		1825	222	2.	2		0040	297	0.
1		0600	73	2.	1		1215	148	145.	1		1830	223	2.	2		0045	298	0.
1		0605	74	2.	1		1220	149	120.	1		1835	224	2.	2		0050	299	0.
1		0610	75	2.	1		1225	150	99.	1		1840	225	2.	2		0055	300	0.

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
208.	12.08		27.	8.	8.	8.
		(INCHES)	.845	1.017	1.018	1.018
		(AC-FT)	13.	16.	16.	16.

CUMULATIVE AREA = .30 SQ MI

*** ***

340 KK — R_R13 — Route Hydrograph through R13

HYDROGRAPH ROUTING DATA

341 RS STORAGE ROUTING

NSTPS	1	NUMBER OF SUBREACHES
ITYP	STOR	TYPE OF INITIAL CONDITION
RSVRIC	.00	INITIAL CONDITION
X	.00	WORKING R AND D COEFFICIENT

342 RC NORMAL DEPTH CHANNEL

ANL	.035	LEFT OVERBANK N-VALUE
ANCH	.030	MAIN CHANNEL N-VALUE
ANR	.035	RIGHT OVERBANK N-VALUE
RLNTH	971.	REACH LENGTH
SEL	.0180	ENERGY SLOPE
ELMAX	.0	MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

CROSS-SECTION DATA

--- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---

344 RY	ELEVATION	4762.00	4760.00	4758.00	4756.00	4756.00	4758.00	4760.00	4762.00
343 RX	DISTANCE	1000.00	1014.00	1022.00	1026.00	1036.00	1046.00	1050.00	1062.00

***

COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

STORAGE	.00	.08	.17	.28	.41	.55	.70	.87	1.06	1.26
OUTFLOW	.00	10.12	33.55	69.09	117.02	177.98	252.70	353.95	477.33	617.67
ELEVATION	4756.00	4756.32	4756.63	4756.95	4757.26	4757.58	4757.90	4758.21	4758.53	4758.84
STORAGE	1.47	1.69	1.93	2.18	2.46	2.77	3.10	3.47	3.86	4.28
OUTFLOW	775.39	950.90	1144.61	1354.75	1582.66	1834.71	2112.09	2416.15	2748.30	3110.17
ELEVATION	4759.16	4759.48	4759.79	4760.11	4760.42	4760.74	4761.05	4761.37	4761.69	4762.00

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN 34. TO 3110.
THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

*** *** *** *** ***

HYDROGRAPH AT STATION R_R13
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	24.92-HR
213.	12.08	(CFS)	28.	8.	8.	8.
		(INCHES)	.857	1.030	1.032	1.032
		(AC-FT)	14.	16.	16.	16.

PEAK STORAGE (AC-FT)	TIME (HR)	MAXIMUM AVERAGE STORAGE	6-HR	24-HR	72-HR	24.92-HR
1.	12.08		0.	0.	0.	0.

PEAK STAGE (FEET)	TIME (HR)	MAXIMUM AVERAGE STAGE	6-HR	24-HR	72-HR	24.92-HR
4757.73	12.08		4756.40	4756.13	4756.13	4756.13

CUMULATIVE AREA = .30 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R_R13
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	24.92-HR
207.	12.08	(CFS)	27.	8.	8.	8.
		(INCHES)	.832	1.001	1.003	1.003
		(AC-FT)	13.	16.	16.	16.

PEAK STORAGE (AC-FT)	TIME (HR)	MAXIMUM AVERAGE STORAGE	6-HR	24-HR	72-HR	24.92-HR
1.	12.08		0.	0.	0.	0.

PEAK STAGE (FEET)	TIME (HR)	MAXIMUM AVERAGE STAGE	6-HR	24-HR	72-HR	24.92-HR
4757.70	12.08		4756.40	4756.13	4756.12	4756.12

CUMULATIVE AREA = .30 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R_R13
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	24.92-HR
204.	12.08	(CFS)	26.	8.	8.	8.

	(INCHES)	.819	.987	.988	.988
	(AC-FT)	13.	16.	16.	16.

AK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
1.	12.08	0.	0.	0.	0.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
4757.69	12.08	4756.39	4756.13	4756.12	4756.12

CUMULATIVE AREA = .30 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R_R13
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 201.	12.08	26.	8.	8.	8.
		(INCHES) .806	.973	.974	.974
		(AC-FT) 13.	16.	16.	16.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
1.	12.08	0.	0.	0.	0.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
4757.68	12.08	4756.39	4756.13	4756.12	4756.12

CUMULATIVE AREA = .30 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R_R13
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
199.	12.08	26.	8.	7.	7.
		(INCHES) .797	.962	.964	.964
		(AC-FT) 13.	15.	15.	15.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
1.	12.08	0.	0.	0.	0.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
4757.67	12.08	4756.38	4756.13	4756.12	4756.12

CUMULATIVE AREA = .30 SQ MI

INTERPOLATED HYDROGRAPH AT R_R13

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	2.	1		1230	151	88.	1		1845	226	2.
1		0005	2	0.	1		0620	77	2.	1		1235	152	71.	1		1850	227	2.
1		0010	3	0.	1		0625	78	2.	1		1240	153	59.	1		1855	228	2.
1		0015	4	0.	1		0630	79	2.	1		1245	154	48.	1		1900	229	2.
1		0020	5	0.	1		0635	80	2.	1		1250	155	40.	1		1905	230	2.
1		0025	6	1.	1		0640	81	2.	1		1255	156	33.	1		1910	231	2.
1		0030	7	1.	1		0645	82	2.	1		1300	157	28.	1		1915	232	2.
1		0035	8	1.	1		0650	83	2.	1		1305	158	24.	1		1920	233	2.
1		0040	9	1.	1		0655	84	2.	1		1310	159	20.	1		1925	234	2.
1		0045	10	1.	1		0700	85	2.	1		1315	160	17.	1		1930	235	2.
1		0050	11	1.	1		0705	86	2.	1		1320	161	15.	1		1935	236	2.
1		0055	12	1.	1		0710	87	2.	1		1325	162	13.	1		1940	237	2.
1		0100	13	1.	1		0715	88	2.	1		1330	163	11.	1		1945	238	2.
1		0105	14	1.	1		0720	89	2.	1		1335	164	10.	1		1950	239	2.
1		0110	15	1.	1		0725	90	2.	1		1340	165	9.	1		1955	240	2.
1		0115	16	1.	1		0730	91	2.	1		1345	166	8.	1		2000	241	2.
1		0120	17	1.	1		0735	92	2.	1		1350	167	7.	1		2005	242	2.
1		0125	18	1.	1		0740	93	2.	1		1355	168	7.	1		2010	243	2.
1		0130	19	1.	1		0745	94	2.	1		1400	169	6.	1		2015	244	2.
1		0135	20	1.	1		0750	95	2.	1		1405	170	5.	1		2020	245	2.
1		0140	21	1.	1		0755	96	2.	1		1410	171	5.	1		2025	246	2.
1		0145	22	1.	1		0800	97	2.	1		1415	172	5.	1		2030	247	2.
1		0150	23	1.	1		0805	98	2.	1		1420	173	5.	1		2035	248	1.
1		0155	24	1.	1		0810	99	2.	1		1425	174	5.	1		2040	249	1.
1		0200	25	1.	1		0815	100	2.	1		1430	175	4.	1		2045	250	1.
1		0205	26	1.	1		0820	101	3.	1		1435	176	4.	1		2050	251	1.
1		0210	27	1.	1		0825	102	3.	1		1440	177	4.	1		2055	252	1.
1		0215	28	1.	1		0830	103	3.	1		1445	178	4.	1		2100	253	1.
1		0220	29	1.	1		0835	104	3.	1		1450	179	4.	1		2105	254	1.
1		0225	30	1.	1		0840	105	3.	1		1455	180	4.	1		2110	255	1.
1		0230	31	1.	1		0845	106	3.	1		1500	181	4.	1		2115	256	1.
1		0235	32	1.	1		0850	107	3.	1		1505	182	4.	1		2120	257	1.
1		0240	33	1.	1		0855	108	3.	1		1510	183	4.	1		2125	258	1.
1		0245	34	1.	1		0900	109	3.	1		1515	184	4.	1		2130	259	1.
1		0250	35	1.	1		0905	110	3.	1		1520	185	4.	1		2135	260	1.
1		0255	36	1.	1		0910	111	3.	1		1525	186	3.	1		2140	261	1.
1		0300	37	1.	1		0915	112	3.	1		1530	187	3.	1		2145	262	1.
1		0305	38	1.	1		0920	113	3.	1		1535	188	3.	1		2150	263	1.

1	0310	39	1.	*	1	0925	114	3.	*	1	1540	189	3.	*	1	2155	264	1.
1	0315	40	1.	*	1	0930	115	3.	*	1	1545	190	3.	*	1	2200	265	1.
1	0320	41	1.	*	1	0935	116	4.	*	1	1550	191	3.	*	1	2205	266	1.
1	0325	42	1.	*	1	0940	117	4.	*	1	1555	192	3.	*	1	2210	267	1.
1	0330	43	1.	*	1	0945	118	4.	*	1	1600	193	3.	*	1	2215	268	1.
1	0335	44	1.	*	1	0950	119	4.	*	1	1605	194	3.	*	1	2220	269	1.
1	0340	45	1.	*	1	0955	120	4.	*	1	1610	195	3.	*	1	2225	270	1.
1	0345	46	2.	*	1	1000	121	4.	*	1	1615	196	3.	*	1	2230	271	1.
1	0350	47	2.	*	1	1005	122	4.	*	1	1620	197	3.	*	1	2235	272	1.
1	0355	48	2.	*	1	1010	123	4.	*	1	1625	198	3.	*	1	2240	273	1.
1	0400	49	2.	*	1	1015	124	4.	*	1	1630	199	3.	*	1	2245	274	1.
1	0405	50	2.	*	1	1020	125	4.	*	1	1635	200	3.	*	1	2250	275	1.
1	0410	51	2.	*	1	1025	126	5.	*	1	1640	201	3.	*	1	2255	276	1.
1	0415	52	2.	*	1	1030	127	5.	*	1	1645	202	3.	*	1	2300	277	1.
1	0420	53	2.	*	1	1035	128	5.	*	1	1650	203	3.	*	1	2305	278	1.
1	0425	54	2.	*	1	1040	129	5.	*	1	1655	204	3.	*	1	2310	279	1.
1	0430	55	2.	*	1	1045	130	5.	*	1	1700	205	2.	*	1	2315	280	1.
1	0435	56	2.	*	1	1050	131	6.	*	1	1705	206	2.	*	1	2320	281	1.
1	0440	57	2.	*	1	1055	132	6.	*	1	1710	207	2.	*	1	2325	282	1.
1	0445	58	2.	*	1	1100	133	6.	*	1	1715	208	2.	*	1	2330	283	1.
1	0450	59	2.	*	1	1105	134	7.	*	1	1720	209	2.	*	1	2335	284	1.
1	0455	60	2.	*	1	1110	135	7.	*	1	1725	210	2.	*	1	2340	285	1.
1	0500	61	2.	*	1	1115	136	7.	*	1	1730	211	2.	*	1	2345	286	1.
1	0505	62	2.	*	1	1120	137	8.	*	1	1735	212	2.	*	1	2350	287	1.
1	0510	63	2.	*	1	1125	138	9.	*	1	1740	213	2.	*	1	2355	288	1.
1	0515	64	2.	*	1	1130	139	9.	*	1	1745	214	2.	*	2	0000	289	1.
1	0520	65	2.	*	1	1135	140	10.	*	1	1750	215	2.	*	2	0005	290	1.
1	0525	66	2.	*	1	1140	141	17.	*	1	1755	216	2.	*	2	0010	291	1.
1	0530	67	2.	*	1	1145	142	34.	*	1	1800	217	2.	*	2	0015	292	1.
1	0535	68	2.	*	1	1150	143	72.	*	1	1805	218	2.	*	2	0020	293	1.
1	0540	69	2.	*	1	1155	144	131.	*	1	1810	219	2.	*	2	0025	294	1.
1	0545	70	2.	*	1	1200	145	189.	*	1	1815	220	2.	*	2	0030	295	0.
1	0550	71	2.	*	1	1205	146	210.	*	1	1820	221	2.	*	2	0035	296	0.
1	0555	72	2.	*	1	1210	147	187.	*	1	1825	222	2.	*	2	0040	297	0.
1	0600	73	2.	*	1	1215	148	155.	*	1	1830	223	2.	*	2	0045	298	0.
1	0605	74	2.	*	1	1220	149	128.	*	1	1835	224	2.	*	2	0050	299	0.
1	0610	75	2.	*	1	1225	150	106.	*	1	1840	225	2.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 210.	12.08		27.	8.	8.	8.
		(INCHES)	.845	1.017	1.018	1.018
		(AC-FT)	13.	16.	16.	16.

CUMULATIVE AREA = .30 SQ MI

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345 KK      ***************
            *             *
            *       R13   *      Subbasin
            *             *
            ***************
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SUBBASIN RUNOFF DATA

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346 BA        SUBBASIN CHARACTERISTICS
                  TAREA         .04  SUBBASIN AREA

347 LG        GREEN AND AMPT LOSS RATE
                  STRTL         .48  STARTING LOSS
                    DTH         .45  MOISTURE DEFICIT
                   PSIF        1.68  WETTING FRONT SUCTION
                  XKSAT         .06  HYDRAULIC CONDUCTIVITY
                  RTIMP        2.00  PERCENT IMPERVIOUS AREA

348 US        SNYDER UNITGRAPH
                    TP          .05  LAG
                    CP          .21  PEAKING COEFFICIENT

              SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USEO
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UNIT HYDROGRAPH PARAMETERS
CLARK TC= .08 HR, R= .66 HR
SNYDER TP= .14 HR, CP= .21

UNIT HYDROGRAPH
43 END-OF-PERIOD ORDINATES

20.	37.	32.	29.	25.	22.	20.	17.	15.	13.
12.	10.	9.	8.	7.	6.	6.	5.	4.	4.
3.	3.	3.	2.	2.	2.	2.	1.	1.	1.
1.	1.	1.	1.	1.	0.	0.	0.	0.	0.
0.	0.	0.							

*** *** *** *** ***

HYDROGRAPH AT STATION R13
TRANSPOSITION AREA .0 SQ MI

TOTAL RAINFALL = 1.99, TOTAL LOSS = 1.33, TOTAL EXCESS = .66

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 19.	12.08		3.	1.	1.	1.
		(INCHES)	.640	.652	.652	.652
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .04 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R13
TRANSPOSITION AREA 14.0 SQ MI

TOTAL RAINFALL = 1.95, TOTAL LOSS = 1.32, TOTAL EXCESS = .63

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
18.	12.08	3.	1.	1.	1.
		(INCHES) .616	.627	.627	.627
		(AC-FT) 1.	1.	1.	1.

CUMULATIVE AREA = .04 SQ MI

***

HYDROGRAPH AT STATION R13
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.93, TOTAL LOSS = 1.31, TOTAL EXCESS = .62

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
18.	12.08	3.	1.	1.	1.
		(INCHES) .604	.615	.615	.615
		(AC-FT) 1.	1.	1.	1.

CUMULATIVE AREA = .04 SQ MI

***

HYDROGRAPH AT STATION R13
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.91, TOTAL LOSS = 1.30, TOTAL EXCESS = .61

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
17.	12.08	3.	1.	1.	1.
		(INCHES) .592	.603	.603	.603
		(AC-FT) 1.	1.	1.	1.

CUMULATIVE AREA = .04 SQ MI

***

HYDROGRAPH AT STATION R13
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.90, TOTAL LOSS = 1.30, TOTAL EXCESS = .60

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
17.	12.08	3.	1.	1.	1.
		(INCHES) .583	.594	.594	.594
		(AC-FT) 1.	1.	1.	1.

CUMULATIVE AREA = .04 SQ MI

INTERPOLATED HYDROGRAPH AT R13

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	11.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	9.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	8.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	7.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	7.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	6.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	5.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	4.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	4.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	3.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	3.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	3.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	2.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	2.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	2.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	2.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	1.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	1.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	1.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	1.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	1.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	1.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	1.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	1.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	1.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	0.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	0.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	0.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	0.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	0.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	0.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	0.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	0.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	0.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	0.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	0.	1		2140	261	0.

1	0300	37	0.	*	1	0915	112	0.	*	1	1530	187	0.	*	1	2145	262	0.
1	0305	38	0.	*	1	0920	113	0.	*	1	1535	188	0.	*	1	2150	263	0.
1	0310	39	0.	*	1	0925	114	0.	*	1	1540	189	0.	*	1	2155	264	0.
1	0315	40	0.	*	1	0930	115	0.	*	1	1545	190	0.	*	1	2200	265	0.
1	0320	41	0.	*	1	0935	116	0.	*	1	1550	191	0.	*	1	2205	266	0.
1	0325	42	0.	*	1	0940	117	0.	*	1	1555	192	0.	*	1	2210	267	0.
1	0330	43	0.	*	1	0945	118	0.	*	1	1600	193	0.	*	1	2215	268	0.
1	0335	44	0.	*	1	0950	119	0.	*	1	1605	194	0.	*	1	2220	269	0.
1	0340	45	0.	*	1	0955	120	0.	*	1	1610	195	0.	*	1	2225	270	0.
1	0345	46	0.	*	1	1000	121	0.	*	1	1615	196	0.	*	1	2230	271	0.
1	0350	47	0.	*	1	1005	122	0.	*	1	1620	197	0.	*	1	2235	272	0.
1	0355	48	0.	*	1	1010	123	0.	*	1	1625	198	0.	*	1	2240	273	0.
1	0400	49	0.	*	1	1015	124	0.	*	1	1630	199	0.	*	1	2245	274	0.
1	0405	50	0.	*	1	1020	125	0.	*	1	1635	200	0.	*	1	2250	275	0.
1	0410	51	0.	*	1	1025	126	0.	*	1	1640	201	0.	*	1	2255	276	0.
1	0415	52	0.	*	1	1030	127	0.	*	1	1645	202	0.	*	1	2300	277	0.
1	0420	53	0.	*	1	1035	128	0.	*	1	1650	203	0.	*	1	2305	278	0.
1	0425	54	0.	*	1	1040	129	0.	*	1	1655	204	0.	*	1	2310	279	0.
1	0430	55	0.	*	1	1045	130	0.	*	1	1700	205	0.	*	1	2315	280	0.
1	0435	56	0.	*	1	1050	131	0.	*	1	1705	206	0.	*	1	2320	281	0.
1	0440	57	0.	*	1	1055	132	0.	*	1	1710	207	0.	*	1	2325	282	0.
1	0445	58	0.	*	1	1100	133	0.	*	1	1715	208	0.	*	1	2330	283	0.
1	0450	59	0.	*	1	1105	134	0.	*	1	1720	209	0.	*	1	2335	284	0.
1	0455	60	0.	*	1	1110	135	0.	*	1	1725	210	0.	*	1	2340	285	0.
1	0500	61	0.	*	1	1115	136	0.	*	1	1730	211	0.	*	1	2345	286	0.
1	0505	62	0.	*	1	1120	137	0.	*	1	1735	212	0.	*	1	2350	287	0.
1	0510	63	0.	*	1	1125	138	0.	*	1	1740	213	0.	*	1	2355	288	0.
1	0515	64	0.	*	1	1130	139	0.	*	1	1745	214	0.	*	2	0000	289	0.
1	0520	65	0.	*	1	1135	140	0.	*	1	1750	215	0.	*	2	0005	290	0.
1	0525	66	0.	*	1	1140	141	1.	*	1	1755	216	0.	*	2	0010	291	0.
1	0530	67	0.	*	1	1145	142	3.	*	1	1800	217	0.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	7.	*	1	1805	218	0.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	13.	*	1	1810	219	0.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	18.	*	1	1815	220	0.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	18.	*	1	1820	221	0.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	17.	*	1	1825	222	0.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	15.	*	1	1830	223	0.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	14.	*	1	1835	224	0.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	12.	*	1	1840	225	0.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW				
		6-HR	24-HR	72-HR	24.92-HR	
+ (CFS)	(HR)	(CFS)				
+ 18.	12.08	3.	1.	1.	1.	
		(INCHES) .636	.647	.647	.647	
		(AC-FT) 1.	1.	1.	1.	

CUMULATIVE AREA = .04 SQ MI

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          ***************
          *             *
349 KK    *     C_R13   *      Combine Hydrographs
          *             *
          ***************
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350 HC HYDROGRAPH COMBINATION
ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

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HYDROGRAPH AT STATION C_R13
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW				
		6-HR	24-HR	72-HR	24.92-HR	
+ (CFS)	(HR)	(CFS)				
+ 232.	12.08	31.	9.	9.	9.	
		(INCHES) .830	.983	.984	.984	
		(AC-FT) 15.	18.	18.	18.	

CUMULATIVE AREA = .34 SQ MI

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HYDROGRAPH AT STATION C_R13
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW				
		6-HR	24-HR	72-HR	24.92-HR	
+ (CFS)	(HR)	(CFS)				
+ 225.	12.08	30.	9.	8.	8.	
		(INCHES) .805	.955	.956	.956	
		(AC-FT) 15.	17.	17.	17.	

CUMULATIVE AREA = .34 SQ MI

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HYDROGRAPH AT STATION C_R13
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW				
		6-HR	24-HR	72-HR	24.92-HR	
+ (CFS)	(HR)	(CFS)				
+ 222.	12.08	29.	9.	8.	8.	
		(INCHES) .792	.941	.942	.942	
		(AC-FT) 14.	17.	17.	17.	

CUMULATIVE AREA = .34 SQ MI

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HYDROGRAPH AT STATION C_R13
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
219.	12.08	29.	9.	8.	8.
		(INCHES) .780	.927	.928	.928
		(AC-FT) 14.	17.	17.	17.

CUMULATIVE AREA = .34 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_R13
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
216.	12.08	28.	8.	8.	8.
		(INCHES) .771	.917	.918	.918
		(AC-FT) 14.	17.	17.	17.

CUMULATIVE AREA = .34 SQ MI

INTERPOLATED HYDROGRAPH AT C_R13

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	2.	1		1230	151	98.	1		1845	226	2.
1		0005	2	0.	1		0620	77	2.	1		1235	152	81.	1		1850	227	2.
1		0010	3	0.	1		0625	78	2.	1		1240	153	67.	1		1855	228	2.
1		0015	4	0.	1		0630	79	2.	1		1245	154	56.	1		1900	229	2.
1		0020	5	0.	1		0635	80	2.	1		1250	155	46.	1		1905	230	2.
1		0025	6	1.	1		0640	81	2.	1		1255	156	39.	1		1910	231	2.
1		0030	7	1.	1		0645	82	2.	1		1300	157	33.	1		1915	232	2.
1		0035	8	1.	1		0650	83	2.	1		1305	158	28.	1		1920	233	2.
1		0040	9	1.	1		0655	84	2.	1		1310	159	24.	1		1925	234	2.
1		0045	10	1.	1		0700	85	2.	1		1315	160	21.	1		1930	235	2.
1		0050	11	1.	1		0705	86	2.	1		1320	161	18.	1		1935	236	2.
1		0055	12	1.	1		0710	87	2.	1		1325	162	16.	1		1940	237	2.
1		0100	13	1.	1		0715	88	2.	1		1330	163	14.	1		1945	238	2.
1		0105	14	1.	1		0720	89	2.	1		1335	164	12.	1		1950	239	2.
1		0110	15	1.	1		0725	90	2.	1		1340	165	11.	1		1955	240	2.
1		0115	16	1.	1		0730	91	2.	1		1345	166	10.	1		2000	241	2.
1		0120	17	1.	1		0735	92	2.	1		1350	167	9.	1		2005	242	2.
1		0125	18	1.	1		0740	93	2.	1		1355	168	8.	1		2010	243	2.
1		0130	19	1.	1		0745	94	2.	1		1400	169	7.	1		2015	244	2.
1		0135	20	1.	1		0750	95	2.	1		1405	170	6.	1		2020	245	2.
1		0140	21	1.	1		0755	96	2.	1		1410	171	6.	1		2025	246	2.
1		0145	22	1.	1		0800	97	2.	1		1415	172	6.	1		2030	247	2.
1		0150	23	1.	1		0805	98	2.	1		1420	173	5.	1		2035	248	2.
1		0155	24	1.	1		0810	99	2.	1		1425	174	5.	1		2040	249	1.
1		0200	25	1.	1		0815	100	2.	1		1430	175	5.	1		2045	250	1.
1		0205	26	1.	1		0820	101	3.	1		1435	176	5.	1		2050	251	1.
1		0210	27	1.	1		0825	102	3.	1		1440	177	5.	1		2055	252	1.
1		0215	28	1.	1		0830	103	3.	1		1445	178	4.	1		2100	253	1.
1		0220	29	1.	1		0835	104	3.	1		1450	179	4.	1		2105	254	1.
1		0225	30	1.	1		0840	105	3.	1		1455	180	4.	1		2110	255	1.
1		0230	31	1.	1		0845	106	3.	1		1500	181	4.	1		2115	256	1.
1		0235	32	1.	1		0850	107	3.	1		1505	182	4.	1		2120	257	1.
1		0240	33	1.	1		0855	108	3.	1		1510	183	4.	1		2125	258	1.
1		0245	34	1.	1		0900	109	3.	1		1515	184	4.	1		2130	259	1.
1		0250	35	1.	1		0905	110	3.	1		1520	185	4.	1		2135	260	1.
1		0255	36	1.	1		0910	111	3.	1		1525	186	4.	1		2140	261	1.
1		0300	37	1.	1		0915	112	3.	1		1530	187	3.	1		2145	262	1.
1		0305	38	1.	1		0920	113	3.	1		1535	188	3.	1		2150	263	1.
1		0310	39	1.	1		0925	114	3.	1		1540	189	3.	1		2155	264	1.
1		0315	40	1.	1		0930	115	4.	1		1545	190	3.	1		2200	265	1.
1		0320	41	1.	1		0935	116	4.	1		1550	191	3.	1		2205	266	1.
1		0325	42	1.	1		0940	117	4.	1		1555	192	3.	1		2210	267	1.
1		0330	43	1.	1		0945	118	4.	1		1600	193	3.	1		2215	268	1.
1		0335	44	2.	1		0950	119	4.	1		1605	194	3.	1		2220	269	1.
1		0340	45	2.	1		0955	120	4.	1		1610	195	3.	1		2225	270	1.
1		0345	46	2.	1		1000	121	4.	1		1615	196	3.	1		2230	271	1.
1		0350	47	2.	1		1005	122	4.	1		1620	197	3.	1		2235	272	1.
1		0355	48	2.	1		1010	123	4.	1		1625	198	3.	1		2240	273	1.
1		0400	49	2.	1		1015	124	4.	1		1630	199	3.	1		2245	274	1.
1		0405	50	2.	1		1020	125	4.	1		1635	200	3.	1		2250	275	1.
1		0410	51	2.	1		1025	126	5.	1		1640	201	3.	1		2255	276	1.
1		0415	52	2.	1		1030	127	5.	1		1645	202	3.	1		2300	277	1.
1		0420	53	2.	1		1035	128	5.	1		1650	203	3.	1		2305	278	1.
1		0425	54	2.	1		1040	129	5.	1		1655	204	3.	1		2310	279	1.
1		0430	55	2.	1		1045	130	5.	1		1700	205	3.	1		2315	280	1.
1		0435	56	2.	1		1050	131	6.	1		1705	206	2.	1		2320	281	1.
1		0440	57	2.	1		1055	132	6.	1		1710	207	2.	1		2325	282	1.
1		0445	58	2.	1		1100	133	6.	1		1715	208	2.	1		2330	283	1.
1		0450	59	2.	1		1105	134	7.	1		1720	209	2.	1		2335	284	1.
1		0455	60	2.	1		1110	135	7.	1		1725	210	2.	1		2340	285	1.
1		0500	61	2.	1		1115	136	7.	1		1730	211	2.	1		2345	286	1.
1		0505	62	2.	1		1120	137	8.	1		1735	212	2.	1		2350	287	1.
1		0510	63	2.	1		1125	138	9.	1		1740	213	2.	1		2355	288	1.
1		0515	64	2.	1		1130	139	9.	1		1745	214	2.	2		0000	289	1.
1		0520	65	2.	1		1135	140	10.	1		1750	215	2.	2		0005	290	1.
1		0525	66	2.	1		1140	141	18.	1		1755	216	2.	2		0010	291	1.
1		0530	67	2.	1		1145	142	37.	1		1800	217	2.	2		0015	292	1.
1		0535	68	2.	1		1150	143	79.	1		1805	218	2.	2		0020	293	1.
1		0540	69	2.	1		1155	144	143.	1		1810	219	2.	2		0025	294	1.
1		0545	70	2.	1		1200	145	207.	1		1815	220	2.	2		0030	295	0.
1		0550	71	2.	1		1205	146	229.	1		1820	221	2.	2		0035	296	0.

```
     1    0555   72        2.   *    1     1210  147      204.   *    1     1825  222        2.   *    2     0040  297        0.
     1    0600   73        2.   *    1     1215  148      170.   *    1     1830  223        2.   *    2     0045  298        0.
     1    0605   74        2.   *    1     1220  149      141.   *    1     1835  224        2.   *    2     0050  299        0.
     1    0610   75        2.   *    1     1225  150      118.   *    1     1840  225        2.   *    2     0055  300        0.
                            *                                  *                                  *
*****************************************************************************************************************************************************

   PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR          24-HR          72-HR       24.92-HR
+    (CFS)         (HR)          (CFS)
+      229.       12.08                30.            9.             9.             9.
                                (INCHES)             .818           .969           .971           .971
                                 (AC-FT)               15.            18.            18.            18.

                                CUMULATIVE AREA =      .34 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              ***************
              *             *
   351 KK     *    Extra5   *      Overflow released from Basin 25
              *             *
              ***************

   352 DR           RETRIEVE DIVERSION HYDROGRAPH
                         ISTAD       B5DIV  DIVERSION HYDROGRAPH IDENTIFICATION
                                                                    ***

         ***              ***              ***              ***              ***

                          HYDROGRAPH AT STATION   Extra5
                         TRANSPOSITION AREA        .0 SQ MI

   PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR          24-HR          72-HR       24.92-HR
+    (CFS)         (HR)          (CFS)
+        2.      12.00                 0.             0.             0.             0.
                                (INCHES)             .001           .001           .001           .001
                                 (AC-FT)               0.             0.             0.             0.

                                CUMULATIVE AREA =      .02 SQ MI

         ***              ***              ***              ***              ***

                          HYDROGRAPH AT STATION   Extra5
                         TRANSPOSITION AREA      14.0 SQ MI

   PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR          24-HR          72-HR       24.92-HR
+    (CFS)         (HR)          (CFS)
+        1.      12.00                 0.             0.             0.             0.
                                (INCHES)             .001           .001           .001           .001
                                 (AC-FT)               0.             0.             0.             0.

                                CUMULATIVE AREA =      .02 SQ MI

         ***              ***              ***              ***              ***

                          HYDROGRAPH AT STATION   Extra5
                         TRANSPOSITION AREA      24.0 SQ MI

   PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR          24-HR          72-HR       24.92-HR
+    (CFS)         (HR)          (CFS)
+        1.      12.00                 0.             0.             0.             0.
                                (INCHES)             .001           .001           .001           .001
                                 (AC-FT)               0.             0.             0.             0.

                                CUMULATIVE AREA =      .02 SQ MI

         ***              ***              ***              ***              ***

                          HYDROGRAPH AT STATION   Extra5
                         TRANSPOSITION AREA      36.5 SQ MI

   PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR          24-HR          72-HR       24.92-HR
+    (CFS)         (HR)          (CFS)
+        1.      12.00                 0.             0.             0.             0.
                                (INCHES)             .000           .000           .000           .000
                                 (AC-FT)               0.             0.             0.             0.

                                CUMULATIVE AREA =      .02 SQ MI

         ***              ***              ***              ***              ***

                          HYDROGRAPH AT STATION   Extra5
                         TRANSPOSITION AREA      50.0 SQ MI

   PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR          24-HR          72-HR       24.92-HR
+    (CFS)         (HR)          (CFS)
+        0.      12.00                 0.             0.             0.             0.
                                (INCHES)             .000           .000           .000           .000
                                 (AC-FT)               0.             0.             0.             0.

                                CUMULATIVE AREA =      .02 SQ MI
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INTERPOLATED HYDROGRAPH AT Extra5

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	0.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	0.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	0.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	0.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	0.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	0.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	0.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	0.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	0.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	0.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	0.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	0.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	0.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	0.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	0.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	0.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	0.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	0.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	0.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	0.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	0.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	0.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	0.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	0.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	0.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	0.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	0.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	0.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	0.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	0.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	0.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	0.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	0.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	0.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	0.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	0.	1		2140	261	0.
1		0300	37	0.	1		0915	112	0.	1		1530	187	0.	1		2145	262	0.
1		0305	38	0.	1		0920	113	0.	1		1535	188	0.	1		2150	263	0.
1		0310	39	0.	1		0925	114	0.	1		1540	189	0.	1		2155	264	0.
1		0315	40	0.	1		0930	115	0.	1		1545	190	0.	1		2200	265	0.
1		0320	41	0.	1		0935	116	0.	1		1550	191	0.	1		2205	266	0.
1		0325	42	0.	1		0940	117	0.	1		1555	192	0.	1		2210	267	0.
1		0330	43	0.	1		0945	118	0.	1		1600	193	0.	1		2215	268	0.
1		0335	44	0.	1		0950	119	0.	1		1605	194	0.	1		2220	269	0.
1		0340	45	0.	1		0955	120	0.	1		1610	195	0.	1		2225	270	0.
1		0345	46	0.	1		1000	121	0.	1		1615	196	0.	1		2230	271	0.
1		0350	47	0.	1		1005	122	0.	1		1620	197	0.	1		2235	272	0.
1		0355	48	0.	1		1010	123	0.	1		1625	198	0.	1		2240	273	0.
1		0400	49	0.	1		1015	124	0.	1		1630	199	0.	1		2245	274	0.
1		0405	50	0.	1		1020	125	0.	1		1635	200	0.	1		2250	275	0.
1		0410	51	0.	1		1025	126	0.	1		1640	201	0.	1		2255	276	0.
1		0415	52	0.	1		1030	127	0.	1		1645	202	0.	1		2300	277	0.
1		0420	53	0.	1		1035	128	0.	1		1650	203	0.	1		2305	278	0.
1		0425	54	0.	1		1040	129	0.	1		1655	204	0.	1		2310	279	0.
1		0430	55	0.	1		1045	130	0.	1		1700	205	0.	1		2315	280	0.
1		0435	56	0.	1		1050	131	0.	1		1705	206	0.	1		2320	281	0.
1		0440	57	0.	1		1055	132	0.	1		1710	207	0.	1		2325	282	0.
1		0445	58	0.	1		1100	133	0.	1		1715	208	0.	1		2330	283	0.
1		0450	59	0.	1		1105	134	0.	1		1720	209	0.	1		2335	284	0.
1		0455	60	0.	1		1110	135	0.	1		1725	210	0.	1		2340	285	0.
1		0500	61	0.	1		1115	136	0.	1		1730	211	0.	1		2345	286	0.
1		0505	62	0.	1		1120	137	0.	1		1735	212	0.	1		2350	287	0.
1		0510	63	0.	1		1125	138	0.	1		1740	213	0.	1		2355	288	0.
1		0515	64	0.	1		1130	139	0.	1		1745	214	0.	2		0000	289	0.
1		0520	65	0.	1		1135	140	0.	1		1750	215	0.	2		0005	290	0.
1		0525	66	0.	1		1140	141	0.	1		1755	216	0.	2		0010	291	0.
1		0530	67	0.	1		1145	142	0.	1		1800	217	0.	2		0015	292	0.
1		0535	68	0.	1		1150	143	0.	1		1805	218	0.	2		0020	293	0.
1		0540	69	0.	1		1155	144	0.	1		1810	219	0.	2		0025	294	0.
1		0545	70	0.	1		1200	145	1.	1		1815	220	0.	2		0030	295	0.
1		0550	71	0.	1		1205	146	1.	1		1820	221	0.	2		0035	296	0.
1		0555	72	0.	1		1210	147	0.	1		1825	222	0.	2		0040	297	0.
1		0600	73	0.	1		1215	148	0.	1		1830	223	0.	2		0045	298	0.
1		0605	74	0.	1		1220	149	0.	1		1835	224	0.	2		0050	299	0.
1		0610	75	0.	1		1225	150	0.	1		1840	225	0.	2		0055	300	0.

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
1.	12.00	(CFS)	0.	0.	0.	0.
		(INCHES)	.015	.015	.015	.015
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .02 SQ MI

353 KK R14 Subbasin

SUBBASIN RUNOFF DATA

354 BA SUBBASIN CHARACTERISTICS
TAREA .06 SUBBASIN AREA

355 LG GREEN AND AMPT LOSS RATE

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                    STRTL        .58  STARTING LOSS
                     DTH         .52  MOISTURE DEFICIT
                     PSIF       1.94  WETTING FRONT SUCTION
                    XKSAT        .07  HYDRAULIC CONDUCTIVITY
                    RTIMP      35.00  PERCENT IMPERVIOUS AREA

 356 US          SNYDER UNITGRAPH
                     TP          .22  LAG
                     CP          .30  PEAKING COEFFICIENT

                 SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                    ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=   .18 HR,       R=   .63 HR
                                          SNYDER  TP=   .22 HR,       CP=  .30

                                                UNIT HYDROGRAPH
                                          42 END-OF-PERIOD ORDINATES
                    13.      39.      50.      45.      39.      34.      30.      26.      23.      20.
                    18.      16.      14.      12.      11.       9.       8.       7.       6.       5.
                     5.       4.       4.       3.       3.       2.       2.       2.       2.       1.
                     1.       1.       1.       1.       1.       1.       1.       1.       0.       0.
                     0.       0.

       ***              ***              ***              ***              ***

                       HYDROGRAPH AT STATION      R14
                     TRANSPOSITION AREA       .0 SQ MI

        TOTAL RAINFALL =   1.99, TOTAL LOSS =     .97, TOTAL EXCESS =    1.02

     PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR     24.92-HR
+      (CFS)       (HR)          (CFS)
+        27.     12.08                5.          2.          2.          2.
                               (INCHES)       .806       1.009       1.011       1.011
                                (AC-FT)          3.          3.          3.          3.

                       CUMULATIVE AREA =     .06 SQ MI

       ***              ***              ***              ***              ***

                       HYDROGRAPH AT STATION      R14
                     TRANSPOSITION AREA     14.0 SQ MI

        TOTAL RAINFALL =   1.95, TOTAL LOSS =     .96, TOTAL EXCESS =     .99

     PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR     24.92-HR
+      (CFS)       (HR)          (CFS)
+        26.     12.08                5.          2.          2.          2.
                               (INCHES)       .781       .979        .981        .981
                                (AC-FT)          3.          3.          3.          3.

                       CUMULATIVE AREA =     .06 SQ MI

       ***              ***              ***              ***              ***

                       HYDROGRAPH AT STATION      R14
                     TRANSPOSITION AREA     24.0 SQ MI

        TOTAL RAINFALL =   1.93, TOTAL LOSS =     .96, TOTAL EXCESS =     .97

     PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR     24.92-HR
+      (CFS)       (HR)          (CFS)
+        25.     12.08                5.          2.          2.          2.
                               (INCHES)       .769       .965        .967        .967
                                (AC-FT)          2.          3.          3.          3.

                       CUMULATIVE AREA =     .06 SQ MI

       ***              ***              ***              ***              ***

                       HYDROGRAPH AT STATION      R14
                     TRANSPOSITION AREA     36.5 SQ MI

        TOTAL RAINFALL =   1.91, TOTAL LOSS =     .95, TOTAL EXCESS =     .96

     PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR     24.92-HR
+      (CFS)       (HR)          (CFS)
+        25.     12.08                5.          2.          1.          1.
                               (INCHES)       .756       .950        .952        .952
                                (AC-FT)          2.          3.          3.          3.

                       CUMULATIVE AREA =     .06 SQ MI

       ***              ***              ***              ***              ***

                       HYDROGRAPH AT STATION      R14
                     TRANSPOSITION AREA     50.0 SQ MI

        TOTAL RAINFALL =   1.90, TOTAL LOSS =     .95, TOTAL EXCESS =     .95

     PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR     24.92-HR
+      (CFS)       (HR)          (CFS)
+        25.     12.08                5.          2.          1.          1.
                               (INCHES)       .747       .939        .941        .941
                                (AC-FT)          2.          3.          3.          3.

                       CUMULATIVE AREA =     .06 SQ MI
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INTERPOLATED HYDROGRAPH AT R14

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	17.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	15.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	14.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	12.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	11.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	10.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	9.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	8.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	7.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	7.	1		1930	235	0.
1		0050	11	0.	1		0705	86	1.	1		1320	161	6.	1		1935	236	0.
1		0055	12	0.	1		0710	87	1.	1		1325	162	5.	1		1940	237	0.
1		0100	13	0.	1		0715	88	1.	1		1330	163	5.	1		1945	238	0.
1		0105	14	0.	1		0720	89	1.	1		1335	164	4.	1		1950	239	0.
1		0110	15	0.	1		0725	90	1.	1		1340	165	4.	1		1955	240	0.
1		0115	16	0.	1		0730	91	1.	1		1345	166	4.	1		2000	241	0.
1		0120	17	0.	1		0735	92	1.	1		1350	167	3.	1		2005	242	0.
1		0125	18	0.	1		0740	93	1.	1		1355	168	3.	1		2010	243	0.
1		0130	19	0.	1		0745	94	1.	1		1400	169	3.	1		2015	244	0.
1		0135	20	0.	1		0750	95	1.	1		1405	170	3.	1		2020	245	0.
1		0140	21	0.	1		0755	96	1.	1		1410	171	2.	1		2025	246	0.
1		0145	22	0.	1		0800	97	1.	1		1415	172	2.	1		2030	247	0.
1		0150	23	0.	1		0805	98	1.	1		1420	173	2.	1		2035	248	0.
1		0155	24	0.	1		0810	99	1.	1		1425	174	2.	1		2040	249	0.
1		0200	25	0.	1		0815	100	1.	1		1430	175	2.	1		2045	250	0.
1		0205	26	0.	1		0820	101	1.	1		1435	176	2.	1		2050	251	0.
1		0210	27	0.	1		0825	102	1.	1		1440	177	2.	1		2055	252	0.
1		0215	28	0.	1		0830	103	1.	1		1445	178	2.	1		2100	253	0.
1		0220	29	0.	1		0835	104	1.	1		1450	179	1.	1		2105	254	0.
1		0225	30	0.	1		0840	105	1.	1		1455	180	1.	1		2110	255	0.
1		0230	31	0.	1		0845	106	1.	1		1500	181	1.	1		2115	256	0.
1		0235	32	0.	1		0850	107	1.	1		1505	182	1.	1		2120	257	0.
1		0240	33	0.	1		0855	108	1.	1		1510	183	1.	1		2125	258	0.
1		0245	34	0.	1		0900	109	1.	1		1515	184	1.	1		2130	259	0.
1		0250	35	0.	1		0905	110	1.	1		1520	185	1.	1		2135	260	0.
1		0255	36	0.	1		0910	111	1.	1		1525	186	1.	1		2140	261	0.
1		0300	37	0.	1		0915	112	1.	1		1530	187	1.	1		2145	262	0.
1		0305	38	0.	1		0920	113	1.	1		1535	188	1.	1		2150	263	0.
1		0310	39	0.	1		0925	114	1.	1		1540	189	1.	1		2155	264	0.
1		0315	40	0.	1		0930	115	1.	1		1545	190	1.	1		2200	265	0.
1		0320	41	0.	1		0935	116	1.	1		1550	191	1.	1		2205	266	0.
1		0325	42	0.	1		0940	117	1.	1		1555	192	1.	1		2210	267	0.
1		0330	43	0.	1		0945	118	1.	1		1600	193	1.	1		2215	268	0.
1		0335	44	0.	1		0950	119	1.	1		1605	194	1.	1		2220	269	0.
1		0340	45	0.	1		0955	120	1.	1		1610	195	1.	1		2225	270	0.
1		0345	46	0.	1		1000	121	1.	1		1615	196	1.	1		2230	271	0.
1		0350	47	0.	1		1005	122	1.	1		1620	197	1.	1		2235	272	0.
1		0355	48	0.	1		1010	123	1.	1		1625	198	1.	1		2240	273	0.
1		0400	49	0.	1		1015	124	1.	1		1630	199	1.	1		2245	274	0.
1		0405	50	0.	1		1020	125	1.	1		1635	200	1.	1		2250	275	0.
1		0410	51	0.	1		1025	126	1.	1		1640	201	1.	1		2255	276	0.
1		0415	52	0.	1		1030	127	1.	1		1645	202	1.	1		2300	277	0.
1		0420	53	0.	1		1035	128	1.	1		1650	203	1.	1		2305	278	0.
1		0425	54	0.	1		1040	129	1.	1		1655	204	1.	1		2310	279	0.
1		0430	55	0.	1		1045	130	1.	1		1700	205	1.	1		2315	280	0.
1		0435	56	0.	1		1050	131	1.	1		1705	206	1.	1		2320	281	0.
1		0440	57	0.	1		1055	132	1.	1		1710	207	1.	1		2325	282	0.
1		0445	58	0.	1		1100	133	1.	1		1715	208	1.	1		2330	283	0.
1		0450	59	0.	1		1105	134	1.	1		1720	209	1.	1		2335	284	0.
1		0455	60	0.	1		1110	135	2.	1		1725	210	1.	1		2340	285	0.
1		0500	61	0.	1		1115	136	2.	1		1730	211	1.	1		2345	286	0.
1		0505	62	0.	1		1120	137	2.	1		1735	212	1.	1		2350	287	0.
1		0510	63	0.	1		1125	138	2.	1		1740	213	1.	1		2355	288	0.
1		0515	64	0.	1		1130	139	2.	1		1745	214	1.	2		0000	289	0.
1		0520	65	0.	1		1135	140	2.	1		1750	215	1.	2		0005	290	0.
1		0525	66	0.	1		1140	141	3.	1		1755	216	1.	2		0010	291	0.
1		0530	67	0.	1		1145	142	4.	1		1800	217	1.	2		0015	292	0.
1		0535	68	0.	1		1150	143	8.	1		1805	218	1.	2		0020	293	0.
1		0540	69	0.	1		1155	144	14.	1		1810	219	1.	2		0025	294	0.
1		0545	70	0.	1		1200	145	22.	1		1815	220	1.	2		0030	295	0.
1		0550	71	0.	1		1205	146	26.	1		1820	221	1.	2		0035	296	0.
1		0555	72	0.	1		1210	147	26.	1		1825	222	1.	2		0040	297	0.
1		0600	73	0.	1		1215	148	23.	1		1830	223	0.	2		0045	298	0.
1		0605	74	0.	1		1220	149	21.	1		1835	224	0.	2		0050	299	0.
1		0610	75	0.	1		1225	150	19.	1		1840	225	0.	2		0055	300	0.

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)			
+ 26.	12.08	5.	2.	2.	2.
		(INCHES) .800	1.001	1.003	1.003
		(AC-FT) 3.	3.	3.	3.

CUMULATIVE AREA = .06 SQ MI

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          *             *
357 KK    *     C_R5    *     Combine Hydrographs (R14, Basin 5)
          *             *
          ***************

358 HC          HYDROGRAPH COMBINATION
                      ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                    ***
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*** *** *** *** ***

HYDROGRAPH AT STATION C_R5
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
28.	12.08	(CFS) 5.	2.	2.	2.
		(INCHES) .813	1.015	1.017	1.017
		(AC-FT) 3.	3.	3.	3.

CUMULATIVE AREA = .06 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_R5
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
27.	12.08	(CFS) 5.	2.	2.	2.
		(INCHES) .786	.984	.986	.986
		(AC-FT) 3.	3.	3.	3.

CUMULATIVE AREA = .06 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_R5
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
26.	12.08	(CFS) 5.	2.	2.	2.
		(INCHES) .772	.968	.970	.970
		(AC-FT) 2.	3.	3.	3.

CUMULATIVE AREA = .06 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_R5
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
25.	12.08	(CFS) 5.	2.	1.	1.
		(INCHES) .758	.952	.954	.954
		(AC-FT) 2.	3.	3.	3.

CUMULATIVE AREA = .06 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_R5
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
25.	12.08	(CFS) 5.	2.	1.	1.
		(INCHES) .749	.941	.943	.943
		(AC-FT) 2.	3.	3.	3.

CUMULATIVE AREA = .06 SQ MI

INTERPOLATED HYDROGRAPH AT C_R5

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	17.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	15.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	14.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	12.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	11.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	10.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	9.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	8.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	7.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	7.	1		1930	235	0.
1		0050	11	0.	1		0705	86	1.	1		1320	161	6.	1		1935	236	0.
1		0055	12	0.	1		0710	87	1.	1		1325	162	5.	1		1940	237	0.
1		0100	13	0.	1		0715	88	1.	1		1330	163	5.	1		1945	238	0.
1		0105	14	0.	1		0720	89	1.	1		1335	164	4.	1		1950	239	0.
1		0110	15	0.	1		0725	90	1.	1		1340	165	4.	1		1955	240	0.
1		0115	16	0.	1		0730	91	1.	1		1345	166	4.	1		2000	241	0.
1		0120	17	0.	1		0735	92	1.	1		1350	167	3.	1		2005	242	0.
1		0125	18	0.	1		0740	93	1.	1		1355	168	3.	1		2010	243	0.
1		0130	19	0.	1		0745	94	1.	1		1400	169	3.	1		2015	244	0.
1		0135	20	0.	1		0750	95	1.	1		1405	170	3.	1		2020	245	0.
1		0140	21	0.	1		0755	96	1.	1		1410	171	2.	1		2025	246	0.
1		0145	22	0.	1		0800	97	1.	1		1415	172	2.	1		2030	247	0.
1		0150	23	0.	1		0805	98	1.	1		1420	173	2.	1		2035	248	0.
1		0155	24	0.	1		0810	99	1.	1		1425	174	2.	1		2040	249	0.
1		0200	25	0.	1		0815	100	1.	1		1430	175	2.	1		2045	250	0.

1	0205	26	0.	*	1	0820	101	1.	*	1	1435	176	2.	*	1	2050	251	0.
1	0210	27	0.	*	1	0825	102	1.	*	1	1440	177	2.	*	1	2055	252	0.
1	0215	28	0.	*	1	0830	103	1.	*	1	1445	178	2.	*	1	2100	253	0.
1	0220	29	0.	*	1	0835	104	1.	*	1	1450	179	1.	*	1	2105	254	0.
1	0225	30	0.	*	1	0840	105	1.	*	1	1455	180	1.	*	1	2110	255	0.
1	0230	31	0.	*	1	0845	106	1.	*	1	1500	181	1.	*	1	2115	256	0.
1	0235	32	0.	*	1	0850	107	1.	*	1	1505	182	1.	*	1	2120	257	0.
1	0240	33	0.	*	1	0855	108	1.	*	1	1510	183	1.	*	1	2125	258	0.
1	0245	34	0.	*	1	0900	109	1.	*	1	1515	184	1.	*	1	2130	259	0.
1	0250	35	0.	*	1	0905	110	1.	*	1	1520	185	1.	*	1	2135	260	0.
1	0255	36	0.	*	1	0910	111	1.	*	1	1525	186	1.	*	1	2140	261	0.
1	0300	37	0.	*	1	0915	112	1.	*	1	1530	187	1.	*	1	2145	262	0.
1	0305	38	0.	*	1	0920	113	1.	*	1	1535	188	1.	*	1	2150	263	0.
1	0310	39	0.	*	1	0925	114	1.	*	1	1540	189	1.	*	1	2155	264	0.
1	0315	40	0.	*	1	0930	115	1.	*	1	1545	190	1.	*	1	2200	265	0.
1	0320	41	0.	*	1	0935	116	1.	*	1	1550	191	1.	*	1	2205	266	0.
1	0325	42	0.	*	1	0940	117	1.	*	1	1555	192	1.	*	1	2210	267	0.
1	0330	43	0.	*	1	0945	118	1.	*	1	1600	193	1.	*	1	2215	268	0.
1	0335	44	0.	*	1	0950	119	1.	*	1	1605	194	1.	*	1	2220	269	0.
1	0340	45	0.	*	1	0955	120	1.	*	1	1610	195	1.	*	1	2225	270	0.
1	0345	46	0.	*	1	1000	121	1.	*	1	1615	196	1.	*	1	2230	271	0.
1	0350	47	0.	*	1	1005	122	1.	*	1	1620	197	1.	*	1	2235	272	0.
1	0355	48	0.	*	1	1010	123	1.	*	1	1625	198	1.	*	1	2240	273	0.
1	0400	49	0.	*	1	1015	124	1.	*	1	1630	199	1.	*	1	2245	274	0.
1	0405	50	0.	*	1	1020	125	1.	*	1	1635	200	1.	*	1	2250	275	0.
1	0410	51	0.	*	1	1025	126	1.	*	1	1640	201	1.	*	1	2255	276	0.
1	0415	52	0.	*	1	1030	127	1.	*	1	1645	202	1.	*	1	2300	277	0.
1	0420	53	0.	*	1	1035	128	1.	*	1	1650	203	1.	*	1	2305	278	0.
1	0425	54	0.	*	1	1040	129	1.	*	1	1655	204	1.	*	1	2310	279	0.
1	0430	55	0.	*	1	1045	130	1.	*	1	1700	205	1.	*	1	2315	280	0.
1	0435	56	0.	*	1	1050	131	1.	*	1	1705	206	1.	*	1	2320	281	0.
1	0440	57	0.	*	1	1055	132	1.	*	1	1710	207	1.	*	1	2325	282	0.
1	0445	58	0.	*	1	1100	133	1.	*	1	1715	208	1.	*	1	2330	283	0.
1	0450	59	0.	*	1	1105	134	1.	*	1	1720	209	1.	*	1	2335	284	0.
1	0455	60	0.	*	1	1110	135	2.	*	1	1725	210	1.	*	1	2340	285	0.
1	0500	61	0.	*	1	1115	136	2.	*	1	1730	211	1.	*	1	2345	286	0.
1	0505	62	0.	*	1	1120	137	2.	*	1	1735	212	1.	*	1	2350	287	0.
1	0510	63	0.	*	1	1125	138	2.	*	1	1740	213	1.	*	1	2355	288	0.
1	0515	64	0.	*	1	1130	139	2.	*	1	1745	214	1.	*	2	0000	289	0.
1	0520	65	0.	*	1	1135	140	2.	*	1	1750	215	1.	*	2	0005	290	0.
1	0525	66	0.	*	1	1140	141	3.	*	1	1755	216	1.	*	2	0010	291	0.
1	0530	67	0.	*	1	1145	142	4.	*	1	1800	217	1.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	8.	*	1	1805	218	1.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	14.	*	1	1810	219	1.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	23.	*	1	1815	220	1.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	28.	*	1	1820	221	1.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	26.	*	1	1825	222	1.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	23.	*	1	1830	223	0.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	21.	*	1	1835	224	0.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	19.	*	1	1840	225	0.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
+ 28.	12.08	(CFS)	5.	2.	2.	2.
		(INCHES)	.806	1.007	1.009	1.009
		(AC-FT)	3.	3.	3.	3.

CUMULATIVE AREA = .06 SQ MI

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359 KK

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* *
* R_5 *
* *
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Route Basin 5 & R14 through R5 overland

HYDROGRAPH ROUTING DATA

360 RK KINEMATIC WAVE STREAM ROUTING

L	10500.	CHANNEL LENGTH
S	.0080	SLOPE
N	.030	CHANNEL ROUGHNESS COEFFICIENT
CA	.00	CONTRIBUTING AREA
SHAPE	TRAP	CHANNEL SHAPE
WD	10.00	BOTTOM WIDTH OR DIAMETER
Z	20.00	SIDE SLOPE
NDXMIN	2	MINIMUM NUMBER OF DX INTERVALS

***

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION= 2

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	.97	1.34	5.00	954.55	26.74	775.99	1.06	3.07

NTINUITY SUMMARY (AC-FT) - INFLOW= .3265E+01 EXCESS= .0000E+00 OUTFLOW= .3400E+01 BASIN STORAGE= .8318E-01 PERCENT ERROR= -6.7

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	.97	1.34	5.00	26.61	780.00	1.06

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HYDROGRAPH AT STATION R_5
TRANSPOSITION AREA .0 SQ MI

	PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)	(CFS)			
+	27.	13.00	6.	2.	2.	2.
			(INCHES) .879	1.057	1.057	1.057
			(AC-FT) 3.	3.	3.	3.

CUMULATIVE AREA = .06 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	.97	1.34	4.92	875.00	25.92	781.27	1.03	3.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3164E+01 EXCESS= .0000E+00 OUTFLOW= .3304E+01 BASIN STORAGE= .8505E-01 PERCENT ERROR= -7.1

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	.97	1.34	5.00	25.54	780.00	1.03
***	***	***	***	***		

HYDROGRAPH AT STATION R_5
TRANSPOSITION AREA 14.0 SQ MI

	PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)	(CFS)			
+	26.	13.00	6.	2.	2.	2.
			(INCHES) .855	1.029	1.029	1.029
			(AC-FT) 3.	3.	3.	3.

CUMULATIVE AREA = .06 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	.97	1.34	4.92	875.00	25.32	782.03	1.01	3.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3114E+01 EXCESS= .0000E+00 OUTFLOW= .3245E+01 BASIN STORAGE= .7981E-01 PERCENT ERROR= -6.8

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	.97	1.34	5.00	24.93	780.00	1.01
***	***	***	***	***		

HYDROGRAPH AT STATION R_5
TRANSPOSITION AREA 24.0 SQ MI

	PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)	(CFS)			
+	25.	13.00	5.	2.	2.	2.
			(INCHES) .837	1.009	1.009	1.009
			(AC-FT) 3.	3.	3.	3.

CUMULATIVE AREA = .06 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	.97	1.34	5.00	875.00	24.46	783.86	.98	3.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3064E+01 EXCESS= .0000E+00 OUTFLOW= .3150E+01 BASIN STORAGE= .7945E-01 PERCENT ERROR= -5.4

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	.97	1.34	5.00	24.41	780.00	.98
***	***	***	***	***		

HYDROGRAPH AT STATION R_5
TRANSPOSITION AREA 36.5 SQ MI

	PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)	(CFS)			
+	24.	13.00	5.	2.	2.	2.
			(INCHES) .809	.979	.979	.979
			(AC-FT) 3.	3.	3.	3.

CUMULATIVE AREA = .06 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	.97	1.34	4.89	875.00	24.59	781.78	.95	2.98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3028E+01 EXCESS= .0000E+00 OUTFLOW= .3045E+01 BASIN STORAGE= .8038E-01 PERCENT ERROR= -3.2

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	.97	1.34	5.00	23.58	785.00	.95
***	***	***	***	***		

HYDROGRAPH AT STATION R_5
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	24.92-HR
+ 24.	13.08	(CFS)	5.	2.	1.	1.
		(INCHES)	.778	.947	.947	.947
		(AC-FT)	2.	3.	3.	3.

CUMULATIVE AREA = .06 SQ MI

INTERPOLATED HYDROGRAPH AT R_5

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	1.	1		1845	226	1.
1		0005	2	0.	1		0620	77	0.	1		1235	152	1.	1		1850	227	1.
1		0010	3	0.	1		0625	78	0.	1		1240	153	1.	1		1855	228	1.
1		0015	4	0.	1		0630	79	0.	1		1245	154	1.	1		1900	229	1.
1		0020	5	0.	1		0635	80	0.	1		1250	155	2.	1		1905	230	1.
1		0025	6	0.	1		0640	81	0.	1		1255	156	21.	1		1910	231	1.
1		0030	7	0.	1		0645	82	0.	1		1300	157	26.	1		1915	232	1.
1		0035	8	0.	1		0650	83	0.	1		1305	158	25.	1		1920	233	1.
1		0040	9	0.	1		0655	84	0.	1		1310	159	23.	1		1925	234	1.
1		0045	10	0.	1		0700	85	0.	1		1315	160	21.	1		1930	235	1.
1		0050	11	0.	1		0705	86	0.	1		1320	161	20.	1		1935	236	1.
1		0055	12	0.	1		0710	87	0.	1		1325	162	18.	1		1940	237	1.
1		0100	13	0.	1		0715	88	0.	1		1330	163	17.	1		1945	238	1.
1		0105	14	0.	1		0720	89	0.	1		1335	164	15.	1		1950	239	1.
1		0110	15	0.	1		0725	90	0.	1		1340	165	14.	1		1955	240	1.
1		0115	16	0.	1		0730	91	0.	1		1345	166	13.	1		2000	241	1.
1		0120	17	0.	1		0735	92	0.	1		1350	167	12.	1		2005	242	1.
1		0125	18	0.	1		0740	93	0.	1		1355	168	11.	1		2010	243	1.
1		0130	19	0.	1		0745	94	0.	1		1400	169	10.	1		2015	244	1.
1		0135	20	0.	1		0750	95	0.	1		1405	170	10.	1		2020	245	1.
1		0140	21	0.	1		0755	96	0.	1		1410	171	9.	1		2025	246	1.
1		0145	22	0.	1		0800	97	0.	1		1415	172	8.	1		2030	247	1.
1		0150	23	0.	1		0805	98	0.	1		1420	173	8.	1		2035	248	1.
1		0155	24	0.	1		0810	99	0.	1		1425	174	7.	1		2040	249	1.
1		0200	25	0.	1		0815	100	0.	1		1430	175	7.	1		2045	250	1.
1		0205	26	0.	1		0820	101	0.	1		1435	176	6.	1		2050	251	1.
1		0210	27	0.	1		0825	102	0.	1		1440	177	6.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	5.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	5.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	5.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	4.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	4.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	4.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	4.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	3.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	3.	1		2140	261	0.
1		0300	37	0.	1		0915	112	0.	1		1530	187	3.	1		2145	262	0.
1		0305	38	0.	1		0920	113	0.	1		1535	188	3.	1		2150	263	0.
1		0310	39	0.	1		0925	114	0.	1		1540	189	3.	1		2155	264	0.
1		0315	40	0.	1		0930	115	1.	1		1545	190	3.	1		2200	265	0.
1		0320	41	0.	1		0935	116	1.	1		1550	191	2.	1		2205	266	0.
1		0325	42	0.	1		0940	117	1.	1		1555	192	2.	1		2210	267	0.
1		0330	43	0.	1		0945	118	1.	1		1600	193	2.	1		2215	268	0.
1		0335	44	0.	1		0950	119	1.	1		1605	194	2.	1		2220	269	0.
1		0340	45	0.	1		0955	120	1.	1		1610	195	2.	1		2225	270	0.
1		0345	46	0.	1		1000	121	1.	1		1615	196	2.	1		2230	271	0.
1		0350	47	0.	1		1005	122	1.	1		1620	197	2.	1		2235	272	0.
1		0355	48	0.	1		1010	123	1.	1		1625	198	2.	1		2240	273	0.
1		0400	49	0.	1		1015	124	1.	1		1630	199	2.	1		2245	274	0.
1		0405	50	0.	1		1020	125	1.	1		1635	200	2.	1		2250	275	0.
1		0410	51	0.	1		1025	126	1.	1		1640	201	1.	1		2255	276	0.
1		0415	52	0.	1		1030	127	1.	1		1645	202	1.	1		2300	277	0.
1		0420	53	0.	1		1035	128	1.	1		1650	203	1.	1		2305	278	0.
1		0425	54	0.	1		1040	129	1.	1		1655	204	1.	1		2310	279	0.
1		0430	55	0.	1		1045	130	1.	1		1700	205	1.	1		2315	280	0.
1		0435	56	0.	1		1050	131	1.	1		1705	206	1.	1		2320	281	0.
1		0440	57	0.	1		1055	132	1.	1		1710	207	1.	1		2325	282	0.
1		0445	58	0.	1		1100	133	1.	1		1715	208	1.	1		2330	283	0.
1		0450	59	0.	1		1105	134	1.	1		1720	209	1.	1		2335	284	0.
1		0455	60	0.	1		1110	135	1.	1		1725	210	1.	1		2340	285	0.
1		0500	61	0.	1		1115	136	1.	1		1730	211	1.	1		2345	286	0.
1		0505	62	0.	1		1120	137	1.	1		1735	212	1.	1		2350	287	0.
1		0510	63	0.	1		1125	138	1.	1		1740	213	1.	1		2355	288	0.
1		0515	64	0.	1		1130	139	1.	1		1745	214	1.	2		0000	289	0.
1		0520	65	0.	1		1135	140	1.	1		1750	215	1.	2		0005	290	0.
1		0525	66	0.	1		1140	141	1.	1		1755	216	1.	2		0010	291	0.
1		0530	67	0.	1		1145	142	1.	1		1800	217	1.	2		0015	292	0.
1		0535	68	0.	1		1150	143	1.	1		1805	218	1.	2		0020	293	0.
1		0540	69	0.	1		1155	144	1.	1		1810	219	1.	2		0025	294	0.
1		0545	70	0.	1		1200	145	1.	1		1815	220	1.	2		0030	295	0.

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    1    0550  71        0.  *   1      1205  146        1.  *   1      1820  221        1.  *   2      0035  296        0.
    1    0555  72        0.  *   1      1210  147        1.  *   1      1825  222        1.  *   2      0040  297        0.
    1    0600  73        0.  *   1      1215  148        1.  *   1      1830  223        1.  *   2      0045  298        0.
    1    0605  74        0.  *   1      1220  149        1.  *   1      1835  224        1.  *   2      0050  299        0.
    1    0610  75        0.  *   1      1225  150        1.  *   1      1840  225        1.  *   2      0055  300        0.
                           *                             *                             *
*****************************************************************************************************************************************

  PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR          24-HR          72-HR       24.92-HR
+   (CFS)        (HR)          (CFS)
+      26.      13.00                      6.             2.             2.             2.
                              (INCHES)    .873          1.050          1.050          1.050
                              (AC-FT)        3.             3.             3.             3.

                              CUMULATIVE AREA =      .06 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            ***************
            *             *
  361 KK    *       R5    *      Subbasin
            *             *
            ***************

     SUBBASIN RUNOFF DATA

  362 BA       SUBBASIN CHARACTERISTICS
                  TAREA          .08  SUBBASIN AREA

  363 LG       GREEN AND AMPT LOSS RATE
                  STRTL          .89  STARTING LOSS
                    DTH          .73  MOISTURE DEFICIT
                   PSIF         1.55  WETTING FRONT SUCTION
                  XKSAT          .17  HYDRAULIC CONDUCTIVITY
                  RTIMP         9.00  PERCENT IMPERVIOUS AREA

  364 US       SNYDER UNITGRAPH
                     TP          .12  LAG
                     CP          .20  PEAKING COEFFICIENT

               SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                    ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=    .08 HR,       R=    .69 HR
                                          SNYDER  TP=    .14 HR,      CP=    .20

                                                UNIT HYDROGRAPH
                                          45 END-OF-PERIOD ORDINATES
                    37.       70.       62.       55.       49.       43.       38.       34.       30.       27.
                    24.       21.       19.       16.       15.       13.       11.       10.        9.        8.
                     7.        6.        5.        5.        4.        4.        3.        3.        3.        2.
                     2.        2.        2.        1.        1.        1.        1.        1.        1.        1.
                     1.        1.        0.        0.        0.

          ***              ***              ***              ***              ***

                        HYDROGRAPH AT STATION       R5
                       TRANSPOSITION AREA        .0 SQ MI

          TOTAL RAINFALL =    1.99, TOTAL LOSS =    1.68, TOTAL EXCESS =     .31

  PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR          24-HR          72-HR       24.92-HR
+   (CFS)        (HR)          (CFS)
+      13.      12.08                      2.             1.             1.             1.
                              (INCHES)    .259           .311           .311           .311
                              (AC-FT)        1.             1.             1.             1.

                              CUMULATIVE AREA =      .08 SQ MI

          ***              ***              ***              ***              ***

                        HYDROGRAPH AT STATION       R5
                       TRANSPOSITION AREA      14.0 SQ MI

          TOTAL RAINFALL =    1.95, TOTAL LOSS =    1.66, TOTAL EXCESS =     .29

  PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR          24-HR          72-HR       24.92-HR
+   (CFS)        (HR)          (CFS)
+      12.      12.08                      2.             1.             1.             1.
                              (INCHES)    .239           .290           .290           .290
                              (AC-FT)        1.             1.             1.             1.

                              CUMULATIVE AREA =      .08 SQ MI

          ***              ***              ***              ***              ***

                        HYDROGRAPH AT STATION       R5
                       TRANSPOSITION AREA      24.0 SQ MI

          TOTAL RAINFALL =    1.93, TOTAL LOSS =    1.65, TOTAL EXCESS =     .28

  PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR          24-HR          72-HR       24.92-HR
+   (CFS)        (HR)          (CFS)
+      11.      12.08                      2.             1.             1.             1.
                              (INCHES)    .229           .279           .280           .280
                              (AC-FT)        1.             1.             1.             1.

                              CUMULATIVE AREA =      .08 SQ MI
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*** *** *** *** ***

HYDROGRAPH AT STATION R5
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.91, TOTAL LOSS = 1.64, TOTAL EXCESS = .27

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
		(CFS)			
11.	12.08	2.	1.	1.	1.
		(INCHES) .219	.269	.269	.269
		(AC-FT) 1.	1.	1.	1.

CUMULATIVE AREA = .08 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R5
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.90, TOTAL LOSS = 1.63, TOTAL EXCESS = .26

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
		(CFS)			
10.	12.08	2.	1.	1.	1.
		(INCHES) .212	.261	.262	.262
		(AC-FT) 1.	1.	1.	1.

CUMULATIVE AREA = .08 SQ MI

INTERPOLATED HYDROGRAPH AT R5

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	8.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	7.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	6.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	6.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	5.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	5.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	4.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	4.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	3.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	3.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	3.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	2.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	2.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	2.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	2.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	2.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	2.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	1.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	1.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	1.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	1.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	1.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	1.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	1.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	1.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	1.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	1.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	1.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	1.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	1.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	1.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	1.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	0.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	0.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	0.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	0.	1		2140	261	0.
1		0300	37	0.	1		0915	112	0.	1		1530	187	0.	1		2145	262	0.
1		0305	38	0.	1		0920	113	0.	1		1535	188	0.	1		2150	263	0.
1		0310	39	0.	1		0925	114	0.	1		1540	189	0.	1		2155	264	0.
1		0315	40	0.	1		0930	115	0.	1		1545	190	0.	1		2200	265	0.
1		0320	41	0.	1		0935	116	0.	1		1550	191	0.	1		2205	266	0.
1		0325	42	0.	1		0940	117	0.	1		1555	192	0.	1		2210	267	0.
1		0330	43	0.	1		0945	118	0.	1		1600	193	0.	1		2215	268	0.
1		0335	44	0.	1		0950	119	0.	1		1605	194	0.	1		2220	269	0.
1		0340	45	0.	1		0955	120	0.	1		1610	195	0.	1		2225	270	0.
1		0345	46	0.	1		1000	121	0.	1		1615	196	0.	1		2230	271	0.
1		0350	47	0.	1		1005	122	0.	1		1620	197	0.	1		2235	272	0.
1		0355	48	0.	1		1010	123	0.	1		1625	198	0.	1		2240	273	0.
1		0400	49	0.	1		1015	124	0.	1		1630	199	0.	1		2245	274	0.
1		0405	50	0.	1		1020	125	0.	1		1635	200	0.	1		2250	275	0.
1		0410	51	0.	1		1025	126	0.	1		1640	201	0.	1		2255	276	0.
1		0415	52	0.	1		1030	127	0.	1		1645	202	0.	1		2300	277	0.
1		0420	53	0.	1		1035	128	0.	1		1650	203	0.	1		2305	278	0.
1		0425	54	0.	1		1040	129	0.	1		1655	204	0.	1		2310	279	0.
1		0430	55	0.	1		1045	130	0.	1		1700	205	0.	1		2315	280	0.
1		0435	56	0.	1		1050	131	0.	1		1705	206	0.	1		2320	281	0.
1		0440	57	0.	1		1055	132	0.	1		1710	207	0.	1		2325	282	0.
1		0445	58	0.	1		1100	133	0.	1		1715	208	0.	1		2330	283	0.
1		0450	59	0.	1		1105	134	1.	1		1720	209	0.	1		2335	284	0.
1		0455	60	0.	1		1110	135	1.	1		1725	210	0.	1		2340	285	0.
1		0500	61	0.	1		1115	136	1.	1		1730	211	0.	1		2345	286	0.
1		0505	62	0.	1		1120	137	1.	1		1735	212	0.	1		2350	287	0.
1		0510	63	0.	1		1125	138	1.	1		1740	213	0.	1		2355	288	0.
1		0515	64	0.	1		1130	139	1.	1		1745	214	0.	2		0000	289	0.
1		0520	65	0.	1		1135	140	1.	1		1750	215	0.	2		0005	290	0.
1		0525	66	0.	1		1140	141	1.	1		1755	216	0.	2		0010	291	0.
1		0530	67	0.	1		1145	142	2.	1		1800	217	0.	2		0015	292	0.
1		0535	68	0.	1		1150	143	2.	1		1805	218	0.	2		0020	293	0.

1	0540	69	0.	*	1	1155	144	6.	*	1	1810	219	0.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	11.	*	1	1815	220	0.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	13.	*	1	1820	221	0.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	12.	*	1	1825	222	0.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	10.	*	1	1830	223	0.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	9.	*	1	1835	224	0.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	8.	*	1	1840	225	0.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 13.	12.08		2.	1.	1.	1.
		(INCHES)	.253	.305	.305	.305
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .08 SQ MI

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*            *
*      C3    *
*            *
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365 KK Corcoran Wash at H Road and 25 Road

SUBBASIN RUNOFF DATA

366 BA SUBBASIN CHARACTERISTICS

TAREA	.56	SUBBASIN AREA

367 LG GREEN AND AMPT LOSS RATE

STRTL	.56	STARTING LOSS
DTH	.52	MOISTURE DEFICIT
PSIF	1.94	WETTING FRONT SUCTION
XKSAT	.07	HYDRAULIC CONDUCTIVITY
RTIMP	2.00	PERCENT IMPERVIOUS AREA

368 US SNYDER UNITGRAPH

TP	.25	LAG
CP	.31	PEAKING COEFFICIENT

SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

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UNIT HYDROGRAPH PARAMETERS
CLARK TC= .24 HR, R= .67 HR
SNYDER TP= .25 HR, CP= .30

UNIT HYDROGRAPH
45 END-OF-PERIOD ORDINATES

73.	258.	409.	423.	374.	330.	292.	258.	228.	201.
178.	157.	139.	122.	108.	96.	84.	75.	66.	58.
51.	45.	40.	35.	31.	28.	24.	22.	19.	17.
15.	13.	12.	10.	9.	8.	7.	6.	6.	5.
4.	4.	3.	3.	3.					

*** *** *** *** ***

HYDROGRAPH AT STATION C3
TRANSPOSITION AREA .0 SQ MI

TOTAL RAINFALL = 1.99, TOTAL LOSS = 1.45, TOTAL EXCESS = .54

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 200.	12.17		32.	8.	8.	8.
		(INCHES)	.521	.533	.533	.533
		(AC-FT)	16.	16.	16.	16.

CUMULATIVE AREA = .56 SQ MI

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HYDROGRAPH AT STATION C3
TRANSPOSITION AREA 14.0 SQ MI

TOTAL RAINFALL = 1.95, TOTAL LOSS = 1.44, TOTAL EXCESS = .51

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 192.	12.17		30.	8.	7.	7.
		(INCHES)	.497	.509	.509	.509
		(AC-FT)	15.	15.	15.	15.

CUMULATIVE AREA = .56 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C3
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.93, TOTAL LOSS = 1.43, TOTAL EXCESS = .50

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 188.	12.17		29.	8.	7.	7.
		(INCHES)	.486	.497	.497	.497
		(AC-FT)	15.	15.	15.	15.

CUMULATIVE AREA = .56 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C3
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.91, TOTAL LOSS = 1.42, TOTAL EXCESS = .49

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	24.92-HR
184.	12.17	(CFS)	29.	7.	7.	7.
		(INCHES)	.474	.485	.485	.485
		(AC-FT)	14.	15.	15.	15.

CUMULATIVE AREA = .56 SQ MI

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HYDROGRAPH AT STATION C3
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.90, TOTAL LOSS = 1.42, TOTAL EXCESS = .48

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	24.92-HR
181.	12.17	(CFS)	28.	7.	7.	7.
		(INCHES)	.466	.477	.477	.477
		(AC-FT)	14.	14.	14.	14.

CUMULATIVE AREA = .56 SQ MI

INTERPOLATED HYDROGRAPH AT C3

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	127.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	113.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	100.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	88.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	78.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	69.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	61.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	54.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	48.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	42.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	37.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	33.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	29.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	26.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	23.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	20.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	18.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	16.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	14.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	13.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	11.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	10.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	9.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	8.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	7.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	6.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	6.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	5.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	4.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	4.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	4.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	3.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	3.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	3.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	2.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	2.	1		2140	261	0.
1		0300	37	0.	1		0915	112	0.	1		1530	187	2.	1		2145	262	0.
1		0305	38	0.	1		0920	113	0.	1		1535	188	1.	1		2150	263	0.
1		0310	39	0.	1		0925	114	0.	1		1540	189	1.	1		2155	264	0.
1		0315	40	0.	1		0930	115	0.	1		1545	190	0.	1		2200	265	0.
1		0320	41	0.	1		0935	116	0.	1		1550	191	0.	1		2205	266	0.
1		0325	42	0.	1		0940	117	0.	1		1555	192	0.	1		2210	267	0.
1		0330	43	0.	1		0945	118	0.	1		1600	193	0.	1		2215	268	0.
1		0335	44	0.	1		0950	119	0.	1		1605	194	0.	1		2220	269	0.
1		0340	45	0.	1		0955	120	0.	1		1610	195	0.	1		2225	270	0.
1		0345	46	0.	1		1000	121	0.	1		1615	196	0.	1		2230	271	0.
1		0350	47	0.	1		1005	122	0.	1		1620	197	0.	1		2235	272	0.
1		0355	48	0.	1		1010	123	0.	1		1625	198	0.	1		2240	273	0.
1		0400	49	0.	1		1015	124	0.	1		1630	199	0.	1		2245	274	0.
1		0405	50	0.	1		1020	125	1.	1		1635	200	0.	1		2250	275	0.
1		0410	51	0.	1		1025	126	1.	1		1640	201	0.	1		2255	276	0.
1		0415	52	0.	1		1030	127	1.	1		1645	202	0.	1		2300	277	0.
1		0420	53	0.	1		1035	128	1.	1		1650	203	0.	1		2305	278	0.
1		0425	54	0.	1		1040	129	1.	1		1655	204	0.	1		2310	279	0.
1		0430	55	0.	1		1045	130	1.	1		1700	205	0.	1		2315	280	0.
1		0435	56	0.	1		1050	131	1.	1		1705	206	0.	1		2320	281	0.
1		0440	57	0.	1		1055	132	1.	1		1710	207	0.	1		2325	282	0.
1		0445	58	0.	1		1100	133	1.	1		1715	208	0.	1		2330	283	0.
1		0450	59	0.	1		1105	134	1.	1		1720	209	0.	1		2335	284	0.
1		0455	60	0.	1		1110	135	1.	1		1725	210	0.	1		2340	285	0.
1		0500	61	0.	1		1115	136	1.	1		1730	211	0.	1		2345	286	0.
1		0505	62	0.	1		1120	137	1.	1		1735	212	0.	1		2350	287	0.
1		0510	63	0.	1		1125	138	1.	1		1740	213	0.	1		2355	288	0.
1		0515	64	0.	1		1130	139	1.	1		1745	214	0.	2		0000	289	0.
1		0520	65	0.	1		1135	140	1.	1		1750	215	0.	2		0005	290	0.
1		0525	66	0.	1		1140	141	1.	1		1755	216	0.	2		0010	291	0.

1	0530	67	0.	*	1	1145	142	6.	*	1	1800	217	0.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	26.	*	1	1805	218	0.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	71.	*	1	1810	219	0.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	133.	*	1	1815	220	0.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	182.	*	1	1820	221	0.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	196.	*	1	1825	222	0.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	182.	*	1	1830	223	0.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	162.	*	1	1835	224	0.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	144.	*	1	1840	225	0.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW				
		6-HR	24-HR	72-HR	24.92-HR	
+ (CFS)	(HR)					
		(CFS)				
+ 196.	12.17	31.	8.	8.	8.	
		(INCHES) .508	.519	.520	.520	
		(AC-FT) 15.	16.	16.	16.	

CUMULATIVE AREA = .56 SQ MI

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* *
369 KK * I5 * Start Indian Creek Basin
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SUBBASIN RUNOFF DATA

370 BA SUBBASIN CHARACTERISTICS

TAREA	.80	SUBBASIN AREA

371 LG GREEN AND AMPT LOSS RATE

STRTL	.47	STARTING LOSS
DTH	.45	MOISTURE DEFICIT
PSIF	1.68	WETTING FRONT SUCTION
XKSAT	.06	HYDRAULIC CONDUCTIVITY
RTIMP	2.00	PERCENT IMPERVIOUS AREA

372 US SNYDER UNITGRAPH

TP	.43	LAG
CP	.32	PEAKING COEFFICIENT

SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

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UNIT HYDROGRAPH PARAMETERS
CLARK TC= .44 HR, R= 1.07 HR
SNYDER TP= .43 HR, CP= .32

UNIT HYDROGRAPH
71 END-OF-PERIOD ORDINATES

27.	103.	209.	310.	375.	385.	359.	332.	307.	284.
263.	243.	225.	208.	192.	178.	164.	152.	141.	130.
120.	111.	103.	95.	88.	81.	75.	70.	64.	60.
55.	51.	47.	44.	40.	37.	35.	32.	30.	27.
25.	23.	22.	20.	19.	17.	16.	15.	14.	13.
12.	11.	10.	9.	8.	8.	7.	7.	6.	6.
5.	5.	5.	4.	4.	4.	3.	3.	3.	3.
2.									

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HYDROGRAPH AT STATION I5
TRANSPOSITION AREA .0 SQ MI

TOTAL RAINFALL = 1.99, TOTAL LOSS = 1.33, TOTAL EXCESS = .66

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 225.	12.33	55.	14.	14.	14.
		(INCHES) .645	.658	.658	.658
		(AC-FT) 27.	28.	28.	28.

CUMULATIVE AREA = .80 SQ MI

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HYDROGRAPH AT STATION I5
TRANSPOSITION AREA 14.0 SQ MI

TOTAL RAINFALL = 1.95, TOTAL LOSS = 1.31, TOTAL EXCESS = .64

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 217.	12.33	53.	14.	13.	13.
		(INCHES) .620	.633	.633	.633
		(AC-FT) 26.	27.	27.	27.

CUMULATIVE AREA = .80 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION I5
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.93, TOTAL LOSS = 1.31, TOTAL EXCESS = .62

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR

(CFS)	(HR)		6-HR	24-HR	72-HR	24.92-HR
214.	12.33	(CFS)	52.	13.	13.	13.
		(INCHES)	.608	.621	.621	.621
		(AC-FT)	26.	26.	26.	26.

CUMULATIVE AREA = .80 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION I5
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.91, TOTAL LOSS = 1.30, TOTAL EXCESS = .61

PEAK FLOW (CFS)	TIME (HR)		6-HR	MAXIMUM AVERAGE FLOW 24-HR	72-HR	24.92-HR
+ 210.	12.33	(CFS)	51.	13.	13.	13.
		(INCHES)	.596	.609	.609	.609
		(AC-FT)	25.	26.	26.	26.

CUMULATIVE AREA = .80 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION I5
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.90, TOTAL LOSS = 1.29, TOTAL EXCESS = .60

PEAK FLOW (CFS)	TIME (HR)		6-HR	MAXIMUM AVERAGE FLOW 24-HR	72-HR	24.92-HR
+ 207.	12.33	(CFS)	51.	13.	12.	12.
		(INCHES)	.588	.600	.600	.600
		(AC-FT)	25.	26.	26.	26.

CUMULATIVE AREA = .80 SQ MI

INTERPOLATED HYDROGRAPH AT I5

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	201.	1		1845	226	0.
1		0005	2	0.	1		0620	77	0.	1		1235	152	188.	1		1850	227	0.
1		0010	3	0.	1		0625	78	0.	1		1240	153	175.	1		1855	228	0.
1		0015	4	0.	1		0630	79	0.	1		1245	154	162.	1		1900	229	0.
1		0020	5	0.	1		0635	80	0.	1		1250	155	151.	1		1905	230	0.
1		0025	6	0.	1		0640	81	0.	1		1255	156	139.	1		1910	231	0.
1		0030	7	0.	1		0645	82	0.	1		1300	157	129.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	119.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	111.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	102.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	95.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	88.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	81.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	75.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	70.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	65.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	60.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	55.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	51.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	47.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	44.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	41.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	38.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	35.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	32.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	30.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	28.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	26.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	24.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	22.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	21.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	19.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	18.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	16.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	15.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	14.	1		2140	261	0.
1		0300	37	0.	1		0915	112	1.	1		1530	187	13.	1		2145	262	0.
1		0305	38	0.	1		0920	113	1.	1		1535	188	12.	1		2150	263	0.
1		0310	39	0.	1		0925	114	1.	1		1540	189	11.	1		2155	264	0.
1		0315	40	0.	1		0930	115	1.	1		1545	190	10.	1		2200	265	0.
1		0320	41	0.	1		0935	116	1.	1		1550	191	10.	1		2205	266	0.
1		0325	42	0.	1		0940	117	1.	1		1555	192	9.	1		2210	267	0.
1		0330	43	0.	1		0945	118	1.	1		1600	193	8.	1		2215	268	0.
1		0335	44	0.	1		0950	119	1.	1		1605	194	8.	1		2220	269	0.
1		0340	45	0.	1		0955	120	1.	1		1610	195	7.	1		2225	270	0.
1		0345	46	0.	1		1000	121	1.	1		1615	196	7.	1		2230	271	0.
1		0350	47	0.	1		1005	122	1.	1		1620	197	6.	1		2235	272	0.
1		0355	48	0.	1		1010	123	1.	1		1625	198	6.	1		2240	273	0.
1		0400	49	0.	1		1015	124	1.	1		1630	199	5.	1		2245	274	0.
1		0405	50	0.	1		1020	125	1.	1		1635	200	5.	1		2250	275	0.
1		0410	51	0.	1		1025	126	1.	1		1640	201	5.	1		2255	276	0.
1		0415	52	0.	1		1030	127	1.	1		1645	202	4.	1		2300	277	0.
1		0420	53	0.	1		1035	128	1.	1		1650	203	4.	1		2305	278	0.
1		0425	54	0.	1		1040	129	1.	1		1655	204	4.	1		2310	279	0.
1		0430	55	0.	1		1045	130	1.	1		1700	205	4.	1		2315	280	0.
1		0435	56	0.	1		1050	131	1.	1		1705	206	3.	1		2320	281	0.
1		0440	57	0.	1		1055	132	1.	1		1710	207	3.	1		2325	282	0.
1		0445	58	0.	1		1100	133	1.	1		1715	208	3.	1		2330	283	0.
1		0450	59	0.	1		1105	134	1.	1		1720	209	3.	1		2335	284	0.
1		0455	60	0.	1		1110	135	1.	1		1725	210	3.	1		2340	285	0.
1		0500	61	0.	1		1115	136	1.	1		1730	211	2.	1		2345	286	0.

1	0505	62	0.	*	1	1120	137	1.	*	1	1735	212	2.	*	1	2350	287	0.
1	0510	63	0.	*	1	1125	138	1.	*	1	1740	213	2.	*	1	2355	288	0.
1	0515	64	0.	*	1	1130	139	1.	*	1	1745	214	1.	*	2	0000	289	0.
1	0520	65	0.	*	1	1135	140	1.	*	1	1750	215	1.	*	2	0005	290	0.
1	0525	66	0.	*	1	1140	141	2.	*	1	1755	216	1.	*	2	0010	291	0.
1	0530	67	0.	*	1	1145	142	8.	*	1	1800	217	1.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	22.	*	1	1805	218	0.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	50.	*	1	1810	219	0.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	94.	*	1	1815	220	0.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	144.	*	1	1820	221	0.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	187.	*	1	1825	222	0.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	214.	*	1	1830	223	0.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	221.	*	1	1835	224	0.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	213.	*	1	1840	225	0.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 221.	12.33		54.	14.	13.	13.
		(INCHES)	.630	.643	.643	.643
		(AC-FT)	27.	27.	27.	27.

CUMULATIVE AREA = .80 SQ MI

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373 KK

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* *
* R_I5 *
* *
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Route Hydrograph Through Existing Dam

HYDROGRAPH ROUTING DATA

375 RS STORAGE ROUTING
NSTPS 1 NUMBER OF SUBREACHES
ITYP STOR TYPE OF INITIAL CONDITION
RSVRIC .00 INITIAL CONDITION
X .00 WORKING R AND D COEFFICIENT

376 SV	STORAGE	.0	2.2	4.7	7.2	10.0	12.9	16.1	19.4	22.9	26.6
377 SQ	DISCHARGE	0.	0.	0.	0.	0.	0.	0.	93.	263.	483.
378 SE	ELEVATION	5190.00	5191.00	5192.00	5193.00	5194.00	5195.00	5196.00	5197.00	5198.00	5199.00

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HYDROGRAPH AT STATION R_I5
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 72.	13.67		24.	6.	6.	6.
		(INCHES)	.277	.280	.280	.280
		(AC-FT)	12.	12.	12.	12.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
19.	13.67	17.	9.	8.	8.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
5196.77	13.67	5196.25	5193.22	5193.10	5193.10

CUMULATIVE AREA = .80 SQ MI

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HYDROGRAPH AT STATION R_I5
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 65.	13.75		22.	5.	5.	5.
		(INCHES)	.252	.256	.256	.256
		(AC-FT)	11.	11.	11.	11.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
18.	13.75	17.	9.	8.	8.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
5196.70	13.75	5196.23	5193.21	5193.09	5193.09

CUMULATIVE AREA = .80 SQ MI

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HYDROGRAPH AT STATION R_I5

TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		6-HR	MAXIMUM AVERAGE FLOW 24-HR	72-HR	24.92-HR
62.	13.75	(CFS)	21.	5.	5.	5.
		(INCHES)	.240	.243	.243	.243
		(AC-FT)	10.	10.	10.	10.

PEAK STORAGE (AC-FT)	TIME (HR)		6-HR	MAXIMUM AVERAGE STORAGE 24-HR	72-HR	24.92-HR
18.	13.75		17.	9.	8.	8.

PEAK STAGE (FEET)	TIME (HR)		6-HR	MAXIMUM AVERAGE STAGE 24-HR	72-HR	24.92-HR
5196.67	13.75		5196.22	5193.20	5193.08	5193.08

CUMULATIVE AREA = .80 SQ MI

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HYDROGRAPH AT STATION R_I5
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		6-HR	MAXIMUM AVERAGE FLOW 24-HR	72-HR	24.92-HR
59.	13.75	(CFS)	20.	5.	5.	5.
		(INCHES)	.228	.231	.231	.231
		(AC-FT)	10.	10.	10.	10.

PEAK STORAGE (AC-FT)	TIME (HR)		6-HR	MAXIMUM AVERAGE STORAGE 24-HR	72-HR	24.92-HR
18.	13.75		17.	9.	8.	8.

PEAK STAGE (FEET)	TIME (HR)		6-HR	MAXIMUM AVERAGE STAGE 24-HR	72-HR	24.92-HR
5196.64	13.75		5196.21	5193.19	5193.07	5193.07

CUMULATIVE AREA = .80 SQ MI

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HYDROGRAPH AT STATION R_I5
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		6-HR	MAXIMUM AVERAGE FLOW 24-HR	72-HR	24.92-HR
57.	13.83	(CFS)	19.	5.	5.	5.
		(INCHES)	.220	.223	.223	.223
		(AC-FT)	9.	9.	9.	9.

PEAK STORAGE (AC-FT)	TIME (HR)		6-HR	MAXIMUM AVERAGE STORAGE 24-HR	72-HR	24.92-HR
18.	13.83		17.	9.	8.	8.

PEAK STAGE (FEET)	TIME (HR)		6-HR	MAXIMUM AVERAGE STAGE 24-HR	72-HR	24.92-HR
5196.61	13.83		5196.20	5193.19	5193.07	5193.07

CUMULATIVE AREA = .80 SQ MI

INTERPOLATED HYDROGRAPH AT R_I5

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	0.	1		1845	226	1.
1		0005	2	0.	1		0620	77	0.	1		1235	152	0.	1		1850	227	1.
1		0010	3	0.	1		0625	78	0.	1		1240	153	0.	1		1855	228	1.
1		0015	4	0.	1		0630	79	0.	1		1245	154	0.	1		1900	229	1.
1		0020	5	0.	1		0635	80	0.	1		1250	155	0.	1		1905	230	1.
1		0025	6	0.	1		0640	81	0.	1		1255	156	0.	1		1910	231	1.
1		0030	7	0.	1		0645	82	0.	1		1300	157	0.	1		1915	232	0.
1		0035	8	0.	1		0650	83	0.	1		1305	158	13.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	31.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	44.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	54.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	60.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	65.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	67.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	68.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	68.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	67.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	65.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	63.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	61.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	58.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	55.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	52.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	50.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	47.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	44.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	41.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	39.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	36.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	34.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	32.	1		2115	256	0.

1	0235	32	0.	*	1	0850	107	0.	*	1	1505	182	30.	*	1	2120	257	0.
1	0240	33	0.	*	1	0855	108	0.	*	1	1510	183	28.	*	1	2125	258	0.
1	0245	34	0.	*	1	0900	109	0.	*	1	1515	184	26.	*	1	2130	259	0.
1	0250	35	0.	*	1	0905	110	0.	*	1	1520	185	24.	*	1	2135	260	0.
1	0255	36	0.	*	1	0910	111	0.	*	1	1525	186	22.	*	1	2140	261	0.
1	0300	37	0.	*	1	0915	112	0.	*	1	1530	187	21.	*	1	2145	262	0.
1	0305	38	0.	*	1	0920	113	0.	*	1	1535	188	19.	*	1	2150	263	0.
1	0310	39	0.	*	1	0925	114	0.	*	1	1540	189	18.	*	1	2155	264	0.
1	0315	40	0.	*	1	0930	115	0.	*	1	1545	190	17.	*	1	2200	265	0.
1	0320	41	0.	*	1	0935	116	0.	*	1	1550	191	16.	*	1	2205	266	0.
1	0325	42	0.	*	1	0940	117	0.	*	1	1555	192	15.	*	1	2210	267	0.
1	0330	43	0.	*	1	0945	118	0.	*	1	1600	193	13.	*	1	2215	268	0.
1	0335	44	0.	*	1	0950	119	0.	*	1	1605	194	13.	*	1	2220	269	0.
1	0340	45	0.	*	1	0955	120	0.	*	1	1610	195	12.	*	1	2225	270	0.
1	0345	46	0.	*	1	1000	121	0.	*	1	1615	196	11.	*	1	2230	271	0.
1	0350	47	0.	*	1	1005	122	0.	*	1	1620	197	10.	*	1	2235	272	0.
1	0355	48	0.	*	1	1010	123	0.	*	1	1625	198	9.	*	1	2240	273	0.
1	0400	49	0.	*	1	1015	124	0.	*	1	1630	199	9.	*	1	2245	274	0.
1	0405	50	0.	*	1	1020	125	0.	*	1	1635	200	8.	*	1	2250	275	0.
1	0410	51	0.	*	1	1025	126	0.	*	1	1640	201	8.	*	1	2255	276	0.
1	0415	52	0.	*	1	1030	127	0.	*	1	1645	202	7.	*	1	2300	277	0.
1	0420	53	0.	*	1	1035	128	0.	*	1	1650	203	7.	*	1	2305	278	0.
1	0425	54	0.	*	1	1040	129	0.	*	1	1655	204	6.	*	1	2310	279	0.
1	0430	55	0.	*	1	1045	130	0.	*	1	1700	205	6.	*	1	2315	280	0.
1	0435	56	0.	*	1	1050	131	0.	*	1	1705	206	5.	*	1	2320	281	0.
1	0440	57	0.	*	1	1055	132	0.	*	1	1710	207	5.	*	1	2325	282	0.
1	0445	58	0.	*	1	1100	133	0.	*	1	1715	208	5.	*	1	2330	283	0.
1	0450	59	0.	*	1	1105	134	0.	*	1	1720	209	4.	*	1	2335	284	0.
1	0455	60	0.	*	1	1110	135	0.	*	1	1725	210	4.	*	1	2340	285	0.
1	0500	61	0.	*	1	1115	136	0.	*	1	1730	211	4.	*	1	2345	286	0.
1	0505	62	0.	*	1	1120	137	0.	*	1	1735	212	3.	*	1	2350	287	0.
1	0510	63	0.	*	1	1125	138	0.	*	1	1740	213	3.	*	1	2355	288	0.
1	0515	64	0.	*	1	1130	139	0.	*	1	1745	214	3.	*	2	0000	289	0.
1	0520	65	0.	*	1	1135	140	0.	*	1	1750	215	3.	*	2	0005	290	0.
1	0525	66	0.	*	1	1140	141	0.	*	1	1755	216	2.	*	2	0010	291	0.
1	0530	67	0.	*	1	1145	142	0.	*	1	1800	217	2.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	0.	*	1	1805	218	2.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	0.	*	1	1810	219	1.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	0.	*	1	1815	220	1.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	0.	*	1	1820	221	1.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	0.	*	1	1825	222	1.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	0.	*	1	1830	223	1.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	0.	*	1	1835	224	1.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	0.	*	1	1840	225	1.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 68.	13.67		23.	6.	5.	5.
		(INCHES)	.262	.265	.265	.265
		(AC-FT)	11.	11.	11.	11.

CUMULATIVE AREA = .80 SQ MI

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          *             *
379 KK    *      I4     *    Subbasin
          *             *
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SUBBASIN RUNOFF DATA

380 BA SUBBASIN CHARACTERISTICS

TAREA	1.21	SUBBASIN AREA

381 LG GREEN AND AMPT LOSS RATE

STRTL	.62	STARTING LOSS
DTH	.57	MOISTURE DEFICIT
PSIF	2.12	WETTING FRONT SUCTION
XKSAT	.08	HYDRAULIC CONDUCTIVITY
RTIMP	2.00	PERCENT IMPERVIOUS AREA

382 US SNYDER UNITGRAPH

TP	.77	LAG
CP	.34	PEAKING COEFFICIENT

SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

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UNIT HYDROGRAPH PARAMETERS

CLARK TC= .79 HR, R= 1.75 HR
SNYDER TP= .77 HR, CP= .34

UNIT HYDROGRAPH
117 END-OF-PERIOD ORDINATES

11.	40.	83.	134.	191.	247.	294.	330.	352.	355.
342.	326.	311.	296.	282.	269.	257.	245.	234.	223.
212.	202.	193.	184.	176.	167.	160.	152.	145.	138.
132.	126.	120.	114.	109.	104.	99.	95.	90.	86.
82.	78.	75.	71.	68.	65.	62.	59.	56.	53.
51.	49.	46.	44.	42.	40.	38.	37.	35.	33.
32.	30.	29.	27.	26.	25.	24.	23.	22.	21.
20.	19.	18.	17.	16.	16.	15.	14.	13.	13.
12.	12.	11.	11.	10.	10.	9.	9.	8.	8.
8.	7.	7.	7.	6.	6.	6.	5.	5.	5.
5.	5.	4.	4.	4.	4.	4.	3.	3.	3.
3.	3.	3.	3.	2.	2.	2.			

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HYDROGRAPH AT STATION I4
TRANSPOSITION AREA .0 SQ MI

TOTAL RAINFALL = 1.99, TOTAL LOSS = 1.53, TOTAL EXCESS = .46

PEAK FLOW (CFS)	TIME (HR)		6-HR	MAXIMUM AVERAGE FLOW 24-HR	72-HR	24.92-HR
+ 154.	12.67	(CFS)	56.	15.	14.	14.
		(INCHES)	.430	.458	.458	.458
		(AC-FT)	28.	30.	30.	30.

CUMULATIVE AREA = 1.21 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION I4
TRANSPOSITION AREA 14.0 SQ MI

TOTAL RAINFALL = 1.95, TOTAL LOSS = 1.51, TOTAL EXCESS = .44

PEAK FLOW (CFS)	TIME (HR)		6-HR	MAXIMUM AVERAGE FLOW 24-HR	72-HR	24.92-HR
+ 146.	12.67	(CFS)	53.	14.	14.	14.
		(INCHES)	.409	.436	.436	.436
		(AC-FT)	26.	28.	28.	28.

CUMULATIVE AREA = 1.21 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION I4
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.93, TOTAL LOSS = 1.50, TOTAL EXCESS = .43

PEAK FLOW (CFS)	TIME (HR)		6-HR	MAXIMUM AVERAGE FLOW 24-HR	72-HR	24.92-HR
+ 143.	12.67	(CFS)	52.	14.	13.	13.
		(INCHES)	.398	.425	.425	.425
		(AC-FT)	26.	27.	27.	27.

CUMULATIVE AREA = 1.21 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION I4
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.91, TOTAL LOSS = 1.49, TOTAL EXCESS = .42

PEAK FLOW (CFS)	TIME (HR)		6-HR	MAXIMUM AVERAGE FLOW 24-HR	72-HR	24.92-HR
+ 139.	12.67	(CFS)	51.	14.	13.	13.
		(INCHES)	.388	.414	.414	.414
		(AC-FT)	25.	27.	27.	27.

CUMULATIVE AREA = 1.21 SQ MI

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HYDROGRAPH AT STATION I4
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.90, TOTAL LOSS = 1.49, TOTAL EXCESS = .41

PEAK FLOW (CFS)	TIME (HR)		6-HR	MAXIMUM AVERAGE FLOW 24-HR	72-HR	24.92-HR
+ 136.	12.67	(CFS)	50.	13.	13.	13.
		(INCHES)	.381	.407	.407	.407
		(AC-FT)	25.	26.	26.	26.

CUMULATIVE AREA = 1.21 SQ MI

INTERPOLATED HYDROGRAPH AT I4

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	140.	1		1845	226	5.
1		0005	2	0.	1		0620	77	0.	1		1235	152	148.	1		1850	227	5.
1		0010	3	0.	1		0625	78	0.	1		1240	153	149.	1		1855	228	5.
1		0015	4	0.	1		0630	79	0.	1		1245	154	145.	1		1900	229	5.
1		0020	5	0.	1		0635	80	0.	1		1250	155	139.	1		1905	230	5.
1		0025	6	0.	1		0640	81	0.	1		1255	156	133.	1		1910	231	4.
1		0030	7	0.	1		0645	82	0.	1		1300	157	127.	1		1915	232	4.
1		0035	8	0.	1		0650	83	0.	1		1305	158	121.	1		1920	233	4.
1		0040	9	0.	1		0655	84	0.	1		1310	159	115.	1		1925	234	4.
1		0045	10	0.	1		0700	85	0.	1		1315	160	110.	1		1930	235	4.
1		0050	11	0.	1		0705	86	0.	1		1320	161	105.	1		1935	236	4.
1		0055	12	0.	1		0710	87	0.	1		1325	162	100.	1		1940	237	3.
1		0100	13	0.	1		0715	88	1.	1		1330	163	96.	1		1945	238	3.
1		0105	14	0.	1		0720	89	1.	1		1335	164	91.	1		1950	239	3.
1		0110	15	0.	1		0725	90	1.	1		1340	165	87.	1		1955	240	3.
1		0115	16	0.	1		0730	91	1.	1		1345	166	83.	1		2000	241	3.
1		0120	17	0.	1		0735	92	1.	1		1350	167	79.	1		2005	242	3.
1		0125	18	0.	1		0740	93	1.	1		1355	168	76.	1		2010	243	3.
1		0130	19	0.	1		0745	94	1.	1		1400	169	72.	1		2015	244	3.
1		0135	20	0.	1		0750	95	1.	1		1405	170	69.	1		2020	245	2.
1		0140	21	0.	1		0755	96	1.	1		1410	171	66.	1		2025	246	2.
1		0145	22	0.	1		0800	97	1.	1		1415	172	63.	1		2030	247	2.

1	0150	23	0.	*	1	0805	98	1.	*	1	1420	173	60.	*	1	2035	248	2.
1	0155	24	0.	*	1	0810	99	1.	*	1	1425	174	57.	*	1	2040	249	2.
1	0200	25	0.	*	1	0815	100	1.	*	1	1430	175	55.	*	1	2045	250	2.
1	0205	26	0.	*	1	0820	101	1.	*	1	1435	176	52.	*	1	2050	251	2.
1	0210	27	0.	*	1	0825	102	1.	*	1	1440	177	50.	*	1	2055	252	2.
1	0215	28	0.	*	1	0830	103	1.	*	1	1445	178	48.	*	1	2100	253	2.
1	0220	29	0.	*	1	0835	104	1.	*	1	1450	179	45.	*	1	2105	254	2.
1	0225	30	0.	*	1	0840	105	1.	*	1	1455	180	43.	*	1	2110	255	2.
1	0230	31	0.	*	1	0845	106	1.	*	1	1500	181	41.	*	1	2115	256	2.
1	0235	32	0.	*	1	0850	107	1.	*	1	1505	182	39.	*	1	2120	257	2.
1	0240	33	0.	*	1	0855	108	1.	*	1	1510	183	38.	*	1	2125	258	2.
1	0245	34	0.	*	1	0900	109	1.	*	1	1515	184	36.	*	1	2130	259	1.
1	0250	35	0.	*	1	0905	110	1.	*	1	1520	185	34.	*	1	2135	260	1.
1	0255	36	0.	*	1	0910	111	1.	*	1	1525	186	33.	*	1	2140	261	1.
1	0300	37	0.	*	1	0915	112	1.	*	1	1530	187	31.	*	1	2145	262	0.
1	0305	38	0.	*	1	0920	113	1.	*	1	1535	188	30.	*	1	2150	263	0.
1	0310	39	0.	*	1	0925	114	1.	*	1	1540	189	29.	*	1	2155	264	0.
1	0315	40	0.	*	1	0930	115	1.	*	1	1545	190	27.	*	1	2200	265	0.
1	0320	41	0.	*	1	0935	116	1.	*	1	1550	191	26.	*	1	2205	266	0.
1	0325	42	0.	*	1	0940	117	1.	*	1	1555	192	25.	*	1	2210	267	0.
1	0330	43	0.	*	1	0945	118	1.	*	1	1600	193	24.	*	1	2215	268	0.
1	0335	44	0.	*	1	0950	119	1.	*	1	1605	194	23.	*	1	2220	269	0.
1	0340	45	0.	*	1	0955	120	1.	*	1	1610	195	22.	*	1	2225	270	0.
1	0345	46	0.	*	1	1000	121	1.	*	1	1615	196	21.	*	1	2230	271	0.
1	0350	47	0.	*	1	1005	122	1.	*	1	1620	197	20.	*	1	2235	272	0.
1	0355	48	0.	*	1	1010	123	1.	*	1	1625	198	19.	*	1	2240	273	0.
1	0400	49	0.	*	1	1015	124	1.	*	1	1630	199	18.	*	1	2245	274	0.
1	0405	50	0.	*	1	1020	125	1.	*	1	1635	200	17.	*	1	2250	275	0.
1	0410	51	0.	*	1	1025	126	1.	*	1	1640	201	16.	*	1	2255	276	0.
1	0415	52	0.	*	1	1030	127	1.	*	1	1645	202	16.	*	1	2300	277	0.
1	0420	53	0.	*	1	1035	128	1.	*	1	1650	203	15.	*	1	2305	278	0.
1	0425	54	0.	*	1	1040	129	1.	*	1	1655	204	14.	*	1	2310	279	0.
1	0430	55	0.	*	1	1045	130	1.	*	1	1700	205	14.	*	1	2315	280	0.
1	0435	56	0.	*	1	1050	131	1.	*	1	1705	206	13.	*	1	2320	281	0.
1	0440	57	0.	*	1	1055	132	1.	*	1	1710	207	13.	*	1	2325	282	0.
1	0445	58	0.	*	1	1100	133	1.	*	1	1715	208	12.	*	1	2330	283	0.
1	0450	59	0.	*	1	1105	134	1.	*	1	1720	209	11.	*	1	2335	284	0.
1	0455	60	0.	*	1	1110	135	1.	*	1	1725	210	11.	*	1	2340	285	0.
1	0500	61	0.	*	1	1115	136	1.	*	1	1730	211	10.	*	1	2345	286	0.
1	0505	62	0.	*	1	1120	137	1.	*	1	1735	212	10.	*	1	2350	287	0.
1	0510	63	0.	*	1	1125	138	1.	*	1	1740	213	10.	*	1	2355	288	0.
1	0515	64	0.	*	1	1130	139	1.	*	1	1745	214	9.	*	2	0000	289	0.
1	0520	65	0.	*	1	1135	140	1.	*	1	1750	215	9.	*	2	0005	290	0.
1	0525	66	0.	*	1	1140	141	1.	*	1	1755	216	8.	*	2	0010	291	0.
1	0530	67	0.	*	1	1145	142	2.	*	1	1800	217	8.	*	2	0015	292	0.
1	0535	68	0.	*	1	1150	143	4.	*	1	1805	218	8.	*	2	0020	293	0.
1	0540	69	0.	*	1	1155	144	10.	*	1	1810	219	7.	*	2	0025	294	0.
1	0545	70	0.	*	1	1200	145	22.	*	1	1815	220	7.	*	2	0030	295	0.
1	0550	71	0.	*	1	1205	146	40.	*	1	1820	221	7.	*	2	0035	296	0.
1	0555	72	0.	*	1	1210	147	61.	*	1	1825	222	6.	*	2	0040	297	0.
1	0600	73	0.	*	1	1215	148	84.	*	1	1830	223	6.	*	2	0045	298	0.
1	0605	74	0.	*	1	1220	149	106.	*	1	1835	224	6.	*	2	0050	299	0.
1	0610	75	0.	*	1	1225	150	125.	*	1	1840	225	6.	*	2	0055	300	0.

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 149.	12.67		54.	14.	14.	14.
		(INCHES)	.416	.443	.443	.443
		(AC-FT)	27.	29.	29.	29.

CUMULATIVE AREA = 1.21 SQ MI

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383 KK C_I4 Combine I5 and I4

384 HC HYDROGRAPH COMBINATION
ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

*** *** *** *** ***

HYDROGRAPH AT STATION C_I4
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 170.	13.42		80.	21.	20.	20.
		(INCHES)	.368	.388	.388	.388
		(AC-FT)	40.	42.	42.	42.

CUMULATIVE AREA = 2.01 SQ MI

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HYDROGRAPH AT STATION C_I4
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 155.	13.50		75.	20.	19.	19.
		(INCHES)	.346	.364	.364	.364
		(AC-FT)	37.	39.	39.	39.

CUMULATIVE AREA = 2.01 SQ MI

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HYDROGRAPH AT STATION C_I4
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
149.	13.50	72.	19.	18.	18.
		(INCHES) .334	.353	.353	.353
		(AC-FT) 36.	38.	38.	38.

CUMULATIVE AREA = 2.01 SQ MI

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HYDROGRAPH AT STATION C_I4
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
142.	13.50	70.	18.	18.	18.
		(INCHES) .323	.341	.342	.342
		(AC-FT) 35.	37.	37.	37.

CUMULATIVE AREA = 2.01 SQ MI

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HYDROGRAPH AT STATION C_I4
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
137.	13.58	68.	18.	17.	17.
		(INCHES) .316	.334	.334	.334
		(AC-FT) 34.	36.	36.	36.

CUMULATIVE AREA = 2.01 SQ MI

INTERPOLATED HYDROGRAPH AT C_I4

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	139.	1		1845	226	6.
1		0005	2	0.	1		0620	77	0.	1		1235	152	147.	1		1850	227	6.
1		0010	3	0.	1		0625	78	0.	1		1240	153	148.	1		1855	228	6.
1		0015	4	0.	1		0630	79	0.	1		1245	154	144.	1		1900	229	5.
1		0020	5	0.	1		0635	80	0.	1		1250	155	138.	1		1905	230	5.
1		0025	6	0.	1		0640	81	0.	1		1255	156	132.	1		1910	231	5.
1		0030	7	0.	1		0645	82	0.	1		1300	157	126.	1		1915	232	5.
1		0035	8	0.	1		0650	83	0.	1		1305	158	131.	1		1920	233	4.
1		0040	9	0.	1		0655	84	0.	1		1310	159	144.	1		1925	234	4.
1		0045	10	0.	1		0700	85	0.	1		1315	160	152.	1		1930	235	4.
1		0050	11	0.	1		0705	86	0.	1		1320	161	157.	1		1935	236	4.
1		0055	12	0.	1		0710	87	0.	1		1325	162	159.	1		1940	237	4.
1		0100	13	0.	1		0715	88	1.	1		1330	163	159.	1		1945	238	4.
1		0105	14	0.	1		0720	89	1.	1		1335	164	157.	1		1950	239	4.
1		0110	15	0.	1		0725	90	1.	1		1340	165	154.	1		1955	240	3.
1		0115	16	0.	1		0730	91	1.	1		1345	166	150.	1		2000	241	3.
1		0120	17	0.	1		0735	92	1.	1		1350	167	145.	1		2005	242	3.
1		0125	18	0.	1		0740	93	1.	1		1355	168	140.	1		2010	243	3.
1		0130	19	0.	1		0745	94	1.	1		1400	169	135.	1		2015	244	3.
1		0135	20	0.	1		0750	95	1.	1		1405	170	129.	1		2020	245	3.
1		0140	21	0.	1		0755	96	1.	1		1410	171	123.	1		2025	246	3.
1		0145	22	0.	1		0800	97	1.	1		1415	172	118.	1		2030	247	3.
1		0150	23	0.	1		0805	98	1.	1		1420	173	112.	1		2035	248	3.
1		0155	24	0.	1		0810	99	1.	1		1425	174	106.	1		2040	249	2.
1		0200	25	0.	1		0815	100	1.	1		1430	175	101.	1		2045	250	2.
1		0205	26	0.	1		0820	101	1.	1		1435	176	96.	1		2050	251	2.
1		0210	27	0.	1		0825	102	1.	1		1440	177	91.	1		2055	252	2.
1		0215	28	0.	1		0830	103	1.	1		1445	178	86.	1		2100	253	2.
1		0220	29	0.	1		0835	104	1.	1		1450	179	81.	1		2105	254	2.
1		0225	30	0.	1		0840	105	1.	1		1455	180	77.	1		2110	255	2.
1		0230	31	0.	1		0845	106	1.	1		1500	181	73.	1		2115	256	2.
1		0235	32	0.	1		0850	107	1.	1		1505	182	69.	1		2120	257	2.
1		0240	33	0.	1		0855	108	1.	1		1510	183	65.	1		2125	258	2.
1		0245	34	0.	1		0900	109	1.	1		1515	184	62.	1		2130	259	2.
1		0250	35	0.	1		0905	110	1.	1		1520	185	58.	1		2135	260	1.
1		0255	36	0.	1		0910	111	1.	1		1525	186	55.	1		2140	261	1.
1		0300	37	0.	1		0915	112	1.	1		1530	187	52.	1		2145	262	1.
1		0305	38	0.	1		0920	113	1.	1		1535	188	49.	1		2150	263	1.
1		0310	39	0.	1		0925	114	1.	1		1540	189	46.	1		2155	264	1.
1		0315	40	0.	1		0930	115	1.	1		1545	190	44.	1		2200	265	1.
1		0320	41	0.	1		0935	116	1.	1		1550	191	42.	1		2205	266	1.
1		0325	42	0.	1		0940	117	1.	1		1555	192	39.	1		2210	267	1.
1		0330	43	0.	1		0945	118	1.	1		1600	193	37.	1		2215	268	1.
1		0335	44	0.	1		0950	119	1.	1		1605	194	35.	1		2220	269	1.
1		0340	45	0.	1		0955	120	1.	1		1610	195	33.	1		2225	270	1.
1		0345	46	0.	1		1000	121	1.	1		1615	196	31.	1		2230	271	1.
1		0350	47	0.	1		1005	122	1.	1		1620	197	30.	1		2235	272	1.
1		0355	48	0.	1		1010	123	1.	1		1625	198	28.	1		2240	273	1.
1		0400	49	0.	1		1015	124	1.	1		1630	199	27.	1		2245	274	1.
1		0405	50	0.	1		1020	125	1.	1		1635	200	25.	1		2250	275	1.
1		0410	51	0.	1		1025	126	1.	1		1640	201	24.	1		2255	276	1.
1		0415	52	0.	1		1030	127	1.	1		1645	202	23.	1		2300	277	1.
1		0420	53	0.	1		1035	128	1.	1		1650	203	21.	1		2305	278	1.
1		0425	54	0.	1		1040	129	1.	1		1655	204	20.	1		2310	279	1.
1		0430	55	0.	1		1045	130	1.	1		1700	205	19.	1		2315	280	1.
1		0435	56	0.	1		1050	131	1.	1		1705	206	18.	1		2320	281	1.
1		0440	57	0.	1		1055	132	1.	1		1710	207	17.	1		2325	282	1.

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    1    0445   58        0.   *    1    1100  133        1.   *    1    1715  208       17.   *    1    2330  283        1.
    1    0450   59        0.   *    1    1105  134        1.   *    1    1720  209       16.   *    1    2335  284        1.
    1    0455   60        0.   *    1    1110  135        1.   *    1    1725  210       15.   *    1    2340  285        1.
    1    0500   61        0.   *    1    1115  136        1.   *    1    1730  211       14.   *    1    2345  286        1.
    1    0505   62        0.   *    1    1120  137        1.   *    1    1735  212       13.   *    1    2350  287        1.
    1    0510   63        0.   *    1    1125  138        1.   *    1    1740  213       13.   *    1    2355  288        1.
    1    0515   64        0.   *    1    1130  139        1.   *    1    1745  214       12.   *    2    0000  289        1.
    1    0520   65        0.   *    1    1135  140        1.   *    1    1750  215       11.   *    2    0005  290        1.
    1    0525   66        0.   *    1    1140  141        1.   *    1    1755  216       11.   *    2    0010  291        1.
    1    0530   67        0.   *    1    1145  142        2.   *    1    1800  217       10.   *    2    0015  292        1.
    1    0535   68        0.   *    1    1150  143        4.   *    1    1805  218        9.   *    2    0020  293        1.
    1    0540   69        0.   *    1    1155  144       10.   *    1    1810  219        9.   *    2    0025  294        1.
    1    0545   70        0.   *    1    1200  145       22.   *    1    1815  220        8.   *    2    0030  295        1.
    1    0550   71        0.   *    1    1205  146       39.   *    1    1820  221        8.   *    2    0035  296        1.
    1    0555   72        0.   *    1    1210  147       61.   *    1    1825  222        7.   *    2    0040  297        1.
    1    0600   73        0.   *    1    1215  148       83.   *    1    1830  223        7.   *    2    0045  298        0.
    1    0605   74        0.   *    1    1220  149      106.   *    1    1835  224        7.   *    2    0050  299        0.
    1    0610   75        0.   *    1    1225  150      125.   *    1    1840  225        6.   *    2    0055  300        0.
                             *                               *                               *
*****************************************************************************************************************************************************

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                      6-HR          24-HR          72-HR       24.92-HR
+   (CFS)       (HR)
                                (CFS)
+     159.      13.42                76.            20.            19.            19.
                              (INCHES)               .371           .371           .371
                                (AC-FT)               40.            40.            40.

                          CUMULATIVE AREA =     2.01 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            ***************
            *             *
385 KK      *       I3    *      Subbasin
            *             *
            ***************

               SUBBASIN RUNOFF DATA

386 BA           SUBBASIN CHARACTERISTICS
                       TAREA        3.21  SUBBASIN AREA

387 LG           GREEN AND AMPT LOSS RATE
                       STRTL         .50  STARTING LOSS
                         DTH         .47  MOISTURE DEFICIT
                        PSIF        1.77  WETTING FRONT SUCTION
                       XKSAT         .06  HYDRAULIC CONDUCTIVITY
                       RTIMP        2.00  PERCENT IMPERVIOUS AREA

388 US           SNYDER UNITGRAPH
                          TP        1.18  LAG
                          CP         .40  PEAKING COEFFICIENT

                 SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                    ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=  1.21 HR,       R=  2.21 HR
                                    SNYDER  TP=  1.19 HR,      CP=   .40

                                          UNIT HYDROGRAPH
                                      149 END-OF-PERIOD ORDINATES
                  12.      44.      92.     149.     213.     283.     359.     436.     510.     573.
                 627.     670.     701.     718.     714.     693.     667.     642.     619.     596.
                 574.     553.     532.     512.     493.     475.     458.     441.     424.     409.
                 394.     379.     365.     351.     338.     326.     314.     302.     291.     280.
                 270.     260.     250.     241.     232.     224.     215.     207.     200.     192.
                 185.     178.     172.     165.     159.     153.     148.     142.     137.     132.
                 127.     122.     118.     113.     109.     105.     101.      98.      94.      90.
                  87.      84.      81.      78.      75.      72.      69.      67.      64.      62.
                  60.      58.      55.      53.      51.      49.      48.      46.      44.      43.
                  41.      39.      38.      37.      35.      34.      33.      31.      30.      29.
                  28.      27.      26.      25.      24.      23.      22.      22.      21.      20.
                  19.      19.      18.      17.      17.      16.      15.      15.      14.      14.
                  13.      13.      12.      12.      11.      11.      11.      10.      10.       9.
                   9.       9.       8.       8.       8.       8.       7.       7.       7.       6.
                   6.       6.       6.       6.       5.       5.       5.       5.       5.

      ***              ***              ***              ***              ***

                          HYDROGRAPH AT STATION       I3
                        TRANSPOSITION AREA        .0 SQ MI

     TOTAL RAINFALL =    1.99, TOTAL LOSS =    1.37, TOTAL EXCESS =     .62

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                      6-HR          24-HR          72-HR       24.92-HR
+   (CFS)       (HR)
                                (CFS)
+     424.      13.00                192.           53.            51.            51.
                              (INCHES)               .618           .618           .618
                                (AC-FT)              106.           106.           106.

                          CUMULATIVE AREA =     3.21 SQ MI

      ***              ***              ***              ***              ***

                          HYDROGRAPH AT STATION       I3
                        TRANSPOSITION AREA      14.0 SQ MI

     TOTAL RAINFALL =    1.95, TOTAL LOSS =    1.35, TOTAL EXCESS =     .60

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                      6-HR          24-HR          72-HR       24.92-HR
+   (CFS)       (HR)
                                (CFS)
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407.	13.00		184.	51.	49.	49.
		(INCHES)	.535	.593	.593	.593
		(AC-FT)	91.	101.	101.	101.

CUMULATIVE AREA = 3.21 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION I3
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.93, TOTAL LOSS = 1.35, TOTAL EXCESS = .58

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR	
(CFS)	(HR)	(CFS)				
398.	13.00	180.	50.	48.	48.	
		(INCHES)	.523	.580	.580	.580
		(AC-FT)	89.	99.	99.	99.

CUMULATIVE AREA = 3.21 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION I3
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.91, TOTAL LOSS = 1.34, TOTAL EXCESS = .57

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR	
(CFS)	(HR)	(CFS)				
390.	13.00	176.	49.	47.	47.	
		(INCHES)	.512	.568	.568	.568
		(AC-FT)	87.	97.	97.	97.

CUMULATIVE AREA = 3.21 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION I3
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.90, TOTAL LOSS = 1.33, TOTAL EXCESS = .56

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR	
(CFS)	(HR)	(CFS)				
384.	13.00	174.	48.	46.	46.	
		(INCHES)	.503	.559	.559	.559
		(AC-FT)	86.	95.	95.	95.

CUMULATIVE AREA = 3.21 SQ MI

INTERPOLATED HYDROGRAPH AT I3

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	1.	1		1230	151	265.	1		1845	226	34.
1		0005	2	0.	1		0620	77	1.	1		1235	152	304.	1		1850	227	33.
1		0010	3	0.	1		0625	78	1.	1		1240	153	339.	1		1855	228	32.
1		0015	4	0.	1		0630	79	1.	1		1245	154	368.	1		1900	229	30.
1		0020	5	0.	1		0635	80	1.	1		1250	155	390.	1		1905	230	29.
1		0025	6	0.	1		0640	81	1.	1		1255	156	404.	1		1910	231	28.
1		0030	7	0.	1		0645	82	1.	1		1300	157	410.	1		1915	232	27.
1		0035	8	0.	1		0650	83	1.	1		1305	158	408.	1		1920	233	26.
1		0040	9	0.	1		0655	84	1.	1		1310	159	398.	1		1925	234	25.
1		0045	10	0.	1		0700	85	1.	1		1315	160	386.	1		1930	235	25.
1		0050	11	0.	1		0705	86	1.	1		1320	161	372.	1		1935	236	24.
1		0055	12	0.	1		0710	87	1.	1		1325	162	359.	1		1940	237	23.
1		0100	13	0.	1		0715	88	1.	1		1330	163	346.	1		1945	238	22.
1		0105	14	0.	1		0720	89	1.	1		1335	164	333.	1		1950	239	21.
1		0110	15	0.	1		0725	90	1.	1		1340	165	321.	1		1955	240	21.
1		0115	16	0.	1		0730	91	1.	1		1345	166	310.	1		2000	241	20.
1		0120	17	0.	1		0735	92	1.	1		1350	167	298.	1		2005	242	19.
1		0125	18	0.	1		0740	93	1.	1		1355	168	287.	1		2010	243	18.
1		0130	19	0.	1		0745	94	1.	1		1400	169	277.	1		2015	244	18.
1		0135	20	0.	1		0750	95	1.	1		1405	170	267.	1		2020	245	17.
1		0140	21	0.	1		0755	96	1.	1		1410	171	257.	1		2025	246	17.
1		0145	22	0.	1		0800	97	1.	1		1415	172	248.	1		2030	247	16.
1		0150	23	0.	1		0805	98	1.	1		1420	173	239.	1		2035	248	16.
1		0155	24	0.	1		0810	99	1.	1		1425	174	230.	1		2040	249	15.
1		0200	25	0.	1		0815	100	1.	1		1430	175	222.	1		2045	250	14.
1		0205	26	0.	1		0820	101	1.	1		1435	176	214.	1		2050	251	14.
1		0210	27	0.	1		0825	102	1.	1		1440	177	206.	1		2055	252	13.
1		0215	28	0.	1		0830	103	1.	1		1445	178	198.	1		2100	253	13.
1		0220	29	0.	1		0835	104	1.	1		1450	179	191.	1		2105	254	13.
1		0225	30	0.	1		0840	105	1.	1		1455	180	184.	1		2110	255	12.
1		0230	31	1.	1		0845	106	1.	1		1500	181	177.	1		2115	256	12.
1		0235	32	1.	1		0850	107	1.	1		1505	182	171.	1		2120	257	11.
1		0240	33	1.	1		0855	108	2.	1		1510	183	165.	1		2125	258	11.
1		0245	34	1.	1		0900	109	2.	1		1515	184	159.	1		2130	259	11.
1		0250	35	1.	1		0905	110	2.	1		1520	185	153.	1		2135	260	10.
1		0255	36	1.	1		0910	111	2.	1		1525	186	147.	1		2140	261	10.
1		0300	37	1.	1		0915	112	2.	1		1530	187	142.	1		2145	262	10.
1		0305	38	1.	1		0920	113	2.	1		1535	188	137.	1		2150	263	9.
1		0310	39	1.	1		0925	114	2.	1		1540	189	132.	1		2155	264	9.
1		0315	40	1.	1		0930	115	2.	1		1545	190	127.	1		2200	265	9.
1		0320	41	1.	1		0935	116	2.	1		1550	191	122.	1		2205	266	8.
1		0325	42	1.	1		0940	117	2.	1		1555	192	118.	1		2210	267	8.
1		0330	43	1.	1		0945	118	2.	1		1600	193	114.	1		2215	268	8.
1		0335	44	1.	1		0950	119	2.	1		1605	194	110.	1		2220	269	8.
1		0340	45	1.	1		0955	120	2.	1		1610	195	106.	1		2225	270	7.

1	0345	46	1.	*	1	1000	121	2.	*	1	1615	196	102.	*	1	2230	271	7.
1	0350	47	1.	*	1	1005	122	2.	*	1	1620	197	98.	*	1	2235	272	7.
1	0355	48	1.	*	1	1010	123	2.	*	1	1625	198	95.	*	1	2240	273	7.
1	0400	49	1.	*	1	1015	124	2.	*	1	1630	199	91.	*	1	2245	274	6.
1	0405	50	1.	*	1	1020	125	2.	*	1	1635	200	88.	*	1	2250	275	6.
1	0410	51	1.	*	1	1025	126	2.	*	1	1640	201	85.	*	1	2255	276	6.
1	0415	52	1.	*	1	1030	127	2.	*	1	1645	202	82.	*	1	2300	277	6.
1	0420	53	1.	*	1	1035	128	2.	*	1	1650	203	79.	*	1	2305	278	6.
1	0425	54	1.	*	1	1040	129	2.	*	1	1655	204	76.	*	1	2310	279	5.
1	0430	55	1.	*	1	1045	130	2.	*	1	1700	205	73.	*	1	2315	280	5.
1	0435	56	1.	*	1	1050	131	2.	*	1	1705	206	70.	*	1	2320	281	5.
1	0440	57	1.	*	1	1055	132	2.	*	1	1710	207	68.	*	1	2325	282	5.
1	0445	58	1.	*	1	1100	133	2.	*	1	1715	208	65.	*	1	2330	283	5.
1	0450	59	1.	*	1	1105	134	2.	*	1	1720	209	63.	*	1	2335	284	5.
1	0455	60	1.	*	1	1110	135	3.	*	1	1725	210	61.	*	1	2340	285	5.
1	0500	61	1.	*	1	1115	136	3.	*	1	1730	211	59.	*	1	2345	286	4.
1	0505	62	1.	*	1	1120	137	3.	*	1	1735	212	57.	*	1	2350	287	4.
1	0510	63	1.	*	1	1125	138	3.	*	1	1740	213	54.	*	1	2355	288	4.
1	0515	64	1.	*	1	1130	139	3.	*	1	1745	214	53.	*	2	0000	289	4.
1	0520	65	1.	*	1	1135	140	3.	*	1	1750	215	51.	*	2	0005	290	4.
1	0525	66	1.	*	1	1140	141	3.	*	1	1755	216	49.	*	2	0010	291	3.
1	0530	67	1.	*	1	1145	142	5.	*	1	1800	217	47.	*	2	0015	292	3.
1	0535	68	1.	*	1	1150	143	11.	*	1	1805	218	45.	*	2	0020	293	2.
1	0540	69	1.	*	1	1155	144	22.	*	1	1810	219	44.	*	2	0025	294	1.
1	0545	70	1.	*	1	1200	145	42.	*	1	1815	220	42.	*	2	0030	295	1.
1	0550	71	1.	*	1	1205	146	70.	*	1	1820	221	41.	*	2	0035	296	1.
1	0555	72	1.	*	1	1210	147	103.	*	1	1825	222	39.	*	2	0040	297	1.
1	0600	73	1.	*	1	1215	148	140.	*	1	1830	223	38.	*	2	0045	298	1.
1	0605	74	1.	*	1	1220	149	181.	*	1	1835	224	37.	*	2	0050	299	1.
1	0610	75	1.	*	1	1225	150	223.	*	1	1840	225	35.	*	2	0055	300	1.

****

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 410.	13.00		186.	52.	50.	50.
		(INCHES)	.539	.598	.598	.598
		(AC-FT)	92.	102.	102.	102.

CUMULATIVE AREA = 3.21 SQ MI

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***************
*             *
*      C_I3   *
*             *
***************
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389 KK Combine I4 and I3

390 HC HYDROGRAPH COMBINATION
ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

*** *** *** *** *** ***

HYDROGRAPH AT STATION C_I3
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 570.	13.17		272.	74.	72.	72.
		(INCHES)	.484	.529	.529	.529
		(AC-FT)	135.	147.	147.	147.

CUMULATIVE AREA = 5.22 SQ MI

*** *** *** *** *** ***

HYDROGRAPH AT STATION C_I3
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 534.	13.17		259.	71.	68.	68.
		(INCHES)	.462	.505	.505	.505
		(AC-FT)	128.	140.	140.	140.

CUMULATIVE AREA = 5.22 SQ MI

*** *** *** *** *** ***

HYDROGRAPH AT STATION C_I3
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 520.	13.00		253.	69.	67.	67.
		(INCHES)	.450	.493	.493	.493
		(AC-FT)	125.	137.	137.	137.

CUMULATIVE AREA = 5.22 SQ MI

*** *** *** *** *** ***

HYDROGRAPH AT STATION C_I3
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW TIME MAXIMUM AVERAGE FLOW

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
		(CFS)				
508.	13.00		246.	67.	65.	65.
		(INCHES)	.439	.480	.480	.480
		(AC-FT)	122.	134.	134.	134.

CUMULATIVE AREA = 5.22 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_I3
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
		(CFS)				
+ 500.	13.00		242.	66.	64.	64.
		(INCHES)	.431	.472	.472	.472
		(AC-FT)	120.	131.	131.	131.

CUMULATIVE AREA = 5.22 SQ MI

INTERPOLATED HYDROGRAPH AT C_I3

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	2.	1		1230	151	402.	1		1845	226	40.
1		0005	2	0.	1		0620	77	2.	1		1235	152	450.	1		1850	227	38.
1		0010	3	0.	1		0625	78	2.	1		1240	153	485.	1		1855	228	37.
1		0015	4	0.	1		0630	79	2.	1		1245	154	510.	1		1900	229	36.
1		0020	5	0.	1		0635	80	2.	1		1250	155	526.	1		1905	230	34.
1		0025	6	0.	1		0640	81	2.	1		1255	156	534.	1		1910	231	33.
1		0030	7	0.	1		0645	82	2.	1		1300	157	535.	1		1915	232	32.
1		0035	8	0.	1		0650	83	2.	1		1305	158	535.	1		1920	233	31.
1		0040	9	0.	1		0655	84	2.	1		1310	159	539.	1		1925	234	30.
1		0045	10	0.	1		0700	85	2.	1		1315	160	534.	1		1930	235	29.
1		0050	11	0.	1		0705	86	2.	1		1320	161	526.	1		1935	236	28.
1		0055	12	0.	1		0710	87	2.	1		1325	162	515.	1		1940	237	27.
1		0100	13	0.	1		0715	88	2.	1		1330	163	502.	1		1945	238	26.
1		0105	14	0.	1		0720	89	2.	1		1335	164	488.	1		1950	239	25.
1		0110	15	0.	1		0725	90	2.	1		1340	165	473.	1		1955	240	24.
1		0115	16	0.	1		0730	91	2.	1		1345	166	457.	1		2000	241	23.
1		0120	17	0.	1		0735	92	2.	1		1350	167	441.	1		2005	242	22.
1		0125	18	0.	1		0740	93	2.	1		1355	168	426.	1		2010	243	21.
1		0130	19	0.	1		0745	94	2.	1		1400	169	410.	1		2015	244	21.
1		0135	20	0.	1		0750	95	2.	1		1405	170	394.	1		2020	245	20.
1		0140	21	0.	1		0755	96	2.	1		1410	171	379.	1		2025	246	19.
1		0145	22	1.	1		0800	97	2.	1		1415	172	364.	1		2030	247	19.
1		0150	23	1.	1		0805	98	2.	1		1420	173	349.	1		2035	248	18.
1		0155	24	1.	1		0810	99	2.	1		1425	174	335.	1		2040	249	17.
1		0200	25	1.	1		0815	100	2.	1		1430	175	321.	1		2045	250	17.
1		0205	26	1.	1		0820	101	2.	1		1435	176	308.	1		2050	251	16.
1		0210	27	1.	1		0825	102	2.	1		1440	177	295.	1		2055	252	16.
1		0215	28	1.	1		0830	103	2.	1		1445	178	283.	1		2100	253	15.
1		0220	29	1.	1		0835	104	2.	1		1450	179	271.	1		2105	254	15.
1		0225	30	1.	1		0840	105	2.	1		1455	180	260.	1		2110	255	14.
1		0230	31	1.	1		0845	106	2.	1		1500	181	249.	1		2115	256	14.
1		0235	32	1.	1		0850	107	2.	1		1505	182	239.	1		2120	257	13.
1		0240	33	1.	1		0855	108	2.	1		1510	183	229.	1		2125	258	13.
1		0245	34	1.	1		0900	109	2.	1		1515	184	219.	1		2130	259	12.
1		0250	35	1.	1		0905	110	2.	1		1520	185	210.	1		2135	260	12.
1		0255	36	1.	1		0910	111	2.	1		1525	186	202.	1		2140	261	11.
1		0300	37	1.	1		0915	112	2.	1		1530	187	193.	1		2145	262	10.
1		0305	38	1.	1		0920	113	2.	1		1535	188	185.	1		2150	263	10.
1		0310	39	1.	1		0925	114	2.	1		1540	189	178.	1		2155	264	10.
1		0315	40	1.	1		0930	115	2.	1		1545	190	170.	1		2200	265	9.
1		0320	41	1.	1		0935	116	2.	1		1550	191	163.	1		2205	266	9.
1		0325	42	1.	1		0940	117	2.	1		1555	192	157.	1		2210	267	9.
1		0330	43	1.	1		0945	118	3.	1		1600	193	150.	1		2215	268	9.
1		0335	44	1.	1		0950	119	3.	1		1605	194	144.	1		2220	269	8.
1		0340	45	1.	1		0955	120	3.	1		1610	195	138.	1		2225	270	8.
1		0345	46	1.	1		1000	121	3.	1		1615	196	133.	1		2230	271	8.
1		0350	47	1.	1		1005	122	3.	1		1620	197	127.	1		2235	272	8.
1		0355	48	1.	1		1010	123	3.	1		1625	198	122.	1		2240	273	7.
1		0400	49	1.	1		1015	124	3.	1		1630	199	117.	1		2245	274	7.
1		0405	50	1.	1		1020	125	3.	1		1635	200	113.	1		2250	275	7.
1		0410	51	1.	1		1025	126	3.	1		1640	201	108.	1		2255	276	7.
1		0415	52	1.	1		1030	127	3.	1		1645	202	104.	1		2300	277	6.
1		0420	53	1.	1		1035	128	3.	1		1650	203	100.	1		2305	278	6.
1		0425	54	1.	1		1040	129	3.	1		1655	204	96.	1		2310	279	6.
1		0430	55	1.	1		1045	130	3.	1		1700	205	92.	1		2315	280	6.
1		0435	56	1.	1		1050	131	3.	1		1705	206	88.	1		2320	281	6.
1		0440	57	1.	1		1055	132	3.	1		1710	207	85.	1		2325	282	6.
1		0445	58	1.	1		1100	133	3.	1		1715	208	82.	1		2330	283	5.
1		0450	59	1.	1		1105	134	4.	1		1720	209	78.	1		2335	284	5.
1		0455	60	1.	1		1110	135	4.	1		1725	210	75.	1		2340	285	5.
1		0500	61	1.	1		1115	136	4.	1		1730	211	73.	1		2345	286	5.
1		0505	62	1.	1		1120	137	4.	1		1735	212	70.	1		2350	287	5.
1		0510	63	1.	1		1125	138	4.	1		1740	213	67.	1		2355	288	5.
1		0515	64	1.	1		1130	139	4.	1		1745	214	64.	2		0000	289	5.
1		0520	65	1.	1		1135	140	4.	1		1750	215	62.	2		0005	290	4.
1		0525	66	1.	1		1140	141	5.	1		1755	216	59.	2		0010	291	4.
1		0530	67	1.	1		1145	142	7.	1		1800	217	57.	2		0015	292	3.
1		0535	68	1.	1		1150	143	14.	1		1805	218	55.	2		0020	293	2.
1		0540	69	1.	1		1155	144	32.	1		1810	219	52.	2		0025	294	2.
1		0545	70	1.	1		1200	145	64.	1		1815	220	50.	2		0030	295	2.
1		0550	71	1.	1		1205	146	109.	1		1820	221	48.	2		0035	296	2.
1		0555	72	1.	1		1210	147	163.	1		1825	222	47.	2		0040	297	2.
1		0600	73	1.	1		1215	148	223.	1		1830	223	45.	2		0045	298	1.
1		0605	74	1.	1		1220	149	285.	1		1835	224	43.	2		0050	299	1.
1		0610	75	2.	1		1225	150	346.	1		1840	225	41.	2		0055	300	1.

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR

```
+   (CFS)       (HR)
                  (CFS)
+     539.      13.17          261.          71.          69.          69.
                (INCHES)       .465         .508         .508         .508
                 (AC-FT)       129.         141.         141.         141.

                          CUMULATIVE AREA =     5.22 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  391 KK    *    R_I3_O  *      Route hydrograph through I2 overland
            *            *
            **************

               HYDROGRAPH ROUTING DATA

  392 RK         KINEMATIC WAVE STREAM ROUTING
                        L       3300.  CHANNEL LENGTH
                        S       .0140  SLOPE
                        N        .040  CHANNEL ROUGHNESS COEFFICIENT
                       CA         .00  CONTRIBUTING AREA
                    SHAPE        TRAP  CHANNEL SHAPE
                       WD       10.00  BOTTOM WIDTH OR DIAMETER
                        Z        5.00  SIDE SLOPE
                   NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS
                                                  ***
                                  COMPUTED KINEMATIC PARAMETERS
                                      VARIABLE TIME STEP
                                   (DT SHOWN IS A MINIMUM)

                     ELEMENT    ALPHA       M         DT         DX        PEAK     TIME TO      VOLUME     MAXIMUM
                                                                                       PEAK                  CELERITY
                                                      (MIN)      (FT)      (CFS)     (MIN)        (IN)       (FPS)
                     MAIN          1.20      1.39       2.00    1100.00    569.83    794.05         .53        9.33

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1472E+03  EXCESS= .0000E+00 OUTFLOW= .1472E+03 BASIN STORAGE= .5336E-01 PERCENT ERROR=     .0

                                  INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

                     MAIN          1.20      1.39       5.00                568.88    790.00         .53
          ***             ***             ***             ***             ***

                                HYDROGRAPH AT STATION   R_I3_O
                               TRANSPOSITION AREA       .0 SQ MI

   PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR          24-HR          72-HR       24.92-HR
+    (CFS)        (HR)
                    (CFS)
+      569.      13.17          272.          74.          71.          71.
                (INCHES)       .484         .529         .529         .529
                 (AC-FT)       135.         147.         147.         147.

                          CUMULATIVE AREA =     5.22 SQ MI

                                  COMPUTED KINEMATIC PARAMETERS
                                      VARIABLE TIME STEP
                                   (DT SHOWN IS A MINIMUM)

                     ELEMENT    ALPHA       M         DT         DX        PEAK     TIME TO      VOLUME     MAXIMUM
                                                                                       PEAK                  CELERITY
                                                      (MIN)      (FT)      (CFS)     (MIN)        (IN)       (FPS)
                     MAIN          1.20      1.39       2.03    1100.00    533.13    794.68         .50        9.16

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1405E+03  EXCESS= .0000E+00 OUTFLOW= .1404E+03 BASIN STORAGE= .5117E-01 PERCENT ERROR=     .0

                                  INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

                     MAIN          1.20      1.39       5.00                532.88    795.00         .50
          ***             ***             ***             ***             ***

                                HYDROGRAPH AT STATION   R_I3_O
                               TRANSPOSITION AREA      14.0 SQ MI

   PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR          24-HR          72-HR       24.92-HR
+    (CFS)        (HR)
                    (CFS)
+      533.      13.25          259.          71.          68.          68.
                (INCHES)       .461         .505         .505         .505
                 (AC-FT)       128.         140.         140.         140.

                          CUMULATIVE AREA =     5.22 SQ MI

                                  COMPUTED KINEMATIC PARAMETERS
                                      VARIABLE TIME STEP
                                   (DT SHOWN IS A MINIMUM)

                     ELEMENT    ALPHA       M         DT         DX        PEAK     TIME TO      VOLUME     MAXIMUM
                                                                                       PEAK                  CELERITY
                                                      (MIN)      (FT)      (CFS)     (MIN)        (IN)       (FPS)
                     MAIN          1.20      1.39       2.16    1100.00    519.57    781.25         .49        9.09

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1371E+03  EXCESS= .0000E+00 OUTFLOW= .1370E+03 BASIN STORAGE= .5135E-01 PERCENT ERROR=     .0
```

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

	MAIN	1.20	1.39	5.00	519.36	780.00	.49
***	***	***	***	***			

HYDROGRAPH AT STATION R_I3_O
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)				
+ 519.	13.00		253.	69.	67.	67.
		(INCHES)	.450	.492	.492	.492
		(AC-FT)	125.	137.	137.	137.

CUMULATIVE AREA = 5.22 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.20	1.39	2.20	1100.00	507.81	780.98	.48	9.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1337E+03 EXCESS= .0000E+00 OUTFLOW= .1336E+03 BASIN STORAGE= .5386E-01 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

	MAIN	1.20	1.39	5.00	507.42	780.00	.48
***	***	***	***	***			

HYDROGRAPH AT STATION R_I3_O
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)				
+ 507.	13.00		246.	67.	65.	65.
		(INCHES)	.439	.480	.480	.480
		(AC-FT)	122.	134.	134.	134.

CUMULATIVE AREA = 5.22 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.20	1.39	2.17	1100.00	499.56	781.20	.47	8.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1313E+03 EXCESS= .0000E+00 OUTFLOW= .1312E+03 BASIN STORAGE= .5185E-01 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

	MAIN	1.20	1.39	5.00	499.28	780.00	.47
***	***	***	***	***			

HYDROGRAPH AT STATION R_I3_O
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+		(CFS)				
+ 499.	13.00		242.	66.	64.	64.
		(INCHES)	.431	.471	.471	.471
		(AC-FT)	120.	131.	131.	131.

CUMULATIVE AREA = 5.22 SQ MI

INTERPOLATED HYDROGRAPH AT R_I3_O

DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	*	1		0615	76	1.	*	1		1230	151	352.	*	1		1845	226	43.
1		0005	2	0.	*	1		0620	77	1.	*	1		1235	152	409.	*	1		1850	227	41.
1		0010	3	0.	*	1		0625	78	1.	*	1		1240	153	455.	*	1		1855	228	39.
1		0015	4	0.	*	1		0630	79	2.	*	1		1245	154	490.	*	1		1900	229	38.
1		0020	5	0.	*	1		0635	80	2.	*	1		1250	155	513.	*	1		1905	230	37.
1		0025	6	0.	*	1		0640	81	2.	*	1		1255	156	528.	*	1		1910	231	35.
1		0030	7	0.	*	1		0645	82	2.	*	1		1300	157	534.	*	1		1915	232	34.
1		0035	8	0.	*	1		0650	83	2.	*	1		1305	158	535.	*	1		1920	233	33.
1		0040	9	0.	*	1		0655	84	2.	*	1		1310	159	536.	*	1		1925	234	32.
1		0045	10	0.	*	1		0700	85	2.	*	1		1315	160	538.	*	1		1930	235	31.
1		0050	11	0.	*	1		0705	86	2.	*	1		1320	161	533.	*	1		1935	236	29.
1		0055	12	0.	*	1		0710	87	2.	*	1		1325	162	524.	*	1		1940	237	28.
1		0100	13	0.	*	1		0715	88	2.	*	1		1330	163	513.	*	1		1945	238	27.
1		0105	14	0.	*	1		0720	89	2.	*	1		1335	164	500.	*	1		1950	239	26.
1		0110	15	0.	*	1		0725	90	2.	*	1		1340	165	485.	*	1		1955	240	26.
1		0115	16	0.	*	1		0730	91	2.	*	1		1345	166	470.	*	1		2000	241	25.

1	0120	17	0.	*	1	0735	92	2.	*	1	1350	167	455.	*	1	2005	242	24.
1	0125	18	0.	*	1	0740	93	2.	*	1	1355	168	439.	*	1	2010	243	23.
1	0130	19	0.	*	1	0745	94	2.	*	1	1400	169	423.	*	1	2015	244	22.
1	0135	20	0.	*	1	0750	95	2.	*	1	1405	170	408.	*	1	2020	245	21.
1	0140	21	0.	*	1	0755	96	2.	*	1	1410	171	392.	*	1	2025	246	21.
1	0145	22	0.	*	1	0800	97	2.	*	1	1415	172	377.	*	1	2030	247	20.
1	0150	23	0.	*	1	0805	98	2.	*	1	1420	173	362.	*	1	2035	248	19.
1	0155	24	0.	*	1	0810	99	2.	*	1	1425	174	348.	*	1	2040	249	19.
1	0200	25	0.	*	1	0815	100	2.	*	1	1430	175	334.	*	1	2045	250	18.
1	0205	26	0.	*	1	0820	101	2.	*	1	1435	176	320.	*	1	2050	251	17.
1	0210	27	0.	*	1	0825	102	2.	*	1	1440	177	307.	*	1	2055	252	17.
1	0215	28	1.	*	1	0830	103	2.	*	1	1445	178	295.	*	1	2100	253	16.
1	0220	29	1.	*	1	0835	104	2.	*	1	1450	179	283.	*	1	2105	254	16.
1	0225	30	1.	*	1	0840	105	2.	*	1	1455	180	271.	*	1	2110	255	15.
1	0230	31	1.	*	1	0845	106	2.	*	1	1500	181	260.	*	1	2115	256	15.
1	0235	32	1.	*	1	0850	107	2.	*	1	1505	182	249.	*	1	2120	257	14.
1	0240	33	1.	*	1	0855	108	2.	*	1	1510	183	239.	*	1	2125	258	14.
1	0245	34	1.	*	1	0900	109	2.	*	1	1515	184	229.	*	1	2130	259	13.
1	0250	35	1.	*	1	0905	110	2.	*	1	1520	185	220.	*	1	2135	260	13.
1	0255	36	1.	*	1	0910	111	2.	*	1	1525	186	211.	*	1	2140	261	12.
1	0300	37	1.	*	1	0915	112	2.	*	1	1530	187	202.	*	1	2145	262	12.
1	0305	38	1.	*	1	0920	113	2.	*	1	1535	188	194.	*	1	2150	263	11.
1	0310	39	1.	*	1	0925	114	2.	*	1	1540	189	186.	*	1	2155	264	11.
1	0315	40	1.	*	1	0930	115	2.	*	1	1545	190	178.	*	1	2200	265	10.
1	0320	41	1.	*	1	0935	116	2.	*	1	1550	191	171.	*	1	2205	266	10.
1	0325	42	1.	*	1	0940	117	2.	*	1	1555	192	164.	*	1	2210	267	9.
1	0330	43	1.	*	1	0945	118	2.	*	1	1600	193	158.	*	1	2215	268	9.
1	0335	44	1.	*	1	0950	119	2.	*	1	1605	194	151.	*	1	2220	269	9.
1	0340	45	1.	*	1	0955	120	2.	*	1	1610	195	145.	*	1	2225	270	9.
1	0345	46	1.	*	1	1000	121	2.	*	1	1615	196	139.	*	1	2230	271	8.
1	0350	47	1.	*	1	1005	122	3.	*	1	1620	197	134.	*	1	2235	272	8.
1	0355	48	1.	*	1	1010	123	3.	*	1	1625	198	128.	*	1	2240	273	8.
1	0400	49	1.	*	1	1015	124	3.	*	1	1630	199	123.	*	1	2245	274	8.
1	0405	50	1.	*	1	1020	125	3.	*	1	1635	200	119.	*	1	2250	275	7.
1	0410	51	1.	*	1	1025	126	3.	*	1	1640	201	114.	*	1	2255	276	7.
1	0415	52	1.	*	1	1030	127	3.	*	1	1645	202	109.	*	1	2300	277	7.
1	0420	53	1.	*	1	1035	128	3.	*	1	1650	203	105.	*	1	2305	278	7.
1	0425	54	1.	*	1	1040	129	3.	*	1	1655	204	101.	*	1	2310	279	7.
1	0430	55	1.	*	1	1045	130	3.	*	1	1700	205	97.	*	1	2315	280	6.
1	0435	56	1.	*	1	1050	131	3.	*	1	1705	206	93.	*	1	2320	281	6.
1	0440	57	1.	*	1	1055	132	3.	*	1	1710	207	90.	*	1	2325	282	6.
1	0445	58	1.	*	1	1100	133	3.	*	1	1715	208	86.	*	1	2330	283	6.
1	0450	59	1.	*	1	1105	134	3.	*	1	1720	209	83.	*	1	2335	284	6.
1	0455	60	1.	*	1	1110	135	3.	*	1	1725	210	80.	*	1	2340	285	6.
1	0500	61	1.	*	1	1115	136	3.	*	1	1730	211	77.	*	1	2345	286	5.
1	0505	62	1.	*	1	1120	137	3.	*	1	1735	212	74.	*	1	2350	287	5.
1	0510	63	1.	*	1	1125	138	4.	*	1	1740	213	71.	*	1	2355	288	5.
1	0515	64	1.	*	1	1130	139	4.	*	1	1745	214	68.	*	2	0000	289	5.
1	0520	65	1.	*	1	1135	140	4.	*	1	1750	215	66.	*	2	0005	290	5.
1	0525	66	1.	*	1	1140	141	4.	*	1	1755	216	63.	*	2	0010	291	5.
1	0530	67	1.	*	1	1145	142	4.	*	1	1800	217	60.	*	2	0015	292	5.
1	0535	68	1.	*	1	1150	143	5.	*	1	1805	218	58.	*	2	0020	293	4.
1	0540	69	1.	*	1	1155	144	7.	*	1	1810	219	56.	*	2	0025	294	4.
1	0545	70	1.	*	1	1200	145	15.	*	1	1815	220	54.	*	2	0030	295	3.
1	0550	71	1.	*	1	1205	146	41.	*	1	1820	221	52.	*	2	0035	296	3.
1	0555	72	1.	*	1	1210	147	91.	*	1	1825	222	50.	*	2	0040	297	2.
1	0600	73	1.	*	1	1215	148	154.	*	1	1830	223	48.	*	2	0045	298	2.
1	0605	74	1.	*	1	1220	149	220.	*	1	1835	224	46.	*	2	0050	299	2.
1	0610	75	1.	*	1	1225	150	288.	*	1	1840	225	44.	*	2	0055	300	2.

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 538.	13.25		261.	71.	69.	69.
		(INCHES)	.464	.508	.508	.508
		(AC-FT)	129.	141.	141.	141.

CUMULATIVE AREA = 5.22 SQ MI

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          *             *
393 KK    *      I2     *    Subbasin
          *             *
          ***************

            SUBBASIN RUNOFF DATA

394 BA        SUBBASIN CHARACTERISTICS
                  TAREA          .97  SUBBASIN AREA

395 LG        GREEN AND AMPT LOSS RATE
                  STRTL          .63  STARTING LOSS
                    DTH          .57  MOISTURE DEFICIT
                   PSIF         2.12  WETTING FRONT SUCTION
                  XKSAT          .08  HYDRAULIC CONDUCTIVITY
                  RTIMP         5.00  PERCENT IMPERVIOUS AREA

396 US        SNYDER UNITGRAPH
                     TP          .52  LAG
                     CP          .31  PEAKING COEFFICIENT

              SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USEO

                                   ***

                              UNIT HYDROGRAPH PARAMETERS
                        CLARK   TC=    .52 HR,       R=  1.35 HR
                      SNYDER    TP=    .52 HR,      CP=   .31

                              UNIT HYDROGRAPH
                          89 END-OF-PERIOD ORDINATES
          20.     76.    157.    246.    322.    370.    377.    358.    336.    316.
         297.    279.    263.    247.    232.    218.    205.    193.    181.    170.
         160.    150.    141.    133.    125.    117.    110.    104.     98.     92.
          86.     81.     76.     72.     67.     63.     60.     56.     53.     49.
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46.	44.	41.	39.	36.	34.	32.	30.	28.	27.
25.	24.	22.	21.	20.	18.	17.	16.	15.	14.
13.	13.	12.	11.	11.	10.	9.	9.	8.	8.
7.	7.	6.	6.	6.	5.	5.	5.	4.	4.
4.	4.	3.	3.	3.	3.	3.	3.	2.	

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HYDROGRAPH AT STATION I2
TRANSPOSITION AREA .0 SQ MI

TOTAL RAINFALL = 1.99, TOTAL LOSS = 1.49, TOTAL EXCESS = .50

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)	48.	13.	13.	13.
165.	12.42	(INCHES)	.462	.498	.498	.498
		(AC-FT)	24.	26.	26.	26.

CUMULATIVE AREA = .97 SQ MI

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HYDROGRAPH AT STATION I2
TRANSPOSITION AREA 14.0 SQ MI

TOTAL RAINFALL = 1.95, TOTAL LOSS = 1.47, TOTAL EXCESS = .48

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)	46.	12.	12.	12.
157.	12.42	(INCHES)	.440	.475	.475	.475
		(AC-FT)	23.	25.	25.	25.

CUMULATIVE AREA = .97 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION I2
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.93, TOTAL LOSS = 1.46, TOTAL EXCESS = .47

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)	45.	12.	12.	12.
153.	12.42	(INCHES)	.430	.464	.464	.464
		(AC-FT)	22.	24.	24.	24.

CUMULATIVE AREA = .97 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION I2
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.91, TOTAL LOSS = 1.45, TOTAL EXCESS = .46

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)	44.	12.	11.	11.
149.	12.42	(INCHES)	.419	.453	.453	.453
		(AC-FT)	22.	23.	24.	24.

CUMULATIVE AREA = .97 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION I2
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.90, TOTAL LOSS = 1.45, TOTAL EXCESS = .45

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)	43.	12.	11.	11.
147.	12.42	(INCHES)	.411	.445	.445	.445
		(AC-FT)	21.	23.	23.	23.

CUMULATIVE AREA = .97 SQ MI

INTERPOLATED HYDROGRAPH AT I2

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	1.	1		1230	151	155.	1		1845	226	3.
1		0005	2	0.	1		0620	77	1.	1		1235	152	147.	1		1850	227	3.
1		0010	3	0.	1		0625	78	1.	1		1240	153	138.	1		1855	228	3.
1		0015	4	0.	1		0630	79	1.	1		1245	154	130.	1		1900	229	2.
1		0020	5	0.	1		0635	80	1.	1		1250	155	123.	1		1905	230	2.
1		0025	6	0.	1		0640	81	1.	1		1255	156	116.	1		1910	231	2.
1		0030	7	0.	1		0645	82	1.	1		1300	157	109.	1		1915	232	2.
1		0035	8	0.	1		0650	83	1.	1		1305	158	103.	1		1920	233	1.
1		0040	9	0.	1		0655	84	1.	1		1310	159	97.	1		1925	234	1.
1		0045	10	0.	1		0700	85	1.	1		1315	160	91.	1		1930	235	1.

1	0050	11	0.	*	1	0705	86	1.	*	1	1320	161	86.	*	1	1935	236	1.
1	0055	12	0.	*	1	0710	87	1.	*	1	1325	162	81.	*	1	1940	237	1.
1	0100	13	0.	*	1	0715	88	1.	*	1	1330	163	76.	*	1	1945	238	1.
1	0105	14	0.	*	1	0720	89	1.	*	1	1335	164	72.	*	1	1950	239	1.
1	0110	15	0.	*	1	0725	90	1.	*	1	1340	165	68.	*	1	1955	240	1.
1	0115	16	0.	*	1	0730	91	1.	*	1	1345	166	64.	*	1	2000	241	1.
1	0120	17	0.	*	1	0735	92	1.	*	1	1350	167	60.	*	1	2005	242	1.
1	0125	18	0.	*	1	0740	93	1.	*	1	1355	168	57.	*	1	2010	243	1.
1	0130	19	0.	*	1	0745	94	1.	*	1	1400	169	54.	*	1	2015	244	1.
1	0135	20	0.	*	1	0750	95	1.	*	1	1405	170	51.	*	1	2020	245	1.
1	0140	21	0.	*	1	0755	96	1.	*	1	1410	171	48.	*	1	2025	246	1.
1	0145	22	0.	*	1	0800	97	1.	*	1	1415	172	45.	*	1	2030	247	1.
1	0150	23	0.	*	1	0805	98	1.	*	1	1420	173	42.	*	1	2035	248	1.
1	0155	24	0.	*	1	0810	99	1.	*	1	1425	174	40.	*	1	2040	249	1.
1	0200	25	0.	*	1	0815	100	1.	*	1	1430	175	38.	*	1	2045	250	1.
1	0205	26	1.	*	1	0820	101	1.	*	1	1435	176	36.	*	1	2050	251	1.
1	0210	27	1.	*	1	0825	102	1.	*	1	1440	177	34.	*	1	2055	252	1.
1	0215	28	1.	*	1	0830	103	1.	*	1	1445	178	32.	*	1	2100	253	1.
1	0220	29	1.	*	1	0835	104	1.	*	1	1450	179	30.	*	1	2105	254	1.
1	0225	30	1.	*	1	0840	105	1.	*	1	1455	180	28.	*	1	2110	255	1.
1	0230	31	1.	*	1	0845	106	1.	*	1	1500	181	27.	*	1	2115	256	1.
1	0235	32	1.	*	1	0850	107	1.	*	1	1505	182	25.	*	1	2120	257	1.
1	0240	33	1.	*	1	0855	108	1.	*	1	1510	183	24.	*	1	2125	258	1.
1	0245	34	1.	*	1	0900	109	1.	*	1	1515	184	22.	*	1	2130	259	1.
1	0250	35	1.	*	1	0905	110	1.	*	1	1520	185	21.	*	1	2135	260	1.
1	0255	36	1.	*	1	0910	111	1.	*	1	1525	186	20.	*	1	2140	261	1.
1	0300	37	1.	*	1	0915	112	1.	*	1	1530	187	19.	*	1	2145	262	1.
1	0305	38	1.	*	1	0920	113	1.	*	1	1535	188	18.	*	1	2150	263	1.
1	0310	39	1.	*	1	0925	114	2.	*	1	1540	189	17.	*	1	2155	264	1.
1	0315	40	1.	*	1	0930	115	2.	*	1	1545	190	16.	*	1	2200	265	1.
1	0320	41	1.	*	1	0935	116	2.	*	1	1550	191	15.	*	1	2205	266	1.
1	0325	42	1.	*	1	0940	117	2.	*	1	1555	192	14.	*	1	2210	267	1.
1	0330	43	1.	*	1	0945	118	2.	*	1	1600	193	14.	*	1	2215	268	1.
1	0335	44	1.	*	1	0950	119	2.	*	1	1605	194	13.	*	1	2220	269	1.
1	0340	45	1.	*	1	0955	120	2.	*	1	1610	195	12.	*	1	2225	270	1.
1	0345	46	1.	*	1	1000	121	2.	*	1	1615	196	12.	*	1	2230	271	1.
1	0350	47	1.	*	1	1005	122	2.	*	1	1620	197	11.	*	1	2235	272	1.
1	0355	48	1.	*	1	1010	123	2.	*	1	1625	198	10.	*	1	2240	273	1.
1	0400	49	1.	*	1	1015	124	2.	*	1	1630	199	10.	*	1	2245	274	1.
1	0405	50	1.	*	1	1020	125	2.	*	1	1635	200	9.	*	1	2250	275	1.
1	0410	51	1.	*	1	1025	126	2.	*	1	1640	201	9.	*	1	2255	276	1.
1	0415	52	1.	*	1	1030	127	2.	*	1	1645	202	8.	*	1	2300	277	1.
1	0420	53	1.	*	1	1035	128	2.	*	1	1650	203	8.	*	1	2305	278	1.
1	0425	54	1.	*	1	1040	129	2.	*	1	1655	204	8.	*	1	2310	279	1.
1	0430	55	1.	*	1	1045	130	2.	*	1	1700	205	7.	*	1	2315	280	1.
1	0435	56	1.	*	1	1050	131	2.	*	1	1705	206	7.	*	1	2320	281	1.
1	0440	57	1.	*	1	1055	132	2.	*	1	1710	207	7.	*	1	2325	282	1.
1	0445	58	1.	*	1	1100	133	2.	*	1	1715	208	6.	*	1	2330	283	1.
1	0450	59	1.	*	1	1105	134	2.	*	1	1720	209	6.	*	1	2335	284	1.
1	0455	60	1.	*	1	1110	135	3.	*	1	1725	210	6.	*	1	2340	285	1.
1	0500	61	1.	*	1	1115	136	3.	*	1	1730	211	5.	*	1	2345	286	1.
1	0505	62	1.	*	1	1120	137	3.	*	1	1735	212	5.	*	1	2350	287	1.
1	0510	63	1.	*	1	1125	138	3.	*	1	1740	213	5.	*	1	2355	288	1.
1	0515	64	1.	*	1	1130	139	3.	*	1	1745	214	5.	*	2	0000	289	1.
1	0520	65	1.	*	1	1135	140	3.	*	1	1750	215	4.	*	2	0005	290	1.
1	0525	66	1.	*	1	1140	141	4.	*	1	1755	216	4.	*	2	0010	291	1.
1	0530	67	1.	*	1	1145	142	4.	*	1	1800	217	4.	*	2	0015	292	1.
1	0535	68	1.	*	1	1150	143	8.	*	1	1805	218	4.	*	2	0020	293	1.
1	0540	69	1.	*	1	1155	144	20.	*	1	1810	219	4.	*	2	0025	294	1.
1	0545	70	1.	*	1	1200	145	43.	*	1	1815	220	4.	*	2	0030	295	1.
1	0550	71	1.	*	1	1205	146	75.	*	1	1820	221	3.	*	2	0035	296	1.
1	0555	72	1.	*	1	1210	147	109.	*	1	1825	222	3.	*	2	0040	297	1.
1	0600	73	1.	*	1	1215	148	138.	*	1	1830	223	3.	*	2	0045	298	1.
1	0605	74	1.	*	1	1220	149	155.	*	1	1835	224	3.	*	2	0050	299	0.
1	0610	75	1.	*	1	1225	150	160.	*	1	1840	225	3.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 160.	12.42		47.	13.	12.	12.
		(INCHES)	.448	.484	.484	.484
		(AC-FT)	23.	25.	25.	25.

CUMULATIVE AREA = .97 SQ MI

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          ***************
          *             *
397 KK    *     C_I2    *     Combine I3 and I2
          *             *
          ***************
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398 HC HYDROGRAPH COMBINATION
ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

*** *** *** *** ***

HYDROGRAPH AT STATION C_I2
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 669.	13.17		319.	87.	84.	84.
		(INCHES)	.479	.524	.524	.524
		(AC-FT)	158.	173.	173.	173.

CUMULATIVE AREA = 6.19 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_I2

TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		6-HR	MAXIMUM AVERAGE FLOW 24-HR	72-HR	24.92-HR
+ 638.	12.92	(CFS)	304.	83.	80.	80.
		(INCHES)	.457	.500	.500	.500
		(AC-FT)	151.	165.	165.	165.

CUMULATIVE AREA = 6.19 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_I2
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		6-HR	MAXIMUM AVERAGE FLOW 24-HR	72-HR	24.92-HR
+ 624.	13.00	(CFS)	297.	81.	78.	78.
		(INCHES)	.445	.488	.488	.488
		(AC-FT)	147.	161.	161.	161.

CUMULATIVE AREA = 6.19 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_I2
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		6-HR	MAXIMUM AVERAGE FLOW 24-HR	72-HR	24.92-HR
+ 609.	13.00	(CFS)	289.	79.	76.	76.
		(INCHES)	.434	.476	.476	.476
		(AC-FT)	143.	157.	157.	157.

CUMULATIVE AREA = 6.19 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION C_I2
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		6-HR	MAXIMUM AVERAGE FLOW 24-HR	72-HR	24.92-HR
600.	13.00	(CFS)	284.	78.	75.	75.
		(INCHES)	.426	.467	.467	.467
		(AC-FT)	141.	154.	154.	154.

CUMULATIVE AREA = 6.19 SQ MI

INTERPOLATED HYDROGRAPH AT C_I2

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	2.	1		1230	151	504.	1		1845	226	45.
1		0005	2	0.	1		0620	77	2.	1		1235	152	553.	1		1850	227	44.
1		0010	3	0.	1		0625	78	2.	1		1240	153	591.	1		1855	228	42.
1		0015	4	0.	1		0630	79	2.	1		1245	154	618.	1		1900	229	40.
1		0020	5	0.	1		0635	80	3.	1		1250	155	634.	1		1905	230	39.
1		0025	6	0.	1		0640	81	3.	1		1255	156	642.	1		1910	231	38.
1		0030	7	0.	1		0645	82	3.	1		1300	157	641.	1		1915	232	36.
1		0035	8	0.	1		0650	83	3.	1		1305	158	636.	1		1920	233	34.
1		0040	9	0.	1		0655	84	3.	1		1310	159	631.	1		1925	234	33.
1		0045	10	0.	1		0700	85	3.	1		1315	160	627.	1		1930	235	32.
1		0050	11	0.	1		0705	86	3.	1		1320	161	617.	1		1935	236	31.
1		0055	12	0.	1		0710	87	3.	1		1325	162	603.	1		1940	237	30.
1		0100	13	0.	1		0715	88	3.	1		1330	163	587.	1		1945	238	29.
1		0105	14	0.	1		0720	89	3.	1		1335	164	570.	1		1950	239	28.
1		0110	15	0.	1		0725	90	3.	1		1340	165	552.	1		1955	240	27.
1		0115	16	0.	1		0730	91	3.	1		1345	166	533.	1		2000	241	26.
1		0120	17	0.	1		0735	92	3.	1		1350	167	514.	1		2005	242	25.
1		0125	18	0.	1		0740	93	3.	1		1355	168	495.	1		2010	243	24.
1		0130	19	1.	1		0745	94	3.	1		1400	169	476.	1		2015	244	23.
1		0135	20	1.	1		0750	95	3.	1		1405	170	457.	1		2020	245	22.
1		0140	21	1.	1		0755	96	3.	1		1410	171	439.	1		2025	246	22.
1		0145	22	1.	1		0800	97	3.	1		1415	172	421.	1		2030	247	21.
1		0150	23	1.	1		0805	98	3.	1		1420	173	404.	1		2035	248	20.
1		0155	24	1.	1		0810	99	3.	1		1425	174	387.	1		2040	249	20.
1		0200	25	1.	1		0815	100	3.	1		1430	175	371.	1		2045	250	19.
1		0205	26	1.	1		0820	101	3.	1		1435	176	355.	1		2050	251	18.
1		0210	27	1.	1		0825	102	3.	1		1440	177	340.	1		2055	252	18.
1		0215	28	1.	1		0830	103	3.	1		1445	178	326.	1		2100	253	17.
1		0220	29	1.	1		0835	104	3.	1		1450	179	312.	1		2105	254	17.
1		0225	30	1.	1		0840	105	3.	1		1455	180	299.	1		2110	255	16.
1		0230	31	1.	1		0845	106	3.	1		1500	181	286.	1		2115	256	16.
1		0235	32	1.	1		0850	107	3.	1		1505	182	274.	1		2120	257	15.
1		0240	33	1.	1		0855	108	3.	1		1510	183	262.	1		2125	258	15.
1		0245	34	1.	1		0900	109	3.	1		1515	184	251.	1		2130	259	14.
1		0250	35	1.	1		0905	110	3.	1		1520	185	241.	1		2135	260	14.
1		0255	36	1.	1		0910	111	4.	1		1525	186	230.	1		2140	261	13.
1		0300	37	1.	1		0915	112	4.	1		1530	187	221.	1		2145	262	13.
1		0305	38	1.	1		0920	113	4.	1		1535	188	211.	1		2150	263	12.
1		0310	39	1.	1		0925	114	4.	1		1540	189	203.	1		2155	264	11.
1		0315	40	1.	1		0930	115	4.	1		1545	190	194.	1		2200	265	11.
1		0320	41	2.	1		0935	116	4.	1		1550	191	186.	1		2205	266	11.
1		0325	42	2.	1		0940	117	4.	1		1555	192	178.	1		2210	267	10.
1		0330	43	2.	1		0945	118	4.	1		1600	193	171.	1		2215	268	10.
1		0335	44	2.	1		0950	119	4.	1		1605	194	164.	1		2220	269	10.
1		0340	45	2.	1		0955	120	4.	1		1610	195	157.	1		2225	270	9.

1	0345	46	2.	*	1	1000	121	4.	*	1	1615	196	151.	*	1	2230	271	9.
1	0350	47	2.	*	1	1005	122	4.	*	1	1620	197	144.	*	1	2235	272	9.
1	0355	48	2.	*	1	1010	123	4.	*	1	1625	198	139.	*	1	2240	273	9.
1	0400	49	2.	*	1	1015	124	4.	*	1	1630	199	133.	*	1	2245	274	8.
1	0405	50	2.	*	1	1020	125	4.	*	1	1635	200	128.	*	1	2250	275	8.
1	0410	51	2.	*	1	1025	126	5.	*	1	1640	201	122.	*	1	2255	276	8.
1	0415	52	2.	*	1	1030	127	5.	*	1	1645	202	118.	*	1	2300	277	8.
1	0420	53	2.	*	1	1035	128	5.	*	1	1650	203	113.	*	1	2305	278	8.
1	0425	54	2.	*	1	1040	129	5.	*	1	1655	204	108.	*	1	2310	279	7.
1	0430	55	2.	*	1	1045	130	5.	*	1	1700	205	104.	*	1	2315	280	7.
1	0435	56	2.	*	1	1050	131	5.	*	1	1705	206	100.	*	1	2320	281	7.
1	0440	57	2.	*	1	1055	132	5.	*	1	1710	207	96.	*	1	2325	282	7.
1	0445	58	2.	*	1	1100	133	5.	*	1	1715	208	92.	*	1	2330	283	7.
1	0450	59	2.	*	1	1105	134	6.	*	1	1720	209	89.	*	1	2335	284	7.
1	0455	60	2.	*	1	1110	135	6.	*	1	1725	210	85.	*	1	2340	285	6.
1	0500	61	2.	*	1	1115	136	6.	*	1	1730	211	82.	*	1	2345	286	6.
1	0505	62	2.	*	1	1120	137	6.	*	1	1735	212	79.	*	1	2350	287	6.
1	0510	63	2.	*	1	1125	138	7.	*	1	1740	213	76.	*	1	2355	288	6.
1	0515	64	2.	*	1	1130	139	7.	*	1	1745	214	73.	*	2	0000	289	6.
1	0520	65	2.	*	1	1135	140	7.	*	1	1750	215	70.	*	2	0005	290	6.
1	0525	66	2.	*	1	1140	141	8.	*	1	1755	216	67.	*	2	0010	291	5.
1	0530	67	2.	*	1	1145	142	9.	*	1	1800	217	64.	*	2	0015	292	5.
1	0535	68	2.	*	1	1150	143	13.	*	1	1805	218	62.	*	2	0020	293	5.
1	0540	69	2.	*	1	1155	144	26.	*	1	1810	219	59.	*	2	0025	294	5.
1	0545	70	2.	*	1	1200	145	56.	*	1	1815	220	57.	*	2	0030	295	4.
1	0550	71	2.	*	1	1205	146	115.	*	1	1820	221	55.	*	2	0035	296	3.
1	0555	72	2.	*	1	1210	147	198.	*	1	1825	222	53.	*	2	0040	297	3.
1	0600	73	2.	*	1	1215	148	289.	*	1	1830	223	51.	*	2	0045	298	2.
1	0605	74	2.	*	1	1220	149	373.	*	1	1835	224	49.	*	2	0050	299	2.
1	0610	75	2.	*	1	1225	150	445.	*	1	1840	225	47.	*	2	0055	300	2.
				*					*					*					

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 642.	12.92		306.	84.	81.	81.
		(INCHES)	.459	.503	.503	.503
		(AC-FT)	152.	166.	166.	166.

CUMULATIVE AREA = 6.19 SQ MI

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*     R_I2    *
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399 KK

Route Hydrograph Through Existing Dam

HYDROGRAPH ROUTING DATA

401 RS STORAGE ROUTING

NSTPS	1	NUMBER OF SUBREACHES
ITYP	STOR	TYPE OF INITIAL CONDITION
RSVRIC	.00	INITIAL CONDITION
X	.00	WORKING R AND D COEFFICIENT

402 SV STORAGE	.0	3.1	6.7	10.9	15.9	21.8	28.6	36.4	45.2	55.1
	66.1	78.2	91.5	106.1	122.0	139.2	176.2	236.0	257.3	280.1
404 SQ DISCHARGE	0.	0.	13.	18.	23.	26.	29.	32.	35.	37.
	39.	41.	43.	45.	47.	49.	52.	229.	235.	240.
406 SE ELEVATION	4890.00	4892.00	4894.00	4896.00	4898.00	4900.00	4902.00	4904.00	4906.00	4908.00
	4910.00	4912.00	4914.00	4916.00	4918.00	4920.00	4924.00	4930.00	4932.00	4934.00

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HYDROGRAPH AT STATION R_I2
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 49.	18.58		49.	24.	23.	23.
		(INCHES)	.073	.146	.146	.146
		(AC-FT)	24.	48.	48.	48.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
141.	18.67	139.	64.	61.	61.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
4920.22	18.67	4919.93	4904.63	4904.09	4904.09

CUMULATIVE AREA = 6.19 SQ MI

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HYDROGRAPH AT STATION R_I2
TRANSPOSIIION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 48.	18.50		48.	24.	23.	23.
		(INCHES)	.072	.143	.143	.143
		(AC-FT)	24.	47.	47.	47.

PEAK STORAGE (AC-FT)	TIME (HR)		MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
134.	18.58		131.	60.	58.	58.
PEAK STAGE (FEET)	TIME (HR)		MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
4919.40	18.58		4919.10	4904.22	4903.70	4903.70
		CUMULATIVE AREA =	6.19 SQ MI			

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HYDROGRAPH AT STATION R_I2
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
48.	18.50	(CFS)	48.	24.	23.	23.
		(INCHES)	.071	.142	.142	.142
		(AC-FT)	24.	47.	47.	47.
PEAK STORAGE (AC-FT)	TIME (HR)		MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
130.	18.58		128.	59.	56.	56.
PEAK STAGE (FEET)	TIME (HR)		MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
4918.98	18.58		4918.68	4904.01	4903.50	4903.50
		CUMULATIVE AREA =	6.19 SQ MI			

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HYDROGRAPH AT STATION R_I2
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
48.	18.50	(CFS)	47.	23.	23.	23.
		(INCHES)	.071	.141	.141	.141
		(AC-FT)	23.	47.	47.	47.
PEAK STORAGE (AC-FT)	TIME (HR)		MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
127.	18.50		124.	57.	55.	55.
PEAK STAGE (FEET)	TIME (HR)		MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
4918.56	18.50		4918.26	4903.80	4903.29	4903.29
		CUMULATIVE AREA =	6.19 SQ MI			

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HYDROGRAPH AT STATION R_I2
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
47.	18.42	(CFS)	47.	23.	22.	22.
		(INCHES)	.071	.140	.140	.140
		(AC-FT)	23.	46.	46.	46.
PEAK STORAGE (AC-FT)	TIME (HR)		MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
124.	18.50		122.	56.	54.	54.
PEAK STAGE (FEET)	TIME (HR)		MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
4918.26	18.50		4917.95	4903.65	4903.14	4903.14
		CUMULATIVE AREA =	6.19 SQ MI			

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INTERPOLATED HYDROGRAPH AT R_I2

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DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	21.	1		1845	226	48.
1		0005	2	0.	1		0620	77	0.	1		1235	152	24.	1		1850	227	48.
1		0010	3	0.	1		0625	78	0.	1		1240	153	26.	1		1855	228	48.
1		0015	4	0.	1		0630	79	0.	1		1245	154	28.	1		1900	229	48.
1		0020	5	0.	1		0635	80	0.	1		1250	155	29.	1		1905	230	48.
1		0025	6	0.	1		0640	81	0.	1		1255	156	31.	1		1910	231	48.
1		0030	7	0.	1		0645	82	0.	1		1300	157	32.	1		1915	232	48.
1		0035	8	0.	1		0650	83	0.	1		1305	158	34.	1		1920	233	48.
1		0040	9	0.	1		0655	84	0.	1		1310	159	35.	1		1925	234	48.
1		0045	10	0.	1		0700	85	0.	1		1315	160	36.	1		1930	235	48.
1		0050	11	0.	1		0705	86	0.	1		1320	161	37.	1		1935	236	48.
1		0055	12	0.	1		0710	87	0.	1		1325	162	38.	1		1940	237	48.
1		0100	13	0.	1		0715	88	0.	1		1330	163	38.	1		1945	238	48.
1		0105	14	0.	1		0720	89	0.	1		1335	164	39.	1		1950	239	48.
1		0110	15	0.	1		0725	90	0.	1		1340	165	40.	1		1955	240	48.

1	0115	16	0.	*	1	0730	91	0.	*	1	1345	166	40.	*	1	2000	241	48.	
1	0120	17	0.	*	1	0735	92	0.	*	1	1350	167	41.	*	1	2005	242	48.	
1	0125	18	0.	*	1	0740	93	0.	*	1	1355	168	41.	*	1	2010	243	48.	
1	0130	19	0.	*	1	0745	94	0.	*	1	1400	169	42.	*	1	2015	244	48.	
1	0135	20	0.	*	1	0750	95	0.	*	1	1405	170	42.	*	1	2020	245	48.	
1	0140	21	0.	*	1	0755	96	0.	*	1	1410	171	43.	*	1	2025	246	48.	
1	0145	22	0.	*	1	0800	97	0.	*	1	1415	172	43.	*	1	2030	247	48.	
1	0150	23	0.	*	1	0805	98	0.	*	1	1420	173	43.	*	1	2035	248	48.	
1	0155	24	0.	*	1	0810	99	0.	*	1	1425	174	44.	*	1	2040	249	48.	
1	0200	25	0.	*	1	0815	100	0.	*	1	1430	175	44.	*	1	2045	250	48.	
1	0205	26	0.	*	1	0820	101	0.	*	1	1435	176	44.	*	1	2050	251	48.	
1	0210	27	0.	*	1	0825	102	0.	*	1	1440	177	45.	*	1	2055	252	48.	
1	0215	28	0.	*	1	0830	103	0.	*	1	1445	178	45.	*	1	2100	253	48.	
1	0220	29	0.	*	1	0835	104	0.	*	1	1450	179	45.	*	1	2105	254	48.	
1	0225	30	0.	*	1	0840	105	0.	*	1	1455	180	45.	*	1	2110	255	48.	
1	0230	31	0.	*	1	0845	106	0.	*	1	1500	181	46.	*	1	2115	256	48.	
1	0235	32	0.	*	1	0850	107	0.	*	1	1505	182	46.	*	1	2120	257	48.	
1	0240	33	0.	*	1	0855	108	0.	*	1	1510	183	46.	*	1	2125	258	48.	
1	0245	34	0.	*	1	0900	109	0.	*	1	1515	184	46.	*	1	2130	259	48.	
1	0250	35	0.	*	1	0905	110	0.	*	1	1520	185	46.	*	1	2135	260	48.	
1	0255	36	0.	*	1	0910	111	0.	*	1	1525	186	46.	*	1	2140	261	48.	
1	0300	37	0.	*	1	0915	112	0.	*	1	1530	187	47.	*	1	2145	262	48.	
1	0305	38	0.	*	1	0920	113	0.	*	1	1535	188	47.	*	1	2150	263	48.	
1	0310	39	0.	*	1	0925	114	0.	*	1	1540	189	47.	*	1	2155	264	48.	
1	0315	40	0.	*	1	0930	115	0.	*	1	1545	190	47.	*	1	2200	265	48.	
1	0320	41	0.	*	1	0935	116	0.	*	1	1550	191	47.	*	1	2205	266	48.	
1	0325	42	0.	*	1	0940	117	0.	*	1	1555	192	47.	*	1	2210	267	48.	
1	0330	43	0.	*	1	0945	118	0.	*	1	1600	193	47.	*	1	2215	268	48.	
1	0335	44	0.	*	1	0950	119	0.	*	1	1605	194	47.	*	1	2220	269	48.	
1	0340	45	0.	*	1	0955	120	0.	*	1	1610	195	47.	*	1	2225	270	48.	
1	0345	46	0.	*	1	1000	121	0.	*	1	1615	196	47.	*	1	2230	271	48.	
1	0350	47	0.	*	1	1005	122	0.	*	1	1620	197	48.	*	1	2235	272	47.	
1	0355	48	0.	*	1	1010	123	0.	*	1	1625	198	48.	*	1	2240	273	47.	
1	0400	49	0.	*	1	1015	124	0.	*	1	1630	199	48.	*	1	2245	274	47.	
1	0405	50	0.	*	1	1020	125	0.	*	1	1635	200	48.	*	1	2250	275	47.	
1	0410	51	0.	*	1	1025	126	0.	*	1	1640	201	48.	*	1	2255	276	47.	
1	0415	52	0.	*	1	1030	127	0.	*	1	1645	202	48.	*	1	2300	277	47.	
1	0420	53	0.	*	1	1035	128	0.	*	1	1650	203	48.	*	1	2305	278	47.	
1	0425	54	0.	*	1	1040	129	0.	*	1	1655	204	48.	*	1	2310	279	47.	
1	0430	55	0.	*	1	1045	130	0.	*	1	1700	205	48.	*	1	2315	280	47.	
1	0435	56	0.	*	1	1050	131	0.	*	1	1705	206	48.	*	1	2320	281	47.	
1	0440	57	0.	*	1	1055	132	0.	*	1	1710	207	48.	*	1	2325	282	47.	
1	0445	58	0.	*	1	1100	133	0.	*	1	1715	208	48.	*	1	2330	283	47.	
1	0450	59	0.	*	1	1105	134	0.	*	1	1720	209	48.	*	1	2335	284	47.	
1	0455	60	0.	*	1	1110	135	0.	*	1	1725	210	48.	*	1	2340	285	47.	
1	0500	61	0.	*	1	1115	136	0.	*	1	1730	211	48.	*	1	2345	286	47.	
1	0505	62	0.	*	1	1120	137	0.	*	1	1735	212	48.	*	1	2350	287	47.	
1	0510	63	0.	*	1	1125	138	0.	*	1	1740	213	48.	*	1	2355	288	47.	
1	0515	64	0.	*	1	1130	139	0.	*	1	1745	214	48.	*	2	0000	289	47.	
1	0520	65	0.	*	1	1135	140	0.	*	1	1750	215	48.	*	2	0005	290	47.	
1	0525	66	0.	*	1	1140	141	0.	*	1	1755	216	48.	*	2	0010	291	47.	
1	0530	67	0.	*	1	1145	142	0.	*	1	1800	217	48.	*	2	0015	292	47.	
1	0535	68	0.	*	1	1150	143	0.	*	1	1805	218	48.	*	2	0020	293	47.	
1	0540	69	0.	*	1	1155	144	0.	*	1	1810	219	48.	*	2	0025	294	47.	
1	0545	70	0.	*	1	1200	145	0.	*	1	1815	220	48.	*	2	0030	295	47.	
1	0550	71	0.	*	1	1205	146	2.	*	1	1820	221	48.	*	2	0035	296	47.	
1	0555	72	0.	*	1	1210	147	5.	*	1	1825	222	48.	*	2	0040	297	47.	
1	0600	73	0.	*	1	1215	148	11.	*	1	1830	223	48.	*	2	0045	298	47.	
1	0605	74	0.	*	1	1220	149	15.	*	1	1835	224	48.	*	2	0050	299	47.	
1	0610	75	0.	*	1	1225	150	19.	*	1	1840	225	48.	*	2	0055	300	47.	
				*					*					*					

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)					
		(CFS)				
48.	18.50		48.	24.	23.	23.
		(INCHES)	.072	.143	.143	.143
		(AC-FT)	24.	47.	47.	47.

CUMULATIVE AREA = 6.19 SQ MI

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*             *
*       I1    *      Subbasin
*             *
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SUBBASIN RUNOFF DATA

409 BA SUBBASIN CHARACTERISTICS

TAREA	.76	SUBBASIN AREA

410 LG GREEN AND AMPT LOSS RATE

STRTL	.72	STARTING LOSS
DTH	.62	MOISTURE DEFICIT
PSIF	1.96	WETTING FRONT SUCTION
XKSAT	.10	HYDRAULIC CONDUCTIVITY
RTIMP	12.00	PERCENT IMPERVIOUS AREA

411 US SNYDER UNITGRAPH

TP	.56	LAG
CP	.28	PEAKING COEFFICIENT

SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

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UNIT HYDROGRAPH PARAMETERS

CLARK TC= .55 HR, R= 1.70 HR

SNYDER TP= .57 HR, CP= .28

UNIT HYDROGRAPH
112 END-OF-PERIOD ORDINATES

12.	45.	92.	146.	195.	229.	242.	235.	224.	213.
203.	193.	184.	175.	166.	158.	151.	144.	137.	130.
124.	118.	112.	107.	102.	97.	92.	88.	84.	80.

76.	72.	69.	65.	62.	59.	56.	54.	51.	49.
46.	44.	42.	40.	38.	36.	35.	33.	31.	30.
28.	27.	26.	24.	23.	22.	21.	20.	19.	18.
17.	17.	16.	15.	14.	14.	13.	12.	12.	11.
11.	10.	10.	9.	9.	8.	8.	8.	7.	7.
6.	6.	6.	6.	5.	5.	5.	5.	4.	4.
4.	4.	4.	3.	3.	3.	3.	3.	3.	3.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
1.	1.								

*** *** *** *** ***

HYDROGRAPH AT STATION I1
TRANSPOSITION AREA .0 SQ MI

TOTAL RAINFALL = 1.99, TOTAL LOSS = 1.46, TOTAL EXCESS = .53

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)			
96.	12.42	36.	11.	10.	10.
		(INCHES) .440	.527	.527	.527
		(AC-FT) 18.	21.	21.	21.

CUMULATIVE AREA = .76 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION I1
TRANSPOSITION AREA 14.0 SQ MI

TOTAL RAINFALL = 1.95, TOTAL LOSS = 1.44, TOTAL EXCESS = .51

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)			
91.	12.42	34.	10.	10.	10.
		(INCHES) .418	.502	.503	.503
		(AC-FT) 17.	20.	20.	20.

CUMULATIVE AREA = .76 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION I1
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.93, TOTAL LOSS = 1.43, TOTAL EXCESS = .50

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)			
89.	12.42	33.	10.	10.	10.
		(INCHES) .408	.490	.491	.491
		(AC-FT) 16.	20.	20.	20.

CUMULATIVE AREA = .76 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION I1
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.91, TOTAL LOSS = 1.43, TOTAL EXCESS = .48

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)			
86.	12.42	32.	10.	9.	9.
		(INCHES) .397	.478	.479	.479
		(AC-FT) 16.	19.	19.	19.

CUMULATIVE AREA = .76 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION I1
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.90, TOTAL LOSS = 1.42, TOTAL EXCESS = .48

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)			
84.	12.42	32.	10.	9.	9.
		(INCHES) .389	.470	.470	.470
		(AC-FT) 16.	19.	19.	19.

CUMULATIVE AREA = .76 SQ MI

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INTERPOLATED HYDROGRAPH AT I1

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DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	*	1		0615	76	2.	*	1		1230	151	93.	*	1		1845	226	5.
1		0005	2	0.	*	1		0620	77	2.	*	1		1235	152	90.	*	1		1850	227	5.
1		0010	3	0.	*	1		0625	78	2.	*	1		1240	153	86.	*	1		1855	228	5.
1		0015	4	0.	*	1		0630	79	2.	*	1		1245	154	83.	*	1		1900	229	4.
1		0020	5	0.	*	1		0635	80	2.	*	1		1250	155	79.	*	1		1905	230	4.
1		0025	6	0.	*	1		0640	81	2.	*	1		1255	156	76.	*	1		1910	231	4.

1	0030	7	0.	*	1	0645	82	2.	*	1	1300	157	73.	*	1	1915	232	4.
1	0035	8	0.	*	1	0650	83	2.	*	1	1305	158	70.	*	1	1920	233	4.
1	0040	9	0.	*	1	0655	84	2.	*	1	1310	159	67.	*	1	1925	234	4.
1	0045	10	0.	*	1	0700	85	2.	*	1	1315	160	64.	*	1	1930	235	4.
1	0050	11	0.	*	1	0705	86	2.	*	1	1320	161	61.	*	1	1935	236	4.
1	0055	12	0.	*	1	0710	87	2.	*	1	1325	162	58.	*	1	1940	237	4.
1	0100	13	0.	*	1	0715	88	2.	*	1	1330	163	56.	*	1	1945	238	3.
1	0105	14	0.	*	1	0720	89	2.	*	1	1335	164	54.	*	1	1950	239	3.
1	0110	15	0.	*	1	0725	90	2.	*	1	1340	165	51.	*	1	1955	240	3.
1	0115	16	1.	*	1	0730	91	2.	*	1	1345	166	49.	*	1	2000	241	3.
1	0120	17	1.	*	1	0735	92	2.	*	1	1350	167	47.	*	1	2005	242	3.
1	0125	18	1.	*	1	0740	93	2.	*	1	1355	168	45.	*	1	2010	243	3.
1	0130	19	1.	*	1	0745	94	2.	*	1	1400	169	43.	*	1	2015	244	3.
1	0135	20	1.	*	1	0750	95	2.	*	1	1405	170	41.	*	1	2020	245	3.
1	0140	21	1.	*	1	0755	96	2.	*	1	1410	171	39.	*	1	2025	246	3.
1	0145	22	1.	*	1	0800	97	2.	*	1	1415	172	38.	*	1	2030	247	3.
1	0150	23	1.	*	1	0805	98	2.	*	1	1420	173	36.	*	1	2035	248	3.
1	0155	24	1.	*	1	0810	99	2.	*	1	1425	174	35.	*	1	2040	249	3.
1	0200	25	1.	*	1	0815	100	2.	*	1	1430	175	33.	*	1	2045	250	3.
1	0205	26	1.	*	1	0820	101	2.	*	1	1435	176	32.	*	1	2050	251	3.
1	0210	27	1.	*	1	0825	102	2.	*	1	1440	177	30.	*	1	2055	252	2.
1	0215	28	1.	*	1	0830	103	2.	*	1	1445	178	29.	*	1	2100	253	2.
1	0220	29	1.	*	1	0835	104	2.	*	1	1450	179	28.	*	1	2105	254	2.
1	0225	30	1.	*	1	0840	105	2.	*	1	1455	180	27.	*	1	2110	255	2.
1	0230	31	1.	*	1	0845	106	2.	*	1	1500	181	26.	*	1	2115	256	2.
1	0235	32	1.	*	1	0850	107	2.	*	1	1505	182	25.	*	1	2120	257	2.
1	0240	33	1.	*	1	0855	108	2.	*	1	1510	183	24.	*	1	2125	258	2.
1	0245	34	1.	*	1	0900	109	2.	*	1	1515	184	23.	*	1	2130	259	2.
1	0250	35	1.	*	1	0905	110	2.	*	1	1520	185	22.	*	1	2135	260	2.
1	0255	36	1.	*	1	0910	111	3.	*	1	1525	186	21.	*	1	2140	261	2.
1	0300	37	1.	*	1	0915	112	3.	*	1	1530	187	20.	*	1	2145	262	2.
1	0305	38	1.	*	1	0920	113	3.	*	1	1535	188	19.	*	1	2150	263	2.
1	0310	39	1.	*	1	0925	114	3.	*	1	1540	189	18.	*	1	2155	264	2.
1	0315	40	1.	*	1	0930	115	3.	*	1	1545	190	18.	*	1	2200	265	2.
1	0320	41	1.	*	1	0935	116	3.	*	1	1550	191	17.	*	1	2205	266	2.
1	0325	42	1.	*	1	0940	117	3.	*	1	1555	192	16.	*	1	2210	267	2.
1	0330	43	1.	*	1	0945	118	3.	*	1	1600	193	16.	*	1	2215	268	2.
1	0335	44	1.	*	1	0950	119	3.	*	1	1605	194	15.	*	1	2220	269	2.
1	0340	45	1.	*	1	0955	120	3.	*	1	1610	195	14.	*	1	2225	270	2.
1	0345	46	1.	*	1	1000	121	3.	*	1	1615	196	14.	*	1	2230	271	2.
1	0350	47	1.	*	1	1005	122	3.	*	1	1620	197	13.	*	1	2235	272	2.
1	0355	48	1.	*	1	1010	123	3.	*	1	1625	198	13.	*	1	2240	273	2.
1	0400	49	1.	*	1	1015	124	3.	*	1	1630	199	12.	*	1	2245	274	2.
1	0405	50	1.	*	1	1020	125	3.	*	1	1635	200	12.	*	1	2250	275	2.
1	0410	51	1.	*	1	1025	126	3.	*	1	1640	201	11.	*	1	2255	276	2.
1	0415	52	1.	*	1	1030	127	3.	*	1	1645	202	11.	*	1	2300	277	2.
1	0420	53	1.	*	1	1035	128	4.	*	1	1650	203	11.	*	1	2305	278	1.
1	0425	54	1.	*	1	1040	129	4.	*	1	1655	204	10.	*	1	2310	279	1.
1	0430	55	1.	*	1	1045	130	4.	*	1	1700	205	10.	*	1	2315	280	1.
1	0435	56	1.	*	1	1050	131	4.	*	1	1705	206	9.	*	1	2320	281	1.
1	0440	57	1.	*	1	1055	132	4.	*	1	1710	207	9.	*	1	2325	282	1.
1	0445	58	1.	*	1	1100	133	4.	*	1	1715	208	9.	*	1	2330	283	1.
1	0450	59	1.	*	1	1105	134	4.	*	1	1720	209	9.	*	1	2335	284	1.
1	0455	60	1.	*	1	1110	135	4.	*	1	1725	210	8.	*	1	2340	285	1.
1	0500	61	1.	*	1	1115	136	5.	*	1	1730	211	8.	*	1	2345	286	1.
1	0505	62	1.	*	1	1120	137	5.	*	1	1735	212	8.	*	1	2350	287	1.
1	0510	63	1.	*	1	1125	138	5.	*	1	1740	213	7.	*	1	2355	288	1.
1	0515	64	2.	*	1	1130	139	5.	*	1	1745	214	7.	*	2	0000	289	1.
1	0520	65	2.	*	1	1135	140	6.	*	1	1750	215	7.	*	2	0005	290	1.
1	0525	66	2.	*	1	1140	141	6.	*	1	1755	216	7.	*	2	0010	291	1.
1	0530	67	2.	*	1	1145	142	7.	*	1	1800	217	6.	*	2	0015	292	1.
1	0535	68	2.	*	1	1150	143	9.	*	1	1805	218	6.	*	2	0020	293	1.
1	0540	69	2.	*	1	1155	144	14.	*	1	1810	219	6.	*	2	0025	294	1.
1	0545	70	2.	*	1	1200	145	25.	*	1	1815	220	6.	*	2	0030	295	1.
1	0550	71	2.	*	1	1205	146	41.	*	1	1820	221	6.	*	2	0035	296	1.
1	0555	72	2.	*	1	1210	147	59.	*	1	1825	222	6.	*	2	0040	297	1.
1	0600	73	2.	*	1	1215	148	76.	*	1	1830	223	5.	*	2	0045	298	1.
1	0605	74	2.	*	1	1220	149	88.	*	1	1835	224	5.	*	2	0050	299	1.
1	0610	75	2.	*	1	1225	150	93.	*	1	1840	225	5.	*	2	0055	300	1.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 93.	12.42		35.	10.	10.	10.
		(INCHES)	.427	.512	.512	.512
		(AC-FT)	17.	21.	21.	21.

CUMULATIVE AREA = .76 SQ MI

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            ***************
            *             *
412 KK      *      C_I1   *      Combine I2 and I1
            *             *
            ***************
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413 HC HYDROGRAPH COMBINATION
ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

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HYDROGRAPH AT STATION C_I1
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 118.	12.50		77.	35.	34.	34.
		(INCHES)	.103	.187	.187	.187
		(AC-FT)	38.	69.	69.	69.

CUMULATIVE AREA = 6.95 SQ MI

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HYDROGRAPH AT STATION C_I1
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
112.	12.50	(CFS)	75.	34.	33.	33.
		(INCHES)	.100	.182	.182	.182
		(AC-FT)	37.	68.	68.	68.

CUMULATIVE AREA = 6.95 SQ MI

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HYDROGRAPH AT STATION C_I1
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
109.	12.50	(CFS)	73.	34.	32.	32.
		(INCHES)	.098	.180	.180	.180
		(AC-FT)	36.	67.	67.	67.

CUMULATIVE AREA = 6.95 SQ MI

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HYDROGRAPH AT STATION C_I1
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
106.	12.50	(CFS)	72.	33.	32.	32.
		(INCHES)	.097	.178	.178	.178
		(AC-FT)	36.	66.	66.	66.

CUMULATIVE AREA = 6.95 SQ MI

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HYDROGRAPH AT STATION C_I1
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
104.	12.50	(CFS)	71.	33.	32.	32.
		(INCHES)	.095	.176	.176	.176
		(AC-FT)	35.	65.	65.	65.

CUMULATIVE AREA = 6.95 SQ MI

INTERPOLATED HYDROGRAPH AT C_I1

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	2.	1		1230	151	112.	1		1845	226	53.
1		0005	2	0.	1		0620	77	2.	1		1235	152	112.	1		1850	227	53.
1		0010	3	0.	1		0625	78	2.	1		1240	153	111.	1		1855	228	53.
1		0015	4	0.	1		0630	79	2.	1		1245	154	109.	1		1900	229	53.
1		0020	5	0.	1		0635	80	2.	1		1250	155	107.	1		1905	230	53.
1		0025	6	0.	1		0640	81	2.	1		1255	156	106.	1		1910	231	52.
1		0030	7	0.	1		0645	82	2.	1		1300	157	104.	1		1915	232	52.
1		0035	8	0.	1		0650	83	2.	1		1305	158	102.	1		1920	233	52.
1		0040	9	0.	1		0655	84	2.	1		1310	159	100.	1		1925	234	52.
1		0045	10	0.	1		0700	85	2.	1		1315	160	98.	1		1930	235	52.
1		0050	11	0.	1		0705	86	2.	1		1320	161	97.	1		1935	236	52.
1		0055	12	0.	1		0710	87	2.	1		1325	162	95.	1		1940	237	52.
1		0100	13	0.	1		0715	88	2.	1		1330	163	93.	1		1945	238	52.
1		0105	14	0.	1		0720	89	2.	1		1335	164	92.	1		1950	239	52.
1		0110	15	0.	1		0725	90	2.	1		1340	165	90.	1		1955	240	51.
1		0115	16	1.	1		0730	91	2.	1		1345	166	89.	1		2000	241	51.
1		0120	17	1.	1		0735	92	2.	1		1350	167	87.	1		2005	242	51.
1		0125	18	1.	1		0740	93	2.	1		1355	168	86.	1		2010	243	51.
1		0130	19	1.	1		0745	94	2.	1		1400	169	84.	1		2015	244	51.
1		0135	20	1.	1		0750	95	2.	1		1405	170	83.	1		2020	245	51.
1		0140	21	1.	1		0755	96	2.	1		1410	171	82.	1		2025	246	51.
1		0145	22	1.	1		0800	97	2.	1		1415	172	80.	1		2030	247	51.
1		0150	23	1.	1		0805	98	2.	1		1420	173	79.	1		2035	248	51.
1		0155	24	1.	1		0810	99	2.	1		1425	174	78.	1		2040	249	51.
1		0200	25	1.	1		0815	100	2.	1		1430	175	77.	1		2045	250	51.
1		0205	26	1.	1		0820	101	2.	1		1435	176	76.	1		2050	251	50.
1		0210	27	1.	1		0825	102	2.	1		1440	177	75.	1		2055	252	50.
1		0215	28	1.	1		0830	103	2.	1		1445	178	74.	1		2100	253	50.
1		0220	29	1.	1		0835	104	2.	1		1450	179	73.	1		2105	254	50.
1		0225	30	1.	1		0840	105	2.	1		1455	180	72.	1		2110	255	50.
1		0230	31	1.	1		0845	106	2.	1		1500	181	71.	1		2115	256	50.
1		0235	32	1.	1		0850	107	2.	1		1505	182	70.	1		2120	257	50.
1		0240	33	1.	1		0855	108	2.	1		1510	183	69.	1		2125	258	50.
1		0245	34	1.	1		0900	109	2.	1		1515	184	68.	1		2130	259	50.
1		0250	35	1.	1		0905	110	2.	1		1520	185	68.	1		2135	260	49.
1		0255	36	1.	1		0910	111	3.	1		1525	186	67.	1		2140	261	49.
1		0300	37	1.	1		0915	112	3.	1		1530	187	66.	1		2145	262	49.
1		0305	38	1.	1		0920	113	3.	1		1535	188	66.	1		2150	263	49.
1		0310	39	1.	1		0925	114	3.	1		1540	189	65.	1		2155	264	49.
1		0315	40	1.	1		0930	115	3.	1		1545	190	64.	1		2200	265	49.
1		0320	41	1.	1		0935	116	3.	1		1550	191	64.	1		2205	266	49.

1	0325	42	1.	*	1	0940	117	3.	*	1	1555	192	63.	*	1	2210	267	49.		
1	0330	43	1.	*	1	0945	118	3.	*	1	1600	193	63.	*	1	2215	268	49.		
1	0335	44	1.	*	1	0950	119	3.	*	1	1605	194	62.	*	1	2220	269	49.		
1	0340	45	1.	*	1	0955	120	3.	*	1	1610	195	62.	*	1	2225	270	49.		
1	0345	46	1.	*	1	1000	121	3.	*	1	1615	196	61.	*	1	2230	271	49.		
1	0350	47	1.	*	1	1005	122	3.	*	1	1620	197	61.	*	1	2235	272	49.		
1	0355	48	1.	*	1	1010	123	3.	*	1	1625	198	60.	*	1	2240	273	49.		
1	0400	49	1.	*	1	1015	124	3.	*	1	1630	199	60.	*	1	2245	274	49.		
1	0405	50	1.	*	1	1020	125	3.	*	1	1635	200	59.	*	1	2250	275	49.		
1	0410	51	1.	*	1	1025	126	3.	*	1	1640	201	59.	*	1	2255	276	49.		
1	0415	52	1.	*	1	1030	127	3.	*	1	1645	202	59.	*	1	2300	277	49.		
1	0420	53	1.	*	1	1035	128	4.	*	1	1650	203	58.	*	1	2305	278	49.		
1	0425	54	1.	*	1	1040	129	4.	*	1	1655	204	58.	*	1	2310	279	49.		
1	0430	55	1.	*	1	1045	130	4.	*	1	1700	205	58.	*	1	2315	280	49.		
1	0435	56	1.	*	1	1050	131	4.	*	1	1705	206	57.	*	1	2320	281	49.		
1	0440	57	1.	*	1	1055	132	4.	*	1	1710	207	57.	*	1	2325	282	49.		
1	0445	58	1.	*	1	1100	133	4.	*	1	1715	208	57.	*	1	2330	283	49.		
1	0450	59	1.	*	1	1105	134	4.	*	1	1720	209	57.	*	1	2335	284	49.		
1	0455	60	1.	*	1	1110	135	4.	*	1	1725	210	56.	*	1	2340	285	49.		
1	0500	61	1.	*	1	1115	136	5.	*	1	1730	211	56.	*	1	2345	286	48.		
1	0505	62	1.	*	1	1120	137	5.	*	1	1735	212	56.	*	1	2350	287	48.		
1	0510	63	1.	*	1	1125	138	5.	*	1	1740	213	56.	*	1	2355	288	48.		
1	0515	64	1.	*	1	1130	139	5.	*	1	1745	214	55.	*	2	0000	289	48.		
1	0520	65	2.	*	1	1135	140	6.	*	1	1750	215	55.	*	2	0005	290	48.		
1	0525	66	2.	*	1	1140	141	6.	*	1	1755	216	55.	*	2	0010	291	48.		
1	0530	67	2.	*	1	1145	142	7.	*	1	1800	217	55.	*	2	0015	292	48.		
1	0535	68	2.	*	1	1150	143	9.	*	1	1805	218	54.	*	2	0020	293	48.		
1	0540	69	2.	*	1	1155	144	14.	*	1	1810	219	54.	*	2	0025	294	48.		
1	0545	70	2.	*	1	1200	145	25.	*	1	1815	220	54.	*	2	0030	295	48.		
1	0550	71	2.	*	1	1205	146	42.	*	1	1820	221	54.	*	2	0035	296	48.		
1	0555	72	2.	*	1	1210	147	64.	*	1	1825	222	54.	*	2	0040	297	48.		
1	0600	73	2.	*	1	1215	148	86.	*	1	1830	223	54.	*	2	0045	298	48.		
1	0605	74	2.	*	1	1220	149	101.	*	1	1835	224	53.	*	2	0050	299	48.		
1	0610	75	2.	*	1	1225	150	110.	*	1	1840	225	53.	*	2	0055	300	48.		
				*					*					*						

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)					
		(CFS)				
112.	12.50		75.	34.	33.	33.
		(INCHES)	.100	.183	.183	.183
		(AC-FT)	37.	68.	68.	68.

CUMULATIVE AREA = 6.95 SQ MI

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*             *
*      R_I1   *      Detention Pond I1
*             *
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HYDROGRAPH ROUTING DATA

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STORAGE RDUTING
     NSTPS          1  NUMBER OF SUBREACHES
      ITYP       STOR  TYPE OF INITIAL CONDITION
    RSVRIC        .00  INITIAL CONDITION
         X        .00 WORKING R AND D COEFFICIENT
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STORAGE	.0	2.0	3.6	5.4	7.4	9.7	12.2	15.0	18.0	21.3
DISCHARGE	0.	0.	0.	0.	0.	0.	0.	3.	31.	82.
ELEVATION	4860.00	4862.00	4863.00	4864.00	4865.00	4866.00	4867.00	4868.00	4869.00	4870.00

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HYDROGRAPH AT STATION R_I1
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)					
		(CFS)				
66.	15.67		59.	25.	24.	24.
		(INCHES)	.079	.135	.135	.135
		(AC-FT)	29.	50.	50.	50.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
(AC-FT)	(HR)				
20.	15.67	20.	10.	10.	10.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
(FEET)	(HR)				
4869.69	15.67	4869.56	4865.10	4864.92	4864.92

CUMULATIVE AREA = 6.95 SQ MI

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HYDROGRAPH AT STATION R_I1
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)					
		(CFS)				
64.	15.83		58.	24.	24.	24.

	(INCHES)	.077	.131	.131	.131
	(AC-FT)	29.	48.	48.	48.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE		
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
20.	15.83	20.	10.	10.	10.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE		
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
4869.64	15.83	4869.52	4865.07	4864.88	4864.88

CUMULATIVE AREA = 6.95 SQ MI

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HYDROGRAPH AT STATION R_I1
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
+ 62.	15.92	(CFS)	57.	24.	23.	23.
		(INCHES)	.076	.128	.128	.128
		(AC-FT)	28.	48.	48.	48.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE		
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
20.	15.92	20.	10.	10.	10.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE		
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
4869.61	15.92	4869.51	4865.05	4864.87	4864.87

CUMULATIVE AREA = 6.95 SQ MI

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HYDROGRAPH AT STATION R_I1
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
+ 61.	16.00	(CFS)	56.	24.	23.	23.
		(INCHES)	.075	.126	.126	.126
		(AC-FT)	28.	47.	47.	47.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE		
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
20.	16.00	20.	10.	9.	9.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE		
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
4869.59	16.00	4869.49	4865.04	4864.85	4864.85

CUMULATIVE AREA = 6.95 SQ MI

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HYDROGRAPH AT STATION R_I1
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
+ 60.	16.08	(CFS)	55.	23.	22.	22.
		(INCHES)	.074	.125	.125	.125
		(AC-FT)	27.	46.	46.	46.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE		
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
20.	16.08	20.	10.	9.	9.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE		
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
4869.57	16.00	4869.47	4865.03	4864.84	4864.84

CUMULATIVE AREA = 6.95 SQ MI

INTERPOLATED HYDROGRAPH AT R_I1

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	0.	1		1845	226	55.
1		0005	2	0.	1		0620	77	0.	1		1235	152	0.	1		1850	227	55.
1		0010	3	0.	1		0625	78	0.	1		1240	153	0.	1		1855	228	55.
1		0015	4	0.	1		0630	79	0.	1		1245	154	0.	1		1900	229	54.
1		0020	5	0.	1		0635	80	0.	1		1250	155	0.	1		1905	230	54.
1		0025	6	0.	1		0640	81	0.	1		1255	156	0.	1		1910	231	54.
1		0030	7	0.	1		0645	82	0.	1		1300	157	0.	1		1915	232	54.
1		0035	8	0.	1		0650	83	0.	1		1305	158	0.	1		1920	233	54.
1		0040	9	0.	1		0655	84	0.	1		1310	159	0.	1		1925	234	54.
1		0045	10	0.	1		0700	85	0.	1		1315	160	0.	1		1930	235	53.
1		0050	11	0.	1		0705	86	0.	1		1320	161	0.	1		1935	236	53.
1		0055	12	0.	1		0710	87	0.	1		1325	162	1.	1		1940	237	53.

1	0100	13	0.	*	1	0715	88	0.	*	1	1330	163	2.	*	1	1945	238	53.
1	0105	14	0.	*	1	0720	89	0.	*	1	1335	164	3.	*	1	1950	239	53.
1	0110	15	0.	*	1	0725	90	0.	*	1	1340	165	4.	*	1	1955	240	53.
1	0115	16	0.	*	1	0730	91	0.	*	1	1345	166	9.	*	1	2000	241	53.
1	0120	17	0.	*	1	0735	92	0.	*	1	1350	167	14.	*	1	2005	242	52.
1	0125	18	0.	*	1	0740	93	0.	*	1	1355	168	19.	*	1	2010	243	52.
1	0130	19	0.	*	1	0745	94	0.	*	1	1400	169	23.	*	1	2015	244	52.
1	0135	20	0.	*	1	0750	95	0.	*	1	1405	170	26.	*	1	2020	245	52.
1	0140	21	0.	*	1	0755	96	0.	*	1	1410	171	30.	*	1	2025	246	52.
1	0145	22	0.	*	1	0800	97	0.	*	1	1415	172	34.	*	1	2030	247	52.
1	0150	23	0.	*	1	0805	98	0.	*	1	1420	173	39.	*	1	2035	248	52.
1	0155	24	0.	*	1	0810	99	0.	*	1	1425	174	43.	*	1	2040	249	52.
1	0200	25	0.	*	1	0815	100	0.	*	1	1430	175	46.	*	1	2045	250	52.
1	0205	26	0.	*	1	0820	101	0.	*	1	1435	176	49.	*	1	2050	251	51.
1	0210	27	0.	*	1	0825	102	0.	*	1	1440	177	52.	*	1	2055	252	51.
1	0215	28	0.	*	1	0830	103	0.	*	1	1445	178	54.	*	1	2100	253	51.
1	0220	29	0.	*	1	0835	104	0.	*	1	1450	179	56.	*	1	2105	254	51.
1	0225	30	0.	*	1	0840	105	0.	*	1	1455	180	58.	*	1	2110	255	51.
1	0230	31	0.	*	1	0845	106	0.	*	1	1500	181	59.	*	1	2115	256	51.
1	0235	32	0.	*	1	0850	107	0.	*	1	1505	182	60.	*	1	2120	257	51.
1	0240	33	0.	*	1	0855	108	0.	*	1	1510	183	61.	*	1	2125	258	51.
1	0245	34	0.	*	1	0900	109	0.	*	1	1515	184	62.	*	1	2130	259	51.
1	0250	35	0.	*	1	0905	110	0.	*	1	1520	185	62.	*	1	2135	260	50.
1	0255	36	0.	*	1	0910	111	0.	*	1	1525	186	63.	*	1	2140	261	50.
1	0300	37	0.	*	1	0915	112	0.	*	1	1530	187	63.	*	1	2145	262	50.
1	0305	38	0.	*	1	0920	113	0.	*	1	1535	188	64.	*	1	2150	263	50.
1	0310	39	0.	*	1	0925	114	0.	*	1	1540	189	64.	*	1	2155	264	50.
1	0315	40	0.	*	1	0930	115	0.	*	1	1545	190	64.	*	1	2200	265	50.
1	0320	41	0.	*	1	0935	116	0.	*	1	1550	191	64.	*	1	2205	266	50.
1	0325	42	0.	*	1	0940	117	0.	*	1	1555	192	64.	*	1	2210	267	50.
1	0330	43	0.	*	1	0945	118	0.	*	1	1600	193	64.	*	1	2215	268	50.
1	0335	44	0.	*	1	0950	119	0.	*	1	1605	194	64.	*	1	2220	269	50.
1	0340	45	0.	*	1	0955	120	0.	*	1	1610	195	63.	*	1	2225	270	50.
1	0345	46	0.	*	1	1000	121	0.	*	1	1615	196	63.	*	1	2230	271	50.
1	0350	47	0.	*	1	1005	122	0.	*	1	1620	197	63.	*	1	2235	272	50.
1	0355	48	0.	*	1	1010	123	0.	*	1	1625	198	63.	*	1	2240	273	50.
1	0400	49	0.	*	1	1015	124	0.	*	1	1630	199	63.	*	1	2245	274	49.
1	0405	50	0.	*	1	1020	125	0.	*	1	1635	200	62.	*	1	2250	275	49.
1	0410	51	0.	*	1	1025	126	0.	*	1	1640	201	62.	*	1	2255	276	49.
1	0415	52	0.	*	1	1030	127	0.	*	1	1645	202	62.	*	1	2300	277	49.
1	0420	53	0.	*	1	1035	128	0.	*	1	1650	203	61.	*	1	2305	278	49.
1	0425	54	0.	*	1	1040	129	0.	*	1	1655	204	61.	*	1	2310	279	49.
1	0430	55	0.	*	1	1045	130	0.	*	1	1700	205	61.	*	1	2315	280	49.
1	0435	56	0.	*	1	1050	131	0.	*	1	1705	206	60.	*	1	2320	281	49.
1	0440	57	0.	*	1	1055	132	0.	*	1	1710	207	60.	*	1	2325	282	49.
1	0445	58	0.	*	1	1100	133	0.	*	1	1715	208	60.	*	1	2330	283	49.
1	0450	59	0.	*	1	1105	134	0.	*	1	1720	209	59.	*	1	2335	284	49.
1	0455	60	0.	*	1	1110	135	0.	*	1	1725	210	59.	*	1	2340	285	49.
1	0500	61	0.	*	1	1115	136	0.	*	1	1730	211	59.	*	1	2345	286	49.
1	0505	62	0.	*	1	1120	137	0.	*	1	1735	212	59.	*	1	2350	287	49.
1	0510	63	0.	*	1	1125	138	0.	*	1	1740	213	58.	*	1	2355	288	49.
1	0515	64	0.	*	1	1130	139	0.	*	1	1745	214	58.	*	2	0000	289	49.
1	0520	65	0.	*	1	1135	140	0.	*	1	1750	215	58.	*	2	0005	290	49.
1	0525	66	0.	*	1	1140	141	0.	*	1	1755	216	57.	*	2	0010	291	49.
1	0530	67	0.	*	1	1145	142	0.	*	1	1800	217	57.	*	2	0015	292	49.
1	0535	68	0.	*	1	1150	143	0.	*	1	1805	218	57.	*	2	0020	293	49.
1	0540	69	0.	*	1	1155	144	0.	*	1	1810	219	57.	*	2	0025	294	49.
1	0545	70	0.	*	1	1200	145	0.	*	1	1815	220	56.	*	2	0030	295	48.
1	0550	71	0.	*	1	1205	146	0.	*	1	1820	221	56.	*	2	0035	296	48.
1	0555	72	0.	*	1	1210	147	0.	*	1	1825	222	56.	*	2	0040	297	48.
1	0600	73	0.	*	1	1215	148	0.	*	1	1830	223	56.	*	2	0045	298	48.
1	0605	74	0.	*	1	1220	149	0.	*	1	1835	224	55.	*	2	0050	299	48.
1	0610	75	0.	*	1	1225	150	0.	*	1	1840	225	55.	*	2	0055	300	48.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 64.	15.83		58.	25.	24.	24.
		(INCHES)	.077	.131	.131	.131
		(AC-FT)	29.	49.	49.	49.

CUMULATIVE AREA = 6.95 SQ MI

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          ***************
          *             *
          *             *
419 KK    *      I7     *    Subbasin
          *             *
          *             *
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SUBBASIN RUNOFF DATA

420 BA SUBBASIN CHARACTERISTICS

TAREA	1.03	SUBBASIN AREA

421 LG GREEN AND AMPT LOSS RATE

STRTL	.45	STARTING LOSS
DTH	.43	MOISTURE DEFICIT
PSIF	1.59	WETTING FRONT SUCTION
XKSAT	.06	HYDRAULIC CONDUCTIVITY
RTIMP	3.00	PERCENT IMPERVIOUS AREA

422 US SNYDER UNITGRAPH

TP	.81	LAG
CP	.33	PEAKING COEFFICIENT

SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

***

UNIT HYDROGRAPH PARAMETERS
CLARK TC= .81 HR, R= 1.95 HR
SNYDER TP= .81 HR, CP= .33

UNIT HYDROGRAPH
130 END-OF-PERIOD ORDINATES

8.	29.	61.	98.	140.	183.	220.	249.	268.	275.
268.	257.	246.	236.	226.	216.	207.	199.	190.	182.
175.	168.	161.	154.	147.	141.	135.	130.	124.	119.
114.	109.	105.	100.	96.	92.	88.	85.	81.	78.
74.	71.	68.	66.	63.	60.	58.	55.	53.	51.
49.	47.	45.	43.	41.	39.	38.	36.	35.	33.
32.	30.	29.	28.	27.	26.	25.	24.	23.	22.
21.	20.	19.	18.	17.	17.	16.	15.	15.	14.
14.	13.	12.	12.	11.	11.	10.	10.	10.	9.
9.	8.	8.	8.	7.	7.	7.	7.	6.	6.
6.	6.	5.	5.	5.	5.	4.	4.	4.	4.
4.	4.	3.	3.	3.	3.	3.	3.	3.	3.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.

*** *** *** *** ***

HYDROGRAPH AT STATION I7
TRANSPOSITION AREA .0 SQ MI

TOTAL RAINFALL = 1.99, TOTAL LOSS = 1.28, TOTAL EXCESS = .71

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
178.	12.67	(CFS) 72.	19.	19.	19.
		(INCHES) .650	.705	.705	.705
		(AC-FT) 36.	39.	39.	39.

CUMULATIVE AREA = 1.03 SQ MI

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HYDROGRAPH AT STATION I7
TRANSPOSITION AREA 14.0 SQ MI

TOTAL RAINFALL = 1.95, TOTAL LOSS = 1.27, TOTAL EXCESS = .68

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
172.	12.67	(CFS) 69.	19.	18.	18.
		(INCHES) .626	.680	.680	.680
		(AC-FT) 34.	37.	37.	37.

CUMULATIVE AREA = 1.03 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION I7
TRANSPOSITION AREA 24.0 SQ MI

TOTAL RAINFALL = 1.93, TOTAL LOSS = 1.26, TOTAL EXCESS = .67

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
168.	12.67	(CFS) 68.	18.	18.	18.
		(INCHES) .615	.667	.667	.667
		(AC-FT) 34.	36.	36.	36.

CUMULATIVE AREA = 1.03 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION I7
TRANSPOSITION AREA 36.5 SQ MI

TOTAL RAINFALL = 1.91, TOTAL LOSS = 1.25, TOTAL EXCESS = .66

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
165.	12.67	(CFS) 67.	18.	17.	17.
		(INCHES) .603	.654	.654	.654
		(AC-FT) 33.	36.	36.	36.

CUMULATIVE AREA = 1.03 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION I7
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.90, TOTAL LOSS = 1.25, TOTAL EXCESS = .65

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
163.	12.67	(CFS) 66.	18.	17.	17.
		(INCHES) .595	.645	.645	.645
		(AC-FT) 33.	35.	35.	35.

CUMULATIVE AREA = 1.03 SQ MI

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INTERPOLATED HYDROGRAPH AT I7

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DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	1.	1		1230	151	161.	1		1845	226	9.
1		0005	2	0.	1		0620	77	1.	1		1235	152	171.	1		1850	227	9.

1	0010	3	0.	*	1	0625	78	1.	*	1	1240	153	174.	*	1	1855	228	8.
1	0015	4	0.	*	1	0630	79	1.	*	1	1245	154	172.	*	1	1900	229	8.
1	0020	5	0.	*	1	0635	80	1.	*	1	1250	155	167.	*	1	1905	230	8.
1	0025	6	0.	*	1	0640	81	1.	*	1	1255	156	161.	*	1	1910	231	7.
1	0030	7	0.	*	1	0645	82	1.	*	1	1300	157	155.	*	1	1915	232	7.
1	0035	8	0.	*	1	0650	83	1.	*	1	1305	158	149.	*	1	1920	233	7.
1	0040	9	0.	*	1	0655	84	1.	*	1	1310	159	143.	*	1	1925	234	7.
1	0045	10	0.	*	1	0700	85	1.	*	1	1315	160	137.	*	1	1930	235	6.
1	0050	11	0.	*	1	0705	86	1.	*	1	1320	161	132.	*	1	1935	236	6.
1	0055	12	0.	*	1	0710	87	1.	*	1	1325	162	126.	*	1	1940	237	6.
1	0100	13	0.	*	1	0715	88	1.	*	1	1330	163	121.	*	1	1945	238	6.
1	0105	14	0.	*	1	0720	89	1.	*	1	1335	164	116.	*	1	1950	239	5.
1	0110	15	0.	*	1	0725	90	1.	*	1	1340	165	111.	*	1	1955	240	5.
1	0115	16	0.	*	1	0730	91	1.	*	1	1345	166	107.	*	1	2000	241	5.
1	0120	17	0.	*	1	0735	92	1.	*	1	1350	167	103.	*	1	2005	242	5.
1	0125	18	0.	*	1	0740	93	1.	*	1	1355	168	98.	*	1	2010	243	5.
1	0130	19	0.	*	1	0745	94	1.	*	1	1400	169	94.	*	1	2015	244	5.
1	0135	20	0.	*	1	0750	95	1.	*	1	1405	170	90.	*	1	2020	245	4.
1	0140	21	0.	*	1	0755	96	1.	*	1	1410	171	87.	*	1	2025	246	4.
1	0145	22	0.	*	1	0800	97	1.	*	1	1415	172	83.	*	1	2030	247	4.
1	0150	23	0.	*	1	0805	98	1.	*	1	1420	173	80.	*	1	2035	248	4.
1	0155	24	0.	*	1	0810	99	1.	*	1	1425	174	76.	*	1	2040	249	4.
1	0200	25	0.	*	1	0815	100	1.	*	1	1430	175	73.	*	1	2045	250	4.
1	0205	26	0.	*	1	0820	101	1.	*	1	1435	176	70.	*	1	2050	251	3.
1	0210	27	0.	*	1	0825	102	1.	*	1	1440	177	67.	*	1	2055	252	3.
1	0215	28	0.	*	1	0830	103	1.	*	1	1445	178	65.	*	1	2100	253	3.
1	0220	29	0.	*	1	0835	104	1.	*	1	1450	179	62.	*	1	2105	254	3.
1	0225	30	0.	*	1	0840	105	1.	*	1	1455	180	60.	*	1	2110	255	3.
1	0230	31	0.	*	1	0845	106	1.	*	1	1500	181	57.	*	1	2115	256	3.
1	0235	32	0.	*	1	0850	107	1.	*	1	1505	182	55.	*	1	2120	257	3.
1	0240	33	0.	*	1	0855	108	1.	*	1	1510	183	53.	*	1	2125	258	3.
1	0245	34	0.	*	1	0900	109	1.	*	1	1515	184	50.	*	1	2130	259	3.
1	0250	35	0.	*	1	0905	110	1.	*	1	1520	185	48.	*	1	2135	260	3.
1	0255	36	0.	*	1	0910	111	1.	*	1	1525	186	46.	*	1	2140	261	2.
1	0300	37	0.	*	1	0915	112	1.	*	1	1530	187	44.	*	1	2145	262	2.
1	0305	38	0.	*	1	0920	113	1.	*	1	1535	188	43.	*	1	2150	263	2.
1	0310	39	0.	*	1	0925	114	1.	*	1	1540	189	41.	*	1	2155	264	2.
1	0315	40	0.	*	1	0930	115	1.	*	1	1545	190	39.	*	1	2200	265	2.
1	0320	41	0.	*	1	0935	116	1.	*	1	1550	191	38.	*	1	2205	266	2.
1	0325	42	0.	*	1	0940	117	1.	*	1	1555	192	36.	*	1	2210	267	2.
1	0330	43	0.	*	1	0945	118	1.	*	1	1600	193	35.	*	1	2215	268	2.
1	0335	44	0.	*	1	0950	119	1.	*	1	1605	194	33.	*	1	2220	269	2.
1	0340	45	0.	*	1	0955	120	1.	*	1	1610	195	32.	*	1	2225	270	2.
1	0345	46	0.	*	1	1000	121	1.	*	1	1615	196	31.	*	1	2230	271	2.
1	0350	47	0.	*	1	1005	122	1.	*	1	1620	197	29.	*	1	2235	272	1.
1	0355	48	0.	*	1	1010	123	1.	*	1	1625	198	28.	*	1	2240	273	1.
1	0400	49	0.	*	1	1015	124	1.	*	1	1630	199	27.	*	1	2245	274	1.
1	0405	50	0.	*	1	1020	125	1.	*	1	1635	200	26.	*	1	2250	275	1.
1	0410	51	0.	*	1	1025	126	1.	*	1	1640	201	25.	*	1	2255	276	1.
1	0415	52	0.	*	1	1030	127	1.	*	1	1645	202	24.	*	1	2300	277	1.
1	0420	53	0.	*	1	1035	128	1.	*	1	1650	203	23.	*	1	2305	278	1.
1	0425	54	0.	*	1	1040	129	1.	*	1	1655	204	22.	*	1	2310	279	1.
1	0430	55	0.	*	1	1045	130	1.	*	1	1700	205	21.	*	1	2315	280	1.
1	0435	56	0.	*	1	1050	131	1.	*	1	1705	206	20.	*	1	2320	281	1.
1	0440	57	0.	*	1	1055	132	1.	*	1	1710	207	19.	*	1	2325	282	1.
1	0445	58	0.	*	1	1100	133	1.	*	1	1715	208	19.	*	1	2330	283	1.
1	0450	59	0.	*	1	1105	134	1.	*	1	1720	209	18.	*	1	2335	284	1.
1	0455	60	0.	*	1	1110	135	1.	*	1	1725	210	17.	*	1	2340	285	1.
1	0500	61	0.	*	1	1115	136	1.	*	1	1730	211	17.	*	1	2345	286	1.
1	0505	62	0.	*	1	1120	137	1.	*	1	1735	212	16.	*	1	2350	287	1.
1	0510	63	0.	*	1	1125	138	2.	*	1	1740	213	15.	*	1	2355	288	0.
1	0515	64	0.	*	1	1130	139	2.	*	1	1745	214	15.	*	2	0000	289	0.
1	0520	65	0.	*	1	1135	140	2.	*	1	1750	215	14.	*	2	0005	290	0.
1	0525	66	0.	*	1	1140	141	2.	*	1	1755	216	14.	*	2	0010	291	0.
1	0530	67	0.	*	1	1145	142	4.	*	1	1800	217	13.	*	2	0015	292	0.
1	0535	68	1.	*	1	1150	143	9.	*	1	1805	218	12.	*	2	0020	293	0.
1	0540	69	1.	*	1	1155	144	18.	*	1	1810	219	12.	*	2	0025	294	0.
1	0545	70	1.	*	1	1200	145	33.	*	1	1815	220	12.	*	2	0030	295	0.
1	0550	71	1.	*	1	1205	146	54.	*	1	1820	221	11.	*	2	0035	296	0.
1	0555	72	1.	*	1	1210	147	77.	*	1	1825	222	11.	*	2	0040	297	0.
1	0600	73	1.	*	1	1215	148	102.	*	1	1830	223	10.	*	2	0045	298	0.
1	0605	74	1.	*	1	1220	149	125.	*	1	1835	224	10.	*	2	0050	299	0.
1	0610	75	1.	*	1	1225	150	146.	*	1	1840	225	9.	*	2	0055	300	0.
				*					*					*				

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	PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
				6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)					
			(CFS)				
+	174.	12.67		70.	19.	18.	18.
			(INCHES)	.635	.689	.689	.689
			(AC-FT)	35.	38.	38.	38.

CUMULATIVE AREA = 1.03 SQ MI

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423 KK R_I7

Route Hydrograph Through Existing Dam

HYDROGRAPH ROUTING DATA

425 RS STORAGE ROUTING

NSTPS	1	NUMBER OF SUBREACHES
ITYP	STOR	TYPE OF INITIAL CONDITION
RSVRIC	.00	INITIAL CONDITION
X	.00	WORKING R AND D COEFFICIENT

426 SV	STORAGE	.0	.3	.6	1.0	1.5	2.1	2.8	3.6	4.6	5.6
427 SQ	DISCHARGE	0.	0.	0.	0.	0.	0.	0.	62.	175.	322.
428 SE	ELEVATION	4820.00	4821.00	4822.00	4823.00	4824.00	4825.00	4826.00	4827.00	4828.00	4829.00

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HYDROGRAPH AT STATION R_I7
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR	
+ (CFS)	(HR)	(CFS)				
+ 173.	12.83	68.	18.	17.	17.	
		(INCHES) .615	.653	.653	.653	
		(AC-FT) 34.	36.	36.	36.	

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
5.	12.83	4.	2.	2.	2.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
4827.98	12.83	4826.92	4823.80	4823.66	4823.66

CUMULATIVE AREA = 1.03 SQ MI

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HYDROGRAPH AT STATION R_I7
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR	
+ (CFS)	(HR)	(CFS)				
+ 167.	12.83	65.	17.	17.	17.	
		(INCHES) .592	.628	.628	.628	
		(AC-FT) 32.	34.	34.	34.	

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
4.	12.83	4.	2.	2.	2.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
4827.92	12.83	4826.89	4823.79	4823.65	4823.65

CUMULATIVE AREA = 1.03 SQ MI

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HYDROGRAPH AT STATION R_I7
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR	
+ (CFS)	(HR)	(CFS)				
+ 164.	12.83	64.	17.	16.	16.	
		(INCHES) .580	.615	.615	.615	
		(AC-FT) 32.	34.	34.	34.	

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
4.	12.83	4.	2.	2.	2.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
4827.90	12.83	4826.88	4823.78	4823.64	4823.64

CUMULATIVE AREA = 1.03 SQ MI

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HYDROGRAPH AT STATION R_I7
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR	
+ (CFS)	(HR)	(CFS)				
+ 160.	12.83	63.	17.	16.	16.	
		(INCHES) .568	.603	.603	.603	
		(AC-FT) 31.	33.	33.	33.	

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
4.	12.83	4.	2.	2.	2.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
4827.87	12.83	4826.87	4823.77	4823.63	4823.63

CUMULATIVE AREA = 1.03 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION R_I7
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW

+	PEAK FLOW (CFS)	TIME (HR)		6-HR	24-HR	72-HR	24.92-HR
+			(CFS)				
+	158.	12.83		62.	16.	16.	16.
			(INCHES)	.560	.594	.594	.594
			(AC-FT)	31.	32.	32.	32.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
4.	12.83	4.	2.	2.	2.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
4827.85	12.83	4826.86	4823.77	4823.63	4823.63

CUMULATIVE AREA = 1.03 SQ MI

INTERPOLATED HYDROGRAPH AT R_I7

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	117.	1		1845	226	10.
1		0005	2	0.	1		0620	77	0.	1		1235	152	146.	1		1850	227	9.
1		0010	3	0.	1		0625	78	0.	1		1240	153	161.	1		1855	228	9.
1		0015	4	0.	1		0630	79	0.	1		1245	154	168.	1		1900	229	9.
1		0020	5	0.	1		0635	80	0.	1		1250	155	169.	1		1905	230	8.
1		0025	6	0.	1		0640	81	0.	1		1255	156	166.	1		1910	231	8.
1		0030	7	0.	1		0645	82	0.	1		1300	157	161.	1		1915	232	8.
1		0035	8	0.	1		0650	83	0.	1		1305	158	156.	1		1920	233	7.
1		0040	9	0.	1		0655	84	0.	1		1310	159	150.	1		1925	234	7.
1		0045	10	0.	1		0700	85	0.	1		1315	160	144.	1		1930	235	7.
1		0050	11	0.	1		0705	86	0.	1		1320	161	139.	1		1935	236	7.
1		0055	12	0.	1		0710	87	0.	1		1325	162	133.	1		1940	237	6.
1		0100	13	0.	1		0715	88	0.	1		1330	163	128.	1		1945	238	6.
1		0105	14	0.	1		0720	89	0.	1		1335	164	122.	1		1950	239	6.
1		0110	15	0.	1		0725	90	0.	1		1340	165	117.	1		1955	240	6.
1		0115	16	0.	1		0730	91	0.	1		1345	166	113.	1		2000	241	5.
1		0120	17	0.	1		0735	92	0.	1		1350	167	108.	1		2005	242	5.
1		0125	18	0.	1		0740	93	0.	1		1355	168	104.	1		2010	243	5.
1		0130	19	0.	1		0745	94	0.	1		1400	169	99.	1		2015	244	5.
1		0135	20	0.	1		0750	95	0.	1		1405	170	95.	1		2020	245	5.
1		0140	21	0.	1		0755	96	0.	1		1410	171	91.	1		2025	246	5.
1		0145	22	0.	1		0800	97	0.	1		1415	172	88.	1		2030	247	4.
1		0150	23	0.	1		0805	98	0.	1		1420	173	84.	1		2035	248	4.
1		0155	24	0.	1		0810	99	0.	1		1425	174	81.	1		2040	249	4.
1		0200	25	0.	1		0815	100	0.	1		1430	175	77.	1		2045	250	4.
1		0205	26	0.	1		0820	101	0.	1		1435	176	74.	1		2050	251	4.
1		0210	27	0.	1		0825	102	0.	1		1440	177	71.	1		2055	252	4.
1		0215	28	0.	1		0830	103	0.	1		1445	178	68.	1		2100	253	3.
1		0220	29	0.	1		0835	104	0.	1		1450	179	65.	1		2105	254	3.
1		0225	30	0.	1		0840	105	0.	1		1455	180	63.	1		2110	255	3.
1		0230	31	0.	1		0845	106	0.	1		1500	181	61.	1		2115	256	3.
1		0235	32	0.	1		0850	107	0.	1		1505	182	59.	1		2120	257	3.
1		0240	33	0.	1		0855	108	0.	1		1510	183	57.	1		2125	258	3.
1		0245	34	0.	1		0900	109	0.	1		1515	184	54.	1		2130	259	3.
1		0250	35	0.	1		0905	110	0.	1		1520	185	52.	1		2135	260	3.
1		0255	36	0.	1		0910	111	0.	1		1525	186	50.	1		2140	261	3.
1		0300	37	0.	1		0915	112	0.	1		1530	187	48.	1		2145	262	3.
1		0305	38	0.	1		0920	113	0.	1		1535	188	46.	1		2150	263	2.
1		0310	39	0.	1		0925	114	0.	1		1540	189	44.	1		2155	264	2.
1		0315	40	0.	1		0930	115	0.	1		1545	190	43.	1		2200	265	2.
1		0320	41	0.	1		0935	116	0.	1		1550	191	41.	1		2205	266	2.
1		0325	42	0.	1		0940	117	0.	1		1555	192	39.	1		2210	267	2.
1		0330	43	0.	1		0945	118	0.	1		1600	193	38.	1		2215	268	2.
1		0335	44	0.	1		0950	119	0.	1		1605	194	36.	1		2220	269	2.
1		0340	45	0.	1		0955	120	0.	1		1610	195	35.	1		2225	270	2.
1		0345	46	0.	1		1000	121	0.	1		1615	196	33.	1		2230	271	2.
1		0350	47	0.	1		1005	122	0.	1		1620	197	32.	1		2235	272	2.
1		0355	48	0.	1		1010	123	0.	1		1625	198	31.	1		2240	273	2.
1		0400	49	0.	1		1015	124	0.	1		1630	199	29.	1		2245	274	1.
1		0405	50	0.	1		1020	125	0.	1		1635	200	28.	1		2250	275	1.
1		0410	51	0.	1		1025	126	0.	1		1640	201	27.	1		2255	276	1.
1		0415	52	0.	1		1030	127	0.	1		1645	202	26.	1		2300	277	1.
1		0420	53	0.	1		1035	128	0.	1		1650	203	25.	1		2305	278	1.
1		0425	54	0.	1		1040	129	0.	1		1655	204	24.	1		2310	279	1.
1		0430	55	0.	1		1045	130	0.	1		1700	205	23.	1		2315	280	1.
1		0435	56	0.	1		1050	131	0.	1		1705	206	22.	1		2320	281	1.
1		0440	57	0.	1		1055	132	0.	1		1710	207	21.	1		2325	282	1.
1		0445	58	0.	1		1100	133	0.	1		1715	208	20.	1		2330	283	1.
1		0450	59	0.	1		1105	134	0.	1		1720	209	19.	1		2335	284	1.
1		0455	60	0.	1		1110	135	0.	1		1725	210	19.	1		2340	285	1.
1		0500	61	0.	1		1115	136	0.	1		1730	211	18.	1		2345	286	1.
1		0505	62	0.	1		1120	137	0.	1		1735	212	17.	1		2350	287	1.
1		0510	63	0.	1		1125	138	0.	1		1740	213	17.	1		2355	288	1.
1		0515	64	0.	1		1130	139	0.	1		1745	214	16.	2		0000	289	1.
1		0520	65	0.	1		1135	140	0.	1		1750	215	15.	2		0005	290	0.
1		0525	66	0.	1		1140	141	0.	1		1755	216	15.	2		0010	291	0.
1		0530	67	0.	1		1145	142	0.	1		1800	217	14.	2		0015	292	0.
1		0535	68	0.	1		1150	143	0.	1		1805	218	14.	2		0020	293	0.
1		0540	69	0.	1		1155	144	0.	1		1810	219	13.	2		0025	294	0.
1		0545	70	0.	1		1200	145	0.	1		1815	220	12.	2		0030	295	0.
1		0550	71	0.	1		1205	146	0.	1		1820	221	12.	2		0035	296	0.
1		0555	72	0.	1		1210	147	0.	1		1825	222	11.	2		0040	297	0.
1		0600	73	0.	1		1215	148	0.	1		1830	223	11.	2		0045	298	0.
1		0605	74	0.	1		1220	149	13.	1		1835	224	11.	2		0050	299	0.
1		0610	75	0.	1		1225	150	65.	1		1840	225	10.	2		0055	300	0.

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
+ 169.	12.83				
		(CFS) 66.	18.	17.	17.
		(INCHES) .600	.637	.637	.637
		(AC-FT) 33.	35.	35.	35.

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                    CUMULATIVE AREA =     1.03 SQ MI

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          ***************
          *             *
429 KK    *       I6    *      Subbasin
          *             *
          ***************

            SUBBASIN RUNOFF DATA

430 BA        SUBBASIN CHARACTERISTICS
                  TAREA         .45  SUBBASIN AREA

431 LG        GREEN AND AMPT LOSS RATE
                  STRTL         .43  STARTING LOSS
                    DTH         .43  MOISTURE DEFICIT
                   PSIF        1.59  WETTING FRONT SUCTION
                  XKSAT         .06  HYDRAULIC CONDUCTIVITY
                  RTIMP       40.00  PERCENT IMPERVIOUS AREA

432 US        SNYDER UNITGRAPH
                     TP         .12  LAG
                     CP         .46  PEAKING COEFFICIENT

              SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                    ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=    .10 HR,       R=    .19 HR
                                          SNYDER  TP=    .12 HR,      CP=    .46

                                                UNIT HYDROGRAPH
                                            13 END-OF-PERIOD ORDINATES
                    581.      998.      684.      440.      283.      182.      117.       75.       48.       31.
                     20.       13.       8.

      ***           ***           ***           ***           ***

                    HYDROGRAPH AT STATION       I6
                  TRANSPOSITION AREA        .0 SQ MI

    TOTAL RAINFALL =   1.99, TOTAL LOSS =     .79, TOTAL EXCESS =   1.20

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR       72-HR      24.92-HR
    (CFS)       (HR)          (CFS)
     458.      12.00                      47.         15.         14.          14.
                          (INCHES)       .967       1.198       1.199        1.199
                            (AC-FT)        23.         29.         29.          29.

                    CUMULATIVE AREA =     .45 SQ MI

      ***           ***           ***           ***           ***

                    HYDROGRAPH AT STATION       I6
                  TRANSPOSITION AREA      14.0 SQ MI

    TOTAL RAINFALL =   1.95, TOTAL LOSS =     .78, TOTAL EXCESS =   1.17

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR       72-HR      24.92-HR
+   (CFS)       (HR)          (CFS)
+    447.      12.00                      46.         14.         14.          14.
                          (INCHES)       .941       1.168       1.169        1.169
                            (AC-FT)        23.         28.         28.          28.

                    CUMULATIVE AREA =     .45 SQ MI

      ***           ***           ***           ***           ***

                    HYDROGRAPH AT STATION       I6
                  TRANSPOSITION AREA      24.0 SQ MI

    TOTAL RAINFALL =   1.93, TOTAL LOSS =     .77, TOTAL EXCESS =   1.16

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR       72-HR      24.92-HR
+   (CFS)       (HR)          (CFS)
+    441.      12.00                      45.         14.         13.          13.
                          (INCHES)       .928       1.152       1.154        1.154
                            (AC-FT)        22.         28.         28.          28.

                    CUMULATIVE AREA =     .45 SQ MI

      ***           ***           ***           ***           ***

                    HYDROGRAPH AT STATION       I6
                  TRANSPOSITION AREA      36.5 SQ MI

    TOTAL RAINFALL =   1.91, TOTAL LOSS =     .77, TOTAL EXCESS =   1.14

  EAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR       72-HR      24.92-HR
.   (CFS)       (HR)          (CFS)
+    435.      12.00                      44.         14.         13.          13.
                          (INCHES)       .915       1.137       1.138        1.138
                            (AC-FT)        22.         27.         27.          27.

                    CUMULATIVE AREA =     .45 SQ MI
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HYDROGRAPH AT STATION I6
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.90, TOTAL LOSS = .76, TOTAL EXCESS = 1.13

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
431.	12.00	(CFS)	44.	14.	13.	13.
		(INCHES)	.906	1.126	1.127	1.127
		(AC-FT)	22.	27.	27.	27.

CUMULATIVE AREA = .45 SQ MI

INTERPOLATED HYDROGRAPH AT I6

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	4.	1		1230	151	84.	1		1845	226	4.
1		0005	2	0.	1		0620	77	4.	1		1235	152	62.	1		1850	227	4.
1		0010	3	1.	1		0625	78	4.	1		1240	153	47.	1		1855	228	4.
1		0015	4	2.	1		0630	79	4.	1		1245	154	36.	1		1900	229	4.
1		0020	5	2.	1		0635	80	4.	1		1250	155	29.	1		1905	230	4.
1		0025	6	2.	1		0640	81	4.	1		1255	156	23.	1		1910	231	4.
1		0030	7	2.	1		0645	82	4.	1		1300	157	19.	1		1915	232	4.
1		0035	8	2.	1		0650	83	4.	1		1305	158	17.	1		1920	233	3.
1		0040	9	2.	1		0655	84	4.	1		1310	159	15.	1		1925	234	3.
1		0045	10	2.	1		0700	85	4.	1		1315	160	14.	1		1930	235	3.
1		0050	11	2.	1		0705	86	5.	1		1320	161	14.	1		1935	236	3.
1		0055	12	2.	1		0710	87	5.	1		1325	162	13.	1		1940	237	3.
1		0100	13	2.	1		0715	88	5.	1		1330	163	12.	1		1945	238	3.
1		0105	14	2.	1		0720	89	5.	1		1335	164	12.	1		1950	239	3.
1		0110	15	2.	1		0725	90	5.	1		1340	165	11.	1		1955	240	3.
1		0115	16	2.	1		0730	91	5.	1		1345	166	11.	1		2000	241	3.
1		0120	17	3.	1		0735	92	5.	1		1350	167	10.	1		2005	242	3.
1		0125	18	3.	1		0740	93	5.	1		1355	168	10.	1		2010	243	3.
1		0130	19	3.	1		0745	94	5.	1		1400	169	10.	1		2015	244	3.
1		0135	20	3.	1		0750	95	5.	1		1405	170	9.	1		2020	245	3.
1		0140	21	3.	1		0755	96	5.	1		1410	171	9.	1		2025	246	3.
1		0145	22	3.	1		0800	97	5.	1		1415	172	9.	1		2030	247	3.
1		0150	23	3.	1		0805	98	5.	1		1420	173	8.	1		2035	248	3.
1		0155	24	3.	1		0810	99	5.	1		1425	174	8.	1		2040	249	3.
1		0200	25	3.	1		0815	100	5.	1		1430	175	8.	1		2045	250	3.
1		0205	26	3.	1		0820	101	5.	1		1435	176	8.	1		2050	251	3.
1		0210	27	3.	1		0825	102	5.	1		1440	177	8.	1		2055	252	3.
1		0215	28	3.	1		0830	103	6.	1		1445	178	8.	1		2100	253	3.
1		0220	29	3.	1		0835	104	6.	1		1450	179	8.	1		2105	254	3.
1		0225	30	3.	1		0840	105	6.	1		1455	180	7.	1		2110	255	3.
1		0230	31	3.	1		0845	106	6.	1		1500	181	7.	1		2115	256	3.
1		0235	32	3.	1		0850	107	6.	1		1505	182	7.	1		2120	257	3.
1		0240	33	3.	1		0855	108	7.	1		1510	183	7.	1		2125	258	3.
1		0245	34	3.	1		0900	109	7.	1		1515	184	7.	1		2130	259	3.
1		0250	35	3.	1		0905	110	7.	1		1520	185	7.	1		2135	260	3.
1		0255	36	3.	1		0910	111	7.	1		1525	186	7.	1		2140	261	3.
1		0300	37	3.	1		0915	112	7.	1		1530	187	6.	1		2145	262	3.
1		0305	38	3.	1		0920	113	7.	1		1535	188	6.	1		2150	263	3.
1		0310	39	3.	1		0925	114	7.	1		1540	189	6.	1		2155	264	3.
1		0315	40	3.	1		0930	115	7.	1		1545	190	6.	1		2200	265	3.
1		0320	41	3.	1		0935	116	7.	1		1550	191	6.	1		2205	266	3.
1		0325	42	3.	1		0940	117	7.	1		1555	192	6.	1		2210	267	3.
1		0330	43	3.	1		0945	118	8.	1		1600	193	6.	1		2215	268	3.
1		0335	44	3.	1		0950	119	8.	1		1605	194	5.	1		2220	269	3.
1		0340	45	3.	1		0955	120	8.	1		1610	195	5.	1		2225	270	3.
1		0345	46	3.	1		1000	121	8.	1		1615	196	5.	1		2230	271	3.
1		0350	47	3.	1		1005	122	9.	1		1620	197	5.	1		2235	272	3.
1		0355	48	3.	1		1010	123	9.	1		1625	198	5.	1		2240	273	3.
1		0400	49	3.	1		1015	124	9.	1		1630	199	5.	1		2245	274	3.
1		0405	50	3.	1		1020	125	10.	1		1635	200	5.	1		2250	275	3.
1		0410	51	3.	1		1025	126	10.	1		1640	201	5.	1		2255	276	3.
1		0415	52	3.	1		1030	127	11.	1		1645	202	5.	1		2300	277	3.
1		0420	53	3.	1		1035	128	11.	1		1650	203	5.	1		2305	278	3.
1		0425	54	3.	1		1040	129	12.	1		1655	204	5.	1		2310	279	3.
1		0430	55	3.	1		1045	130	12.	1		1700	205	5.	1		2315	280	3.
1		0435	56	3.	1		1050	131	13.	1		1705	206	5.	1		2320	281	3.
1		0440	57	3.	1		1055	132	14.	1		1710	207	5.	1		2325	282	3.
1		0445	58	3.	1		1100	133	14.	1		1715	208	5.	1		2330	283	3.
1		0450	59	3.	1		1105	134	15.	1		1720	209	5.	1		2335	284	3.
1		0455	60	3.	1		1110	135	16.	1		1725	210	5.	1		2340	285	3.
1		0500	61	4.	1		1115	136	18.	1		1730	211	5.	1		2345	286	3.
1		0505	62	4.	1		1120	137	19.	1		1735	212	4.	1		2350	287	3.
1		0510	63	4.	1		1125	138	21.	1		1740	213	4.	1		2355	288	3.
1		0515	64	4.	1		1130	139	22.	1		1745	214	4.	2		0000	289	3.
1		0520	65	4.	1		1135	140	32.	1		1750	215	4.	2		0005	290	2.
1		0525	66	4.	1		1140	141	68.	1		1755	216	4.	2		0010	291	1.
1		0530	67	4.	1		1145	142	134.	1		1800	217	4.	2		0015	292	1.
1		0535	68	4.	1		1150	143	236.	1		1805	218	4.	2		0020	293	1.
1		0540	69	4.	1		1155	144	367.	1		1810	219	4.	2		0025	294	0.
1		0545	70	4.	1		1200	145	452.	1		1815	220	4.	2		0030	295	0.
1		0550	71	4.	1		1205	146	402.	1		1820	221	4.	2		0035	296	0.
1		0555	72	4.	1		1210	147	288.	1		1825	222	4.	2		0040	297	0.
1		0600	73	4.	1		1215	148	207.	1		1830	223	4.	2		0045	298	0.
1		0605	74	4.	1		1220	149	151.	1		1835	224	4.	2		0050	299	0.
1		0610	75	4.	1		1225	150	112.	1		1840	225	4.	2		0055	300	0.

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
452.	12.00	(CFS)	46.	14.	14.	14.
		(INCHES)	.953	1.182	1.183	1.183
		(AC-FT)	23.	28.	28.	28.

CUMULATIVE AREA = .45 SQ MI

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*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          ***************
          *             *
433 KK    *     C_I6    *      Combine I7 and I6
          *             *
          ***************

434 HC          HYDROGRAPH COMBINATION
                ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                          ***
     ***            ***            ***            ***            ***

                  HYDROGRAPH AT STATION     C_I6
                TRANSPOSITION AREA        .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR         24-HR         72-HR      24.92-HR
+   (CFS)       (HR)          (CFS)
+     458.      12.00                  111.          33.           31.          31.
                             (INCHES)  .696         .819          .820         .820
                              (AC-FT)   55.          65.           65.          65.

                CUMULATIVE AREA =    1.48 SQ MI

     ***            ***            ***            ***            ***

                  HYDROGRAPH AT STATION     C_I6
                TRANSPOSITION AREA       14.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR         24-HR         72-HR      24.92-HR
+   (CFS)       (HR)          (CFS)
+     447.      12.00                  107.          31.           30.          30.
                             (INCHES)  .672         .793          .793         .793
                              (AC-FT)   53.          62.           62.          62.

                CUMULATIVE AREA =    1.48 SQ MI

     ***            ***            ***            ***            ***

                  HYDROGRAPH AT STATION     C_I6
                TRANSPOSITION AREA       24.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR         24-HR         72-HR      24.92-HR
+   (CFS)       (HR)          (CFS)
+     441.      12.00                  105.          31.           30.          30.
                             (INCHES)  .660         .779          .780         .780
                              (AC-FT)   52.          61.           61.          61.

                CUMULATIVE AREA =    1.48 SQ MI

     ***            ***            ***            ***            ***

                  HYDROGRAPH AT STATION     C_I6
                TRANSPOSITION AREA       36.5 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR         24-HR         72-HR      24.92-HR
+   (CFS)       (HR)          (CFS)
+     435.      12.00                  103.          30.           29.          29.
                             (INCHES)  .648         .766          .766         .766
                              (AC-FT)   51.          60.           60.          60.

                CUMULATIVE AREA =    1.48 SQ MI

     ***            ***            ***            ***            ***

                  HYDROGRAPH AT STATION     C_I6
                TRANSPOSITION AREA       50.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR         24-HR         72-HR      24.92-HR
+   (CFS)       (HR)          (CFS)
+     431.      12.00                  102.          30.           29.          29.
                             (INCHES)  .640         .756          .757         .757
                              (AC-FT)   50.          60.           60.          60.

                CUMULATIVE AREA =    1.48 SQ MI

**********************************************************************************************************************************************

                                                INTERPOLATED HYDROGRAPH AT      C_I6

**********************************************************************************************************************************************

   DA MON HRMN   ORD      FLOW     *    DA MON HRMN   ORD      FLOW     *    DA MON HRMN   ORD      FLOW     *    DA MON HRMN   ORD      FLOW
                                    *                                   *                                   *
    1     0000    1        0.      *     1     0615   76        4.      *     1     1230   151      200.     *     1     1845   226      14.
    1     0005    2        0.      *     1     0620   77        4.      *     1     1235   152      207.     *     1     1850   227      13.
    1     0010    3        1.      *     1     0625   78        4.      *     1     1240   153      207.     *     1     1855   228      13.
    1     0015    4        2.      *     1     0630   79        4.      *     1     1245   154      204.     *     1     1900   229      12.
    1     0020    5        2.      *     1     0635   80        4.      *     1     1250   155      197.     *     1     1905   230      12.
    1     0025    6        2.      *     1     0640   81        4.      *     1     1255   156      189.     *     1     1910   231      12.
    1     0030    7        2.      *     1     0645   82        4.      *     1     1300   157      180.     *     1     1915   232      11.
    1     0035    8        2.      *     1     0650   83        4.      *     1     1305   158      172.     *     1     1920   233      11.
```

1	0040	9	2.	*	1	0655	84	4.	*	1	1310	159	165.	*	1	1925	234	11.
1	0045	10	2.	*	1	0700	85	4.	*	1	1315	160	159.	*	1	1930	235	10.
1	0050	11	2.	*	1	0705	86	4.	*	1	1320	161	152.	*	1	1935	236	10.
1	0055	12	2.	*	1	0710	87	5.	*	1	1325	162	146.	*	1	1940	237	10.
1	0100	13	2.	*	1	0715	88	5.	*	1	1330	163	140.	*	1	1945	238	9.
1	0105	14	2.	*	1	0720	89	5.	*	1	1335	164	134.	*	1	1950	239	9.
1	0110	15	2.	*	1	0725	90	5.	*	1	1340	165	128.	*	1	1955	240	9.
1	0115	16	2.	*	1	0730	91	5.	*	1	1345	166	123.	*	1	2000	241	9.
1	0120	17	3.	*	1	0735	92	5.	*	1	1350	167	118.	*	1	2005	242	8.
1	0125	18	3.	*	1	0740	93	5.	*	1	1355	168	113.	*	1	2010	243	8.
1	0130	19	3.	*	1	0745	94	5.	*	1	1400	169	109.	*	1	2015	244	8.
1	0135	20	3.	*	1	0750	95	5.	*	1	1405	170	104.	*	1	2020	245	8.
1	0140	21	3.	*	1	0755	96	5.	*	1	1410	171	100.	*	1	2025	246	7.
1	0145	22	3.	*	1	0800	97	5.	*	1	1415	172	96.	*	1	2030	247	7.
1	0150	23	3.	*	1	0805	98	5.	*	1	1420	173	92.	*	1	2035	248	7.
1	0155	24	3.	*	1	0810	99	5.	*	1	1425	174	89.	*	1	2040	249	7.
1	0200	25	3.	*	1	0815	100	5.	*	1	1430	175	85.	*	1	2045	250	7.
1	0205	26	3.	*	1	0820	101	5.	*	1	1435	176	82.	*	1	2050	251	7.
1	0210	27	3.	*	1	0825	102	5.	*	1	1440	177	79.	*	1	2055	252	6.
1	0215	28	3.	*	1	0830	103	6.	*	1	1445	178	76.	*	1	2100	253	6.
1	0220	29	3.	*	1	0835	104	6.	*	1	1450	179	73.	*	1	2105	254	6.
1	0225	30	3.	*	1	0840	105	6.	*	1	1455	180	70.	*	1	2110	255	6.
1	0230	31	3.	*	1	0845	106	6.	*	1	1500	181	68.	*	1	2115	256	6.
1	0235	32	3.	*	1	0850	107	6.	*	1	1505	182	66.	*	1	2120	257	6.
1	0240	33	3.	*	1	0855	108	7.	*	1	1510	183	63.	*	1	2125	258	6.
1	0245	34	3.	*	1	0900	109	7.	*	1	1515	184	61.	*	1	2130	259	6.
1	0250	35	3.	*	1	0905	110	7.	*	1	1520	185	59.	*	1	2135	260	6.
1	0255	36	3.	*	1	0910	111	7.	*	1	1525	186	57.	*	1	2140	261	5.
1	0300	37	3.	*	1	0915	112	7.	*	1	1530	187	55.	*	1	2145	262	5.
1	0305	38	3.	*	1	0920	113	7.	*	1	1535	188	52.	*	1	2150	263	5.
1	0310	39	3.	*	1	0925	114	7.	*	1	1540	189	50.	*	1	2155	264	5.
1	0315	40	3.	*	1	0930	115	7.	*	1	1545	190	49.	*	1	2200	265	5.
1	0320	41	3.	*	1	0935	116	7.	*	1	1550	191	47.	*	1	2205	266	5.
1	0325	42	3.	*	1	0940	117	7.	*	1	1555	192	45.	*	1	2210	267	5.
1	0330	43	3.	*	1	0945	118	8.	*	1	1600	193	43.	*	1	2215	268	5.
1	0335	44	3.	*	1	0950	119	8.	*	1	1605	194	42.	*	1	2220	269	5.
1	0340	45	3.	*	1	0955	120	8.	*	1	1610	195	40.	*	1	2225	270	5.
1	0345	46	3.	*	1	1000	121	8.	*	1	1615	196	38.	*	1	2230	271	5.
1	0350	47	3.	*	1	1005	122	9.	*	1	1620	197	37.	*	1	2235	272	4.
1	0355	48	3.	*	1	1010	123	9.	*	1	1625	198	36.	*	1	2240	273	4.
1	0400	49	3.	*	1	1015	124	9.	*	1	1630	199	34.	*	1	2245	274	4.
1	0405	50	3.	*	1	1020	125	10.	*	1	1635	200	33.	*	1	2250	275	4.
1	0410	51	3.	*	1	1025	126	10.	*	1	1640	201	32.	*	1	2255	276	4.
1	0415	52	3.	*	1	1030	127	11.	*	1	1645	202	31.	*	1	2300	277	3.
1	0420	53	3.	*	1	1035	128	11.	*	1	1650	203	30.	*	1	2305	278	3.
1	0425	54	3.	*	1	1040	129	12.	*	1	1655	204	29.	*	1	2310	279	3.
1	0430	55	3.	*	1	1045	130	12.	*	1	1700	205	28.	*	1	2315	280	3.
1	0435	56	3.	*	1	1050	131	13.	*	1	1705	206	27.	*	1	2320	281	3.
1	0440	57	3.	*	1	1055	132	14.	*	1	1710	207	26.	*	1	2325	282	3.
1	0445	58	3.	*	1	1100	133	14.	*	1	1715	208	25.	*	1	2330	283	3.
1	0450	59	3.	*	1	1105	134	15.	*	1	1720	209	24.	*	1	2335	284	3.
1	0455	60	3.	*	1	1110	135	16.	*	1	1725	210	23.	*	1	2340	285	3.
1	0500	61	4.	*	1	1115	136	18.	*	1	1730	211	22.	*	1	2345	286	3.
1	0505	62	4.	*	1	1120	137	19.	*	1	1735	212	22.	*	1	2350	287	3.
1	0510	63	4.	*	1	1125	138	21.	*	1	1740	213	21.	*	1	2355	288	3.
1	0515	64	4.	*	1	1130	139	22.	*	1	1745	214	20.	*	2	0000	289	3.
1	0520	65	4.	*	1	1135	140	32.	*	1	1750	215	20.	*	2	0005	290	3.
1	0525	66	4.	*	1	1140	141	67.	*	1	1755	216	19.	*	2	0010	291	2.
1	0530	67	4.	*	1	1145	142	133.	*	1	1800	217	18.	*	2	0015	292	1.
1	0535	68	4.	*	1	1150	143	234.	*	1	1805	218	18.	*	2	0020	293	1.
1	0540	69	4.	*	1	1155	144	366.	*	1	1810	219	17.	*	2	0025	294	1.
1	0545	70	4.	*	1	1200	145	450.	*	1	1815	220	17.	*	2	0030	295	1.
1	0550	71	4.	*	1	1205	146	400.	*	1	1820	221	16.	*	2	0035	296	1.
1	0555	72	4.	*	1	1210	147	287.	*	1	1825	222	15.	*	2	0040	297	1.
1	0600	73	4.	*	1	1215	148	206.	*	1	1830	223	15.	*	2	0045	298	0.
1	0605	74	4.	*	1	1220	149	163.	*	1	1835	224	15.	*	2	0050	299	0.
1	0610	75	4.	*	1	1225	150	176.	*	1	1840	225	14.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 450.	12.00		108.	32.	31.	31.
		(INCHES)	.680	.801	.801	.801
		(AC-FT)	54.	63.	63.	63.

CUMULATIVE AREA = 1.48 SQ MI

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435 KK R_I6 Detention Pond I6

HYDROGRAPH ROUTING DATA

436 RS STORAGE ROUTING
NSTPS 1 NUMBER OF SUBREACHES
ITYP STOR TYPE OF INITIAL CONDITION
RSVRIC .00 INITIAL CONDITION
X .00 WORKING R AND D COEFFICIENT

437 SV	STORAGE	.0	2.0	3.6	5.4	7.4	9.7	12.2	15.0	18.0	21.3
438 SQ	DISCHARGE	0.	0.	3.	9.	16.	44.	95.	161.	180.	191.
439 SE	ELEVATION	4870.00	4872.00	4873.00	4874.00	4875.00	4876.00	4877.00	4878.00	4879.00	4880.00

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HYDROGRAPH AT STATION R_I6

TRANSPOSITION AREA .0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
175.	13.08	(CFS)	103.	30.	29.	29.
		(INCHES)	.647	.760	.760	.760
		(AC-FT)	51.	60.	60.	60.

PEAK STORAGE (AC-FT)	TIME (HR)	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
17.	13.08	13.	6.	6.	6.

PEAK STAGE (FEET)	TIME (HR)	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
4878.77	13.08	4877.11	4873.85	4873.71	4873.71

CUMULATIVE AREA = 1.48 SQ MI

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HYDROGRAPH AT STATION R_I6
TRANSPOSITION AREA 14.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
171.	13.08	(CFS)	99.	29.	28.	28.
		(INCHES)	.624	.734	.734	.734
		(AC-FT)	49.	58.	58.	58.

PEAK STORAGE (AC-FT)	TIME (HR)	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
17.	13.08	12.	6.	6.	6.

PEAK STAGE (FEET)	TIME (HR)	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
4878.56	13.08	4877.00	4873.81	4873.67	4873.67

CUMULATIVE AREA = 1.48 SQ MI

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HYDROGRAPH AT STATION R_I6
TRANSPOSITION AREA 24.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
169.	13.08	(CFS)	97.	29.	28.	28.
		(INCHES)	.612	.721	.721	.721
		(AC-FT)	48.	57.	57.	57.

PEAK STORAGE (AC-FT)	TIME (HR)	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
16.	13.08	12.	6.	6.	6.

PEAK STAGE (FEET)	TIME (HR)	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
4878.45	13.08	4876.95	4873.79	4873.65	4873.65

CUMULATIVE AREA = 1.48 SQ MI

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HYDROGRAPH AT STATION R_I6
TRANSPOSITION AREA 36.5 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
167.	13.08	(CFS)	95.	28.	27.	27.
		(INCHES)	.600	.708	.708	.708
		(AC-FT)	47.	56.	56.	56.

PEAK STORAGE (AC-FT)	TIME (HR)	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
16.	13.08	12.	6.	5.	5.

PEAK STAGE (FEET)	TIME (HR)	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
4878.34	13.08	4876.90	4873.77	4873.63	4873.63

CUMULATIVE AREA = 1.48 SQ MI

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HYDROGRAPH AT STATION R_I6
TRANSPOSITION AREA 50.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
166.	13.00	(CFS)	94.	28.	27.	27.
		(INCHES)	.591	.698	.698	.698
		(AC-FT)	47.	55.	55.	55.

PEAK STORAGE (AC-FT)	TIME (HR)	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
16.	13.00	12.	6.	5.	5.

PEAK STAGE (FEET)	TIME (HR)	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
4878.28	13.00	4876.87	4873.75	4873.62	4873.62

CUMULATIVE AREA = 1.48 SQ MI

INTERPOLATED HYDRDGRAPH AT R_I6

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	165.	1		1845	226	21.
1		0005	2	0.	1		0620	77	0.	1		1235	152	167.	1		1850	227	21.
1		0010	3	0.	1		0625	78	0.	1		1240	153	168.	1		1855	228	20.
1		0015	4	0.	1		0630	79	0.	1		1245	154	170.	1		1900	229	19.
1		0020	5	0.	1		0635	80	0.	1		1250	155	171.	1		1905	230	19.
1		0025	6	0.	1		0640	81	0.	1		1255	156	172.	1		1910	231	18.
1		0030	7	0.	1		0645	82	0.	1		1300	157	172.	1		1915	232	18.
1		0035	8	0.	1		0650	83	0.	1		1305	158	173.	1		1920	233	17.
1		0040	9	0.	1		0655	84	0.	1		1310	159	172.	1		1925	234	17.
1		0045	10	0.	1		0700	85	0.	1		1315	160	172.	1		1930	235	16.
1		0050	11	0.	1		0705	86	0.	1		1320	161	171.	1		1935	236	16.
1		0055	12	0.	1		0710	87	0.	1		1325	162	170.	1		1940	237	16.
1		0100	13	0.	1		0715	88	0.	1		1330	163	169.	1		1945	238	16.
1		0105	14	0.	1		0720	89	0.	1		1335	164	168.	1		1950	239	16.
1		0110	15	0.	1		0725	90	0.	1		1340	165	166.	1		1955	240	15.
1		0115	16	0.	1		0730	91	0.	1		1345	166	165.	1		2000	241	15.
1		0120	17	0.	1		0735	92	0.	1		1350	167	163.	1		2005	242	15.
1		0125	18	0.	1		0740	93	0.	1		1355	168	159.	1		2010	243	15.
1		0130	19	0.	1		0745	94	0.	1		1400	169	153.	1		2015	244	15.
1		0135	20	0.	1		0750	95	0.	1		1405	170	147.	1		2020	245	15.
1		0140	21	0.	1		0755	96	0.	1		1410	171	140.	1		2025	246	14.
1		0145	22	0.	1		0800	97	0.	1		1415	172	134.	1		2030	247	14.
1		0150	23	0.	1		0805	98	0.	1		1420	173	128.	1		2035	248	14.
1		0155	24	0.	1		0810	99	0.	1		1425	174	122.	1		2040	249	14.
1		0200	25	0.	1		0815	100	0.	1		1430	175	117.	1		2045	250	14.
1		0205	26	0.	1		0820	101	1.	1		1435	176	112.	1		2050	251	13.
1		0210	27	0.	1		0825	102	1.	1		1440	177	107.	1		2055	252	13.
1		0215	28	0.	1		0830	103	1.	1		1445	178	102.	1		2100	253	13.
1		0220	29	0.	1		0835	104	1.	1		1450	179	98.	1		2105	254	13.
1		0225	30	0.	1		0840	105	1.	1		1455	180	94.	1		2110	255	13.
1		0230	31	0.	1		0845	106	1.	1		1500	181	91.	1		2115	256	13.
1		0235	32	0.	1		0850	107	1.	1		1505	182	88.	1		2120	257	12.
1		0240	33	0.	1		0855	108	1.	1		1510	183	85.	1		2125	258	12.
1		0245	34	0.	1		0900	109	1.	1		1515	184	82.	1		2130	259	12.
1		0250	35	0.	1		0905	110	1.	1		1520	185	79.	1		2135	260	12.
1		0255	36	0.	1		0910	111	1.	1		1525	186	76.	1		2140	261	12.
1		0300	37	0.	1		0915	112	1.	1		1530	187	73.	1		2145	262	12.
1		0305	38	0.	1		0920	113	1.	1		1535	188	71.	1		2150	263	12.
1		0310	39	0.	1		0925	114	1.	1		1540	189	68.	1		2155	264	11.
1		0315	40	0.	1		0930	115	2.	1		1545	190	66.	1		2200	265	11.
1		0320	41	0.	1		0935	116	2.	1		1550	191	63.	1		2205	266	11.
1		0325	42	0.	1		0940	117	2.	1		1555	192	61.	1		2210	267	11.
1		0330	43	0.	1		0945	118	2.	1		1600	193	59.	1		2215	268	11.
1		0335	44	0.	1		0950	119	2.	1		1605	194	57.	1		2220	269	11.
1		0340	45	0.	1		0955	120	2.	1		1610	195	55.	1		2225	270	10.
1		0345	46	0.	1		1000	121	2.	1		1615	196	53.	1		2230	271	10.
1		0350	47	0.	1		1005	122	2.	1		1620	197	51.	1		2235	272	10.
1		0355	48	0.	1		1010	123	2.	1		1625	198	49.	1		2240	273	10.
1		0400	49	0.	1		1015	124	2.	1		1630	199	47.	1		2245	274	10.
1		0405	50	0.	1		1020	125	2.	1		1635	200	45.	1		2250	275	10.
1		0410	51	0.	1		1025	126	2.	1		1640	201	44.	1		2255	276	10.
1		0415	52	0.	1		1030	127	3.	1		1645	202	43.	1		2300	277	9.
1		0420	53	0.	1		1035	128	3.	1		1650	203	42.	1		2305	278	9.
1		0425	54	0.	1		1040	129	3.	1		1655	204	41.	1		2310	279	9.
1		0430	55	0.	1		1045	130	3.	1		1700	205	40.	1		2315	280	9.
1		0435	56	0.	1		1050	131	3.	1		1705	206	39.	1		2320	281	9.
1		0440	57	0.	1		1055	132	3.	1		1710	207	38.	1		2325	282	9.
1		0445	58	0.	1		1100	133	4.	1		1715	208	37.	1		2330	283	9.
1		0450	59	0.	1		1105	134	4.	1		1720	209	36.	1		2335	284	8.
1		0455	60	0.	1		1110	135	4.	1		1725	210	35.	1		2340	285	8.
1		0500	61	0.	1		1115	136	4.	1		1730	211	34.	1		2345	286	8.
1		0505	62	0.	1		1120	137	5.	1		1735	212	33.	1		2350	287	8.
1		0510	63	0.	1		1125	138	5.	1		1740	213	32.	1		2355	288	8.
1		0515	64	0.	1		1130	139	5.	1		1745	214	31.	2		0000	289	8.
1		0520	65	0.	1		1135	140	6.	1		1750	215	30.	2		0005	290	8.
1		0525	66	0.	1		1140	141	7.	1		1755	216	29.	2		0010	291	8.
1		0530	67	0.	1		1145	142	9.	1		1800	217	28.	2		0015	292	8.
1		0535	68	0.	1		1150	143	13.	1		1805	218	27.	2		0020	293	7.
1		0540	69	0.	1		1155	144	29.	1		1810	219	27.	2		0025	294	7.
1		0545	70	0.	1		1200	145	70.	1		1815	220	26.	2		0030	295	7.
1		0550	71	0.	1		1205	146	120.	1		1820	221	25.	2		0035	296	7.
1		0555	72	0.	1		1210	147	154.	1		1825	222	24.	2		0040	297	7.
1		0600	73	0.	1		1215	148	163.	1		1830	223	23.	2		0045	298	7.
1		0605	74	0.	1		1220	149	164.	1		1835	224	23.	2		0050	299	7.
1		0610	75	0.	1		1225	150	164.	1		1840	225	22.	2		0055	300	6.

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
173.	13.08	(CFS)	100.	29.	28.	28.
		(INCHES)	.631	.742	.742	.742
		(AC-FT)	50.	58.	58.	58.

CUMULATIVE AREA = 1.48 SQ MI

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          *             *
440 KK    *       I8    *     Subbasin
          *             *
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             SUBBASIN RUNOFF DATA

441 BA          SUBBASIN CHARACTERISTICS
                     TAREA         .41  SUBBASIN AREA

442 LG          GREEN AND AMPT LOSS RATE
                     STRTL         .61  STARTING LOSS
                       DTH         .54  MOISTURE DEFICIT
                      PSIF        2.03  WETTING FRONT SUCTION
                     XKSAT         .07  HYDRAULIC CONDUCTIVITY
                     RTIMP       10.00  PERCENT IMPERVIOUS AREA

443 US          SNYDER UNITGRAPH
                       TP          .20  LAG
                       CP          .25  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED
                                                        ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=   .14 HR,       R=   .69 HR
                                          SNYDER  TP=   .20 HR,      CP=   .25

                                                UNIT HYDROGRAPH
                                          45 END-OF-PERIOD ORDINATES
                    113.     284.     323.     286.     253.     224.     198.     176.     155.     138.
                    122.     108.      95.      85.      75.      66.      59.      52.      46.      41.
                     36.      32.      28.      25.      22.      20.      17.      15.      14.      12.
                     11.       9.       8.       7.       7.       6.       5.       5.       4.       4.
                      3.       3.       2.       2.       2.

          ***           ***           ***           ***           ***

                        HYDROGRAPH AT STATION       I8
                     TRANSPOSITION AREA       .0 SQ MI

          TOTAL RAINFALL =   1.99, TOTAL LOSS =   1.38, TOTAL EXCESS =    .61

        PEAK FLOW     TIME                    MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     24.92-HR
      +   (CFS)       (HR)          (CFS)
      +    144.     12.08           24.          7.           6.           6.
                                  (INCHES)       .544         .602         .603         .603
                                    (AC-FT)        12.          13.          13.          13.

                        CUMULATIVE AREA =     .41 SQ MI

          ***           ***           ***           ***           ***

                        HYDROGRAPH AT STATION       I8
                     TRANSPOSITION AREA     14.0 SQ MI

          TOTAL RAINFALL =   1.95, TOTAL LOSS =   1.37, TOTAL EXCESS =    .58

        PEAK FLOW     TIME                    MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     24.92-HR
      +   (CFS)       (HR)          (CFS)
      +    138.     12.08           23.          6.           6.           6.
                                  (INCHES)       .521         .578         .578         .578
                                    (AC-FT)        12.          13.          13.          13.

                        CUMULATIVE AREA =     .41 SQ MI

          ***           ***           ***           ***           ***

                        HYDROGRAPH AT STATION       I8
                     TRANSPOSITION AREA     24.0 SQ MI

          TOTAL RAINFALL =   1.93, TOTAL LOSS =   1.36, TOTAL EXCESS =    .57

        PEAK FLOW     TIME                    MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     24.92-HR
      +   (CFS)       (HR)          (CFS)
      +    135.     12.08           23.          6.           6.           6.
                                  (INCHES)       .510         .566         .566         .566
                                    (AC-FT)        11.          13.          13.          13.

                        CUMULATIVE AREA =     .41 SQ MI

          ***           ***           ***           ***           ***

                        HYDROGRAPH AT STATION       I8
                     TRANSPOSITION AREA     36.5 SQ MI

          TOTAL RAINFALL =   1.91, TOTAL LOSS =   1.35, TOTAL EXCESS =    .56

        PEAK FLOW     TIME                    MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     24.92-HR
      +   (CFS)       (HR)          (CFS)
           132.     12.08           22.          6.           6.           6.
                                  (INCHES)       .498         .554         .554         .554
                                    (AC-FT)        11.          12.          12.          12.

                        CUMULATIVE AREA =     .41 SQ MI

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                        HYDROGRAPH AT STATION       I8
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TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.90, TOTAL LOSS = 1.35, TOTAL EXCESS = .55

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	24.92-HR
130.	12.08	(CFS)	22.	6.	6.	6.
		(INCHES)	.490	.545	.546	.546
		(AC-FT)	11.	12.	12.	12.

CUMULATIVE AREA = .41 SQ MI

INTERPOLATED HYDROGRAPH AT I8

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	1.	1		1230	151	86.	1		1845	226	1.
1		0005	2	0.	1		0620	77	1.	1		1235	152	76.	1		1850	227	1.
1		0010	3	0.	1		0625	78	1.	1		1240	153	68.	1		1855	228	1.
1		0015	4	0.	1		0630	79	1.	1		1245	154	61.	1		1900	229	1.
1		0020	5	0.	1		0635	80	1.	1		1250	155	54.	1		1905	230	1.
1		0025	6	0.	1		0640	81	1.	1		1255	156	49.	1		1910	231	1.
1		0030	7	0.	1		0645	82	1.	1		1300	157	43.	1		1915	232	1.
1		0035	8	0.	1		0650	83	1.	1		1305	158	39.	1		1920	233	1.
1		0040	9	0.	1		0655	84	1.	1		1310	159	35.	1		1925	234	1.
1		0045	10	0.	1		0700	85	1.	1		1315	160	31.	1		1930	235	1.
1		0050	11	0.	1		0705	86	1.	1		1320	161	28.	1		1935	236	1.
1		0055	12	0.	1		0710	87	1.	1		1325	162	25.	1		1940	237	1.
1		0100	13	0.	1		0715	88	1.	1		1330	163	22.	1		1945	238	1.
1		0105	14	0.	1		0720	89	1.	1		1335	164	20.	1		1950	239	1.
1		0110	15	0.	1		0725	90	1.	1		1340	165	18.	1		1955	240	1.
1		0115	16	0.	1		0730	91	1.	1		1345	166	16.	1		2000	241	1.
1		0120	17	0.	1		0735	92	1.	1		1350	167	15.	1		2005	242	1.
1		0125	18	0.	1		0740	93	1.	1		1355	168	13.	1		2010	243	1.
1		0130	19	1.	1		0745	94	1.	1		1400	169	12.	1		2015	244	1.
1		0135	20	1.	1		0750	95	1.	1		1405	170	11.	1		2020	245	1.
1		0140	21	1.	1		0755	96	1.	1		1410	171	10.	1		2025	246	1.
1		0145	22	1.	1		0800	97	1.	1		1415	172	9.	1		2030	247	1.
1		0150	23	1.	1		0805	98	1.	1		1420	173	8.	1		2035	248	1.
1		0155	24	1.	1		0810	99	1.	1		1425	174	7.	1		2040	249	1.
1		0200	25	1.	1		0815	100	1.	1		1430	175	7.	1		2045	250	1.
1		0205	26	1.	1		0820	101	1.	1		1435	176	6.	1		2050	251	1.
1		0210	27	1.	1		0825	102	1.	1		1440	177	6.	1		2055	252	1.
1		0215	28	1.	1		0830	103	1.	1		1445	178	5.	1		2100	253	1.
1		0220	29	1.	1		0835	104	1.	1		1450	179	5.	1		2105	254	1.
1		0225	30	1.	1		0840	105	1.	1		1455	180	4.	1		2110	255	1.
1		0230	31	1.	1		0845	106	1.	1		1500	181	4.	1		2115	256	1.
1		0235	32	1.	1		0850	107	1.	1		1505	182	4.	1		2120	257	1.
1		0240	33	1.	1		0855	108	1.	1		1510	183	4.	1		2125	258	1.
1		0245	34	1.	1		0900	109	1.	1		1515	184	3.	1		2130	259	1.
1		0250	35	1.	1		0905	110	1.	1		1520	185	3.	1		2135	260	1.
1		0255	36	1.	1		0910	111	1.	1		1525	186	3.	1		2140	261	1.
1		0300	37	1.	1		0915	112	1.	1		1530	187	3.	1		2145	262	1.
1		0305	38	1.	1		0920	113	1.	1		1535	188	2.	1		2150	263	1.
1		0310	39	1.	1		0925	114	2.	1		1540	189	2.	1		2155	264	1.
1		0315	40	1.	1		0930	115	2.	1		1545	190	2.	1		2200	265	1.
1		0320	41	1.	1		0935	116	2.	1		1550	191	2.	1		2205	266	1.
1		0325	42	1.	1		0940	117	2.	1		1555	192	2.	1		2210	267	1.
1		0330	43	1.	1		0945	118	2.	1		1600	193	2.	1		2215	268	1.
1		0335	44	1.	1		0950	119	2.	1		1605	194	1.	1		2220	269	1.
1		0340	45	1.	1		0955	120	2.	1		1610	195	1.	1		2225	270	1.
1		0345	46	1.	1		1000	121	2.	1		1615	196	1.	1		2230	271	1.
1		0350	47	1.	1		1005	122	2.	1		1620	197	1.	1		2235	272	1.
1		0355	48	1.	1		1010	123	2.	1		1625	198	1.	1		2240	273	1.
1		0400	49	1.	1		1015	124	2.	1		1630	199	1.	1		2245	274	1.
1		0405	50	1.	1		1020	125	2.	1		1635	200	1.	1		2250	275	1.
1		0410	51	1.	1		1025	126	2.	1		1640	201	1.	1		2255	276	1.
1		0415	52	1.	1		1030	127	2.	1		1645	202	1.	1		2300	277	1.
1		0420	53	1.	1		1035	128	2.	1		1650	203	1.	1		2305	278	1.
1		0425	54	1.	1		1040	129	2.	1		1655	204	1.	1		2310	279	1.
1		0430	55	1.	1		1045	130	2.	1		1700	205	1.	1		2315	280	1.
1		0435	56	1.	1		1050	131	2.	1		1705	206	1.	1		2320	281	1.
1		0440	57	1.	1		1055	132	3.	1		1710	207	1.	1		2325	282	1.
1		0445	58	1.	1		1100	133	3.	1		1715	208	1.	1		2330	283	1.
1		0450	59	1.	1		1105	134	3.	1		1720	209	1.	1		2335	284	1.
1		0455	60	1.	1		1110	135	3.	1		1725	210	1.	1		2340	285	1.
1		0500	61	1.	1		1115	136	3.	1		1730	211	1.	1		2345	286	1.
1		0505	62	1.	1		1120	137	3.	1		1735	212	1.	1		2350	287	1.
1		0510	63	1.	1		1125	138	4.	1		1740	213	1.	1		2355	288	1.
1		0515	64	1.	1		1130	139	4.	1		1745	214	1.	2		0000	289	1.
1		0520	65	1.	1		1135	140	4.	1		1750	215	1.	2		0005	290	1.
1		0525	66	1.	1		1140	141	5.	1		1755	216	1.	2		0010	291	1.
1		0530	67	1.	1		1145	142	11.	1		1800	217	1.	2		0015	292	0.
1		0535	68	1.	1		1150	143	30.	1		1805	218	1.	2		0020	293	0.
1		0540	69	1.	1		1155	144	72.	1		1810	219	1.	2		0025	294	0.
1		0545	70	1.	1		1200	145	119.	1		1815	220	1.	2		0030	295	0.
1		0550	71	1.	1		1205	146	141.	1		1820	221	1.	2		0035	296	0.
1		0555	72	1.	1		1210	147	135.	1		1825	222	1.	2		0040	297	0.
1		0600	73	1.	1		1215	148	120.	1		1830	223	1.	2		0045	298	0.
1		0605	74	1.	1		1220	149	108.	1		1835	224	1.	2		0050	299	0.
1		0610	75	1.	1		1225	150	96.	1		1840	225	1.	2		0055	300	0.

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	24.92-HR
141.	12.08	(CFS)	24.	7.	6.	6.
		(INCHES)	.532	.590	.590	.590
		(AC-FT)	12.	13.	13.	13.

CUMULATIVE AREA = .41 SQ MI

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           *             *
444 KK     *       I9    *      Subbasin
           *             *
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              SUBBASIN RUNOFF DATA

445 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .68  SUBBASIN AREA

446 LG          GREEN AND AMPT LOSS RATE
                      STRTL         .52  STARTING LOSS
                        DTH         .50  MOISTURE DEFICIT
                       PSIF        1.86  WETTING FRONT SUCTION
                      XKSAT         .07  HYDRAULIC CONDUCTIVITY
                      RTIMP        2.00  PERCENT IMPERVIOUS AREA

447 US          SNYDER UNITGRAPH
                        TP          .51  LAG
                        CP          .31  PEAKING COEFFICIENT

                SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

                                                      ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=    .52 HR,       R=  1.32 HR
                                          SNYDER  TP=    .51 HR,      CP=   .31

                                                UNIT HYDROGRAPH
                                          88 END-OF-PERIOD ORDINATES
                   15.      55.     113.     177.     232.     265.     268.     254.     238.     224.
                  210.     197.     185.     174.     163.     153.     144.     135.     127.     119.
                  112.     105.      98.      92.      87.      81.      76.      72.      67.      63.
                   59.      56.      52.      49.      46.      43.      41.      38.      36.      34.
                   32.      30.      28.      26.      25.      23.      22.      20.      19.      18.
                   17.      16.      15.      14.      13.      12.      12.      11.      10.      10.
                    9.       8.       8.       7.       7.       7.       6.       6.       5.       5.
                    5.       4.       4.       4.       4.       3.       3.       3.       3.       3.
                    3.       2.       2.       2.       2.       2.       2.       2.

      ***             ***             ***             ***             ***

                      HYDROGRAPH AT STATION       I9
                     TRANSPOSITION AREA       .0 SQ MI

      TOTAL RAINFALL =    1.99, TOTAL LOSS =    1.41, TOTAL EXCESS =     .58

    PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR        72-HR     24.92-HR
      (CFS)       (HR)
                                (CFS)
+       144.     12.42                    41.          11.          10.          10.
                              (INCHES)   .563         .581         .581         .581
                               (AC-FT)     20.          21.          21.          21.

                      CUMULATIVE AREA =     .68 SQ MI

      ***             ***             ***             ***             ***

                      HYDROGRAPH AT STATION       I9
                     TRANSPOSITION AREA      14.0 SQ MI

      TOTAL RAINFALL =    1.95, TOTAL LOSS =    1.39, TOTAL EXCESS =     .56

    PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
+                                         6-HR        24-HR        72-HR     24.92-HR
+     (CFS)       (HR)
                                (CFS)
+       138.     12.42                    39.          10.          10.          10.
                              (INCHES)   .538         .556         .556         .556
                               (AC-FT)     20.          20.          20.          20.

                      CUMULATIVE AREA =     .68 SQ MI

      ***             ***             ***             ***             ***

                      HYDROGRAPH AT STATION       I9
                     TRANSPOSITION AREA      24.0 SQ MI

      TOTAL RAINFALL =    1.93, TOTAL LOSS =    1.38, TOTAL EXCESS =     .55

    PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
+                                         6-HR        24-HR        72-HR     24.92-HR
+     (CFS)       (HR)
                                (CFS)
+       135.     12.42                    39.          10.          10.          10.
                              (INCHES)   .526         .543         .543         .543
                               (AC-FT)     19.          20.          20.          20.

                      CUMULATIVE AREA =     .68 SQ MI

      ***             ***             ***             ***             ***

                      HYDROGRAPH AT STATION       I9
                     TRANSPOSITION AREA      36.5 SQ MI

      TOTAL RAINFALL =    1.91, TOTAL LOSS =    1.38, TOTAL EXCESS =     .53

    PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
+                                         6-HR        24-HR        72-HR     24.92-HR
+     (CFS)       (HR)
                                (CFS)
+       132.     12.42                    38.          10.           9.           9.
                              (INCHES)   .514         .530         .530         .530
                               (AC-FT)     19.          19.          19.          19.
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CUMULATIVE AREA = .68 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION I9
TRANSPOSITION AREA 50.0 SQ MI

TOTAL RAINFALL = 1.90, TOTAL LOSS = 1.37, TOTAL EXCESS = .52

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)					
		(CFS)				
130.	12.42		37.	10.	9.	9.
		(INCHES)	.505	.522	.522	.522
		(AC-FT)	18.	19.	19.	19.

CUMULATIVE AREA = .68 SQ MI

****

INTERPOLATED HYDROGRAPH AT I9

****

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	0.	1		1230	151	136.	1		1845	226	2.
1		0005	2	0.	1		0620	77	0.	1		1235	152	129.	1		1850	227	1.
1		0010	3	0.	1		0625	78	0.	1		1240	153	121.	1		1855	228	1.
1		0015	4	0.	1		0630	79	0.	1		1245	154	114.	1		1900	229	1.
1		0020	5	0.	1		0635	80	0.	1		1250	155	107.	1		1905	230	1.
1		0025	6	0.	1		0640	81	0.	1		1255	156	101.	1		1910	231	1.
1		0030	7	0.	1		0645	82	0.	1		1300	157	95.	1		1915	232	1.
1		0035	8	0.	1		0650	83	0.	1		1305	158	89.	1		1920	233	0.
1		0040	9	0.	1		0655	84	0.	1		1310	159	84.	1		1925	234	0.
1		0045	10	0.	1		0700	85	0.	1		1315	160	79.	1		1930	235	0.
1		0050	11	0.	1		0705	86	0.	1		1320	161	74.	1		1935	236	0.
1		0055	12	0.	1		0710	87	0.	1		1325	162	69.	1		1940	237	0.
1		0100	13	0.	1		0715	88	0.	1		1330	163	65.	1		1945	238	0.
1		0105	14	0.	1		0720	89	0.	1		1335	164	61.	1		1950	239	0.
1		0110	15	0.	1		0725	90	0.	1		1340	165	58.	1		1955	240	0.
1		0115	16	0.	1		0730	91	0.	1		1345	166	54.	1		2000	241	0.
1		0120	17	0.	1		0735	92	0.	1		1350	167	51.	1		2005	242	0.
1		0125	18	0.	1		0740	93	0.	1		1355	168	48.	1		2010	243	0.
1		0130	19	0.	1		0745	94	0.	1		1400	169	45.	1		2015	244	0.
1		0135	20	0.	1		0750	95	0.	1		1405	170	42.	1		2020	245	0.
1		0140	21	0.	1		0755	96	0.	1		1410	171	40.	1		2025	246	0.
1		0145	22	0.	1		0800	97	0.	1		1415	172	37.	1		2030	247	0.
1		0150	23	0.	1		0805	98	0.	1		1420	173	35.	1		2035	248	0.
1		0155	24	0.	1		0810	99	0.	1		1425	174	33.	1		2040	249	0.
1		0200	25	0.	1		0815	100	0.	1		1430	175	31.	1		2045	250	0.
1		0205	26	0.	1		0820	101	0.	1		1435	176	29.	1		2050	251	0.
1		0210	27	0.	1		0825	102	0.	1		1440	177	27.	1		2055	252	0.
1		0215	28	0.	1		0830	103	0.	1		1445	178	26.	1		2100	253	0.
1		0220	29	0.	1		0835	104	0.	1		1450	179	24.	1		2105	254	0.
1		0225	30	0.	1		0840	105	0.	1		1455	180	23.	1		2110	255	0.
1		0230	31	0.	1		0845	106	0.	1		1500	181	21.	1		2115	256	0.
1		0235	32	0.	1		0850	107	0.	1		1505	182	20.	1		2120	257	0.
1		0240	33	0.	1		0855	108	0.	1		1510	183	19.	1		2125	258	0.
1		0245	34	0.	1		0900	109	0.	1		1515	184	18.	1		2130	259	0.
1		0250	35	0.	1		0905	110	0.	1		1520	185	17.	1		2135	260	0.
1		0255	36	0.	1		0910	111	0.	1		1525	186	16.	1		2140	261	0.
1		0300	37	0.	1		0915	112	0.	1		1530	187	15.	1		2145	262	0.
1		0305	38	0.	1		0920	113	0.	1		1535	188	14.	1		2150	263	0.
1		0310	39	0.	1		0925	114	0.	1		1540	189	13.	1		2155	264	0.
1		0315	40	0.	1		0930	115	0.	1		1545	190	12.	1		2200	265	0.
1		0320	41	0.	1		0935	116	0.	1		1550	191	12.	1		2205	266	0.
1		0325	42	0.	1		0940	117	0.	1		1555	192	11.	1		2210	267	0.
1		0330	43	0.	1		0945	118	0.	1		1600	193	10.	1		2215	268	0.
1		0335	44	0.	1		0950	119	0.	1		1605	194	10.	1		2220	269	0.
1		0340	45	0.	1		0955	120	0.	1		1610	195	9.	1		2225	270	0.
1		0345	46	0.	1		1000	121	0.	1		1615	196	9.	1		2230	271	0.
1		0350	47	0.	1		1005	122	0.	1		1620	197	8.	1		2235	272	0.
1		0355	48	0.	1		1010	123	0.	1		1625	198	8.	1		2240	273	0.
1		0400	49	0.	1		1015	124	1.	1		1630	199	7.	1		2245	274	0.
1		0405	50	0.	1		1020	125	1.	1		1635	200	7.	1		2250	275	0.
1		0410	51	0.	1		1025	126	1.	1		1640	201	6.	1		2255	276	0.
1		0415	52	0.	1		1030	127	1.	1		1645	202	6.	1		2300	277	0.
1		0420	53	0.	1		1035	128	1.	1		1650	203	6.	1		2305	278	0.
1		0425	54	0.	1		1040	129	1.	1		1655	204	5.	1		2310	279	0.
1		0430	55	0.	1		1045	130	1.	1		1700	205	5.	1		2315	280	0.
1		0435	56	0.	1		1050	131	1.	1		1705	206	5.	1		2320	281	0.
1		0440	57	0.	1		1055	132	1.	1		1710	207	4.	1		2325	282	0.
1		0445	58	0.	1		1100	133	1.	1		1715	208	4.	1		2330	283	0.
1		0450	59	0.	1		1105	134	1.	1		1720	209	4.	1		2335	284	0.
1		0455	60	0.	1		1110	135	1.	1		1725	210	4.	1		2340	285	0.
1		0500	61	0.	1		1115	136	1.	1		1730	211	4.	1		2345	286	0.
1		0505	62	0.	1		1120	137	1.	1		1735	212	3.	1		2350	287	0.
1		0510	63	0.	1		1125	138	1.	1		1740	213	3.	1		2355	288	0.
1		0515	64	0.	1		1130	139	1.	1		1745	214	3.	2		0000	289	0.
1		0520	65	0.	1		1135	140	1.	1		1750	215	3.	2		0005	290	0.
1		0525	66	0.	1		1140	141	1.	1		1755	216	3.	2		0010	291	0.
1		0530	67	0.	1		1145	142	3.	1		1800	217	3.	2		0015	292	0.
1		0535	68	0.	1		1150	143	9.	1		1805	218	2.	2		0020	293	0.
1		0540	69	0.	1		1155	144	22.	1		1810	219	2.	2		0025	294	0.
1		0545	70	0.	1		1200	145	44.	1		1815	220	2.	2		0030	295	0.
1		0550	71	0.	1		1205	146	72.	1		1820	221	2.	2		0035	296	0.
1		0555	72	0.	1		1210	147	101.	1		1825	222	2.	2		0040	297	0.
1		0600	73	0.	1		1215	148	125.	1		1830	223	2.	2		0045	298	0.
1		0605	74	0.	1		1220	149	138.	1		1835	224	2.	2		0050	299	0.
1		0610	75	0.	1		1225	150	140.	1		1840	225	2.	2		0055	300	0.

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)					
		(CFS)				
140.	12.42		40.	10.	10.	10.
		(INCHES)	.549	.566	.566	.566
		(AC-FT)	20.	21.	21.	21.

CUMULATIVE AREA = .68 SQ MI

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
HYDROGRAPH AT	L11b	897.	13.00	375.	101.	98.	7.48		
ROUTED TO	RL11bD	893.	13.17	373.	101.	97.	7.48		
HYDROGRAPH AT	L11aU	164.	12.50	55.	15.	14.	1.01		
2 COMBINED AT	C_11aU	1003.	13.17	424.	116.	111.	8.49		
DIVERSION TO	D-Pd	824.	13.17	380.	98.	94.	8.49		
HYDROGRAPH AT	D-LPd	179.	13.17	45.	18.	17.	8.49		
HYDROGRAPH AT	SRD-Pd	824.	13.17	380.	98.	94.	8.49		
2 COMBINED AT	C_11aD	1003.	13.17	424.	116.	111.	8.49		
HYDROGRAPH AT	L11aD	3.	12.08	1.	0.	0.	.02		
2 COMBINED AT	C_L11	1004.	13.17	425.	116.	112.	8.50		
ROUTED TO	R_L10	1000.	13.25	425.	116.	112.	8.50		
HYDROGRAPH AT	L10u	112.	12.25	24.	6.	6.	.37		
ROUTED TO	R_L10u	54.	13.00	18.	5.	4.	.37		
ROUTED TO	R_10uD	54.	13.08	18.	5.	4.	.37		
HYDROGRAPH AT	L10d	314.	12.17	58.	17.	16.	.61		
3 COMBINED AT	C_L10	1135.	13.17	493.	137.	132.	9.49		
ROUTED TO	R_L9M	1130.	13.25	492.	137.	132.	9.49		
HYDROGRAPH AT	L9.1U	454.	12.75	173.	46.	44.	2.38		
ROUTED TO	R_9.1o	452.	12.83	173.	46.	44.	2.38		
HYDROGRAPH AT	L9.1d	405.	12.08	50.	17.	16.	.34		
ROUTED TO	R_L9T	395.	12.08	50.	17.	16.	.34		
2 COMBINED AT	C_9.1	507.	12.17	217.	63.	60.	2.72		
ROUTED TO	R_L9.1	257.	14.08	171.	53.	51.	2.72		
HYDROGRAPH AT	L9	54.	12.08	11.	4.	3.	.21		
2 COMBINED AT	C_L9T	264.	13.92	178.	56.	54.	2.93		
2 COMBINED AT	C_L9M	1370.	13.25	667.	193.	185.	12.41		
HYDROGRAPH AT	DB21	110.	12.00	17.	5.	5.	.15		
ROUTED TO	PD A	10.	13.50	9.	5.	5.	.15		
ROUTED TO	R21a	10.	13.75	9.	5.	4.	.15		
HYDROGRAPH AT	DB21a	272.	12.00	38.	11.	11.	.34		
HYDROGRAPH AT	R17	88.	12.08	15.	4.	4.	.16		
ROUTED TO	R_R17	38.	12.75	12.	3.	3.	.16		
ROUTED TO	R_17_	38.	12.83	12.	3.	3.	.16		
3 COMBINED AT	C21a	275.	12.00	56.	19.	18.	.65		

+	ROUTED TO	WF_PD1	36.	13.83	33.	17.	16.	.65
+	ROUTED TO	RPD1	36.	13.92	33.	17.	16.	.65
+	HYDROGRAPH AT	DB23b	86.	11.92	9.	3.	3.	.06
+	2 COMBINED AT	C23	101.	12.00	40.	20.	19.	.71
+	ROUTED TO	R23b	101.	12.00	40.	20.	19.	.71
+	HYDROGRAPH AT	DB23c	112.	12.00	12.	4.	4.	.08
+	ROUTED TO	R23c	110.	12.00	12.	4.	4.	.08
+	HYDROGRAPH AT	DB23d	20.	12.00	3.	1.	1.	.02
+	ROUTED TO	R23d	19.	12.00	3.	1.	1.	.02
+	3 COMBINED AT	C23	229.	12.00	52.	25.	24.	.81
+	ROUTED TO	WF_PD2	86.	12.17	52.	25.	24.	.81
+	ROUTED TO	RWF_P2	86.	12.25	52.	25.	24.	.81
+	HYDROGRAPH AT	DB23e	103.	11.92	11.	4.	4.	.07
+	2 COMBINED AT	C23e	179.	12.00	61.	29.	28.	.88
+	ROUTED TO	R23e	177.	12.00	61.	29.	28.	.88
+	HYDROGRAPH AT	DB23a	13.	12.00	2.	1.	1.	.02
+	2 COMBINED AT	C23a	190.	12.00	63.	29.	28.	.90
+	ROUTED TO	R_PD U	35.	18.58	30.	16.	15.	.90
+	DIVERSION TO	U_Pipe	14.	17.92	14.	11.	11.	.90
+	HYDROGRAPH AT	D_Pd U	21.	18.58	16.	4.	4.	.90
+	HYDROGRAPH AT	DB22	192.	12.00	26.	8.	7.	.22
+	ROUTED TO	R24_P	186.	12.08	26.	8.	7.	.22
+	ROUTED TO	R24_O	183.	12.08	26.	8.	7.	.22
+	HYDROGRAPH AT	DB24a	13.	12.00	2.	1.	1.	.02
+	DIVERSION TO	B4aDIV	0.	12.00	0.	0.	0.	.02
+	HYDROGRAPH AT	B4aDIV	13.	12.00	2.	1.	1.	.02
+	ROUTED TO	R24_P	13.	12.08	2.	1.	1.	.02
+	ROUTED TO	R24_O	13.	12.17	2.	1.	1.	.02
+	HYDROGRAPH AT	DB24	295.	12.00	35.	12.	12.	.23
+	3 COMBINED AT	C24	474.	12.08	63.	20.	20.	.48
+	HYDROGRAPH AT	DR24a	0.	12.00	0.	0.	0.	.02
+	ROUTED TO	R25_O	0.	12.50	0.	0.	0.	.02
+	ROUTED TO	R25_P	0.	12.67	0.	0.	0.	.02
+	HYDROGRAPH AT	DB25	15.	12.00	2.	1.	1.	.02
+	2 COMBINED AT	C25	15.	12.00	2.	1.	1.	.02
+	DIVERSION TO	B5DIV	1.	12.00	0.	0.	0.	.02
+	HYDROGRAPH AT	B5DIV	14.	12.00	2.	1.	1.	.02
+	HYDROGRAPH AT	DB25a	5.	12.08	1.	0.	0.	.03

	3 COMBINED AT	C_6	493.	12.08	66.	21.	21.	.53
+	2 COMBINED AT	C_7	492.	12.08	66.	26.	25.	1.43
+	ROUTED TO	R_PD L	15.	23.42	15.	10.	10.	1.43
+	HYDROGRAPH AT	PR_U	14.	17.92	14.	11.	11.	.90
+	2 COMBINED AT	C_Out	29.	23.42	29.	21.	21.	1.43
+	HYDROGRAPH AT	R16	181.	12.00	18.	6.	6.	.16
+	ROUTED TO	R_14a	168.	12.08	18.	6.	6.	.16
+	HYDROGRAPH AT	R14A	48.	12.00	6.	2.	2.	.04
+	2 COMBINED AT	C_14A	207.	12.08	24.	8.	7.	.19
+	2 COMBINED AT	C_14A	227.	12.08	48.	29.	28.	1.62
+	HYDROGRAPH AT	R15	208.	12.08	27.	8.	8.	.30
+	ROUTED TO	R_R13	210.	12.08	27.	8.	8.	.30
+	HYDROGRAPH AT	R13	18.	12.08	3.	1.	1.	.04
+	2 COMBINED AT	C_R13	229.	12.08	30.	9.	9.	.34
+	HYDROGRAPH AT	Extra5	1.	12.00	0.	0.	0.	.02
+	HYDROGRAPH AT	R14	26.	12.08	5.	2.	2.	.06
+	2 COMBINED AT	C_R5	28.	12.08	5.	2.	2.	.06
	ROUTED TO	R_5	26.	13.00	6.	2.	2.	.06
+	HYDROGRAPH AT	R5	13.	12.08	2.	1.	1.	.08
+	HYDROGRAPH AT	C3	196.	12.17	31.	8.	8.	.56
+	HYDROGRAPH AT	I5	221.	12.33	54.	14.	13.	.80
+	ROUTED TO	R_I5	68.	13.67	23.	6.	5.	.80
+	HYDROGRAPH AT	I4	149.	12.67	54.	14.	14.	1.21
+	2 COMBINED AT	C_I4	159.	13.42	76.	20.	19.	2.01
+	HYDROGRAPH AT	I3	410.	13.00	186.	52.	50.	3.21
+	2 COMBINED AT	C_I3	539.	13.17	261.	71.	69.	5.22
+	ROUTED TO	R_I3_O	538.	13.25	261.	71.	69.	5.22
+	HYDROGRAPH AT	I2	160.	12.42	47.	13.	12.	.97
+	2 COMBINED AT	C_I2	642.	12.92	306.	84.	81.	6.19
+	ROUTED TO	R_I2	48.	18.50	48.	24.	23.	6.19
+	HYDROGRAPH AT	I1	93.	12.42	35.	10.	10.	.76
+	2 COMBINED AT	C_I1	112.	12.50	75.	34.	33.	6.95
+	ROUTED TO	R_I1	64.	15.83	58.	25.	24.	6.95
+	HYDROGRAPH AT	I7	174.	12.67	70.	19.	18.	1.03
	ROUTED TO	R_I7	169.	12.83	66.	18.	17.	1.03
+	HYDROGRAPH AT	I6	452.	12.00	46.	14.	14.	.45
+	2 COMBINED AT	C_I6	450.	12.00	108.	32.	31.	1.48
+	ROUTED TO	R_I6	173.	13.08	100.	29.	28.	1.48

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+       HYDROGRAPH AT
                          I8       141.   12.08          24.          7.          6.        .41

+       HYDROGRAPH AT
+                         I9       140.   12.42          40.         10.         10.        .68
1
                                    SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
                                        (FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)
                                                                                  INTERPOLATED TO
                                                                                  COMPUTATION INTERVAL
          ISTAQ     ELEMENT      DT        PEAK     TIME TO      VOLUME      DT        PEAK     TIME TO      VOLUME
                                                      PEAK                                        PEAK

                                 (MIN)      (CFS)      (MIN)      (IN)      (MIN)      (CFS)      (MIN)       (IN)

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
            RL11bD  MANE          4.85     935.21     791.70       .52       5.00     931.67     790.00        .52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2095E+03 EXCESS= .0000E+00 OUTFLOW= .2092E+03 BASIN STORAGE= .1942E+00 PERCENT ERROR=    .1

          FOR STORM = 2  STORM AREA (SQ MI) =       14.00
            RL11bD  MANE          4.93     891.98     793.38       .50       5.00     889.30     790.00        .50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2000E+03 EXCESS= .0000E+00 OUTFLOW= .1997E+03 BASIN STORAGE= .1893E+00 PERCENT ERROR=    .1

          FOR STORM = 3  STORM AREA (SQ MI) =       24.00
            RL11bD  MANE          4.96     870.32     794.25       .49       5.00     869.54     790.00        .49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1952E+03 EXCESS= .0000E+00 OUTFLOW= .1949E+03 BASIN STORAGE= .1926E+00 PERCENT ERROR=    .1

          FOR STORM = 4  STORM AREA (SQ MI) =       36.50
            RL11bD  MANE          4.99     850.27     790.21       .48       5.00     849.55     790.00        .48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1905E+03 EXCESS= .0000E+00 OUTFLOW= .1902E+03 BASIN STORAGE= .1821E+00 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =       50.00
            RL11bD  MANE          5.00     834.99     790.86       .47       5.00     832.42     790.00        .47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1871E+03 EXCESS= .0000E+00 OUTFLOW= .1868E+03 BASIN STORAGE= .1926E+00 PERCENT ERROR=    .1

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
            R_10uO  MANE          3.50      55.84     785.40       .48       5.00      55.83     785.00        .48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9386E+01 EXCESS= .0000E+00 OUTFLOW= .9364E+01 BASIN STORAGE= .7500E-02 PERCENT ERROR=    .2

          FOR STORM = 2  STORM AREA (SQ MI) =       14.00
            R_10uO  MANE          3.56      52.68     786.58       .45       5.00      52.56     785.00        .45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8901E+01 EXCESS= .0000E+00 OUTFLOW= .8880E+01 BASIN STORAGE= .7415E-02 PERCENT ERROR=    .2

          FOR STORM = 3  STORM AREA (SQ MI) =       24.00
            R_10uO  MANE          3.60      51.07     787.24       .44       5.00      50.87     790.00        .44

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8655E+01 EXCESS= .0000E+00 OUTFLOW= .8635E+01 BASIN STORAGE= .7494E-02 PERCENT ERROR=    .1

          FOR STORM = 4  STORM AREA (SQ MI) =       36.50
            R_10uO  MANE          3.64      49.39     787.85       .43       5.00      49.27     790.00        .43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8407E+01 EXCESS= .0000E+00 OUTFLOW= .8389E+01 BASIN STORAGE= .7234E-02 PERCENT ERROR=    .1

          FOR STORM = 5  STORM AREA (SQ MI) =       50.00
            R_10uO  MANE          3.69      48.20     788.55       .42       5.00      48.14     790.00        .42

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8232E+01 EXCESS= .0000E+00 OUTFLOW= .8214E+01 BASIN STORAGE= .7416E-02 PERCENT ERROR=    .1

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
            R_9.1O  MANE          1.98     464.08     768.16       .73       5.00     462.70     770.00        .73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9295E+02 EXCESS= .0000E+00 OUTFLOW= .9290E+02 BASIN STORAGE= .2718E-01 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =       14.00
            R_9.1O  MANE          2.04     449.21     767.89       .71       5.00     448.21     770.00        .71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8977E+02 EXCESS= .0000E+00 OUTFLOW= .8973E+02 BASIN STORAGE= .2690E-01 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =       24.00
            R_9.1O  MANE          2.04     442.06     768.47       .69       5.00     440.53     770.00        .69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8818E+02 EXCESS= .0000E+00 OUTFLOW= .8813E+02 BASIN STORAGE= .2668E-01 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =       36.50
            R_9.1O  MANE          1.92     434.88     768.28       .68       5.00     433.28     770.00        .68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8658E+02 EXCESS= .0000E+00 OUTFLOW= .8652E+02 BASIN STORAGE= .2653E-01 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =       50.00
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          R_9.10  MANE          2.07     429.17    767.97       .67       5.00     428.15    770.00         .67

NTINUITY SUMMARY (AC-FT) - INFLOW= .8546E+02 EXCESS= .0000E+00 OUTFLOW= .8541E+02 BASIN STORAGE= .2584E-01 PERCENT ERROR=     .0

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
             R_L9T  MANE          2.04     407.41    728.74      1.89       5.00     400.24    725.00        1.89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3426E+02 EXCESS= .0000E+00 OUTFLOW= .3432E+02 BASIN STORAGE= .9387E-02 PERCENT ERROR=    -.2

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
             R_L9T  MANE          2.03     397.23    727.41      1.85       5.00     389.94    725.00        1.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3354E+02 EXCESS= .0000E+00 OUTFLOW= .3359E+02 BASIN STORAGE= .1045E-01 PERCENT ERROR=    -.2

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
             R_L9T  MANE          2.12     392.62    727.18      1.83       5.00     387.51    725.00        1.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3319E+02 EXCESS= .0000E+00 OUTFLOW= .3324E+02 BASIN STORAGE= .8363E-02 PERCENT ERROR=    -.2

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
             R_L9T  MANE          2.11     388.70    727.59      1.81       5.00     381.07    725.00        1.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3283E+02 EXCESS= .0000E+00 OUTFLOW= .3288E+02 BASIN STORAGE= .1038E-01 PERCENT ERROR=    -.2

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
             R_L9T  MANE          2.10     386.51    728.14      1.80       5.00     379.30    725.00        1.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3258E+02 EXCESS= .0000E+00 OUTFLOW= .3263E+02 BASIN STORAGE= .7850E-02 PERCENT ERROR=    -.2

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
              R21a  MANE          4.71       9.57    825.74      1.15       5.00       9.57    825.00        1.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9419E+01 EXCESS= .0000E+00 OUTFLOW= .9287E+01 BASIN STORAGE= .1329E+00 PERCENT ERROR=     .0

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
              R21a  MANE          4.80       9.50    821.64      1.12       5.00       9.50    825.00        1.12

NTINUITY SUMMARY (AC-FT) - INFLOW= .9240E+01 EXCESS= .0000E+00 OUTFLOW= .9102E+01 BASIN STORAGE= .1289E+00 PERCENT ERROR=     .1

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
              R21a  MANE          4.82       9.46    823.25      1.12       5.00       9.46    825.00        1.11

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9149E+01 EXCESS= .0000E+00 OUTFLOW= .9042E+01 BASIN STORAGE= .1249E+00 PERCENT ERROR=    -.2

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
              R21a  MANE          4.74       9.43    823.23      1.10       5.00       9.43    825.00        1.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9057E+01 EXCESS= .0000E+00 OUTFLOW= .8948E+01 BASIN STORAGE= .1230E+00 PERCENT ERROR=    -.2

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
              R21a  MANE          4.74       9.40    824.07      1.10       5.00       9.40    820.00        1.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8993E+01 EXCESS= .0000E+00 OUTFLOW= .8871E+01 BASIN STORAGE= .1224E+00 PERCENT ERROR=     .0

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
             R_17_  MANE          2.41      38.16    769.27       .75       5.00      38.15    770.00         .75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6519E+01 EXCESS= .0000E+00 OUTFLOW= .6502E+01 BASIN STORAGE= .1276E-01 PERCENT ERROR=     .1

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
             R_17_  MANE          2.43      37.67    767.99       .72       5.00      37.66    770.00         .72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6276E+01 EXCESS= .0000E+00 OUTFLOW= .6265E+01 BASIN STORAGE= .1246E-01 PERCENT ERROR=     .0

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
             R_17_  MANE          2.40      37.43    767.89       .71       5.00      37.42    770.00         .71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6156E+01 EXCESS= .0000E+00 OUTFLOW= .6140E+01 BASIN STORAGE= .1265E-01 PERCENT ERROR=     .0

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
             R_17_  MANE          2.47      37.20    766.31       .70       5.00      37.18    770.00         .70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6036E+01 EXCESS= .0000E+00 OUTFLOW= .6018E+01 BASIN STORAGE= .1254E-01 PERCENT ERROR=     .1

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
             R_17_  MANE          2.49      37.06    766.64       .69       5.00      37.05    765.00         .69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5953E+01 EXCESS= .0000E+00 OUTFLOW= .5938E+01 BASIN STORAGE= .1234E-01 PERCENT ERROR=     .0

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
              RPD1  MANE          1.24      36.01    832.45       .97       5.00      36.01    835.00         .97
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CONTINUITY SUMMARY (AC-FT) - INFLOW= .3406E+02 EXCESS= .0000E+00 OUTFLOW= .3399E+02 BASIN STORAGE= .6355E-01 PERCENT ERROR= .0

FOR STORM = 2 STORM AREA (SQ MI) = 14.00

RPD1	MANE	1.25	35.46	832.72	.95	5.00	35.46	835.00	.95

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3336E+02 EXCESS= .0000E+00 OUTFLOW= .3332E+02 BASIN STORAGE= .6159E-01 PERCENT ERROR= .0

FOR STORM = 3 STORM AREA (SQ MI) = 24.00

RPD1	MANE	1.26	35.19	831.61	.94	5.00	35.18	830.00	.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3301E+02 EXCESS= .0000E+00 OUTFLOW= .3295E+02 BASIN STORAGE= .6075E-01 PERCENT ERROR= .0

FOR STORM = 4 STORM AREA (SQ MI) = 36.50

RPD1	MANE	1.26	34.91	831.77	.93	5.00	34.91	830.00	.93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3266E+02 EXCESS= .0000E+00 OUTFLOW= .3259E+02 BASIN STORAGE= .5982E-01 PERCENT ERROR= .0

FOR STORM = 5 STORM AREA (SQ MI) = 50.00

RPD1	MANE	1.12	34.72	831.31	.93	5.00	34.72	830.00	.93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3241E+02 EXCESS= .0000E+00 OUTFLOW= .3236E+02 BASIN STORAGE= .5912E-01 PERCENT ERROR= .0

FOR STORM = 1 STORM AREA (SQ MI) = .01

R23b	MANE	.45	102.08	719.96	1.05	5.00	102.07	720.00	1.05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4011E+02 EXCESS= .0000E+00 OUTFLOW= .4008E+02 BASIN STORAGE= .2501E-01 PERCENT ERROR= .0

FOR STORM = 2 STORM AREA (SQ MI) = 14.00

R23b	MANE	.45	100.08	719.85	1.03	5.00	100.08	720.00	1.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3930E+02 EXCESS= .0000E+00 OUTFLOW= .3927E+02 BASIN STORAGE= .2427E-01 PERCENT ERROR= .0

FOR STORM = 3 STORM AREA (SQ MI) = 24.00

R23b	MANE	.45	99.10	719.84	1.02	5.00	99.09	720.00	1.02

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3889E+02 EXCESS= .0000E+00 OUTFLOW= .3886E+02 BASIN STORAGE= .2390E-01 PERCENT ERROR= .0

FOR STORM = 4 STORM AREA (SQ MI) = 36.50

R23b	MANE	.45	98.10	719.81	1.01	5.00	98.10	720.00	1.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3847E+02 EXCESS= .0000E+00 OUTFLOW= .3844E+02 BASIN STORAGE= .2352E-01 PERCENT ERROR= .0

FOR STORM = 5 STORM AREA (SQ MI) = 50.00

R23b	MANE	.45	97.44	719.95	1.00	5.00	97.43	720.00	1.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3818E+02 EXCESS= .0000E+00 OUTFLOW= .3815E+02 BASIN STORAGE= .2328E-01 PERCENT ERROR= .0

FOR STORM = 1 STORM AREA (SQ MI) = .01

R23c	MANE	.86	111.35	720.99	1.97	5.00	110.77	720.00	1.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8217E+01 EXCESS= .0000E+00 OUTFLOW= .8223E+01 BASIN STORAGE= .1494E-03 PERCENT ERROR= -.1

FOR STORM = 2 STORM AREA (SQ MI) = 14.00

R23c	MANE	.74	109.73	721.37	1.93	5.00	108.57	720.00	1.93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8050E+01 EXCESS= .0000E+00 OUTFLOW= .8057E+01 BASIN STORAGE= .1406E-03 PERCENT ERROR= -.1

FOR STORM = 3 STORM AREA (SQ MI) = 24.00

R23c	MANE	.88	108.18	720.89	1.91	5.00	107.45	720.00	1.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7967E+01 EXCESS= .0000E+00 OUTFLOW= .7973E+01 BASIN STORAGE= .1457E-03 PERCENT ERROR= -.1

FOR STORM = 4 STORM AREA (SQ MI) = 36.50

R23c	MANE	.76	107.28	721.37	1.89	5.00	106.33	720.00	1.89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7883E+01 EXCESS= .0000E+00 OUTFLOW= .7890E+01 BASIN STORAGE= .1298E-03 PERCENT ERROR= -.1

FOR STORM = 5 STORM AREA (SQ MI) = 50.00

R23c	MANE	.72	106.58	720.91	1.88	5.00	105.55	720.00	1.88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7825E+01 EXCESS= .0000E+00 OUTFLOW= .7833E+01 BASIN STORAGE= .1335E-03 PERCENT ERROR= -.1

FOR STORM = 1 STORM AREA (SQ MI) = .01

R23d	MANE	.95	19.92	721.62	1.98	5.00	18.98	720.00	1.98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1830E+01 EXCESS= .0000E+00 OUTFLOW= .1830E+01 BASIN STORAGE= .3417E-04 PERCENT ERROR= .0

FOR STORM = 2 STORM AREA (SQ MI) = 14.00

R23d	MANE	.95	19.57	722.08	1.94	5.00	18.59	720.00	1.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1793E+01 EXCESS= .0000E+00 OUTFLOW= .1794E+01 BASIN STORAGE= .3236E-04 PERCENT ERROR= .0

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          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
              R23d  MANE          .95     19.42    721.82      1.92      5.00     18.40    720.00        1.92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1774E+01 EXCESS= .0000E+00 OUTFLOW= .1775E+01 BASIN STORAGE= .4030E-04 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
              R23d  MANE          .99     19.00    721.47      1.90      5.00     18.21    720.00        1.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1756E+01 EXCESS= .0000E+00 OUTFLOW= .1757E+01 BASIN STORAGE= .2782E-04 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
              R23d  MANE         1.02     19.04    722.06      1.89      5.00     18.07    720.00        1.89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1743E+01 EXCESS= .0000E+00 OUTFLOW= .1744E+01 BASIN STORAGE= .3768E-04 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
                RWF_P2  MANE          .49     86.24    735.03      1.16      5.00     86.24    735.00        1.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5008E+02 EXCESS= .0000E+00 OUTFLOW= .5004E+02 BASIN STORAGE= .2884E-01 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
                RWF_P2  MANE          .49     85.88    731.01      1.14      5.00     85.87    735.00        1.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4906E+02 EXCESS= .0000E+00 OUTFLOW= .4904E+02 BASIN STORAGE= .2797E-01 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
                RWF_P2  MANE          .51     85.69    731.05      1.13      5.00     85.67    735.00        1.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4855E+02 EXCESS= .0000E+00 OUTFLOW= .4852E+02 BASIN STORAGE= .2755E-01 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
                RWF_P2  MANE          .50     85.51    731.40      1.11      5.00     85.48    735.00        1.11

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4803E+02 EXCESS= .0000E+00 OUTFLOW= .4801E+02 BASIN STORAGE= .2711E-01 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
                RWF_P2  MANE          .50     85.39    731.04      1.11      5.00     85.36    735.00        1.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4767E+02 EXCESS= .0000E+00 OUTFLOW= .4765E+02 BASIN STORAGE= .2684E-01 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
              R23e  MANE          .57    180.59    720.92      1.23      5.00    179.10    720.00        1.23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5757E+02 EXCESS= .0000E+00 OUTFLOW= .5752E+02 BASIN STORAGE= .4565E-01 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
              R23e  MANE          .72    177.00    720.53      1.20      5.00    176.26    720.00        1.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5640E+02 EXCESS= .0000E+00 OUTFLOW= .5636E+02 BASIN STORAGE= .4427E-01 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
              R23e  MANE          .72    175.78    720.64      1.19      5.00    174.93    720.00        1.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5581E+02 EXCESS= .0000E+00 OUTFLOW= .5578E+02 BASIN STORAGE= .4357E-01 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
              R23e  MANE          .73    173.92    720.97      1.18      5.00    173.48    720.00        1.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5522E+02 EXCESS= .0000E+00 OUTFLOW= .5518E+02 BASIN STORAGE= .4294E-01 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
              R23e  MANE          .73    172.99    720.95      1.17      5.00    172.51    720.00        1.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5481E+02 EXCESS= .0000E+00 OUTFLOW= .5477E+02 BASIN STORAGE= .4250E-01 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
              R24_P  MANE          .96    192.96    722.34      1.31      5.00    188.06    725.00        1.31

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1550E+02 EXCESS= .0000E+00 OUTFLOW= .1550E+02 BASIN STORAGE= .1026E-02 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
              R24_P  MANE          .96    189.40    721.88      1.27      5.00    184.02    725.00        1.27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1511E+02 EXCESS= .0000E+00 OUTFLOW= .1511E+02 BASIN STORAGE= .9529E-03 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
              R24_P  MANE          .96    186.41    722.53      1.26      5.00    182.01    725.00        1.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1491E+02 EXCESS= .0000E+00 OUTFLOW= .1492E+02 BASIN STORAGE= .9918E-03 PERCENT ERROR=    .0
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          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
             R24_P  MANE          .92    184.65    722.36      1.24      5.00    179.99    725.00       1.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1472E+02 EXCESS= .0000E+00 OUTFLOW= .1473E+02 BASIN STORAGE= .9373E-03 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
             R24_P  MANE          .96    183.92    721.95      1.23      5.00    178.57    725.00       1.23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1459E+02 EXCESS= .0000E+00 OUTFLOW= .1459E+02 BASIN STORAGE= .9871E-03 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
             R24_O  MANE         1.22    186.53    726.34      1.31      5.00    184.74    725.00       1.31

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1551E+02 EXCESS= .0000E+00 OUTFLOW= .1551E+02 BASIN STORAGE= .3236E-02 PERCENT ERROR=   -.1

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
             R24_O  MANE         1.23    182.53    726.50      1.27      5.00    180.72    725.00       1.27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1512E+02 EXCESS= .0000E+00 OUTFLOW= .1512E+02 BASIN STORAGE= .3340E-02 PERCENT ERROR=   -.1

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
             R24_O  MANE         1.20    180.79    727.44      1.26      5.00    178.72    725.00       1.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1492E+02 EXCESS= .0000E+00 OUTFLOW= .1493E+02 BASIN STORAGE= .3136E-02 PERCENT ERROR=   -.1

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
             R24_O  MANE         1.19    178.89    726.95      1.24      5.00    176.71    725.00       1.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1473E+02 EXCESS= .0000E+00 OUTFLOW= .1474E+02 BASIN STORAGE= .3654E-02 PERCENT ERROR=   -.1

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
             R24_O  MANE         1.10    178.39    727.13      1.23      5.00    175.31    725.00       1.23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1459E+02 EXCESS= .0000E+00 OUTFLOW= .1460E+02 BASIN STORAGE= .3383E-02 PERCENT ERROR=   -.1

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
             R24_P  MANE          .45     13.16    721.34      1.12      5.00     13.14    725.00       1.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1265E+01 EXCESS= .0000E+00 OUTFLOW= .1265E+01 BASIN STORAGE= .7137E-04 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
             R24_P  MANE          .47     12.77    721.29      1.09      5.00     12.76    725.00       1.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1230E+01 EXCESS= .0000E+00 OUTFLOW= .1230E+01 BASIN STORAGE= .6904E-04 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
             R24_P  MANE          .45     12.58    720.94      1.07      5.00     12.57    725.00       1.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1213E+01 EXCESS= .0000E+00 OUTFLOW= .1213E+01 BASIN STORAGE= .6705E-04 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
             R24_P  MANE          .47     12.39    721.17      1.06      5.00     12.38    725.00       1.06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1195E+01 EXCESS= .0000E+00 OUTFLOW= .1195E+01 BASIN STORAGE= .6644E-04 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
             R24_P  MANE          .57     12.25    721.37      1.05      5.00     12.24    725.00       1.05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1183E+01 EXCESS= .0000E+00 OUTFLOW= .1183E+01 BASIN STORAGE= .6800E-04 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
             R24_O  MANE         2.29     13.03    729.08      1.12      5.00     12.82    730.00       1.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1266E+01 EXCESS= .0000E+00 OUTFLOW= .1265E+01 BASIN STORAGE= .1105E-02 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
             R24_O  MANE         2.23     12.61    727.93      1.09      5.00     12.53    730.00       1.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1231E+01 EXCESS= .0000E+00 OUTFLOW= .1230E+01 BASIN STORAGE= .1056E-02 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
             R24_O  MANE         2.33     12.46    729.11      1.07      5.00     12.27    730.00       1.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1213E+01 EXCESS= .0000E+00 OUTFLOW= .1213E+01 BASIN STORAGE= .1031E-02 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
             R24_O  MANE         2.32     12.24    729.87      1.06      5.00     12.21    730.00       1.06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1196E+01 EXCESS= .0000E+00 OUTFLOW= .1196E+01 BASIN STORAGE= .8626E-03 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
             R24_O  MANE         2.31     12.08    727.97      1.05      5.00     12.00    730.00       1.05
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ONTINUITY SUMMARY (AC-FT) - INFLOW= .1184E+01 EXCESS= .0000E+00 OUTFLOW= .1183E+01 BASIN STORAGE= .9888E-03 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =       .01
            R25_O  MANE          5.00       .01    755.40       .00      5.00       .01    755.00       .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9043E-03 EXCESS= .0000E+00 OUTFLOW= .9284E-03 BASIN STORAGE= .1700E-04 PERCENT ERROR=  -4.5

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
            R25_O  MANE          5.00       .01    754.76       .00      5.00       .01    755.00       .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8793E-03 EXCESS= .0000E+00 OUTFLOW= .9070E-03 BASIN STORAGE= .1585E-04 PERCENT ERROR=  -5.0

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
            R25_O  MANE          5.00       .01    753.47       .00      5.00       .01    755.00       .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8669E-03 EXCESS= .0000E+00 OUTFLOW= .8691E-03 BASIN STORAGE= .1601E-04 PERCENT ERROR=  -2.1

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
            R25_O  MANE          5.00       .01    754.05       .00      5.00       .01    755.00       .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8545E-03 EXCESS= .0000E+00 OUTFLOW= .8560E-03 BASIN STORAGE= .1499E-04 PERCENT ERROR=  -1.9

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
            R25_O  MANE          5.00       .01    755.40       .00      5.00       .01    755.00       .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8458E-03 EXCESS= .0000E+00 OUTFLOW= .8745E-03 BASIN STORAGE= .1461E-04 PERCENT ERROR=  -5.1

          FOR STORM = 1  STORM AREA (SQ MI) =       .01
            R25_P  MANE          3.67       .01    760.37       .00      5.00       .01    760.00       .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9281E-03 EXCESS= .0000E+00 OUTFLOW= .9332E-03 BASIN STORAGE= .2399E-05 PERCENT ERROR=  -.8

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
            R25_P  MANE          3.61       .01    761.22       .00      5.00       .01    760.00       .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9072E-03 EXCESS= .0000E+00 OUTFLOW= .9118E-03 BASIN STORAGE= .2347E-05 PERCENT ERROR=  -.8

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
            R25_P  MANE          3.58       .01    762.72       .00      5.00       .01    765.00       .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8683E-03 EXCESS= .0000E+00 OUTFLOW= .8671E-03 BASIN STORAGE= .2337E-05 PERCENT ERROR=  -.1

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
            R25_P  MANE          3.58       .01    763.71       .00      5.00       .01    765.00       .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8547E-03 EXCESS= .0000E+00 OUTFLOW= .8512E-03 BASIN STORAGE= .2308E-05 PERCENT ERROR=    .1

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
            R25_P  MANE          3.59       .01    763.82       .00      5.00       .01    765.00       .00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8730E-03 EXCESS= .0000E+00 OUTFLOW= .8727E-03 BASIN STORAGE= .2305E-05 PERCENT ERROR=  -.2

          FOR STORM = 1  STORM AREA (SQ MI) =       .01
            R_14a  MANE          3.57     175.14    728.31      1.41      5.00     170.21    725.00      1.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1159E+02 EXCESS= .0000E+00 OUTFLOW= .1163E+02 BASIN STORAGE= .1245E-01 PERCENT ERROR=  -.4

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
            R_14a  MANE          3.52     172.67    728.12      1.37      5.00     164.48    725.00      1.37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1132E+02 EXCESS= .0000E+00 OUTFLOW= .1136E+02 BASIN STORAGE= .9390E-02 PERCENT ERROR=  -.5

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
            R_14a  MANE          3.64     175.67    727.23      1.36      5.00     164.95    725.00      1.36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1118E+02 EXCESS= .0000E+00 OUTFLOW= .1122E+02 BASIN STORAGE= .9246E-02 PERCENT ERROR=  -.4

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
            R_14a  MANE          3.56     165.68    725.50      1.34      5.00     162.30    725.00      1.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1105E+02 EXCESS= .0000E+00 OUTFLOW= .1108E+02 BASIN STORAGE= .9855E-02 PERCENT ERROR=  -.4

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
            R_14a  MANE          3.70     167.26    726.34      1.33      5.00     160.98    725.00      1.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1095E+02 EXCESS= .0000E+00 OUTFLOW= .1099E+02 BASIN STORAGE= .8732E-02 PERCENT ERROR=  -.4

          FOR STORM = 1  STORM AREA (SQ MI) =       .01
              R_5  MANE          5.00      26.74    775.99      1.06      5.00      26.61    780.00      1.06
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CONTINUITY SUMMARY (AC-FT) - INFLOW= .3265E+01 EXCESS= .0000E+00 OUTFLOW= .3400E+01 BASIN STORAGE= .8318E-01 PERCENT ERROR=  -6.7

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
               R_5  MANE          4.92     25.92    781.27       1.03      5.00     25.54    780.00         1.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3164E+01 EXCESS= .0000E+00 OUTFLOW= .3304E+01 BASIN STORAGE= .8505E-01 PERCENT ERROR=  -7.1

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
               R_5  MANE          4.92     25.32    782.03       1.01      5.00     24.93    780.00         1.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3114E+01 EXCESS= .0000E+00 OUTFLOW= .3245E+01 BASIN STORAGE= .7981E-01 PERCENT ERROR=  -6.8

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
               R_5  MANE          5.00     24.46    783.86        .98      5.00     24.41    780.00          .98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3064E+01 EXCESS= .0000E+00 OUTFLOW= .3150E+01 BASIN STORAGE= .7945E-01 PERCENT ERROR=  -5.4

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
               R_5  MANE          4.89     24.59    781.78        .95      5.00     23.58    785.00          .95

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3028E+01 EXCESS= .0000E+00 OUTFLOW= .3045E+01 BASIN STORAGE= .8038E-01 PERCENT ERROR=  -3.2

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
             R_I3_O  MANE          2.00    569.83    794.05        .53      5.00    568.88    790.00          .53

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1472E+03 EXCESS= .0000E+00 OUTFLOW= .1472E+03 BASIN STORAGE= .5336E-01 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =      14.00
             R_I3_O  MANE          2.03    533.13    794.68        .50      5.00    532.88    795.00          .50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1405E+03 EXCESS= .0000E+00 OUTFLOW= .1404E+03 BASIN STORAGE= .5117E-01 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =      24.00
             R_I3_O  MANE          2.16    519.57    781.25        .49      5.00    519.36    780.00          .49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1371E+03 EXCESS= .0000E+00 OUTFLOW= .1370E+03 BASIN STORAGE= .5135E-01 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =      36.50
             R_I3_O  MANE          2.20    507.81    780.98        .48      5.00    507.42    780.00          .48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1337E+03 EXCESS= .0000E+00 OUTFLOW= .1336E+03 BASIN STORAGE= .5386E-01 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =      50.00
             R_I3_O  MANE          2.17    499.56    781.20        .47      5.00    499.28    780.00          .47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1313E+03 EXCESS= .0000E+00 OUTFLOW= .1312E+03 BASIN STORAGE= .5185E-01 PERCENT ERROR=    .0


*** NORMAL END OF HEC-1 ***
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APPENDIX C

Hydraulic Calculations
Detention Pond Summaries

Channel Flow for RL11bD - 9500 LF

Channel Calculator

Given Input Data:

Shape ..... Trapezoidal
Solving for ..... Depth of Flow
Flowrate ..... 38.0000 cfs
Slope ..... 0.0129 ft/ft
Manning's n 0.0350
Height ..... 5.0000 ft
Bottom width ..... 10.0000 ft
Left slope ..... 0.1670 ft/ft (V/H)
Right slope ..... 0.1670 ft/ft (V/H)

Computed Results:

Depth ..... 0.7723 ft
Velocity ..... 3.3647 fps
Full Flowrate ..... 1924.0930 cfs
Flow area 11.2936 ft2
Flow perimeter ..... 19.3766 ft
Hydraulic radius ..... 0.5828 ft
Top width ..... 19.2485 ft
Area 199.7006 ft2
Perimeter ..... 70.7095 ft
Percent full ..... 15.4451 %

Critical Information

Critical depth ..... 0.6656 ft
Critical slope ..... 0.0224 ft/ft
Critical velocity ..... 4.0823 fps
Critical area 9.3085 ft2
Critical perimeter ..... 18.0814 ft
Critical hydraulic radius ..... 0.5148 ft
Critical top width ..... 17.9710 ft
Specific energy ..... 0.9482 ft
Minimum energy ..... 0.9984 ft
Froude number 0.7744
Flow condition ..... Subcritical

Channel Flow for R_10uO - 4500 LF

Channel Calculator

Given Input Data:
- Shape ..... Trapezoidal
- Solving for ..... Depth of Flow
- Flowrate ..... 54.0000 cfs
- Slope ..... 0.0220 ft/ft
- Manning's n 0.0300
- Height ..... 5.0000 ft
- Bottom width ..... 10.0000 ft
- Left slope ..... 0.2500 ft/ft (V/H)
- Right slope ..... 0.2500 ft/ft (V/H)

Computed Results:
- Depth ..... 0.7734 ft
- Velocity ..... 5.3324 fps
- Full Flowrate ..... 2255.4790 cfs
- Flow area 10.1268 ft2
- Flow perimeter ..... 16.3777 ft
- Hydraulic radius ..... 0.6183 ft
- Top width ..... 16.1873 ft
- Area 150.0000 ft2
- Perimeter ..... 51.2311 ft
- Percent full ..... 15.4683 %

Critical Information
- Critical depth ..... 0.8576 ft
- Critical slope ..... 0.0151 ft/ft
- Critical velocity ..... 4.6882 fps
- Critical area 11.5183 ft2
- Critical perimeter ..... 17.0721 ft
- Critical hydraulic radius ..... 0.6747 ft
- Critical top width ..... 16.8610 ft
- Specific energy ..... 1.2153 ft
- Minimum energy ..... 1.2864 ft
- Froude number 1.1886
- Flow condition ..... Supercritical

Channel Flow for R_9.10 - 4500 LF

Channel Calculator

Given Input Data:

Shape ..... Trapezoidal
Solving for ..... Depth of Flow
Flowrate ..... 454.0000 cfs
Slope ..... 0.0220 ft/ft
Manning's n 0.0300
Height ..... 5.0000 ft
Bottom width ..... 10.0000 ft
Left slope ..... 0.2500 ft/ft (V/H)
Right slope ..... 0.2500 ft/ft (V/H)

Computed Results:

Depth ..... 2.3629 ft
Velocity ..... 9.8775 fps
Full Flowrate ..... 2255.4790 cfs
Flow area 45.9632 ft2
Flow perimeter ..... 29.4853 ft
Hydraulic radius ..... 1.5589 ft
Top width ..... 28.9035 ft
Area 150.0000 ft2
Perimeter ..... 51.2311 ft
Percent full ..... 47.2587 %

Critical Information

Critical depth ..... 2.7945 ft
Critical slope ..... 0.0110 ft/ft
Critical velocity ..... 7.6713 fps
Critical area 59.1816 ft2
Critical perimeter ..... 33.0440 ft
Critical hydraulic radius ..... 1.7910 ft
Critical top width ..... 32.3559 ft
Specific energy ..... 3.8791 ft
Minimum energy ..... 4.1917 ft
Froude number 1.3809
Flow condition ..... Supercritical

Channel Flow for R_L9T - 4100 LF

Channel Calculator

Given Input Data:

Shape ..... Trapezoidal
Solving for ..... Depth of Flow
Flowrate ..... 405.0000 cfs
Slope ..... 0.0110 ft/ft
Manning's n 0.0300
Height ..... 5.0000 ft
Bottom width ..... 5.0000 ft
Left slope ..... 0.4170 ft/ft (V/H)
Right slope ..... 0.4170 ft/ft (V/H)

Computed Results:

Depth ..... 3.5635 ft
Velocity ..... 8.3904 fps
Full Flowrate ..... 864.5854 cfs
Flow area 48.2696 ft2
Flow perimeter ..... 23.5176 ft
Hydraulic radius ..... 2.0525 ft
Top width ..... 22.0911 ft
Area 84.9520 ft2
Perimeter ..... 30.9823 ft
Percent full ..... 71.2700 %

Critical Information

Critical depth ..... 3.5647 ft
Critical slope ..... 0.0110 ft/ft
Critical velocity ..... 8.3858 fps
Critical area 48.2961 ft2
Critical perimeter ..... 23.5238 ft
Critical hydraulic radius ..... 2.0531 ft
Critical top width ..... 22.0969 ft
Specific energy ..... 4.6575 ft
Minimum energy ..... 5.3470 ft
Froude number 1.0007
Flow condition ..... Critical

Channel Flow for R21a - 2700 LF

Channel Calculator

Given Input Data:
- Shape ..... Trapezoidal
- Solving for ..... Depth of Flow
- Flowrate ..... 10.0000 cfs
- Slope ..... 0.0230 ft/ft
- Manning's n 0.0500
- Height ..... 5.0000 ft
- Bottom width ..... 30.0000 ft
- Left slope ..... 0.1670 ft/ft (V/H)
- Right slope ..... 0.1670 ft/ft (V/H)

Computed Results:
- Depth ..... 0.2079 ft
- Velocity ..... 1.5398 fps
- Full Flowrate ..... 2996.5641 cfs
- Flow area 6.4943 ft2
- Flow perimeter ..... 32.5237 ft
- Hydraulic radius ..... 0.1997 ft
- Top width ..... 32.4893 ft
- Area 299.7006 ft2
- Perimeter ..... 90.7095 ft
- Percent full ..... 4.1571 %

Critical Information
- Critical depth ..... 0.1496 ft
- Critical slope ..... 0.0693 ft/ft
- Critical velocity ..... 2.1630 fps
- Critical area 4.6231 ft2
- Critical perimeter ..... 31.8169 ft
- Critical hydraulic radius ..... 0.1453 ft
- Critical top width ..... 31.7920 ft
- Specific energy ..... 0.2447 ft
- Minimum energy ..... 0.2245 ft
- Froude number 0.6072
- Flow condition ..... Subcritical

Pipe Flow for RPD1 - 2550 LF

Manning Pipe Calculator

Given Input Data:
- Shape ..... Circular
- Solving for ..... Depth of Flow
- Diameter ..... 3.0000 ft
- Flowrate ..... 33.0000 cfs
- Slope ..... 0.0140 ft/ft
- Manning's n 0.0130

Computed Results:
- Depth ..... 1.3530 ft
- Area 7.0686 ft2
- Wetted Area 3.0939 ft2
- Wetted Perimeter ..... 4.4179 ft
- Perimeter ..... 9.4248 ft
- Velocity ..... 10.6661 fps
- Hydraulic Radius ..... 0.7003 ft
- Percent Full ..... 45.0992 %
- Full flow Flowrate ..... 78.9186 cfs
- Full flow velocity ..... 11.1647 fps

Critical Information
- Critical depth ..... 1.8645 ft
- Critical slope ..... 0.0047 ft/ft
- Critical velocity ..... 7.1307 fps
- Critical area 4.6278 ft2
- Critical perimeter ..... 5.4414 ft
- Critical hydraulic radius ..... 0.8505 ft
- Critical top width ..... 3.0000 ft
- Specific energy ..... 3.1209 ft
- Minimum energy ..... 2.7968 ft
- Froude number 1.8472
- Flow condition ..... Supercritical

Pipe Flow for R23b - 1000 LF

Manning Pipe Calculator

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 3.0000 ft
Flowrate ..... 101.0000 cfs
Slope ..... 0.0140 ft/ft
Manning's n 0.0109

Computed Results:

Depth ..... 2.7575 ft
Area 7.0686 ft2
Wetted Area 6.7997 ft2
Wetted Perimeter ..... 7.6952 ft
Perimeter ..... 9.4248 ft
Velocity ..... 14.8537 fps
Hydraulic Radius ..... 0.8836 ft
Percent Full ..... 91.9180 %
Full flow Flowrate ..... 94.1231 cfs
Full flow velocity ..... 13.3157 fps

Channel Flow for R23c - 500 LF

Channel Calculator

Given Input Data:
- Shape ..... Trapezoidal
- Solving for ..... Depth of Flow
- Flowrate ..... 112.0000 cfs
- Slope ..... 0.0050 ft/ft
- Manning's n 0.0450
- Height ..... 5.0000 ft
- Bottom width ..... 10.0000 ft
- Left slope ..... 0.2500 ft/ft (V/H)
- Right slope ..... 0.2500 ft/ft (V/H)

Computed Results:
- Depth ..... 2.0843 ft
- Velocity ..... 2.9303 fps
- Full Flowrate ..... 716.8383 cfs
- Flow area 38.2214 ft2
- Flow perimeter ..... 27.1879 ft
- Hydraulic radius ..... 1.4058 ft
- Top width ..... 26.6748 ft
- Area 150.0000 ft2
- Perimeter ..... 51.2311 ft
- Percent full ..... 41.6869 %

Critical Information
- Critical depth ..... 1.3113 ft
- Critical slope ..... 0.0304 ft/ft
- Critical velocity ..... 5.6026 fps
- Critical area 19.9906 ft2
- Critical perimeter ..... 20.8131 ft
- Critical hydraulic radius ..... 0.9605 ft
- Critical top width ..... 20.4902 ft
- Specific energy ..... 2.2178 ft
- Minimum energy ..... 1.9669 ft
- Froude number 0.4316
- Flow condition ..... Subcritical

Pipe Flow for R23d - 1200 LF

Manning Pipe Calculator

Given Input Data:
- Shape ..... Circular
- Solving for ..... Depth of Flow
- Diameter ..... 2.0000 ft
- Flowrate ..... 20.0000 cfs
- Slope ..... 0.0050 ft/ft
- Manning's n 0.0111

Computed Results:
- Depth ..... 1.8075 ft
- Area 3.1416 ft2
- Wetted Area 2.9871 ft2
- Wetted Perimeter ..... 5.0215 ft
- Perimeter ..... 6.2832 ft
- Velocity ..... 6.6956 fps
- Hydraulic Radius ..... 0.5949 ft
- Percent Full ..... 90.3766 %
- Full flow Flowrate ..... 18.7346 cfs
- Full flow velocity ..... 5.9634 fps

Critical Information
- Critical depth ..... 1.6059 ft
- Critical slope ..... 0.0045 ft/ft
- Critical velocity ..... 7.1875 fps
- Critical area 2.7826 ft2
- Critical perimeter ..... 4.3534 ft
- Critical hydraulic radius ..... 0.6392 ft
- Critical top width ..... 2.0000 ft
- Specific energy ..... 2.4055 ft
- Minimum energy ..... 2.4089 ft
- Froude number 1.0448
- Flow condition ..... Supercritical

Pipe Flow for RWF_P2 - 1000 LF

Manning Pipe Calculator

Given Input Data:
- Shape ..... Circular
- Solving for ..... Depth of Flow
- Diameter ..... 3.0000 ft
- Flowrate ..... 86.0000 cfs
- Slope ..... 0.0100 ft/ft
- Manning's n 0.0108

Computed Results:
- Depth ..... 2.7390 ft
- Area 7.0686 ft2
- Wetted Area 6.7689 ft2
- Wetted Perimeter ..... 7.6284 ft
- Perimeter ..... 9.4248 ft
- Velocity ..... 12.7052 fps
- Hydraulic Radius ..... 0.8873 ft
- Percent Full ..... 91.3010 %
- Full flow Flowrate ..... 80.2851 cfs
- Full flow velocity ..... 11.3580 fps

Pipe Flow for R23e - 1500 LF

Manning Pipe Calculator

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 4.0000 ft
Flowrate ..... 179.0000 cfs
Slope ..... 0.0080 ft/ft
Manning's n 0.0100

Computed Results:

Depth ..... 3.6585 ft
Area 12.5664 ft2
Wetted Area 12.0479 ft2
Wetted Perimeter ..... 10.1941 ft
Perimeter ..... 12.5664 ft
Velocity ..... 14.8573 fps
Hydraulic Radius ..... 1.1819 ft
Percent Full ..... 91.4614 %
Full flow Flowrate ..... 167.0220 cfs
Full flow velocity ..... 13.2912 fps

Pipe Flow for R24_P - 3076 LF
Manning Pipe Calculator

Given Input Data:
Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 4.0000 ft
Flowrate ..... 192.0000 cfs
Slope ..... 0.0140 ft/ft
Manning's n 0.0123

Computed Results:
Depth ..... 3.6272 ft
Area 12.5664 ft2
Wetted Area 11.9766 ft2
Wetted Perimeter ..... 10.0844 ft
Perimeter ..... 12.5664 ft
Velocity ..... 16.0312 fps
Hydraulic Radius ..... 1.1876 ft
Percent Full ..... 90.6799 %
Full flow Flowrate ..... 179.6336 cfs
Full flow velocity ..... 14.2948 fps

Channel Flow for R24_O - 1506 LF

Channel Calculator

Given Input Data:
- Shape ..... Trapezoidal
- Solving for ..... Depth of Flow
- Flowrate ..... 192.0000 cfs
- Slope ..... 0.0190 ft/ft
- Manning's n 0.0300
- Height ..... 5.0000 ft
- Bottom width ..... 10.0000 ft
- Left slope ..... 0.0833 ft/ft (V/H)
- Right slope ..... 0.0833 ft/ft (V/H)

Computed Results:
- Depth ..... 1.2854 ft
- Velocity ..... 5.8736 fps
- Full Flowrate ..... 4616.4624 cfs
- Flow area 32.6886 ft2
- Flow perimeter ..... 40.9686 ft
- Hydraulic radius ..... 0.7979 ft
- Top width ..... 40.8617 ft
- Area 350.1200 ft2
- Perimeter ..... 130.4638 ft
- Percent full ..... 25.7078 %

Critical Information
- Critical depth ..... 1.3810 ft
- Critical slope ..... 0.0139 ft/ft
- Critical velocity ..... 5.2310 fps
- Critical area 36.7042 ft2
- Critical perimeter ..... 43.2716 ft
- Critical hydraulic radius ..... 0.8482 ft
- Critical top width ..... 43.1567 ft
- Specific energy ..... 1.8215 ft
- Minimum energy ..... 2.0715 ft
- Froude number 1.1577
- Flow condition ..... Supercritical

Pipe Flow for R24_P - 800 LF

Manning Pipe Calculator

Given Input Data:
- Shape ..... Circular
- Solving for ..... Depth of Flow
- Diameter ..... 4.5000 ft
- Flowrate ..... 13.0000 cfs
- Slope ..... 0.0140 ft/ft
- Manning's n 0.0130

Computed Results:
- Depth ..... 0.7222 ft
- Area 15.9043 ft2
- Wetted Area 1.6497 ft2
- Wetted Perimeter ..... 3.7096 ft
- Perimeter ..... 14.1372 ft
- Velocity ..... 7.8801 fps
- Hydraulic Radius ..... 0.4447 ft
- Percent Full ..... 16.0485 %
- Full flow Flowrate ..... 232.6784 cfs
- Full flow velocity ..... 14.6299 fps

Channel Flow for R24_O - 1506 LF

Channel Calculator

Given Input Data:
- Shape ..... Trapezoidal
- Solving for ..... Depth of Flow
- Flowrate ..... 13.0000 cfs
- Slope ..... 0.0190 ft/ft
- Manning's n 0.0300
- Height ..... 5.0000 ft
- Bottom width ..... 4.5000 ft
- Left slope ..... 0.0833 ft/ft (V/H)
- Right slope ..... 0.0833 ft/ft (V/H)

Computed Results:
- Depth ..... 0.4445 ft
- Velocity ..... 2.9738 fps
- Full Flowrate ..... 4145.4384 cfs
- Flow area 4.3715 ft2
- Flow perimeter ..... 15.2082 ft
- Hydraulic radius ..... 0.2874 ft
- Top width ..... 15.1713 ft
- Area 322.6200 ft2
- Perimeter ..... 124.9638 ft
- Percent full ..... 8.8892 %

Critical Information
- Critical depth ..... 0.4391 ft
- Critical slope ..... 0.0200 ft/ft
- Critical velocity ..... 3.0295 fps
- Critical area 4.2912 ft2
- Critical perimeter ..... 15.0801 ft
- Critical hydraulic radius ..... 0.2846 ft
- Critical top width ..... 15.0436 ft
- Specific energy ..... 0.5819 ft
- Minimum energy ..... 0.6587 ft
- Froude number 0.9767
- Flow condition ..... Subcritical

Channel Flow for R25_O - 800 LF

Channel Calculator

Given Input Data:

Shape ..... Trapezoidal
Solving for ..... Depth of Flow
Flowrate ..... 1.0000 cfs
Slope ..... 0.0150 ft/ft
Manning's n 0.0300
Height ..... 5.0000 ft
Bottom width ..... 30.0000 ft
Left slope ..... 0.1000 ft/ft (V/H)
Right slope ..... 0.1000 ft/ft (V/H)

Computed Results:

Depth ..... 0.0439 ft
Velocity ..... 0.7480 fps
Full Flowrate ..... 5120.4200 cfs
Flow area 1.3370 ft2
Flow perimeter ..... 30.8828 ft
Hydraulic radius ..... 0.0433 ft
Top width ..... 30.8785 ft
Area 400.0000 ft2
Perimeter ..... 130.4988 ft
Percent full ..... 0.8785 %

Critical Information

Critical depth ..... 0.0324 ft
Critical slope ..... 0.0413 ft/ft
Critical velocity ..... 1.0163 fps
Critical area 0.9839 ft2
Critical perimeter ..... 30.6522 ft
Critical hydraulic radius ..... 0.0321 ft
Critical top width ..... 30.6489 ft
Specific energy ..... 0.0526 ft
Minimum energy ..... 0.0487 ft
Froude number 0.6337
Flow condition ..... Subcritical

Pipe Flow for R25_P - 1600 LF

Manning Pipe Calculator

Given Input Data:
- Shape ..... Circular
- Solving for ..... Depth of Flow
- Diameter ..... 4.0000 ft
- Flowrate ..... 1.0000 cfs
- Slope ..... 0.0130 ft/ft
- Manning's n 0.0130

Computed Results:
- Depth ..... 0.2238 ft
- Area 12.5664 ft2
- Wetted Area 0.2776 ft2
- Wetted Perimeter ..... 1.9106 ft
- Perimeter ..... 12.5664 ft
- Velocity ..... 3.6022 fps
- Hydraulic Radius ..... 0.1453 ft
- Percent Full ..... 5.5959 %
- Full flow Flowrate ..... 163.7785 cfs
- Full flow velocity ..... 13.0331 fps

Channel Flow for R_14a - 2500 LF

Channel Calculator

Given Input Data:
- Shape ..... Trapezoidal
- Solving for ..... Depth of Flow
- Flowrate ..... 181.0000 cfs
- Slope ..... 0.0050 ft/ft
- Manning's n 0.0400
- Height ..... 5.0000 ft
- Bottom width ..... 10.0000 ft
- Left slope ..... 0.1000 ft/ft (V/H)
- Right slope ..... 0.1000 ft/ft (V/H)

Computed Results:
- Depth ..... 2.0174 ft
- Velocity ..... 2.9734 fps
- Full Flowrate ..... 1533.7020 cfs
- Flow area 60.8733 ft2
- Flow perimeter ..... 50.5494 ft
- Hydraulic radius ..... 1.2042 ft
- Top width ..... 50.3481 ft
- Area 300.0000 ft2
- Perimeter ..... 110.4988 ft
- Percent full ..... 40.3481 %

Critical Information
- Critical depth ..... 1.4069 ft
- Critical slope ..... 0.0244 ft/ft
- Critical velocity ..... 5.3449 fps
- Critical area 33.8641 ft2
- Critical perimeter ..... 38.2791 ft
- Critical hydraulic radius ..... 0.8847 ft
- Critical top width ..... 38.1387 ft
- Specific energy ..... 2.1548 ft
- Minimum energy ..... 2.1104 ft
- Froude number 0.4767
- Flow condition ..... Subcritical

Channel Flow for R_17 - 3996 LF

Channel Calculator

Given Input Data:
- Shape ..... Trapezoidal
- Solving for ..... Depth of Flow
- Flowrate ..... 38.0000 cfs
- Slope ..... 0.0180 ft/ft
- Manning's n 0.0400
- Height ..... 5.0000 ft
- Bottom width ..... 10.0000 ft
- Left slope ..... 0.2000 ft/ft (V/H)
- Right slope ..... 0.2000 ft/ft (V/H)

Computed Results:
- Depth ..... 0.7733 ft
- Velocity ..... 3.5437 fps
- Full Flowrate ..... 1761.2397 cfs
- Flow area 10.7231 ft2
- Flow perimeter ..... 17.8862 ft
- Hydraulic radius ..... 0.5995 ft
- Top width ..... 17.7331 ft
- Area 175.0000 ft2
- Perimeter ..... 60.9902 ft
- Percent full ..... 15.4662 %

Critical Information
- Critical depth ..... 0.6793 ft
- Critical slope ..... 0.0289 ft/ft
- Critical velocity ..... 4.1756 fps
- Critical area 9.1005 ft2
- Critical perimeter ..... 16.9277 ft
- Critical hydraulic radius ..... 0.5376 ft
- Critical top width ..... 16.7931 ft
- Specific energy ..... 0.9685 ft
- Minimum energy ..... 1.0190 ft
- Froude number 0.8034
- Flow condition ..... Subcritical

Channel Flow for R_5 - 10500 LF

Channel Calculator

Given Input Data:
- Shape ..... Trapezoidal
- Solving for ..... Depth of Flow
- Flowrate ..... 28.0000 cfs
- Slope ..... 0.0080 ft/ft
- Manning's n 0.0300
- Height ..... 5.0000 ft
- Bottom width ..... 10.0000 ft
- Left slope ..... 0.0500 ft/ft (V/H)
- Right slope ..... 0.0500 ft/ft (V/H)

Computed Results:
- Depth ..... 0.5707 ft
- Velocity ..... 2.2913 fps
- Full Flowrate ..... 4626.1876 cfs
- Flow area 12.2200 ft2
- Flow perimeter ..... 32.8554 ft
- Hydraulic radius ..... 0.3719 ft
- Top width ..... 32.8268 ft
- Area 550.0000 ft2
- Perimeter ..... 210.2498 ft
- Percent full ..... 11.4134 %

Critical Information
- Critical depth ..... 0.4605 ft
- Critical slope ..... 0.0194 ft/ft
- Critical velocity ..... 3.1647 fps
- Critical area 8.8475 ft2
- Critical perimeter ..... 28.4448 ft
- Critical hydraulic radius ..... 0.3110 ft
- Critical top width ..... 28.4218 ft
- Specific energy ..... 0.6523 ft
- Minimum energy ..... 0.6908 ft
- Froude number 0.6621
- Flow condition ..... Subcritical

Channel Flow for R_I3_O - 3300 LF

Channel Calculator

Given Input Data:

Shape ..... Trapezoidal
Solving for ..... Depth of Flow
Flowrate ..... 539.0000 cfs
Slope ..... 0.0140 ft/ft
Manning's n 0.0400
Height ..... 5.0000 ft
Bottom width ..... 10.0000 ft
Left slope ..... 0.2000 ft/ft (V/H)
Right slope ..... 0.2000 ft/ft (V/H)

Computed Results:

Depth ..... 3.1161 ft
Velocity ..... 6.7619 fps
Full Flowrate ..... 1553.2674 cfs
Flow area 79.7111 ft2
Flow perimeter ..... 41.7780 ft
Hydraulic radius ..... 1.9080 ft
Top width ..... 41.1609 ft
Area 175.0000 ft2
Perimeter ..... 60.9902 ft
Percent full ..... 62.3219 %

Critical Information

Critical depth ..... 2.8869 ft
Critical slope ..... 0.0195 ft/ft
Critical velocity ..... 7.6413 fps
Critical area 70.5381 ft2
Critical perimeter ..... 39.4402 ft
Critical hydraulic radius ..... 1.7885 ft
Critical top width ..... 38.8685 ft
Specific energy ..... 3.8267 ft
Minimum energy ..... 4.3303 ft
Froude number 0.8566
Flow condition ..... Subcritical

GRAND JUNCTION [illegible]ONAL AIRPORT
MASTER DRAINAGE
Stock Pond in Basin I5

Top of Embankment Elev = 5198.0

10yr Weir

Inv Elev = 5196

10 yr Weir Length (ft) = 0

100yr Weir

Inv Elev = 5196.00

Outlet Box Width (ft) = 30

Outlet Box Depth (ft) = 0

Top of Structure Angle = 0

Inv Elev = 5190.0

Springline Elev =

	Dim. (in)	Size (ft)	Area (ft^2)	Alpha
				3.1416
Outlet Pipes	0.01	0.00	0.000	
Adj Area	1	pipes	0.000	

	Stage (Elev)	WS Area	Incr Vol	Cumm Stor (cf)	Stor (ac-ft)	10 yr weir	100 yr weir length	100 yr weir box	Outlet Pipe Orf Control	Total Q (cfs)	Control*
	5190.0	94000									
	5191.0	101000	97479	97479	2.24	0.0	0.0	0.0	0.0	0.0	w
	5192.0	109000	104975	202454	4.65	0.0	0.0	0.0	0.0	0.0	w
	5193.0	117000	112976	315430	7.24	0.0	0.0	0.0	0.0	0.0	w
	5194.0	124000	120483	435913	10.01	0.0	0.0	0.0	0.0	0.0	w
	5195.0	132000	127979	563892	12.95	0.0	0.0	0.0	0.0	0.0	w
	5196.0	141000	136475	700368	16.08	0.0	30.0	0.0	0.0	0.0	w
Spillway	5197.0	149000	144982	845349	19.41	0.0	30.0	93.0	0.0	93.0	w
	5198.0	157000	152983	998332	22.92	0.0	30.0	263.0	0.0	263.0	w
	5199.0	166000	161479	1159811	26.63	0.0	30.0	483.2	0.0	483.2	w

* - w = weir control; p = orifice control

GRAND JUNCTION ONAL AIRPORT
MASTER DRAINAGE
Stock Pond in Basin I7

Top of Embankment Elev = 4828.0

10yr Weir

Inv Elev = 4826

10 yr Weir Length (ft) = 0

100yr Weir

Inv Elev = 4826.00

Outlet Box Width (ft) = 20

Outlet Box Depth (ft) = 0

Top of Structure Angle = 0

Inv Elev = 4820.0

Springline Elev =

	Dim. (in)	Size (ft)	Area (ft^2)	Alpha
				3.1416
Outlet Pipes	0.01	0.00	0.000	
Adj Area	1	pipes	0.000	

	Stage (Elev)	WS Area	Incr Vol	Cumm Stor (cf)	Stor (ac-ft)	10 yr weir	100 yr weir length	100 yr weir box	Outlet Pipe Orf Control	Total Q (cfs)	Control*
	4820.0	10000									
	4821.0	13000	11467	11467	0.26	0.0	0.0	0.0	0.0	0.0	w
	4822.0	16000	14474	25941	0.60	0.0	0.0	0.0	0.0	0.0	w
	4823.0	20000	17963	43904	1.01	0.0	0.0	0.0	0.0	0.0	w
	4824.0	24000	21970	65874	1.51	0.0	0.0	0.0	0.0	0.0	w
	4825.0	28500	26218	92092	2.11	0.0	0.0	0.0	0.0	0.0	w
	4826.0	33000	30723	122814	2.82	0.0	20.0	0.0	0.0	0.0	w
Spillway	4827.0	38000	35471	158285	3.63	0.0	20.0	62.0	0.0	62.0	w
	4828.0	43500	40719	199004	4.57	0.0	20.0	175.4	0.0	175.4	w
	4829.0	50000	46712	245716	5.64	0.0	20.0	322.2	0.0	322.2	w

* - w = weir control; p = orifice control

GRAND JUNCTION IONAL AIRPORT
MASTER DRAINAGE
Detention Pond in Basin I2

Top of Embankment Elev = 4934.0

10yr Pipe

Inv Elev = 4892
Dim. (in) = 18
Size (ft) = 1.5
Area (ft^2) = 1.767

100yr Weir

Inv Elev = 4924.00
Outlet Box Width (ft) = 4
Outlet Box Depth (ft) = 4
Top of Structure Angle = 0

Inv Elev = 4890.0
Springline Elev = 4891.5

	Dim. (in)	Size (ft)	Area (ft^2)	Alpha
				3.1416
Outlet Pipes	36	3.00	7.069	
Adj Area	1	pipes	7.069	

	Stage (Elev)	WS Area	Incr Vol	Cumm Stor (cf)	Stor (ac-ft)	10 yr pipe	100 yr weir length	100 yr weir box	Outlet Pipe Orf Control	Total Q (cfs)	Control*
	4890.0	61000									
	4892.0	72500	133335	133335	3.06	0.0	0.0	0.0	26.1	0.0	p
	4894.0	85000	157334	290669	6.67	13.0	0.0	0.0	58.3	13.0	p
	4896.0	100000	184797	475466	10.92	18.4	0.0	0.0	78.2	18.4	p
	4898.0	118500	218238	693704	15.93	22.6	0.0	0.0	94.0	22.6	p
	4900.0	138000	256253	949957	21.81	26.1	0.0	0.0	107.5	26.1	p
	4902.0	159000	296752	1246709	28.62	29.1	0.0	0.0	119.5	29.1	p
	4904.0	180500	339273	1585982	36.41	31.9	0.0	0.0	130.4	31.9	p
	4906.0	203000	383280	1969262	45.21	34.5	0.0	0.0	140.4	34.5	p
	4908.0	227000	429777	2399038	55.07	36.9	0.0	0.0	149.8	36.9	p
	4910.0	251500	478291	2877329	66.05	39.1	0.0	0.0	158.6	39.1	p
	4912.0	277000	528295	3405624	78.18	41.2	0.0	0.0	166.9	41.2	p
	4914.0	304000	580791	3986415	91.52	43.2	0.0	0.0	174.9	43.2	p
	4916.0	331500	635302	4621716	106.10	45.2	0.0	0.0	182.5	45.2	p
	4918.0	360000	691304	5313021	121.97	47.0	0.0	0.0	189.8	47.0	p
	4920.0	389000	748813	6061833	139.16	48.8	0.0	0.0	196.8	48.8	p
	4924.0	418500	1614641	7676474	176.23	52.1	12.0	0.0	210.2	52.1	p
	4930.0	449500	2603446	10279920	235.99	56.8	12.0	546.7	228.8	228.8	p
	4932.0	480500	929828	11209748	257.34	58.3	12.0	841.7	234.6	234.6	p
	4934.0	512500	992828	12202576	280.13	59.7	12.0	1176.4	240.4	240.4	p

* - w = weir control; p = orifice control

GRAND JUNCTION IONAL AIRPORT
MASTER DRAINAGE
Detention Pond in Basin L9.1

Top of Embankment Elev = 4780.0

10yr Weir

Inv Elev = 4773

10 yr Weir Length (ft) = 9

100yr Weir

Inv Elev = 4776.00

Outlet Box Width (ft) = 10

Outlet Box Depth (ft) = 3

Top of Structure Angle = 0

Inv Elev = 4770.0

Springline Elev = 4772.3

	Dim. (in)	Size (ft)	Area (ft^2)	Alpha
				3.1416
Outlet Pipes	54	4.50	15.904	
Adj Area	2	pipes	31.809	

	Stage (Elev)	WS Area	Incr Vol	Cumm Stor (cf)	Stor (ac-ft)	10 yr weir	100 yr weir length	100 yr weir box	Outlet Pipe Orf Control	Total Q (cfs)	Control*
	4770.0	34000									
	4771.0	40000	36959	36959	0.85	0.0	0.0	0.0	0.0	0.0	p
	4772.0	46500	43209	80169	1.84	0.0	0.0	0.0	0.0	0.0	p
	4773.0	53200	49812	129981	2.98	0.0	0.0	0.0	143.7	0.0	w
	4774.0	60300	56713	186694	4.29	27.9	0.0	0.0	219.5	27.9	w
	4775.0	67600	63915	250609	5.75	78.9	0.0	0.0	275.1	78.9	w
10yr WSE	4776.0	75165	71349	321958	7.39	145.0	16.0	0.0	321.3	145.0	w
	4777.0	82900	79001	400959	9.20	145.0	16.0	49.6	361.6	194.6	w
	4778.0	90800	86820	487779	11.20	145.0	16.0	140.3	397.9	285.3	w
100yr WSE	4779.0	99000	94870	582650	13.38	145.0	16.0	257.7	431.1	402.7	w
	4780.0	100500	99749	682399	15.67	145.0	16.0	396.8	461.9	461.9	p

* - w = weir control; p = orifice control

GRAND JUNCTION ONAL AIRPORT
MASTER DRAINAGE
Detention Pond in Basin R17

Top of Embankment Elev =	4870.0			Inv Elev =	4860.0			
	10yr Weir		100yr Weir	Springline Elev =	4861.5			
Inv Elev =	4863	Inv Elev =	4864.00		Dim. (in)	Size (ft)	Area (ft^2)	Alpha
10 yr Weir Length (ft) =	1	Outlet Box Width (ft) =	3					3.1416
		Outlet Box Depth (ft) =	3	Outlet Pipes	36	3.00	7.069	
		Top of Structure Angle =	0	Adj Area	1	pipes	7.069	

	Stage (Elev)	WS Area	Incr Vol	Cumm Stor (cf)	Stor (ac-ft)	10 yr weir	100 yr weir length	100 yr weir box	Outlet Pipe Orf Control	Total Q (cfs)	Control*
	4860.0	40000									
	4861.0	47500	43696	43696	1.00	0.0	0.0	0.0	0.0	0.0	p
	4862.0	53500	50470	94167	2.16	0.0	0.0	0.0	26.1	0.0	w
	4863.0	59000	56228	150394	3.45	0.0	0.0	0.0	45.2	0.0	w
10yr WSE	4864.0	65000	61976	212370	4.88	3.1	9.0	0.0	58.3	3.1	w
	4865.0	70000	67485	279855	6.42	3.1	9.0	27.9	69.0	31.0	w
	4866.0	78000	73964	353818	8.12	3.1	9.0	78.9	78.2	78.2	p
	4867.0	85000	81475	435293	9.99	3.1	9.0	145.0	86.5	86.5	p
100yr WSE	4868.0	90000	87488	522782	12.00	3.1	9.0	223.2	94.0	94.0	p
	4869.0	98000	93972	616753	14.16	3.1	9.0	311.9	101.0	101.0	p
	4870.0	100000	98998	715751	16.43	3.1	9.0	410.0	107.5	107.5	p

* - w = weir control; p = orifice control

GRAND JUNCTION ONAL AIRPORT
MASTER DRAINAGE
Detention Pond in Basin L10

Top of Embankment Elev = 4770.0

10yr Weir

Inv Elev = 4763.5

10 yr Weir Length (ft) = 5

100yr Weir

Inv Elev = 4764.00

Outlet Box Width (ft) = 7

Outlet Box Depth (ft) = 3

Top of Structure Angle = 0

Inv Elev = 4760.0

Springline Elev = 4761.5

	Dim. (in)	Size (ft)	Area (ft^2)	Alpha
				3.1416
Outlet Pipes	36	3.00	7.069	
Adj Area	2	pipes	14.137	

	Stage (Elev)	WS Area	Incr Vol	Cumm Stor (cf)	Stor (ac-ft)	10 yr weir	100 yr weir length	100 yr weir box	Outlet Pipe Orf Control	Total Q (cfs)	Control*
	4760.0	34000									
	4761.0	40000	36959	36959	0.85	0.0	0.0	0.0	0.0	0.0	p
	4762.0	46500	43209	80169	1.84	0.0	0.0	0.0	52.1	0.0	w
	4763.0	53200	49812	129981	2.98	0.0	0.0	0.0	90.3	0.0	w
	4764.0	60300	56713	186694	4.29	5.5	13.0	0.0	116.6	5.5	w
10yr WSE	4765.0	67600	63915	250609	5.75	5.5	13.0	40.3	138.0	45.8	w
	4766.0	75165	71349	321958	7.39	5.5	13.0	114.0	156.4	119.5	w
	4767.0	82900	79001	400959	9.20	5.5	13.0	209.4	172.9	172.9	p
100yr WSE	4768.0	90800	86820	487779	11.20	5.5	13.0	322.4	188.0	188.0	p
	4769.0	99000	94870	582650	13.38	5.5	13.0	450.6	202.0	202.0	p

* - w = weir control; p = orifice control

NORTH DETENTION POND SUMMARY

AVAILABLE STORAGE:	5.3 AC-FT
TOP OF POND:	4845.00 FT
OUTLET INVERT:	4838.60 FT
OUTLET TYPE:	24" RCP
10-YR WSEL:	4841.24 FT
10-YR PEAK FLOW:	19 CFS
10-YR PEAK STORAGE:	5 AC-FT
100-YR WSEL:	4843.54 FT
100-YR PEAK FLOW:	30 CFS
100-YR PEAK STORAGE:	12 AC-FT

*10-YR AND 100-YR WSEL'S, PEAK FLOW AND PEAK STORAGE CALCULATED WITH HEC-1.

STAGE/STORAGE/DISCHARGE

ELEVATION (FT)	STORAGE (AC-FT)	DISCHARGE** (CFS)
4845.00	17.31	35.48
4844.00	13.63	32.09
4842.00	6.95	23.92
4840.00	0.97	10.70
4838.50	0.00	0.00

**DISCHARGE CALCULATED WITH THE ORIFICE EQUATION FOR A 24" PIPE.

$$Q = Cd * A * (2*g*h)^{(1/2)}$$

Q = discharge (cfs)
Cd = orifice coefficient (0.6)
A = flow area of pipe (ft^2)
g = gravity (ft/s^2)
h = driving head measured from middle of pipe (ft)

EXCERPT FROM
LAND-SIDE IMPROVEMENTS TO WALKER FIELD
FINAL DRAINAGE DESIGN REPORT - JANUARY 2007
CARTER & BURGESS, INC.

SOUTH DETENTION POND SUMMARY

AVAILABLE STORAGE:	5.3 AC-FT
TOP OF POND:	4803.00 FT
OUTLET INVERT:	4893.50 FT
OUTLET TYPE:	36" RCP
10-YR WSEL:	4797.88 FT
10-YR PEAK FLOW:	57 CFS
10-YR PEAK STORAGE:	1 AC-FT
100-YR WSEL:	4800.88 FT
100-YR PEAK FLOW:	82 CFS
100-YR PEAK STORAGE:	3 AC-FT

*10-YR AND 100-YR WSEL'S, PEAK FLOW AND PEAK STORAGE CALCULATED WITH HEC-1.

STAGE/STORAGE/DISCHARGE

ELEVATION (FT)	STORAGE (AC-FT)	DISCHARGE** (CFS)
4803.00	5.34	90.07
4801.00	3.16	83.39
4799.00	1.64	68.08
4797.00	0.70	48.14
4795.00	0.10	23.58
4793.50	0.00	0.00

**DISCHARGE CALCULATED WITH THE ORIFICE EQUATION FOR A 36" PIPE.

$$Q = Cd * A * (2*g*h)^{(1/2)}$$

Q = discharge (cfs)
Cd = orifice coefficient (0.6)
A = flow area of pipe (ft^2)
g = gravity (ft/s^2)
h = driving head measured from middle of pipe (ft)

EXCERPT FROM
LAND-SIDE IMPROVEMENTS TO WALKER FIELD
FINAL DRAINAGE DESIGN REPORT - JANUARY 2007
CARTER & BURGESS, INC.

Appendix Two

MASTER UTILITY REPORT

MASTER UTILITY REPORT

Grand Junction Regional Airport

Grand Junction, Colorado

Sponsored By:

Grand Junction Regional Airport Authority

Federal Aviation Administration

June 13, 2009

JVIATION
ENGINEERING & PLANNING

900 S. Broadway, Suite 350
Denver, CO 80209

Main 303.524.3030
Fax 303.524.3031

JVIATION.COM

ENGINEER'S CERTIFICATION

I hereby certify that this *Master Utility Report* (Plan) for the design of the Master Plan for the Grand Junction Regional Airport was prepared by me (or under my direct supervision) in accordance with the provisions of the *utility agencies* for the owners thereof. I understand that the City of Grand Junction does not and will not assume liability for utility facilities designed by others.



08/25/09

Mark J. Lovato, P.E. Date
State of Colorado No. 35184
(Affix Seal)

OWNER'S CERTIFICATION

The Grand Junction Regional Airport Authority hereby certifies that the utility facilities for the Grand Junction Regional Airport shall be constructed according to the design presented in this report. We understand that the City of Grand Junction does not and will not assume liability for the utility facilities designed and/or certified by our engineer. We understand that the City of Grand Junction reviews utility plans but cannot, on behalf of the Grand Junction Regional Airport, guarantee that final utility design review will absolve the Grand Junction Regional Airport Authority and/or their successors and/or assigns of future liability for improper design. We further understand that approval of the Master Plan does not imply approval of our engineer's utility design.

Grand Junction Regional Airport Authority

By a Tyrrell 9-14-09

Authorized Signature Date

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INTRODUCTION

A. Project Location

This project is located at the Grand Junction Regional Airport (see Vicinity Map in Appendix A). The airport is located northeast of the City of Grand Junction, CO in Mesa County, north of Interstate Highway I-70 approximately one mile, along Horizon Drive. The airport is bordered by Bureau of Land Management (BLM) property to the north and east, I-70 and the Highline Canal to the south and Road 27 ¼ to the west.

The project is in the south portion of Section 24, in the east half of a portion of Section 25, a portion of Section 30, a portion of Section 31, and a portion of the north west quarter of Section 32, Township 1 North, Ranges 1 East and West of the Ute Principal Meridian. The site is approximately 2,334 acres.

B. Site Description

The Grand Junction Regional Airport consists of commercial and general aviation buildings. The infrastructure consists of runways, taxiways, aprons, parking lots, buildings, roadway network and utility infrastructure to serve the operations at the airport.

I. EXISTING UTILITY SYSTEM

A. Existing Infrastructure

1. Water

Existing utility as-built/record drawings were first used to get an idea of the existing water system infrastructure. This existing system was then further verified by the Ute Water Conservancy District. In addition, field verification was used to further help identify the existing water infrastructure.

An existing 30-inch steel Ute Water Conservancy District supply pipeline runs from the southeast to the northwest across Runway 4/22. This 30-inch steel pipeline continues to the northwest beyond the end of Landing View Lane. Three airport water elevation Zones of infrastructure are created from this supply pipeline. One water system to the southeast, one to the northeast and another water system to the northwest supply water to the buildings on airport property. Each of these systems contains 8-inch to 12-inch pipeline mains to supply water to the buildings on the property. In addition, another non-airport system to the west, off of current airport property is supplied by an 18-inch water main that branches from the water supply pipeline. A map of the existing water infrastructure can be found in Appendix B.

2. Sanitary

The sanitary sewer system servicing the Grand Junction Regional Airport is a gravity system of 8-inch and 12-inch pipelines that exit off airport property to the southwest of the main entrance roundabout at Walker Field Drive and Horizon Drive. An existing sanitary sewer infrastructure map was created from existing utility as-built/record drawings which were verified by the City of Grand Junction and later field verified by Jviation personnel. One note, during field verification, is that the manhole on the southeast end of Aviators Way was not found and may be covered by asphalt millings. The manhole just to the north does show a pipe heading in that direction and the as-built/record drawings show a manhole in that location. The map of the existing sanitary sewer infrastructure can be found in Appendix C.

3. Communications

A map of each of the fiber optic and phone utilities was created from existing utility as-built/record drawings. This map was then sent to Chris Johnson at Qwest Communications for further verification. This map is located in Appendix D.

4. Gas and Electrical

Using existing utility as-built/record drawings, a map of the existing electrical utilities and a map of the existing gas utilities were created. John Price from Xcel Energy sent gas and electrical drawings that were used to create the Xcel Energy utilities in the existing gas and electrical utility maps. In addition, Steve Don at Grand Valley Power was contacted to verify Grand Valley Power utilities. Steve Don sent drawings showing Grand Valley Power's utility lines on the north side of 27 ¼ Road. The existing electrical utility map and existing gas utility map are located in Appendix D.

5. Cable TV.

A map of existing Cable TV utilities was created from existing utility as-built/record drawings. Contact with Jeff Valdez at Bresnan Communication was made for verification of existing Cable TV utilities. Jeff stated that Bresnan does not have any active facilities but that there was conduit put in while there was an open trench for future services. To date, the Bresnan Contractor has not made an as-built drawing of where the conduits were placed. A map of the existing Cable TV utilities from as-built/record drawings is located in Appendix D.

B. Existing Distribution Analysis

1. Existing Water Model Design

Water distribution system analysis is based on standards received from District Engineer Edward Tolen, P.E. of the Ute Water Conservancy District. The Grand Junction Regional Airport consists of many commercial and general aviation buildings. A map of the existing water model can be seen in Appendix B. Several scenarios were used in the analysis of the water distribution system including; static, average day, maximum day, maximum day + fire flow, and peak hour flows.

To depict the current conditions of the site, a static water model was created using pressures received from the Ute Water conservancy District and setting the pipeline elevations at an assumed depth of 5 feet below the existing grade. This static scenario means that the water in the pipelines is not moving, but pressurized. Two Zones were identified by Ute Water at two connections to the steel water supply pipeline going through the site. Pressure reducing valves (PRV) locations and their settings were given by Ute Water at connections to the supply pipeline for each Zone. Reservoirs were then placed at each end of the steel water supply pipeline. Water elevations in the reservoirs were adjusted to achieve 140 to 145 psi (pounds per square inch), given by Ute Water in the 30-inch steel water supply pipeline. The PRV connection at Zone 1 to the northwest was given an 80 psi setting by the Ute Water Conservancy District. Due to pipeline variances and the model being set at a constant 5 feet below grade, this PRV was adjusted to 87 psi to get the required static 75 psi at node J-17, given by Ute Water. For this same reason, the Zone 2 PRV was adjusted from the given 105 psi to 98 psi, to achieve the required static 85 psi at node J-42.

Average day demands were then calculated using the 2008 Colorado Department of Transportation's Economic Impact Study of the Grand Junction Regional Airport. There are 6,125 jobs generated by the airport according to the study. This seems to be a conservative number, because some of these jobs may not be located on airport property. The Ute Water Conservancy District standard for demands is 15 gallons per day per employee (gpd/employee). Converting this demand to gallons per minute (gpm) gives 0.01 gpm/employee. This number was multiplied by the 6,125 jobs and was distributed at 1.8 gpm over 34 nodes that were adjacent to buildings within the water model of the site. In addition, using current enplanement forecasts, a high estimated passenger enplanement forecast of 405,990 passengers in the year 2027, was used, to be conservative for the analysis of the system. Dividing the 405,990 passengers by 365 days resulted in 1,112 passengers per day. This number was multiplied by the .01 gpm and distributed at an additional 5.56 gpm over node J-13 and also 5.56 gpm over node J-14, which is adjacent to the terminal.

Maximum day demands for the Grand Junction Regional Airport were calculated by multiplying the average day demand by a peaking factor of 2.0, while peak hour demands were calculated by multiplying the average day demand by a peaking factor of 2.50.

Grand Junction Fire Department was contacted to determine the required fire flows to the airport. It was determined from Appendix B of the 2006 Edition of the International Fire Code that a 2,000 gpm fire flow can be used for buildings that have approved automatic fire sprinkler systems. There are a few buildings on the airport that have high expansion foam fire suppression systems. At these nearest adjacent nodes, J-42 and J-58, it was determined by the Grand Junction Fire Department that a 6,000 gpm fire flow would not be unreasonable. Therefore, a 2,000 gpm fire flow was placed on the entire system except at the two nodes where a 6,000 gpm fire flow was used.

Existing average day demand, maximum day demand, and peak hour demands for each node are shown in the WaterCAD report printout, located in Appendix B.

2. Existing Water Model Analysis

In all scenarios, the pressure in the water supply line was between 140 psi and 145 psi. This includes nodes J-7, J-8 and J-31. These junctions will not be reported in the analysis of each scenario for high pressure, because they will consistently be the high pressure nodes.

In the static scenario, the WaterCAD analysis calculated the lowest pressure to be 70.8 psi at node J-20 and the maximum pressure as 101.9 psi at node J-33. These pressures are within a reasonable pressure range, although pressures over 90 psi may need a pressure reducing valve (PRV) on the service to the existing buildings.

Next, with average day demands, the WaterCAD analysis calculated pressure ranges to be 70.8 psi at node J-20 to 101.9 psi at node J-33. The maximum velocity in the system was 0.12 fps. Once again, pressures seem to be within a reasonable pressure range and velocities were below the maximum 10 fps (feet per second).

The Maximum Day Demand of 2 times the average demand was applied at all nodes in the model. The WaterCAD analysis calculated a minimum pressure to be 70.8 psi at node J-20 and the maximum pressure as 101.9 psi at node J-33. Flow velocities were at a maximum 0.25 fps which is less than 10 fps per Ute Water Conservancy District requirements.

Also, a Maximum Day Demand plus fire flow demand was applied to the model. Only nodes J-23, J-24, J-26, J-27 and J-28 did not meet the fire flow, with a residual of 20 psi. The fire flow at these north junctions, with a required 20 psi residual pressure, ranged from 1,890.71 gpm to 1,997.33 gpm. It should be noted that WaterCAD systematically applies a designated fire flow to every node in the system. The pipe velocity is not reflected in the "WaterCAD Fire Flow report." In order to assure that the system met the maximum velocity requirements, a fire flow was manually entered at nodes in the systems, which are typically worst case scenarios. Specifically, nodes J-14, J-26, J-42, J-53, J-55 and J-58 were

tested. Pipe velocities for fire flows at 2,000 gpm were under 12.93 fps. At nodes J-42 and J-58 with 6,000 gpm fire flows there was one pipe, P-59, that had a 28.36 fps velocity and the rest of the pipes were under 17.27 fps. These were a little above the targeted 10 fps velocity requirements from the Ute Water Conservancy District. The Ute Water Conservancy District is aware that some existing fire flow velocities are above the targeted maximum 10.0 fps.

For the last scenario, the Peak Hour Demand, the WaterCAD analysis calculated pressures ranging from 70.8 psi at node J-20 to 101.9 psi at node J-33. Flow velocities were below 0.31 fps, which is less than the maximum of 10.0 fps allowed by the Ute Water Conservancy District.

3. Existing Sanitary Sewer Analysis

Sanitary sewer design is based on the City of Grand Junctions Sanitary Sewer Regulations, provided by Bret Guillory, PE, CM. Light commercial average day sanitary sewer flow rates at 175 gallons per acre per day (gpad) were used for analysis of the Grand Junction Regional Airport.

All sanitary sewer pipes were analyzed for peak flows. Peak flows are determined by multiplying the Average Day Flow (ADF) by a Peaking Factor (PF). The peaking factor for the City of Grand Junction is 2, except in areas of heavy flow, in which case a PF of 4 was used. For analysis of this existing system, a PF of 2 was used everywhere except Design Points 10, 13 and all points downstream, a PF of 4 was used. A PF of 4 was used at Point 10 for all of the people passing through the terminal every day. Similarly, a PF of 4 was placed on Point 13 because that is the location where the airlines drain their sanitary sewer plane capture systems into the existing system.

The average day flows and peak flows for the existing sanitary sewer system are summarized in Appendix C. The sanitary sewer system within the Grand Junction Regional Airport is serviced mostly with 8-inch, 10-inch and 12-inch sewer mains. It appears there are some existing pipes that are at less than the City of Grand Junction standard of 0.4% minimum slope in certain locations. The first location is between Design Points 4 and 5. There also appear to be some shallow slopes between Design Points 9 and 11. These slopes were calculated from information received from field measurements, City of Grand Junction Regional Airport GIS Sewer Map information, and some existing survey data. Minimum and maximum slopes were used for the analysis of some of the existing sanitary sewer system, for which data could not be obtained. Refer to Appendix C for a detailed analysis of the existing sanitary sewer system with a spreadsheet and data calculations for the Grand Junction Regional Airport. Pipes were less than the 80% full requirement by the City of Grand Junction. The maximum percent full calculated for the pipes is 30.5%. Maximum velocity was 4.20 fps (feet per second), which is well below the maximum 10 fps required.

Minimum velocities were at 0.41 fps which is below the targeted 2.0 fps. Pipes that are at the beginning of sanitary sewer pipe runs usually do not have enough flow to achieve the 2.0 fps velocity even with a maximum slope. Also, these velocities do not take into consideration the momentum of steeper slope velocities going into shallower slopes.

Refer to Appendix C for 2008 AutoCAD Civil 3D Land Desktop Companion, Hydrology Through Circular Pipe, Sanitary Sewer Calculation Data.

II. PROPOSED UTILITY SYSTEM

A. Proposed Infrastructure

1. Water

There are three areas defined for future development at the Grand Junction Regional Airport. Proposed 12-inch water loops were created in two of these development areas to the northwest and southeast. In addition, the loop to the northwest will be connected to an existing pressure reducing valve stub located at approximately RW 11/29 and 27 ¼ Road. A 12-inch water main is proposed to loop from the south across Runway 11/29 to the northeast. A 16-inch water main loop will then head northwest paralleling Runway 11/29 before crossing perpendicularly on the north side and heading west back to the 30-inch water supply pipeline. Two new pressure reducing valves will be needed on the northeast loop. One pressure reducing valve will need to be located at approximately RW 11/29 and 27 ¼ Road and the other on the south side of the loop somewhere between zones 3 and 2 as shown on the map in Appendix E. The loop to the northeast of the runway was at a higher elevation and created a third proposed Zone. All proposed mains are for analysis of the proposed development areas and are not exact locations of where the mains need to be placed. A map of the proposed system can be seen in Appendix E.

2. Sanitary

Currently, there are proposed 8-inch sanitary sewer stubs into the proposed developed area, as seen on the proposed sanitary sewer map in Appendix F. Proposed sanitary sewer may need to drain into the neighboring system or require a pump if the proposed developed area grading does not permit gravity flow into the existing Grand Junction Regional Airport sanitary sewer system. The proposed Grand Junction Regional Airport future development area to the north of Runway 11/29 is elevated above the existing system and should be able to gravity feed into the existing sanitary sewer system.

3. Communications

A map of each of the fiber optic and phone utilities was created from existing utility as-built/record drawings. This map with future development areas was then sent to Chris Johnson at Qwest Communications to see if Qwest could supply these areas. His response

was that Qwest would be able to supply these areas, but from where would depend on what exactly was being built in the areas. A map of these utilities can be found in Appendix D.

4. Gas and Electrical

Gary Lewis with Xcel Energy was sent maps showing existing utilities and showing the future development areas to see if Xcel Energy could supply gas and electricity into these areas. His response was that Xcel would be able to supply these areas, but there may need to be existing upgrades depending on what exactly was being built in the areas. He also stated that Xcel would only be able to provide electricity up to the boundary with Grand Valley Power. In addition, Steve Don at Grand Valley Power was contacted to see if they could supply electricity for the future development areas within their boundary. His response was that Grand Valley Power would be able to supply the future development areas within their boundary of service, but depending upon the size of the facilities, system upgrades to increase capacity may require a contribution in aid of construction from the customer. A map of these utilities can be found in Appendix D, along with an exhibit showing the boundaries.

5. Cable TV.

Jeff with Bresnan Communication was sent maps showing existing utilities and showing the future development areas to see if Bresnan Communication could supply utilities into these areas. Jeff said they do not have any active facilities on airport property yet, but that there was pipe put in when there was an open trench for future services and Bresnan can supply their utilities. A map of these utilities can be found in Appendix D.

B. Proposed Distribution Analysis

1. Proposed Water Model Design

Water distribution system analysis is based on standards received from District Engineer Edward Tolen, P.E. with th Ute Water Conservancy District. The Grand Junction Regional Airport consists of many commercial and general aviation buildings. A map of the proposed water model can be found in appendix E.

Proposed water mains were added to the existing water model for a proposed water model analysis. Average day demands were placed on the proposed nodes at the same rates as the existing node demands. The existing system already used a future forecasted enplanement total for demands at the terminal, to be conservative. Similar to the existing analysis the same 2.0 and 2.5 maximum day and peak hour peaking factors were multiplied to the average day demand.

The Grand Junction Fire Department was contacted to determine fire flows for the project. It should be noted that a 6,000 gpm fire flow was placed on the proposed system. This was

a worst case scenario in case a proposed building needs the high expansion foam fire suppression system. This required a larger supply line into and around the future development areas.

Proposed average day demand, maximum day demand, and peak hour demands for each node are shown in the WaterCAD report printouts located in Appendix E.

2. Proposed Water Model Analysis

Similar to the existing analysis, in all scenarios, the pressure in the 30-inch water supply line was between 140 psi and 145 psi. This includes nodes J-7, J-8, J-31, J-122, J-123, J-125, J-127 and J-122. These junctions will not be reported in the analysis of each scenario for high pressure.

In the average day demands, the WaterCAD analysis calculated pressure ranges to be 70.8 psi at node J-20 to 104.3 psi at node J-121. The maximum velocity in the system was 0.29 fps. Pressures seem to be within a reasonable pressure range and velocities were below the maximum 10 fps. Individual pressure reducing valves might be required on services with pressures over 85 psi.

The Maximum Day Demand of 2.0 times the average demand was applied at all nodes in the model. The WaterCAD analysis calculated a minimum pressure to be 70.7 psi at node J-20 and the maximum pressure as 104.3 psi at node J-121. Flow velocities were at a maximum 0.57 fps which is less than 10.0 fps per the Ute Water Conservancy District requirements.

Also, a Maximum Day Demand plus fire flow demand was applied to the model. It should be noted that a 6,000 gpm fire flow was placed on the proposed nodes. This was a worst case scenario in case a proposed building needs the high expansion foam fire suppression system. All nodes, except J-103 and J-100, did meet the required fire flow with a residual pressure of 20.0 psi. J-100 is a representation of where the new proposed Air Traffic Control Tower is projected to be located, which will not have the high expansion foam fire suppression system. Junction J-103 is just at the edge of the proposed development area and had a fire flow of 5,935 gpm which is just about 6,000 gpm and should not be an issue. As with the existing analysis, in order to assure that the system met the maximum velocity requirements, a fire flow was manually entered at nodes in the systems, which are typically worst case scenarios. Specifically, nodes J-14, J-26, J-42, J-53, J-55, J-58, J-79, J-84, J-94, J-103 and J-121 were tested. Similar to the existing water model, node 58 with a 6,000 gpm fire flow resulted in Pipe P-59 having a 28.36 fps velocity. In the new proposed development areas to the northwest and southeast, velocities were about 15 fps in a couple of pipes. The velocities are higher than the targeted 10.0 fps velocity because the existing pipe sizes supplying these areas are sized smaller than the proposed pipe sizes, so flow is mostly coming from one direction through the proposed system. Required fire flows in the

proposed area to the northeast were all below the targeted 10.0 fps velocity from the Ute Water Conservancy District.

For the last scenario, the Peak Hour Demand, the WaterCAD analysis calculated pressures ranging from 70.6 psi at node J-20 to 104.2 psi at node J-121. Flow velocities were below 0.72 fps, which is less than the maximum of 10.0 fps allowed by the Ute Water Conservancy District.

3. Proposed Sanitary Sewer Analysis

Sanitary sewer design is based on the City of Grand Junction Sanitary Sewer Regulations, provided by Bret Guillory, PE, CM. Light commercial average day sanitary sewer flow rates at 175 gallons per acre per day (gpad) were used for analysis of the Grand Junction Regional Airport.

The proposed sanitary sewer pipes were added to the existing sanitary sewer analysis by adding the demand from the proposed future development areas. The average day flows and peak flows for the existing sanitary sewer system are summarized in Appendix F. Proposed 8-inch sanitary sewer mains were connected to the existing sanitary sewer system. The City of Grand Junction minimum and maximum slopes were used for the analysis of the proposed sanitary sewer system. Refer to Appendix F for a detailed analysis of the proposed sanitary sewer system with a spreadsheet and data calculations for Grand Junction Regional Airport. Pipes were less than the 80% full requirement by the City of Grand Junction. The maximum percent full calculated for the pipes is 72.0%. Maximum velocity was 6.42 fps, which is well below the maximum 10.0 fps required. Minimum velocities were at 0.41 fps which is below the targeted 2.0 fps requirement. Pipes that are at the beginning of sanitary sewer pipe runs usually do not have enough flow to achieve the 2.0 fps velocity, even with maximum slopes. Also, these velocities do not take into consideration the momentum of steeper slope velocities going into shallower slopes.

Refer to Appendix F for 2008 AutoCAD Civil 3D Land Desktop Companion, Hydrology Through Circular Pipe, Sanitary Sewer Calculation Data.

III. CONCLUSIONS

The Grand Junction Regional Airport Preliminary Utility Report was prepared in compliance with local utility agency guidelines. Water and Sanitary systems were analyzed more extensively than the other utilities. These utilities will need to be designed and approved by local utility agencies in proposed development areas. These agencies have been contacted and do have adequate supply to develop the proposed areas.

The existing water system does work, although additional looping of water mains might help with velocities and flows. In addition, when a pipe needs maintenance, valves can isolate the area and most of the system can still operate with the proper looping of water mains. The existing system is working and future development will have to be monitored. Future buildings might require approved sprinkler systems and possible upgrades to the existing system if the buildings will require high expansion foam fire suppression systems.

Existing sanitary sewer flows seem to be in working order. Future sanitary sewer mains will have to be monitored to make sure that the required minimum and maximum slopes are achieved. If velocities are between the 2.0 feet per second and 10.0 feet per second, then less maintenance and cleanouts will be needed for the system. There is available capacity in the existing system for future sanitary sewer development, however topography of the land will determine if it can gravity feed into the existing system. If not, then pumps can be installed or possibly other surrounding systems could convey the flow. In this case, an additional analysis would need to be completed.

REFERENCES

1) City of Grand Junction - Technical Memo, Page TM3-6, February 4, 1993.

2) The Grand Junction Regional Airport Economic Impact Study, by the Colorado Department of Transportation – Division of Aeronautics, 2008.

APPENDIX A

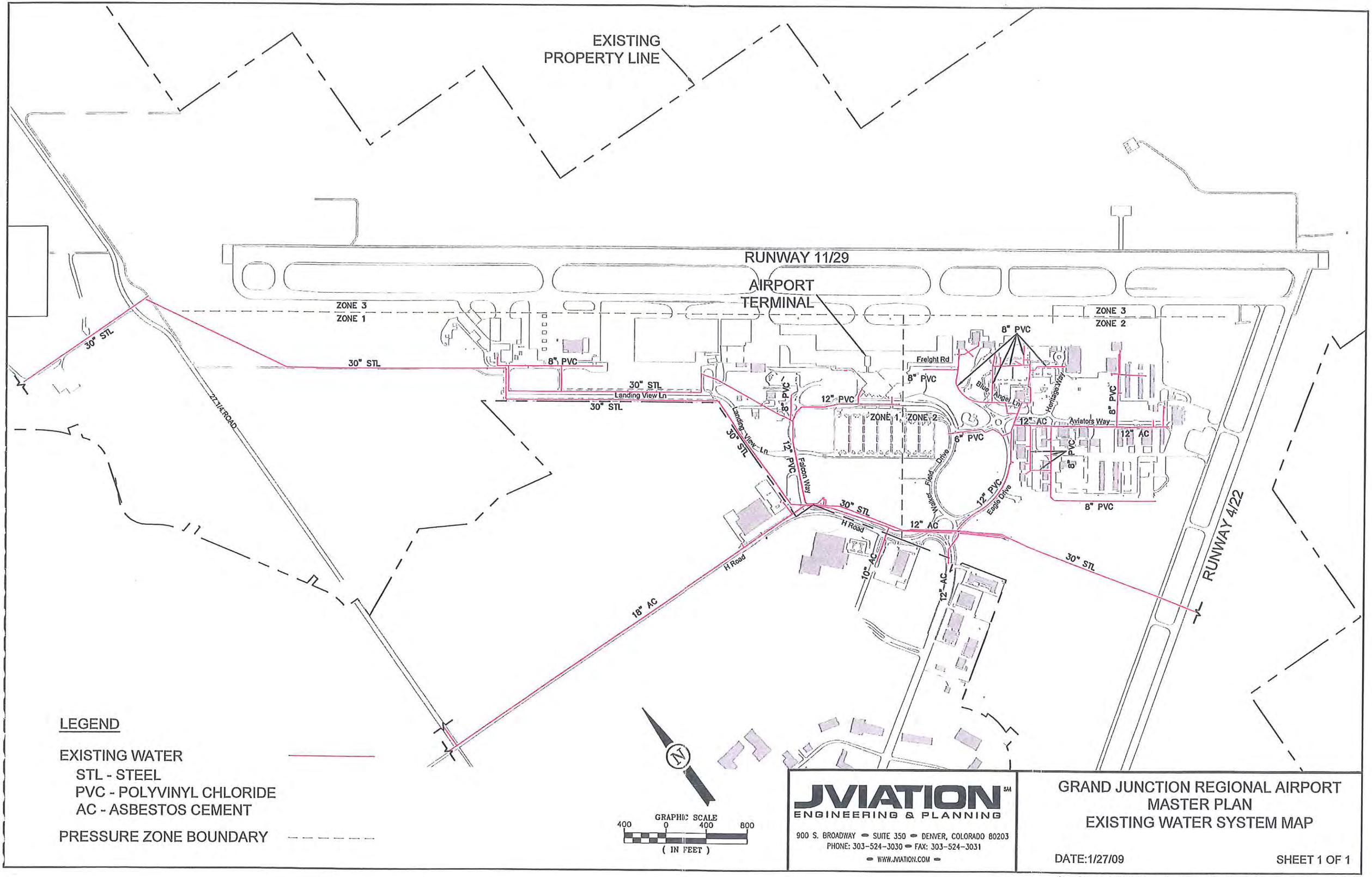


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GRAND JUNCTION REGIONAL AIRPORT
VICINITY MAP

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APPENDIX B



JVIATION SM
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GRAND JUNCTION REGIONAL AIRPORT
MASTER PLAN
EXISTING WATER SYSTEM MAP

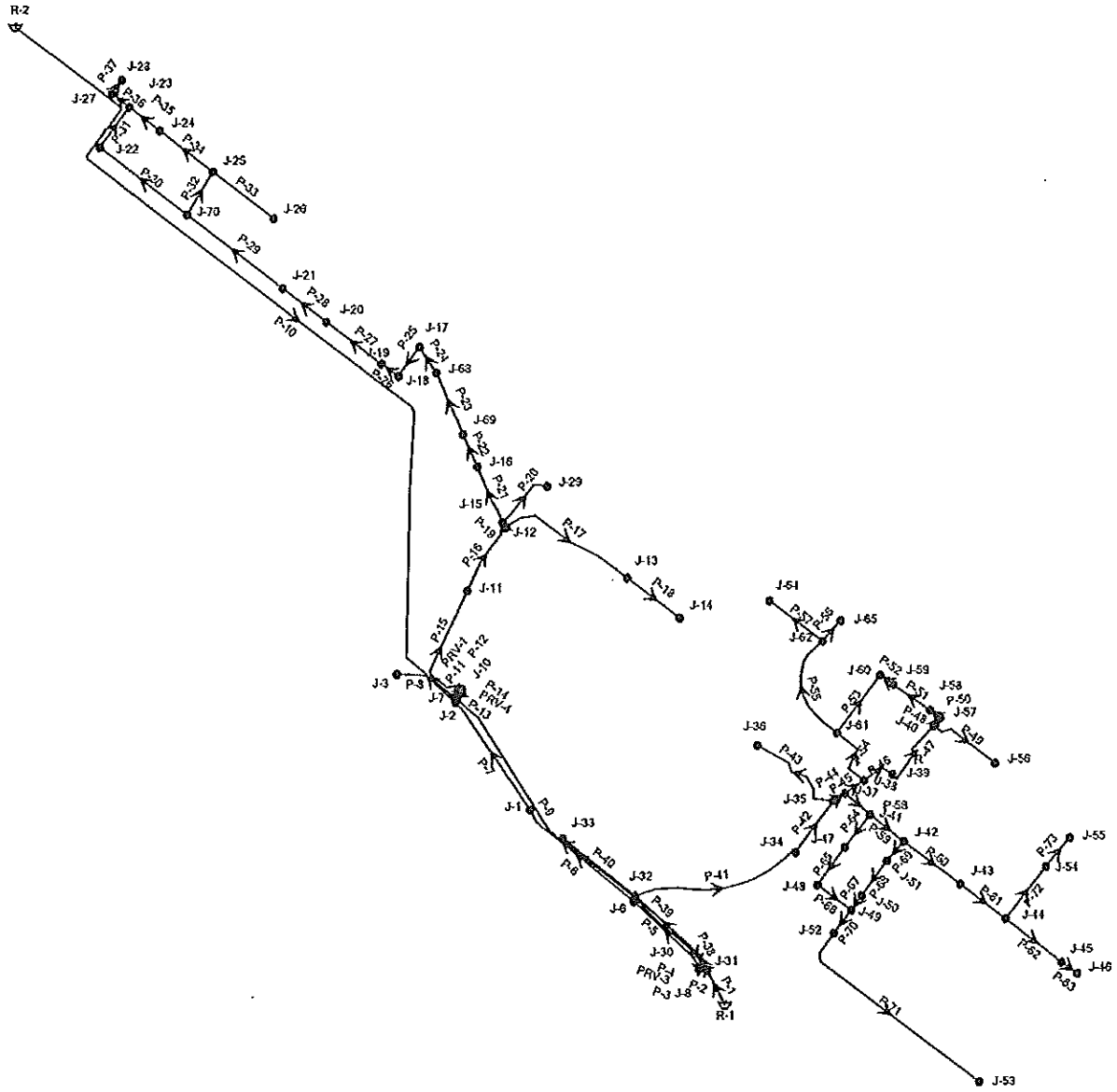
DATE:1/27/09

SHEET 1 OF 1

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + FF

Print Preview



GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Static

FlexTable: Junction Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-1	Zone - 4	0.00	4,977.97	<Collection: 1 items>	Fixed	84.1	4,783.50
J-2	Zone - 4	0.00	4,977.97	<Collection: 1 items>	Fixed	83.5	4,785.00
J-3	Zone - 4	0.00	4,977.97	<Collection: 1 items>	Fixed	84.4	4,783.00
J-6	Zone - 4	0.00	4,977.97	<Collection: 1 items>	Fixed	80.9	4,791.00
J-7	Zone - 3	0.00	5,120.00	<Collection: 0 items>	Fixed	144.9	4,785.00
J-8	Zone - 3	0.00	5,120.00	<Collection: 0 items>	Fixed	141.5	4,793.00
J-10	Zone - 1	0.00	4,986.66	<Collection: 1 items>	Fixed	87.0	4,785.50
J-11	Zone - 1	0.00	4,986.66	<Collection: 1 items>	Fixed	82.3	4,796.50
J-12	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	78.8	4,804.50
J-13	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	74.5	4,814.50
J-14	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	74.7	4,814.00
J-15	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	78.6	4,805.00
J-16	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	78.4	4,805.50
J-17	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	74.7	4,814.00
J-18	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	72.1	4,820.00
J-19	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	71.2	4,822.00
J-20	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	70.8	4,823.00
J-21	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	71.2	4,822.00
J-22	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	74.1	4,815.50
J-23	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	73.8	4,816.00
J-24	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	73.4	4,817.00
J-25	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	74.3	4,815.00
J-26	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	76.4	4,810.00
J-27	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	74.7	4,814.00
J-28	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	73.0	4,818.00
J-29	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	75.6	4,812.00
J-30	Zone - 4	0.02	4,977.97	<Collection: 1 items>	Fixed	80.0	4,793.00
J-31	Zone - 3	0.00	5,120.00	<Collection: 0 items>	Fixed	141.5	4,793.00
J-32	Zone - 2	0.00	5,019.59	<Collection: 0 items>	Fixed	98.5	4,792.00
J-33	Zone - 2	0.00	5,019.59	<Collection: 0 items>	Fixed	101.9	4,784.00
J-34	Zone - 2	0.00	5,019.59	<Collection: 0 items>	Fixed	92.4	4,806.00
J-35	Zone - 2	0.00	5,019.59	<Collection: 0 items>	Fixed	90.2	4,811.00
J-36	Zone - 2	0.00	5,019.59	<Collection: 0 items>	Fixed	90.2	4,811.00
J-37	Zone - 2	0.00	5,019.59	<Collection: 0 items>	Fixed	90.0	4,811.50
J-38	Zone - 2	0.00	5,019.59	<Collection: 0 items>	Fixed	87.7	4,817.00
J-39	Zone - 2	0.00	5,019.59	<Collection: 0 items>	Fixed	86.1	4,820.50
J-40	Zone - 2	0.00	5,019.59	<Collection: 0 items>	Fixed	84.8	4,823.50
J-41	Zone - 2	0.00	5,019.59	<Collection: 0 items>	Fixed	88.9	4,814.00
J-42	Zone - 2	0.00	5,019.59	<Collection: 0 items>	Fixed	85.1	4,823.00
J-43	Zone - 2	0.00	5,019.59	<Collection: 0 items>	Fixed	87.7	4,817.00
J-44	Zone - 2	0.00	5,019.59	<Collection: 0 items>	Fixed	87.7	4,817.00
J-45	Zone - 2	0.00	5,019.59	<Collection: 0 items>	Fixed	86.6	4,819.50
J-46	Zone - 2	0.00	5,019.59	<Collection: 0 items>	Fixed	86.4	4,820.00
J-47	Zone - 2	0.00	5,019.59	<Collection: 0 items>	Fixed	89.8	4,812.00
J-48	Zone - 2	0.00	5,019.59	<Collection: 0 items>	Fixed	90.7	4,810.00
J-49	Zone - 2	0.00	5,019.59	<Collection: 0 items>	Fixed	90.2	4,811.00
J-50	Zone - 2	0.00	5,019.59	<Collection: 0 items>	Fixed	89.8	4,812.00
J-51	Zone - 2	0.00	5,019.59	<Collection: 0 items>	Fixed	88.9	4,814.00
J-52	Zone - 2	0.00	5,019.59	<Collection: 0 items>	Fixed	90.7	4,810.00
J-53	Zone - 2	0.00	5,019.59	<Collection: 0 items>	Fixed	89.6	4,812.50

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Static

FlexTable: Junction Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-54	Zone - 2	0.00	5,019.59	<Collection: 0 items>	Fixed	85.9	4,821.00
J-55	Zone - 2	0.00	5,019.59	<Collection: 0 items>	Fixed	85.1	4,823.00
J-56	Zone - 2	0.00	5,019.59	<Collection: 0 items>	Fixed	82.9	4,828.00
J-57	Zone - 2	0.00	5,019.59	<Collection: 0 items>	Fixed	84.0	4,825.50
J-58	Zone - 2	0.00	5,019.59	<Collection: 0 items>	Fixed	84.0	4,825.50
J-59	Zone - 2	0.00	5,019.59	<Collection: 0 items>	Fixed	83.1	4,827.50
J-60	Zone - 2	0.00	5,019.59	<Collection: 0 items>	Fixed	81.2	4,832.00
J-61	Zone - 2	0.00	5,019.59	<Collection: 0 items>	Fixed	85.5	4,822.00
J-62	Zone - 2	0.00	5,019.59	<Collection: 0 items>	Fixed	82.5	4,829.00
J-64	Zone - 2	0.00	5,019.59	<Collection: 0 items>	Fixed	84.6	4,824.00
J-65	Zone - 2	0.00	5,019.59	<Collection: 0 items>	Fixed	82.0	4,830.00
J-68	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	74.3	4,815.00
J-69	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	77.3	4,808.00
J-70	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	73.0	4,818.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Static

FlexTable: Pipe Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-1	194.05	30.0	100.0	0.05	0.00	0.00	Steel	0.000	5,120.00	True	5,120.00
P-2	37.82	30.0	100.0	-0.04	0.00	0.00	Steel	0.000	5,120.00	True	5,120.00
P-3	7.44	18.0	140.0	0.03	0.00	0.00	Asbestos Cement	0.000	5,120.00	True	5,120.00
P-4	7.39	18.0	140.0	0.04	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-5	461.01	18.0	140.0	-0.02	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-6	691.43	18.0	140.0	-0.01	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-7	645.24	18.0	140.0	0.01	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-8	346.44	18.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-9	1,826.43	30.0	100.0	-0.01	0.00	0.00	Steel	0.000	5,120.00	True	5,120.00
P-10	4,541.24	30.0	100.0	0.01	0.00	0.00	Steel	0.000	5,120.00	True	5,120.00
P-11	30.30	12.0	150.0	0.02	0.00	0.00	PVC	0.000	5,120.00	True	5,120.00
P-12	25.33	12.0	150.0	0.02	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-13	36.10	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,977.97	True	4,977.97
P-14	52.44	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-15	653.52	12.0	150.0	0.02	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-16	366.19	12.0	150.0	0.01	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-17	711.39	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-18	329.62	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-19	32.01	8.0	150.0	0.01	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-20	307.08	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-21	302.29	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-22	175.00	8.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	4,986.66	True	4,986.66
P-23	331.85	8.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	4,986.66	True	4,986.66
P-24	153.34	8.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	4,986.66	True	4,986.66
P-25	177.80	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-26	101.80	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-27	343.59	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-28	273.59	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-29	600.56	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-30	549.58	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-31	245.14	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-32	246.24	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-33	381.60	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-34	332.48	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-35	191.14	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-36	110.24	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-37	82.46	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-38	94.56	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,120.00	True	5,120.00
P-39	427.12	12.0	140.0	0.05	0.00	0.00	Asbestos Cement	0.000	5,019.59	True	5,019.59
P-40	457.35	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,019.59	True	5,019.59
P-41	854.39	12.0	150.0	0.05	0.00	0.00	PVC	0.000	5,019.59	True	5,019.59
P-42	315.19	12.0	150.0	0.05	0.00	0.00	PVC	0.000	5,019.59	True	5,019.59
P-43	518.31	12.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.59	True	5,019.59
P-44	70.88	12.0	150.0	0.04	0.00	0.00	PVC	0.000	5,019.59	True	5,019.59
P-45	113.04	12.0	150.0	0.01	0.00	0.00	PVC	0.000	5,019.59	True	5,019.59
P-46	167.37	12.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.59	True	5,019.59
P-47	359.22	12.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.59	True	5,019.59
P-48	52.69	12.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.59	True	5,019.59

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Static

FlexTable: Pipe Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-49	370.87	8.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.59	True	5,019.59
P-50	62.99	8.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.59	True	5,019.59
P-51	221.10	8.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.59	True	5,019.59
P-52	81.21	8.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.59	True	5,019.59
P-53	353.77	8.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.59	True	5,019.59
P-54	332.21	8.0	150.0	-0.01	0.00	0.00	PVC	0.000	5,019.59	True	5,019.59
P-55	561.26	8.0	150.0	0.01	0.00	0.00	PVC	0.000	5,019.59	True	5,019.59
P-56	134.25	8.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.59	True	5,019.59
P-57	330.48	8.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.59	True	5,019.59
P-58	161.67	12.0	150.0	0.03	0.00	0.00	PVC	0.000	5,019.59	True	5,019.59
P-59	213.49	12.0	150.0	0.02	0.00	0.00	PVC	0.000	5,019.59	True	5,019.59
P-60	350.73	12.0	150.0	0.02	0.00	0.00	PVC	0.000	5,019.59	True	5,019.59
P-61	286.24	12.0	150.0	0.01	0.00	0.00	PVC	0.000	5,019.59	True	5,019.59
P-62	353.63	12.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.59	True	5,019.59
P-63	94.38	12.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.59	True	5,019.59
P-64	203.48	8.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.59	True	5,019.59
P-65	228.49	8.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.59	True	5,019.59
P-66	208.58	8.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.59	True	5,019.59
P-67	87.29	8.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.59	True	5,019.59
P-68	212.45	8.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.59	True	5,019.59
P-69	126.18	8.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.59	True	5,019.59
P-70	140.87	8.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.59	True	5,019.59
P-71	1,153.14	8.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.59	True	5,019.59
P-72	326.41	8.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.59	True	5,019.59
P-73	185.39	8.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.59	True	5,019.59

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Static

FlexTable: PRV Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Zone	Elevation (ft)	Diameter (Valve) (in)	Hydraulic Grade Setting (Initial) (ft)	Pressure Setting (Initial) (psi)	Flow (gpm)	Hydraulic Grade (From) (ft)	Hydraulic Grade (To) (ft)	Headloss (ft)
PRV-1	Zone - 1	4,785.50	8.0	4,986.51	87.0	0.02	5,120.00	4,986.66	133.34
PRV-2	Zone - 2	4,793.00	8.0	5,019.43	98.0	0.00	5,120.00	5,019.59	100.41
PRV-3	Zone - 4	4,793.00	12.0	4,977.84	80.0	0.04	5,120.00	4,977.97	142.03
PRV-4	Zone - 1	4,785.50	8.0	4,785.50	0.0	0.00	4,977.97	4,986.66	0.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Static

FlexTable: Reservoir Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Elevation (ft)	Zone	Net Outflow (gpm)	Hydraulic Grade (ft)
R-1	5,120.00	Zone - 3	0.05	5,120.00
R-2	5,120.00	Zone - 3	0.01	5,120.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Static

FlexTable: Reservoir Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Elevation (ft)	Zone	Net Outflow (gpm)	Hydraulic Grade (ft)
R-1	5,120.00	Zone - 3	0.05	5,120.00
R-2	5,120.00	Zone - 3	0.01	5,120.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Average Day

FlexTable: Junction Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-1	Zone - 4	1.00	4,977.97	<Collection: 1 items>	Fixed	84.1	4,783.50
J-2	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	83.5	4,785.00
J-3	Zone - 4	1.00	4,977.97	<Collection: 1 items>	Fixed	84.4	4,783.00
J-6	Zone - 4	1.00	4,977.97	<Collection: 1 items>	Fixed	80.9	4,791.00
J-7	Zone - 3	0.00	5,120.00	<Collection: 0 items>	Fixed	144.9	4,785.00
J-8	Zone - 3	0.00	5,120.00	<Collection: 0 items>	Fixed	141.5	4,793.00
J-10	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	87.0	4,785.50
J-11	Zone - 1	1.80	4,986.66	<Collection: 1 items>	Fixed	82.3	4,796.50
J-12	Zone - 1	0.00	4,986.65	<Collection: 0 items>	Fixed	78.8	4,804.50
J-13	Zone - 1	7.36	4,986.65	<Collection: 1 items>	Fixed	74.5	4,814.50
J-14	Zone - 1	7.36	4,986.65	<Collection: 1 items>	Fixed	74.7	4,814.00
J-15	Zone - 1	0.00	4,986.65	<Collection: 0 items>	Fixed	78.6	4,805.00
J-16	Zone - 1	1.80	4,986.65	<Collection: 1 items>	Fixed	78.4	4,805.50
J-17	Zone - 1	0.00	4,986.65	<Collection: 0 items>	Fixed	74.7	4,814.00
J-18	Zone - 1	0.00	4,986.65	<Collection: 0 items>	Fixed	72.1	4,820.00
J-19	Zone - 1	0.00	4,986.65	<Collection: 0 items>	Fixed	71.2	4,822.00
J-20	Zone - 1	0.00	4,986.65	<Collection: 0 items>	Fixed	70.8	4,823.00
J-21	Zone - 1	0.00	4,986.65	<Collection: 0 items>	Fixed	71.2	4,822.00
J-22	Zone - 1	0.00	4,986.65	<Collection: 0 items>	Fixed	74.0	4,815.50
J-23	Zone - 1	1.80	4,986.65	<Collection: 1 items>	Fixed	73.8	4,816.00
J-24	Zone - 1	0.00	4,986.65	<Collection: 0 items>	Fixed	73.4	4,817.00
J-25	Zone - 1	1.80	4,986.65	<Collection: 1 items>	Fixed	74.3	4,815.00
J-26	Zone - 1	0.00	4,986.65	<Collection: 0 items>	Fixed	76.4	4,810.00
J-27	Zone - 1	0.00	4,986.65	<Collection: 0 items>	Fixed	74.7	4,814.00
J-28	Zone - 1	1.80	4,986.65	<Collection: 1 items>	Fixed	73.0	4,818.00
J-29	Zone - 1	1.80	4,986.65	<Collection: 1 items>	Fixed	75.6	4,812.00
J-30	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	80.0	4,793.00
J-31	Zone - 3	0.00	5,120.00	<Collection: 0 items>	Fixed	141.5	4,793.00
J-32	Zone - 2	0.00	5,019.59	<Collection: 0 items>	Fixed	98.5	4,792.00
J-33	Zone - 2	0.00	5,019.59	<Collection: 0 items>	Fixed	101.9	4,784.00
J-34	Zone - 2	0.00	5,019.58	<Collection: 0 items>	Fixed	92.4	4,806.00
J-35	Zone - 2	0.00	5,019.58	<Collection: 0 items>	Fixed	90.2	4,811.00
J-36	Zone - 2	1.80	5,019.58	<Collection: 1 items>	Fixed	90.2	4,811.00
J-37	Zone - 2	0.00	5,019.58	<Collection: 0 items>	Fixed	90.0	4,811.50
J-38	Zone - 2	0.00	5,019.58	<Collection: 0 items>	Fixed	87.6	4,817.00
J-39	Zone - 2	1.80	5,019.58	<Collection: 1 items>	Fixed	86.1	4,820.50
J-40	Zone - 2	0.00	5,019.58	<Collection: 0 items>	Fixed	84.8	4,823.50
J-41	Zone - 2	1.80	5,019.58	<Collection: 1 items>	Fixed	88.9	4,814.00
J-42	Zone - 2	1.80	5,019.58	<Collection: 1 items>	Fixed	85.1	4,823.00
J-43	Zone - 2	1.80	5,019.58	<Collection: 1 items>	Fixed	87.6	4,817.00
J-44	Zone - 2	1.80	5,019.58	<Collection: 1 items>	Fixed	87.6	4,817.00
J-45	Zone - 2	1.80	5,019.58	<Collection: 1 items>	Fixed	86.6	4,819.50
J-46	Zone - 2	1.80	5,019.58	<Collection: 1 items>	Fixed	86.3	4,820.00
J-47	Zone - 2	1.80	5,019.58	<Collection: 1 items>	Fixed	89.8	4,812.00
J-48	Zone - 2	1.80	5,019.58	<Collection: 1 items>	Fixed	90.7	4,810.00
J-49	Zone - 2	1.80	5,019.58	<Collection: 1 items>	Fixed	90.2	4,811.00
J-50	Zone - 2	1.80	5,019.58	<Collection: 1 items>	Fixed	89.8	4,812.00
J-51	Zone - 2	1.80	5,019.58	<Collection: 1 items>	Fixed	88.9	4,814.00
J-52	Zone - 2	1.80	5,019.58	<Collection: 1 items>	Fixed	90.7	4,810.00
J-53	Zone - 2	1.80	5,019.58	<Collection: 1 items>	Fixed	89.6	4,812.50

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Average Day

FlexTable: Junction Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-54	Zone - 2	1.80	5,019.58	<Collection: 1 items>	Fixed	85.9	4,821.00
J-55	Zone - 2	1.80	5,019.58	<Collection: 1 items>	Fixed	85.1	4,823.00
J-56	Zone - 2	1.80	5,019.58	<Collection: 1 items>	Fixed	82.9	4,828.00
J-57	Zone - 2	1.80	5,019.58	<Collection: 1 items>	Fixed	84.0	4,825.50
J-58	Zone - 2	1.80	5,019.58	<Collection: 1 items>	Fixed	84.0	4,825.50
J-59	Zone - 2	1.80	5,019.58	<Collection: 1 items>	Fixed	83.1	4,827.50
J-60	Zone - 2	1.80	5,019.58	<Collection: 1 items>	Fixed	81.2	4,832.00
J-61	Zone - 2	0.00	5,019.58	<Collection: 0 items>	Fixed	85.5	4,822.00
J-62	Zone - 2	0.00	5,019.58	<Collection: 0 items>	Fixed	82.5	4,829.00
J-64	Zone - 2	1.80	5,019.58	<Collection: 1 items>	Fixed	84.6	4,824.00
J-65	Zone - 2	1.80	5,019.58	<Collection: 1 items>	Fixed	82.0	4,830.00
J-68	Zone - 1	1.80	4,986.65	<Collection: 1 items>	Fixed	74.3	4,815.00
J-69	Zone - 1	1.80	4,986.65	<Collection: 1 items>	Fixed	77.3	4,808.00
J-70	Zone - 1	0.00	4,986.65	<Collection: 0 items>	Fixed	73.0	4,818.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Average Day

FlexTable: Pipe Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-1	194.05	30.0	100.0	60.68	0.03	0.00	Steel	0.000	5,120.00	True	5,120.00
P-2	37.82	30.0	100.0	-17.48	0.01	0.00	Steel	0.000	5,120.00	True	5,120.00
P-3	7.44	18.0	140.0	3.00	0.00	0.00	Asbestos Cement	0.000	5,120.00	True	5,120.00
P-4	7.39	18.0	140.0	3.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-5	461.01	18.0	140.0	-3.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-6	691.43	18.0	140.0	-2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-7	645.24	18.0	140.0	1.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-8	346.44	18.0	140.0	1.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-9	1,826.43	30.0	100.0	-14.48	0.01	0.00	Steel	0.000	5,120.00	True	5,120.00
P-10	4,541.24	30.0	100.0	14.64	0.01	0.00	Steel	0.000	5,120.00	True	5,120.00
P-11	30.30	12.0	150.0	29.12	0.08	0.00	PVC	0.000	5,120.00	True	5,120.00
P-12	25.33	12.0	150.0	29.12	0.08	0.00	PVC	0.000	4,986.66	True	4,986.66
P-13	36.10	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,977.97	True	4,977.97
P-14	52.44	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-15	653.52	12.0	150.0	29.12	0.08	0.00	PVC	0.003	4,986.66	True	4,986.66
P-16	366.19	12.0	150.0	27.32	0.08	0.00	PVC	0.003	4,986.66	True	4,986.65
P-17	711.39	12.0	150.0	14.72	0.04	0.00	PVC	0.001	4,986.65	True	4,986.65
P-18	329.62	12.0	150.0	7.36	0.02	0.00	PVC	0.000	4,986.65	True	4,986.65
P-19	32.01	8.0	150.0	12.60	0.08	0.00	PVC	0.000	4,986.65	True	4,986.65
P-20	307.08	8.0	150.0	1.80	0.01	0.00	PVC	0.000	4,986.65	True	4,986.65
P-21	302.29	8.0	150.0	10.80	0.07	0.00	PVC	0.003	4,986.65	True	4,986.65
P-22	175.00	8.0	140.0	9.00	0.06	0.00	Asbestos Cement	0.003	4,986.65	True	4,986.65
P-23	331.85	8.0	140.0	7.20	0.05	0.00	Asbestos Cement	0.001	4,986.65	True	4,986.65
P-24	153.34	8.0	140.0	5.40	0.03	0.00	Asbestos Cement	0.000	4,986.65	True	4,986.65
P-25	177.80	8.0	150.0	5.40	0.03	0.00	PVC	0.003	4,986.65	True	4,986.65
P-26	101.80	8.0	150.0	5.40	0.03	0.00	PVC	0.000	4,986.65	True	4,986.65
P-27	343.59	8.0	150.0	5.40	0.03	0.00	PVC	0.001	4,986.65	True	4,986.65
P-28	273.59	8.0	150.0	5.40	0.03	0.00	PVC	0.000	4,986.65	True	4,986.65
P-29	600.56	8.0	150.0	5.40	0.03	0.00	PVC	0.001	4,986.65	True	4,986.65
P-30	549.58	8.0	150.0	2.14	0.01	0.00	PVC	0.000	4,986.65	True	4,986.65
P-31	245.14	8.0	150.0	2.14	0.01	0.00	PVC	0.000	4,986.65	True	4,986.65
P-32	246.24	8.0	150.0	-3.26	0.02	0.00	PVC	0.000	4,986.65	True	4,986.65
P-33	381.60	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.65	True	4,986.65
P-34	332.48	8.0	150.0	-1.46	0.01	0.00	PVC	0.000	4,986.65	True	4,986.65
P-35	191.14	8.0	150.0	-1.46	0.01	0.00	PVC	0.000	4,986.65	True	4,986.65
P-36	110.24	8.0	150.0	1.80	0.01	0.00	PVC	0.000	4,986.65	True	4,986.65
P-37	82.46	8.0	150.0	1.80	0.01	0.00	PVC	0.000	4,986.65	True	4,986.65
P-38	94.56	12.0	140.0	43.20	0.12	0.00	Asbestos Cement	0.005	5,120.00	True	5,120.00
P-39	427.12	12.0	140.0	43.20	0.12	0.00	Asbestos Cement	0.007	5,019.59	True	5,019.59
P-40	457.35	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,019.59	True	5,019.59
P-41	854.39	12.0	150.0	43.20	0.12	0.00	PVC	0.006	5,019.59	True	5,019.58
P-42	315.19	12.0	150.0	43.20	0.12	0.00	PVC	0.006	5,019.58	True	5,019.58
P-43	518.31	12.0	150.0	1.80	0.01	0.00	PVC	0.000	5,019.58	True	5,019.58
P-44	70.88	12.0	150.0	41.40	0.12	0.00	PVC	0.000	5,019.58	True	5,019.58
P-45	113.04	12.0	150.0	14.40	0.04	0.00	PVC	0.004	5,019.58	True	5,019.58
P-46	167.37	12.0	150.0	9.70	0.03	0.00	PVC	0.000	5,019.58	True	5,019.58
P-47	359.22	12.0	150.0	7.90	0.02	0.00	PVC	0.000	5,019.58	True	5,019.58
P-48	52.69	12.0	150.0	6.10	0.02	0.00	PVC	0.000	5,019.58	True	5,019.58

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Average Day

FlexTable: Pipe Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-49	370.87	8.0	150.0	1.80	0.01	0.00	PVC	0.000	5,019.58	True	5,019.58
P-50	62.99	8.0	150.0	4.30	0.03	0.00	PVC	0.000	5,019.58	True	5,019.58
P-51	221.10	8.0	150.0	2.50	0.02	0.00	PVC	0.000	5,019.58	True	5,019.58
P-52	81.21	8.0	150.0	0.70	0.00	0.00	PVC	0.000	5,019.58	True	5,019.58
P-53	353.77	8.0	150.0	-1.10	0.01	0.00	PVC	0.000	5,019.58	True	5,019.58
P-54	332.21	8.0	150.0	-4.70	0.03	0.00	PVC	0.000	5,019.58	True	5,019.58
P-55	561.26	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.58	True	5,019.58
P-56	134.25	8.0	150.0	1.80	0.01	0.00	PVC	0.004	5,019.58	True	5,019.58
P-57	330.48	8.0	150.0	1.80	0.01	0.00	PVC	0.001	5,019.58	True	5,019.58
P-58	161.67	12.0	150.0	27.00	0.08	0.00	PVC	0.003	5,019.58	True	5,019.58
P-59	213.49	12.0	150.0	18.46	0.05	0.00	PVC	0.002	5,019.58	True	5,019.58
P-60	350.73	12.0	150.0	10.80	0.03	0.00	PVC	0.000	5,019.58	True	5,019.58
P-61	286.24	12.0	150.0	9.00	0.03	0.00	PVC	0.000	5,019.58	True	5,019.58
P-62	353.63	12.0	150.0	3.60	0.01	0.00	PVC	0.000	5,019.58	True	5,019.58
P-63	94.38	12.0	150.0	1.80	0.01	0.00	PVC	0.000	5,019.58	True	5,019.58
P-64	203.48	8.0	150.0	6.74	0.04	0.00	PVC	0.002	5,019.58	True	5,019.58
P-65	228.49	8.0	150.0	4.94	0.03	0.00	PVC	0.000	5,019.58	True	5,019.58
P-66	208.58	8.0	150.0	3.14	0.02	0.00	PVC	0.000	5,019.58	True	5,019.58
P-67	87.29	8.0	150.0	-2.26	0.01	0.00	PVC	0.000	5,019.58	True	5,019.58
P-68	212.45	8.0	150.0	-4.06	0.03	0.00	PVC	0.000	5,019.58	True	5,019.58
P-69	126.18	8.0	150.0	-5.86	0.04	0.00	PVC	0.000	5,019.58	True	5,019.58
P-70	140.87	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.58	True	5,019.58
P-71	1,153.14	8.0	150.0	1.80	0.01	0.00	PVC	0.000	5,019.58	True	5,019.58
P-72	326.41	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.58	True	5,019.58
P-73	185.39	8.0	150.0	1.80	0.01	0.00	PVC	0.003	5,019.58	True	5,019.58

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Average Day

FlexTable: PRV Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Zone	Elevation (ft)	Diameter (Valve) (in)	Hydraulic Grade Setting (Initial) (ft)	Pressure Setting (Initial) (psi)	Flow (gpm)	Hydraulic Grade (From) (ft)	Hydraulic Grade (To) (ft)	Headloss (ft)
PRV-1	Zone - 1	4,785.50	8.0	4,986.51	87.0	29.12	5,120.00	4,986.66	133.34
PRV-2	Zone - 2	4,793.00	8.0	5,019.43	98.0	43.20	5,120.00	5,019.59	100.41
PRV-3	Zone - 4	4,793.00	12.0	4,977.84	80.0	3.00	5,120.00	4,977.97	142.03
PRV-4	Zone - 1	4,785.50	8.0	4,785.50	0.0	0.00	4,977.97	4,986.66	0.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Average Day

FlexTable: Reservoir Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Elevation (ft)	Zone	Net Outflow (gpm)	Hydraulic Grade (ft)
R-1	5,120.00	Zone - 3	60.68	5,120.00
R-2	5,120.00	Zone - 3	14.64	5,120.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day

FlexTable: Junction Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-1	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	84.1	4,783.50
J-2	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	83.5	4,785.00
J-3	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	84.4	4,783.00
J-6	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	80.9	4,791.00
J-7	Zone - 3	0.00	5,120.00	<Collection: 0 items>	Fixed	144.9	4,785.00
J-8	Zone - 3	0.00	5,120.00	<Collection: 0 items>	Fixed	141.5	4,793.00
J-10	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	87.0	4,785.50
J-11	Zone - 1	3.60	4,986.65	<Collection: 1 items>	Fixed	82.3	4,796.50
J-12	Zone - 1	0.00	4,986.65	<Collection: 0 items>	Fixed	78.8	4,804.50
J-13	Zone - 1	14.72	4,986.65	<Collection: 1 items>	Fixed	74.5	4,814.50
J-14	Zone - 1	14.72	4,986.65	<Collection: 1 items>	Fixed	74.7	4,814.00
J-15	Zone - 1	0.00	4,986.65	<Collection: 0 items>	Fixed	78.6	4,805.00
J-16	Zone - 1	3.60	4,986.64	<Collection: 1 items>	Fixed	78.4	4,805.50
J-17	Zone - 1	0.00	4,986.64	<Collection: 0 items>	Fixed	74.7	4,814.00
J-18	Zone - 1	0.00	4,986.64	<Collection: 0 items>	Fixed	72.1	4,820.00
J-19	Zone - 1	0.00	4,986.64	<Collection: 0 items>	Fixed	71.2	4,822.00
J-20	Zone - 1	0.00	4,986.64	<Collection: 0 items>	Fixed	70.8	4,823.00
J-21	Zone - 1	0.00	4,986.64	<Collection: 0 items>	Fixed	71.2	4,822.00
J-22	Zone - 1	0.00	4,986.63	<Collection: 0 items>	Fixed	74.0	4,815.50
J-23	Zone - 1	3.60	4,986.63	<Collection: 1 items>	Fixed	73.8	4,816.00
J-24	Zone - 1	0.00	4,986.63	<Collection: 0 items>	Fixed	73.4	4,817.00
J-25	Zone - 1	3.60	4,986.63	<Collection: 1 items>	Fixed	74.3	4,815.00
J-26	Zone - 1	0.00	4,986.63	<Collection: 0 items>	Fixed	76.4	4,810.00
J-27	Zone - 1	0.00	4,986.63	<Collection: 0 items>	Fixed	74.7	4,814.00
J-28	Zone - 1	3.60	4,986.63	<Collection: 1 items>	Fixed	73.0	4,818.00
J-29	Zone - 1	3.60	4,986.65	<Collection: 1 items>	Fixed	75.6	4,812.00
J-30	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	80.0	4,793.00
J-31	Zone - 3	0.00	5,120.00	<Collection: 0 items>	Fixed	141.5	4,793.00
J-32	Zone - 2	0.00	5,019.58	<Collection: 0 items>	Fixed	98.5	4,792.00
J-33	Zone - 2	0.00	5,019.58	<Collection: 0 items>	Fixed	101.9	4,784.00
J-34	Zone - 2	0.00	5,019.56	<Collection: 0 items>	Fixed	92.4	4,806.00
J-35	Zone - 2	0.00	5,019.56	<Collection: 0 items>	Fixed	90.2	4,811.00
J-36	Zone - 2	3.60	5,019.56	<Collection: 1 items>	Fixed	90.2	4,811.00
J-37	Zone - 2	0.00	5,019.56	<Collection: 0 items>	Fixed	90.0	4,811.50
J-38	Zone - 2	0.00	5,019.56	<Collection: 0 items>	Fixed	87.6	4,817.00
J-39	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	86.1	4,820.50
J-40	Zone - 2	0.00	5,019.55	<Collection: 0 items>	Fixed	84.8	4,823.50
J-41	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	88.9	4,814.00
J-42	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	85.0	4,823.00
J-43	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	87.6	4,817.00
J-44	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	87.6	4,817.00
J-45	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	86.6	4,819.50
J-46	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	86.3	4,820.00
J-47	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	89.8	4,812.00
J-48	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	90.7	4,810.00
J-49	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	90.2	4,811.00
J-50	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	89.8	4,812.00
J-51	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	88.9	4,814.00
J-52	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	90.7	4,810.00
J-53	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	89.6	4,812.50

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day

FlexTable: Junction Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-54	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	85.9	4,821.00
J-55	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	85.0	4,823.00
J-56	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	82.9	4,828.00
J-57	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	84.0	4,825.50
J-58	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	84.0	4,825.50
J-59	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	83.1	4,827.50
J-60	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	81.1	4,832.00
J-61	Zone - 2	0.00	5,019.55	<Collection: 0 items>	Fixed	85.5	4,822.00
J-62	Zone - 2	0.00	5,019.55	<Collection: 0 items>	Fixed	82.4	4,829.00
J-64	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	84.6	4,824.00
J-65	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	82.0	4,830.00
J-68	Zone - 1	3.60	4,986.64	<Collection: 1 items>	Fixed	74.3	4,815.00
J-69	Zone - 1	3.60	4,986.64	<Collection: 1 items>	Fixed	77.3	4,808.00
J-70	Zone - 1	0.00	4,986.63	<Collection: 0 items>	Fixed	73.0	4,818.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day

FlexTable: Pipe Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-1	194.05	30.0	100.0	121.36	0.06	0.00	Steel	0.000	5,120.00	True	5,120.00
P-2	37.82	30.0	100.0	-34.96	0.02	0.00	Steel	0.000	5,120.00	True	5,120.00
P-3	7.44	18.0	140.0	6.00	0.01	0.00	Asbestos Cement	0.000	5,120.00	True	5,120.00
P-4	7.39	18.0	140.0	6.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-5	461.01	18.0	140.0	-6.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-6	691.43	18.0	140.0	-4.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-7	645.24	18.0	140.0	2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-8	346.44	18.0	140.0	2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-9	1,826.43	30.0	100.0	-28.96	0.01	0.00	Steel	0.000	5,120.00	True	5,120.00
P-10	4,541.24	30.0	100.0	29.28	0.01	0.00	Steel	0.000	5,120.00	True	5,120.00
P-11	30.30	12.0	150.0	58.24	0.17	0.00	PVC	0.000	5,120.00	True	5,120.00
P-12	25.33	12.0	150.0	58.24	0.17	0.00	PVC	0.019	4,986.66	True	4,986.66
P-13	36.10	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,977.97	True	4,977.97
P-14	52.44	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-15	653.52	12.0	150.0	58.24	0.17	0.01	PVC	0.010	4,986.66	True	4,986.65
P-16	366.19	12.0	150.0	54.64	0.16	0.00	PVC	0.009	4,986.65	True	4,986.65
P-17	711.39	12.0	150.0	29.44	0.08	0.00	PVC	0.003	4,986.65	True	4,986.65
P-18	329.62	12.0	150.0	14.72	0.04	0.00	PVC	0.000	4,986.65	True	4,986.65
P-19	32.01	8.0	150.0	25.20	0.16	0.00	PVC	0.015	4,986.65	True	4,986.65
P-20	307.08	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,986.65	True	4,986.65
P-21	302.29	8.0	150.0	21.60	0.14	0.00	PVC	0.011	4,986.65	True	4,986.64
P-22	175.00	8.0	140.0	18.00	0.11	0.00	Asbestos Cement	0.008	4,986.64	True	4,986.64
P-23	331.85	8.0	140.0	14.40	0.09	0.00	Asbestos Cement	0.006	4,986.64	True	4,986.64
P-24	153.34	8.0	140.0	10.80	0.07	0.00	Asbestos Cement	0.006	4,986.64	True	4,986.64
P-25	177.80	8.0	150.0	10.80	0.07	0.00	PVC	0.003	4,986.64	True	4,986.64
P-26	101.80	8.0	150.0	10.80	0.07	0.00	PVC	0.000	4,986.64	True	4,986.64
P-27	343.59	8.0	150.0	10.80	0.07	0.00	PVC	0.004	4,986.64	True	4,986.64
P-28	273.59	8.0	150.0	10.80	0.07	0.00	PVC	0.002	4,986.64	True	4,986.64
P-29	600.56	8.0	150.0	10.80	0.07	0.00	PVC	0.003	4,986.64	True	4,986.63
P-30	549.58	8.0	150.0	4.28	0.03	0.00	PVC	0.001	4,986.63	True	4,986.63
P-31	245.14	8.0	150.0	4.28	0.03	0.00	PVC	0.000	4,986.63	True	4,986.63
P-32	246.24	8.0	150.0	-6.52	0.04	0.00	PVC	0.002	4,986.63	True	4,986.63
P-33	381.60	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.63	True	4,986.63
P-34	332.48	8.0	150.0	-2.92	0.02	0.00	PVC	0.000	4,986.63	True	4,986.63
P-35	191.14	8.0	150.0	-2.92	0.02	0.00	PVC	0.000	4,986.63	True	4,986.63
P-36	110.24	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,986.63	True	4,986.63
P-37	82.46	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,986.63	True	4,986.63
P-38	94.56	12.0	140.0	86.40	0.25	0.00	Asbestos Cement	0.026	5,120.00	True	5,120.00
P-39	427.12	12.0	140.0	86.40	0.25	0.01	Asbestos Cement	0.024	5,019.59	True	5,019.58
P-40	457.35	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,019.58	True	5,019.58
P-41	854.39	12.0	150.0	86.40	0.25	0.02	PVC	0.021	5,019.58	True	5,019.56
P-42	315.19	12.0	150.0	86.40	0.25	0.01	PVC	0.022	5,019.56	True	5,019.56
P-43	518.31	12.0	150.0	3.60	0.01	0.00	PVC	0.000	5,019.56	True	5,019.56
P-44	70.88	12.0	150.0	82.80	0.23	0.00	PVC	0.014	5,019.56	True	5,019.56
P-45	113.04	12.0	150.0	28.80	0.08	0.00	PVC	0.004	5,019.56	True	5,019.56
P-46	167.37	12.0	150.0	19.40	0.06	0.00	PVC	0.003	5,019.56	True	5,019.55
P-47	359.22	12.0	150.0	15.80	0.04	0.00	PVC	0.000	5,019.55	True	5,019.55
P-48	52.69	12.0	150.0	12.20	0.03	0.00	PVC	0.000	5,019.55	True	5,019.55

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day

FlexTable: Pipe Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-49	370.87	8.0	150.0	3.60	0.02	0.00	PVC	0.001	5,019.55	True	5,019.55
P-50	62.99	8.0	150.0	8.60	0.05	0.00	PVC	0.008	5,019.55	True	5,019.55
P-51	221.10	8.0	150.0	5.00	0.03	0.00	PVC	0.000	5,019.55	True	5,019.55
P-52	81.21	8.0	150.0	1.40	0.01	0.00	PVC	0.000	5,019.55	True	5,019.55
P-53	353.77	8.0	150.0	-2.20	0.01	0.00	PVC	0.000	5,019.55	True	5,019.55
P-54	332.21	8.0	150.0	-9.40	0.06	0.00	PVC	0.003	5,019.55	True	5,019.56
P-55	561.26	8.0	150.0	7.20	0.05	0.00	PVC	0.002	5,019.55	True	5,019.55
P-56	134.25	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.55	True	5,019.55
P-57	330.48	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.55	True	5,019.55
P-58	161.67	12.0	150.0	54.00	0.15	0.00	PVC	0.009	5,019.56	True	5,019.55
P-59	213.49	12.0	150.0	36.91	0.10	0.00	PVC	0.005	5,019.55	True	5,019.55
P-60	350.73	12.0	150.0	21.60	0.06	0.00	PVC	0.001	5,019.55	True	5,019.55
P-61	286.24	12.0	150.0	18.00	0.05	0.00	PVC	0.002	5,019.55	True	5,019.55
P-62	353.63	12.0	150.0	7.20	0.02	0.00	PVC	0.000	5,019.55	True	5,019.55
P-63	94.38	12.0	150.0	3.60	0.01	0.00	PVC	0.000	5,019.55	True	5,019.55
P-64	203.48	8.0	150.0	13.49	0.09	0.00	PVC	0.005	5,019.55	True	5,019.55
P-65	228.49	8.0	150.0	9.89	0.06	0.00	PVC	0.004	5,019.55	True	5,019.55
P-66	208.58	8.0	150.0	6.29	0.04	0.00	PVC	0.000	5,019.55	True	5,019.55
P-67	87.29	8.0	150.0	-4.51	0.03	0.00	PVC	0.000	5,019.55	True	5,019.55
P-68	212.45	8.0	150.0	-8.11	0.05	0.00	PVC	0.002	5,019.55	True	5,019.55
P-69	126.18	8.0	150.0	-11.71	0.07	0.00	PVC	0.004	5,019.55	True	5,019.55
P-70	140.87	8.0	150.0	7.20	0.05	0.00	PVC	0.003	5,019.55	True	5,019.55
P-71	1,153.14	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.55	True	5,019.55
P-72	326.41	8.0	150.0	7.20	0.05	0.00	PVC	0.001	5,019.55	True	5,019.55
P-73	185.39	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.55	True	5,019.55

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day

FlexTable: PRV Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Zone	Elevation (ft)	Diameter (Valve) (in)	Hydraulic Grade Setting (Initial) (ft)	Pressure Setting (Initial) (psi)	Flow (gpm)	Hydraulic Grade (From) (ft)	Hydraulic Grade (To) (ft)	Headloss (ft)
PRV-1	Zone - 1	4,785.50	8.0	4,986.51	87.0	58.24	5,120.00	4,986.66	133.34
PRV-2	Zone - 2	4,793.00	8.0	5,019.43	98.0	86.40	5,120.00	5,019.59	100.41
PRV-3	Zone - 4	4,793.00	12.0	4,977.84	80.0	6.00	5,120.00	4,977.97	142.03
PRV-4	Zone - 1	4,785.50	8.0	4,785.50	0.0	0.00	4,977.97	4,986.66	0.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day

FlexTable: Reservoir Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Elevation (ft)	Zone	Net Outflow (gpm)	Hydraulic Grade (ft)
R-1	5,120.00	Zone - 3	121.36	5,120.00
R-2	5,120.00	Zone - 3	29.28	5,120.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + FF

Fire Flow Node FlexTable: Fire Flow Report (GJT-water.wtg)

Current Time: 0.000 hours

Label	Zone	Fire Flow (Needed) (gpm)	Flow (Total Needed) (gpm)	Satisfies Fire Flow Constraints?	Fire Flow (Available) (gpm)	Pressure (Residual Lower Limit) (psi)	Pressure (Calculated Residual) (psi)	Pressure (Zone Lower Limit) (psi)	Pressure (Calculated Zone Lower Limit) (psi)	Junction w/Minimum Pressure (Zone)
J-1	Zone - 4	2,000.00	2,000.00	True	8,000.00	20.0	76.9	20.0	76.2	J-2
J-2	Zone - 4	2,000.00	2,000.00	True	8,000.00	20.0	72.2	20.0	73.1	J-3
J-3	Zone - 4	2,000.00	2,000.00	True	8,000.00	20.0	70.9	20.0	72.2	J-2
J-6	Zone - 4	2,000.00	2,000.00	True	8,000.00	20.0	78.0	20.0	80.0	J-30
J-7	Zone - 3	2,000.00	2,000.00	True	8,000.00	20.0	144.1	20.0	141.4	J-8
J-8	Zone - 3	2,000.00	2,000.00	True	8,000.00	20.0	141.3	20.0	141.3	J-31
J-10	Zone - 1	2,000.00	2,000.00	True	8,000.00	20.0	86.0	20.0	69.8	J-20
J-11	Zone - 1	2,000.00	2,000.00	True	8,000.00	20.0	55.1	20.0	43.6	J-20
J-12	Zone - 1	2,000.00	2,000.00	True	8,000.00	20.0	36.9	20.0	28.9	J-20
J-13	Zone - 1	2,000.00	2,000.00	True	6,982.44	20.0	20.0	20.0	20.2	J-14
J-14	Zone - 1	2,000.00	2,000.00	True	6,379.08	20.0	20.0	20.0	28.4	J-13
J-15	Zone - 1	2,000.00	2,000.00	True	7,974.90	20.0	27.8	20.0	20.0	J-20
J-16	Zone - 1	2,000.00	2,000.00	True	4,658.60	20.0	27.6	20.0	20.0	J-20
J-17	Zone - 1	2,000.00	2,000.00	True	2,797.19	20.0	23.9	20.0	20.0	J-20
J-18	Zone - 1	2,000.00	2,000.00	True	2,599.93	20.0	21.3	20.0	20.0	J-20
J-19	Zone - 1	2,000.00	2,000.00	True	2,503.43	20.0	20.5	20.0	20.0	J-20
J-20	Zone - 1	2,000.00	2,000.00	True	2,241.00	20.0	20.0	20.0	20.4	J-21
J-21	Zone - 1	2,000.00	2,000.00	True	2,089.63	20.0	20.0	20.0	21.7	J-28
J-22	Zone - 1	2,000.00	2,000.00	False	1,804.46	20.0	20.3	20.0	20.0	J-28
J-23	Zone - 1	2,000.00	2,000.00	False	1,787.06	20.0	20.9	20.0	20.0	J-28
J-24	Zone - 1	2,000.00	2,000.00	False	1,795.99	20.0	20.0	20.0	20.3	J-28
J-25	Zone - 1	2,000.00	2,000.00	False	1,833.47	20.0	20.4	20.0	20.0	J-28
J-26	Zone - 1	2,000.00	2,000.00	False	1,754.45	20.0	20.0	20.0	24.0	J-28
J-27	Zone - 1	2,000.00	2,000.00	False	1,748.68	20.0	21.8	20.0	20.0	J-28
J-28	Zone - 1	2,000.00	2,000.00	False	1,727.98	20.0	20.0	20.0	23.1	J-27
J-29	Zone - 1	2,000.00	2,000.00	True	4,876.08	20.0	20.0	20.0	50.3	J-20
J-30	Zone - 4	2,000.00	2,000.00	True	8,000.00	20.0	80.0	20.0	80.8	J-6
J-31	Zone - 3	2,000.00	2,000.00	True	8,000.00	20.0	141.3	20.0	141.3	J-8
J-32	Zone - 2	2,000.00	2,000.00	True	8,000.00	20.0	78.9	20.0	61.6	J-60
J-33	Zone - 2	2,000.00	2,000.00	True	8,000.00	20.0	61.8	20.0	61.6	J-60
J-34	Zone - 2	2,000.00	2,000.00	True	8,000.00	20.0	38.3	20.0	27.1	J-60
J-35	Zone - 2	2,000.00	2,000.00	True	7,622.91	20.0	29.1	20.0	20.0	J-60
J-36	Zone - 2	2,000.00	2,000.00	True	7,108.30	20.0	20.0	20.0	27.4	J-60
J-37	Zone - 2	2,000.00	2,000.00	True	7,450.48	20.0	28.9	20.0	20.0	J-60
J-38	Zone - 2	2,000.00	2,000.00	True	7,200.19	20.0	26.5	20.0	20.0	J-60
J-39	Zone - 2	2,000.00	2,000.00	True	7,032.36	20.0	23.4	20.0	20.0	J-60
J-40	Zone - 2	2,000.00	2,000.00	True	6,647.91	20.0	21.9	20.0	20.0	J-56
J-41	Zone - 2	2,000.00	2,000.00	True	7,344.40	20.0	23.9	20.0	20.0	J-55
J-42	Zone - 2	6,000.00	6,000.00	True	7,017.13	20.0	20.0	20.0	20.0	J-55
J-43	Zone - 2	2,000.00	2,000.00	True	6,446.71	20.0	22.6	20.0	20.0	J-55
J-44	Zone - 2	2,000.00	2,000.00	True	6,068.52	20.0	22.6	20.0	20.0	J-55
J-45	Zone - 2	2,000.00	2,000.00	True	5,740.78	20.0	20.2	20.0	20.0	J-46
J-46	Zone - 2	2,000.00	2,000.00	True	5,647.91	20.0	20.0	20.0	22.2	J-45
J-47	Zone - 2	2,000.00	2,000.00	True	6,394.84	20.0	20.0	20.0	25.8	J-48
J-48	Zone - 2	2,000.00	2,000.00	True	6,051.62	20.0	20.0	20.0	26.7	J-53
J-49	Zone - 2	2,000.00	2,000.00	True	5,984.44	20.0	20.7	20.0	20.0	J-53
J-50	Zone - 2	2,000.00	2,000.00	True	6,070.88	20.0	20.0	20.0	22.6	J-53

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + FF

Fire Flow Node FlexTable: Fire Flow Report (GJT-water.wtg)

Current Time: 0.000 hours

Label	Zone	Fire Flow (Needed) (gpm)	Flow (Total Needed) (gpm)	Satisfies Fire Flow Constraints?	Fire Flow (Available) (gpm)	Pressure (Residual Lower Limit) (psi)	Pressure (Calculated Residual) (psi)	Pressure (Zone Lower Limit) (psi)	Pressure (Calculated Zone Lower Limit) (psi)	Junction w/Minimum Pressure (Zone)
J-51	Zone - 2	2,000.00	2,000.00	True	6,508.24	20.0	20.0	20.0	24.6	J-50
J-52	Zone - 2	2,000.00	2,000.00	True	5,108.25	20.0	21.1	20.0	20.0	J-53
J-53	Zone - 2	2,000.00	2,000.00	True	2,786.59	20.0	20.0	20.0	67.7	J-52
J-54	Zone - 2	2,000.00	2,000.00	True	4,331.91	20.0	20.9	20.0	20.0	J-55
J-55	Zone - 2	2,000.00	2,000.00	True	3,818.97	20.0	20.0	20.0	34.3	J-54
J-56	Zone - 2	2,000.00	2,000.00	True	4,339.85	20.0	20.0	20.0	53.9	J-60
J-57	Zone - 2	2,000.00	2,000.00	True	6,662.21	20.0	20.1	20.0	20.0	J-56
J-58	Zone - 2	6,000.00	6,000.00	True	6,357.12	20.0	20.0	20.0	21.8	J-60
J-59	Zone - 2	2,000.00	2,000.00	True	5,785.13	20.0	20.0	20.0	20.4	J-60
J-60	Zone - 2	2,000.00	2,000.00	True	5,610.82	20.0	20.0	20.0	26.0	J-59
J-61	Zone - 2	2,000.00	2,000.00	True	5,771.57	20.0	23.5	20.0	20.0	J-65
J-62	Zone - 2	2,000.00	2,000.00	True	3,575.36	20.0	20.5	20.0	20.0	J-65
J-64	Zone - 2	2,000.00	2,000.00	True	3,119.05	20.0	20.0	20.0	33.9	J-65
J-65	Zone - 2	2,000.00	2,000.00	True	3,334.93	20.0	20.0	20.0	28.0	J-62
J-68	Zone - 1	2,000.00	2,000.00	True	3,041.46	20.0	23.5	20.0	20.0	J-20
J-69	Zone - 1	2,000.00	2,000.00	True	3,861.90	20.0	26.5	20.0	20.0	J-20
J-70	Zone - 1	2,000.00	2,000.00	False	1,859.54	20.0	20.0	20.0	20.0	J-28

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF@ J14

FlexTable: Junction Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-1	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	84.1	4,783.50
J-2	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	83.5	4,785.00
J-3	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	84.4	4,783.00
J-6	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	80.9	4,791.00
J-7	Zone - 3	0.00	5,119.85	<Collection: 0 items>	Fixed	144.9	4,785.00
J-8	Zone - 3	0.00	5,119.98	<Collection: 0 items>	Fixed	141.5	4,793.00
J-10	Zone - 1	0.00	4,986.47	<Collection: 0 items>	Fixed	87.0	4,785.50
J-11	Zone - 1	3.60	4,981.63	<Collection: 1 items>	Fixed	80.1	4,796.50
J-12	Zone - 1	0.00	4,978.93	<Collection: 0 items>	Fixed	75.5	4,804.50
J-13	Zone - 1	14.72	4,973.80	<Collection: 1 items>	Fixed	68.9	4,814.50
J-14	Zone - 1	2,014.72	4,971.45	<Collection: 1 items>	Fixed	68.1	4,814.00
J-15	Zone - 1	0.00	4,978.93	<Collection: 0 items>	Fixed	75.3	4,805.00
J-16	Zone - 1	3.60	4,978.93	<Collection: 1 items>	Fixed	75.0	4,805.50
J-17	Zone - 1	0.00	4,978.92	<Collection: 0 items>	Fixed	71.4	4,814.00
J-18	Zone - 1	0.00	4,978.92	<Collection: 0 items>	Fixed	68.8	4,820.00
J-19	Zone - 1	0.00	4,978.92	<Collection: 0 items>	Fixed	67.9	4,822.00
J-20	Zone - 1	0.00	4,978.92	<Collection: 0 items>	Fixed	67.5	4,823.00
J-21	Zone - 1	0.00	4,978.92	<Collection: 0 items>	Fixed	67.9	4,822.00
J-22	Zone - 1	0.00	4,978.92	<Collection: 0 items>	Fixed	70.7	4,815.50
J-23	Zone - 1	3.60	4,978.92	<Collection: 1 items>	Fixed	70.5	4,816.00
J-24	Zone - 1	0.00	4,978.92	<Collection: 0 items>	Fixed	70.1	4,817.00
J-25	Zone - 1	3.60	4,978.92	<Collection: 1 items>	Fixed	70.9	4,815.00
J-26	Zone - 1	0.00	4,978.92	<Collection: 0 items>	Fixed	73.1	4,810.00
J-27	Zone - 1	0.00	4,978.92	<Collection: 0 items>	Fixed	71.4	4,814.00
J-28	Zone - 1	3.60	4,978.92	<Collection: 1 items>	Fixed	69.6	4,818.00
J-29	Zone - 1	3.60	4,978.93	<Collection: 1 items>	Fixed	72.2	4,812.00
J-30	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	80.0	4,793.00
J-31	Zone - 3	0.00	5,119.98	<Collection: 0 items>	Fixed	141.5	4,793.00
J-32	Zone - 2	0.00	5,019.58	<Collection: 0 items>	Fixed	98.5	4,792.00
J-33	Zone - 2	0.00	5,019.58	<Collection: 0 items>	Fixed	101.9	4,784.00
J-34	Zone - 2	0.00	5,019.56	<Collection: 0 items>	Fixed	92.4	4,806.00
J-35	Zone - 2	0.00	5,019.56	<Collection: 0 items>	Fixed	90.2	4,811.00
J-36	Zone - 2	3.60	5,019.56	<Collection: 1 items>	Fixed	90.2	4,811.00
J-37	Zone - 2	0.00	5,019.56	<Collection: 0 items>	Fixed	90.0	4,811.50
J-38	Zone - 2	0.00	5,019.56	<Collection: 0 items>	Fixed	87.6	4,817.00
J-39	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	86.1	4,820.50
J-40	Zone - 2	0.00	5,019.55	<Collection: 0 items>	Fixed	84.8	4,823.50
J-41	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	88.9	4,814.00
J-42	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	85.0	4,823.00
J-43	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	87.6	4,817.00
J-44	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	87.6	4,817.00
J-45	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	86.6	4,819.50
J-46	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	86.3	4,820.00
J-47	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	89.8	4,812.00
J-48	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	90.7	4,810.00
J-49	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	90.2	4,811.00
J-50	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	89.8	4,812.00
J-51	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	88.9	4,814.00
J-52	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	90.7	4,810.00
J-53	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	89.6	4,812.50

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF@ J14

FlexTable: Junction Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-54	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	85.9	4,821.00
J-55	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	85.0	4,823.00
J-56	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	82.9	4,828.00
J-57	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	84.0	4,825.50
J-58	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	84.0	4,825.50
J-59	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	83.1	4,827.50
J-60	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	81.1	4,832.00
J-61	Zone - 2	0.00	5,019.55	<Collection: 0 items>	Fixed	85.5	4,822.00
J-62	Zone - 2	0.00	5,019.55	<Collection: 0 items>	Fixed	82.4	4,829.00
J-64	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	84.6	4,824.00
J-65	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	82.0	4,830.00
J-68	Zone - 1	3.60	4,978.92	<Collection: 1 items>	Fixed	70.9	4,815.00
J-69	Zone - 1	3.60	4,978.92	<Collection: 1 items>	Fixed	74.0	4,808.00
J-70	Zone - 1	0.00	4,978.92	<Collection: 0 items>	Fixed	69.6	4,818.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF@ J14

FlexTable: Pipe Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-1	194.05	30.0	100.0	1,334.51	0.61	0.02	Steel	0.081	5,120.00	True	5,119.98
P-2	37.82	30.0	100.0	-1,248.11	0.57	0.00	Steel	0.077	5,119.98	True	5,119.98
P-3	7.44	18.0	140.0	6.00	0.01	0.00	Asbestos Cement	0.000	5,119.98	True	5,119.98
P-4	7.39	18.0	140.0	6.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-5	461.01	18.0	140.0	-6.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-6	691.43	18.0	140.0	-4.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-7	645.24	18.0	140.0	2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-8	346.44	18.0	140.0	2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-9	1,826.43	30.0	100.0	-1,242.11	0.56	0.13	Steel	0.071	5,119.85	True	5,119.98
P-10	4,541.24	30.0	100.0	816.13	0.37	0.15	Steel	0.033	5,120.00	True	5,119.85
P-11	30.30	12.0	150.0	2,058.24	5.84	0.22	PVC	7.412	5,119.85	True	5,119.63
P-12	25.33	12.0	150.0	2,058.24	5.84	0.19	PVC	7.402	4,986.66	True	4,986.47
P-13	36.10	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,977.97	True	4,977.97
P-14	52.44	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.47	True	4,986.47
P-15	653.52	12.0	150.0	2,058.24	5.84	4.84	PVC	7.403	4,986.47	True	4,981.63
P-16	366.19	12.0	150.0	2,054.64	5.83	2.70	PVC	7.379	4,981.63	True	4,978.93
P-17	711.39	12.0	150.0	2,029.44	5.76	5.13	PVC	7.212	4,978.93	True	4,973.80
P-18	329.62	12.0	150.0	2,014.72	5.72	2.35	PVC	7.115	4,973.80	True	4,971.45
P-19	32.01	8.0	150.0	25.20	0.16	0.00	PVC	0.015	4,978.93	True	4,978.93
P-20	307.08	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,978.93	True	4,978.93
P-21	302.29	8.0	150.0	21.60	0.14	0.00	PVC	0.011	4,978.93	True	4,978.93
P-22	175.00	8.0	140.0	18.00	0.11	0.00	Asbestos Cement	0.011	4,978.93	True	4,978.92
P-23	331.85	8.0	140.0	14.40	0.09	0.00	Asbestos Cement	0.006	4,978.92	True	4,978.92
P-24	153.34	8.0	140.0	10.80	0.07	0.00	Asbestos Cement	0.003	4,978.92	True	4,978.92
P-25	177.80	8.0	150.0	10.80	0.07	0.00	PVC	0.003	4,978.92	True	4,978.92
P-26	101.80	8.0	150.0	10.80	0.07	0.00	PVC	0.005	4,978.92	True	4,978.92
P-27	343.59	8.0	150.0	10.80	0.07	0.00	PVC	0.003	4,978.92	True	4,978.92
P-28	273.59	8.0	150.0	10.80	0.07	0.00	PVC	0.004	4,978.92	True	4,978.92
P-29	600.56	8.0	150.0	10.80	0.07	0.00	PVC	0.003	4,978.92	True	4,978.92
P-30	549.58	8.0	150.0	4.28	0.03	0.00	PVC	0.000	4,978.92	True	4,978.92
P-31	245.14	8.0	150.0	4.28	0.03	0.00	PVC	0.002	4,978.92	True	4,978.92
P-32	246.24	8.0	150.0	-6.53	0.04	0.00	PVC	0.000	4,978.92	True	4,978.92
P-33	381.60	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,978.92	True	4,978.92
P-34	332.48	8.0	150.0	-2.92	0.02	0.00	PVC	0.001	4,978.92	True	4,978.92
P-35	191.14	8.0	150.0	-2.92	0.02	0.00	PVC	0.000	4,978.92	True	4,978.92
P-36	110.24	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,978.92	True	4,978.92
P-37	82.46	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,978.92	True	4,978.92
P-38	94.56	12.0	140.0	86.40	0.25	0.00	Asbestos Cement	0.026	5,119.98	True	5,119.98
P-39	427.12	12.0	140.0	86.40	0.25	0.01	Asbestos Cement	0.024	5,019.59	True	5,019.58
P-40	457.35	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,019.58	True	5,019.58
P-41	854.39	12.0	150.0	86.40	0.25	0.02	PVC	0.021	5,019.58	True	5,019.56
P-42	315.19	12.0	150.0	86.40	0.25	0.01	PVC	0.022	5,019.56	True	5,019.56
P-43	518.31	12.0	150.0	3.60	0.01	0.00	PVC	0.000	5,019.56	True	5,019.56
P-44	70.88	12.0	150.0	82.80	0.23	0.00	PVC	0.014	5,019.56	True	5,019.56
P-45	113.04	12.0	150.0	28.80	0.08	0.00	PVC	0.004	5,019.56	True	5,019.56
P-46	167.37	12.0	150.0	19.39	0.05	0.00	PVC	0.003	5,019.56	True	5,019.55
P-47	359.22	12.0	150.0	15.79	0.04	0.00	PVC	0.000	5,019.55	True	5,019.55
P-48	52.69	12.0	150.0	12.19	0.03	0.00	PVC	0.000	5,019.55	True	5,019.55

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF@ J14

FlexTable: Pipe Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-49	370.87	8.0	150.0	3.60	0.02	0.00	PVC	0.001	5,019.55	True	5,019.55
P-50	62.99	8.0	150.0	8.59	0.05	0.00	PVC	0.008	5,019.55	True	5,019.55
P-51	221.10	8.0	150.0	4.99	0.03	0.00	PVC	0.000	5,019.55	True	5,019.55
P-52	81.21	8.0	150.0	1.39	0.01	0.00	PVC	0.000	5,019.55	True	5,019.55
P-53	353.77	8.0	150.0	-2.21	0.01	0.00	PVC	0.000	5,019.55	True	5,019.55
P-54	332.21	8.0	150.0	-9.41	0.06	0.00	PVC	0.003	5,019.55	True	5,019.56
P-55	561.26	8.0	150.0	7.20	0.05	0.00	PVC	0.002	5,019.55	True	5,019.55
P-56	134.25	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.55	True	5,019.55
P-57	330.48	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.55	True	5,019.55
P-58	161.67	12.0	150.0	54.00	0.15	0.00	PVC	0.009	5,019.56	True	5,019.55
P-59	213.49	12.0	150.0	36.91	0.10	0.00	PVC	0.005	5,019.55	True	5,019.55
P-60	350.73	12.0	150.0	21.60	0.06	0.00	PVC	0.001	5,019.55	True	5,019.55
P-61	286.24	12.0	150.0	18.00	0.05	0.00	PVC	0.002	5,019.55	True	5,019.55
P-62	353.63	12.0	150.0	7.20	0.02	0.00	PVC	0.000	5,019.55	True	5,019.55
P-63	94.38	12.0	150.0	3.60	0.01	0.00	PVC	0.000	5,019.55	True	5,019.55
P-64	203.48	8.0	150.0	13.49	0.09	0.00	PVC	0.005	5,019.55	True	5,019.55
P-65	228.49	8.0	150.0	9.89	0.06	0.00	PVC	0.004	5,019.55	True	5,019.55
P-66	208.58	8.0	150.0	6.29	0.04	0.00	PVC	0.000	5,019.55	True	5,019.55
P-67	87.29	8.0	150.0	-4.51	0.03	0.00	PVC	0.000	5,019.55	True	5,019.55
P-68	212.45	8.0	150.0	-8.11	0.05	0.00	PVC	0.002	5,019.55	True	5,019.55
P-69	126.18	8.0	150.0	-11.71	0.07	0.00	PVC	0.004	5,019.55	True	5,019.55
P-70	140.87	8.0	150.0	7.20	0.05	0.00	PVC	0.003	5,019.55	True	5,019.55
P-71	1,153.14	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.55	True	5,019.55
P-72	326.41	8.0	150.0	7.20	0.05	0.00	PVC	0.001	5,019.55	True	5,019.55
P-73	185.39	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.55	True	5,019.55

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF @ J26

FlexTable: Junction Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-1	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	84.1	4,783.50
J-2	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	83.5	4,785.00
J-3	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	84.4	4,783.00
J-6	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	80.9	4,791.00
J-7	Zone - 3	0.00	5,119.85	<Collection: 0 items>	Fixed	144.9	4,785.00
J-8	Zone - 3	0.00	5,119.98	<Collection: 0 items>	Fixed	141.5	4,793.00
J-10	Zone - 1	0.00	4,986.47	<Collection: 0 items>	Fixed	87.0	4,785.50
J-11	Zone - 1	3.60	4,981.63	<Collection: 1 items>	Fixed	80.1	4,796.50
J-12	Zone - 1	0.00	4,978.93	<Collection: 0 items>	Fixed	75.5	4,804.50
J-13	Zone - 1	14.72	4,978.93	<Collection: 1 items>	Fixed	71.1	4,814.50
J-14	Zone - 1	14.72	4,978.93	<Collection: 1 items>	Fixed	71.4	4,814.00
J-15	Zone - 1	0.00	4,977.27	<Collection: 0 items>	Fixed	74.5	4,805.00
J-16	Zone - 1	3.60	4,961.67	<Collection: 1 items>	Fixed	67.6	4,805.50
J-17	Zone - 1	0.00	4,923.21	<Collection: 0 items>	Fixed	47.3	4,814.00
J-18	Zone - 1	0.00	4,914.13	<Collection: 0 items>	Fixed	40.7	4,820.00
J-19	Zone - 1	0.00	4,908.92	<Collection: 0 items>	Fixed	37.6	4,822.00
J-20	Zone - 1	0.00	4,891.37	<Collection: 0 items>	Fixed	29.6	4,823.00
J-21	Zone - 1	0.00	4,877.39	<Collection: 0 items>	Fixed	24.0	4,822.00
J-22	Zone - 1	0.00	4,843.89	<Collection: 0 items>	Fixed	12.3	4,815.50
J-23	Zone - 1	3.60	4,842.63	<Collection: 1 items>	Fixed	11.5	4,816.00
J-24	Zone - 1	0.00	4,841.67	<Collection: 0 items>	Fixed	10.7	4,817.00
J-25	Zone - 1	3.60	4,840.01	<Collection: 1 items>	Fixed	10.8	4,815.00
J-26	Zone - 1	2,000.00	4,820.71	<Collection: 1 items>	Fixed	4.6	4,810.00
J-27	Zone - 1	0.00	4,842.63	<Collection: 0 items>	Fixed	12.4	4,814.00
J-28	Zone - 1	3.60	4,842.63	<Collection: 1 items>	Fixed	10.7	4,818.00
J-29	Zone - 1	3.60	4,977.27	<Collection: 1 items>	Fixed	71.5	4,812.00
J-30	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	80.0	4,793.00
J-31	Zone - 3	0.00	5,119.98	<Collection: 0 items>	Fixed	141.5	4,793.00
J-32	Zone - 2	0.00	5,019.58	<Collection: 0 items>	Fixed	98.5	4,792.00
J-33	Zone - 2	0.00	5,019.58	<Collection: 0 items>	Fixed	101.9	4,784.00
J-34	Zone - 2	0.00	5,019.56	<Collection: 0 items>	Fixed	92.4	4,806.00
J-35	Zone - 2	0.00	5,019.56	<Collection: 0 items>	Fixed	90.2	4,811.00
J-36	Zone - 2	3.60	5,019.56	<Collection: 1 items>	Fixed	90.2	4,811.00
J-37	Zone - 2	0.00	5,019.56	<Collection: 0 items>	Fixed	90.0	4,811.50
J-38	Zone - 2	0.00	5,019.56	<Collection: 0 items>	Fixed	87.6	4,817.00
J-39	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	86.1	4,820.50
J-40	Zone - 2	0.00	5,019.55	<Collection: 0 items>	Fixed	84.8	4,823.50
J-41	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	88.9	4,814.00
J-42	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	85.0	4,823.00
J-43	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	87.6	4,817.00
J-44	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	87.6	4,817.00
J-45	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	86.6	4,819.50
J-46	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	86.3	4,820.00
J-47	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	89.8	4,812.00
J-48	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	90.7	4,810.00
J-49	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	90.2	4,811.00
J-50	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	89.8	4,812.00
J-51	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	88.9	4,814.00
J-52	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	90.7	4,810.00
J-53	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	89.6	4,812.50

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF @ J26

FlexTable: Junction Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-54	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	85.9	4,821.00
J-55	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	85.0	4,823.00
J-56	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	82.9	4,828.00
J-57	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	84.0	4,825.50
J-58	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	84.0	4,825.50
J-59	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	83.1	4,827.50
J-60	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	81.1	4,832.00
J-61	Zone - 2	0.00	5,019.55	<Collection: 0 items>	Fixed	85.5	4,822.00
J-62	Zone - 2	0.00	5,019.55	<Collection: 0 items>	Fixed	82.4	4,829.00
J-64	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	84.6	4,824.00
J-65	Zone - 2	3.60	5,019.55	<Collection: 1 items>	Fixed	82.0	4,830.00
J-68	Zone - 1	3.60	4,932.11	<Collection: 1 items>	Fixed	50.7	4,815.00
J-69	Zone - 1	3.60	4,951.44	<Collection: 1 items>	Fixed	62.1	4,808.00
J-70	Zone - 1	0.00	4,846.70	<Collection: 0 items>	Fixed	12.4	4,818.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF @ J26

FlexTable: Pipe Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-1	194.05	30.0	100.0	1,334.51	0.61	0.02	Steel	0.081	5,120.00	True	5,119.98
P-2	37.82	30.0	100.0	-1,248.11	0.57	0.00	Steel	0.077	5,119.98	True	5,119.98
P-3	7.44	18.0	140.0	6.00	0.01	0.00	Asbestos Cement	0.000	5,119.98	True	5,119.98
P-4	7.39	18.0	140.0	6.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-5	461.01	18.0	140.0	-6.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-6	691.43	18.0	140.0	-4.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-7	645.24	18.0	140.0	2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-8	346.44	18.0	140.0	2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-9	1,826.43	30.0	100.0	-1,242.11	0.56	0.13	Steel	0.071	5,119.85	True	5,119.98
P-10	4,541.24	30.0	100.0	816.13	0.37	0.15	Steel	0.033	5,120.00	True	5,119.85
P-11	30.30	12.0	150.0	2,058.24	5.84	0.22	PVC	7.412	5,119.85	True	5,119.63
P-12	25.33	12.0	150.0	2,058.24	5.84	0.19	PVC	7.402	4,986.66	True	4,986.47
P-13	36.10	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,977.97	True	4,977.97
P-14	52.44	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.47	True	4,986.47
P-15	653.52	12.0	150.0	2,058.24	5.84	4.84	PVC	7.403	4,986.47	True	4,981.63
P-16	366.19	12.0	150.0	2,054.64	5.83	2.70	PVC	7.379	4,981.63	True	4,978.93
P-17	711.39	12.0	150.0	29.44	0.08	0.00	PVC	0.003	4,978.93	True	4,978.93
P-18	329.62	12.0	150.0	14.72	0.04	0.00	PVC	0.001	4,978.93	True	4,978.93
P-19	32.01	8.0	150.0	2,025.20	12.93	1.66	PVC	51.771	4,978.93	True	4,977.27
P-20	307.08	8.0	150.0	3.60	0.02	0.00	PVC	0.002	4,977.27	True	4,977.27
P-21	302.29	8.0	150.0	2,021.60	12.90	15.60	PVC	51.606	4,977.27	True	4,961.67
P-22	175.00	8.0	140.0	2,018.00	12.88	10.23	Asbestos Cement	58.446	4,961.67	True	4,951.44
P-23	331.85	8.0	140.0	2,014.40	12.86	19.33	Asbestos Cement	58.252	4,951.44	True	4,932.11
P-24	153.34	8.0	140.0	2,010.80	12.83	8.90	Asbestos Cement	58.061	4,932.11	True	4,923.21
P-25	177.80	8.0	150.0	2,010.80	12.83	9.08	PVC	51.097	4,923.21	True	4,914.13
P-26	101.80	8.0	150.0	2,010.80	12.83	5.20	PVC	51.093	4,914.13	True	4,908.92
P-27	343.59	8.0	150.0	2,010.80	12.83	17.56	PVC	51.096	4,908.92	True	4,891.37
P-28	273.59	8.0	150.0	2,010.80	12.83	13.98	PVC	51.096	4,891.37	True	4,877.39
P-29	600.56	8.0	150.0	2,010.80	12.83	30.69	PVC	51.096	4,877.39	True	4,846.70
P-30	549.58	8.0	150.0	580.79	3.71	2.82	PVC	5.123	4,846.70	True	4,843.89
P-31	245.14	8.0	150.0	580.79	3.71	1.26	PVC	5.123	4,843.89	True	4,842.63
P-32	246.24	8.0	150.0	-1,430.01	9.13	6.69	PVC	27.181	4,840.01	True	4,846.70
P-33	381.60	8.0	150.0	2,000.00	12.77	19.30	PVC	50.589	4,840.01	True	4,820.71
P-34	332.48	8.0	150.0	573.59	3.66	1.66	PVC	5.006	4,841.67	True	4,840.01
P-35	191.14	8.0	150.0	573.59	3.66	0.96	PVC	5.007	4,842.63	True	4,841.67
P-36	110.24	8.0	150.0	3.60	0.02	0.00	PVC	0.004	4,842.63	True	4,842.63
P-37	82.46	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,842.63	True	4,842.63
P-38	94.56	12.0	140.0	86.40	0.25	0.00	Asbestos Cement	0.026	5,119.98	True	5,119.98
P-39	427.12	12.0	140.0	86.40	0.25	0.01	Asbestos Cement	0.024	5,019.59	True	5,019.58
P-40	457.35	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,019.58	True	5,019.58
P-41	854.39	12.0	150.0	86.40	0.25	0.02	PVC	0.021	5,019.58	True	5,019.56
P-42	315.19	12.0	150.0	86.40	0.25	0.01	PVC	0.022	5,019.56	True	5,019.56
P-43	518.31	12.0	150.0	3.60	0.01	0.00	PVC	0.000	5,019.56	True	5,019.56
P-44	70.88	12.0	150.0	82.80	0.23	0.00	PVC	0.014	5,019.56	True	5,019.56
P-45	113.04	12.0	150.0	28.80	0.08	0.00	PVC	0.004	5,019.56	True	5,019.56
P-46	167.37	12.0	150.0	19.39	0.05	0.00	PVC	0.003	5,019.56	True	5,019.55
P-47	359.22	12.0	150.0	15.79	0.04	0.00	PVC	0.000	5,019.55	True	5,019.55
P-48	52.69	12.0	150.0	12.19	0.03	0.00	PVC	0.000	5,019.55	True	5,019.55

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF @ J26

FlexTable: Pipe Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-49	370.87	8.0	150.0	3.60	0.02	0.00	PVC	0.001	5,019.55	True	5,019.55
P-50	62.99	8.0	150.0	8.59	0.05	0.00	PVC	0.008	5,019.55	True	5,019.55
P-51	221.10	8.0	150.0	4.99	0.03	0.00	PVC	0.000	5,019.55	True	5,019.55
P-52	81.21	8.0	150.0	1.39	0.01	0.00	PVC	0.000	5,019.55	True	5,019.55
P-53	353.77	8.0	150.0	-2.21	0.01	0.00	PVC	0.000	5,019.55	True	5,019.55
P-54	332.21	8.0	150.0	-9.41	0.06	0.00	PVC	0.003	5,019.55	True	5,019.56
P-55	561.26	8.0	150.0	7.20	0.05	0.00	PVC	0.002	5,019.55	True	5,019.55
P-56	134.25	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.55	True	5,019.55
P-57	330.48	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.55	True	5,019.55
P-58	161.67	12.0	150.0	54.00	0.15	0.00	PVC	0.009	5,019.56	True	5,019.55
P-59	213.49	12.0	150.0	36.91	0.10	0.00	PVC	0.005	5,019.55	True	5,019.55
P-60	350.73	12.0	150.0	21.60	0.06	0.00	PVC	0.001	5,019.55	True	5,019.55
P-61	286.24	12.0	150.0	18.00	0.05	0.00	PVC	0.002	5,019.55	True	5,019.55
P-62	353.63	12.0	150.0	7.20	0.02	0.00	PVC	0.000	5,019.55	True	5,019.55
P-63	94.38	12.0	150.0	3.60	0.01	0.00	PVC	0.000	5,019.55	True	5,019.55
P-64	203.48	8.0	150.0	13.49	0.09	0.00	PVC	0.005	5,019.55	True	5,019.55
P-65	228.49	8.0	150.0	9.89	0.06	0.00	PVC	0.004	5,019.55	True	5,019.55
P-66	208.58	8.0	150.0	6.29	0.04	0.00	PVC	0.000	5,019.55	True	5,019.55
P-67	87.29	8.0	150.0	-4.51	0.03	0.00	PVC	0.000	5,019.55	True	5,019.55
P-68	212.45	8.0	150.0	-8.11	0.05	0.00	PVC	0.002	5,019.55	True	5,019.55
P-69	126.18	8.0	150.0	-11.71	0.07	0.00	PVC	0.004	5,019.55	True	5,019.55
P-70	140.87	8.0	150.0	7.20	0.05	0.00	PVC	0.003	5,019.55	True	5,019.55
P-71	1,153.14	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.55	True	5,019.55
P-72	326.41	8.0	150.0	7.20	0.05	0.00	PVC	0.001	5,019.55	True	5,019.55
P-73	185.39	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.55	True	5,019.55

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J42

FlexTable: Junction Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-1	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	84.1	4,783.50
J-2	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	83.5	4,785.00
J-3	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	84.4	4,783.00
J-6	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	80.9	4,791.00
J-7	Zone - 3	0.00	5,119.85	<Collection: 0 items>	Fixed	144.9	4,785.00
J-8	Zone - 3	0.00	5,119.80	<Collection: 0 items>	Fixed	141.4	4,793.00
J-10	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	87.0	4,785.50
J-11	Zone - 1	3.60	4,986.65	<Collection: 1 items>	Fixed	82.3	4,796.50
J-12	Zone - 1	0.00	4,986.65	<Collection: 0 items>	Fixed	78.8	4,804.50
J-13	Zone - 1	14.72	4,986.65	<Collection: 1 items>	Fixed	74.5	4,814.50
J-14	Zone - 1	14.72	4,986.65	<Collection: 1 items>	Fixed	74.7	4,814.00
J-15	Zone - 1	0.00	4,986.65	<Collection: 0 items>	Fixed	78.6	4,805.00
J-16	Zone - 1	3.60	4,986.64	<Collection: 1 items>	Fixed	78.4	4,805.50
J-17	Zone - 1	0.00	4,986.64	<Collection: 0 items>	Fixed	74.7	4,814.00
J-18	Zone - 1	0.00	4,986.64	<Collection: 0 items>	Fixed	72.1	4,820.00
J-19	Zone - 1	0.00	4,986.64	<Collection: 0 items>	Fixed	71.2	4,822.00
J-20	Zone - 1	0.00	4,986.64	<Collection: 0 items>	Fixed	70.8	4,823.00
J-21	Zone - 1	0.00	4,986.64	<Collection: 0 items>	Fixed	71.2	4,822.00
J-22	Zone - 1	0.00	4,986.63	<Collection: 0 items>	Fixed	74.0	4,815.50
J-23	Zone - 1	3.60	4,986.63	<Collection: 1 items>	Fixed	73.8	4,816.00
J-24	Zone - 1	0.00	4,986.63	<Collection: 0 items>	Fixed	73.4	4,817.00
J-25	Zone - 1	3.60	4,986.63	<Collection: 1 items>	Fixed	74.3	4,815.00
J-26	Zone - 1	0.00	4,986.63	<Collection: 0 items>	Fixed	76.4	4,810.00
J-27	Zone - 1	0.00	4,986.63	<Collection: 0 items>	Fixed	74.7	4,814.00
J-28	Zone - 1	3.60	4,986.63	<Collection: 1 items>	Fixed	73.0	4,818.00
J-29	Zone - 1	3.60	4,986.65	<Collection: 1 items>	Fixed	75.6	4,812.00
J-30	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	80.0	4,793.00
J-31	Zone - 3	0.00	5,119.80	<Collection: 0 items>	Fixed	141.4	4,793.00
J-32	Zone - 2	0.00	4,992.83	<Collection: 0 items>	Fixed	86.9	4,792.00
J-33	Zone - 2	0.00	4,992.83	<Collection: 0 items>	Fixed	90.4	4,784.00
J-34	Zone - 2	0.00	4,945.72	<Collection: 0 items>	Fixed	60.5	4,806.00
J-35	Zone - 2	0.00	4,928.34	<Collection: 0 items>	Fixed	50.8	4,811.00
J-36	Zone - 2	3.60	4,928.34	<Collection: 1 items>	Fixed	50.8	4,811.00
J-37	Zone - 2	0.00	4,924.44	<Collection: 0 items>	Fixed	48.9	4,811.50
J-38	Zone - 2	0.00	4,924.44	<Collection: 0 items>	Fixed	46.5	4,817.00
J-39	Zone - 2	3.60	4,924.44	<Collection: 1 items>	Fixed	45.0	4,820.50
J-40	Zone - 2	0.00	4,924.44	<Collection: 0 items>	Fixed	43.7	4,823.50
J-41	Zone - 2	3.60	4,915.61	<Collection: 1 items>	Fixed	44.0	4,814.00
J-42	Zone - 2	6,003.60	4,906.58	<Collection: 1 items>	Fixed	36.2	4,823.00
J-43	Zone - 2	3.60	4,906.58	<Collection: 1 items>	Fixed	38.8	4,817.00
J-44	Zone - 2	3.60	4,906.57	<Collection: 1 items>	Fixed	38.8	4,817.00
J-45	Zone - 2	3.60	4,906.57	<Collection: 1 items>	Fixed	37.7	4,819.50
J-46	Zone - 2	3.60	4,906.57	<Collection: 1 items>	Fixed	37.5	4,820.00
J-47	Zone - 2	3.60	4,913.84	<Collection: 1 items>	Fixed	44.1	4,812.00
J-48	Zone - 2	3.60	4,911.87	<Collection: 1 items>	Fixed	44.1	4,810.00
J-49	Zone - 2	3.60	4,910.09	<Collection: 1 items>	Fixed	42.9	4,811.00
J-50	Zone - 2	3.60	4,909.36	<Collection: 1 items>	Fixed	42.1	4,812.00
J-51	Zone - 2	3.60	4,907.61	<Collection: 1 items>	Fixed	40.5	4,814.00
J-52	Zone - 2	3.60	4,910.09	<Collection: 1 items>	Fixed	43.3	4,810.00
J-53	Zone - 2	3.60	4,910.09	<Collection: 1 items>	Fixed	42.2	4,812.50

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J42

FlexTable: Junction Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-54	Zone - 2	3.60	4,906.57	<Collection: 1 items>	Fixed	37.0	4,821.00
J-55	Zone - 2	3.60	4,906.57	<Collection: 1 items>	Fixed	36.2	4,823.00
J-56	Zone - 2	3.60	4,924.44	<Collection: 1 items>	Fixed	41.7	4,828.00
J-57	Zone - 2	3.60	4,924.44	<Collection: 1 items>	Fixed	42.8	4,825.50
J-58	Zone - 2	3.60	4,924.44	<Collection: 1 items>	Fixed	42.8	4,825.50
J-59	Zone - 2	3.60	4,924.44	<Collection: 1 items>	Fixed	41.9	4,827.50
J-60	Zone - 2	3.60	4,924.44	<Collection: 1 items>	Fixed	40.0	4,832.00
J-61	Zone - 2	0.00	4,924.44	<Collection: 0 items>	Fixed	44.3	4,822.00
J-62	Zone - 2	0.00	4,924.44	<Collection: 0 items>	Fixed	41.3	4,829.00
J-64	Zone - 2	3.60	4,924.44	<Collection: 1 items>	Fixed	43.5	4,824.00
J-65	Zone - 2	3.60	4,924.44	<Collection: 1 items>	Fixed	40.9	4,830.00
J-68	Zone - 1	3.60	4,986.64	<Collection: 1 items>	Fixed	74.3	4,815.00
J-69	Zone - 1	3.60	4,986.64	<Collection: 1 items>	Fixed	77.3	4,808.00
J-70	Zone - 1	0.00	4,986.63	<Collection: 0 items>	Fixed	73.0	4,818.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J42

FlexTable: Pipe Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-1	194.05	30.0	100.0	5,327.65	2.42	0.20	Steel	1.052	5,120.00	True	5,119.80
P-2	37.82	30.0	100.0	758.75	0.34	0.00	Steel	0.026	5,119.80	True	5,119.80
P-3	7.44	18.0	140.0	6.00	0.01	0.00	Asbestos Cement	0.000	5,119.80	True	5,119.80
P-4	7.39	18.0	140.0	6.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-5	461.01	18.0	140.0	-6.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-6	691.43	18.0	140.0	-4.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-7	645.24	18.0	140.0	2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-8	346.44	18.0	140.0	2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-9	1,826.43	30.0	100.0	764.75	0.35	0.05	Steel	0.029	5,119.85	True	5,119.80
P-10	4,541.24	30.0	100.0	822.99	0.37	0.15	Steel	0.033	5,120.00	True	5,119.85
P-11	30.30	12.0	150.0	58.24	0.17	0.00	PVC	0.016	5,119.85	True	5,119.85
P-12	25.33	12.0	150.0	58.24	0.17	0.00	PVC	0.019	4,986.66	True	4,986.66
P-13	36.10	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,977.97	True	4,977.97
P-14	52.44	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-15	653.52	12.0	150.0	58.24	0.17	0.01	PVC	0.010	4,986.66	True	4,986.65
P-16	366.19	12.0	150.0	54.64	0.16	0.00	PVC	0.009	4,986.65	True	4,986.65
P-17	711.39	12.0	150.0	29.44	0.08	0.00	PVC	0.003	4,986.65	True	4,986.65
P-18	329.62	12.0	150.0	14.72	0.04	0.00	PVC	0.000	4,986.65	True	4,986.65
P-19	32.01	8.0	150.0	25.20	0.16	0.00	PVC	0.015	4,986.65	True	4,986.65
P-20	307.08	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,986.65	True	4,986.65
P-21	302.29	8.0	150.0	21.60	0.14	0.00	PVC	0.011	4,986.65	True	4,986.64
P-22	175.00	8.0	140.0	18.00	0.11	0.00	Asbestos Cement	0.008	4,986.64	True	4,986.64
P-23	331.85	8.0	140.0	14.40	0.09	0.00	Asbestos Cement	0.006	4,986.64	True	4,986.64
P-24	153.34	8.0	140.0	10.80	0.07	0.00	Asbestos Cement	0.006	4,986.64	True	4,986.64
P-25	177.80	8.0	150.0	10.80	0.07	0.00	PVC	0.003	4,986.64	True	4,986.64
P-26	101.80	8.0	150.0	10.80	0.07	0.00	PVC	0.000	4,986.64	True	4,986.64
P-27	343.59	8.0	150.0	10.80	0.07	0.00	PVC	0.004	4,986.64	True	4,986.64
P-28	273.59	8.0	150.0	10.80	0.07	0.00	PVC	0.002	4,986.64	True	4,986.64
P-29	600.56	8.0	150.0	10.80	0.07	0.00	PVC	0.003	4,986.64	True	4,986.63
P-30	549.58	8.0	150.0	4.28	0.03	0.00	PVC	0.001	4,986.63	True	4,986.63
P-31	245.14	8.0	150.0	4.28	0.03	0.00	PVC	0.000	4,986.63	True	4,986.63
P-32	246.24	8.0	150.0	-6.53	0.04	0.00	PVC	0.002	4,986.63	True	4,986.63
P-33	381.60	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.63	True	4,986.63
P-34	332.48	8.0	150.0	-2.92	0.02	0.00	PVC	0.000	4,986.63	True	4,986.63
P-35	191.14	8.0	150.0	-2.92	0.02	0.00	PVC	0.000	4,986.63	True	4,986.63
P-36	110.24	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,986.63	True	4,986.63
P-37	82.46	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,986.63	True	4,986.63
P-38	94.56	12.0	140.0	6,086.40	17.27	5.92	Asbestos Cement	62.654	5,119.80	True	S,113.87
P-39	427.12	12.0	140.0	6,086.40	17.27	26.76	Asbestos Cement	62.652	5,019.59	True	4,992.83
P-40	457.35	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	4,992.83	True	4,992.83
P-41	854.39	12.0	150.0	6,086.40	17.27	47.11	PVC	55.137	4,992.83	True	4,94S.72
P-42	315.19	12.0	150.0	6,086.40	17.27	17.38	PVC	55.138	4,945.72	True	4,928.34
P-43	518.31	12.0	150.0	3.60	0.01	0.00	PVC	0.000	4,928.34	True	4,928.34
P-44	70.88	12.0	150.0	6,082.80	17.26	3.90	PVC	55.074	4,928.34	True	4,924.44
P-45	113.04	12.0	150.0	28.80	0.08	0.00	PVC	0.004	4,924.44	True	4,924.44
P-46	167.37	12.0	150.0	19.39	0.05	0.00	PVC	0.000	4,924.44	True	4,924.44
P-47	359.22	12.0	150.0	15.79	0.04	0.00	PVC	0.001	4,924.44	True	4,924.44
P-48	52.69	12.0	150.0	12.19	0.03	0.00	PVC	0.000	4,924.44	True	4,924.44

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J42

FlexTable: Pipe Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-49	370.87	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,924.44	True	4,924.44
P-50	62.99	8.0	150.0	8.59	0.05	0.00	PVC	0.000	4,924.44	True	4,924.44
P-51	221.10	8.0	150.0	4.99	0.03	0.00	PVC	0.002	4,924.44	True	4,924.44
P-52	81.21	8.0	150.0	1.39	0.01	0.00	PVC	0.000	4,924.44	True	4,924.44
P-53	353.77	8.0	150.0	-2.21	0.01	0.00	PVC	0.000	4,924.44	True	4,924.44
P-54	332.21	8.0	150.0	-9.41	0.06	0.00	PVC	0.003	4,924.44	True	4,924.44
P-55	561.26	8.0	150.0	7.20	0.05	0.00	PVC	0.001	4,924.44	True	4,924.44
P-56	134.25	8.0	150.0	3.60	0.02	0.00	PVC	0.004	4,924.44	True	4,924.44
P-57	330.48	8.0	150.0	3.60	0.02	0.00	PVC	0.001	4,924.44	True	4,924.44
P-58	161.67	12.0	150.0	6,054.00	17.17	8.83	PVC	54.596	4,924.44	True	4,915.61
P-59	213.49	12.0	150.0	5,277.31	14.97	9.04	PVC	42.336	4,915.61	True	4,906.58
P-60	350.73	12.0	150.0	21.60	0.06	0.00	PVC	0.001	4,906.58	True	4,906.58
P-61	286.24	12.0	150.0	18.00	0.05	0.00	PVC	0.002	4,906.58	True	4,906.57
P-62	353.63	12.0	150.0	7.20	0.02	0.00	PVC	0.000	4,906.57	True	4,906.57
P-63	94.38	12.0	150.0	3.60	0.01	0.00	PVC	0.000	4,906.57	True	4,906.57
P-64	203.48	8.0	150.0	773.09	4.93	1.77	PVC	8.701	4,915.61	True	4,913.84
P-65	228.49	8.0	150.0	769.49	4.91	1.97	PVC	8.625	4,913.84	True	4,911.87
P-66	208.58	8.0	150.0	765.89	4.89	1.78	PVC	8.552	4,911.87	True	4,910.09
P-67	87.29	8.0	150.0	755.09	4.82	0.73	PVC	8.329	4,910.09	True	4,909.36
P-68	212.45	8.0	150.0	751.49	4.80	1.75	PVC	8.256	4,909.36	True	4,907.61
P-69	126.18	8.0	150.0	747.89	4.77	1.03	PVC	8.181	4,907.61	True	4,906.58
P-70	140.87	8.0	150.0	7.20	0.05	0.00	PVC	0.000	4,910.09	True	4,910.09
P-71	1,153.14	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,910.09	True	4,910.09
P-72	326.41	8.0	150.0	7.20	0.05	0.00	PVC	0.001	4,906.57	True	4,906.57
P-73	185.39	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,906.57	True	4,906.57

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF@ J53

FlexTable: Junction Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-1	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	84.1	4,783.50
J-2	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	83.5	4,785.00
J-3	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	84.4	4,783.00
J-6	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	80.9	4,791.00
J-7	Zone - 3	0.00	5,119.98	<Collection: 0 items>	Fixed	144.9	4,785.00
J-8	Zone - 3	0.00	5,119.97	<Collection: 0 items>	Fixed	141.5	4,793.00
J-10	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	87.0	4,785.50
J-11	Zone - 1	3.60	4,986.65	<Collection: 1 items>	Fixed	82.3	4,796.50
J-12	Zone - 1	0.00	4,986.65	<Collection: 0 items>	Fixed	78.8	4,804.50
J-13	Zone - 1	14.72	4,986.65	<Collection: 1 items>	Fixed	74.5	4,814.50
J-14	Zone - 1	14.72	4,986.65	<Collection: 1 items>	Fixed	74.7	4,814.00
J-15	Zone - 1	0.00	4,986.65	<Collection: 0 items>	Fixed	78.6	4,805.00
J-16	Zone - 1	3.60	4,986.64	<Collection: 1 items>	Fixed	78.4	4,805.50
J-17	Zone - 1	0.00	4,986.64	<Collection: 0 items>	Fixed	74.7	4,814.00
J-18	Zone - 1	0.00	4,986.64	<Collection: 0 items>	Fixed	72.1	4,820.00
J-19	Zone - 1	0.00	4,986.64	<Collection: 0 items>	Fixed	71.2	4,822.00
J-20	Zone - 1	0.00	4,986.64	<Collection: 0 items>	Fixed	70.8	4,823.00
J-21	Zone - 1	0.00	4,986.64	<Collection: 0 items>	Fixed	71.2	4,822.00
J-22	Zone - 1	0.00	4,986.63	<Collection: 0 items>	Fixed	74.0	4,815.50
J-23	Zone - 1	3.60	4,986.63	<Collection: 1 items>	Fixed	73.8	4,816.00
J-24	Zone - 1	0.00	4,986.63	<Collection: 0 items>	Fixed	73.4	4,817.00
J-25	Zone - 1	3.60	4,986.63	<Collection: 1 items>	Fixed	74.3	4,815.00
J-26	Zone - 1	0.00	4,986.63	<Collection: 0 items>	Fixed	76.4	4,810.00
J-27	Zone - 1	0.00	4,986.63	<Collection: 0 items>	Fixed	74.7	4,814.00
J-28	Zone - 1	3.60	4,986.63	<Collection: 1 items>	Fixed	73.0	4,818.00
J-29	Zone - 1	3.60	4,986.65	<Collection: 1 items>	Fixed	75.6	4,812.00
J-30	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	80.0	4,793.00
J-31	Zone - 3	0.00	5,119.97	<Collection: 0 items>	Fixed	141.5	4,793.00
J-32	Zone - 2	0.00	5,015.91	<Collection: 0 items>	Fixed	96.9	4,792.00
J-33	Zone - 2	0.00	5,015.91	<Collection: 0 items>	Fixed	100.3	4,784.00
J-34	Zone - 2	0.00	5,009.42	<Collection: 0 items>	Fixed	88.0	4,806.00
J-35	Zone - 2	0.00	5,007.03	<Collection: 0 items>	Fixed	84.8	4,811.00
J-36	Zone - 2	3.60	5,007.03	<Collection: 1 items>	Fixed	84.8	4,811.00
J-37	Zone - 2	0.00	5,006.49	<Collection: 0 items>	Fixed	84.4	4,811.50
J-38	Zone - 2	0.00	5,006.49	<Collection: 0 items>	Fixed	82.0	4,817.00
J-39	Zone - 2	3.60	5,006.49	<Collection: 1 items>	Fixed	80.5	4,820.50
J-40	Zone - 2	0.00	5,006.49	<Collection: 0 items>	Fixed	79.2	4,823.50
J-41	Zone - 2	3.60	5,005.30	<Collection: 1 items>	Fixed	82.8	4,814.00
J-42	Zone - 2	3.60	5,004.78	<Collection: 1 items>	Fixed	78.6	4,823.00
J-43	Zone - 2	3.60	5,004.78	<Collection: 1 items>	Fixed	81.2	4,817.00
J-44	Zone - 2	3.60	5,004.78	<Collection: 1 items>	Fixed	81.2	4,817.00
J-45	Zone - 2	3.60	5,004.78	<Collection: 1 items>	Fixed	80.2	4,819.50
J-46	Zone - 2	3.60	5,004.78	<Collection: 1 items>	Fixed	79.9	4,820.00
J-47	Zone - 2	3.60	5,002.85	<Collection: 1 items>	Fixed	82.6	4,812.00
J-48	Zone - 2	3.60	5,000.12	<Collection: 1 items>	Fixed	82.3	4,810.00
J-49	Zone - 2	3.60	4,997.65	<Collection: 1 items>	Fixed	80.8	4,811.00
J-50	Zone - 2	3.60	4,999.10	<Collection: 1 items>	Fixed	80.9	4,812.00
J-51	Zone - 2	3.60	5,002.65	<Collection: 1 items>	Fixed	81.6	4,814.00
J-52	Zone - 2	3.60	4,990.47	<Collection: 1 items>	Fixed	78.1	4,810.00
J-53	Zone - 2	2,003.60	4,931.94	<Collection: 1 items>	Fixed	51.7	4,812.50

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF@ J53

FlexTable: Junction Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-54	Zone - 2	3.60	5,004.78	<Collection: 1 items>	Fixed	79.5	4,821.00
J-55	Zone - 2	3.60	5,004.78	<Collection: 1 items>	Fixed	78.6	4,823.00
J-56	Zone - 2	3.60	5,006.49	<Collection: 1 items>	Fixed	77.2	4,828.00
J-57	Zone - 2	3.60	5,006.49	<Collection: 1 items>	Fixed	78.3	4,825.50
J-58	Zone - 2	3.60	5,006.49	<Collection: 1 items>	Fixed	78.3	4,825.50
J-59	Zone - 2	3.60	5,006.49	<Collection: 1 items>	Fixed	77.4	4,827.50
J-60	Zone - 2	3.60	5,006.49	<Collection: 1 items>	Fixed	75.5	4,832.00
J-61	Zone - 2	0.00	5,006.49	<Collection: 0 items>	Fixed	79.8	4,822.00
J-62	Zone - 2	0.00	5,006.49	<Collection: 0 items>	Fixed	76.8	4,829.00
J-64	Zone - 2	3.60	5,006.49	<Collection: 1 items>	Fixed	79.0	4,824.00
J-65	Zone - 2	3.60	5,006.49	<Collection: 1 items>	Fixed	76.4	4,830.00
J-68	Zone - 1	3.60	4,986.64	<Collection: 1 items>	Fixed	74.3	4,815.00
J-69	Zone - 1	3.60	4,986.64	<Collection: 1 items>	Fixed	77.3	4,808.00
J-70	Zone - 1	0.00	4,986.63	<Collection: 0 items>	Fixed	73.0	4,818.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF@ J53

FlexTable: Pipe Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-1	194.05	30.0	100.0	1,854.10	0.84	0.03	Steel	0.148	5,120.00	True	5,119.97
P-2	37.82	30.0	100.0	232.30	0.11	0.00	Steel	0.000	5,119.97	True	5,119.97
P-3	7.44	18.0	140.0	6.00	0.01	0.00	Asbestos Cement	0.000	5,119.97	True	5,119.97
P-4	7.39	18.0	140.0	5.99	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-5	461.01	18.0	140.0	-5.99	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-6	691.43	18.0	140.0	-3.99	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-7	645.24	18.0	140.0	1.99	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-8	346.44	18.0	140.0	2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-9	1,826.43	30.0	100.0	238.30	0.11	0.01	Steel	0.003	5,119.98	True	5,119.97
P-10	4,541.24	30.0	100.0	296.54	0.13	0.02	Steel	0.005	5,120.00	True	5,119.98
P-11	30.30	12.0	150.0	58.24	0.17	0.00	PVC	0.016	5,119.98	True	5,119.98
P-12	25.33	12.0	150.0	58.24	0.17	0.00	PVC	0.019	4,986.66	True	4,986.66
P-13	36.10	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,977.97	True	4,977.97
P-14	52.44	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-15	653.52	12.0	150.0	58.24	0.17	0.01	PVC	0.010	4,986.66	True	4,986.65
P-16	366.19	12.0	150.0	54.64	0.16	0.00	PVC	0.009	4,986.65	True	4,986.65
P-17	711.39	12.0	150.0	29.44	0.08	0.00	PVC	0.003	4,986.65	True	4,986.65
P-18	329.62	12.0	150.0	14.72	0.04	0.00	PVC	0.000	4,986.65	True	4,986.65
P-19	32.01	8.0	150.0	25.20	0.16	0.00	PVC	0.015	4,986.65	True	4,986.65
P-20	307.08	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,986.65	True	4,986.65
P-21	302.29	8.0	150.0	21.60	0.14	0.00	PVC	0.011	4,986.65	True	4,986.64
P-22	175.00	8.0	140.0	18.00	0.11	0.00	Asbestos Cement	0.008	4,986.64	True	4,986.64
P-23	331.85	8.0	140.0	14.40	0.09	0.00	Asbestos Cement	0.006	4,986.64	True	4,986.64
P-24	153.34	8.0	140.0	10.80	0.07	0.00	Asbestos Cement	0.006	4,986.64	True	4,986.64
P-25	177.80	8.0	150.0	10.80	0.07	0.00	PVC	0.003	4,986.64	True	4,986.64
P-26	101.80	8.0	150.0	10.80	0.07	0.00	PVC	0.000	4,986.64	True	4,986.64
P-27	343.59	8.0	150.0	10.80	0.07	0.00	PVC	0.004	4,986.64	True	4,986.64
P-28	273.59	8.0	150.0	10.80	0.07	0.00	PVC	0.002	4,986.64	True	4,986.64
P-29	600.56	8.0	150.0	10.80	0.07	0.00	PVC	0.003	4,986.64	True	4,986.63
P-30	549.58	8.0	150.0	4.28	0.03	0.00	PVC	0.001	4,986.63	True	4,986.63
P-31	245.14	8.0	150.0	4.28	0.03	0.00	PVC	0.000	4,986.63	True	4,986.63
P-32	246.24	8.0	150.0	-6.53	0.04	0.00	PVC	0.002	4,986.63	True	4,986.63
P-33	381.60	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.63	True	4,986.63
P-34	332.48	8.0	150.0	-2.92	0.02	0.00	PVC	0.000	4,986.63	True	4,986.63
P-35	191.14	8.0	150.0	-2.92	0.02	0.00	PVC	0.000	4,986.63	True	4,986.63
P-36	110.24	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,986.63	True	4,986.63
P-37	82.46	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,986.63	True	4,986.63
P-38	94.56	12.0	140.0	2,086.40	5.92	0.82	Asbestos Cement	8.628	5,119.97	True	5,119.16
P-39	427.12	12.0	140.0	2,086.40	5.92	3.68	Asbestos Cement	8.627	5,019.59	True	5,015.91
P-40	457.35	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,015.91	True	5,015.91
P-41	854.39	12.0	150.0	2,086.40	5.92	6.49	PVC	7.591	5,015.91	True	5,009.42
P-42	315.19	12.0	150.0	2,086.40	5.92	2.39	PVC	7.592	5,009.42	True	5,007.03
P-43	518.31	12.0	150.0	3.60	0.01	0.00	PVC	0.000	5,007.03	True	5,007.03
P-44	70.88	12.0	150.0	2,082.80	5.91	0.54	PVC	7.564	5,007.03	True	5,006.49
P-45	113.04	12.0	150.0	28.80	0.08	0.00	PVC	0.004	5,006.49	True	5,006.49
P-46	167.37	12.0	150.0	19.39	0.05	0.00	PVC	0.000	5,006.49	True	5,006.49
P-47	359.22	12.0	150.0	15.79	0.04	0.00	PVC	0.001	5,006.49	True	5,006.49
P-48	52.69	12.0	150.0	12.19	0.03	0.00	PVC	0.000	5,006.49	True	5,006.49

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF@ J53

FlexTable: Pipe Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-49	370.87	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,006.49	True	5,006.49
P-50	62.99	8.0	150.0	8.59	0.05	0.00	PVC	0.000	5,006.49	True	5,006.49
P-51	221.10	8.0	150.0	4.99	0.03	0.00	PVC	0.002	5,006.49	True	5,006.49
P-52	81.21	8.0	150.0	1.39	0.01	0.00	PVC	0.000	5,006.49	True	5,006.49
P-53	353.77	8.0	150.0	-2.21	0.01	0.00	PVC	0.000	5,006.49	True	5,006.49
P-54	332.21	8.0	150.0	-9.41	0.06	0.00	PVC	0.003	5,006.49	True	5,006.49
P-55	561.26	8.0	150.0	7.20	0.05	0.00	PVC	0.001	5,006.49	True	5,006.49
P-56	134.25	8.0	150.0	3.60	0.02	0.00	PVC	0.004	5,006.49	True	5,006.49
P-57	330.48	8.0	150.0	3.60	0.02	0.00	PVC	0.001	5,006.49	True	5,006.49
P-58	161.67	12.0	150.0	2,054.00	5.83	1.19	PVC	7.375	5,006.49	True	5,005.30
P-59	213.49	12.0	150.0	1,129.37	3.20	0.52	PVC	2.436	5,005.30	True	5,004.78
P-60	350.73	12.0	150.0	21.60	0.06	0.00	PVC	0.001	5,004.78	True	5,004.78
P-61	286.24	12.0	150.0	18.00	0.05	0.00	PVC	0.002	5,004.78	True	5,004.78
P-62	353.63	12.0	150.0	7.20	0.02	0.00	PVC	0.000	5,004.78	True	5,004.78
P-63	94.38	12.0	150.0	3.60	0.01	0.00	PVC	0.000	5,004.78	True	5,004.78
P-64	203.48	8.0	150.0	921.03	5.88	2.45	PVC	12.034	5,005.30	True	5,002.85
P-65	228.49	8.0	150.0	917.43	5.86	2.73	PVC	11.946	5,002.85	True	5,000.12
P-66	208.58	8.0	150.0	913.83	5.83	2.47	PVC	11.860	5,000.12	True	4,997.65
P-67	87.29	8.0	150.0	-1,096.97	7.00	1.45	PVC	16.636	4,997.65	True	4,999.10
P-68	212.45	8.0	150.0	-1,100.57	7.02	3.56	PVC	16.735	4,999.10	True	5,002.65
P-69	126.18	8.0	150.0	-1,104.17	7.05	2.12	PVC	16.837	5,002.65	True	5,004.78
P-70	140.87	8.0	150.0	2,007.20	12.81	7.17	PVC	50.925	4,997.65	True	4,990.47
P-71	1,153.14	8.0	150.0	2,003.60	12.79	58.53	PVC	50.758	4,990.47	True	4,931.94
P-72	326.41	8.0	150.0	7.20	0.05	0.00	PVC	0.001	5,004.78	True	5,004.78
P-73	185.39	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,004.78	True	5,004.78

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF@ J55

FlexTable: Junction Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-1	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	84.1	4,783.50
J-2	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	83.5	4,785.00
J-3	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	84.4	4,783.00
J-6	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	80.9	4,791.00
J-7	Zone - 3	0.00	5,119.98	<Collection: 0 items>	Fixed	144.9	4,785.00
J-8	Zone - 3	0.00	5,119.97	<Collection: 0 items>	Fixed	141.5	4,793.00
J-10	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	87.0	4,785.50
J-11	Zone - 1	3.60	4,986.65	<Collection: 1 items>	Fixed	82.3	4,796.50
J-12	Zone - 1	0.00	4,986.65	<Collection: 0 items>	Fixed	78.8	4,804.50
J-13	Zone - 1	14.72	4,986.65	<Collection: 1 items>	Fixed	74.5	4,814.50
J-14	Zone - 1	14.72	4,986.65	<Collection: 1 items>	Fixed	74.7	4,814.00
J-15	Zone - 1	0.00	4,986.65	<Collection: 0 items>	Fixed	78.6	4,805.00
J-16	Zone - 1	3.60	4,986.64	<Collection: 1 items>	Fixed	78.4	4,805.50
J-17	Zone - 1	0.00	4,986.64	<Collection: 0 items>	Fixed	74.7	4,814.00
J-18	Zone - 1	0.00	4,986.64	<Collection: 0 items>	Fixed	72.1	4,820.00
J-19	Zone - 1	0.00	4,986.64	<Collection: 0 items>	Fixed	71.2	4,822.00
J-20	Zone - 1	0.00	4,986.64	<Collection: 0 items>	Fixed	70.8	4,823.00
J-21	Zone - 1	0.00	4,986.64	<Collection: 0 items>	Fixed	71.2	4,822.00
J-22	Zone - 1	0.00	4,986.63	<Collection: 0 items>	Fixed	74.0	4,815.50
J-23	Zone - 1	3.60	4,986.63	<Collection: 1 items>	Fixed	73.8	4,816.00
J-24	Zone - 1	0.00	4,986.63	<Collection: 0 items>	Fixed	73.4	4,817.00
J-25	Zone - 1	3.60	4,986.63	<Collection: 1 items>	Fixed	74.3	4,815.00
J-26	Zone - 1	0.00	4,986.63	<Collection: 0 items>	Fixed	76.4	4,810.00
J-27	Zone - 1	0.00	4,986.63	<Collection: 0 items>	Fixed	74.7	4,814.00
J-28	Zone - 1	3.60	4,986.63	<Collection: 1 items>	Fixed	73.0	4,818.00
J-29	Zone - 1	3.60	4,986.65	<Collection: 1 items>	Fixed	75.6	4,812.00
J-30	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	80.0	4,793.00
J-31	Zone - 3	0.00	5,119.97	<Collection: 0 items>	Fixed	141.5	4,793.00
J-32	Zone - 2	0.00	5,015.91	<Collection: 0 items>	Fixed	96.9	4,792.00
J-33	Zone - 2	0.00	5,015.91	<Collection: 0 items>	Fixed	100.3	4,784.00
J-34	Zone - 2	0.00	5,009.42	<Collection: 0 items>	Fixed	88.0	4,806.00
J-35	Zone - 2	0.00	5,007.03	<Collection: 0 items>	Fixed	84.8	4,811.00
J-36	Zone - 2	3.60	5,007.03	<Collection: 1 items>	Fixed	84.8	4,811.00
J-37	Zone - 2	0.00	5,006.49	<Collection: 0 items>	Fixed	84.4	4,811.50
J-38	Zone - 2	0.00	5,006.49	<Collection: 0 items>	Fixed	82.0	4,817.00
J-39	Zone - 2	3.60	5,006.49	<Collection: 1 items>	Fixed	80.5	4,820.50
J-40	Zone - 2	0.00	5,006.49	<Collection: 0 items>	Fixed	79.2	4,823.50
J-41	Zone - 2	3.60	5,005.30	<Collection: 1 items>	Fixed	82.8	4,814.00
J-42	Zone - 2	3.60	5,004.09	<Collection: 1 items>	Fixed	78.3	4,823.00
J-43	Zone - 2	3.60	5,001.58	<Collection: 1 items>	Fixed	79.9	4,817.00
J-44	Zone - 2	3.60	4,999.53	<Collection: 1 items>	Fixed	79.0	4,817.00
J-45	Zone - 2	3.60	4,999.53	<Collection: 1 items>	Fixed	77.9	4,819.50
J-46	Zone - 2	3.60	4,999.53	<Collection: 1 items>	Fixed	77.7	4,820.00
J-47	Zone - 2	3.60	5,005.05	<Collection: 1 items>	Fixed	83.5	4,812.00
J-48	Zone - 2	3.60	5,004.78	<Collection: 1 items>	Fixed	84.3	4,810.00
J-49	Zone - 2	3.60	5,004.53	<Collection: 1 items>	Fixed	83.7	4,811.00
J-50	Zone - 2	3.60	5,004.44	<Collection: 1 items>	Fixed	83.3	4,812.00
J-51	Zone - 2	3.60	5,004.22	<Collection: 1 items>	Fixed	82.3	4,814.00
J-52	Zone - 2	3.60	5,004.53	<Collection: 1 items>	Fixed	84.2	4,810.00
J-53	Zone - 2	3.60	5,004.53	<Collection: 1 items>	Fixed	83.1	4,812.50

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF@ J55

FlexTable: Junction Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-54	Zone - 2	3.60	4,982.91	<Collection: 1 items>	Fixed	70.1	4,821.00
J-55	Zone - 2	2,003.60	4,973.50	<Collection: 1 items>	Fixed	65.1	4,823.00
J-56	Zone - 2	3.60	5,006.49	<Collection: 1 items>	Fixed	77.2	4,828.00
J-57	Zone - 2	3.60	5,006.49	<Collection: 1 items>	Fixed	78.3	4,825.50
J-58	Zone - 2	3.60	5,006.49	<Collection: 1 items>	Fixed	78.3	4,825.50
J-59	Zone - 2	3.60	5,006.49	<Collection: 1 items>	Fixed	77.4	4,827.50
J-60	Zone - 2	3.60	5,006.49	<Collection: 1 items>	Fixed	75.5	4,832.00
J-61	Zone - 2	0.00	5,006.49	<Collection: 0 items>	Fixed	79.8	4,822.00
J-62	Zone - 2	0.00	5,006.49	<Collection: 0 items>	Fixed	76.8	4,829.00
J-64	Zone - 2	3.60	5,006.49	<Collection: 1 items>	Fixed	79.0	4,824.00
J-65	Zone - 2	3.60	5,006.49	<Collection: 1 items>	Fixed	76.4	4,830.00
J-68	Zone - 1	3.60	4,986.64	<Collection: 1 items>	Fixed	74.3	4,815.00
J-69	Zone - 1	3.60	4,986.64	<Collection: 1 items>	Fixed	77.3	4,808.00
J-70	Zone - 1	0.00	4,986.63	<Collection: 0 items>	Fixed	73.0	4,818.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF@ J55

FlexTable: Pipe Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-1	194.05	30.0	100.0	1,854.10	0.84	0.03	Steel	0.148	5,120.00	True	5,119.97
P-2	37.82	30.0	100.0	232.30	0.11	0.00	Steel	0.000	5,119.97	True	5,119.97
P-3	7.44	18.0	140.0	6.00	0.01	0.00	Asbestos Cement	0.000	5,119.97	True	5,119.97
P-4	7.39	18.0	140.0	5.99	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-5	461.01	18.0	140.0	-5.99	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-6	691.43	18.0	140.0	-3.99	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-7	645.24	18.0	140.0	1.99	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-8	346.44	18.0	140.0	2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-9	1,826.43	30.0	100.0	238.30	0.11	0.01	Steel	0.003	5,119.98	True	5,119.97
P-10	4,541.24	30.0	100.0	296.54	0.13	0.02	Steel	0.005	5,120.00	True	5,119.98
P-11	30.30	12.0	150.0	58.24	0.17	0.00	PVC	0.016	5,119.98	True	5,119.98
P-12	25.33	12.0	150.0	58.24	0.17	0.00	PVC	0.019	4,986.66	True	4,986.66
P-13	36.10	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,977.97	True	4,977.97
P-14	52.44	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-15	653.52	12.0	150.0	58.24	0.17	0.01	PVC	0.010	4,986.66	True	4,986.65
P-16	366.19	12.0	150.0	54.64	0.16	0.00	PVC	0.009	4,986.65	True	4,986.65
P-17	711.39	12.0	150.0	29.44	0.08	0.00	PVC	0.003	4,986.65	True	4,986.65
P-18	329.62	12.0	150.0	14.72	0.04	0.00	PVC	0.000	4,986.65	True	4,986.65
P-19	32.01	8.0	150.0	25.20	0.16	0.00	PVC	0.015	4,986.65	True	4,986.65
P-20	307.08	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,986.65	True	4,986.65
P-21	302.29	8.0	150.0	21.60	0.14	0.00	PVC	0.011	4,986.65	True	4,986.64
P-22	175.00	8.0	140.0	18.00	0.11	0.00	Asbestos Cement	0.008	4,986.64	True	4,986.64
P-23	331.85	8.0	140.0	14.40	0.09	0.00	Asbestos Cement	0.006	4,986.64	True	4,986.64
P-24	153.34	8.0	140.0	10.80	0.07	0.00	Asbestos Cement	0.006	4,986.64	True	4,986.64
P-25	177.80	8.0	150.0	10.80	0.07	0.00	PVC	0.003	4,986.64	True	4,986.64
P-26	101.80	8.0	150.0	10.80	0.07	0.00	PVC	0.000	4,986.64	True	4,986.64
P-27	343.59	8.0	150.0	10.80	0.07	0.00	PVC	0.004	4,986.64	True	4,986.64
P-28	273.59	8.0	150.0	10.80	0.07	0.00	PVC	0.002	4,986.64	True	4,986.64
P-29	600.56	8.0	150.0	10.80	0.07	0.00	PVC	0.003	4,986.64	True	4,986.63
P-30	549.58	8.0	150.0	4.28	0.03	0.00	PVC	0.001	4,986.63	True	4,986.63
P-31	245.14	8.0	150.0	4.28	0.03	0.00	PVC	0.000	4,986.63	True	4,986.63
P-32	246.24	8.0	150.0	-6.53	0.04	0.00	PVC	0.002	4,986.63	True	4,986.63
P-33	381.60	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.63	True	4,986.63
P-34	332.48	8.0	150.0	-2.92	0.02	0.00	PVC	0.000	4,986.63	True	4,986.63
P-35	191.14	8.0	150.0	-2.92	0.02	0.00	PVC	0.000	4,986.63	True	4,986.63
P-36	110.24	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,986.63	True	4,986.63
P-37	82.46	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,986.63	True	4,986.63
P-38	94.56	12.0	140.0	2,086.40	5.92	0.82	Asbestos Cement	8.628	5,119.97	True	5,119.16
P-39	427.12	12.0	140.0	2,086.40	5.92	3.68	Asbestos Cement	8.627	5,019.59	True	5,015.91
P-40	457.35	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,015.91	True	5,015.91
P-41	854.39	12.0	150.0	2,086.40	5.92	6.49	PVC	7.591	5,015.91	True	5,009.42
P-42	315.19	12.0	150.0	2,086.40	5.92	2.39	PVC	7.592	5,009.42	True	5,007.03
P-43	518.31	12.0	150.0	3.60	0.01	0.00	PVC	0.000	5,007.03	True	5,007.03
P-44	70.88	12.0	150.0	2,082.80	5.91	0.54	PVC	7.564	5,007.03	True	5,006.49
P-45	113.04	12.0	150.0	28.80	0.08	0.00	PVC	0.004	5,006.49	True	5,006.49
P-46	167.37	12.0	150.0	19.39	0.05	0.00	PVC	0.000	5,006.49	True	5,006.49
P-47	359.22	12.0	150.0	15.79	0.04	0.00	PVC	0.001	5,006.49	True	5,006.49
P-48	52.69	12.0	150.0	12.19	0.03	0.00	PVC	0.000	5,006.49	True	5,006.49

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF@ J55

FlexTable: Pipe Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-49	370.87	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,006.49	True	5,006.49
P-50	62.99	8.0	150.0	8.59	0.05	0.00	PVC	0.000	5,006.49	True	5,006.49
P-51	221.10	8.0	150.0	4.99	0.03	0.00	PVC	0.002	5,006.49	True	5,006.49
P-52	81.21	8.0	150.0	1.39	0.01	0.00	PVC	0.000	5,006.49	True	5,006.49
P-53	353.77	8.0	150.0	-2.21	0.01	0.00	PVC	0.000	5,006.49	True	5,006.49
P-54	332.21	8.0	150.0	-9.41	0.06	0.00	PVC	0.003	5,006.49	True	5,006.49
P-55	561.26	8.0	150.0	7.20	0.05	0.00	PVC	0.001	5,006.49	True	5,006.49
P-56	134.25	8.0	150.0	3.60	0.02	0.00	PVC	0.004	5,006.49	True	5,006.49
P-57	330.48	8.0	150.0	3.60	0.02	0.00	PVC	0.001	5,006.49	True	5,006.49
P-58	161.67	12.0	150.0	2,054.00	5.83	1.19	PVC	7.375	5,006.49	True	5,005.30
P-59	213.49	12.0	150.0	1,782.20	5.06	1.21	PVC	5.670	5,005.30	True	5,004.09
P-60	350.73	12.0	150.0	2,021.60	5.73	2.51	PVC	7.161	5,004.09	True	5,001.58
P-61	286.24	12.0	150.0	2,018.00	5.72	2.04	PVC	7.137	5,001.58	True	4,999.53
P-62	353.63	12.0	150.0	7.20	0.02	0.00	PVC	0.000	4,999.53	True	4,999.53
P-63	94.38	12.0	150.0	3.60	0.01	0.00	PVC	0.000	4,999.53	True	4,999.53
P-64	203.48	8.0	150.0	268.19	1.71	0.25	PVC	1.226	5,005.30	True	5,005.05
P-65	228.49	8.0	150.0	264.59	1.69	0.27	PVC	1.195	5,005.05	True	5,004.78
P-66	208.58	8.0	150.0	260.99	1.67	0.24	PVC	1.163	5,004.78	True	5,004.53
P-67	87.29	8.0	150.0	250.19	1.60	0.09	PVC	1.074	5,004.53	True	5,004.44
P-68	212.45	8.0	150.0	246.59	1.57	0.22	PVC	1.050	5,004.44	True	5,004.22
P-69	126.18	8.0	150.0	242.99	1.55	0.13	PVC	1.018	5,004.22	True	5,004.09
P-70	140.87	8.0	150.0	7.20	0.05	0.00	PVC	0.000	5,004.53	True	5,004.53
P-71	1,153.14	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,004.53	True	5,004.53
P-72	326.41	8.0	150.0	2,007.20	12.81	16.62	PVC	50.926	4,999.53	True	4,982.91
P-73	185.39	8.0	150.0	2,003.60	12.79	9.41	PVC	50.757	4,982.91	True	4,973.50

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J58

FlexTable: Junction Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-1	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	84.1	4,783.50
J-2	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	83.5	4,785.00
J-3	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	84.4	4,783.00
J-6	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	80.9	4,791.00
J-7	Zone - 3	0.00	5,119.85	<Collection: 0 items>	Fixed	144.9	4,785.00
J-8	Zone - 3	0.00	5,119.80	<Collection: 0 items>	Fixed	141.4	4,793.00
J-10	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	87.0	4,785.50
J-11	Zone - 1	3.60	4,986.65	<Collection: 1 items>	Fixed	82.3	4,796.50
J-12	Zone - 1	0.00	4,986.65	<Collection: 0 items>	Fixed	78.8	4,804.50
J-13	Zone - 1	14.72	4,986.65	<Collection: 1 items>	Fixed	74.5	4,814.50
J-14	Zone - 1	14.72	4,986.65	<Collection: 1 items>	Fixed	74.7	4,814.00
J-15	Zone - 1	0.00	4,986.65	<Collection: 0 items>	Fixed	78.6	4,805.00
J-16	Zone - 1	3.60	4,986.64	<Collection: 1 items>	Fixed	78.4	4,805.50
J-17	Zone - 1	0.00	4,986.64	<Collection: 0 items>	Fixed	74.7	4,814.00
J-18	Zone - 1	0.00	4,986.64	<Collection: 0 items>	Fixed	72.1	4,820.00
J-19	Zone - 1	0.00	4,986.64	<Collection: 0 items>	Fixed	71.2	4,822.00
J-20	Zone - 1	0.00	4,986.64	<Collection: 0 items>	Fixed	70.8	4,823.00
J-21	Zone - 1	0.00	4,986.64	<Collection: 0 items>	Fixed	71.2	4,822.00
J-22	Zone - 1	0.00	4,986.63	<Collection: 0 items>	Fixed	74.0	4,815.50
J-23	Zone - 1	3.60	4,986.63	<Collection: 1 items>	Fixed	73.8	4,816.00
J-24	Zone - 1	0.00	4,986.63	<Collection: 0 items>	Fixed	73.4	4,817.00
J-25	Zone - 1	3.60	4,986.63	<Collection: 1 items>	Fixed	74.3	4,815.00
J-26	Zone - 1	0.00	4,986.63	<Collection: 0 items>	Fixed	76.4	4,810.00
J-27	Zone - 1	0.00	4,986.63	<Collection: 0 items>	Fixed	74.7	4,814.00
J-28	Zone - 1	3.60	4,986.63	<Collection: 1 items>	Fixed	73.0	4,818.00
J-29	Zone - 1	3.60	4,986.65	<Collection: 1 items>	Fixed	75.6	4,812.00
J-30	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	80.0	4,793.00
J-31	Zone - 3	0.00	5,119.80	<Collection: 0 items>	Fixed	141.4	4,793.00
J-32	Zone - 2	0.00	4,992.83	<Collection: 0 items>	Fixed	86.9	4,792.00
J-33	Zone - 2	0.00	4,992.83	<Collection: 0 items>	Fixed	90.4	4,784.00
J-34	Zone - 2	0.00	4,945.72	<Collection: 0 items>	Fixed	60.5	4,806.00
J-35	Zone - 2	0.00	4,928.34	<Collection: 0 items>	Fixed	50.8	4,811.00
J-36	Zone - 2	3.60	4,928.34	<Collection: 1 items>	Fixed	50.8	4,811.00
J-37	Zone - 2	0.00	4,924.44	<Collection: 0 items>	Fixed	48.9	4,811.50
J-38	Zone - 2	0.00	4,918.32	<Collection: 0 items>	Fixed	43.8	4,817.00
J-39	Zone - 2	3.60	4,913.14	<Collection: 1 items>	Fixed	40.1	4,820.50
J-40	Zone - 2	0.00	4,902.05	<Collection: 0 items>	Fixed	34.0	4,823.50
J-41	Zone - 2	3.60	4,924.44	<Collection: 1 items>	Fixed	47.8	4,814.00
J-42	Zone - 2	3.60	4,924.44	<Collection: 1 items>	Fixed	43.9	4,823.00
J-43	Zone - 2	3.60	4,924.44	<Collection: 1 items>	Fixed	46.5	4,817.00
J-44	Zone - 2	3.60	4,924.44	<Collection: 1 items>	Fixed	46.5	4,817.00
J-45	Zone - 2	3.60	4,924.44	<Collection: 1 items>	Fixed	45.4	4,819.50
J-46	Zone - 2	3.60	4,924.44	<Collection: 1 items>	Fixed	45.2	4,820.00
J-47	Zone - 2	3.60	4,924.44	<Collection: 1 items>	Fixed	48.6	4,812.00
J-48	Zone - 2	3.60	4,924.44	<Collection: 1 items>	Fixed	49.5	4,810.00
J-49	Zone - 2	3.60	4,924.44	<Collection: 1 items>	Fixed	49.1	4,811.00
J-50	Zone - 2	3.60	4,924.44	<Collection: 1 items>	Fixed	48.6	4,812.00
J-51	Zone - 2	3.60	4,924.44	<Collection: 1 items>	Fixed	47.8	4,814.00
J-52	Zone - 2	3.60	4,924.44	<Collection: 1 items>	Fixed	49.5	4,810.00
J-53	Zone - 2	3.60	4,924.44	<Collection: 1 items>	Fixed	48.4	4,812.50

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J58

FlexTable: Junction Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-54	Zone - 2	3.60	4,924.44	<Collection: 1 items>	Fixed	44.8	4,821.00
J-55	Zone - 2	3.60	4,924.44	<Collection: 1 items>	Fixed	43.9	4,823.00
J-56	Zone - 2	3.60	4,902.05	<Collection: 1 items>	Fixed	32.0	4,828.00
J-57	Zone - 2	3.60	4,900.43	<Collection: 1 items>	Fixed	32.4	4,825.50
J-58	Zone - 2	6,003.60	4,886.45	<Collection: 1 items>	Fixed	26.4	4,825.50
J-59	Zone - 2	3.60	4,893.51	<Collection: 1 items>	Fixed	28.6	4,827.50
J-60	Zone - 2	3.60	4,896.12	<Collection: 1 items>	Fixed	27.7	4,832.00
J-61	Zone - 2	0.00	4,907.52	<Collection: 0 items>	Fixed	37.0	4,822.00
J-62	Zone - 2	0.00	4,907.52	<Collection: 0 items>	Fixed	34.0	4,829.00
J-64	Zone - 2	3.60	4,907.52	<Collection: 1 items>	Fixed	36.1	4,824.00
J-65	Zone - 2	3.60	4,907.52	<Collection: 1 items>	Fixed	33.5	4,830.00
J-68	Zone - 1	3.60	4,986.64	<Collection: 1 items>	Fixed	74.3	4,815.00
J-69	Zone - 1	3.60	4,986.64	<Collection: 1 items>	Fixed	77.3	4,808.00
J-70	Zone - 1	0.00	4,986.63	<Collection: 0 items>	Fixed	73.0	4,818.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J58

FlexTable: Pipe Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-1	194.05	30.0	100.0	5,327.65	2.42	0.20	Steel	1.052	5,120.00	True	5,119.80
P-2	37.82	30.0	100.0	758.75	0.34	0.00	Steel	0.026	5,119.80	True	5,119.80
P-3	7.44	18.0	140.0	6.00	0.01	0.00	Asbestos Cement	0.000	5,119.80	True	5,119.80
P-4	7.39	18.0	140.0	6.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-5	461.01	18.0	140.0	-6.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-6	691.43	18.0	140.0	-4.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-7	645.24	18.0	140.0	2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-8	346.44	18.0	140.0	2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-9	1,826.43	30.0	100.0	764.75	0.35	0.05	Steel	0.029	5,119.85	True	5,119.80
P-10	4,541.24	30.0	100.0	822.99	0.37	0.15	Steel	0.033	5,120.00	True	5,119.85
P-11	30.30	12.0	150.0	58.24	0.17	0.00	PVC	0.016	5,119.85	True	5,119.85
P-12	25.33	12.0	150.0	58.24	0.17	0.00	PVC	0.019	4,986.66	True	4,986.66
P-13	36.10	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,977.97	True	4,977.97
P-14	52.44	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-15	653.52	12.0	150.0	58.24	0.17	0.01	PVC	0.010	4,986.66	True	4,986.65
P-16	366.19	12.0	150.0	54.64	0.16	0.00	PVC	0.009	4,986.65	True	4,986.65
P-17	711.39	12.0	150.0	29.44	0.08	0.00	PVC	0.003	4,986.65	True	4,986.65
P-18	329.62	12.0	150.0	14.72	0.04	0.00	PVC	0.000	4,986.65	True	4,986.65
P-19	32.01	8.0	150.0	25.20	0.16	0.00	PVC	0.015	4,986.65	True	4,986.65
P-20	307.08	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,986.65	True	4,986.65
P-21	302.29	8.0	150.0	21.60	0.14	0.00	PVC	0.011	4,986.65	True	4,986.64
P-22	175.00	8.0	140.0	18.00	0.11	0.00	Asbestos Cement	0.008	4,986.64	True	4,986.64
P-23	331.85	8.0	140.0	14.40	0.09	0.00	Asbestos Cement	0.006	4,986.64	True	4,986.64
P-24	153.34	8.0	140.0	10.80	0.07	0.00	Asbestos Cement	0.006	4,986.64	True	4,986.64
P-25	177.80	8.0	150.0	10.80	0.07	0.00	PVC	0.003	4,986.64	True	4,986.64
P-26	101.80	8.0	150.0	10.80	0.07	0.00	PVC	0.000	4,986.64	True	4,986.64
P-27	343.59	8.0	150.0	10.80	0.07	0.00	PVC	0.004	4,986.64	True	4,986.64
P-28	273.59	8.0	150.0	10.80	0.07	0.00	PVC	0.002	4,986.64	True	4,986.64
P-29	600.56	8.0	150.0	10.80	0.07	0.00	PVC	0.003	4,986.64	True	4,986.63
P-30	549.58	8.0	150.0	5.62	0.04	0.00	PVC	0.001	4,986.63	True	4,986.63
P-31	245.14	8.0	150.0	5.62	0.04	0.00	PVC	0.000	4,986.63	True	4,986.63
P-32	246.24	8.0	150.0	-5.18	0.03	0.00	PVC	0.000	4,986.63	True	4,986.63
P-33	381.60	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.63	True	4,986.63
P-34	332.48	8.0	150.0	-1.58	0.01	0.00	PVC	0.001	4,986.63	True	4,986.63
P-35	191.14	8.0	150.0	-1.58	0.01	0.00	PVC	0.000	4,986.63	True	4,986.63
P-36	110.24	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,986.63	True	4,986.63
P-37	82.46	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,986.63	True	4,986.63
P-38	94.56	12.0	140.0	6,086.40	17.27	5.92	Asbestos Cement	62.654	5,119.80	True	5,113.87
P-39	427.12	12.0	140.0	6,086.40	17.27	26.76	Asbestos Cement	62.652	5,019.59	True	4,992.83
P-40	457.35	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	4,992.83	True	4,992.83
P-41	854.39	12.0	150.0	6,086.40	17.27	47.11	PVC	55.137	4,992.83	True	4,945.72
P-42	315.19	12.0	150.0	6,086.40	17.27	17.38	PVC	55.138	4,945.72	True	4,928.34
P-43	518.31	12.0	150.0	3.60	0.01	0.00	PVC	0.000	4,928.34	True	4,928.34
P-44	70.88	12.0	150.0	6,082.80	17.26	3.90	PVC	55.074	4,928.34	True	4,924.44
P-45	113.04	12.0	150.0	6,028.80	17.10	6.12	PVC	54.175	4,924.44	True	4,918.32
P-46	167.37	12.0	150.0	4,453.89	12.63	5.18	PVC	30.922	4,918.32	True	4,913.14
P-47	359.22	12.0	150.0	4,450.29	12.62	11.09	PVC	30.876	4,913.14	True	4,902.05
P-48	52.69	12.0	150.0	4,446.69	12.61	1.62	PVC	30.830	4,902.05	True	4,900.43

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J58

FlexTable: Pipe Table (GJT-water.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-49	370.87	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,902.05	True	4,902.05
P-50	62.99	8.0	150.0	4,443.09	28.36	13.98	PVC	221.855	4,900.43	True	4,886.45
P-51	221.10	8.0	150.0	-1,560.51	9.96	7.06	PVC	31.951	4,886.45	True	4,893.51
P-52	81.21	8.0	150.0	-1,564.11	9.98	2.61	PVC	32.089	4,893.51	True	4,896.12
P-53	353.77	8.0	150.0	-1,567.71	10.01	11.40	PVC	32.224	4,896.12	True	4,907.52
P-54	332.21	8.0	150.0	-1,574.91	10.05	10.80	PVC	32.498	4,907.52	True	4,918.32
P-55	561.26	8.0	150.0	7.20	0.05	0.00	PVC	0.002	4,907.52	True	4,907.52
P-56	134.25	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,907.52	True	4,907.52
P-57	330.48	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,907.52	True	4,907.52
P-58	161.67	12.0	150.0	54.00	0.15	0.00	PVC	0.009	4,924.44	True	4,924.44
P-59	213.49	12.0	150.0	36.91	0.10	0.00	PVC	0.005	4,924.44	True	4,924.44
P-60	350.73	12.0	150.0	21.60	0.06	0.00	PVC	0.001	4,924.44	True	4,924.44
P-61	286.24	12.0	150.0	18.00	0.05	0.00	PVC	0.002	4,924.44	True	4,924.44
P-62	353.63	12.0	150.0	7.20	0.02	0.00	PVC	0.000	4,924.44	True	4,924.44
P-63	94.38	12.0	150.0	3.60	0.01	0.00	PVC	0.000	4,924.44	True	4,924.44
P-64	203.48	8.0	150.0	13.49	0.09	0.00	PVC	0.005	4,924.44	True	4,924.44
P-65	228.49	8.0	150.0	9.89	0.06	0.00	PVC	0.002	4,924.44	True	4,924.44
P-66	208.58	8.0	150.0	6.29	0.04	0.00	PVC	0.002	4,924.44	True	4,924.44
P-67	87.29	8.0	150.0	-4.51	0.03	0.00	PVC	0.000	4,924.44	True	4,924.44
P-68	212.45	8.0	150.0	-8.11	0.05	0.00	PVC	0.002	4,924.44	True	4,924.44
P-69	126.18	8.0	150.0	-11.71	0.07	0.00	PVC	0.004	4,924.44	True	4,924.44
P-70	140.87	8.0	150.0	7.20	0.05	0.00	PVC	0.000	4,924.44	True	4,924.44
P-71	1,153.14	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,924.44	True	4,924.44
P-72	326.41	8.0	150.0	7.20	0.05	0.00	PVC	0.001	4,924.44	True	4,924.44
P-73	185.39	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,924.44	True	4,924.44

APPENDIX C

RUNWAY 11/29

AIRPORT TERMINAL

Freight Rd

Landing View Ln

Falcon Way

Walker Field Dr

Blue Angel Ln

Heritage Way

Aviators Way

Eagle Drive

H Road

RUNWAY 4/22

5 6 7 8 9 10 11 12 13 14 15 16 17 18 22 23 24 25 26 27 28 29 30 31 32 33 35 36 37

8" PVC SAN

6" VCP SAN

4" VCP SAN

10" PVC SAN

12" PVC SAN

10" VCP SAN

LEGEND

EXISTING SANITARY SEWER

EXISTING SANITARY SEWER PARCEL AREAS

PVC (POLYVINYL CHLORIDE)

VCP (VITRIFIED CLAY PIPE)

N

GRAPHIC SCALE
250 0 250 500
(IN FEET)

JVIATION SM
ENGINEERING & PLANNING
900 S. BROADWAY • SUITE 350 • DENVER, COLORADO 80203
PHONE: 303-524-3030 • FAX: 303-524-3031
• WWW.JVIATION.COM •

GRAND JUNCTION REGIONAL AIRPORT
MASTER PLAN
EXISTING SANITARY SEWER MAP

DATE:3/09/09

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #37

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 10.0000 in
Flowrate ..... 99.5000 gpm-US
Slope ..... 0.0025 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 3.0513 in
Area 0.5454 ft2
Wetted Area 0.1409 ft2
Wetted Perimeter ..... 11.7045 in
Perimeter ..... 31.4159 in
Velocity ..... 1.5735 fps
Hydraulic Radius ..... 1.7334 in
Percent Full ..... 30.5133 %
Full flow Flowrate ..... 491.6941 gpm-US
Full flow velocity ..... 2.0086 fps

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #37

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 10.0000 in
Flowrate ..... 24.9000 gpm-US
Slope ..... 0.0025 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 1.5301 in
Area 0.5454 ft2
Wetted Area 0.0528 ft2
Wetted Perimeter ..... 8.0378 in
Perimeter ..... 31.4159 in
Velocity ..... 1.0507 fps
Hydraulic Radius ..... 0.9459 in
Percent Full ..... 15.3006 %
Full flow Flowrate ..... 491.6941 gpm-US
Full flow velocity ..... 2.0086 fps

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #36

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 10.0000 in
Flowrate ..... 11.5000 gpm-US
Slope ..... 0.0210 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.6379 in
Area 0.5454 ft2
Wetted Area 0.0146 ft2
Wetted Perimeter ..... 5.1068 in
Perimeter ..... 31.4159 in
Velocity ..... 1.7513 fps
Hydraulic Radius ..... 0.4125 in
Percent Full ..... 6.3793 %
Full flow Flowrate ..... 1425.0650 gpm-US
Full flow velocity ..... 5.8214 fps

Critical Information:

Critical depth ..... 0.8157 in
Critical slope ..... 0.0074 ft/ft
Critical velocity ..... 1.2180 fps
Critical area 0.0210 ft2
Critical perimeter ..... 5.7928 in
Critical hydraulic radius ..... 0.5229 in
Critical top width ..... 5.4742 in
Specific energy ..... 0.1008 ft
Minimum energy ..... 0.1020 ft
Froude number 1.6291
Flow condition ..... Supercritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #35

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 2.5000 gpm-US
Slope ..... 0.0500 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.2695 in
Area 0.3491 ft2
Wetted Area 0.0036 ft2
Wetted Perimeter ..... 2.9532 in
Perimeter ..... 25.1327 in
Velocity ..... 1.5362 fps
Hydraulic Radius ..... 0.1768 in
Percent Full ..... 3.3682 %
Full flow Flowrate ..... 1212.7836 gpm-US
Full flow velocity ..... 7.7409 fps

Critical Information:

Critical depth ..... 0.4017 in
Critical slope ..... 0.0091 ft/ft
Critical velocity ..... 0.8481 fps
Critical area 0.0066 ft2
Critical perimeter ..... 3.6162 in
Critical hydraulic radius ..... 0.2615 in
Critical top width ..... 3.4907 in
Specific energy ..... 0.0591 ft
Minimum energy ..... 0.0502 ft
Froude number 2.2058
Flow condition ..... Supercritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #33

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 2.5000 gpm-US
Slope ..... 0.0040 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.4865 in
Area 0.3491 ft2
Wetted Area 0.0087 ft2
Wetted Perimeter ..... 3.9866 in
Perimeter ..... 25.1327 in
Velocity ..... 0.6386 fps
Hydraulic Radius ..... 0.3150 in
Percent Full ..... 6.0809 %
Full flow Flowrate ..... 343.0270 gpm-US
Full flow velocity ..... 2.1895 fps

Critical Information:

Critical depth ..... 0.4017 in
Critical slope ..... 0.0091 ft/ft
Critical velocity ..... 0.8481 fps
Critical area 0.0066 ft2
Critical perimeter ..... 3.6162 in
Critical hydraulic radius ..... 0.2615 in
Critical top width ..... 3.4907 in
Specific energy ..... 0.0469 ft
Minimum energy ..... 0.0502 ft
Froude number 0.6805
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #33

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 1.3000 gpm-US
Slope ..... 0.0040 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.3580 in
Area 0.3491 ft2
Wetted Area 0.0055 ft2
Wetted Perimeter ..... 3.4107 in
Perimeter ..... 25.1327 in
Velocity ..... 0.5233 fps
Hydraulic Radius ..... 0.2337 in
Percent Full ..... 4.4756 %
Full flow Flowrate ..... 343.0270 gpm-US
Full flow velocity ..... 2.1895 fps

Critical Information:

Critical depth ..... 0.2905 in
Critical slope ..... 0.0101 ft/ft
Critical velocity ..... 0.7143 fps
Critical area 0.0041 ft2
Critical perimeter ..... 3.0675 in
Critical hydraulic radius ..... 0.1904 in
Critical top width ..... 2.9839 in
Specific energy ..... 0.0341 ft
Minimum energy ..... 0.0363 ft
Froude number 0.6511
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #32

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 1.3000 gpm-US
Slope ..... 0.0500 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.1988 in
Area 0.3491 ft2
Wetted Area 0.0023 ft2
Wetted Perimeter ..... 2.5325 in
Perimeter ..... 25.1327 in
Velocity ..... 1.2576 fps
Hydraulic Radius ..... 0.1310 in
Percent Full ..... 2.4844 %
Full flow Flowrate ..... 1212.7836 gpm-US
Full flow velocity ..... 7.7409 fps

Critical Information:

Critical depth ..... 0.2905 in
Critical slope ..... 0.0101 ft/ft
Critical velocity ..... 0.7143 fps
Critical area 0.0041 ft2
Critical perimeter ..... 3.0675 in
Critical hydraulic radius ..... 0.1904 in
Critical top width ..... 2.9839 in
Specific energy ..... 0.0411 ft
Minimum energy ..... 0.0363 ft
Froude number 2.1046
Flow condition ..... Supercritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #31

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 1.3000 gpm-US
Slope ..... 0.0040 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.3580 in
Area 0.3491 ft2
Wetted Area 0.0055 ft2
Wetted Perimeter ..... 3.4107 in
Perimeter ..... 25.1327 in
Velocity ..... 0.5233 fps
Hydraulic Radius ..... 0.2337 in
Percent Full ..... 4.4756 %
Full flow Flowrate ..... 343.0270 gpm-US
Full flow velocity ..... 2.1895 fps

Critical Information:

Critical depth ..... 0.2905 in
Critical slope ..... 0.0101 ft/ft
Critical velocity ..... 0.7143 fps
Critical area 0.0041 ft2
Critical perimeter ..... 3.0675 in
Critical hydraulic radius ..... 0.1904 in
Critical top width ..... 2.9839 in
Specific energy ..... 0.0341 ft
Minimum energy ..... 0.0363 ft
Froude number 0.6511
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #31

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 0.6000 gpm-US
Slope ..... 0.0040 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.2496 in
Area 0.3491 ft2
Wetted Area 0.0032 ft2
Wetted Perimeter ..... 2.8411 in
Perimeter ..... 25.1327 in
Velocity ..... 0.4132 fps
Hydraulic Radius ..... 0.1640 in
Percent Full ..... 3.1201 %
Full flow Flowrate ..... 343.0270 gpm-US
Full flow velocity ..... 2.1895 fps

Critical Information:

Critical depth ..... 0.2033 in
Critical slope ..... 0.0114 ft/ft
Critical velocity ..... 0.5611 fps
Critical area 0.0024 ft2
Critical perimeter ..... 2.5616 in
Critical hydraulic radius ..... 0.1339 in
Critical top width ..... 2.4728 in
Specific energy ..... 0.0235 ft
Minimum energy ..... 0.0254 ft
Froude number 0.6166
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #30

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 10.0000 in
Flowrate ..... 41.1000 gpm-US
Slope ..... 0.0289 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 1.0810 in
Area 0.5454 ft2
Wetted Area 0.0318 ft2
Wetted Perimeter ..... 6.7004 in
Perimeter ..... 31.4159 in
Velocity ..... 2.8777 fps
Hydraulic Radius ..... 0.6839 in
Percent Full ..... 10.8101 %
Full flow Flowrate ..... 1671.7601 gpm-US
Full flow velocity ..... 6.8291 fps

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #29

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 13.2000 gpm-US
Slope ..... 0.0045 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 1.0420 in
Area 0.3491 ft2
Wetted Area 0.0267 ft2
Wetted Perimeter ..... 5.9078 in
Perimeter ..... 25.1327 in
Velocity ..... 1.0998 fps
Hydraulic Radius ..... 0.6518 in
Percent Full ..... 13.0251 %
Full flow Flowrate ..... 363.8351 gpm-US
Full flow velocity ..... 2.3223 fps

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #28

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 2.5000 gpm-US
Slope ..... 0.0040 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.4865 in
Area 0.3491 ft2
Wetted Area 0.0087 ft2
Wetted Perimeter ..... 3.9866 in
Perimeter ..... 25.1327 in
Velocity ..... 0.6386 fps
Hydraulic Radius ..... 0.3150 in
Percent Full ..... 6.0809 %
Full flow Flowrate ..... 343.0270 gpm-US
Full flow velocity ..... 2.1895 fps

Critical Information:

Critical depth ..... 0.4017 in
Critical slope ..... 0.0091 ft/ft
Critical velocity ..... 0.8481 fps
Critical area 0.0066 ft2
Critical perimeter ..... 3.6162 in
Critical hydraulic radius ..... 0.2615 in
Critical top width ..... 3.4907 in
Specific energy ..... 0.0469 ft
Minimum energy ..... 0.0502 ft
Froude number 0.6805
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #28

Given Input Data:

Shape	Circular
Solving for	Depth of Flow
Diameter	8.0000 in
Flowrate	1.2000 gpm-US
Slope	0.0040 ft/ft
Manning's n	0.0130

Computed Results:

Depth	0.3449 in
Area	0.3491 ft2
Wetted Area	0.0052 ft2
Wetted Perimeter	3.3465 in
Perimeter	25.1327 in
Velocity	0.5107 fps
Hydraulic Radius	0.2253 in
Percent Full	4.3112 %
Full flow Flowrate	343.0270 gpm-US
Full flow velocity	2.1895 fps

Critical Information:

Critical depth	0.2791 in
Critical slope	0.0102 ft/ft
Critical velocity	0.6997 fps
Critical area	0.0038 ft2
Critical perimeter	3.0062 in
Critical hydraulic radius	0.1830 in
Critical top width	2.9267 in
Specific energy	0.0328 ft
Minimum energy	0.0349 ft
Froude number	0.6475
Flow condition	Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #27

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 5.4000 gpm-US
Slope ..... 0.0045 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.6804 in
Area 0.3491 ft2
Wetted Area 0.0143 ft2
Wetted Perimeter ..... 4.7348 in
Perimeter ..... 25.1327 in
Velocity ..... 0.8404 fps
Hydraulic Radius ..... 0.4354 in
Percent Full ..... 8.5045 %
Full flow Flowrate ..... 363.8351 gpm-US
Full flow velocity ..... 2.3223 fps

Critical Information:

Critical depth ..... 0.5908 in
Critical slope ..... 0.0082 ft/ft
Critical velocity ..... 1.0350 fps
Critical area 0.0116 ft2
Critical perimeter ..... 4.4033 in
Critical hydraulic radius ..... 0.3802 in
Critical top width ..... 4.1837 in
Specific energy ..... 0.0677 ft
Minimum energy ..... 0.0738 ft
Froude number 0.7552
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #26

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 2.5000 gpm-US
Slope ..... 0.0500 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.2695 in
Area 0.3491 ft2
Wetted Area 0.0036 ft2
Wetted Perimeter ..... 2.9532 in
Perimeter ..... 25.1327 in
Velocity ..... 1.5362 fps
Hydraulic Radius ..... 0.1768 in
Percent Full ..... 3.3682 %
Full flow Flowrate ..... 1212.7836 gpm-US
Full flow velocity ..... 7.7409 fps

Critical Information:

Critical depth ..... 0.4017 in
Critical slope ..... 0.0091 ft/ft
Critical velocity ..... 0.8481 fps
Critical area 0.0066 ft2
Critical perimeter ..... 3.6162 in
Critical hydraulic radius ..... 0.2615 in
Critical top width ..... 3.4907 in
Specific energy ..... 0.0591 ft
Minimum energy ..... 0.0502 ft
Froude number 2.2058
Flow condition ..... Supercritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #25

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 8.2000 gpm-US
Slope ..... 0.0045 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.8297 in
Area 0.3491 ft2
Wetted Area 0.0192 ft2
Wetted Perimeter ..... 5.2462 in
Perimeter ..... 25.1327 in
Velocity ..... 0.9533 fps
Hydraulic Radius ..... 0.5260 in
Percent Full ..... 10.3710 %
Full flow Flowrate ..... 363.8351 gpm-US
Full flow velocity ..... 2.3223 fps

Critical Information:

Critical depth ..... 0.7291 in
Critical slope ..... 0.0078 ft/ft
Critical velocity ..... 1.1527 fps
Critical area 0.0158 ft2
Critical perimeter ..... 4.9066 in
Critical hydraulic radius ..... 0.4652 in
Critical top width ..... 4.6047 in
Specific energy ..... 0.0833 ft
Minimum energy ..... 0.0911 ft
Froude number 0.7741
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #24

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 2.5000 gpm-US
Slope ..... 0.0045 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.4732 in
Area 0.3491 ft2
Wetted Area 0.0084 ft2
Wetted Perimeter ..... 3.9307 in
Perimeter ..... 25.1327 in
Velocity ..... 0.6653 fps
Hydraulic Radius ..... 0.3067 in
Percent Full ..... 5.9149 %
Full flow Flowrate ..... 363.8351 gpm-US
Full flow velocity ..... 2.3223 fps

Critical Information:

Critical depth ..... 0.4017 in
Critical slope ..... 0.0091 ft/ft
Critical velocity ..... 0.8481 fps
Critical area 0.0066 ft2
Critical perimeter ..... 3.6162 in
Critical hydraulic radius ..... 0.2615 in
Critical top width ..... 3.4907 in
Specific energy ..... 0.0463 ft
Minimum energy ..... 0.0502 ft
Froude number 0.7190
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #23

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 5.8000 gpm-US
Slope ..... 0.0045 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.7038 in
Area 0.3491 ft2
Wetted Area 0.0150 ft2
Wetted Perimeter ..... 4.8181 in
Perimeter ..... 25.1327 in
Velocity ..... 0.8588 fps
Hydraulic Radius ..... 0.4497 in
Percent Full ..... 8.7974 %
Full flow Flowrate ..... 363.8351 gpm-US
Full flow velocity ..... 2.3223 fps

Critical Information:

Critical depth ..... 0.6123 in
Critical slope ..... 0.0081 ft/ft
Critical velocity ..... 1.0544 fps
Critical area 0.0123 ft2
Critical perimeter ..... 4.4850 in
Critical hydraulic radius ..... 0.3935 in
Critical top width ..... 4.2534 in
Specific energy ..... 0.0701 ft
Minimum energy ..... 0.0765 ft
Froude number 0.7585
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #22

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 3.3000 gpm-US
Slope ..... 0.0040 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.5544 in
Area 0.3491 ft2
Wetted Area 0.0106 ft2
Wetted Perimeter ..... 4.2621 in
Perimeter ..... 25.1327 in
Velocity ..... 0.6948 fps
Hydraulic Radius ..... 0.3575 in
Percent Full ..... 6.9295 %
Full flow Flowrate ..... 343.0270 gpm-US
Full flow velocity ..... 2.1895 fps

Critical Information:

Critical depth ..... 0.4613 in
Critical slope ..... 0.0088 ft/ft
Critical velocity ..... 0.9119 fps
Critical area 0.0081 ft2
Critical perimeter ..... 3.8802 in
Critical hydraulic radius ..... 0.2992 in
Critical top width ..... 3.7282 in
Specific energy ..... 0.0537 ft
Minimum energy ..... 0.0577 ft
Froude number 0.6929
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #22

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 1.7000 gpm-US
Slope ..... 0.0040 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.4059 in
Area 0.3491 ft2
Wetted Area 0.0067 ft2
Wetted Perimeter ..... 3.6354 in
Perimeter ..... 25.1327 in
Velocity ..... 0.5679 fps
Hydraulic Radius ..... 0.2642 in
Percent Full ..... 5.0744 %
Full flow Flowrate ..... 343.0270 gpm-US
Full flow velocity ..... 2.1895 fps

Critical Information:

Critical depth ..... 0.3312 in
Critical slope ..... 0.0097 ft/ft
Critical velocity ..... 0.7685 fps
Critical area 0.0049 ft2
Critical perimeter ..... 3.2782 in
Critical hydraulic radius ..... 0.2165 in
Critical top width ..... 3.1831 in
Specific energy ..... 0.0388 ft
Minimum energy ..... 0.0414 ft
Froude number 0.6632
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #18

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 2.5000 gpm-US
Slope ..... 0.0500 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.2695 in
Area 0.3491 ft2
Wetted Area 0.0036 ft2
Wetted Perimeter ..... 2.9532 in
Perimeter ..... 25.1327 in
Velocity ..... 1.5362 fps
Hydraulic Radius ..... 0.1768 in
Percent Full ..... 3.3682 %
Full flow Flowrate ..... 1212.7836 gpm-US
Full flow velocity ..... 7.7409 fps

Critical Information:

Critical depth ..... 0.4017 in
Critical slope ..... 0.0091 ft/ft
Critical velocity ..... 0.8481 fps
Critical area 0.0066 ft2
Critical perimeter ..... 3.6162 in
Critical hydraulic radius ..... 0.2615 in
Critical top width ..... 3.4907 in
Specific energy ..... 0.0591 ft
Minimum energy ..... 0.0502 ft
Froude number 2.2058
Flow condition ..... Supercritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #17

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 10.0000 in
Flowrate ..... 4.9000 gpm-US
Slope ..... 0.0225 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.4208 in
Area 0.5454 ft2
Wetted Area 0.0079 ft2
Wetted Perimeter ..... 4.1321 in
Perimeter ..... 31.4159 in
Velocity ..... 1.3834 fps
Hydraulic Radius ..... 0.2750 in
Percent Full ..... 4.2082 %
Full flow Flowrate ..... 1475.0824 gpm-US
Full flow velocity ..... 6.0257 fps

Critical Information:

Critical depth ..... 0.5311 in
Critical slope ..... 0.0083 ft/ft
Critical velocity ..... 0.9792 fps
Critical area 0.0111 ft2
Critical perimeter ..... 4.6507 in
Critical hydraulic radius ..... 0.3452 in
Critical top width ..... 4.4843 in
Specific energy ..... 0.0648 ft
Minimum energy ..... 0.0664 ft
Froude number 1.5882
Flow condition ..... Supercritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #16

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 2.5000 gpm-US
Slope ..... 0.0069 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.4280 in
Area 0.3491 ft2
Wetted Area 0.0072 ft2
Wetted Perimeter ..... 3.7348 in
Perimeter ..... 25.1327 in
Velocity ..... 0.7720 fps
Hydraulic Radius ..... 0.2782 in
Percent Full ..... 5.3505 %
Full flow Flowrate ..... 450.5291 gpm-US
Full flow velocity ..... 2.8756 fps

Critical Information:

Critical depth ..... 0.4017 in
Critical slope ..... 0.0091 ft/ft
Critical velocity ..... 0.8481 fps
Critical area 0.0066 ft2
Critical perimeter ..... 3.6162 in
Critical hydraulic radius ..... 0.2615 in
Critical top width ..... 3.4907 in
Specific energy ..... 0.0449 ft
Minimum energy ..... 0.0502 ft
Froude number 0.8777
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #16

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 1.2000 gpm-US
Slope ..... 0.0069 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.3037 in
Area 0.3491 ft2
Wetted Area 0.0043 ft2
Wetted Perimeter ..... 3.1373 in
Perimeter ..... 25.1327 in
Velocity ..... 0.6171 fps
Hydraulic Radius ..... 0.1988 in
Percent Full ..... 3.7958 %
Full flow Flowrate ..... 450.5291 gpm-US
Full flow velocity ..... 2.8756 fps

Critical Information:

Critical depth ..... 0.2791 in
Critical slope ..... 0.0102 ft/ft
Critical velocity ..... 0.6997 fps
Critical area 0.0038 ft2
Critical perimeter ..... 3.0062 in
Critical hydraulic radius ..... 0.1830 in
Critical top width ..... 2.9267 in
Specific energy ..... 0.0312 ft
Minimum energy ..... 0.0349 ft
Froude number 0.8344
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #15

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 2.5000 gpm-US
Slope ..... 0.0500 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.2695 in
Area 0.3491 ft2
Wetted Area 0.0036 ft2
Wetted Perimeter ..... 2.9532 in
Perimeter ..... 25.1327 in
Velocity ..... 1.5362 fps
Hydraulic Radius ..... 0.1768 in
Percent Full ..... 3.3682 %
Full flow Flowrate ..... 1212.7836 gpm-US
Full flow velocity ..... 7.7409 fps

Critical Information:

Critical depth ..... 0.4017 in
Critical slope ..... 0.0091 ft/ft
Critical velocity ..... 0.8481 fps
Critical area 0.0066 ft2
Critical perimeter ..... 3.6162 in
Critical hydraulic radius ..... 0.2615 in
Critical top width ..... 3.4907 in
Specific energy ..... 0.0591 ft
Minimum energy ..... 0.0502 ft
Froude number 2.2058
Flow condition ..... Supercritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #14

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 6.0000 in
Flowrate ..... 4.9000 gpm-US
Slope ..... 0.0159 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.5198 in
Area 0.1963 ft2
Wetted Area 0.0083 ft2
Wetted Perimeter ..... 3.5849 in
Perimeter ..... 18.8496 in
Velocity ..... 1.3194 fps
Hydraulic Radius ..... 0.3324 in
Percent Full ..... 8.6625 %
Full flow Flowrate ..... 317.5608 gpm-US
Full flow velocity ..... 3.6034 fps

Critical Information:

Critical depth ..... 0.6063 in
Critical slope ..... 0.0083 ft/ft
Critical velocity ..... 1.0520 fps
Critical area 0.0104 ft2
Critical perimeter ..... 3.8821 in
Critical hydraulic radius ..... 0.3849 in
Critical top width ..... 3.6164 in
Specific energy ..... 0.0704 ft
Minimum energy ..... 0.0758 ft
Froude number 1.3563
Flow condition ..... Supercritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #14

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 6.0000 in
Flowrate ..... 1.2000 gpm-US
Slope ..... 0.0159 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.2682 in
Area 0.1963 ft2
Wetted Area 0.0031 ft2
Wetted Perimeter ..... 2.5562 in
Perimeter ..... 18.8496 in
Velocity ..... 0.8605 fps
Hydraulic Radius ..... 0.1750 in
Percent Full ..... 4.4695 %
Full flow Flowrate ..... 317.5608 gpm-US
Full flow velocity ..... 3.6034 fps

Critical Information:

Critical depth ..... 0.3011 in
Critical slope ..... 0.0101 ft/ft
Critical velocity ..... 0.7246 fps
Critical area 0.0037 ft2
Critical perimeter ..... 2.7110 in
Critical hydraulic radius ..... 0.1960 in
Critical top width ..... 2.6088 in
Specific energy ..... 0.0339 ft
Minimum energy ..... 0.0376 ft
Froude number 1.2371
Flow condition ..... Supercritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #13

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 12.0000 in
Flowrate ..... 53.3000 gpm-US
Slope ..... 0.0217 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 1.2469 in
Area 0.7854 ft2
Wetted Area 0.0432 ft2
Wetted Perimeter ..... 7.8769 in
Perimeter ..... 37.6991 in
Velocity ..... 2.7464 fps
Hydraulic Radius ..... 0.7905 in
Percent Full ..... 10.3906 %
Full flow Flowrate ..... 2355.6181 gpm-US
Full flow velocity ..... 6.6824 fps

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #12

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 53.3000 gpm-US
Slope ..... 0.0036 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 2.1897 in
Area 0.3491 ft2
Wetted Area 0.0775 ft2
Wetted Perimeter ..... 8.8092 in
Perimeter ..... 25.1327 in
Velocity ..... 1.5321 fps
Hydraulic Radius ..... 1.2670 in
Percent Full ..... 27.3715 %
Full flow Flowrate ..... 325.4240 gpm-US
Full flow velocity ..... 2.0771 fps

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #12

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 13.3000 gpm-US
Slope ..... 0.0036 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 1.1035 in
Area 0.3491 ft2
Wetted Area 0.0291 ft2
Wetted Perimeter ..... 6.0883 in
Perimeter ..... 25.1327 in
Velocity ..... 1.0193 fps
Hydraulic Radius ..... 0.6876 in
Percent Full ..... 13.7941 %
Full flow Flowrate ..... 325.4240 gpm-US
Full flow velocity ..... 2.0771 fps

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #11

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 10.0000 gpm-US
Slope ..... 0.0214 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.6297 in
Area 0.3491 ft2
Wetted Area 0.0128 ft2
Wetted Perimeter ..... 4.5501 in
Perimeter ..... 25.1327 in
Velocity ..... 1.7442 fps
Hydraulic Radius ..... 0.4043 in
Percent Full ..... 7.8716 %
Full flow Flowrate ..... 793.4238 gpm-US
Full flow velocity ..... 5.0642 fps

Critical Information:

Critical depth ..... 0.8059 in
Critical slope ..... 0.0076 ft/ft
Critical velocity ..... 1.2133 fps
Critical area 0.0184 ft2
Critical perimeter ..... 5.1675 in
Critical hydraulic radius ..... 0.5117 in
Critical top width ..... 4.8156 in
Specific energy ..... 0.0998 ft
Minimum energy ..... 0.1007 ft
Froude number 1.6303
Flow condition ..... Supercritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #10

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 6.6000 gpm-US
Slope ..... 0.0043 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.7564 in
Area 0.3491 ft2
Wetted Area 0.0167 ft2
Wetted Perimeter ..... 5.0009 in
Perimeter ..... 25.1327 in
Velocity ..... 0.8789 fps
Hydraulic Radius ..... 0.4818 in
Percent Full ..... 9.4551 %
Full flow Flowrate ..... 355.6580 gpm-US
Full flow velocity ..... 2.2701 fps

Critical Information:

Critical depth ..... 0.6535 in
Critical slope ..... 0.0080 ft/ft
Critical velocity ..... 1.0899 fps
Critical area 0.0135 ft2
Critical perimeter ..... 4.6377 in
Critical hydraulic radius ..... 0.4189 in
Critical top width ..... 4.3820 in
Specific energy ..... 0.0750 ft
Minimum energy ..... 0.0817 ft
Froude number 0.7482
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #9

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 2.9000 gpm-US
Slope ..... 0.0040 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.5216 in
Area 0.3491 ft2
Wetted Area 0.0097 ft2
Wetted Perimeter ..... 4.1314 in
Perimeter ..... 25.1327 in
Velocity ..... 0.6681 fps
Hydraulic Radius ..... 0.3371 in
Percent Full ..... 6.5205 %
Full flow Flowrate ..... 343.0270 gpm-US
Full flow velocity ..... 2.1895 fps

Critical Information:

Critical depth ..... 0.4323 in
Critical slope ..... 0.0089 ft/ft
Critical velocity ..... 0.8823 fps
Critical area 0.0073 ft2
Critical perimeter ..... 3.7539 in
Critical hydraulic radius ..... 0.2809 in
Critical top width ..... 3.6159 in
Specific energy ..... 0.0504 ft
Minimum energy ..... 0.0540 ft
Froude number 0.6871
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #9

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 1.5000 gpm-US
Slope ..... 0.0040 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.3828 in
Area 0.3491 ft2
Wetted Area 0.0061 ft2
Wetted Perimeter ..... 3.5287 in
Perimeter ..... 25.1327 in
Velocity ..... 0.5466 fps
Hydraulic Radius ..... 0.2495 in
Percent Full ..... 4.7855 %
Full flow Flowrate ..... 343.0270 gpm-US
Full flow velocity ..... 2.1895 fps

Critical Information:

Critical depth ..... 0.3120 in
Critical slope ..... 0.0099 ft/ft
Critical velocity ..... 0.7411 fps
Critical area 0.0045 ft2
Critical perimeter ..... 3.1804 in
Critical hydraulic radius ..... 0.2042 in
Critical top width ..... 3.0887 in
Specific energy ..... 0.0365 ft
Minimum energy ..... 0.0390 ft
Froude number 0.6575
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #8

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 3.6000 gpm-US
Slope ..... 0.0500 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.3194 in
Area 0.3491 ft2
Wetted Area 0.0047 ft2
Wetted Perimeter ..... 3.2188 in
Perimeter ..... 25.1327 in
Velocity ..... 1.7172 fps
Hydraulic Radius ..... 0.2090 in
Percent Full ..... 3.9928 %
Full flow Flowrate ..... 1212.7836 gpm-US
Full flow velocity ..... 7.7409 fps

Critical Information:

Critical depth ..... 0.4820 in
Critical slope ..... 0.0087 ft/ft
Critical velocity ..... 0.9324 fps
Critical area 0.0086 ft2
Critical perimeter ..... 3.9677 in
Critical hydraulic radius ..... 0.3122 in
Critical top width ..... 3.8054 in
Specific energy ..... 0.0724 ft
Minimum energy ..... 0.0602 ft
Froude number 2.2632
Flow condition ..... Supercritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #6

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 3.6000 gpm-US
Slope ..... 0.0021 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.6725 in
Area 0.3491 ft2
Wetted Area 0.0141 ft2
Wetted Perimeter ..... 4.7067 in
Perimeter ..... 25.1327 in
Velocity ..... 0.5699 fps
Hydraulic Radius ..... 0.4306 in
Percent Full ..... 8.4068 %
Full flow Flowrate ..... 248.5467 gpm-US
Full flow velocity ..... 1.5864 fps

Critical Information:

Critical depth ..... 0.4820 in
Critical slope ..... 0.0087 ft/ft
Critical velocity ..... 0.9324 fps
Critical area 0.0086 ft2
Critical perimeter ..... 3.9677 in
Critical hydraulic radius ..... 0.3122 in
Critical top width ..... 3.8054 in
Specific energy ..... 0.0611 ft
Minimum energy ..... 0.0602 ft
Froude number 0.5151
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #5

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 3.6000 gpm-US
Slope ..... 0.0292 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.3622 in
Area 0.3491 ft2
Wetted Area 0.0056 ft2
Wetted Perimeter ..... 3.4307 in
Perimeter ..... 25.1327 in
Velocity ..... 1.4245 fps
Hydraulic Radius ..... 0.2363 in
Percent Full ..... 4.5275 %
Full flow Flowrate ..... 926.8080 gpm-US
Full flow velocity ..... 5.9156 fps

Critical Information:

Critical depth ..... 0.4820 in
Critical slope ..... 0.0087 ft/ft
Critical velocity ..... 0.9324 fps
Critical area 0.0086 ft2
Critical perimeter ..... 3.9677 in
Critical hydraulic radius ..... 0.3122 in
Critical top width ..... 3.8054 in
Specific energy ..... 0.0617 ft
Minimum energy ..... 0.0602 ft
Froude number 1.7621
Flow condition ..... Supercritical

Description: Grand Junction Regional Airport-Proposed and Existing Sanitary Sewer Study Calculations Table
AIP No: 3-08-0027-36
Date: 5-Feb-09
Designed by: SJH

Sanitary Sewer Demand Rates:
Average daily flows: Light Commercial 175 gallons per acre per day (gpad)
Peak Hour flows: 2.0 x Avg. flow
4.0 for higher uses (ie., motels/restaurants/terminal/Airline sewage drain location).

Design Point	Acres	Acres (CUMMULATIVE)	Demand Rate (GPAD)	Average Day Demand		Min. Slope (%)	Average Demand Velocity (FT/S) (Min. Slope)	Peaking Factor	Peak Flow		Max. Slope (%)	Peak Demand Velocity (FT/S) (Max. Slope)	Peak Demand (Min. Slope) % Full	Pipe Dia. Size (IN)
				(GPD)	(GPM)				(GPD)	(GPM)				
1	(Future)		175	0	0.0			2	0.0	0.0	5.00			8
2	(Future)		175	0	0.0			2	0.0	0.0	5.00			8
3	(Future)		175	0	0.0			2	0.0	0.0	5.00			8
4	(Future)		175	0	0.0			2	0.0	0.0	5.00			8
5	14.96	14.96	175	2,618	1.8	2.92	1.15	2	5,236.0	3.6	2.92	1.42	4.5	8
6		14.96	175	2,618	1.8	0.21	0.46	2	5,236.0	3.6	0.21	0.57	8.4	8
7	(Future)		175	0	0.0			2	0.0	0.0				8
8		14.96	175	2,618	1.8	0.40	0.58	2	5,236.0	3.6	5.00	1.72	7.2	8
9	12.12	12.12	175	2,121	1.5	0.40	0.55	2	4,242.0	2.9	5.00	1.61	6.5	8
10		27.08	175	4,739	3.3	0.18	0.53	2	9,478.0	6.6	0.43	0.88	11.6	8
11	82.58	82.58	175	14,452	10.0	2.14	1.74	4	57,806.8	40.1	2.14	2.65	15.3	8
12		109.66	175	19,191	13.3	0.36	1.02	4	76,762.7	53.3	0.44	1.65	27.4	8
13		109.66	175	19,191	13.3	2.05	1.77	4	76,762.7	53.3	2.17	2.75	10.5	12
14	10.13	10.13	175	1,773	1.2	1.59	0.86	4	7,090.3	4.9	5.14	1.99	8.7	6
15	10.13	10.13	175	1,773	1.2	0.40	0.51	2	3,545.2	2.5	5.00	1.54	6.1	8
16	10.13	10.13	175	1,773	1.2	0.69	0.62	2	3,545.2	2.5	2.46	1.20	5.4	8
17		20.26	175	3,545	2.5	2.25	1.13	2	7,090.3	4.9	2.25	1.38	4.2	10
18	10.13	10.13	175	1,773	1.2	0.40	0.51	2	3,545.2	2.5	5.00	1.54	6.1	8
19	(Future)		175	0	0.0			2	0.0	0.0				8
20	(Future)		175	0	0.0			2	0.0	0.0				8
21	(Future)		175	0	0.0			2	0.0	0.0				8
22	13.64	13.64	175	2,386	1.7	0.40	0.57	2	4,772.6	3.3	5.00	1.67	6.9	8
23	10.13	23.77	175	4,159	2.9	0.45	0.70	2	8,317.8	5.8	0.45	0.86	8.8	8
24	10.13	10.13	175	1,773	1.2	0.45	0.53	2	3,545.2	2.5	0.45	0.67	5.9	8
25		33.89	175	5,931	4.1	0.45	0.77	2	11,862.9	8.2	0.45	0.95	10.4	8
26	10.13	10.13	175	1,773	1.2	0.40	0.51	2	3,545.2	2.5	5.00	1.54	6.1	8
27		44.02	175	7,704	5.4	0.45	0.84	2	15,408.1	10.7	0.45	1.03	11.8	8
28	10.13	10.13	175	1,773	1.2	0.40	0.51	2	3,545.2	2.5	5.00	1.54	6.1	8
29		54.15	175	9,477	6.6	0.45	0.89	2	18,953.2	13.2	0.45	1.10	13.0	8
30		84.54	175	14,794	10.3	1.65	1.56	4	59,177.4	41.1	2.89	2.88	12.4	10
31	5.21	5.21	175	911	0.6	0.40	0.41	2	1,822.6	1.3	5.00	1.26	4.5	8
32	5.21	5.21	175	911	0.6	0.40	0.41	2	1,822.6	1.3	5.00	1.26	4.5	8
33		10.41	175	1,823	1.3	0.40	0.52	2	3,645.1	2.5	5.00	1.54	6.1	8
34	(Future)		175	0	0.0			2	0.0	0.0				8
35		10.41	175	1,823	1.3	0.40	0.52	2	3,645.1	2.5	5.00	1.54	6.1	8
36		94.95	175	16,617	11.5	2.10	1.75	4	66,467.6	46.2	2.10	2.67	12.3	10
37		204.61	175	35,808	24.9	0.25	1.05	4	143,230.3	99.5	4.00	4.20	30.5	10

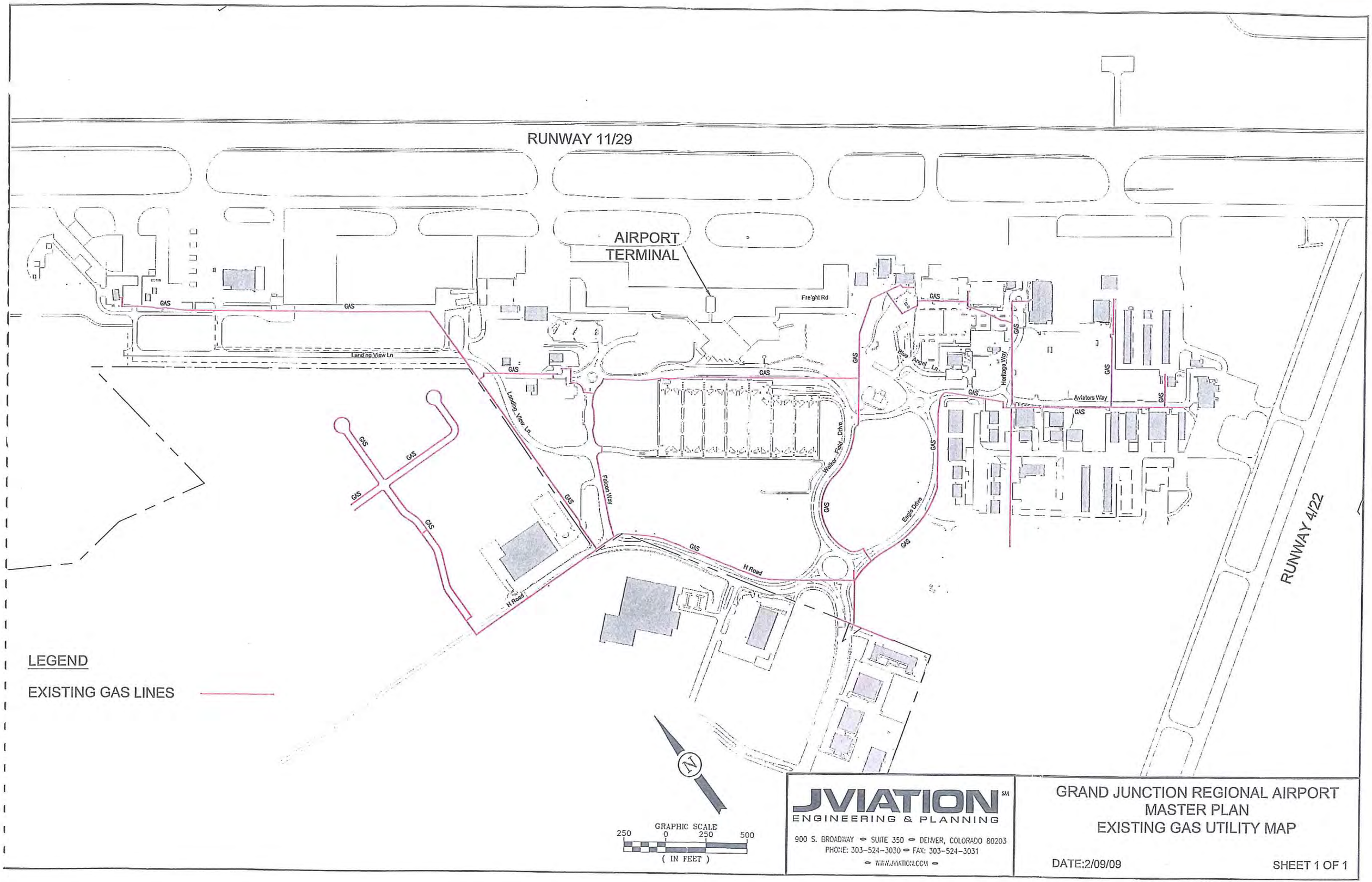
If the projected ultimate average flow for the planning area is less than 25 MGD, then additional areas can be added to the 201 Area without impacting the future plant design. If the projected flows exceed 25 MGD, existing service areas must either be deleted or projected land use modified to reduce the projected flows. Any land use modifications must be justified based on existing land use trends or other limiting factors.

Based upon the existing development and projected land use developed in the 1985 Sewer System Analysis and utilizing the flow criteria established in Table 3-3, the projected ultimate wastewater flow was 24.27 MGD. Additional areas added to the 201 Area since 1985 increased the projected flows to 24.62 MGD. The ultimate flows were estimated by adding the existing 1984 flows to the projected increase in flows for ultimate development from the previous report in 1985. Table 3-4 summarizes the 1984 and ultimate projected flows based on the 1985 Sewer System Analysis and Use.

TABLE 3-3
Grand Junction Comprehensive Wastewater Basin Study
Planning Criteria

WASTEWATER FLOW CRITERIA	
Residential (including 30 gpcd I/I allowance)	105 gallon per capita per day (gpcd)
Commercial	
Light business (B-1, B-2)	100 gallons per acre per day (gpad)
Light commercial (I-1, B-3, C-1, PB, PI, PE)	175 gallons per acre per day (gpad)
Industrial	
Heavy Industrial (I-2, C-2, H0)	350 gallons per acre per day (gpad)
Peak flow to average flow ratio	2.0
Residential density	2.5 persons per unit
INTERCEPTOR SEWER DESIGN CRITERIA	
Mannings pipe roughness factor, n	0.013
Flow depth ratio, d at peak flow (d/D), where D is pipe diameter (interceptor sewers) (outfall or sewer extensions)	1.0 0.80
Maximum sewer excavation depth for gravity line	20 feet
Sewer slopes Maximum (Based on 10 feet per second (fps) maximum flow velocity) Minimum (Based on 2 feet per second (fps) minimum flow velocity)	Sewer Diameter (inches) — Slope (%) max / min 8 — 5.00 / 0.40 10 — 4.00 / 0.25 12 — 3.00 / 0.20 15 — 2.50 / 0.15

APPENDIX D



JVIATION SM
ENGINEERING & PLANNING

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PHONE: 303-524-3030 • FAX: 303-524-3031
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GRAND JUNCTION REGIONAL AIRPORT
MASTER PLAN
EXISTING GAS UTILITY MAP

DATE:2/09/09

EXISTING PROPERTY LINE

PRELIMINARY LOCATION OF FUTURE AIR TRAFFIC CONTROL TOWER

RUNWAY 11/29

AIRPORT TERMINAL

RUNWAY 4/22

27 1/4 Road

Landing View Ln

Freight Rd

Falcon Way

Eagle Drive

Aviators Way

Heritage Way

H Road

LEGEND

- XCEL ENERGY EXISTING ELECTRIC LINES
- XCEL ENERGY EXISTING I PHASE ELECTRIC LINES
- XCEL ENERGY EXISTING III PHASE ELECTRIC LINES
- GRAND VALLEY POWER EXISTING OVERHEAD ELECTRIC LINES
- GRAND VALLEY POWER EXISTING UNDERGROUND ELECTRIC LINES

GRAPHIC SCALE
400 0 400 800
(IN FEET)

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GRAND JUNCTION REGIONAL AIRPORT MASTER PLAN
EXISTING ELECTRIC UTILITY MAP

DATE:2/09/09

APPROXIMATE LOCATION OF AIRPORT COMMUNICATION LINES

RUNWAY 11/29

AIRPORT TERMINAL

Landing View Ln

Falcon Way

Freight Rd

Walker Field Drive

Eagle Drive

Aviators Way

Heritage Way

H Road

CU

FIBER

CU & FIBER

CONDUIT ONLY

RUNWAY 4/22

LEGEND

EXISTING TELEPHONE COPPER

EXISTING TELEPHONE FIBER OPTIC

EXISTING AIRPORT COMMUNICATION LINES

N

GRAPHIC SCALE

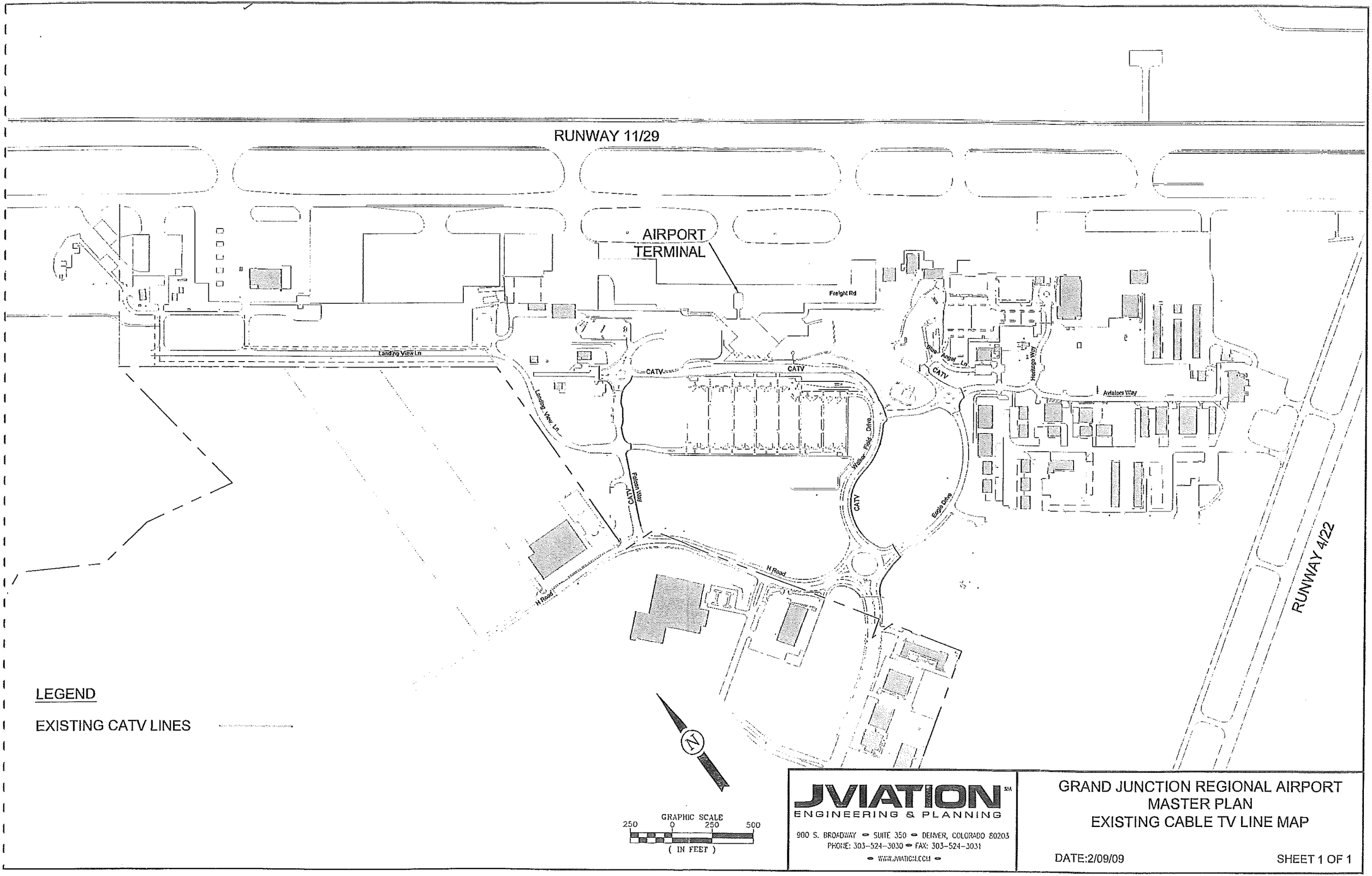
250 0 250 500

(IN FEET)

JVIATION SM
ENGINEERING & PLANNING
900 S. BROADWAY • SUITE 350 • DENVER, COLORADO 80203
PHONE: 303-524-3030 • FAX: 303-524-3031
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GRAND JUNCTION REGIONAL AIRPORT MASTER PLAN
EXISTING QWEST COMMUNICATION MAP & EXISTING AIRPORT COMMUNICATION MAP

DATE:2/09/09



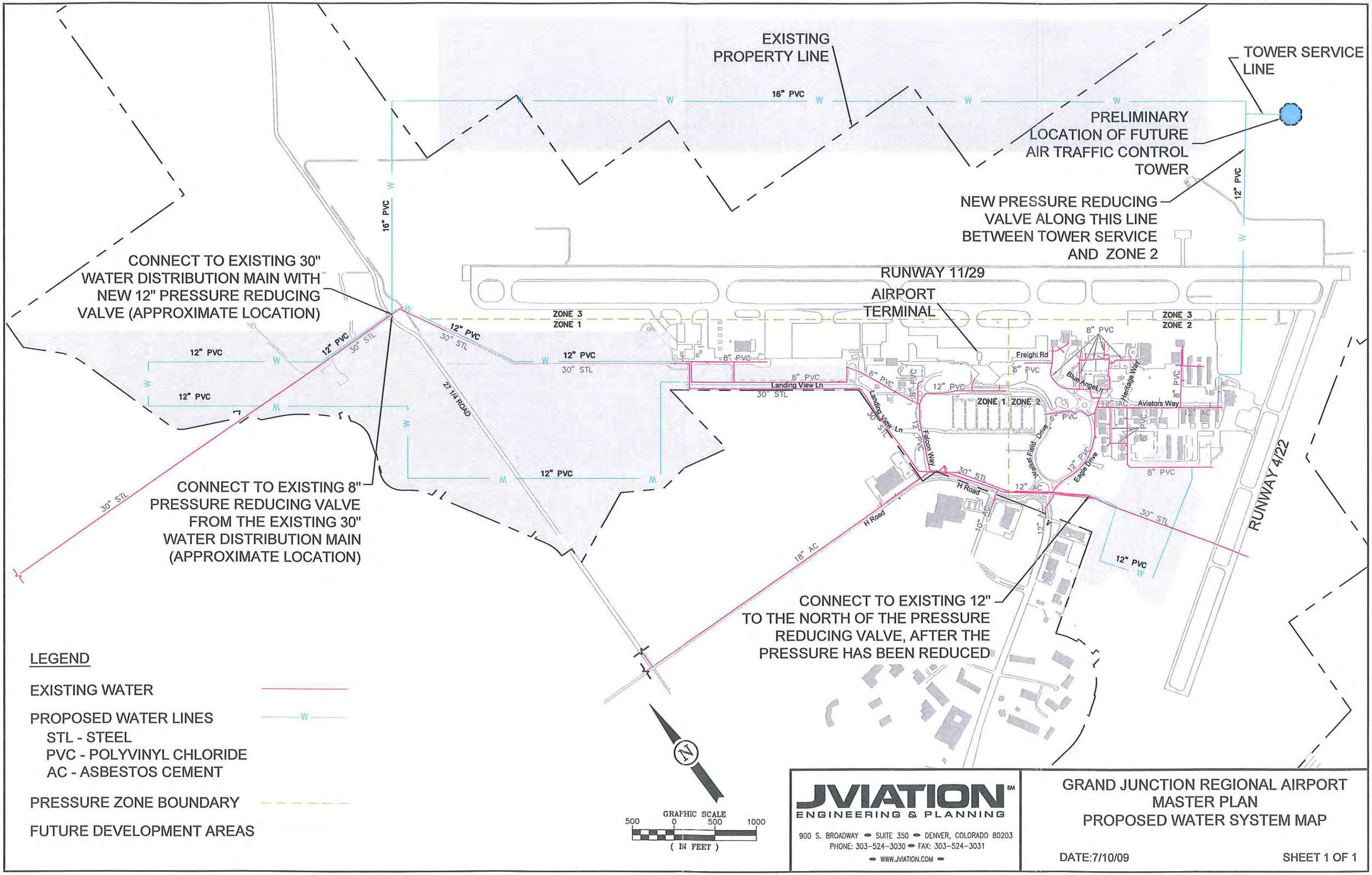
JVIATION SM
ENGINEERING & PLANNING
900 S. BROADWAY • SUITE 350 • DENVER, COLORADO 80203
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GRAND JUNCTION REGIONAL AIRPORT
MASTER PLAN
EXISTING CABLE TV LINE MAP

DATE:2/09/09

SHEET 1 OF 1

APPENDIX E



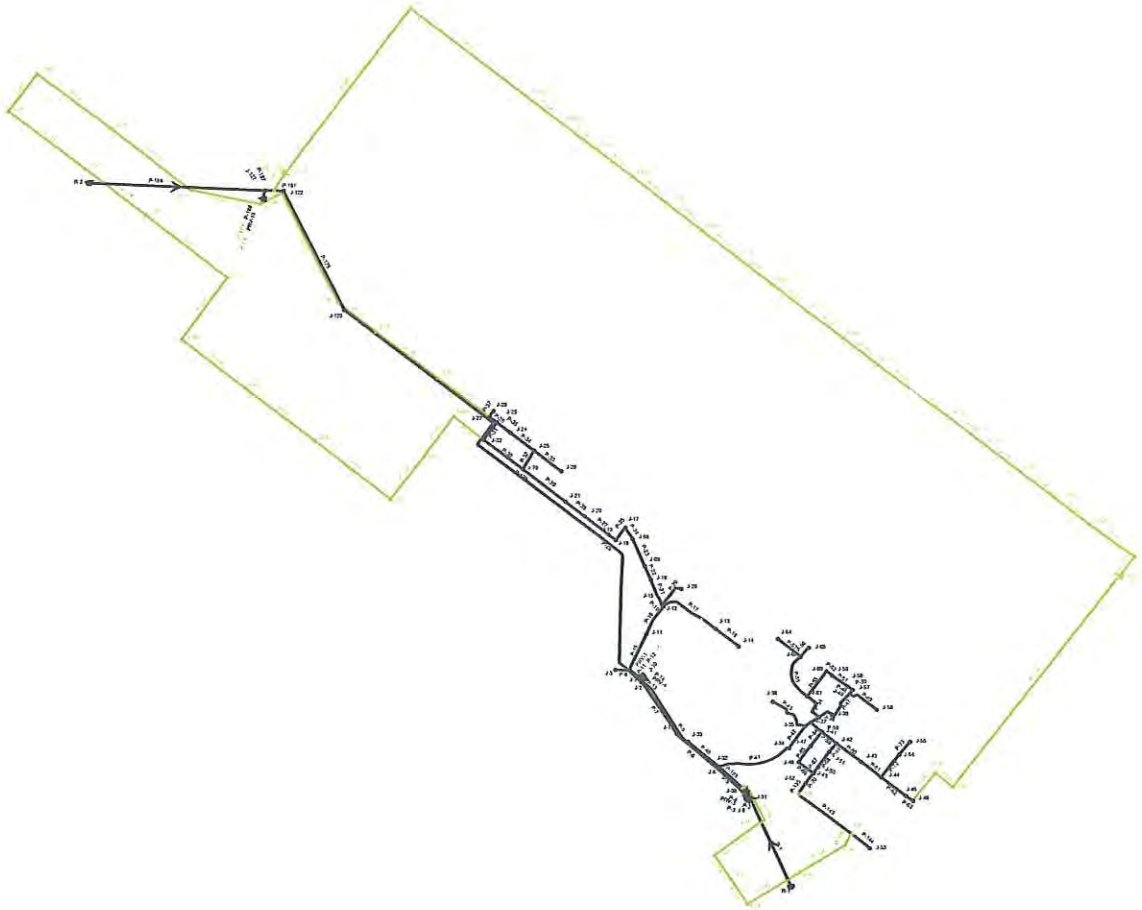
JVIATION SM
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• WWW.JVIATION.COM •

GRAND JUNCTION REGIONAL AIRPORT MASTER PLAN
PROPOSED WATER SYSTEM MAP

DATE:7/10/09

SHEET 1 OF 1

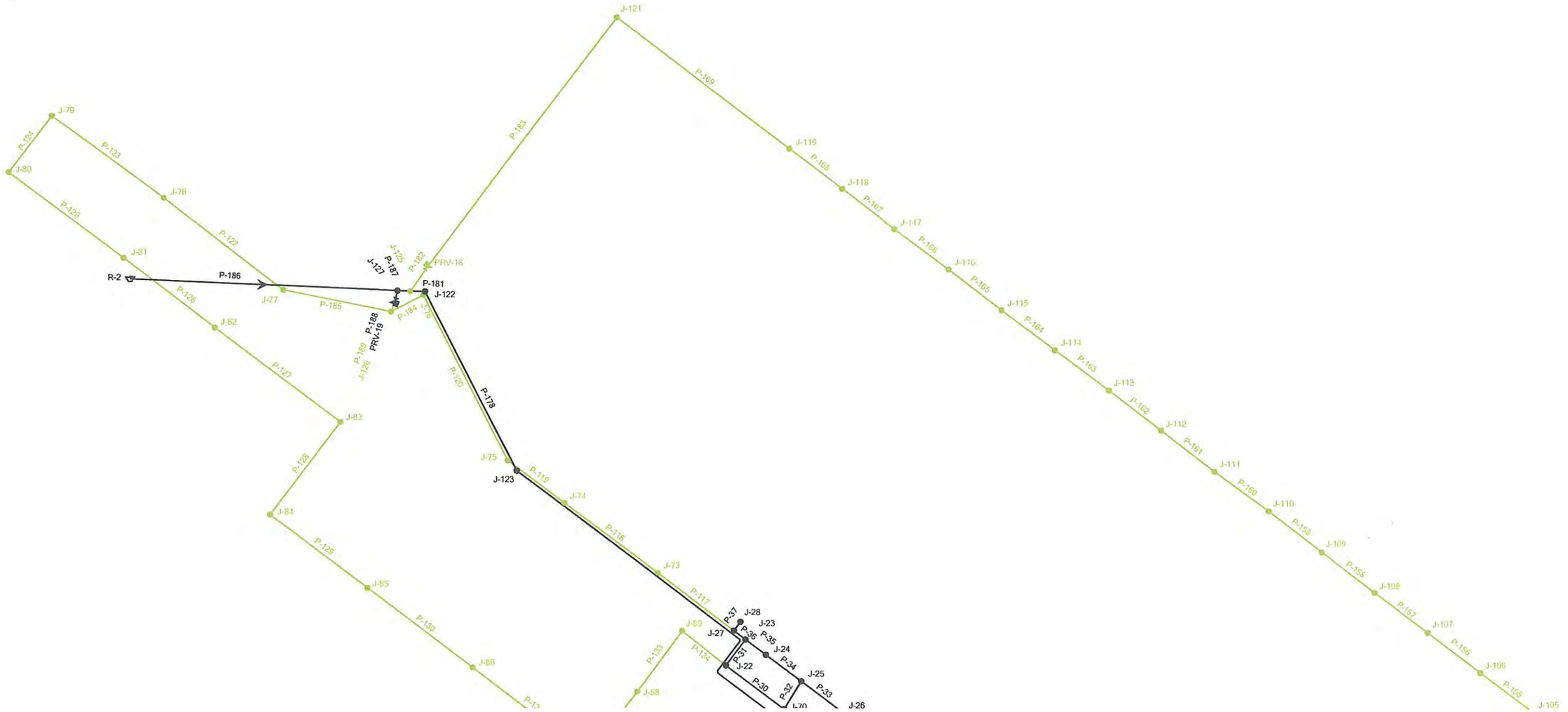
GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008
Active Scenario: Static
Print Preview



GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Static

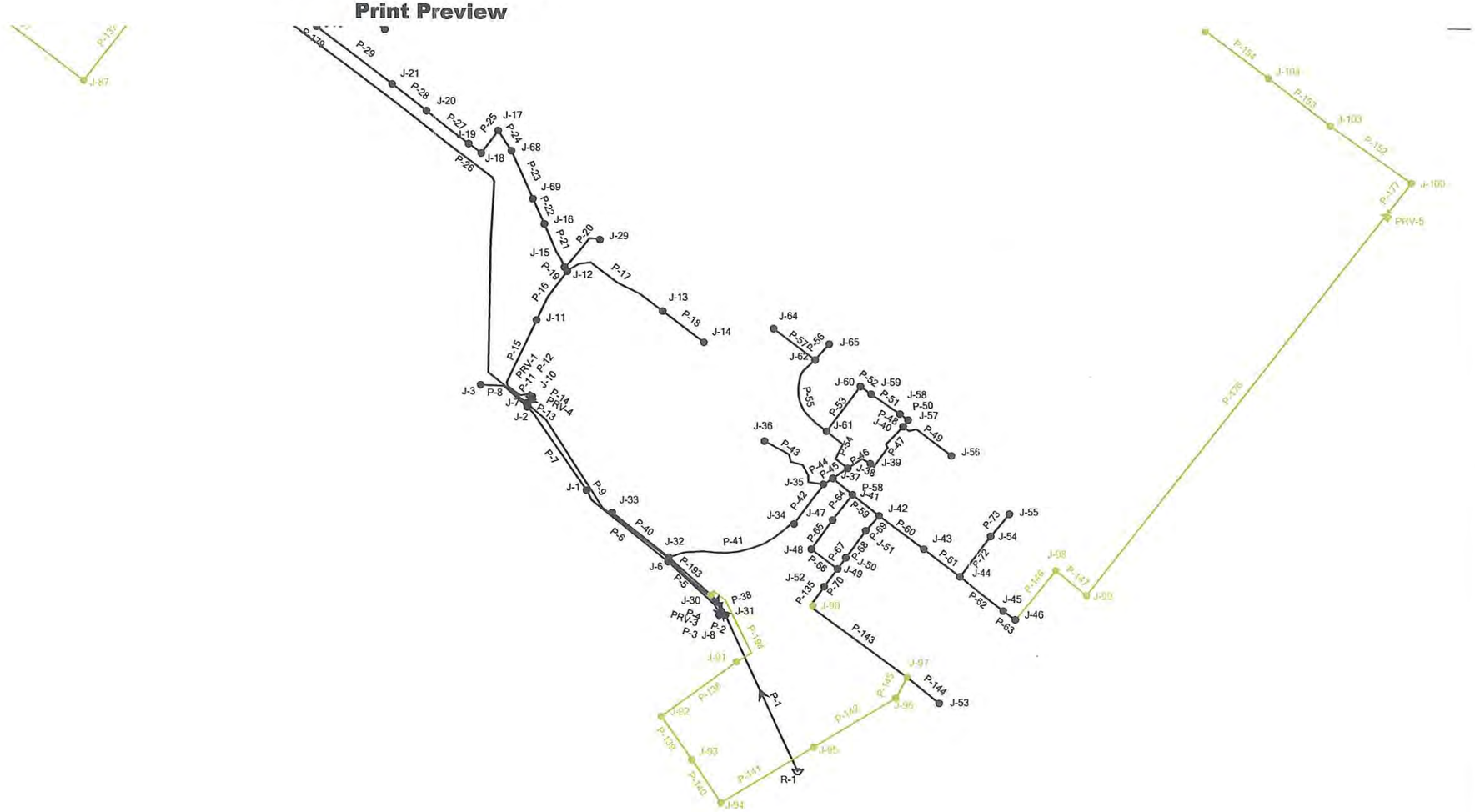
Print Preview



GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Static

Print Preview



GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Static

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-1	Zone - 4	0.00	4,977.97	<Collection: 1 items>	Fixed	84.1	4,783.50
J-2	Zone - 4	0.00	4,977.97	<Collection: 1 items>	Fixed	83.5	4,785.00
J-3	Zone - 4	0.00	4,977.97	<Collection: 1 items>	Fixed	84.4	4,783.00
J-6	Zone - 4	0.00	4,977.97	<Collection: 1 items>	Fixed	80.9	4,791.00
J-7	Zone - 3	0.00	5,120.00	<Collection: 0 items>	Fixed	144.9	4,785.00
J-8	Zone - 3	0.00	5,120.00	<Collection: 0 items>	Fixed	141.5	4,793.00
J-10	Zone - 1	0.00	4,986.66	<Collection: 1 items>	Fixed	87.0	4,785.50
J-11	Zone - 1	0.00	4,986.66	<Collection: 1 items>	Fixed	82.3	4,796.50
J-12	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	78.8	4,804.50
J-13	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	74.5	4,814.50
J-14	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	74.7	4,814.00
J-15	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	78.6	4,805.00
J-16	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	78.4	4,805.50
J-17	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	74.7	4,814.00
J-18	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	72.1	4,820.00
J-19	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	71.2	4,822.00
J-20	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	70.8	4,823.00
J-21	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	71.2	4,822.00
J-22	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	74.1	4,815.50
J-23	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	73.8	4,816.00
J-24	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	73.4	4,817.00
J-25	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	74.3	4,815.00
J-26	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	76.4	4,810.00
J-27	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	74.7	4,814.00
J-28	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	73.0	4,818.00
J-29	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	75.6	4,812.00
J-30	Zone - 4	0.02	4,977.97	<Collection: 1 items>	Fixed	80.0	4,793.00
J-31	Zone - 3	0.00	5,120.00	<Collection: 0 items>	Fixed	141.5	4,793.00
J-32	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	98.6	4,792.00
J-33	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	102.1	4,784.00
J-34	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	92.6	4,806.00
J-35	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	90.4	4,811.00
J-36	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	90.4	4,811.00
J-37	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	90.2	4,811.50
J-38	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	87.8	4,817.00
J-39	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	86.3	4,820.50
J-40	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	85.0	4,823.50
J-41	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	89.1	4,814.00
J-42	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	85.2	4,823.00
J-43	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	87.8	4,817.00
J-44	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	87.8	4,817.00
J-45	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	86.7	4,819.50
J-46	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	86.5	4,820.00
J-47	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	90.0	4,812.00
J-48	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	90.8	4,810.00
J-49	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	90.4	4,811.00
J-50	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	90.0	4,812.00
J-51	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	89.1	4,814.00
J-52	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	90.8	4,810.00
J-53	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	89.8	4,812.50

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Static

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-54	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	86.1	4,821.00
J-55	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	85.2	4,823.00
J-56	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	83.0	4,828.00
J-57	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	84.1	4,825.50
J-58	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	84.1	4,825.50
J-59	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	83.3	4,827.50
J-60	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	81.3	4,832.00
J-61	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	85.6	4,822.00
J-62	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	82.6	4,829.00
J-64	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	84.8	4,824.00
J-65	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	82.2	4,830.00
J-68	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	74.3	4,815.00
J-69	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	77.3	4,808.00
J-70	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	73.0	4,818.00
J-73	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	76.4	4,810.00
J-74	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	78.6	4,805.00
J-75	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	80.8	4,800.00
J-76	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	81.2	4,799.00
J-77	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	85.1	4,790.00
J-78	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	87.2	4,785.00
J-79	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	89.4	4,780.00
J-80	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	94.2	4,769.00
J-81	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	92.0	4,774.00
J-82	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	89.8	4,779.00
J-83	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	87.7	4,784.00
J-84	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	95.0	4,767.00
J-85	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	92.9	4,772.00
J-86	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	90.7	4,777.00
J-87	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	88.5	4,782.00
J-88	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	81.6	4,798.00
J-89	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	75.6	4,812.00
J-90	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	91.3	4,809.00
J-91	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	93.0	4,805.00
J-92	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	94.7	4,801.00
J-93	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	94.5	4,801.50
J-94	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	94.3	4,802.00
J-95	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	92.6	4,806.00
J-96	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	90.8	4,810.00
J-97	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	90.4	4,811.00
J-98	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	85.2	4,823.00
J-99	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	83.9	4,826.00
J-100	Zone - 3	0.00	5,096.02	<Collection: 0 items>	Fixed	88.3	4,892.00
J-103	Zone - 3	0.00	5,096.02	<Collection: 0 items>	Fixed	90.0	4,888.00
J-104	Zone - 3	0.00	5,096.02	<Collection: 0 items>	Fixed	90.4	4,887.00
J-105	Zone - 3	0.00	5,096.02	<Collection: 0 items>	Fixed	90.9	4,886.00
J-106	Zone - 3	0.00	5,096.02	<Collection: 0 items>	Fixed	91.3	4,885.00
J-107	Zone - 3	0.00	5,096.02	<Collection: 0 items>	Fixed	91.7	4,884.00
J-108	Zone - 3	0.00	5,096.02	<Collection: 0 items>	Fixed	92.2	4,883.00
J-109	Zone - 3	0.00	5,096.02	<Collection: 0 items>	Fixed	92.6	4,882.00
J-110	Zone - 3	0.00	5,096.02	<Collection: 0 items>	Fixed	93.5	4,880.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Static

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-111	Zone - 3	0.00	5,096.02	<Collection: 0 items>	Fixed	94.3	4,878.00
J-112	Zone - 3	0.00	5,096.02	<Collection: 0 items>	Fixed	95.2	4,876.00
J-113	Zone - 3	0.00	5,096.02	<Collection: 0 items>	Fixed	96.1	4,874.00
J-114	Zone - 3	0.00	5,096.02	<Collection: 0 items>	Fixed	96.9	4,872.00
J-115	Zone - 3	0.00	5,096.02	<Collection: 0 items>	Fixed	97.8	4,870.00
J-116	Zone - 3	0.00	5,096.02	<Collection: 0 items>	Fixed	98.7	4,868.00
J-117	Zone - 3	0.00	5,096.02	<Collection: 0 items>	Fixed	99.5	4,866.00
J-118	Zone - 3	0.00	5,096.02	<Collection: 0 items>	Fixed	100.4	4,864.00
J-119	Zone - 3	0.00	5,096.02	<Collection: 0 items>	Fixed	101.2	4,862.00
J-121	Zone - 3	0.00	5,096.02	<Collection: 0 items>	Fixed	104.3	4,855.00
J-122	Zone - 3	0.00	5,120.00	<Collection: 0 items>	Fixed	138.9	4,799.00
J-123	Zone - 2	0.00	5,120.00	<Collection: 0 items>	Fixed	140.2	4,796.00
J-125	Zone - 3	0.00	5,120.00	<Collection: 0 items>	Fixed	139.1	4,798.50
J-126	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	82.5	4,796.00
J-127	Zone - 3	0.00	5,120.00	<Collection: 0 items>	Fixed	139.3	4,798.00
J-129	Zone - 2	0.00	5,019.95	<Collection: 0 items>	Fixed	98.6	4,792.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Static

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-1	1,094.21	30.0	100.0	0.06	0.00	0.00	Steel	0.000	5,120.00	True	5,120.00
P-2	37.82	30.0	100.0	-0.05	0.00	0.00	Steel	0.000	5,120.00	True	5,120.00
P-3	7.44	18.0	140.0	0.04	0.00	0.00	Asbestos Cement	0.000	5,120.00	True	5,120.00
P-4	7.39	18.0	140.0	0.04	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-5	461.01	18.0	140.0	-0.01	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-6	691.43	18.0	140.0	-0.01	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-7	645.24	18.0	140.0	0.01	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-8	346.44	18.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-9	1,826.43	30.0	100.0	-0.01	0.00	0.00	Steel	0.000	5,120.00	True	5,120.00
P-11	30.30	12.0	150.0	0.02	0.00	0.00	PVC	0.000	5,120.00	True	5,120.00
P-12	25.33	12.0	150.0	0.03	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-13	36.10	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,977.97	True	4,977.97
P-14	52.44	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-15	653.52	12.0	150.0	0.02	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-16	366.19	12.0	150.0	0.02	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-17	711.39	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-18	329.62	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-19	32.01	8.0	150.0	0.01	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-20	307.08	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-21	302.29	8.0	150.0	0.01	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-22	175.00	8.0	140.0	0.01	0.00	0.00	Asbestos Cement	0.000	4,986.66	True	4,986.66
P-23	331.85	8.0	140.0	0.01	0.00	0.00	Asbestos Cement	0.000	4,986.66	True	4,986.66
P-24	153.34	8.0	140.0	0.01	0.00	0.00	Asbestos Cement	0.000	4,986.66	True	4,986.66
P-25	177.80	8.0	150.0	0.01	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-26	101.80	8.0	150.0	0.01	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-27	343.59	8.0	150.0	0.01	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-28	273.59	8.0	150.0	0.01	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-29	600.56	8.0	150.0	0.01	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-30	549.58	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-31	245.14	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-32	246.24	8.0	150.0	-0.01	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-33	381.60	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-34	332.48	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-35	191.14	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-36	110.24	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-37	82.46	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-38	94.56	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,120.00	True	5,120.00
P-40	457.35	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,019.95	True	5,019.95
P-41	854.39	12.0	150.0	-0.01	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-42	315.19	12.0	150.0	-0.01	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-43	518.31	12.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-44	70.88	12.0	150.0	-0.01	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-45	113.04	12.0	150.0	0.03	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-46	167.37	12.0	150.0	0.01	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-47	359.22	12.0	150.0	0.01	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-48	52.69	12.0	150.0	0.01	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-49	370.87	8.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-50	62.99	8.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Static

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-51	221.10	8.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-52	81.21	8.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-53	353.77	8.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-54	332.21	8.0	150.0	-0.01	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-55	561.26	8.0	150.0	0.01	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-56	134.25	8.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-57	330.48	8.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-58	161.67	12.0	150.0	-0.02	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-59	213.49	12.0	150.0	-0.02	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-60	350.73	12.0	150.0	-0.02	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-61	286.24	12.0	150.0	-0.02	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-62	353.63	12.0	150.0	-0.02	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-63	94.38	12.0	150.0	-0.02	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-64	203.48	8.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-65	228.49	8.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-66	208.58	8.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-67	87.29	8.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-68	212.45	8.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-69	126.18	8.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-70	140.87	8.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-72	326.41	8.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-73	185.39	8.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-117	722.25	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-118	875.21	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-119	530.70	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-120	1,399.56	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-122	1,136.72	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-123	1,042.45	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-124	528.52	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-125	1,076.20	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-126	866.57	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-127	1,176.69	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-128	873.65	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-129	910.87	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-130	994.16	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-131	1,087.30	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-132	602.18	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-133	570.66	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-134	422.43	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-135	143.84	8.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-138	590.21	12.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-139	336.82	12.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-140	331.77	12.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-141	691.41	12.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-142	600.23	12.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-143	749.15	8.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-144	262.10	8.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-145	150.63	12.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Static

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-146	404.83	12.0	150.0	-0.02	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-147	251.86	12.0	150.0	-0.02	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-152	628.26	16.0	150.0	-0.01	0.00	0.00	PVC	0.000	5,096.02	True	5,096.02
P-153	499.26	16.0	150.0	-0.01	0.00	0.00	PVC	0.000	5,096.02	True	5,096.02
P-154	499.14	16.0	150.0	-0.01	0.00	0.00	PVC	0.000	5,096.02	True	5,096.02
P-155	495.91	16.0	150.0	-0.01	0.00	0.00	PVC	0.000	5,096.02	True	5,096.02
P-156	498.45	16.0	150.0	-0.01	0.00	0.00	PVC	0.000	5,096.02	True	5,096.02
P-157	502.65	16.0	150.0	-0.01	0.00	0.00	PVC	0.000	5,096.02	True	5,096.02
P-158	505.16	16.0	150.0	-0.01	0.00	0.00	PVC	0.000	5,096.02	True	5,096.02
P-159	501.02	16.0	150.0	-0.01	0.00	0.00	PVC	0.000	5,096.02	True	5,096.02
P-160	504.09	16.0	150.0	-0.01	0.00	0.00	PVC	0.000	5,096.02	True	5,096.02
P-161	507.65	16.0	150.0	-0.01	0.00	0.00	PVC	0.000	5,096.02	True	5,096.02
P-162	499.19	16.0	150.0	-0.01	0.00	0.00	PVC	0.000	5,096.02	True	5,096.02
P-163	505.77	16.0	150.0	-0.01	0.00	0.00	PVC	0.000	5,096.02	True	5,096.02
P-164	500.85	16.0	150.0	-0.01	0.00	0.00	PVC	0.000	5,096.02	True	5,096.02
P-165	500.07	16.0	150.0	-0.01	0.00	0.00	PVC	0.000	5,096.02	True	5,096.02
P-166	509.76	16.0	150.0	-0.01	0.00	0.00	PVC	0.000	5,096.02	True	5,096.02
P-167	497.27	16.0	150.0	-0.01	0.00	0.00	PVC	0.000	5,096.02	True	5,096.02
P-168	498.43	16.0	150.0	-0.01	0.00	0.00	PVC	0.000	5,096.02	True	5,096.02
P-169	1,630.19	16.0	150.0	-0.01	0.00	0.00	PVC	0.000	5,096.02	True	5,096.02
P-176	3,079.47	12.0	150.0	-0.02	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95
P-177	245.89	12.0	150.0	-0.01	0.00	0.00	PVC	0.000	5,096.02	True	5,096.02
P-178	1,518.48	30.0	100.0	0.00	0.00	0.00	Steel	0.000	5,120.00	True	5,120.00
P-179	5,987.75	30.0	100.0	0.00	0.00	0.00	Steel	0.000	5,120.00	True	5,120.00
P-181	111.34	30.0	100.0	0.01	0.00	0.00	Steel	0.000	5,120.00	True	5,120.00
P-182	216.90	16.0	150.0	0.02	0.00	0.00	PVC	0.000	5,120.00	True	5,120.00
P-183	2,362.21	16.0	150.0	0.01	0.00	0.00	PVC	0.000	5,096.02	True	5,096.02
P-184	275.55	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-185	818.88	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-186	2,007.25	30.0	100.0	0.03	0.00	0.00	Steel	0.000	5,120.00	True	5,120.00
P-187	97.75	30.0	100.0	0.02	0.00	0.00	Steel	0.000	5,120.00	True	5,120.00
P-188	76.65	12.0	150.0	0.00	0.00	0.00	PVC	0.000	5,120.00	True	5,120.00
P-189	87.63	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-192	66.81	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,019.95	True	5,019.95
P-193	360.31	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,019.95	True	5,019.95
P-194	611.18	12.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.95	True	5,019.95

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Static

FlexTable: PRV Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Elevation (ft)	Diameter (Valve) (in)	Hydraulic Grade Setting (Initial) (ft)	Pressure Setting (Initial) (psi)	Flow (gpm)	Hydraulic Grade (From) (ft)	Hydraulic Grade (To) (ft)	Headloss (ft)
PRV-1	Zone - 1	4,785.50	8.0	4,986.51	87.0	0.02	5,120.00	4,986.66	133.34
PRV-2	Zone - 2	4,793.00	8.0	5,019.43	98.0	0.00	5,120.00	5,019.95	0.00
PRV-3	Zone - 4	4,793.00	12.0	4,977.84	80.0	0.04	5,120.00	4,977.97	142.03
PRV-4	Zone - 1	4,785.50	8.0	4,785.50	0.0	0.00	4,977.97	4,986.66	0.00
PRV-5	Zone - 2	4,887.00	8.0	5,019.85	57.5	0.01	5,096.02	5,019.95	76.07
PRV-18	Zone - 3	4,807.00	12.0	5,095.81	125.0	0.02	5,120.00	5,096.02	23.98
PRV-19	Zone - 1	4,797.00	8.0	4,981.84	80.0	0.00	5,120.00	4,986.66	0.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Static

FlexTable: Reservoir Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Elevation (ft)	Zone	Net Outflow (gpm)	Hydraulic Grade (ft)
R-1	5,120.00	Zone - 3	0.06	5,120.00
R-2	5,120.00	Zone - 3	0.03	5,120.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Average Day

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-1	Zone - 4	1.00	4,977.97	<Collection: 1 items>	Fixed	84.1	4,783.50
J-2	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	83.5	4,785.00
J-3	Zone - 4	1.00	4,977.97	<Collection: 1 items>	Fixed	84.4	4,783.00
J-6	Zone - 4	1.00	4,977.97	<Collection: 1 items>	Fixed	80.9	4,791.00
J-7	Zone - 3	0.00	5,120.00	<Collection: 0 items>	Fixed	144.9	4,785.00
J-8	Zone - 3	0.00	5,120.00	<Collection: 0 items>	Fixed	141.5	4,793.00
J-10	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	87.0	4,785.50
J-11	Zone - 1	1.80	4,986.65	<Collection: 1 items>	Fixed	82.3	4,796.50
J-12	Zone - 1	0.00	4,986.65	<Collection: 0 items>	Fixed	78.8	4,804.50
J-13	Zone - 1	7.36	4,986.65	<Collection: 1 items>	Fixed	74.5	4,814.50
J-14	Zone - 1	7.36	4,986.65	<Collection: 1 items>	Fixed	74.7	4,814.00
J-15	Zone - 1	0.00	4,986.64	<Collection: 0 items>	Fixed	78.6	4,805.00
J-16	Zone - 1	1.80	4,986.63	<Collection: 1 items>	Fixed	78.4	4,805.50
J-17	Zone - 1	0.00	4,986.60	<Collection: 0 items>	Fixed	74.7	4,814.00
J-18	Zone - 1	0.00	4,986.60	<Collection: 0 items>	Fixed	72.1	4,820.00
J-19	Zone - 1	0.00	4,986.60	<Collection: 0 items>	Fixed	71.2	4,822.00
J-20	Zone - 1	0.00	4,986.58	<Collection: 0 items>	Fixed	70.8	4,823.00
J-21	Zone - 1	0.00	4,986.58	<Collection: 0 items>	Fixed	71.2	4,822.00
J-22	Zone - 1	0.00	4,986.55	<Collection: 0 items>	Fixed	74.0	4,815.50
J-23	Zone - 1	1.80	4,986.55	<Collection: 1 items>	Fixed	73.8	4,816.00
J-24	Zone - 1	0.00	4,986.55	<Collection: 0 items>	Fixed	73.4	4,817.00
J-25	Zone - 1	1.80	4,986.55	<Collection: 1 items>	Fixed	74.2	4,815.00
J-26	Zone - 1	0.00	4,986.55	<Collection: 0 items>	Fixed	76.4	4,810.00
J-27	Zone - 1	0.00	4,986.55	<Collection: 0 items>	Fixed	74.7	4,814.00
J-28	Zone - 1	1.80	4,986.55	<Collection: 1 items>	Fixed	72.9	4,818.00
J-29	Zone - 1	1.80	4,986.64	<Collection: 1 items>	Fixed	75.6	4,812.00
J-30	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	80.0	4,793.00
J-31	Zone - 3	0.00	5,120.00	<Collection: 0 items>	Fixed	141.5	4,793.00
J-32	Zone - 2	0.00	5,019.90	<Collection: 0 items>	Fixed	98.6	4,792.00
J-33	Zone - 2	0.00	5,019.90	<Collection: 0 items>	Fixed	102.1	4,784.00
J-34	Zone - 2	0.00	5,019.90	<Collection: 0 items>	Fixed	92.5	4,806.00
J-35	Zone - 2	0.00	5,019.90	<Collection: 0 items>	Fixed	90.4	4,811.00
J-36	Zone - 2	1.80	5,019.90	<Collection: 1 items>	Fixed	90.4	4,811.00
J-37	Zone - 2	0.00	5,019.90	<Collection: 0 items>	Fixed	90.2	4,811.50
J-38	Zone - 2	0.00	5,019.90	<Collection: 0 items>	Fixed	87.8	4,817.00
J-39	Zone - 2	1.80	5,019.90	<Collection: 1 items>	Fixed	86.3	4,820.50
J-40	Zone - 2	0.00	5,019.90	<Collection: 0 items>	Fixed	85.0	4,823.50
J-41	Zone - 2	1.80	5,019.90	<Collection: 1 items>	Fixed	89.1	4,814.00
J-42	Zone - 2	1.80	5,019.90	<Collection: 1 items>	Fixed	85.2	4,823.00
J-43	Zone - 2	1.80	5,019.90	<Collection: 1 items>	Fixed	87.8	4,817.00
J-44	Zone - 2	1.80	5,019.90	<Collection: 1 items>	Fixed	87.8	4,817.00
J-45	Zone - 2	1.80	5,019.91	<Collection: 1 items>	Fixed	86.7	4,819.50
J-46	Zone - 2	1.80	5,019.91	<Collection: 1 items>	Fixed	86.5	4,820.00
J-47	Zone - 2	1.80	5,019.90	<Collection: 1 items>	Fixed	89.9	4,812.00
J-48	Zone - 2	1.80	5,019.90	<Collection: 1 items>	Fixed	90.8	4,810.00
J-49	Zone - 2	1.80	5,019.90	<Collection: 1 items>	Fixed	90.4	4,811.00
J-50	Zone - 2	1.80	5,019.90	<Collection: 1 items>	Fixed	89.9	4,812.00
J-51	Zone - 2	1.80	5,019.90	<Collection: 1 items>	Fixed	89.1	4,814.00
J-52	Zone - 2	1.80	5,019.90	<Collection: 1 items>	Fixed	90.8	4,810.00
J-53	Zone - 2	1.80	5,019.90	<Collection: 1 items>	Fixed	89.7	4,812.50

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Average Day

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-54	Zone - 2	1.80	5,019.90	<Collection: 1 items>	Fixed	86.1	4,821.00
J-55	Zone - 2	1.80	5,019.90	<Collection: 1 items>	Fixed	85.2	4,823.00
J-56	Zone - 2	1.80	5,019.90	<Collection: 1 items>	Fixed	83.0	4,828.00
J-57	Zone - 2	1.80	5,019.90	<Collection: 1 items>	Fixed	84.1	4,825.50
J-58	Zone - 2	1.80	5,019.90	<Collection: 1 items>	Fixed	84.1	4,825.50
J-59	Zone - 2	1.80	5,019.90	<Collection: 1 items>	Fixed	83.2	4,827.50
J-60	Zone - 2	1.80	5,019.90	<Collection: 1 items>	Fixed	81.3	4,832.00
J-61	Zone - 2	0.00	5,019.90	<Collection: 0 items>	Fixed	85.6	4,822.00
J-62	Zone - 2	0.00	5,019.90	<Collection: 0 items>	Fixed	82.6	4,829.00
J-64	Zone - 2	1.80	5,019.90	<Collection: 1 items>	Fixed	84.8	4,824.00
J-65	Zone - 2	1.80	5,019.90	<Collection: 1 items>	Fixed	82.2	4,830.00
J-68	Zone - 1	1.80	4,986.61	<Collection: 1 items>	Fixed	74.2	4,815.00
J-69	Zone - 1	1.80	4,986.62	<Collection: 1 items>	Fixed	77.3	4,808.00
J-70	Zone - 1	0.00	4,986.56	<Collection: 0 items>	Fixed	72.9	4,818.00
J-73	Zone - 1	1.80	4,986.55	<Collection: 1 items>	Fixed	76.4	4,810.00
J-74	Zone - 1	1.80	4,986.55	<Collection: 1 items>	Fixed	78.5	4,805.00
J-75	Zone - 1	1.80	4,986.55	<Collection: 1 items>	Fixed	80.7	4,800.00
J-76	Zone - 1	1.80	4,986.55	<Collection: 1 items>	Fixed	81.1	4,799.00
J-77	Zone - 1	1.80	4,986.55	<Collection: 1 items>	Fixed	85.0	4,790.00
J-78	Zone - 1	1.80	4,986.55	<Collection: 1 items>	Fixed	87.2	4,785.00
J-79	Zone - 1	1.80	4,986.55	<Collection: 1 items>	Fixed	89.4	4,780.00
J-80	Zone - 1	1.80	4,986.55	<Collection: 1 items>	Fixed	94.1	4,769.00
J-81	Zone - 1	1.80	4,986.55	<Collection: 1 items>	Fixed	92.0	4,774.00
J-82	Zone - 1	1.80	4,986.55	<Collection: 1 items>	Fixed	89.8	4,779.00
J-83	Zone - 1	1.80	4,986.55	<Collection: 1 items>	Fixed	87.6	4,784.00
J-84	Zone - 1	1.80	4,986.55	<Collection: 1 items>	Fixed	95.0	4,767.00
J-85	Zone - 1	1.80	4,986.55	<Collection: 1 items>	Fixed	92.8	4,772.00
J-86	Zone - 1	1.80	4,986.55	<Collection: 1 items>	Fixed	90.7	4,777.00
J-87	Zone - 1	1.80	4,986.55	<Collection: 1 items>	Fixed	88.5	4,782.00
J-88	Zone - 1	1.80	4,986.55	<Collection: 1 items>	Fixed	81.6	4,798.00
J-89	Zone - 1	1.80	4,986.55	<Collection: 1 items>	Fixed	75.5	4,812.00
J-90	Zone - 2	1.80	5,019.90	<Collection: 1 items>	Fixed	91.2	4,809.00
J-91	Zone - 2	1.80	5,019.90	<Collection: 1 items>	Fixed	93.0	4,805.00
J-92	Zone - 2	1.80	5,019.90	<Collection: 1 items>	Fixed	94.7	4,801.00
J-93	Zone - 2	1.80	5,019.90	<Collection: 1 items>	Fixed	94.5	4,801.50
J-94	Zone - 2	1.80	5,019.90	<Collection: 1 items>	Fixed	94.3	4,802.00
J-95	Zone - 2	1.80	5,019.90	<Collection: 1 items>	Fixed	92.5	4,806.00
J-96	Zone - 2	1.80	5,019.90	<Collection: 1 items>	Fixed	90.8	4,810.00
J-97	Zone - 2	1.80	5,019.90	<Collection: 1 items>	Fixed	90.4	4,811.00
J-98	Zone - 2	1.80	5,019.91	<Collection: 1 items>	Fixed	85.2	4,823.00
J-99	Zone - 2	1.80	5,019.92	<Collection: 1 items>	Fixed	83.9	4,826.00
J-100	Zone - 3	1.80	5,095.96	<Collection: 1 items>	Fixed	88.2	4,892.00
J-103	Zone - 3	1.80	5,095.96	<Collection: 1 items>	Fixed	90.0	4,888.00
J-104	Zone - 3	1.80	5,095.96	<Collection: 1 items>	Fixed	90.4	4,887.00
J-105	Zone - 3	1.80	5,095.96	<Collection: 1 items>	Fixed	90.8	4,886.00
J-106	Zone - 3	1.80	5,095.97	<Collection: 1 items>	Fixed	91.3	4,885.00
J-107	Zone - 3	1.80	5,095.97	<Collection: 1 items>	Fixed	91.7	4,884.00
J-108	Zone - 3	1.80	5,095.97	<Collection: 1 items>	Fixed	92.1	4,883.00
J-109	Zone - 3	1.80	5,095.97	<Collection: 1 items>	Fixed	92.6	4,882.00
J-110	Zone - 3	1.80	5,095.97	<Collection: 1 items>	Fixed	93.4	4,880.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Average Day

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-111	Zone - 3	1.80	5,095.98	<Collection: 1 items>	Fixed	94.3	4,878.00
J-112	Zone - 3	1.80	5,095.98	<Collection: 1 items>	Fixed	95.2	4,876.00
J-113	Zone - 3	1.80	5,095.98	<Collection: 1 items>	Fixed	96.0	4,874.00
J-114	Zone - 3	1.80	5,095.98	<Collection: 1 items>	Fixed	96.9	4,872.00
J-115	Zone - 3	1.80	5,095.98	<Collection: 1 items>	Fixed	97.8	4,870.00
J-116	Zone - 3	1.80	5,095.99	<Collection: 1 items>	Fixed	98.6	4,868.00
J-117	Zone - 3	1.80	5,095.99	<Collection: 1 items>	Fixed	99.5	4,866.00
J-118	Zone - 3	1.80	5,095.99	<Collection: 1 items>	Fixed	100.4	4,864.00
J-119	Zone - 3	1.80	5,096.00	<Collection: 1 items>	Fixed	101.2	4,862.00
J-121	Zone - 3	1.80	5,096.00	<Collection: 1 items>	Fixed	104.3	4,855.00
J-122	Zone - 3	0.00	5,120.00	<Collection: 0 items>	Fixed	138.9	4,799.00
J-123	Zone - 2	0.00	5,120.00	<Collection: 0 items>	Fixed	140.2	4,796.00
J-125	Zone - 3	0.00	5,120.00	<Collection: 0 items>	Fixed	139.1	4,798.50
J-126	Zone - 1	1.80	4,986.55	<Collection: 1 items>	Fixed	82.4	4,796.00
J-127	Zone - 3	0.00	5,120.00	<Collection: 0 items>	Fixed	139.3	4,798.00
J-129	Zone - 2	0.00	5,019.90	<Collection: 0 items>	Fixed	98.6	4,792.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Average Day

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-1	1,094.21	30.0	100.0	72.68	0.03	0.00	Steel	0.000	5,120.00	True	5,120.00
P-2	37.82	30.0	100.0	-72.68	0.03	0.00	Steel	0.000	5,120.00	True	5,120.00
P-3	7.44	18.0	140.0	3.00	0.00	0.00	Asbestos Cement	0.000	5,120.00	True	5,120.00
P-4	7.39	18.0	140.0	3.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-5	461.01	18.0	140.0	-3.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-6	691.43	18.0	140.0	-2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-7	645.24	18.0	140.0	1.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-8	346.44	18.0	140.0	1.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-9	1,826.43	30.0	100.0	-69.68	0.03	0.00	Steel	0.000	5,120.00	True	5,120.00
P-11	30.30	12.0	150.0	61.54	0.17	0.00	PVC	0.016	5,120.00	True	5,120.00
P-12	25.33	12.0	150.0	61.53	0.17	0.00	PVC	0.019	4,986.66	True	4,986.66
P-13	36.10	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,977.97	True	4,977.97
P-14	52.44	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-15	653.52	12.0	150.0	61.53	0.17	0.01	PVC	0.010	4,986.66	True	4,986.65
P-16	366.19	12.0	150.0	59.73	0.17	0.00	PVC	0.011	4,986.65	True	4,986.65
P-17	711.39	12.0	150.0	14.72	0.04	0.00	PVC	0.001	4,986.65	True	4,986.65
P-18	329.62	12.0	150.0	7.36	0.02	0.00	PVC	0.000	4,986.65	True	4,986.65
P-19	32.01	8.0	150.0	45.01	0.29	0.00	PVC	0.046	4,986.65	True	4,986.64
P-20	307.08	8.0	150.0	1.80	0.01	0.00	PVC	0.000	4,986.64	True	4,986.64
P-21	302.29	8.0	150.0	43.21	0.28	0.01	PVC	0.042	4,986.64	True	4,986.63
P-22	175.00	8.0	140.0	41.41	0.26	0.01	Asbestos Cement	0.045	4,986.63	True	4,986.62
P-23	331.85	8.0	140.0	39.61	0.25	0.01	Asbestos Cement	0.040	4,986.62	True	4,986.61
P-24	153.34	8.0	140.0	37.81	0.24	0.01	Asbestos Cement	0.038	4,986.61	True	4,986.60
P-25	177.80	8.0	150.0	37.81	0.24	0.01	PVC	0.033	4,986.60	True	4,986.60
P-26	101.80	8.0	150.0	37.81	0.24	0.00	PVC	0.029	4,986.60	True	4,986.60
P-27	343.59	8.0	150.0	37.81	0.24	0.01	PVC	0.033	4,986.60	True	4,986.58
P-28	273.59	8.0	150.0	37.81	0.24	0.01	PVC	0.032	4,986.58	True	4,986.58
P-29	600.56	8.0	150.0	37.81	0.24	0.02	PVC	0.033	4,986.58	True	4,986.56
P-30	549.58	8.0	150.0	19.92	0.13	0.01	PVC	0.011	4,986.56	True	4,986.55
P-31	245.14	8.0	150.0	2.38	0.02	0.00	PVC	0.000	4,986.55	True	4,986.55
P-32	246.24	8.0	150.0	-17.89	0.11	0.00	PVC	0.010	4,986.55	True	4,986.56
P-33	381.60	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.55	True	4,986.55
P-34	332.48	8.0	150.0	-16.09	0.10	0.00	PVC	0.006	4,986.55	True	4,986.55
P-35	191.14	8.0	150.0	-16.09	0.10	0.00	PVC	0.008	4,986.55	True	4,986.55
P-36	110.24	8.0	150.0	16.67	0.11	0.00	PVC	0.004	4,986.55	True	4,986.55
P-37	82.46	8.0	150.0	1.80	0.01	0.00	PVC	0.000	4,986.55	True	4,986.55
P-38	94.56	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,120.00	True	5,120.00
P-40	457.35	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,019.90	True	5,019.90
P-41	854.39	12.0	150.0	-9.55	0.03	0.00	PVC	0.000	5,019.90	True	5,019.90
P-42	315.19	12.0	150.0	-9.55	0.03	0.00	PVC	0.000	5,019.90	True	5,019.90
P-43	518.31	12.0	150.0	1.80	0.01	0.00	PVC	0.000	5,019.90	True	5,019.90
P-44	70.88	12.0	150.0	-11.35	0.03	0.00	PVC	0.007	5,019.90	True	5,019.90
P-45	113.04	12.0	150.0	14.40	0.04	0.00	PVC	0.004	5,019.90	True	5,019.90
P-46	167.37	12.0	150.0	9.70	0.03	0.00	PVC	0.000	5,019.90	True	5,019.90
P-47	359.22	12.0	150.0	7.90	0.02	0.00	PVC	0.000	5,019.90	True	5,019.90
P-48	52.69	12.0	150.0	6.10	0.02	0.00	PVC	0.000	5,019.90	True	5,019.90
P-49	370.87	8.0	150.0	1.80	0.01	0.00	PVC	0.000	5,019.90	True	5,019.90
P-50	62.99	8.0	150.0	4.30	0.03	0.00	PVC	0.000	5,019.90	True	5,019.90

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Average Day

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-51	221.10	8.0	150.0	2.50	0.02	0.00	PVC	0.000	5,019.90	True	5,019.90
P-52	81.21	8.0	150.0	0.70	0.00	0.00	PVC	0.000	5,019.90	True	5,019.90
P-53	353.77	8.0	150.0	-1.10	0.01	0.00	PVC	0.000	5,019.90	True	5,019.90
P-54	332.21	8.0	150.0	-4.70	0.03	0.00	PVC	0.000	5,019.90	True	5,019.90
P-55	561.26	8.0	150.0	3.60	0.02	0.00	PVC	0.001	5,019.90	True	5,019.90
P-56	134.25	8.0	150.0	1.80	0.01	0.00	PVC	0.000	5,019.90	True	5,019.90
P-57	330.48	8.0	150.0	1.80	0.01	0.00	PVC	0.000	5,019.90	True	5,019.90
P-58	161.67	12.0	150.0	-25.75	0.07	0.00	PVC	0.000	5,019.90	True	5,019.90
P-59	213.49	12.0	150.0	-33.54	0.10	0.00	PVC	0.005	5,019.90	True	5,019.90
P-60	350.73	12.0	150.0	-46.80	0.13	0.00	PVC	0.007	5,019.90	True	5,019.90
P-61	286.24	12.0	150.0	-48.60	0.14	0.00	PVC	0.007	5,019.90	True	5,019.90
P-62	353.63	12.0	150.0	-54.00	0.15	0.00	PVC	0.008	5,019.90	True	5,019.91
P-63	94.38	12.0	150.0	-55.80	0.16	0.00	PVC	0.010	5,019.91	True	5,019.91
P-64	203.48	8.0	150.0	5.99	0.04	0.00	PVC	0.000	5,019.90	True	5,019.90
P-65	228.49	8.0	150.0	4.19	0.03	0.00	PVC	0.000	5,019.90	True	5,019.90
P-66	208.58	8.0	150.0	2.39	0.02	0.00	PVC	0.002	5,019.90	True	5,019.90
P-67	87.29	8.0	150.0	-7.86	0.05	0.00	PVC	0.006	5,019.90	True	5,019.90
P-68	212.45	8.0	150.0	-9.66	0.06	0.00	PVC	0.002	5,019.90	True	5,019.90
P-69	126.18	8.0	150.0	-11.46	0.07	0.00	PVC	0.004	5,019.90	True	5,019.90
P-70	140.87	8.0	150.0	8.45	0.05	0.00	PVC	0.000	5,019.90	True	5,019.90
P-72	326.41	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.90	True	5,019.90
P-73	185.39	8.0	150.0	1.80	0.01	0.00	PVC	0.000	5,019.90	True	5,019.90
P-117	722.25	12.0	150.0	14.87	0.04	0.00	PVC	0.001	4,986.55	True	4,986.55
P-118	875.21	12.0	150.0	13.07	0.04	0.00	PVC	0.001	4,986.55	True	4,986.55
P-119	530.70	12.0	150.0	11.27	0.03	0.00	PVC	0.000	4,986.55	True	4,986.55
P-120	1,399.56	12.0	150.0	9.47	0.03	0.00	PVC	0.000	4,986.55	True	4,986.55
P-122	1,136.72	12.0	150.0	4.06	0.01	0.00	PVC	0.000	4,986.55	True	4,986.55
P-123	1,042.45	12.0	150.0	2.26	0.01	0.00	PVC	0.000	4,986.55	True	4,986.55
P-124	528.52	12.0	150.0	0.46	0.00	0.00	PVC	0.000	4,986.55	True	4,986.55
P-125	1,076.20	12.0	150.0	-1.34	0.00	0.00	PVC	0.000	4,986.55	True	4,986.55
P-126	866.57	12.0	150.0	-3.14	0.01	0.00	PVC	0.000	4,986.55	True	4,986.55
P-127	1,176.69	12.0	150.0	-4.94	0.01	0.00	PVC	0.000	4,986.55	True	4,986.55
P-128	873.65	12.0	150.0	-6.74	0.02	0.00	PVC	0.000	4,986.55	True	4,986.55
P-129	910.87	12.0	150.0	-8.54	0.02	0.00	PVC	0.000	4,986.55	True	4,986.55
P-130	994.16	12.0	150.0	-10.34	0.03	0.00	PVC	0.000	4,986.55	True	4,986.55
P-131	1,087.30	12.0	150.0	-12.14	0.03	0.00	PVC	0.000	4,986.55	True	4,986.55
P-132	602.18	12.0	150.0	-13.94	0.04	0.00	PVC	0.001	4,986.55	True	4,986.55
P-133	570.66	12.0	150.0	-15.74	0.04	0.00	PVC	0.001	4,986.55	True	4,986.55
P-134	422.43	12.0	150.0	-17.54	0.05	0.00	PVC	0.001	4,986.55	True	4,986.55
P-135	143.84	8.0	150.0	6.65	0.04	0.00	PVC	0.000	5,019.90	True	5,019.90
P-138	590.21	12.0	150.0	7.75	0.02	0.00	PVC	0.000	5,019.90	True	5,019.90
P-139	336.82	12.0	150.0	5.95	0.02	0.00	PVC	0.001	5,019.90	True	5,019.90
P-140	331.77	12.0	150.0	4.15	0.01	0.00	PVC	0.000	5,019.90	True	5,019.90
P-141	691.41	12.0	150.0	2.35	0.01	0.00	PVC	0.000	5,019.90	True	5,019.90
P-142	600.23	12.0	150.0	0.55	0.00	0.00	PVC	0.000	5,019.90	True	5,019.90
P-143	749.15	8.0	150.0	4.85	0.03	0.00	PVC	0.001	5,019.90	True	5,019.90
P-144	262.10	8.0	150.0	1.80	0.01	0.00	PVC	0.000	5,019.90	True	5,019.90
P-145	150.63	12.0	150.0	-1.25	0.00	0.00	PVC	0.000	5,019.90	True	5,019.90

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Average Day

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-146	404.83	12.0	150.0	-57.60	0.16	0.00	PVC	0.010	5,019.91	True	5,019.91
P-147	251.86	12.0	150.0	-59.40	0.17	0.00	PVC	0.012	5,019.91	True	5,019.92
P-152	628.26	16.0	150.0	-63.01	0.10	0.00	PVC	0.002	5,095.96	True	5,095.96
P-153	499.26	16.0	150.0	-64.81	0.10	0.00	PVC	0.003	5,095.96	True	5,095.96
P-154	499.14	16.0	150.0	-66.61	0.11	0.00	PVC	0.004	5,095.96	True	5,095.96
P-155	495.91	16.0	150.0	-68.41	0.11	0.00	PVC	0.003	5,095.96	True	5,095.97
P-156	498.45	16.0	150.0	-70.21	0.11	0.00	PVC	0.004	5,095.97	True	5,095.97
P-157	502.65	16.0	150.0	-72.01	0.11	0.00	PVC	0.003	5,095.97	True	5,095.97
P-158	505.16	16.0	150.0	-73.81	0.12	0.00	PVC	0.004	5,095.97	True	5,095.97
P-159	501.02	16.0	150.0	-75.61	0.12	0.00	PVC	0.004	5,095.97	True	5,095.97
P-160	504.09	16.0	150.0	-77.41	0.12	0.00	PVC	0.005	5,095.97	True	5,095.98
P-161	507.65	16.0	150.0	-79.21	0.13	0.00	PVC	0.004	5,095.98	True	5,095.98
P-162	499.19	16.0	150.0	-81.01	0.13	0.00	PVC	0.005	5,095.98	True	5,095.98
P-163	505.77	16.0	150.0	-82.81	0.13	0.00	PVC	0.005	5,095.98	True	5,095.98
P-164	500.85	16.0	150.0	-84.61	0.14	0.00	PVC	0.005	5,095.98	True	5,095.98
P-165	500.07	16.0	150.0	-86.41	0.14	0.00	PVC	0.005	5,095.98	True	5,095.99
P-166	509.76	16.0	150.0	-88.21	0.14	0.00	PVC	0.006	5,095.99	True	5,095.99
P-167	497.27	16.0	150.0	-90.01	0.14	0.00	PVC	0.005	5,095.99	True	5,095.99
P-168	498.43	16.0	150.0	-91.81	0.15	0.00	PVC	0.006	5,095.99	True	5,096.00
P-169	1,630.19	16.0	150.0	-93.61	0.15	0.01	PVC	0.006	5,096.00	True	5,096.00
P-176	3,079.47	12.0	150.0	-61.20	0.17	0.03	PVC	0.011	5,019.92	True	5,019.95
P-177	245.89	12.0	150.0	-61.21	0.17	0.00	PVC	0.012	5,095.96	True	5,095.96
P-178	1,518.48	30.0	100.0	-12.26	0.01	0.00	Steel	0.000	5,120.00	True	5,120.00
P-179	5,987.75	30.0	100.0	-12.26	0.01	0.00	Steel	0.000	5,120.00	True	5,120.00
P-181	111.34	30.0	100.0	-12.26	0.01	0.00	Steel	0.000	5,120.00	True	5,120.00
P-182	216.90	16.0	150.0	95.40	0.15	0.00	PVC	0.007	5,120.00	True	5,120.00
P-183	2,362.21	16.0	150.0	95.41	0.15	0.01	PVC	0.006	5,096.02	True	5,096.00
P-184	275.55	12.0	150.0	7.67	0.02	0.00	PVC	0.000	4,986.55	True	4,986.55
P-185	818.88	12.0	150.0	5.86	0.02	0.00	PVC	0.001	4,986.55	True	4,986.55
P-186	2,007.25	30.0	100.0	83.14	0.04	0.00	Steel	0.000	5,120.00	True	5,120.00
P-187	97.75	30.0	100.0	83.14	0.04	0.00	Steel	0.000	5,120.00	True	5,120.00
P-188	76.65	12.0	150.0	0.00	0.00	0.00	PVC	0.000	5,120.00	True	5,120.00
P-189	87.63	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.55	True	4,986.55
P-192	66.81	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,019.90	True	5,019.90
P-193	360.31	12.0	140.0	-9.55	0.03	0.00	Asbestos Cement	0.001	5,019.90	True	5,019.90
P-194	611.18	12.0	150.0	-9.55	0.03	0.00	PVC	0.000	5,019.90	True	5,019.90

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Average Day

FlexTable: PRV Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Elevation (ft)	Diameter (Valve) (in)	Hydraulic Grade Setting (Initial) (ft)	Pressure Setting (Initial) (psi)	Flow (gpm)	Hydraulic Grade (From) (ft)	Hydraulic Grade (To) (ft)	Headloss (ft)
PRV-1	Zone - 1	4,785.50	8.0	4,986.51	87.0	61.53	5,120.00	4,986.66	133.34
PRV-2	Zone - 2	4,793.00	8.0	5,019.43	98.0	0.00	5,120.00	5,019.90	0.00
PRV-3	Zone - 4	4,793.00	12.0	4,977.84	80.0	3.00	5,120.00	4,977.97	142.03
PRV-4	Zone - 1	4,785.50	8.0	4,785.50	0.0	0.00	4,977.97	4,986.66	0.00
PRV-5	Zone - 2	4,887.00	8.0	5,019.85	57.5	61.21	5,095.96	5,019.95	76.01
PRV-18	Zone - 3	4,807.00	12.0	5,095.81	125.0	95.40	5,120.00	5,096.02	23.98
PRV-19	Zone - 1	4,797.00	8.0	4,981.84	80.0	0.00	5,120.00	4,986.55	0.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Average Day

FlexTable: Reservoir Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Elevation (ft)	Zone	Net Outflow (gpm)	Hydraulic Grade (ft)
R-1	5,120.00	Zone - 3	76.78	5,120.00
R-2	5,120.00	Zone - 3	83.14	5,120.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-1	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	84.1	4,783.50
J-2	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	83.5	4,785.00
J-3	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	84.4	4,783.00
J-6	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	80.9	4,791.00
J-7	Zone - 3	0.00	5,120.00	<Collection: 0 items>	Fixed	144.9	4,785.00
J-8	Zone - 3	0.00	5,120.00	<Collection: 0 items>	Fixed	141.5	4,793.00
J-10	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	87.0	4,785.50
J-11	Zone - 1	3.60	4,986.63	<Collection: 1 items>	Fixed	82.3	4,796.50
J-12	Zone - 1	0.00	4,986.62	<Collection: 0 items>	Fixed	78.8	4,804.50
J-13	Zone - 1	14.72	4,986.61	<Collection: 1 items>	Fixed	74.5	4,814.50
J-14	Zone - 1	14.72	4,986.61	<Collection: 1 items>	Fixed	74.7	4,814.00
J-15	Zone - 1	0.00	4,986.61	<Collection: 0 items>	Fixed	78.6	4,805.00
J-16	Zone - 1	3.60	4,986.57	<Collection: 1 items>	Fixed	78.3	4,805.50
J-17	Zone - 1	0.00	4,986.47	<Collection: 0 items>	Fixed	74.6	4,814.00
J-18	Zone - 1	0.00	4,986.45	<Collection: 0 items>	Fixed	72.0	4,820.00
J-19	Zone - 1	0.00	4,986.44	<Collection: 0 items>	Fixed	71.1	4,822.00
J-20	Zone - 1	0.00	4,986.40	<Collection: 0 items>	Fixed	70.7	4,823.00
J-21	Zone - 1	0.00	4,986.36	<Collection: 0 items>	Fixed	71.1	4,822.00
J-22	Zone - 1	0.00	4,986.27	<Collection: 0 items>	Fixed	73.9	4,815.50
J-23	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	73.7	4,816.00
J-24	Zone - 1	0.00	4,986.28	<Collection: 0 items>	Fixed	73.2	4,817.00
J-25	Zone - 1	3.60	4,986.29	<Collection: 1 items>	Fixed	74.1	4,815.00
J-26	Zone - 1	0.00	4,986.29	<Collection: 0 items>	Fixed	76.3	4,810.00
J-27	Zone - 1	0.00	4,986.27	<Collection: 0 items>	Fixed	74.5	4,814.00
J-28	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	72.8	4,818.00
J-29	Zone - 1	3.60	4,986.61	<Collection: 1 items>	Fixed	75.5	4,812.00
J-30	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	80.0	4,793.00
J-31	Zone - 3	0.00	5,120.00	<Collection: 0 items>	Fixed	141.5	4,793.00
J-32	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	98.5	4,792.00
J-33	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	102.0	4,784.00
J-34	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	92.5	4,806.00
J-35	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	90.3	4,811.00
J-36	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	90.3	4,811.00
J-37	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	90.1	4,811.50
J-38	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	87.7	4,817.00
J-39	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	86.2	4,820.50
J-40	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	84.9	4,823.50
J-41	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	89.0	4,814.00
J-42	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	85.1	4,823.00
J-43	Zone - 2	3.60	5,019.78	<Collection: 1 items>	Fixed	87.7	4,817.00
J-44	Zone - 2	3.60	5,019.79	<Collection: 1 items>	Fixed	87.7	4,817.00
J-45	Zone - 2	3.60	5,019.80	<Collection: 1 items>	Fixed	86.7	4,819.50
J-46	Zone - 2	3.60	5,019.80	<Collection: 1 items>	Fixed	86.4	4,820.00
J-47	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	89.9	4,812.00
J-48	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	90.8	4,810.00
J-49	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	90.3	4,811.00
J-50	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	89.9	4,812.00
J-51	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	89.0	4,814.00
J-52	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	90.8	4,810.00
J-53	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	89.7	4,812.50

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-54	Zone - 2	3.60	5,019.79	<Collection: 1 items>	Fixed	86.0	4,821.00
J-55	Zone - 2	3.60	5,019.79	<Collection: 1 items>	Fixed	85.1	4,823.00
J-56	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	83.0	4,828.00
J-57	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	84.1	4,825.50
J-58	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	84.1	4,825.50
J-59	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	83.2	4,827.50
J-60	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	81.2	4,832.00
J-61	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	85.6	4,822.00
J-62	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	82.5	4,829.00
J-64	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	84.7	4,824.00
J-65	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	82.1	4,830.00
J-68	Zone - 1	3.60	4,986.49	<Collection: 1 items>	Fixed	74.2	4,815.00
J-69	Zone - 1	3.60	4,986.54	<Collection: 1 items>	Fixed	77.2	4,808.00
J-70	Zone - 1	0.00	4,986.29	<Collection: 0 items>	Fixed	72.8	4,818.00
J-73	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	76.3	4,810.00
J-74	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	78.4	4,805.00
J-75	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	80.6	4,800.00
J-76	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	81.0	4,799.00
J-77	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	84.9	4,790.00
J-78	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	87.1	4,785.00
J-79	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	89.2	4,780.00
J-80	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	94.0	4,769.00
J-81	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	91.8	4,774.00
J-82	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	89.7	4,779.00
J-83	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	87.5	4,784.00
J-84	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	94.9	4,767.00
J-85	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	92.7	4,772.00
J-86	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	90.5	4,777.00
J-87	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	88.4	4,782.00
J-88	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	81.5	4,798.00
J-89	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	75.4	4,812.00
J-90	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	91.2	4,809.00
J-91	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	92.9	4,805.00
J-92	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	94.6	4,801.00
J-93	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	94.4	4,801.50
J-94	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	94.2	4,802.00
J-95	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	92.5	4,806.00
J-96	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	90.8	4,810.00
J-97	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	90.3	4,811.00
J-98	Zone - 2	3.60	5,019.82	<Collection: 1 items>	Fixed	85.2	4,823.00
J-99	Zone - 2	3.60	5,019.83	<Collection: 1 items>	Fixed	83.9	4,826.00
J-100	Zone - 3	3.60	5,095.80	<Collection: 1 items>	Fixed	88.2	4,892.00
J-103	Zone - 3	3.60	5,095.81	<Collection: 1 items>	Fixed	89.9	4,888.00
J-104	Zone - 3	3.60	5,095.81	<Collection: 1 items>	Fixed	90.3	4,887.00
J-105	Zone - 3	3.60	5,095.82	<Collection: 1 items>	Fixed	90.8	4,886.00
J-106	Zone - 3	3.60	5,095.82	<Collection: 1 items>	Fixed	91.2	4,885.00
J-107	Zone - 3	3.60	5,095.83	<Collection: 1 items>	Fixed	91.6	4,884.00
J-108	Zone - 3	3.60	5,095.84	<Collection: 1 items>	Fixed	92.1	4,883.00
J-109	Zone - 3	3.60	5,095.84	<Collection: 1 items>	Fixed	92.5	4,882.00
J-110	Zone - 3	3.60	5,095.85	<Collection: 1 items>	Fixed	93.4	4,880.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-111	Zone - 3	3.60	5,095.86	<Collection: 1 items>	Fixed	94.3	4,878.00
J-112	Zone - 3	3.60	5,095.87	<Collection: 1 items>	Fixed	95.1	4,876.00
J-113	Zone - 3	3.60	5,095.88	<Collection: 1 items>	Fixed	96.0	4,874.00
J-114	Zone - 3	3.60	5,095.88	<Collection: 1 items>	Fixed	96.9	4,872.00
J-115	Zone - 3	3.60	5,095.89	<Collection: 1 items>	Fixed	97.7	4,870.00
J-116	Zone - 3	3.60	5,095.90	<Collection: 1 items>	Fixed	98.6	4,868.00
J-117	Zone - 3	3.60	5,095.91	<Collection: 1 items>	Fixed	99.5	4,866.00
J-118	Zone - 3	3.60	5,095.92	<Collection: 1 items>	Fixed	100.3	4,864.00
J-119	Zone - 3	3.60	5,095.93	<Collection: 1 items>	Fixed	101.2	4,862.00
J-121	Zone - 3	3.60	5,095.97	<Collection: 1 items>	Fixed	104.3	4,855.00
J-122	Zone - 3	0.00	5,120.00	<Collection: 0 items>	Fixed	138.9	4,799.00
J-123	Zone - 2	0.00	5,120.00	<Collection: 0 items>	Fixed	140.2	4,796.00
J-125	Zone - 3	0.00	5,120.00	<Collection: 0 items>	Fixed	139.1	4,798.50
J-126	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	82.3	4,796.00
J-127	Zone - 3	0.00	5,120.00	<Collection: 0 items>	Fixed	139.3	4,798.00
J-129	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	98.5	4,792.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-1	1,094.21	30.0	100.0	153.57	0.05	0.00	Steel	0.000	5,120.00	True	5,120.00
P-2	37.82	30.0	100.0	-153.57	0.07	0.00	Steel	0.000	5,120.00	True	5,120.00
P-3	7.44	18.0	140.0	6.00	0.01	0.00	Asbestos Cement	0.000	5,120.00	True	5,120.00
P-4	7.39	18.0	140.0	6.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-5	461.01	18.0	140.0	-6.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-6	691.43	18.0	140.0	-4.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-7	645.24	18.0	140.0	2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-8	346.44	18.0	140.0	2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-9	1,826.43	30.0	100.0	-147.57	0.07	0.00	Steel	0.002	5,120.00	True	5,120.00
P-11	30.30	12.0	150.0	123.05	0.35	0.00	PVC	0.032	5,120.00	True	5,120.00
P-12	25.33	12.0	150.0	123.05	0.35	0.00	PVC	0.039	4,986.66	True	4,986.66
P-13	36.10	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,977.97	True	4,977.97
P-14	52.44	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-15	653.52	12.0	150.0	123.05	0.35	0.03	PVC	0.040	4,986.66	True	4,986.63
P-16	366.19	12.0	150.0	119.45	0.34	0.01	PVC	0.037	4,986.63	True	4,986.62
P-17	711.39	12.0	150.0	29.44	0.08	0.00	PVC	0.003	4,986.62	True	4,986.61
P-18	329.62	12.0	150.0	14.72	0.04	0.00	PVC	0.001	4,986.61	True	4,986.61
P-19	32.01	8.0	150.0	90.01	0.57	0.01	PVC	0.168	4,986.62	True	4,986.61
P-20	307.08	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,986.61	True	4,986.61
P-21	302.29	8.0	150.0	86.41	0.55	0.05	PVC	0.150	4,986.61	True	4,986.57
P-22	175.00	8.0	140.0	82.81	0.53	0.03	Asbestos Cement	0.159	4,986.57	True	4,986.54
P-23	331.85	8.0	140.0	79.21	0.51	0.05	Asbestos Cement	0.144	4,986.54	True	4,986.49
P-24	153.34	8.0	140.0	75.61	0.48	0.02	Asbestos Cement	0.134	4,986.49	True	4,986.47
P-25	177.80	8.0	150.0	75.61	0.48	0.02	PVC	0.118	4,986.47	True	4,986.45
P-26	101.80	8.0	150.0	75.61	0.48	0.01	PVC	0.120	4,986.45	True	4,986.44
P-27	343.59	8.0	150.0	75.61	0.48	0.04	PVC	0.117	4,986.44	True	4,986.40
P-28	273.59	8.0	150.0	75.61	0.48	0.03	PVC	0.118	4,986.40	True	4,986.36
P-29	600.56	8.0	150.0	75.61	0.48	0.07	PVC	0.117	4,986.36	True	4,986.29
P-30	549.58	8.0	150.0	39.83	0.25	0.02	PVC	0.036	4,986.29	True	4,986.27
P-31	245.14	8.0	150.0	4.76	0.03	0.00	PVC	0.000	4,986.27	True	4,986.27
P-32	246.24	8.0	150.0	-35.78	0.23	0.01	PVC	0.030	4,986.29	True	4,986.29
P-33	381.60	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.29	True	4,986.29
P-34	332.48	8.0	150.0	-32.17	0.21	0.01	PVC	0.025	4,986.28	True	4,986.29
P-35	191.14	8.0	150.0	-32.17	0.21	0.00	PVC	0.023	4,986.27	True	4,986.28
P-36	110.24	8.0	150.0	33.33	0.21	0.00	PVC	0.027	4,986.27	True	4,986.27
P-37	82.46	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,986.27	True	4,986.27
P-38	94.56	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,120.00	True	5,120.00
P-40	457.35	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,019.77	True	5,019.77
P-41	854.39	12.0	150.0	-19.11	0.05	0.00	PVC	0.001	5,019.77	True	5,019.77
P-42	315.19	12.0	150.0	-19.11	0.05	0.00	PVC	0.002	5,019.77	True	5,019.77
P-43	518.31	12.0	150.0	3.60	0.01	0.00	PVC	0.000	5,019.77	True	5,019.77
P-44	70.88	12.0	150.0	-22.71	0.06	0.00	PVC	0.000	5,019.77	True	5,019.77
P-45	113.04	12.0	150.0	28.80	0.08	0.00	PVC	0.000	5,019.77	True	5,019.77
P-46	167.37	12.0	150.0	19.40	0.06	0.00	PVC	0.003	5,019.77	True	5,019.77
P-47	359.22	12.0	150.0	15.80	0.04	0.00	PVC	0.001	5,019.77	True	5,019.77
P-48	52.69	12.0	150.0	12.20	0.03	0.00	PVC	0.000	5,019.77	True	5,019.77
P-49	370.87	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.77	True	5,019.77
P-50	62.99	8.0	150.0	8.60	0.05	0.00	PVC	0.000	5,019.77	True	5,019.77

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-51	221.10	8.0	150.0	5.00	0.03	0.00	PVC	0.000	5,019.77	True	5,019.77
P-52	81.21	8.0	150.0	1.40	0.01	0.00	PVC	0.000	5,019.77	True	5,019.77
P-53	353.77	8.0	150.0	-2.20	0.01	0.00	PVC	0.000	5,019.77	True	5,019.77
P-54	332.21	8.0	150.0	-9.40	0.06	0.00	PVC	0.003	5,019.77	True	5,019.77
P-55	561.26	8.0	150.0	7.20	0.05	0.00	PVC	0.002	5,019.77	True	5,019.77
P-56	134.25	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.77	True	5,019.77
P-57	330.48	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.77	True	5,019.77
P-58	161.67	12.0	150.0	-51.51	0.15	0.00	PVC	0.009	5,019.77	True	5,019.77
P-59	213.49	12.0	150.0	-67.08	0.19	0.00	PVC	0.014	5,019.77	True	5,019.77
P-60	350.73	12.0	150.0	-93.60	0.27	0.01	PVC	0.024	5,019.77	True	5,019.78
P-61	286.24	12.0	150.0	-97.20	0.28	0.01	PVC	0.026	5,019.78	True	5,019.79
P-62	353.63	12.0	150.0	-108.00	0.31	0.01	PVC	0.032	5,019.79	True	5,019.80
P-63	94.38	12.0	150.0	-111.60	0.32	0.00	PVC	0.031	5,019.80	True	5,019.80
P-64	203.48	8.0	150.0	11.98	0.08	0.00	PVC	0.005	5,019.77	True	5,019.77
P-65	228.49	8.0	150.0	8.38	0.05	0.00	PVC	0.002	5,019.77	True	5,019.77
P-66	208.58	8.0	150.0	4.78	0.03	0.00	PVC	0.000	5,019.77	True	5,019.77
P-67	87.29	8.0	150.0	-15.72	0.10	0.00	PVC	0.006	5,019.77	True	5,019.77
P-68	212.45	8.0	150.0	-19.32	0.12	0.00	PVC	0.009	5,019.77	True	5,019.77
P-69	126.18	8.0	150.0	-22.92	0.15	0.00	PVC	0.015	5,019.77	True	5,019.77
P-70	140.87	8.0	150.0	16.90	0.11	0.00	PVC	0.007	5,019.77	True	5,019.77
P-72	326.41	8.0	150.0	7.20	0.05	0.00	PVC	0.001	5,019.79	True	5,019.79
P-73	185.39	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.79	True	5,019.79
P-117	722.25	12.0	150.0	29.73	0.08	0.00	PVC	0.003	4,986.27	True	4,986.27
P-118	875.21	12.0	150.0	26.13	0.07	0.00	PVC	0.002	4,986.27	True	4,986.27
P-119	530.70	12.0	150.0	22.53	0.06	0.00	PVC	0.002	4,986.27	True	4,986.27
P-120	1,399.56	12.0	150.0	18.93	0.05	0.00	PVC	0.001	4,986.27	True	4,986.26
P-122	1,136.72	12.0	150.0	8.12	0.02	0.00	PVC	0.000	4,986.26	True	4,986.26
P-123	1,042.45	12.0	150.0	4.52	0.01	0.00	PVC	0.000	4,986.26	True	4,986.26
P-124	528.52	12.0	150.0	0.92	0.00	0.00	PVC	0.000	4,986.26	True	4,986.26
P-125	1,076.20	12.0	150.0	-2.68	0.01	0.00	PVC	0.000	4,986.26	True	4,986.26
P-126	866.57	12.0	150.0	-6.28	0.02	0.00	PVC	0.001	4,986.26	True	4,986.26
P-127	1,176.69	12.0	150.0	-9.88	0.03	0.00	PVC	0.000	4,986.26	True	4,986.26
P-128	873.65	12.0	150.0	-13.48	0.04	0.00	PVC	0.001	4,986.26	True	4,986.26
P-129	910.87	12.0	150.0	-17.08	0.05	0.00	PVC	0.001	4,986.26	True	4,986.27
P-130	994.16	12.0	150.0	-20.68	0.06	0.00	PVC	0.001	4,986.27	True	4,986.27
P-131	1,087.30	12.0	150.0	-24.28	0.07	0.00	PVC	0.002	4,986.27	True	4,986.27
P-132	602.18	12.0	150.0	-27.88	0.08	0.00	PVC	0.002	4,986.27	True	4,986.27
P-133	570.66	12.0	150.0	-31.48	0.09	0.00	PVC	0.003	4,986.27	True	4,986.27
P-134	422.43	12.0	150.0	-35.08	0.10	0.00	PVC	0.003	4,986.27	True	4,986.27
P-135	143.84	8.0	150.0	13.30	0.08	0.00	PVC	0.007	5,019.77	True	5,019.77
P-138	590.21	12.0	150.0	15.50	0.04	0.00	PVC	0.001	5,019.77	True	5,019.76
P-139	336.82	12.0	150.0	11.90	0.03	0.00	PVC	0.000	5,019.76	True	5,019.76
P-140	331.77	12.0	150.0	8.30	0.02	0.00	PVC	0.000	5,019.76	True	5,019.76
P-141	691.41	12.0	150.0	4.70	0.01	0.00	PVC	0.001	5,019.76	True	5,019.76
P-142	600.23	12.0	150.0	1.10	0.00	0.00	PVC	0.000	5,019.76	True	5,019.76
P-143	749.15	8.0	150.0	9.70	0.06	0.00	PVC	0.003	5,019.77	True	5,019.76
P-144	262.10	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.76	True	5,019.76
P-145	150.63	12.0	150.0	-2.50	0.01	0.00	PVC	0.000	5,019.76	True	5,019.76

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-146	404.83	12.0	150.0	-115.20	0.33	0.01	PVC	0.036	5,019.80	True	5,019.82
P-147	251.86	12.0	150.0	-118.80	0.34	0.01	PVC	0.037	5,019.82	True	5,019.83
P-152	628.26	16.0	150.0	-126.00	0.20	0.01	PVC	0.010	5,095.80	True	5,095.81
P-153	499.26	16.0	150.0	-129.60	0.21	0.01	PVC	0.011	5,095.81	True	5,095.81
P-154	499.14	16.0	150.0	-133.20	0.21	0.01	PVC	0.012	5,095.81	True	5,095.82
P-155	495.91	16.0	150.0	-136.80	0.22	0.01	PVC	0.012	5,095.82	True	5,095.82
P-156	498.45	16.0	150.0	-140.40	0.22	0.01	PVC	0.013	5,095.82	True	5,095.83
P-157	502.65	16.0	150.0	-144.00	0.23	0.01	PVC	0.014	5,095.83	True	5,095.84
P-158	505.16	16.0	150.0	-147.60	0.24	0.01	PVC	0.014	5,095.84	True	5,095.84
P-159	501.02	16.0	150.0	-151.20	0.24	0.01	PVC	0.015	5,095.84	True	5,095.85
P-160	504.09	16.0	150.0	-154.80	0.25	0.01	PVC	0.015	5,095.85	True	5,095.86
P-161	507.65	16.0	150.0	-158.40	0.25	0.01	PVC	0.015	5,095.86	True	5,095.87
P-162	499.19	16.0	150.0	-162.00	0.26	0.01	PVC	0.017	5,095.87	True	5,095.88
P-163	505.77	16.0	150.0	-165.60	0.26	0.01	PVC	0.016	5,095.88	True	5,095.88
P-164	500.85	16.0	150.0	-169.20	0.27	0.01	PVC	0.019	5,095.88	True	5,095.89
P-165	500.07	16.0	150.0	-172.80	0.28	0.01	PVC	0.019	5,095.89	True	5,095.90
P-166	509.76	16.0	150.0	-176.40	0.28	0.01	PVC	0.019	5,095.90	True	5,095.91
P-167	497.27	16.0	150.0	-180.00	0.29	0.01	PVC	0.020	5,095.91	True	5,095.92
P-168	498.43	16.0	150.0	-183.60	0.29	0.01	PVC	0.021	5,095.92	True	5,095.93
P-169	1,630.19	16.0	150.0	-187.20	0.30	0.04	PVC	0.022	5,095.93	True	5,095.97
P-176	3,079.47	12.0	150.0	-122.40	0.35	0.12	PVC	0.040	5,019.83	True	5,019.95
P-177	245.89	12.0	150.0	-122.40	0.35	0.01	PVC	0.040	5,095.79	True	5,095.80
P-178	1,518.48	30.0	100.0	-24.52	0.01	0.00	Steel	0.000	5,120.00	True	5,120.00
P-179	5,987.75	30.0	100.0	-24.52	0.01	0.00	Steel	0.000	5,120.00	True	5,120.00
P-181	111.34	30.0	100.0	-24.52	0.01	0.00	Steel	0.000	5,120.00	True	5,120.00
P-182	216.90	16.0	150.0	190.80	0.30	0.00	PVC	0.023	5,120.00	True	5,119.99
P-183	2,362.21	16.0	150.0	190.80	0.30	0.05	PVC	0.022	5,096.02	True	5,095.97
P-184	275.55	12.0	150.0	15.33	0.04	0.00	PVC	0.000	4,986.26	True	4,986.26
P-185	818.88	12.0	150.0	11.72	0.03	0.00	PVC	0.001	4,986.26	True	4,986.26
P-186	2,007.25	30.0	100.0	166.28	0.08	0.00	Steel	0.002	5,120.00	True	5,120.00
P-187	97.75	30.0	100.0	166.28	0.08	0.00	Steel	0.000	5,120.00	True	5,120.00
P-188	76.65	12.0	150.0	0.00	0.00	0.00	PVC	0.000	5,120.00	True	5,120.00
P-189	87.63	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.26	True	4,986.26
P-192	66.81	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,019.77	True	5,019.77
P-193	360.31	12.0	140.0	-19.11	0.05	0.00	Asbestos Cement	0.001	5,019.77	True	5,019.77
P-194	611.18	12.0	150.0	-19.10	0.05	0.00	PVC	0.002	5,019.77	True	5,019.77

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day

FlexTable: PRV Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Elevation (ft)	Diameter (Valve) (in)	Hydraulic Grade Setting (Initial) (ft)	Pressure Setting (Initial) (psi)	Flow (gpm)	Hydraulic Grade (From) (ft)	Hydraulic Grade (To) (ft)	Headloss (ft)
PRV-1	Zone - 1	4,785.50	8.0	4,986.51	87.0	123.05	5,120.00	4,986.66	133.34
PRV-2	Zone - 2	4,793.00	8.0	5,019.43	98.0	0.00	5,120.00	5,019.77	0.00
PRV-3	Zone - 4	4,793.00	12.0	4,977.84	80.0	6.00	5,120.00	4,977.97	142.03
PRV-4	Zone - 1	4,785.50	8.0	4,785.50	0.0	0.00	4,977.97	4,986.66	0.00
PRV-5	Zone - 2	4,887.00	8.0	5,019.85	57.5	122.40	5,095.79	5,019.95	75.84
PRV-18	Zone - 3	4,807.00	12.0	5,095.81	125.0	190.80	5,119.99	5,096.02	23.97
PRV-19	Zone - 1	4,797.00	8.0	4,981.84	80.0	0.00	5,120.00	4,986.26	0.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day

FlexTable: Reservoir Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Elevation (ft)	Zone	Net Outflow (gpm)	Hydraulic Grade (ft)
R-1	5,120.00	Zone - 3	153.57	5,120.00
R-2	5,120.00	Zone - 3	166.28	5,120.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + FF

Fire Flow Node FlexTable: Fire Flow Report (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Fire Flow (Needed) (gpm)	Flow (Total Needed) (gpm)	Satisfies Fire Flow Constraints?	Fire Flow (Available) (gpm)	Pressure (Residual Lower Limit) (psi)	Pressure (Calculated Residual) (psi)	Pressure (Zone Lower Limit) (psi)	Pressure (Calculated Zone Lower Limit) (psi)	Junction w/Minimum Pressure (Zone)
J-1	Zone - 4	2,000.00	2,000.00	True	8,000.00	20.0	76.9	20.0	76.2	J-2
J-2	Zone - 4	2,000.00	2,000.00	True	8,000.00	20.0	72.2	20.0	73.1	J-3
J-3	Zone - 4	2,000.00	2,000.00	True	8,000.00	20.0	70.9	20.0	72.2	J-2
J-6	Zone - 4	2,000.00	2,000.00	True	8,000.00	20.0	78.0	20.0	80.0	J-30
J-7	Zone - 3	2,000.00	2,000.00	True	8,000.00	20.0	143.8	20.0	88.2	J-100
J-8	Zone - 3	2,000.00	2,000.00	True	8,000.00	20.0	141.1	20.0	88.2	J-100
J-10	Zone - 1	2,000.00	2,000.00	True	8,000.00	20.0	86.0	20.0	69.7	J-20
J-11	Zone - 1	2,000.00	2,000.00	True	8,000.00	20.0	61.1	20.0	53.6	J-13
J-12	Zone - 1	2,000.00	2,000.00	True	8,000.00	20.0	48.3	20.0	44.0	J-13
J-13	Zone - 1	2,000.00	2,000.00	True	7,686.24	20.0	20.0	20.0	20.2	J-14
J-14	Zone - 1	2,000.00	2,000.00	True	6,905.23	20.0	20.0	20.0	29.7	J-13
J-15	Zone - 1	2,000.00	2,000.00	True	8,000.00	20.0	42.8	20.0	39.7	J-29
J-16	Zone - 1	2,000.00	2,000.00	True	6,976.33	20.0	20.0	20.0	23.0	J-69
J-17	Zone - 1	2,000.00	2,000.00	True	5,150.96	20.0	20.0	20.0	22.2	J-18
J-18	Zone - 1	2,000.00	2,000.00	True	4,929.18	20.0	20.0	20.0	22.0	J-19
J-19	Zone - 1	2,000.00	2,000.00	True	4,859.82	20.0	20.0	20.0	24.3	J-18
J-20	Zone - 1	2,000.00	2,000.00	True	4,878.68	20.0	20.0	20.0	29.8	J-19
J-21	Zone - 1	2,000.00	2,000.00	True	5,086.33	20.0	20.0	20.0	26.1	J-20
J-22	Zone - 1	2,000.00	2,000.00	True	7,411.97	20.0	20.0	20.0	23.2	J-89
J-23	Zone - 1	2,000.00	2,000.00	True	7,795.60	20.0	20.0	20.0	21.6	J-24
J-24	Zone - 1	2,000.00	2,000.00	True	6,527.85	20.0	20.0	20.0	30.3	J-25
J-25	Zone - 1	2,000.00	2,000.00	True	6,227.98	20.0	20.0	20.0	22.2	J-26
J-26	Zone - 1	2,000.00	2,000.00	True	4,055.76	20.0	20.0	20.0	48.8	J-25
J-27	Zone - 1	2,000.00	2,000.00	True	7,844.34	20.0	21.7	20.0	20.0	J-28
J-28	Zone - 1	2,000.00	2,000.00	True	6,435.59	20.0	20.0	20.0	37.4	J-27
J-29	Zone - 1	2,000.00	2,000.00	True	5,185.09	20.0	20.0	20.0	61.1	J-13
J-30	Zone - 4	2,000.00	2,000.00	True	8,000.00	20.0	80.0	20.0	80.8	J-6
J-31	Zone - 3	2,000.00	2,000.00	True	8,000.00	20.0	141.1	20.0	88.2	J-100
J-32	Zone - 2	2,000.00	2,000.00	True	8,000.00	20.0	86.7	20.0	73.1	J-60
J-33	Zone - 2	2,000.00	2,000.00	True	8,000.00	20.0	69.6	20.0	73.1	J-60
J-34	Zone - 2	2,000.00	2,000.00	True	8,000.00	20.0	71.5	20.0	63.1	J-60
J-35	Zone - 2	2,000.00	2,000.00	True	8,000.00	20.0	67.9	20.0	59.4	J-60
J-36	Zone - 2	2,000.00	2,000.00	True	8,000.00	20.0	47.4	20.0	59.4	J-60
J-37	Zone - 2	2,000.00	2,000.00	True	8,000.00	20.0	67.5	20.0	58.6	J-60
J-38	Zone - 2	2,000.00	2,000.00	True	8,000.00	20.0	60.6	20.0	54.1	J-60
J-39	Zone - 2	2,000.00	2,000.00	True	8,000.00	20.0	53.7	20.0	50.7	J-56
J-40	Zone - 2	2,000.00	2,000.00	True	8,000.00	20.0	43.6	20.0	41.7	J-56
J-41	Zone - 2	2,000.00	2,000.00	True	8,000.00	20.0	66.1	20.0	60.2	J-60
J-42	Zone - 2	6,000.00	6,000.00	True	8,000.00	20.0	61.2	20.0	61.7	J-60
J-43	Zone - 2	2,000.00	2,000.00	True	8,000.00	20.0	60.3	20.0	59.4	J-55
J-44	Zone - 2	2,000.00	2,000.00	True	8,000.00	20.0	58.1	20.0	55.5	J-55
J-45	Zone - 2	2,000.00	2,000.00	True	8,000.00	20.0	55.0	20.0	55.6	J-46
J-46	Zone - 2	2,000.00	2,000.00	True	8,000.00	20.0	54.4	20.0	55.9	J-45
J-47	Zone - 2	2,000.00	2,000.00	True	8,000.00	20.0	44.3	20.0	55.7	J-48
J-48	Zone - 2	2,000.00	2,000.00	True	8,000.00	20.0	40.3	20.0	55.7	J-47
J-49	Zone - 2	2,000.00	2,000.00	True	8,000.00	20.0	49.4	20.0	53.5	J-52
J-50	Zone - 2	2,000.00	2,000.00	True	8,000.00	20.0	46.5	20.0	54.6	J-49

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + FF

Fire Flow Node FlexTable: Fire Flow Report (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Fire Flow (Needed) (gpm)	Flow (Total Needed) (gpm)	Satisfies Fire Flow Constraints?	Fire Flow (Available) (gpm)	Pressure (Residual Lower Limit) (psi)	Pressure (Calculated Residual) (psi)	Pressure (Zone Lower Limit) (psi)	Pressure (Calculated Zone Lower Limit) (psi)	Junction w/Minimum Pressure (Zone)
J-51	Zone - 2	2,000.00	2,000.00	True	8,000.00	20.0	51.1	20.0	60.7	J-50
J-52	Zone - 2	2,000.00	2,000.00	True	8,000.00	20.0	37.1	20.0	43.0	J-90
J-53	Zone - 2	2,000.00	2,000.00	True	5,622.37	20.0	20.0	20.0	59.6	J-97
J-54	Zone - 2	2,000.00	2,000.00	True	5,673.50	20.0	20.9	20.0	20.0	J-55
J-55	Zone - 2	2,000.00	2,000.00	True	4,675.66	20.0	20.0	20.0	40.4	J-54
J-56	Zone - 2	2,000.00	2,000.00	True	5,054.49	20.0	20.0	20.0	65.6	J-60
J-57	Zone - 2	2,000.00	2,000.00	True	8,000.00	20.0	41.7	20.0	42.0	J-56
J-58	Zone - 2	6,000.00	6,000.00	True	8,000.00	20.0	33.5	20.0	37.8	J-60
J-59	Zone - 2	2,000.00	2,000.00	True	7,719.51	20.0	20.0	20.0	22.0	J-60
J-60	Zone - 2	2,000.00	2,000.00	True	7,418.93	20.0	20.0	20.0	28.8	J-59
J-61	Zone - 2	2,000.00	2,000.00	True	7,744.15	20.0	23.5	20.0	20.0	J-65
J-62	Zone - 2	2,000.00	2,000.00	True	3,970.47	20.0	20.4	20.0	20.0	J-65
J-64	Zone - 2	2,000.00	2,000.00	True	3,366.57	20.0	20.0	20.0	36.4	J-65
J-65	Zone - 2	2,000.00	2,000.00	True	3,652.43	20.0	20.0	20.0	29.4	J-62
J-68	Zone - 1	2,000.00	2,000.00	True	5,282.08	20.0	20.0	20.0	24.7	J-17
J-69	Zone - 1	2,000.00	2,000.00	True	6,135.01	20.0	20.0	20.0	25.2	J-68
J-70	Zone - 1	2,000.00	2,000.00	True	6,632.64	20.0	20.0	20.0	27.7	J-25
J-73	Zone - 1	6,000.00	6,000.00	True	8,000.00	20.0	25.0	20.0	26.9	J-28
J-74	Zone - 1	6,000.00	6,000.00	True	8,000.00	20.0	34.2	20.0	36.9	J-73
J-75	Zone - 1	6,000.00	6,000.00	True	8,000.00	20.0	42.3	20.0	42.5	J-74
J-76	Zone - 1	6,000.00	6,000.00	True	8,000.00	20.0	67.9	20.0	63.4	J-28
J-77	Zone - 1	6,000.00	6,000.00	True	8,000.00	20.0	57.5	20.0	61.5	J-78
J-78	Zone - 1	6,000.00	6,000.00	True	8,000.00	20.0	38.5	20.0	44.1	J-79
J-79	Zone - 1	6,000.00	6,000.00	True	8,000.00	20.0	26.6	20.0	33.9	J-80
J-80	Zone - 1	6,000.00	6,000.00	True	8,000.00	20.0	25.7	20.0	29.5	J-81
J-81	Zone - 1	6,000.00	6,000.00	True	7,681.11	20.0	20.0	20.0	23.4	J-82
J-82	Zone - 1	6,000.00	6,000.00	True	7,294.82	20.0	20.0	20.0	25.9	J-83
J-83	Zone - 1	6,000.00	6,000.00	True	6,987.49	20.0	20.0	20.0	33.4	J-82
J-84	Zone - 1	6,000.00	6,000.00	True	7,360.15	20.0	20.0	20.0	20.8	J-83
J-85	Zone - 1	6,000.00	6,000.00	True	7,285.67	20.0	20.0	20.0	28.2	J-86
J-86	Zone - 1	6,000.00	6,000.00	True	7,316.26	20.0	20.0	20.0	29.1	J-85
J-87	Zone - 1	6,000.00	6,000.00	True	7,507.62	20.0	20.0	20.0	21.6	J-88
J-88	Zone - 1	6,000.00	6,000.00	True	7,331.35	20.0	20.0	20.0	22.3	J-89
J-89	Zone - 1	6,000.00	6,000.00	True	7,230.18	20.0	20.0	20.0	25.0	J-22
J-90	Zone - 2	2,000.00	2,000.00	True	8,000.00	20.0	28.6	20.0	44.5	J-52
J-91	Zone - 2	6,000.00	6,000.00	True	8,000.00	20.0	73.1	20.0	73.8	J-53
J-92	Zone - 2	6,000.00	6,000.00	True	8,000.00	20.0	62.8	20.0	63.3	J-53
J-93	Zone - 2	6,000.00	6,000.00	True	8,000.00	20.0	56.8	20.0	57.6	J-94
J-94	Zone - 2	6,000.00	6,000.00	True	8,000.00	20.0	51.5	20.0	52.4	J-95
J-95	Zone - 2	6,000.00	6,000.00	True	8,000.00	20.0	41.0	20.0	41.9	J-53
J-96	Zone - 2	6,000.00	6,000.00	True	8,000.00	20.0	33.2	20.0	33.0	J-53
J-97	Zone - 2	2,000.00	2,000.00	True	8,000.00	20.0	31.4	20.0	30.8	J-53
J-98	Zone - 2	2,000.00	2,000.00	True	8,000.00	20.0	51.5	20.0	52.7	J-99
J-99	Zone - 2	2,000.00	2,000.00	True	8,000.00	20.0	49.0	20.0	53.2	J-98
J-100	Zone - 3	6,000.00	6,000.00	False	5,775.42	20.0	20.0	20.0	25.1	J-103
J-103	Zone - 3	6,000.00	6,000.00	False	5,935.31	20.0	21.7	20.0	20.0	J-100
J-104	Zone - 3	6,000.00	6,000.00	True	6,072.49	20.0	22.2	20.0	20.0	J-100

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + FF

Fire Flow Node FlexTable: Fire Flow Report (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Fire Flow (Needed) (gpm)	Flow (Total Needed) (gpm)	Satisfies Fire Flow Constraints?	Fire Flow (Available) (gpm)	Pressure (Residual Lower Limit) (psi)	Pressure (Calculated Residual) (psi)	Pressure (Zone Lower Limit) (psi)	Pressure (Calculated Zone Lower Limit) (psi)	Junction w/Minimum Pressure (Zone)
J-105	Zone - 3	6,000.00	6,000.00	True	6,218.92	20.0	22.6	20.0	20.0	J-100
J-106	Zone - 3	6,000.00	6,000.00	True	6,375.02	20.0	23.0	20.0	20.0	J-100
J-107	Zone - 3	6,000.00	6,000.00	True	6,543.92	20.0	23.5	20.0	20.0	J-100
J-108	Zone - 3	6,000.00	6,000.00	True	6,728.01	20.0	23.9	20.0	20.0	J-100
J-109	Zone - 3	6,000.00	6,000.00	True	6,928.90	20.0	24.3	20.0	20.0	J-100
J-110	Zone - 3	6,000.00	6,000.00	True	7,146.20	20.0	25.2	20.0	20.0	J-100
J-111	Zone - 3	6,000.00	6,000.00	True	7,385.83	20.0	26.1	20.0	20.0	J-100
J-112	Zone - 3	6,000.00	6,000.00	True	7,652.04	20.0	26.9	20.0	20.0	J-100
J-113	Zone - 3	6,000.00	6,000.00	True	7,942.36	20.0	27.8	20.0	20.0	J-100
J-114	Zone - 3	6,000.00	6,000.00	True	8,000.00	20.0	32.7	20.0	24.1	J-100
J-115	Zone - 3	6,000.00	6,000.00	True	8,000.00	20.0	38.5	20.0	29.0	J-100
J-116	Zone - 3	6,000.00	6,000.00	True	8,000.00	20.0	44.3	20.0	33.9	J-100
J-117	Zone - 3	6,000.00	6,000.00	True	8,000.00	20.0	50.2	20.0	38.9	J-100
J-118	Zone - 3	6,000.00	6,000.00	True	8,000.00	20.0	56.0	20.0	43.9	J-100
J-119	Zone - 3	6,000.00	6,000.00	True	8,000.00	20.0	61.8	20.0	48.8	J-100
J-121	Zone - 3	6,000.00	6,000.00	True	8,000.00	20.0	80.2	20.0	64.2	J-100
J-122	Zone - 3	2,000.00	2,000.00	True	8,000.00	20.0	137.7	20.0	88.2	J-100
J-123	Zone - 2	2,000.00	2,000.00	True	8,000.00	20.0	138.7	20.0	81.2	J-60
J-125	Zone - 3	2,000.00	2,000.00	True	8,000.00	20.0	138.0	20.0	88.2	J-100
J-126	Zone - 1	6,000.00	6,000.00	True	8,000.00	20.0	77.3	20.0	67.7	J-21
J-127	Zone - 3	2,000.00	2,000.00	True	8,000.00	20.0	138.2	20.0	88.2	J-100
J-129	Zone - 2	2,000.00	2,000.00	True	8,000.00	20.0	95.9	20.0	78.9	J-60

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF@ J14

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-1	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	84.1	4,783.50
J-2	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	83.5	4,785.00
J-3	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	84.4	4,783.00
J-6	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	80.9	4,791.00
J-7	Zone - 3	0.00	5,119.81	<Collection: 0 items>	Fixed	144.9	4,785.00
J-8	Zone - 3	0.00	5,119.96	<Collection: 0 items>	Fixed	141.5	4,793.00
J-10	Zone - 1	0.00	4,986.50	<Collection: 0 items>	Fixed	87.0	4,785.50
J-11	Zone - 1	3.60	4,982.45	<Collection: 1 items>	Fixed	80.5	4,796.50
J-12	Zone - 1	0.00	4,980.19	<Collection: 0 items>	Fixed	76.0	4,804.50
J-13	Zone - 1	14.72	4,975.06	<Collection: 1 items>	Fixed	69.5	4,814.50
J-14	Zone - 1	2,014.72	4,972.71	<Collection: 1 items>	Fixed	68.7	4,814.00
J-15	Zone - 1	0.00	4,980.20	<Collection: 0 items>	Fixed	75.8	4,805.00
J-16	Zone - 1	3.60	4,980.36	<Collection: 1 items>	Fixed	75.7	4,805.50
J-17	Zone - 1	0.00	4,980.77	<Collection: 0 items>	Fixed	72.2	4,814.00
J-18	Zone - 1	0.00	4,980.87	<Collection: 0 items>	Fixed	69.6	4,820.00
J-19	Zone - 1	0.00	4,980.93	<Collection: 0 items>	Fixed	68.8	4,822.00
J-20	Zone - 1	0.00	4,981.13	<Collection: 0 items>	Fixed	68.4	4,823.00
J-21	Zone - 1	0.00	4,981.28	<Collection: 0 items>	Fixed	68.9	4,822.00
J-22	Zone - 1	0.00	4,981.73	<Collection: 0 items>	Fixed	71.9	4,815.50
J-23	Zone - 1	3.60	4,981.73	<Collection: 1 items>	Fixed	71.7	4,816.00
J-24	Zone - 1	0.00	4,981.71	<Collection: 0 items>	Fixed	71.3	4,817.00
J-25	Zone - 1	3.60	4,981.66	<Collection: 1 items>	Fixed	72.1	4,815.00
J-26	Zone - 1	0.00	4,981.66	<Collection: 0 items>	Fixed	74.3	4,810.00
J-27	Zone - 1	0.00	4,981.77	<Collection: 0 items>	Fixed	72.6	4,814.00
J-28	Zone - 1	3.60	4,981.77	<Collection: 1 items>	Fixed	70.9	4,818.00
J-29	Zone - 1	3.60	4,980.20	<Collection: 1 items>	Fixed	72.8	4,812.00
J-30	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	80.0	4,793.00
J-31	Zone - 3	0.00	5,119.96	<Collection: 0 items>	Fixed	141.5	4,793.00
J-32	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	98.5	4,792.00
J-33	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	102.0	4,784.00
J-34	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	92.5	4,806.00
J-35	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	90.3	4,811.00
J-36	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	90.3	4,811.00
J-37	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	90.1	4,811.50
J-38	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	87.7	4,817.00
J-39	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	86.2	4,820.50
J-40	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	84.9	4,823.50
J-41	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	89.0	4,814.00
J-42	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	85.1	4,823.00
J-43	Zone - 2	3.60	5,019.78	<Collection: 1 items>	Fixed	87.7	4,817.00
J-44	Zone - 2	3.60	5,019.79	<Collection: 1 items>	Fixed	87.7	4,817.00
J-45	Zone - 2	3.60	5,019.80	<Collection: 1 items>	Fixed	86.7	4,819.50
J-46	Zone - 2	3.60	5,019.80	<Collection: 1 items>	Fixed	86.4	4,820.00
J-47	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	89.9	4,812.00
J-48	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	90.8	4,810.00
J-49	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	90.3	4,811.00
J-50	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	89.9	4,812.00
J-51	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	89.0	4,814.00
J-52	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	90.8	4,810.00
J-53	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	89.7	4,812.50

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF@ J14

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-54	Zone - 2	3.60	5,019.79	<Collection: 1 items>	Fixed	86.0	4,821.00
J-55	Zone - 2	3.60	5,019.79	<Collection: 1 items>	Fixed	85.1	4,823.00
J-56	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	83.0	4,828.00
J-57	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	84.1	4,825.50
J-58	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	84.1	4,825.50
J-59	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	83.2	4,827.50
J-60	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	81.2	4,832.00
J-61	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	85.6	4,822.00
J-62	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	82.5	4,829.00
J-64	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	84.7	4,824.00
J-65	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	82.1	4,830.00
J-68	Zone - 1	3.60	4,980.67	<Collection: 1 items>	Fixed	71.7	4,815.00
J-69	Zone - 1	3.60	4,980.46	<Collection: 1 items>	Fixed	74.6	4,808.00
J-70	Zone - 1	0.00	4,981.62	<Collection: 0 items>	Fixed	70.8	4,818.00
J-73	Zone - 1	3.60	4,981.80	<Collection: 1 items>	Fixed	74.3	4,810.00
J-74	Zone - 1	3.60	4,981.84	<Collection: 1 items>	Fixed	76.5	4,805.00
J-75	Zone - 1	3.60	4,981.87	<Collection: 1 items>	Fixed	78.7	4,800.00
J-76	Zone - 1	3.60	4,981.94	<Collection: 1 items>	Fixed	79.2	4,799.00
J-77	Zone - 1	3.60	4,981.94	<Collection: 1 items>	Fixed	83.0	4,790.00
J-78	Zone - 1	3.60	4,981.90	<Collection: 1 items>	Fixed	85.2	4,785.00
J-79	Zone - 1	3.60	4,981.88	<Collection: 1 items>	Fixed	87.3	4,780.00
J-80	Zone - 1	3.60	4,981.86	<Collection: 1 items>	Fixed	92.1	4,769.00
J-81	Zone - 1	3.60	4,981.84	<Collection: 1 items>	Fixed	89.9	4,774.00
J-82	Zone - 1	3.60	4,981.82	<Collection: 1 items>	Fixed	87.8	4,779.00
J-83	Zone - 1	3.60	4,981.80	<Collection: 1 items>	Fixed	85.6	4,784.00
J-84	Zone - 1	3.60	4,981.79	<Collection: 1 items>	Fixed	92.9	4,767.00
J-85	Zone - 1	3.60	4,981.77	<Collection: 1 items>	Fixed	90.8	4,772.00
J-86	Zone - 1	3.60	4,981.76	<Collection: 1 items>	Fixed	88.6	4,777.00
J-87	Zone - 1	3.60	4,981.74	<Collection: 1 items>	Fixed	86.4	4,782.00
J-88	Zone - 1	3.60	4,981.74	<Collection: 1 items>	Fixed	79.5	4,798.00
J-89	Zone - 1	3.60	4,981.73	<Collection: 1 items>	Fixed	73.4	4,812.00
J-90	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	91.2	4,809.00
J-91	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	92.9	4,805.00
J-92	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	94.6	4,801.00
J-93	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	94.4	4,801.50
J-94	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	94.2	4,802.00
J-95	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	92.5	4,806.00
J-96	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	90.8	4,810.00
J-97	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	90.3	4,811.00
J-98	Zone - 2	3.60	5,019.82	<Collection: 1 items>	Fixed	85.2	4,823.00
J-99	Zone - 2	3.60	5,019.83	<Collection: 1 items>	Fixed	83.9	4,826.00
J-100	Zone - 3	3.60	5,095.80	<Collection: 1 items>	Fixed	88.2	4,892.00
J-103	Zone - 3	3.60	5,095.81	<Collection: 1 items>	Fixed	89.9	4,888.00
J-104	Zone - 3	3.60	5,095.81	<Collection: 1 items>	Fixed	90.3	4,887.00
J-105	Zone - 3	3.60	5,095.82	<Collection: 1 items>	Fixed	90.8	4,886.00
J-106	Zone - 3	3.60	5,095.82	<Collection: 1 items>	Fixed	91.2	4,885.00
J-107	Zone - 3	3.60	5,095.83	<Collection: 1 items>	Fixed	91.6	4,884.00
J-108	Zone - 3	3.60	5,095.84	<Collection: 1 items>	Fixed	92.1	4,883.00
J-109	Zone - 3	3.60	5,095.84	<Collection: 1 items>	Fixed	92.5	4,882.00
J-110	Zone - 3	3.60	5,095.85	<Collection: 1 items>	Fixed	93.4	4,880.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF@ J14

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-111	Zone - 3	3.60	5,095.86	<Collection: 1 items>	Fixed	94.3	4,878.00
J-112	Zone - 3	3.60	5,095.87	<Collection: 1 items>	Fixed	95.1	4,876.00
J-113	Zone - 3	3.60	5,095.88	<Collection: 1 items>	Fixed	96.0	4,874.00
J-114	Zone - 3	3.60	5,095.88	<Collection: 1 items>	Fixed	96.9	4,872.00
J-115	Zone - 3	3.60	5,095.89	<Collection: 1 items>	Fixed	97.7	4,870.00
J-116	Zone - 3	3.60	5,095.90	<Collection: 1 items>	Fixed	98.6	4,868.00
J-117	Zone - 3	3.60	5,095.91	<Collection: 1 items>	Fixed	99.5	4,866.00
J-118	Zone - 3	3.60	5,095.92	<Collection: 1 items>	Fixed	100.3	4,864.00
J-119	Zone - 3	3.60	5,095.93	<Collection: 1 items>	Fixed	101.2	4,862.00
J-121	Zone - 3	3.60	5,095.97	<Collection: 1 items>	Fixed	104.3	4,855.00
J-122	Zone - 3	0.00	5,119.91	<Collection: 0 items>	Fixed	138.8	4,799.00
J-123	Zone - 2	0.00	5,119.89	<Collection: 0 items>	Fixed	140.1	4,796.00
J-125	Zone - 3	0.00	5,119.91	<Collection: 0 items>	Fixed	139.1	4,798.50
J-126	Zone - 1	3.60	4,981.96	<Collection: 1 items>	Fixed	80.5	4,796.00
J-127	Zone - 3	0.00	5,119.91	<Collection: 0 items>	Fixed	139.3	4,798.00
J-129	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	98.5	4,792.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF@ J14

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-1	1,094.21	30.0	100.0	1,305.04	0.59	0.08	Steel	0.078	5,120.00	True	5,119.92
P-2	37.82	30.0	100.0	-1,305.03	0.59	0.00	Steel	0.077	5,119.91	True	5,119.92
P-3	7.44	18.0	140.0	5.99	0.01	0.00	Asbestos Cement	0.000	5,119.91	True	5,119.91
P-4	7.39	18.0	140.0	6.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-5	461.01	18.0	140.0	-6.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-6	691.43	18.0	140.0	-4.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-7	645.24	18.0	140.0	2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-8	346.44	18.0	140.0	2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-9	1,826.43	30.0	100.0	-1,299.04	0.59	0.14	Steel	0.077	5,119.77	True	5,119.91
P-11	30.30	12.0	150.0	1,869.86	5.30	0.19	PVC	6.187	5,119.77	True	5,119.58
P-12	25.33	12.0	150.0	1,869.86	5.30	0.16	PVC	6.207	4,986.66	True	4,986.50
P-13	36.10	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,977.97	True	4,977.97
P-14	52.44	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.50	True	4,986.50
P-15	653.52	12.0	150.0	1,869.86	5.30	4.05	PVC	6.197	4,986.50	True	4,982.45
P-16	366.19	12.0	150.0	1,866.26	5.29	2.26	PVC	6.175	4,982.45	True	4,980.19
P-17	711.39	12.0	150.0	2,029.44	5.76	5.13	PVC	7.212	4,980.19	True	4,975.06
P-18	329.62	12.0	150.0	2,014.72	5.72	2.35	PVC	7.115	4,975.06	True	4,972.71
P-19	32.01	8.0	150.0	-163.18	1.04	0.02	PVC	0.488	4,980.19	True	4,980.20
P-20	307.08	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,980.20	True	4,980.20
P-21	302.29	8.0	150.0	-166.78	1.06	0.15	PVC	0.509	4,980.20	True	4,980.36
P-22	175.00	8.0	140.0	-170.38	1.09	0.10	Asbestos Cement	0.600	4,980.36	True	4,980.46
P-23	331.85	8.0	140.0	-173.98	1.11	0.21	Asbestos Cement	0.624	4,980.46	True	4,980.67
P-24	153.34	8.0	140.0	-177.58	1.13	0.10	Asbestos Cement	0.650	4,980.67	True	4,980.77
P-25	177.80	8.0	150.0	-177.58	1.13	0.10	PVC	0.571	4,980.77	True	4,980.87
P-26	101.80	8.0	150.0	-177.58	1.13	0.06	PVC	0.571	4,980.87	True	4,980.93
P-27	343.59	8.0	150.0	-177.58	1.13	0.20	PVC	0.570	4,980.93	True	4,981.13
P-28	273.59	8.0	150.0	-177.58	1.13	0.16	PVC	0.571	4,981.13	True	4,981.28
P-29	600.56	8.0	150.0	-177.58	1.13	0.34	PVC	0.571	4,981.28	True	4,981.62
P-30	549.58	8.0	150.0	-96.20	0.61	0.10	PVC	0.184	4,981.62	True	4,981.73
P-31	245.14	8.0	150.0	-39.53	0.25	0.01	PVC	0.034	4,981.73	True	4,981.73
P-32	246.24	8.0	150.0	81.38	0.52	0.03	PVC	0.135	4,981.66	True	4,981.62
P-33	381.60	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,981.66	True	4,981.66
P-34	332.48	8.0	150.0	84.98	0.54	0.05	PVC	0.145	4,981.71	True	4,981.66
P-35	191.14	8.0	150.0	84.98	0.54	0.03	PVC	0.146	4,981.73	True	4,981.71
P-36	110.24	8.0	150.0	-128.11	0.82	0.03	PVC	0.314	4,981.73	True	4,981.77
P-37	82.46	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,981.77	True	4,981.77
P-38	94.56	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,119.92	True	5,119.92
P-40	457.35	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,019.77	True	5,019.77
P-41	854.39	12.0	150.0	-19.10	0.05	0.00	PVC	0.001	5,019.77	True	5,019.77
P-42	315.19	12.0	150.0	-19.10	0.05	0.00	PVC	0.002	5,019.77	True	5,019.77
P-43	518.31	12.0	150.0	3.60	0.01	0.00	PVC	0.000	5,019.77	True	5,019.77
P-44	70.88	12.0	150.0	-22.70	0.06	0.00	PVC	0.000	5,019.77	True	5,019.77
P-45	113.04	12.0	150.0	28.80	0.08	0.00	PVC	0.000	5,019.77	True	5,019.77
P-46	167.37	12.0	150.0	19.40	0.06	0.00	PVC	0.003	5,019.77	True	5,019.77
P-47	359.22	12.0	150.0	15.80	0.04	0.00	PVC	0.001	5,019.77	True	5,019.77
P-48	52.69	12.0	150.0	12.20	0.03	0.00	PVC	0.000	5,019.77	True	5,019.77
P-49	370.87	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.77	True	5,019.77
P-50	62.99	8.0	150.0	8.60	0.05	0.00	PVC	0.000	5,019.77	True	5,019.77

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF@ J14

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-51	221.10	8.0	150.0	5.00	0.03	0.00	PVC	0.000	5,019.77	True	5,019.77
P-52	81.21	8.0	150.0	1.40	0.01	0.00	PVC	0.000	5,019.77	True	5,019.77
P-53	353.77	8.0	150.0	-2.20	0.01	0.00	PVC	0.000	5,019.77	True	5,019.77
P-54	332.21	8.0	150.0	-9.40	0.06	0.00	PVC	0.003	5,019.77	True	5,019.77
P-55	561.26	8.0	150.0	7.20	0.05	0.00	PVC	0.002	5,019.77	True	5,019.77
P-56	134.25	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.77	True	5,019.77
P-57	330.48	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.77	True	5,019.77
P-58	161.67	12.0	150.0	-51.51	0.15	0.00	PVC	0.009	5,019.77	True	5,019.77
P-59	213.49	12.0	150.0	-67.08	0.19	0.00	PVC	0.014	5,019.77	True	5,019.77
P-60	350.73	12.0	150.0	-93.60	0.27	0.01	PVC	0.024	5,019.77	True	5,019.78
P-61	286.24	12.0	150.0	-97.20	0.28	0.01	PVC	0.026	5,019.78	True	5,019.79
P-62	353.63	12.0	150.0	-108.00	0.31	0.01	PVC	0.032	5,019.79	True	5,019.80
P-63	94.38	12.0	150.0	-111.60	0.32	0.00	PVC	0.031	5,019.80	True	5,019.80
P-64	203.48	8.0	150.0	11.98	0.08	0.00	PVC	0.005	5,019.77	True	5,019.77
P-65	228.49	8.0	150.0	8.38	0.05	0.00	PVC	0.002	5,019.77	True	5,019.77
P-66	208.58	8.0	150.0	4.78	0.03	0.00	PVC	0.000	5,019.77	True	5,019.77
P-67	87.29	8.0	150.0	-15.72	0.10	0.00	PVC	0.006	5,019.77	True	5,019.77
P-68	212.45	8.0	150.0	-19.32	0.12	0.00	PVC	0.009	5,019.77	True	5,019.77
P-69	126.18	8.0	150.0	-22.92	0.15	0.00	PVC	0.015	5,019.77	True	5,019.77
P-70	140.87	8.0	150.0	16.90	0.11	0.00	PVC	0.007	5,019.77	True	5,019.77
P-72	326.41	8.0	150.0	7.20	0.05	0.00	PVC	0.001	5,019.79	True	5,019.79
P-73	185.39	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.79	True	5,019.79
P-117	722.25	12.0	150.0	-131.71	0.37	0.03	PVC	0.045	4,981.77	True	4,981.80
P-118	875.21	12.0	150.0	-135.31	0.38	0.04	PVC	0.048	4,981.80	True	4,981.84
P-119	530.70	12.0	150.0	-138.91	0.39	0.03	PVC	0.050	4,981.84	True	4,981.87
P-120	1,399.56	12.0	150.0	-142.51	0.40	0.07	PVC	0.053	4,981.87	True	4,981.94
P-122	1,136.72	12.0	150.0	99.87	0.28	0.03	PVC	0.027	4,981.94	True	4,981.90
P-123	1,042.45	12.0	150.0	96.27	0.27	0.03	PVC	0.025	4,981.90	True	4,981.88
P-124	528.52	12.0	150.0	92.67	0.26	0.01	PVC	0.024	4,981.88	True	4,981.86
P-125	1,076.20	12.0	150.0	89.07	0.25	0.02	PVC	0.022	4,981.86	True	4,981.84
P-126	866.57	12.0	150.0	85.47	0.24	0.02	PVC	0.021	4,981.84	True	4,981.82
P-127	1,176.69	12.0	150.0	81.87	0.23	0.02	PVC	0.019	4,981.82	True	4,981.80
P-128	873.65	12.0	150.0	78.27	0.22	0.02	PVC	0.017	4,981.80	True	4,981.79
P-129	910.87	12.0	150.0	74.67	0.21	0.01	PVC	0.016	4,981.79	True	4,981.77
P-130	994.16	12.0	150.0	71.07	0.20	0.01	PVC	0.015	4,981.77	True	4,981.76
P-131	1,087.30	12.0	150.0	67.47	0.19	0.01	PVC	0.013	4,981.76	True	4,981.74
P-132	602.18	12.0	150.0	63.87	0.18	0.01	PVC	0.012	4,981.74	True	4,981.74
P-133	570.66	12.0	150.0	60.27	0.17	0.01	PVC	0.010	4,981.74	True	4,981.73
P-134	422.43	12.0	150.0	56.67	0.16	0.00	PVC	0.009	4,981.73	True	4,981.73
P-135	143.84	8.0	150.0	13.30	0.08	0.00	PVC	0.007	5,019.77	True	5,019.77
P-138	590.21	12.0	150.0	15.50	0.04	0.00	PVC	0.001	5,019.77	True	5,019.76
P-139	336.82	12.0	150.0	11.90	0.03	0.00	PVC	0.000	5,019.76	True	5,019.76
P-140	331.77	12.0	150.0	8.30	0.02	0.00	PVC	0.000	5,019.76	True	5,019.76
P-141	691.41	12.0	150.0	4.70	0.01	0.00	PVC	0.001	5,019.76	True	5,019.76
P-142	600.23	12.0	150.0	1.10	0.00	0.00	PVC	0.000	5,019.76	True	5,019.76
P-143	749.15	8.0	150.0	9.70	0.06	0.00	PVC	0.003	5,019.77	True	5,019.76
P-144	262.10	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.76	True	5,019.76
P-145	150.63	12.0	150.0	-2.50	0.01	0.00	PVC	0.000	5,019.76	True	5,019.76

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF@ J14

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-146	404.83	12.0	150.0	-115.20	0.33	0.01	PVC	0.036	5,019.80	True	5,019.82
P-147	251.86	12.0	150.0	-118.80	0.34	0.01	PVC	0.037	5,019.82	True	5,019.83
P-152	628.26	16.0	150.0	-126.00	0.20	0.01	PVC	0.010	5,095.80	True	5,095.81
P-153	499.26	16.0	150.0	-129.60	0.21	0.01	PVC	0.011	5,095.81	True	5,095.81
P-154	499.14	16.0	150.0	-133.20	0.21	0.01	PVC	0.012	5,095.81	True	5,095.82
P-155	495.91	16.0	150.0	-136.80	0.22	0.01	PVC	0.012	5,095.82	True	5,095.82
P-156	498.45	16.0	150.0	-140.40	0.22	0.01	PVC	0.013	5,095.82	True	5,095.83
P-157	502.65	16.0	150.0	-144.00	0.23	0.01	PVC	0.014	5,095.83	True	5,095.84
P-158	505.16	16.0	150.0	-147.60	0.24	0.01	PVC	0.014	5,095.84	True	5,095.84
P-159	501.02	16.0	150.0	-151.20	0.24	0.01	PVC	0.015	5,095.84	True	5,095.85
P-160	504.09	16.0	150.0	-154.80	0.25	0.01	PVC	0.015	5,095.85	True	5,095.86
P-161	507.65	16.0	150.0	-158.40	0.25	0.01	PVC	0.015	5,095.86	True	5,095.87
P-162	499.19	16.0	150.0	-162.00	0.26	0.01	PVC	0.017	5,095.87	True	5,095.88
P-163	505.77	16.0	150.0	-165.60	0.26	0.01	PVC	0.016	5,095.88	True	5,095.88
P-164	500.85	16.0	150.0	-169.20	0.27	0.01	PVC	0.019	5,095.88	True	5,095.89
P-165	500.07	16.0	150.0	-172.80	0.28	0.01	PVC	0.019	5,095.89	True	5,095.90
P-166	509.76	16.0	150.0	-176.40	0.28	0.01	PVC	0.019	5,095.90	True	5,095.91
P-167	497.27	16.0	150.0	-180.00	0.29	0.01	PVC	0.020	5,095.91	True	5,095.92
P-168	498.43	16.0	150.0	-183.60	0.29	0.01	PVC	0.021	5,095.92	True	5,095.93
P-169	1,630.19	16.0	150.0	-187.20	0.30	0.04	PVC	0.022	5,095.93	True	5,095.97
P-176	3,079.47	12.0	150.0	-122.40	0.35	0.12	PVC	0.040	5,019.83	True	5,019.95
P-177	245.89	12.0	150.0	-122.40	0.35	0.01	PVC	0.040	5,095.79	True	5,095.80
P-178	1,518.48	30.0	100.0	511.02	0.23	0.02	Steel	0.014	5,119.91	True	5,119.89
P-179	5,987.75	30.0	100.0	511.02	0.23	0.08	Steel	0.014	5,119.89	True	5,119.81
P-181	111.34	30.0	100.0	511.02	0.23	0.00	Steel	0.013	5,119.91	True	5,119.91
P-182	216.90	16.0	150.0	190.81	0.30	0.00	PVC	0.023	5,119.91	True	5,119.91
P-183	2,362.21	16.0	150.0	190.80	0.30	0.05	PVC	0.022	5,096.02	True	5,095.97
P-184	275.55	12.0	150.0	-146.11	0.41	0.02	PVC	0.057	4,981.94	True	4,981.96
P-185	818.88	12.0	150.0	103.47	0.29	0.02	PVC	0.029	4,981.96	True	4,981.94
P-186	2,007.25	30.0	100.0	955.01	0.43	0.09	Steel	0.044	5,120.00	True	5,119.91
P-187	97.75	30.0	100.0	701.83	0.32	0.00	Steel	0.025	5,119.91	True	5,119.91
P-188	76.65	12.0	150.0	253.19	0.72	0.01	PVC	0.153	5,119.91	True	5,119.90
P-189	87.63	12.0	150.0	253.18	0.72	0.01	PVC	0.150	4,981.97	True	4,981.96
P-192	66.81	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,019.77	True	5,019.77
P-193	360.31	12.0	140.0	-19.11	0.05	0.00	Asbestos Cement	0.001	5,019.77	True	5,019.77
P-194	611.18	12.0	150.0	-19.10	0.05	0.00	PVC	0.002	5,019.77	True	5,019.77

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF @ J26

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-1	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	84.1	4,783.50
J-2	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	83.5	4,785.00
J-3	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	84.4	4,783.00
J-6	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	80.9	4,791.00
J-7	Zone - 3	0.00	5,119.89	<Collection: 0 items>	Fixed	144.9	4,785.00
J-8	Zone - 3	0.00	5,119.98	<Collection: 0 items>	Fixed	141.5	4,793.00
J-10	Zone - 1	0.00	4,986.64	<Collection: 0 items>	Fixed	87.0	4,785.50
J-11	Zone - 1	3.60	4,986.08	<Collection: 1 items>	Fixed	82.0	4,796.50
J-12	Zone - 1	0.00	4,985.77	<Collection: 0 items>	Fixed	78.4	4,804.50
J-13	Zone - 1	14.72	4,985.77	<Collection: 1 items>	Fixed	74.1	4,814.50
J-14	Zone - 1	14.72	4,985.77	<Collection: 1 items>	Fixed	74.3	4,814.00
J-15	Zone - 1	0.00	4,985.60	<Collection: 0 items>	Fixed	78.1	4,805.00
J-16	Zone - 1	3.60	4,983.94	<Collection: 1 items>	Fixed	77.2	4,805.50
J-17	Zone - 1	0.00	4,979.92	<Collection: 0 items>	Fixed	71.8	4,814.00
J-18	Zone - 1	0.00	4,978.97	<Collection: 0 items>	Fixed	68.8	4,820.00
J-19	Zone - 1	0.00	4,978.43	<Collection: 0 items>	Fixed	67.7	4,822.00
J-20	Zone - 1	0.00	4,976.61	<Collection: 0 items>	Fixed	66.5	4,823.00
J-21	Zone - 1	0.00	4,975.16	<Collection: 0 items>	Fixed	66.3	4,822.00
J-22	Zone - 1	0.00	4,974.11	<Collection: 0 items>	Fixed	68.6	4,815.50
J-23	Zone - 1	3.60	4,974.11	<Collection: 1 items>	Fixed	68.4	4,816.00
J-24	Zone - 1	0.00	4,971.85	<Collection: 0 items>	Fixed	67.0	4,817.00
J-25	Zone - 1	3.60	4,967.92	<Collection: 1 items>	Fixed	66.2	4,815.00
J-26	Zone - 1	2,000.00	4,948.62	<Collection: 1 items>	Fixed	60.0	4,810.00
J-27	Zone - 1	0.00	4,975.38	<Collection: 0 items>	Fixed	69.8	4,814.00
J-28	Zone - 1	3.60	4,975.38	<Collection: 1 items>	Fixed	68.1	4,818.00
J-29	Zone - 1	3.60	4,985.60	<Collection: 1 items>	Fixed	75.1	4,812.00
J-30	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	80.0	4,793.00
J-31	Zone - 3	0.00	5,119.98	<Collection: 0 items>	Fixed	141.5	4,793.00
J-32	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	98.5	4,792.00
J-33	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	102.0	4,784.00
J-34	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	92.5	4,806.00
J-35	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	90.3	4,811.00
J-36	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	90.3	4,811.00
J-37	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	90.1	4,811.50
J-38	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	87.7	4,817.00
J-39	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	86.2	4,820.50
J-40	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	84.9	4,823.50
J-41	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	89.0	4,814.00
J-42	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	85.1	4,823.00
J-43	Zone - 2	3.60	5,019.78	<Collection: 1 items>	Fixed	87.7	4,817.00
J-44	Zone - 2	3.60	5,019.79	<Collection: 1 items>	Fixed	87.7	4,817.00
J-45	Zone - 2	3.60	5,019.80	<Collection: 1 items>	Fixed	86.7	4,819.50
J-46	Zone - 2	3.60	5,019.80	<Collection: 1 items>	Fixed	86.4	4,820.00
J-47	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	89.9	4,812.00
J-48	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	90.8	4,810.00
J-49	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	90.3	4,811.00
J-50	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	89.9	4,812.00
J-51	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	89.0	4,814.00
J-52	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	90.8	4,810.00
J-53	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	89.7	4,812.50

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF @ J26

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-54	Zone - 2	3.60	5,019.79	<Collection: 1 items>	Fixed	86.0	4,821.00
J-55	Zone - 2	3.60	5,019.79	<Collection: 1 items>	Fixed	85.1	4,823.00
J-56	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	83.0	4,828.00
J-57	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	84.1	4,825.50
J-58	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	84.1	4,825.50
J-59	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	83.2	4,827.50
J-60	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	81.2	4,832.00
J-61	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	85.6	4,822.00
J-62	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	82.5	4,829.00
J-64	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	84.7	4,824.00
J-65	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	82.1	4,830.00
J-68	Zone - 1	3.60	4,980.84	<Collection: 1 items>	Fixed	71.8	4,815.00
J-69	Zone - 1	3.60	4,982.86	<Collection: 1 items>	Fixed	75.7	4,808.00
J-70	Zone - 1	0.00	4,971.98	<Collection: 0 items>	Fixed	66.6	4,818.00
J-73	Zone - 1	3.60	4,976.55	<Collection: 1 items>	Fixed	72.1	4,810.00
J-74	Zone - 1	3.60	4,977.98	<Collection: 1 items>	Fixed	74.8	4,805.00
J-75	Zone - 1	3.60	4,978.85	<Collection: 1 items>	Fixed	77.4	4,800.00
J-76	Zone - 1	3.60	4,981.16	<Collection: 1 items>	Fixed	78.8	4,799.00
J-77	Zone - 1	3.60	4,981.07	<Collection: 1 items>	Fixed	82.7	4,790.00
J-78	Zone - 1	3.60	4,980.32	<Collection: 1 items>	Fixed	84.5	4,785.00
J-79	Zone - 1	3.60	4,979.65	<Collection: 1 items>	Fixed	86.4	4,780.00
J-80	Zone - 1	3.60	4,979.31	<Collection: 1 items>	Fixed	91.0	4,769.00
J-81	Zone - 1	3.60	4,978.62	<Collection: 1 items>	Fixed	88.5	4,774.00
J-82	Zone - 1	3.60	4,978.08	<Collection: 1 items>	Fixed	86.1	4,779.00
J-83	Zone - 1	3.60	4,977.35	<Collection: 1 items>	Fixed	83.7	4,784.00
J-84	Zone - 1	3.60	4,976.81	<Collection: 1 items>	Fixed	90.8	4,767.00
J-85	Zone - 1	3.60	4,976.26	<Collection: 1 items>	Fixed	88.4	4,772.00
J-86	Zone - 1	3.60	4,975.67	<Collection: 1 items>	Fixed	86.0	4,777.00
J-87	Zone - 1	3.60	4,975.03	<Collection: 1 items>	Fixed	83.5	4,782.00
J-88	Zone - 1	3.60	4,974.68	<Collection: 1 items>	Fixed	76.4	4,798.00
J-89	Zone - 1	3.60	4,974.35	<Collection: 1 items>	Fixed	70.2	4,812.00
J-90	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	91.2	4,809.00
J-91	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	92.9	4,805.00
J-92	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	94.6	4,801.00
J-93	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	94.4	4,801.50
J-94	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	94.2	4,802.00
J-95	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	92.5	4,806.00
J-96	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	90.8	4,810.00
J-97	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	90.3	4,811.00
J-98	Zone - 2	3.60	5,019.82	<Collection: 1 items>	Fixed	85.2	4,823.00
J-99	Zone - 2	3.60	5,019.83	<Collection: 1 items>	Fixed	83.9	4,826.00
J-100	Zone - 3	3.60	5,095.80	<Collection: 1 items>	Fixed	88.2	4,892.00
J-103	Zone - 3	3.60	5,095.81	<Collection: 1 items>	Fixed	89.9	4,888.00
J-104	Zone - 3	3.60	5,095.81	<Collection: 1 items>	Fixed	90.3	4,887.00
J-105	Zone - 3	3.60	5,095.82	<Collection: 1 items>	Fixed	90.8	4,886.00
J-106	Zone - 3	3.60	5,095.82	<Collection: 1 items>	Fixed	91.2	4,885.00
J-107	Zone - 3	3.60	5,095.83	<Collection: 1 items>	Fixed	91.6	4,884.00
J-108	Zone - 3	3.60	5,095.84	<Collection: 1 items>	Fixed	92.1	4,883.00
J-109	Zone - 3	3.60	5,095.84	<Collection: 1 items>	Fixed	92.5	4,882.00
J-110	Zone - 3	3.60	5,095.85	<Collection: 1 items>	Fixed	93.4	4,880.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF @ J26

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-111	Zone - 3	3.60	5,095.86	<Collection: 1 items>	Fixed	94.3	4,878.00
J-112	Zone - 3	3.60	5,095.87	<Collection: 1 items>	Fixed	95.1	4,876.00
J-113	Zone - 3	3.60	5,095.88	<Collection: 1 items>	Fixed	96.0	4,874.00
J-114	Zone - 3	3.60	5,095.88	<Collection: 1 items>	Fixed	96.9	4,872.00
J-115	Zone - 3	3.60	5,095.89	<Collection: 1 items>	Fixed	97.7	4,870.00
J-116	Zone - 3	3.60	5,095.90	<Collection: 1 items>	Fixed	98.6	4,868.00
J-117	Zone - 3	3.60	5,095.91	<Collection: 1 items>	Fixed	99.5	4,866.00
J-118	Zone - 3	3.60	5,095.92	<Collection: 1 items>	Fixed	100.3	4,864.00
J-119	Zone - 3	3.60	5,095.93	<Collection: 1 items>	Fixed	101.2	4,862.00
J-121	Zone - 3	3.60	5,095.97	<Collection: 1 items>	Fixed	104.3	4,855.00
J-122	Zone - 3	0.00	5,119.84	<Collection: 0 items>	Fixed	138.8	4,799.00
J-123	Zone - 2	0.00	5,119.85	<Collection: 0 items>	Fixed	140.1	4,796.00
J-125	Zone - 3	0.00	5,119.84	<Collection: 0 items>	Fixed	139.0	4,798.50
J-126	Zone - 1	3.60	4,981.62	<Collection: 1 items>	Fixed	80.3	4,796.00
J-127	Zone - 3	0.00	5,119.84	<Collection: 0 items>	Fixed	139.2	4,798.00
J-129	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	98.5	4,792.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF @ J26

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-1	1,094.21	30.0	100.0	955.10	0.43	0.05	Steel	0.044	5,120.00	True	5,119.95
P-2	37.82	30.0	100.0	-955.10	0.43	0.00	Steel	0.039	5,119.95	True	5,119.95
P-3	7.44	18.0	140.0	6.00	0.01	0.00	Asbestos Cement	0.000	5,119.95	True	5,119.95
P-4	7.39	18.0	140.0	6.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-5	461.01	18.0	140.0	-6.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-6	691.43	18.0	140.0	-4.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-7	645.24	18.0	140.0	2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-8	346.44	18.0	140.0	2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-9	1,826.43	30.0	100.0	-949.10	0.43	0.08	Steel	0.043	5,119.87	True	5,119.95
P-11	30.30	12.0	150.0	639.05	1.81	0.03	PVC	0.854	5,119.87	True	5,119.85
P-12	25.33	12.0	150.0	639.06	1.81	0.02	PVC	0.848	4,986.66	True	4,986.64
P-13	36.10	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,977.97	True	4,977.97
P-14	52.44	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.64	True	4,986.64
P-15	653.52	12.0	150.0	639.05	1.81	0.55	PVC	0.849	4,986.64	True	4,986.08
P-16	366.19	12.0	150.0	635.45	1.80	0.31	PVC	0.839	4,986.08	True	4,985.77
P-17	711.39	12.0	150.0	29.44	0.08	0.00	PVC	0.003	4,985.77	True	4,985.77
P-18	329.62	12.0	150.0	14.72	0.04	0.00	PVC	0.000	4,985.77	True	4,985.77
P-19	32.01	8.0	150.0	606.01	3.87	0.18	PVC	5.552	4,985.77	True	4,985.60
P-20	307.08	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,985.60	True	4,985.60
P-21	302.29	8.0	150.0	602.41	3.85	1.66	PVC	5.481	4,985.60	True	4,983.94
P-22	175.00	8.0	140.0	598.81	3.82	1.08	Asbestos Cement	6.161	4,983.94	True	4,982.86
P-23	331.85	8.0	140.0	595.21	3.80	2.02	Asbestos Cement	6.092	4,982.86	True	4,980.84
P-24	153.34	8.0	140.0	591.61	3.78	0.92	Asbestos Cement	6.025	4,980.84	True	4,979.92
P-25	177.80	8.0	150.0	591.61	3.78	0.94	PVC	5.300	4,979.92	True	4,978.97
P-26	101.80	8.0	150.0	591.61	3.78	0.54	PVC	5.300	4,978.97	True	4,978.43
P-27	343.59	8.0	150.0	591.61	3.78	1.82	PVC	5.302	4,978.43	True	4,976.61
P-28	273.59	8.0	150.0	591.61	3.78	1.45	PVC	5.301	4,976.61	True	4,975.16
P-29	600.56	8.0	150.0	591.61	3.78	3.18	PVC	5.301	4,975.16	True	4,971.98
P-30	549.58	8.0	150.0	-499.84	3.19	2.13	PVC	3.880	4,971.98	True	4,974.11
P-31	245.14	8.0	150.0	14.32	0.09	0.00	PVC	0.006	4,974.11	True	4,974.11
P-32	246.24	8.0	150.0	-1,091.46	6.97	4.06	PVC	16.478	4,967.92	True	4,971.98
P-33	381.60	8.0	150.0	2,000.00	12.77	19.30	PVC	50.589	4,967.92	True	4,948.62
P-34	332.48	8.0	150.0	912.14	5.82	3.93	PVC	11.819	4,971.85	True	4,967.92
P-35	191.14	8.0	150.0	912.14	5.82	2.26	PVC	11.818	4,974.11	True	4,971.85
P-36	110.24	8.0	150.0	-901.42	5.75	1.27	PVC	11.565	4,974.11	True	4,975.38
P-37	82.46	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,975.38	True	4,975.38
P-38	94.56	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,119.95	True	5,119.95
P-40	457.35	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,019.77	True	5,019.77
P-41	854.39	12.0	150.0	-19.11	0.05	0.00	PVC	0.001	5,019.77	True	5,019.77
P-42	315.19	12.0	150.0	-19.11	0.05	0.00	PVC	0.002	5,019.77	True	5,019.77
P-43	518.31	12.0	150.0	3.60	0.01	0.00	PVC	0.000	5,019.77	True	5,019.77
P-44	70.88	12.0	150.0	-22.71	0.06	0.00	PVC	0.000	5,019.77	True	5,019.77
P-45	113.04	12.0	150.0	28.80	0.08	0.00	PVC	0.000	5,019.77	True	5,019.77
P-46	167.37	12.0	150.0	19.40	0.06	0.00	PVC	0.003	5,019.77	True	5,019.77
P-47	359.22	12.0	150.0	15.80	0.04	0.00	PVC	0.001	5,019.77	True	5,019.77
P-48	52.69	12.0	150.0	12.20	0.03	0.00	PVC	0.000	5,019.77	True	5,019.77
P-49	370.87	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.77	True	5,019.77
P-50	62.99	8.0	150.0	8.60	0.05	0.00	PVC	0.000	5,019.77	True	5,019.77

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF @ J26

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-51	221.10	8.0	150.0	5.00	0.03	0.00	PVC	0.000	5,019.77	True	5,019.77
P-52	81.21	8.0	150.0	1.40	0.01	0.00	PVC	0.000	5,019.77	True	5,019.77
P-53	353.77	8.0	150.0	-2.20	0.01	0.00	PVC	0.000	5,019.77	True	5,019.77
P-54	332.21	8.0	150.0	-9.40	0.06	0.00	PVC	0.003	5,019.77	True	5,019.77
P-55	561.26	8.0	150.0	7.20	0.05	0.00	PVC	0.002	5,019.77	True	5,019.77
P-56	134.25	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.77	True	5,019.77
P-57	330.48	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.77	True	5,019.77
P-58	161.67	12.0	150.0	-51.51	0.15	0.00	PVC	0.009	5,019.77	True	5,019.77
P-59	213.49	12.0	150.0	-67.08	0.19	0.00	PVC	0.014	5,019.77	True	5,019.77
P-60	350.73	12.0	150.0	-93.60	0.27	0.01	PVC	0.024	5,019.77	True	5,019.78
P-61	286.24	12.0	150.0	-97.20	0.28	0.01	PVC	0.026	5,019.78	True	5,019.79
P-62	353.63	12.0	150.0	-108.00	0.31	0.01	PVC	0.032	5,019.79	True	5,019.80
P-63	94.38	12.0	150.0	-111.60	0.32	0.00	PVC	0.031	5,019.80	True	5,019.80
P-64	203.48	8.0	150.0	11.98	0.08	0.00	PVC	0.005	5,019.77	True	5,019.77
P-65	228.49	8.0	150.0	8.38	0.05	0.00	PVC	0.002	5,019.77	True	5,019.77
P-66	208.58	8.0	150.0	4.78	0.03	0.00	PVC	0.000	5,019.77	True	5,019.77
P-67	87.29	8.0	150.0	-15.72	0.10	0.00	PVC	0.006	5,019.77	True	5,019.77
P-68	212.45	8.0	150.0	-19.32	0.12	0.00	PVC	0.009	5,019.77	True	5,019.77
P-69	126.18	8.0	150.0	-22.92	0.15	0.00	PVC	0.015	5,019.77	True	5,019.77
P-70	140.87	8.0	150.0	16.90	0.11	0.00	PVC	0.007	5,019.77	True	5,019.77
P-72	326.41	8.0	150.0	7.20	0.05	0.00	PVC	0.001	5,019.79	True	5,019.79
P-73	185.39	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.79	True	5,019.79
P-117	722.25	12.0	150.0	-905.02	2.57	1.17	PVC	1.616	4,975.38	True	4,976.55
P-118	875.21	12.0	150.0	-908.62	2.58	1.42	PVC	1.628	4,976.55	True	4,977.98
P-119	530.70	12.0	150.0	-912.22	2.59	0.87	PVC	1.640	4,977.98	True	4,978.85
P-120	1,399.56	12.0	150.0	-915.82	2.60	2.31	PVC	1.652	4,978.85	True	4,981.16
P-122	1,136.72	12.0	150.0	557.36	1.58	0.75	PVC	0.659	4,981.07	True	4,980.32
P-123	1,042.45	12.0	150.0	553.76	1.57	0.68	PVC	0.651	4,980.32	True	4,979.65
P-124	528.52	12.0	150.0	550.16	1.56	0.34	PVC	0.642	4,979.65	True	4,979.31
P-125	1,076.20	12.0	150.0	546.56	1.55	0.68	PVC	0.636	4,979.31	True	4,978.62
P-126	866.57	12.0	150.0	542.96	1.54	0.54	PVC	0.627	4,978.62	True	4,978.08
P-127	1,176.69	12.0	150.0	539.36	1.53	0.73	PVC	0.620	4,978.08	True	4,977.35
P-128	873.65	12.0	150.0	535.76	1.52	0.53	PVC	0.612	4,977.35	True	4,976.81
P-129	910.87	12.0	150.0	532.16	1.51	0.55	PVC	0.605	4,976.81	True	4,976.26
P-130	994.16	12.0	150.0	528.56	1.50	0.59	PVC	0.597	4,976.26	True	4,975.67
P-131	1,087.30	12.0	150.0	524.96	1.49	0.64	PVC	0.590	4,975.67	True	4,975.03
P-132	602.18	12.0	150.0	521.36	1.48	0.35	PVC	0.582	4,975.03	True	4,974.68
P-133	570.66	12.0	150.0	517.76	1.47	0.33	PVC	0.574	4,974.68	True	4,974.35
P-134	422.43	12.0	150.0	514.16	1.46	0.24	PVC	0.568	4,974.35	True	4,974.11
P-135	143.84	8.0	150.0	13.30	0.08	0.00	PVC	0.007	5,019.77	True	5,019.77
P-138	590.21	12.0	150.0	15.50	0.04	0.00	PVC	0.001	5,019.77	True	5,019.76
P-139	336.82	12.0	150.0	11.90	0.03	0.00	PVC	0.000	5,019.76	True	5,019.76
P-140	331.77	12.0	150.0	8.30	0.02	0.00	PVC	0.000	5,019.76	True	5,019.76
P-141	691.41	12.0	150.0	4.70	0.01	0.00	PVC	0.001	5,019.76	True	5,019.76
P-142	600.23	12.0	150.0	1.10	0.00	0.00	PVC	0.000	5,019.76	True	5,019.76
P-143	749.15	8.0	150.0	9.70	0.06	0.00	PVC	0.003	5,019.77	True	5,019.76
P-144	262.10	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.76	True	5,019.76
P-145	150.63	12.0	150.0	-2.50	0.01	0.00	PVC	0.000	5,019.76	True	5,019.76

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF @ J26

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-146	404.83	12.0	150.0	-115.20	0.33	0.01	PVC	0.036	5,019.80	True	5,019.82
P-147	251.86	12.0	150.0	-118.80	0.34	0.01	PVC	0.037	5,019.82	True	5,019.83
P-152	628.26	16.0	150.0	-126.01	0.20	0.01	PVC	0.010	5,095.80	True	5,095.81
P-153	499.26	16.0	150.0	-129.61	0.21	0.01	PVC	0.011	5,095.81	True	5,095.81
P-154	499.14	16.0	150.0	-133.21	0.21	0.01	PVC	0.012	5,095.81	True	5,095.82
P-155	495.91	16.0	150.0	-136.81	0.22	0.01	PVC	0.012	5,095.82	True	5,095.82
P-156	498.45	16.0	150.0	-140.41	0.22	0.01	PVC	0.013	5,095.82	True	5,095.83
P-157	502.65	16.0	150.0	-144.01	0.23	0.01	PVC	0.014	5,095.83	True	5,095.84
P-158	505.16	16.0	150.0	-147.61	0.24	0.01	PVC	0.014	5,095.84	True	5,095.84
P-159	501.02	16.0	150.0	-151.21	0.24	0.01	PVC	0.015	5,095.84	True	5,095.85
P-160	504.09	16.0	150.0	-154.81	0.25	0.01	PVC	0.015	5,095.85	True	5,095.86
P-161	507.65	16.0	150.0	-158.41	0.25	0.01	PVC	0.016	5,095.86	True	5,095.87
P-162	499.19	16.0	150.0	-162.01	0.26	0.01	PVC	0.017	5,095.87	True	5,095.88
P-163	505.77	16.0	150.0	-165.61	0.26	0.01	PVC	0.016	5,095.88	True	5,095.88
P-164	500.85	16.0	150.0	-169.21	0.27	0.01	PVC	0.019	5,095.88	True	5,095.89
P-165	500.07	16.0	150.0	-172.81	0.28	0.01	PVC	0.019	5,095.89	True	5,095.90
P-166	509.76	16.0	150.0	-176.41	0.28	0.01	PVC	0.019	5,095.90	True	5,095.91
P-167	497.27	16.0	150.0	-180.01	0.29	0.01	PVC	0.020	5,095.91	True	5,095.92
P-168	498.43	16.0	150.0	-183.61	0.29	0.01	PVC	0.021	5,095.92	True	5,095.93
P-169	1,630.19	16.0	150.0	-187.21	0.30	0.04	PVC	0.022	5,095.93	True	5,095.97
P-176	3,079.47	12.0	150.0	-122.40	0.35	0.12	PVC	0.040	5,019.83	True	5,019.95
P-177	245.89	12.0	150.0	-122.41	0.35	0.01	PVC	0.040	5,095.79	True	5,095.80
P-178	1,518.48	30.0	100.0	-350.87	0.16	0.01	Steel	0.007	5,119.84	True	5,119.85
P-179	5,987.75	30.0	100.0	-350.87	0.16	0.04	Steel	0.007	5,119.85	True	5,119.89
P-181	111.34	30.0	100.0	-350.87	0.16	0.00	Steel	0.009	5,119.84	True	5,119.84
P-182	216.90	16.0	150.0	190.80	0.30	0.00	PVC	0.023	5,119.84	True	5,119.83
P-183	2,362.21	16.0	150.0	190.81	0.30	0.05	PVC	0.022	5,096.02	True	5,095.97
P-184	275.55	12.0	150.0	-919.42	2.61	0.46	PVC	1.664	4,981.16	True	4,981.62
P-185	818.88	12.0	150.0	560.96	1.59	0.55	PVC	0.667	4,981.62	True	4,981.07
P-186	2,007.25	30.0	100.0	1,323.92	0.60	0.16	Steel	0.080	5,120.00	True	5,119.84
P-187	97.75	30.0	100.0	-160.06	0.07	0.00	Steel	0.000	5,119.84	True	5,119.84
P-188	76.65	12.0	150.0	1,483.99	4.21	0.31	PVC	4.039	5,119.84	True	5,119.53
P-189	87.63	12.0	150.0	1,483.99	4.21	0.35	PVC	4.040	4,981.97	True	4,981.62
P-192	66.81	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,019.77	True	5,019.77
P-193	360.31	12.0	140.0	-19.11	0.05	0.00	Asbestos Cement	0.001	5,019.77	True	5,019.77
P-194	611.18	12.0	150.0	-19.10	0.05	0.00	PVC	0.002	5,019.77	True	5,019.77

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J42

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-1	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	84.1	4,783.50
J-2	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	83.5	4,785.00
J-3	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	84.4	4,783.00
J-6	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	80.9	4,791.00
J-7	Zone - 3	0.00	5,119.66	<Collection: 0 items>	Fixed	144.8	4,785.00
J-8	Zone - 3	0.00	5,119.67	<Collection: 0 items>	Fixed	141.3	4,793.00
J-10	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	87.0	4,785.50
J-11	Zone - 1	3.60	4,986.63	<Collection: 1 items>	Fixed	82.3	4,796.50
J-12	Zone - 1	0.00	4,986.62	<Collection: 0 items>	Fixed	78.8	4,804.50
J-13	Zone - 1	14.72	4,986.61	<Collection: 1 items>	Fixed	74.5	4,814.50
J-14	Zone - 1	14.72	4,986.61	<Collection: 1 items>	Fixed	74.7	4,814.00
J-15	Zone - 1	0.00	4,986.61	<Collection: 0 items>	Fixed	78.6	4,805.00
J-16	Zone - 1	3.60	4,986.57	<Collection: 1 items>	Fixed	78.3	4,805.50
J-17	Zone - 1	0.00	4,986.47	<Collection: 0 items>	Fixed	74.6	4,814.00
J-18	Zone - 1	0.00	4,986.45	<Collection: 0 items>	Fixed	72.0	4,820.00
J-19	Zone - 1	0.00	4,986.44	<Collection: 0 items>	Fixed	71.1	4,822.00
J-20	Zone - 1	0.00	4,986.40	<Collection: 0 items>	Fixed	70.7	4,823.00
J-21	Zone - 1	0.00	4,986.36	<Collection: 0 items>	Fixed	71.1	4,822.00
J-22	Zone - 1	0.00	4,986.27	<Collection: 0 items>	Fixed	73.9	4,815.50
J-23	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	73.7	4,816.00
J-24	Zone - 1	0.00	4,986.28	<Collection: 0 items>	Fixed	73.2	4,817.00
J-25	Zone - 1	3.60	4,986.29	<Collection: 1 items>	Fixed	74.1	4,815.00
J-26	Zone - 1	0.00	4,986.29	<Collection: 0 items>	Fixed	76.3	4,810.00
J-27	Zone - 1	0.00	4,986.27	<Collection: 0 items>	Fixed	74.5	4,814.00
J-28	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	72.8	4,818.00
J-29	Zone - 1	3.60	4,986.61	<Collection: 1 items>	Fixed	75.5	4,812.00
J-30	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	80.0	4,793.00
J-31	Zone - 3	0.00	5,119.67	<Collection: 0 items>	Fixed	141.3	4,793.00
J-32	Zone - 2	0.00	5,011.46	<Collection: 0 items>	Fixed	94.9	4,792.00
J-33	Zone - 2	0.00	5,011.46	<Collection: 0 items>	Fixed	98.4	4,784.00
J-34	Zone - 2	0.00	4,998.77	<Collection: 0 items>	Fixed	83.4	4,806.00
J-35	Zone - 2	0.00	4,994.09	<Collection: 0 items>	Fixed	79.2	4,811.00
J-36	Zone - 2	3.60	4,994.09	<Collection: 1 items>	Fixed	79.2	4,811.00
J-37	Zone - 2	0.00	4,993.04	<Collection: 0 items>	Fixed	78.5	4,811.50
J-38	Zone - 2	0.00	4,993.04	<Collection: 0 items>	Fixed	76.2	4,817.00
J-39	Zone - 2	3.60	4,993.04	<Collection: 1 items>	Fixed	74.6	4,820.50
J-40	Zone - 2	0.00	4,993.04	<Collection: 0 items>	Fixed	73.4	4,823.50
J-41	Zone - 2	3.60	4,990.69	<Collection: 1 items>	Fixed	76.4	4,814.00
J-42	Zone - 2	6,003.60	4,987.07	<Collection: 1 items>	Fixed	71.0	4,823.00
J-43	Zone - 2	3.60	4,989.41	<Collection: 1 items>	Fixed	74.6	4,817.00
J-44	Zone - 2	3.60	4,991.33	<Collection: 1 items>	Fixed	75.4	4,817.00
J-45	Zone - 2	3.60	4,993.72	<Collection: 1 items>	Fixed	75.4	4,819.50
J-46	Zone - 2	3.60	4,994.36	<Collection: 1 items>	Fixed	75.4	4,820.00
J-47	Zone - 2	3.60	4,990.92	<Collection: 1 items>	Fixed	77.4	4,812.00
J-48	Zone - 2	3.60	4,991.18	<Collection: 1 items>	Fixed	78.4	4,810.00
J-49	Zone - 2	3.60	4,991.43	<Collection: 1 items>	Fixed	78.1	4,811.00
J-50	Zone - 2	3.60	4,990.53	<Collection: 1 items>	Fixed	77.2	4,812.00
J-51	Zone - 2	3.60	4,988.35	<Collection: 1 items>	Fixed	75.4	4,814.00
J-52	Zone - 2	3.60	4,993.84	<Collection: 1 items>	Fixed	79.5	4,810.00
J-53	Zone - 2	3.60	5,009.31	<Collection: 1 items>	Fixed	85.2	4,812.50

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J42

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-54	Zone - 2	3.60	4,991.33	<Collection: 1 items>	Fixed	73.7	4,821.00
J-55	Zone - 2	3.60	4,991.33	<Collection: 1 items>	Fixed	72.8	4,823.00
J-56	Zone - 2	3.60	4,993.04	<Collection: 1 items>	Fixed	71.4	4,828.00
J-57	Zone - 2	3.60	4,993.04	<Collection: 1 items>	Fixed	72.5	4,825.50
J-58	Zone - 2	3.60	4,993.04	<Collection: 1 items>	Fixed	72.5	4,825.50
J-59	Zone - 2	3.60	4,993.04	<Collection: 1 items>	Fixed	71.6	4,827.50
J-60	Zone - 2	3.60	4,993.04	<Collection: 1 items>	Fixed	69.7	4,832.00
J-61	Zone - 2	0.00	4,993.04	<Collection: 0 items>	Fixed	74.0	4,822.00
J-62	Zone - 2	0.00	4,993.04	<Collection: 0 items>	Fixed	71.0	4,829.00
J-64	Zone - 2	3.60	4,993.04	<Collection: 1 items>	Fixed	73.1	4,824.00
J-65	Zone - 2	3.60	4,993.04	<Collection: 1 items>	Fixed	70.5	4,830.00
J-68	Zone - 1	3.60	4,986.49	<Collection: 1 items>	Fixed	74.2	4,815.00
J-69	Zone - 1	3.60	4,986.54	<Collection: 1 items>	Fixed	77.2	4,808.00
J-70	Zone - 1	0.00	4,986.29	<Collection: 0 items>	Fixed	72.8	4,818.00
J-73	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	76.3	4,810.00
J-74	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	78.4	4,805.00
J-75	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	80.6	4,800.00
J-76	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	81.0	4,799.00
J-77	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	84.9	4,790.00
J-78	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	87.1	4,785.00
J-79	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	89.2	4,780.00
J-80	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	94.0	4,769.00
J-81	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	91.8	4,774.00
J-82	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	89.7	4,779.00
J-83	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	87.5	4,784.00
J-84	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	94.9	4,767.00
J-85	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	92.7	4,772.00
J-86	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	90.5	4,777.00
J-87	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	88.4	4,782.00
J-88	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	81.5	4,798.00
J-89	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	75.4	4,812.00
J-90	Zone - 2	3.60	4,996.32	<Collection: 1 items>	Fixed	81.0	4,809.00
J-91	Zone - 2	3.60	5,015.99	<Collection: 1 items>	Fixed	91.3	4,805.00
J-92	Zone - 2	3.60	5,014.51	<Collection: 1 items>	Fixed	92.4	4,801.00
J-93	Zone - 2	3.60	5,013.67	<Collection: 1 items>	Fixed	91.8	4,801.50
J-94	Zone - 2	3.60	5,012.85	<Collection: 1 items>	Fixed	91.2	4,802.00
J-95	Zone - 2	3.60	5,011.15	<Collection: 1 items>	Fixed	88.8	4,806.00
J-96	Zone - 2	3.60	5,009.68	<Collection: 1 items>	Fixed	86.4	4,810.00
J-97	Zone - 2	3.60	5,009.31	<Collection: 1 items>	Fixed	85.8	4,811.00
J-98	Zone - 2	3.60	4,997.12	<Collection: 1 items>	Fixed	75.3	4,823.00
J-99	Zone - 2	3.60	4,998.84	<Collection: 1 items>	Fixed	74.8	4,826.00
J-100	Zone - 3	3.60	5,073.80	<Collection: 1 items>	Fixed	78.7	4,892.00
J-103	Zone - 3	3.60	5,074.86	<Collection: 1 items>	Fixed	80.8	4,888.00
J-104	Zone - 3	3.60	5,075.71	<Collection: 1 items>	Fixed	81.6	4,887.00
J-105	Zone - 3	3.60	5,076.56	<Collection: 1 items>	Fixed	82.4	4,886.00
J-106	Zone - 3	3.60	5,077.41	<Collection: 1 items>	Fixed	83.2	4,885.00
J-107	Zone - 3	3.60	5,078.27	<Collection: 1 items>	Fixed	84.0	4,884.00
J-108	Zone - 3	3.60	5,079.13	<Collection: 1 items>	Fixed	84.9	4,883.00
J-109	Zone - 3	3.60	5,080.01	<Collection: 1 items>	Fixed	85.7	4,882.00
J-110	Zone - 3	3.60	5,080.87	<Collection: 1 items>	Fixed	86.9	4,880.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J42

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-111	Zone - 3	3.60	5,081.75	<Collection: 1 items>	Fixed	88.2	4,878.00
J-112	Zone - 3	3.60	5,082.64	<Collection: 1 items>	Fixed	89.4	4,876.00
J-113	Zone - 3	3.60	5,083.51	<Collection: 1 items>	Fixed	90.6	4,874.00
J-114	Zone - 3	3.60	5,084.40	<Collection: 1 items>	Fixed	91.9	4,872.00
J-115	Zone - 3	3.60	5,085.28	<Collection: 1 items>	Fixed	93.1	4,870.00
J-116	Zone - 3	3.60	5,086.17	<Collection: 1 items>	Fixed	94.4	4,868.00
J-117	Zone - 3	3.60	5,087.07	<Collection: 1 items>	Fixed	95.6	4,866.00
J-118	Zone - 3	3.60	5,087.96	<Collection: 1 items>	Fixed	96.9	4,864.00
J-119	Zone - 3	3.60	5,088.85	<Collection: 1 items>	Fixed	98.1	4,862.00
J-121	Zone - 3	3.60	5,091.77	<Collection: 1 items>	Fixed	102.4	4,855.00
J-122	Zone - 3	0.00	5,119.66	<Collection: 0 items>	Fixed	138.7	4,799.00
J-123	Zone - 2	0.00	5,119.66	<Collection: 0 items>	Fixed	140.0	4,796.00
J-125	Zone - 3	0.00	5,119.66	<Collection: 0 items>	Fixed	139.0	4,798.50
J-126	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	82.3	4,796.00
J-127	Zone - 3	0.00	5,119.67	<Collection: 0 items>	Fixed	139.2	4,798.00
J-129	Zone - 2	0.00	5,017.53	<Collection: 0 items>	Fixed	97.6	4,792.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J42

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-1	1,094.21	30.0	100.0	3,838.10	1.74	0.63	Steel	0.573	5,120.00	True	5,119.37
P-2	37.82	30.0	100.0	309.68	0.14	0.00	Steel	0.013	5,119.37	True	5,119.37
P-3	7.44	18.0	140.0	6.00	0.01	0.00	Asbestos Cement	0.000	5,119.37	True	5,119.37
P-4	7.39	18.0	140.0	6.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-5	461.01	18.0	140.0	-6.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-6	691.43	18.0	140.0	-4.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-7	645.24	18.0	140.0	2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-8	346.44	18.0	140.0	2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-9	1,826.43	30.0	100.0	315.68	0.14	0.01	Steel	0.006	5,119.38	True	5,119.37
P-11	30.30	12.0	150.0	123.05	0.35	0.00	PVC	0.048	5,119.38	True	5,119.38
P-12	25.33	12.0	150.0	123.05	0.35	0.00	PVC	0.039	4,986.66	True	4,986.66
P-13	36.10	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,977.97	True	4,977.97
P-14	52.44	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-15	653.52	12.0	150.0	123.04	0.35	0.03	PVC	0.040	4,986.66	True	4,986.63
P-16	366.19	12.0	150.0	119.44	0.34	0.01	PVC	0.037	4,986.63	True	4,986.62
P-17	711.39	12.0	150.0	29.44	0.08	0.00	PVC	0.003	4,986.62	True	4,986.61
P-18	329.62	12.0	150.0	14.72	0.04	0.00	PVC	0.001	4,986.61	True	4,986.61
P-19	32.01	8.0	150.0	90.00	0.57	0.01	PVC	0.168	4,986.62	True	4,986.61
P-20	307.08	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,986.61	True	4,986.61
P-21	302.29	8.0	150.0	86.40	0.55	0.05	PVC	0.150	4,986.61	True	4,986.57
P-22	175.00	8.0	140.0	82.80	0.53	0.03	Asbestos Cement	0.159	4,986.57	True	4,986.54
P-23	331.85	8.0	140.0	79.20	0.51	0.05	Asbestos Cement	0.144	4,986.54	True	4,986.49
P-24	153.34	8.0	140.0	75.60	0.48	0.02	Asbestos Cement	0.134	4,986.49	True	4,986.47
P-25	177.80	8.0	150.0	75.60	0.48	0.02	PVC	0.118	4,986.47	True	4,986.45
P-26	101.80	8.0	150.0	75.60	0.48	0.01	PVC	0.115	4,986.45	True	4,986.44
P-27	343.59	8.0	150.0	75.60	0.48	0.04	PVC	0.118	4,986.44	True	4,986.40
P-28	273.59	8.0	150.0	75.60	0.48	0.03	PVC	0.118	4,986.40	True	4,986.36
P-29	600.56	8.0	150.0	75.60	0.48	0.07	PVC	0.117	4,986.36	True	4,986.29
P-30	549.58	8.0	150.0	39.83	0.25	0.02	PVC	0.036	4,986.29	True	4,986.27
P-31	245.14	8.0	150.0	4.76	0.03	0.00	PVC	0.000	4,986.27	True	4,986.27
P-32	246.24	8.0	150.0	-35.77	0.23	0.01	PVC	0.030	4,986.29	True	4,986.29
P-33	381.60	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.29	True	4,986.29
P-34	332.48	8.0	150.0	-32.17	0.21	0.01	PVC	0.023	4,986.28	True	4,986.29
P-35	191.14	8.0	150.0	-32.17	0.21	0.00	PVC	0.026	4,986.27	True	4,986.28
P-36	110.24	8.0	150.0	33.33	0.21	0.00	PVC	0.027	4,986.27	True	4,986.27
P-37	82.46	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,986.27	True	4,986.27
P-38	94.56	12.0	140.0	4,147.79	11.77	2.91	Asbestos Cement	30.795	5,119.37	True	5,116.46
P-40	457.35	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,011.46	True	5,011.46
P-41	854.39	12.0	150.0	2,997.10	8.50	12.69	PVC	14.848	5,011.46	True	4,998.77
P-42	315.19	12.0	150.0	2,997.10	8.50	4.68	PVC	14.847	4,998.77	True	4,994.09
P-43	518.31	12.0	150.0	3.60	0.01	0.00	PVC	0.000	4,994.09	True	4,994.09
P-44	70.88	12.0	150.0	2,993.50	8.49	1.05	PVC	14.817	4,994.09	True	4,993.04
P-45	113.04	12.0	150.0	28.80	0.08	0.00	PVC	0.000	4,993.04	True	4,993.04
P-46	167.37	12.0	150.0	19.40	0.06	0.00	PVC	0.003	4,993.04	True	4,993.04
P-47	359.22	12.0	150.0	15.80	0.04	0.00	PVC	0.000	4,993.04	True	4,993.04
P-48	52.69	12.0	150.0	12.20	0.03	0.00	PVC	0.000	4,993.04	True	4,993.04
P-49	370.87	8.0	150.0	3.60	0.02	0.00	PVC	0.001	4,993.04	True	4,993.04
P-50	62.99	8.0	150.0	8.60	0.05	0.00	PVC	0.008	4,993.04	True	4,993.04

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J42

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-51	221.10	8.0	150.0	5.00	0.03	0.00	PVC	0.000	4,993.04	True	4,993.04
P-52	81.21	8.0	150.0	1.40	0.01	0.00	PVC	0.000	4,993.04	True	4,993.04
P-53	353.77	8.0	150.0	-2.20	0.01	0.00	PVC	0.000	4,993.04	True	4,993.04
P-54	332.21	8.0	150.0	-9.40	0.06	0.00	PVC	0.003	4,993.04	True	4,993.04
P-55	561.26	8.0	150.0	7.20	0.05	0.00	PVC	0.002	4,993.04	True	4,993.04
P-56	134.25	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,993.04	True	4,993.04
P-57	330.48	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,993.04	True	4,993.04
P-58	161.67	12.0	150.0	2,964.70	8.41	2.35	PVC	14.551	4,993.04	True	4,990.69
P-59	213.49	12.0	150.0	3,217.48	9.13	3.61	PVC	16.932	4,990.69	True	4,987.07
P-60	350.73	12.0	150.0	-1,945.81	5.52	2.34	PVC	6.671	4,987.07	True	4,989.41
P-61	286.24	12.0	150.0	-1,949.41	5.53	1.92	PVC	6.694	4,989.41	True	4,991.33
P-62	353.63	12.0	150.0	-1,960.21	5.56	2.39	PVC	6.764	4,991.33	True	4,993.72
P-63	94.38	12.0	150.0	-1,963.81	5.57	0.64	PVC	6.783	4,993.72	True	4,994.36
P-64	203.48	8.0	150.0	-256.38	1.64	0.23	PVC	1.128	4,990.69	True	4,990.92
P-65	228.49	8.0	150.0	-259.98	1.66	0.26	PVC	1.156	4,990.92	True	4,991.18
P-66	208.58	8.0	150.0	-263.58	1.68	0.25	PVC	1.185	4,991.18	True	4,991.43
P-67	87.29	8.0	150.0	847.51	5.41	0.90	PVC	10.315	4,991.43	True	4,990.53
P-68	212.45	8.0	150.0	843.91	5.39	2.17	PVC	10.232	4,990.53	True	4,988.35
P-69	126.18	8.0	150.0	840.31	5.36	1.28	PVC	10.154	4,988.35	True	4,987.07
P-70	140.87	8.0	150.0	-1,114.69	7.11	2.41	PVC	17.137	4,991.43	True	4,993.84
P-72	326.41	8.0	150.0	7.20	0.05	0.00	PVC	0.001	4,991.33	True	4,991.33
P-73	185.39	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,991.33	True	4,991.33
P-117	722.25	12.0	150.0	29.73	0.08	0.00	PVC	0.003	4,986.27	True	4,986.27
P-118	875.21	12.0	150.0	26.13	0.07	0.00	PVC	0.002	4,986.27	True	4,986.27
P-119	530.70	12.0	150.0	22.53	0.06	0.00	PVC	0.002	4,986.27	True	4,986.27
P-120	1,399.56	12.0	150.0	18.93	0.05	0.00	PVC	0.001	4,986.27	True	4,986.26
P-122	1,136.72	12.0	150.0	8.13	0.02	0.00	PVC	0.000	4,986.26	True	4,986.26
P-123	1,042.45	12.0	150.0	4.53	0.01	0.00	PVC	0.000	4,986.26	True	4,986.26
P-124	528.52	12.0	150.0	0.93	0.00	0.00	PVC	0.000	4,986.26	True	4,986.26
P-125	1,076.20	12.0	150.0	-2.67	0.01	0.00	PVC	0.000	4,986.26	True	4,986.26
P-126	866.57	12.0	150.0	-6.27	0.02	0.00	PVC	0.001	4,986.26	True	4,986.26
P-127	1,176.69	12.0	150.0	-9.87	0.03	0.00	PVC	0.000	4,986.26	True	4,986.26
P-128	873.65	12.0	150.0	-13.47	0.04	0.00	PVC	0.001	4,986.26	True	4,986.26
P-129	910.87	12.0	150.0	-17.07	0.05	0.00	PVC	0.001	4,986.26	True	4,986.27
P-130	994.16	12.0	150.0	-20.67	0.06	0.00	PVC	0.001	4,986.27	True	4,986.27
P-131	1,087.30	12.0	150.0	-24.27	0.07	0.00	PVC	0.002	4,986.27	True	4,986.27
P-132	602.18	12.0	150.0	-27.87	0.08	0.00	PVC	0.002	4,986.27	True	4,986.27
P-133	570.66	12.0	150.0	-31.47	0.09	0.00	PVC	0.003	4,986.27	True	4,986.27
P-134	422.43	12.0	150.0	-35.07	0.10	0.00	PVC	0.005	4,986.27	True	4,986.27
P-135	143.84	8.0	150.0	-1,118.29	7.14	2.48	PVC	17.238	4,993.84	True	4,996.32
P-138	590.21	12.0	150.0	1,147.09	3.25	1.48	PVC	2.508	5,015.99	True	5,014.51
P-139	336.82	12.0	150.0	1,143.49	3.24	0.84	PVC	2.492	5,014.51	True	5,013.67
P-140	331.77	12.0	150.0	1,139.89	3.23	0.82	PVC	2.478	5,013.67	True	5,012.85
P-141	691.41	12.0	150.0	1,136.29	3.22	1.70	PVC	2.463	5,012.85	True	5,011.15
P-142	600.23	12.0	150.0	1,132.69	3.21	1.47	PVC	2.449	5,011.15	True	5,009.68
P-143	749.15	8.0	150.0	-1,121.89	7.16	12.99	PVC	17.340	4,996.32	True	5,009.31
P-144	262.10	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,009.31	True	5,009.31
P-145	150.63	12.0	150.0	1,129.09	3.20	0.37	PVC	2.434	5,009.68	True	5,009.31

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J42

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-146	404.83	12.0	150.0	-1,967.41	5.58	2.76	PVC	6.810	4,994.36	True	4,997.12
P-147	251.86	12.0	150.0	-1,971.01	5.59	1.72	PVC	6.832	4,997.12	True	4,998.84
P-152	628.26	16.0	150.0	-1,978.21	3.16	1.06	PVC	1.694	5,073.80	True	5,074.86
P-153	499.26	16.0	150.0	-1,981.81	3.16	0.85	PVC	1.700	5,074.86	True	5,075.71
P-154	499.14	16.0	150.0	-1,985.41	3.17	0.85	PVC	1.706	5,075.71	True	5,076.56
P-155	495.91	16.0	150.0	-1,989.02	3.17	0.85	PVC	1.710	5,076.56	True	5,077.41
P-156	498.45	16.0	150.0	-1,992.61	3.18	0.86	PVC	1.717	5,077.41	True	5,078.27
P-157	502.65	16.0	150.0	-1,996.21	3.19	0.87	PVC	1.723	5,078.27	True	5,079.13
P-158	505.16	16.0	150.0	-1,999.81	3.19	0.87	PVC	1.728	5,079.13	True	5,080.01
P-159	501.02	16.0	150.0	-2,003.41	3.20	0.87	PVC	1.734	5,080.01	True	5,080.87
P-160	504.09	16.0	150.0	-2,007.01	3.20	0.88	PVC	1.741	5,080.87	True	5,081.75
P-161	507.65	16.0	150.0	-2,010.61	3.21	0.89	PVC	1.746	5,081.75	True	5,082.64
P-162	499.19	16.0	150.0	-2,014.21	3.21	0.87	PVC	1.751	5,082.64	True	5,083.51
P-163	505.77	16.0	150.0	-2,017.81	3.22	0.89	PVC	1.758	5,083.51	True	5,084.40
P-164	500.85	16.0	150.0	-2,021.41	3.23	0.88	PVC	1.763	5,084.40	True	5,085.28
P-165	500.07	16.0	150.0	-2,025.01	3.23	0.88	PVC	1.769	5,085.28	True	5,086.17
P-166	509.76	16.0	150.0	-2,028.61	3.24	0.90	PVC	1.775	5,086.17	True	5,087.07
P-167	497.27	16.0	150.0	-2,032.21	3.24	0.89	PVC	1.781	5,087.07	True	5,087.96
P-168	498.43	16.0	150.0	-2,035.81	3.25	0.89	PVC	1.786	5,087.96	True	5,088.85
P-169	1,630.19	16.0	150.0	-2,039.41	3.25	2.92	PVC	1.792	5,088.85	True	5,091.77
P-176	3,079.47	12.0	150.0	-1,974.61	5.60	21.11	PVC	6.856	4,998.84	True	5,019.95
P-177	245.89	12.0	150.0	-1,974.61	5.60	1.69	PVC	6.855	5,072.11	True	5,073.80
P-178	1,518.48	30.0	100.0	-103.78	0.05	0.00	Steel	0.001	5,119.66	True	5,119.66
P-179	5,987.75	30.0	100.0	-103.78	0.05	0.00	Steel	0.001	5,119.66	True	5,119.66
P-181	111.34	30.0	100.0	-103.78	0.05	0.00	Steel	0.000	5,119.66	True	5,119.66
P-182	216.90	16.0	150.0	2,043.01	3.26	0.39	PVC	1.799	5,119.66	True	5,119.27
P-183	2,362.21	16.0	150.0	2,043.01	3.26	4.25	PVC	1.798	5,096.02	True	5,091.77
P-184	275.55	12.0	150.0	15.33	0.04	0.00	PVC	0.002	4,986.26	True	4,986.26
P-185	818.88	12.0	150.0	11.73	0.03	0.00	PVC	0.001	4,986.26	True	4,986.26
P-186	2,007.25	30.0	100.0	1,939.24	0.88	0.33	Steel	0.162	5,120.00	True	5,119.67
P-187	97.75	30.0	100.0	1,939.24	0.88	0.02	Steel	0.160	5,119.67	True	5,119.66
P-188	76.65	12.0	150.0	0.00	0.00	0.00	PVC	0.000	5,119.67	True	5,119.67
P-189	87.63	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.26	True	4,986.26
P-192	66.81	12.0	140.0	4,147.79	11.77	2.06	Asbestos Cement	30.797	5,019.59	True	5,017.53
P-193	360.31	12.0	140.0	2,997.10	8.50	6.08	Asbestos Cement	16.871	5,017.53	True	5,011.46
P-194	611.18	12.0	150.0	-1,150.69	3.26	1.54	PVC	2.521	5,015.99	True	5,017.53

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF@ J53

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-1	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	84.1	4,783.50
J-2	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	83.5	4,785.00
J-3	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	84.4	4,783.00
J-6	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	80.9	4,791.00
J-7	Zone - 3	0.00	5,119.94	<Collection: 0 items>	Fixed	144.9	4,785.00
J-8	Zone - 3	0.00	5,119.94	<Collection: 0 items>	Fixed	141.5	4,793.00
J-10	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	87.0	4,785.50
J-11	Zone - 1	3.60	4,986.63	<Collection: 1 items>	Fixed	82.3	4,796.50
J-12	Zone - 1	0.00	4,986.62	<Collection: 0 items>	Fixed	78.8	4,804.50
J-13	Zone - 1	14.72	4,986.61	<Collection: 1 items>	Fixed	74.5	4,814.50
J-14	Zone - 1	14.72	4,986.61	<Collection: 1 items>	Fixed	74.7	4,814.00
J-15	Zone - 1	0.00	4,986.61	<Collection: 0 items>	Fixed	78.6	4,805.00
J-16	Zone - 1	3.60	4,986.57	<Collection: 1 items>	Fixed	78.3	4,805.50
J-17	Zone - 1	0.00	4,986.47	<Collection: 0 items>	Fixed	74.6	4,814.00
J-18	Zone - 1	0.00	4,986.45	<Collection: 0 items>	Fixed	72.0	4,820.00
J-19	Zone - 1	0.00	4,986.44	<Collection: 0 items>	Fixed	71.1	4,822.00
J-20	Zone - 1	0.00	4,986.40	<Collection: 0 items>	Fixed	70.7	4,823.00
J-21	Zone - 1	0.00	4,986.36	<Collection: 0 items>	Fixed	71.1	4,822.00
J-22	Zone - 1	0.00	4,986.27	<Collection: 0 items>	Fixed	73.9	4,815.50
J-23	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	73.7	4,816.00
J-24	Zone - 1	0.00	4,986.28	<Collection: 0 items>	Fixed	73.2	4,817.00
J-25	Zone - 1	3.60	4,986.29	<Collection: 1 items>	Fixed	74.1	4,815.00
J-26	Zone - 1	0.00	4,986.29	<Collection: 0 items>	Fixed	76.3	4,810.00
J-27	Zone - 1	0.00	4,986.27	<Collection: 0 items>	Fixed	74.5	4,814.00
J-28	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	72.8	4,818.00
J-29	Zone - 1	3.60	4,986.61	<Collection: 1 items>	Fixed	75.5	4,812.00
J-30	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	80.0	4,793.00
J-31	Zone - 3	0.00	5,119.94	<Collection: 0 items>	Fixed	141.5	4,793.00
J-32	Zone - 2	0.00	5,019.00	<Collection: 0 items>	Fixed	98.2	4,792.00
J-33	Zone - 2	0.00	5,019.00	<Collection: 0 items>	Fixed	101.7	4,784.00
J-34	Zone - 2	0.00	5,018.63	<Collection: 0 items>	Fixed	92.0	4,806.00
J-35	Zone - 2	0.00	5,018.49	<Collection: 0 items>	Fixed	89.8	4,811.00
J-36	Zone - 2	3.60	5,018.49	<Collection: 1 items>	Fixed	89.8	4,811.00
J-37	Zone - 2	0.00	5,018.46	<Collection: 0 items>	Fixed	89.5	4,811.50
J-38	Zone - 2	0.00	5,018.46	<Collection: 0 items>	Fixed	87.2	4,817.00
J-39	Zone - 2	3.60	5,018.46	<Collection: 1 items>	Fixed	85.6	4,820.50
J-40	Zone - 2	0.00	5,018.46	<Collection: 0 items>	Fixed	84.4	4,823.50
J-41	Zone - 2	3.60	5,018.40	<Collection: 1 items>	Fixed	88.4	4,814.00
J-42	Zone - 2	3.60	5,018.40	<Collection: 1 items>	Fixed	84.5	4,823.00
J-43	Zone - 2	3.60	5,018.50	<Collection: 1 items>	Fixed	87.2	4,817.00
J-44	Zone - 2	3.60	5,018.58	<Collection: 1 items>	Fixed	87.2	4,817.00
J-45	Zone - 2	3.60	5,018.69	<Collection: 1 items>	Fixed	86.2	4,819.50
J-46	Zone - 2	3.60	5,018.72	<Collection: 1 items>	Fixed	86.0	4,820.00
J-47	Zone - 2	3.60	5,018.02	<Collection: 1 items>	Fixed	89.1	4,812.00
J-48	Zone - 2	3.60	5,017.59	<Collection: 1 items>	Fixed	89.8	4,810.00
J-49	Zone - 2	3.60	5,017.21	<Collection: 1 items>	Fixed	89.2	4,811.00
J-50	Zone - 2	3.60	5,017.45	<Collection: 1 items>	Fixed	88.9	4,812.00
J-51	Zone - 2	3.60	5,018.04	<Collection: 1 items>	Fixed	88.3	4,814.00
J-52	Zone - 2	3.60	5,016.07	<Collection: 1 items>	Fixed	89.2	4,810.00
J-53	Zone - 2	2,003.60	4,995.66	<Collection: 1 items>	Fixed	79.2	4,812.50

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF@ J53

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-54	Zone - 2	3.60	5,018.58	<Collection: 1 items>	Fixed	85.5	4,821.00
J-55	Zone - 2	3.60	5,018.58	<Collection: 1 items>	Fixed	84.6	4,823.00
J-56	Zone - 2	3.60	5,018.46	<Collection: 1 items>	Fixed	82.4	4,828.00
J-57	Zone - 2	3.60	5,018.46	<Collection: 1 items>	Fixed	83.5	4,825.50
J-58	Zone - 2	3.60	5,018.46	<Collection: 1 items>	Fixed	83.5	4,825.50
J-59	Zone - 2	3.60	5,018.46	<Collection: 1 items>	Fixed	82.6	4,827.50
J-60	Zone - 2	3.60	5,018.46	<Collection: 1 items>	Fixed	80.7	4,832.00
J-61	Zone - 2	0.00	5,018.46	<Collection: 0 items>	Fixed	85.0	4,822.00
J-62	Zone - 2	0.00	5,018.46	<Collection: 0 items>	Fixed	82.0	4,829.00
J-64	Zone - 2	3.60	5,018.46	<Collection: 1 items>	Fixed	84.1	4,824.00
J-65	Zone - 2	3.60	5,018.46	<Collection: 1 items>	Fixed	81.5	4,830.00
J-68	Zone - 1	3.60	4,986.49	<Collection: 1 items>	Fixed	74.2	4,815.00
J-69	Zone - 1	3.60	4,986.54	<Collection: 1 items>	Fixed	77.2	4,808.00
J-70	Zone - 1	0.00	4,986.29	<Collection: 0 items>	Fixed	72.8	4,818.00
J-73	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	76.3	4,810.00
J-74	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	78.4	4,805.00
J-75	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	80.6	4,800.00
J-76	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	81.0	4,799.00
J-77	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	84.9	4,790.00
J-78	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	87.1	4,785.00
J-79	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	89.2	4,780.00
J-80	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	94.0	4,769.00
J-81	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	91.8	4,774.00
J-82	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	89.7	4,779.00
J-83	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	87.5	4,784.00
J-84	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	94.9	4,767.00
J-85	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	92.7	4,772.00
J-86	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	90.5	4,777.00
J-87	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	88.4	4,782.00
J-88	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	81.5	4,798.00
J-89	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	75.4	4,812.00
J-90	Zone - 2	3.60	5,014.92	<Collection: 1 items>	Fixed	89.1	4,809.00
J-91	Zone - 2	3.60	5,017.27	<Collection: 1 items>	Fixed	91.8	4,805.00
J-92	Zone - 2	3.60	5,015.43	<Collection: 1 items>	Fixed	92.8	4,801.00
J-93	Zone - 2	3.60	5,014.39	<Collection: 1 items>	Fixed	92.1	4,801.50
J-94	Zone - 2	3.60	5,013.37	<Collection: 1 items>	Fixed	91.4	4,802.00
J-95	Zone - 2	3.60	5,011.25	<Collection: 1 items>	Fixed	88.8	4,806.00
J-96	Zone - 2	3.60	5,009.42	<Collection: 1 items>	Fixed	86.3	4,810.00
J-97	Zone - 2	3.60	5,008.96	<Collection: 1 items>	Fixed	85.6	4,811.00
J-98	Zone - 2	3.60	5,018.85	<Collection: 1 items>	Fixed	84.7	4,823.00
J-99	Zone - 2	3.60	5,018.93	<Collection: 1 items>	Fixed	83.5	4,826.00
J-100	Zone - 3	3.60	5,094.76	<Collection: 1 items>	Fixed	87.7	4,892.00
J-103	Zone - 3	3.60	5,094.82	<Collection: 1 items>	Fixed	89.5	4,888.00
J-104	Zone - 3	3.60	5,094.86	<Collection: 1 items>	Fixed	89.9	4,887.00
J-105	Zone - 3	3.60	5,094.90	<Collection: 1 items>	Fixed	90.4	4,886.00
J-106	Zone - 3	3.60	5,094.94	<Collection: 1 items>	Fixed	90.8	4,885.00
J-107	Zone - 3	3.60	5,094.99	<Collection: 1 items>	Fixed	91.3	4,884.00
J-108	Zone - 3	3.60	5,095.03	<Collection: 1 items>	Fixed	91.7	4,883.00
J-109	Zone - 3	3.60	5,095.08	<Collection: 1 items>	Fixed	92.2	4,882.00
J-110	Zone - 3	3.60	5,095.13	<Collection: 1 items>	Fixed	93.1	4,880.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF@ J53

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-111	Zone - 3	3.60	5,095.17	<Collection: 1 items>	Fixed	94.0	4,878.00
J-112	Zone - 3	3.60	5,095.22	<Collection: 1 items>	Fixed	94.8	4,876.00
J-113	Zone - 3	3.60	5,095.27	<Collection: 1 items>	Fixed	95.7	4,874.00
J-114	Zone - 3	3.60	5,095.32	<Collection: 1 items>	Fixed	96.6	4,872.00
J-115	Zone - 3	3.60	5,095.37	<Collection: 1 items>	Fixed	97.5	4,870.00
J-116	Zone - 3	3.60	5,095.42	<Collection: 1 items>	Fixed	98.4	4,868.00
J-117	Zone - 3	3.60	5,095.48	<Collection: 1 items>	Fixed	99.3	4,866.00
J-118	Zone - 3	3.60	5,095.53	<Collection: 1 items>	Fixed	100.2	4,864.00
J-119	Zone - 3	3.60	5,095.58	<Collection: 1 items>	Fixed	101.1	4,862.00
J-121	Zone - 3	3.60	5,095.76	<Collection: 1 items>	Fixed	104.2	4,855.00
J-122	Zone - 3	0.00	5,119.96	<Collection: 0 items>	Fixed	138.9	4,799.00
J-123	Zone - 2	0.00	5,119.96	<Collection: 0 items>	Fixed	140.2	4,796.00
J-125	Zone - 3	0.00	5,119.96	<Collection: 0 items>	Fixed	139.1	4,798.50
J-126	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	82.3	4,796.00
J-127	Zone - 3	0.00	5,119.96	<Collection: 0 items>	Fixed	139.3	4,798.00
J-129	Zone - 2	0.00	5,019.18	<Collection: 0 items>	Fixed	98.3	4,792.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF@ J53

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-1	1,094.21	30.0	100.0	1,536.42	0.70	0.12	Steel	0.105	5,120.00	True	5,119.88
P-2	37.82	30.0	100.0	201.94	0.09	0.00	Steel	0.000	5,119.88	True	5,119.88
P-3	7.44	18.0	140.0	6.00	0.01	0.00	Asbestos Cement	0.000	5,119.88	True	5,119.88
P-4	7.39	18.0	140.0	6.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-5	461.01	18.0	140.0	-6.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-6	691.43	18.0	140.0	-4.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-7	645.24	18.0	140.0	2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-8	346.44	18.0	140.0	2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-9	1,826.43	30.0	100.0	207.95	0.09	0.00	Steel	0.003	5,119.89	True	5,119.88
P-11	30.30	12.0	150.0	123.04	0.35	0.00	PVC	0.032	5,119.89	True	5,119.89
P-12	25.33	12.0	150.0	123.04	0.35	0.00	PVC	0.039	4,986.66	True	4,986.66
P-13	36.10	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,977.97	True	4,977.97
P-14	52.44	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-15	653.52	12.0	150.0	123.04	0.35	0.03	PVC	0.040	4,986.66	True	4,986.63
P-16	366.19	12.0	150.0	119.44	0.34	0.01	PVC	0.037	4,986.63	True	4,986.62
P-17	711.39	12.0	150.0	29.44	0.08	0.00	PVC	0.003	4,986.62	True	4,986.61
P-18	329.62	12.0	150.0	14.72	0.04	0.00	PVC	0.001	4,986.61	True	4,986.61
P-19	32.01	8.0	150.0	90.00	0.57	0.01	PVC	0.168	4,986.62	True	4,986.61
P-20	307.08	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,986.61	True	4,986.61
P-21	302.29	8.0	150.0	86.40	0.55	0.05	PVC	0.150	4,986.61	True	4,986.57
P-22	175.00	8.0	140.0	82.80	0.53	0.03	Asbestos Cement	0.159	4,986.57	True	4,986.54
P-23	331.85	8.0	140.0	79.20	0.51	0.05	Asbestos Cement	0.144	4,986.54	True	4,986.49
P-24	153.34	8.0	140.0	75.60	0.48	0.02	Asbestos Cement	0.134	4,986.49	True	4,986.47
P-25	177.80	8.0	150.0	75.60	0.48	0.02	PVC	0.118	4,986.47	True	4,986.45
P-26	101.80	8.0	150.0	75.60	0.48	0.01	PVC	0.115	4,986.45	True	4,986.44
P-27	343.59	8.0	150.0	75.60	0.48	0.04	PVC	0.118	4,986.44	True	4,986.40
P-28	273.59	8.0	150.0	75.60	0.48	0.03	PVC	0.118	4,986.40	True	4,986.36
P-29	600.56	8.0	150.0	75.60	0.48	0.07	PVC	0.117	4,986.36	True	4,986.29
P-30	549.58	8.0	150.0	39.83	0.25	0.02	PVC	0.036	4,986.29	True	4,986.27
P-31	245.14	8.0	150.0	4.76	0.03	0.00	PVC	0.002	4,986.27	True	4,986.27
P-32	246.24	8.0	150.0	-35.77	0.23	0.01	PVC	0.030	4,986.29	True	4,986.29
P-33	381.60	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.29	True	4,986.29
P-34	332.48	8.0	150.0	-32.17	0.21	0.01	PVC	0.023	4,986.28	True	4,986.29
P-35	191.14	8.0	150.0	-32.17	0.21	0.00	PVC	0.026	4,986.27	True	4,986.28
P-36	110.24	8.0	150.0	33.32	0.21	0.00	PVC	0.027	4,986.27	True	4,986.27
P-37	82.46	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,986.27	True	4,986.27
P-38	94.56	12.0	140.0	1,738.36	4.93	0.58	Asbestos Cement	6.150	5,119.88	True	5,119.30
P-40	457.35	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,019.00	True	5,019.00
P-41	854.39	12.0	150.0	445.73	1.26	0.37	PVC	0.435	5,019.00	True	5,018.63
P-42	315.19	12.0	150.0	445.73	1.26	0.14	PVC	0.435	5,018.63	True	5,018.49
P-43	518.31	12.0	150.0	3.60	0.01	0.00	PVC	0.000	5,018.49	True	5,018.49
P-44	70.88	12.0	150.0	442.13	1.25	0.03	PVC	0.427	5,018.49	True	5,018.46
P-45	113.04	12.0	150.0	28.80	0.08	0.00	PVC	0.004	5,018.46	True	5,018.46
P-46	167.37	12.0	150.0	19.40	0.06	0.00	PVC	0.000	5,018.46	True	5,018.46
P-47	359.22	12.0	150.0	15.80	0.04	0.00	PVC	0.001	5,018.46	True	5,018.46
P-48	52.69	12.0	150.0	12.20	0.03	0.00	PVC	0.000	5,018.46	True	5,018.46
P-49	370.87	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,018.46	True	5,018.46
P-50	62.99	8.0	150.0	8.60	0.05	0.00	PVC	0.000	5,018.46	True	5,018.46

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF@ J53

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-51	221.10	8.0	150.0	5.00	0.03	0.00	PVC	0.002	5,018.46	True	5,018.46
P-52	81.21	8.0	150.0	1.40	0.01	0.00	PVC	0.000	5,018.46	True	5,018.46
P-53	353.77	8.0	150.0	-2.20	0.01	0.00	PVC	0.001	5,018.46	True	5,018.46
P-54	332.21	8.0	150.0	-9.40	0.06	0.00	PVC	0.001	5,018.46	True	5,018.46
P-55	561.26	8.0	150.0	7.20	0.05	0.00	PVC	0.002	5,018.46	True	5,018.46
P-56	134.25	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,018.46	True	5,018.46
P-57	330.48	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,018.46	True	5,018.46
P-58	161.67	12.0	150.0	413.33	1.17	0.06	PVC	0.378	5,018.46	True	5,018.40
P-59	213.49	12.0	150.0	70.01	0.20	0.00	PVC	0.016	5,018.40	True	5,018.40
P-60	350.73	12.0	150.0	-355.24	1.01	0.10	PVC	0.287	5,018.40	True	5,018.50
P-61	286.24	12.0	150.0	-358.84	1.02	0.08	PVC	0.292	5,018.50	True	5,018.58
P-62	353.63	12.0	150.0	-369.64	1.05	0.11	PVC	0.308	5,018.58	True	5,018.69
P-63	94.38	12.0	150.0	-373.24	1.06	0.03	PVC	0.310	5,018.69	True	5,018.72
P-64	203.48	8.0	150.0	339.72	2.17	0.39	PVC	1.898	5,018.40	True	5,018.02
P-65	228.49	8.0	150.0	336.12	2.15	0.43	PVC	1.861	5,018.02	True	5,017.59
P-66	208.58	8.0	150.0	332.52	2.12	0.38	PVC	1.824	5,017.59	True	5,017.21
P-67	87.29	8.0	150.0	-414.45	2.65	0.24	PVC	2.741	5,017.21	True	5,017.45
P-68	212.45	8.0	150.0	-418.05	2.67	0.59	PVC	2.788	5,017.45	True	5,018.04
P-69	126.18	8.0	150.0	-421.65	2.69	0.36	PVC	2.829	5,018.04	True	5,018.40
P-70	140.87	8.0	150.0	743.37	4.74	1.14	PVC	8.090	5,017.21	True	5,016.07
P-72	326.41	8.0	150.0	7.20	0.05	0.00	PVC	0.001	5,018.58	True	5,018.58
P-73	185.39	8.0	150.0	3.60	0.02	0.00	PVC	0.003	5,018.58	True	5,018.58
P-117	722.25	12.0	150.0	29.73	0.08	0.00	PVC	0.003	4,986.27	True	4,986.27
P-118	875.21	12.0	150.0	26.13	0.07	0.00	PVC	0.002	4,986.27	True	4,986.27
P-119	530.70	12.0	150.0	22.53	0.06	0.00	PVC	0.002	4,986.27	True	4,986.27
P-120	1,399.56	12.0	150.0	18.93	0.05	0.00	PVC	0.001	4,986.27	True	4,986.26
P-122	1,136.72	12.0	150.0	8.13	0.02	0.00	PVC	0.000	4,986.26	True	4,986.26
P-123	1,042.45	12.0	150.0	4.53	0.01	0.00	PVC	0.000	4,986.26	True	4,986.26
P-124	528.52	12.0	150.0	0.93	0.00	0.00	PVC	0.000	4,986.26	True	4,986.26
P-125	1,076.20	12.0	150.0	-2.67	0.01	0.00	PVC	0.000	4,986.26	True	4,986.26
P-126	866.57	12.0	150.0	-6.27	0.02	0.00	PVC	0.001	4,986.26	True	4,986.26
P-127	1,176.69	12.0	150.0	-9.87	0.03	0.00	PVC	0.000	4,986.26	True	4,986.26
P-128	873.65	12.0	150.0	-13.47	0.04	0.00	PVC	0.001	4,986.26	True	4,986.26
P-129	910.87	12.0	150.0	-17.07	0.05	0.00	PVC	0.001	4,986.26	True	4,986.27
P-130	994.16	12.0	150.0	-20.67	0.06	0.00	PVC	0.001	4,986.27	True	4,986.27
P-131	1,087.30	12.0	150.0	-24.27	0.07	0.00	PVC	0.002	4,986.27	True	4,986.27
P-132	602.18	12.0	150.0	-27.87	0.08	0.00	PVC	0.002	4,986.27	True	4,986.27
P-133	570.66	12.0	150.0	-31.47	0.09	0.00	PVC	0.003	4,986.27	True	4,986.27
P-134	422.43	12.0	150.0	-35.07	0.10	0.00	PVC	0.003	4,986.27	True	4,986.27
P-135	143.84	8.0	150.0	739.77	4.72	1.15	PVC	8.018	5,016.07	True	5,014.92
P-138	590.21	12.0	150.0	1,289.03	3.66	1.84	PVC	3.111	5,017.27	True	5,015.43
P-139	336.82	12.0	150.0	1,285.43	3.65	1.04	PVC	3.097	5,015.43	True	5,014.39
P-140	331.77	12.0	150.0	1,281.83	3.64	1.02	PVC	3.079	5,014.39	True	5,013.37
P-141	691.41	12.0	150.0	1,278.23	3.63	2.12	PVC	3.064	5,013.37	True	5,011.25
P-142	600.23	12.0	150.0	1,274.63	3.62	1.83	PVC	3.047	5,011.25	True	5,009.42
P-143	749.15	8.0	150.0	736.17	4.70	5.95	PVC	7.947	5,014.92	True	5,008.96
P-144	262.10	8.0	150.0	2,003.60	12.79	13.30	PVC	50.758	5,008.96	True	4,995.66
P-145	150.63	12.0	150.0	1,271.03	3.61	0.46	PVC	3.034	5,009.42	True	5,008.96

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF@ J53

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-146	404.83	12.0	150.0	-376.84	1.07	0.13	PVC	0.320	5,018.72	True	5,018.85
P-147	251.86	12.0	150.0	-380.44	1.08	0.08	PVC	0.324	5,018.85	True	5,018.93
P-152	628.26	16.0	150.0	-387.64	0.62	0.05	PVC	0.083	5,094.76	True	5,094.82
P-153	499.26	16.0	150.0	-391.24	0.62	0.04	PVC	0.084	5,094.82	True	5,094.86
P-154	499.14	16.0	150.0	-394.84	0.63	0.04	PVC	0.085	5,094.86	True	5,094.90
P-155	495.91	16.0	150.0	-398.44	0.64	0.04	PVC	0.088	5,094.90	True	5,094.94
P-156	498.45	16.0	150.0	-402.04	0.64	0.04	PVC	0.088	5,094.94	True	5,094.99
P-157	502.65	16.0	150.0	-405.64	0.65	0.05	PVC	0.090	5,094.99	True	5,095.03
P-158	505.16	16.0	150.0	-409.24	0.65	0.05	PVC	0.092	5,095.03	True	5,095.08
P-159	501.02	16.0	150.0	-412.84	0.66	0.05	PVC	0.093	5,095.08	True	5,095.13
P-160	504.09	16.0	150.0	-416.44	0.66	0.05	PVC	0.095	5,095.13	True	5,095.17
P-161	507.65	16.0	150.0	-420.04	0.67	0.05	PVC	0.096	5,095.17	True	5,095.22
P-162	499.19	16.0	150.0	-423.64	0.68	0.05	PVC	0.097	5,095.22	True	5,095.27
P-163	505.77	16.0	150.0	-427.24	0.68	0.05	PVC	0.099	5,095.27	True	5,095.32
P-164	500.85	16.0	150.0	-430.84	0.69	0.05	PVC	0.100	5,095.32	True	5,095.37
P-165	500.07	16.0	150.0	-434.44	0.69	0.05	PVC	0.103	5,095.37	True	5,095.42
P-166	509.76	16.0	150.0	-438.04	0.70	0.05	PVC	0.103	5,095.42	True	5,095.48
P-167	497.27	16.0	150.0	-441.64	0.70	0.05	PVC	0.106	5,095.48	True	5,095.53
P-168	498.43	16.0	150.0	-445.24	0.71	0.05	PVC	0.107	5,095.53	True	5,095.58
P-169	1,630.19	16.0	150.0	-448.84	0.72	0.18	PVC	0.109	5,095.58	True	5,095.76
P-176	3,079.47	12.0	150.0	-384.04	1.09	1.02	PVC	0.330	5,018.93	True	5,019.95
P-177	245.89	12.0	150.0	-384.04	1.09	0.08	PVC	0.330	5,094.68	True	5,094.76
P-178	1,518.48	30.0	100.0	174.36	0.08	0.00	Steel	0.002	5,119.96	True	5,119.96
P-179	5,987.75	30.0	100.0	174.36	0.08	0.01	Steel	0.002	5,119.96	True	5,119.94
P-181	111.34	30.0	100.0	174.36	0.08	0.00	Steel	0.004	5,119.96	True	5,119.96
P-182	216.90	16.0	150.0	452.44	0.72	0.02	PVC	0.110	5,119.96	True	5,119.93
P-183	2,362.21	16.0	150.0	452.44	0.72	0.26	PVC	0.110	5,096.02	True	5,095.76
P-184	275.55	12.0	150.0	15.33	0.04	0.00	PVC	0.000	4,986.26	True	4,986.26
P-185	818.88	12.0	150.0	11.73	0.03	0.00	PVC	0.001	4,986.26	True	4,986.26
P-186	2,007.25	30.0	100.0	626.80	0.28	0.04	Steel	0.020	5,120.00	True	5,119.96
P-187	97.75	30.0	100.0	626.80	0.28	0.00	Steel	0.020	5,119.96	True	5,119.96
P-188	76.65	12.0	150.0	0.00	0.00	0.00	PVC	0.000	5,119.96	True	5,119.96
P-189	87.63	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.26	True	4,986.26
P-192	66.81	12.0	140.0	1,738.37	4.93	0.41	Asbestos Cement	6.154	5,019.59	True	5,019.18
P-193	360.31	12.0	140.0	445.73	1.26	0.18	Asbestos Cement	0.495	5,019.18	True	5,019.00
P-194	611.18	12.0	150.0	-1,292.63	3.67	1.91	PVC	3.128	5,017.27	True	5,019.18

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF@ J55

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-1	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	84.1	4,783.50
J-2	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	83.5	4,785.00
J-3	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	84.4	4,783.00
J-6	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	80.9	4,791.00
J-7	Zone - 3	0.00	5,119.95	<Collection: 0 items>	Fixed	144.9	4,785.00
J-8	Zone - 3	0.00	5,119.95	<Collection: 0 items>	Fixed	141.5	4,793.00
J-10	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	87.0	4,785.50
J-11	Zone - 1	3.60	4,986.63	<Collection: 1 items>	Fixed	82.3	4,796.50
J-12	Zone - 1	0.00	4,986.62	<Collection: 0 items>	Fixed	78.8	4,804.50
J-13	Zone - 1	14.72	4,986.61	<Collection: 1 items>	Fixed	74.5	4,814.50
J-14	Zone - 1	14.72	4,986.61	<Collection: 1 items>	Fixed	74.7	4,814.00
J-15	Zone - 1	0.00	4,986.61	<Collection: 0 items>	Fixed	78.6	4,805.00
J-16	Zone - 1	3.60	4,986.57	<Collection: 1 items>	Fixed	78.3	4,805.50
J-17	Zone - 1	0.00	4,986.47	<Collection: 0 items>	Fixed	74.6	4,814.00
J-18	Zone - 1	0.00	4,986.45	<Collection: 0 items>	Fixed	72.0	4,820.00
J-19	Zone - 1	0.00	4,986.44	<Collection: 0 items>	Fixed	71.1	4,822.00
J-20	Zone - 1	0.00	4,986.40	<Collection: 0 items>	Fixed	70.7	4,823.00
J-21	Zone - 1	0.00	4,986.36	<Collection: 0 items>	Fixed	71.1	4,822.00
J-22	Zone - 1	0.00	4,986.27	<Collection: 0 items>	Fixed	73.9	4,815.50
J-23	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	73.7	4,816.00
J-24	Zone - 1	0.00	4,986.28	<Collection: 0 items>	Fixed	73.2	4,817.00
J-25	Zone - 1	3.60	4,986.29	<Collection: 1 items>	Fixed	74.1	4,815.00
J-26	Zone - 1	0.00	4,986.29	<Collection: 0 items>	Fixed	76.3	4,810.00
J-27	Zone - 1	0.00	4,986.27	<Collection: 0 items>	Fixed	74.5	4,814.00
J-28	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	72.8	4,818.00
J-29	Zone - 1	3.60	4,986.61	<Collection: 1 items>	Fixed	75.5	4,812.00
J-30	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	80.0	4,793.00
J-31	Zone - 3	0.00	5,119.95	<Collection: 0 items>	Fixed	141.5	4,793.00
J-32	Zone - 2	0.00	5,018.67	<Collection: 0 items>	Fixed	98.1	4,792.00
J-33	Zone - 2	0.00	5,018.67	<Collection: 0 items>	Fixed	101.5	4,784.00
J-34	Zone - 2	0.00	5,017.24	<Collection: 0 items>	Fixed	91.4	4,806.00
J-35	Zone - 2	0.00	5,016.71	<Collection: 0 items>	Fixed	89.0	4,811.00
J-36	Zone - 2	3.60	5,016.71	<Collection: 1 items>	Fixed	89.0	4,811.00
J-37	Zone - 2	0.00	5,016.59	<Collection: 0 items>	Fixed	88.7	4,811.50
J-38	Zone - 2	0.00	5,016.59	<Collection: 0 items>	Fixed	86.4	4,817.00
J-39	Zone - 2	3.60	5,016.59	<Collection: 1 items>	Fixed	84.8	4,820.50
J-40	Zone - 2	0.00	5,016.59	<Collection: 0 items>	Fixed	83.5	4,823.50
J-41	Zone - 2	3.60	5,016.34	<Collection: 1 items>	Fixed	87.5	4,814.00
J-42	Zone - 2	3.60	5,015.96	<Collection: 1 items>	Fixed	83.5	4,823.00
J-43	Zone - 2	3.60	5,015.00	<Collection: 1 items>	Fixed	85.7	4,817.00
J-44	Zone - 2	3.60	5,014.23	<Collection: 1 items>	Fixed	85.3	4,817.00
J-45	Zone - 2	3.60	5,014.70	<Collection: 1 items>	Fixed	84.5	4,819.50
J-46	Zone - 2	3.60	5,014.82	<Collection: 1 items>	Fixed	84.3	4,820.00
J-47	Zone - 2	3.60	5,016.36	<Collection: 1 items>	Fixed	88.4	4,812.00
J-48	Zone - 2	3.60	5,016.39	<Collection: 1 items>	Fixed	89.3	4,810.00
J-49	Zone - 2	3.60	5,016.41	<Collection: 1 items>	Fixed	88.9	4,811.00
J-50	Zone - 2	3.60	5,016.31	<Collection: 1 items>	Fixed	88.4	4,812.00
J-51	Zone - 2	3.60	5,016.09	<Collection: 1 items>	Fixed	87.4	4,814.00
J-52	Zone - 2	3.60	5,016.67	<Collection: 1 items>	Fixed	89.4	4,810.00
J-53	Zone - 2	3.60	5,018.38	<Collection: 1 items>	Fixed	89.1	4,812.50

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF@ J55

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-54	Zone - 2	3.60	4,997.60	<Collection: 1 items>	Fixed	76.4	4,821.00
J-55	Zone - 2	2,003.60	4,988.19	<Collection: 1 items>	Fixed	71.5	4,823.00
J-56	Zone - 2	3.60	5,016.59	<Collection: 1 items>	Fixed	81.6	4,828.00
J-57	Zone - 2	3.60	5,016.59	<Collection: 1 items>	Fixed	82.7	4,825.50
J-58	Zone - 2	3.60	5,016.59	<Collection: 1 items>	Fixed	82.7	4,825.50
J-59	Zone - 2	3.60	5,016.59	<Collection: 1 items>	Fixed	81.8	4,827.50
J-60	Zone - 2	3.60	5,016.59	<Collection: 1 items>	Fixed	79.9	4,832.00
J-61	Zone - 2	0.00	5,016.59	<Collection: 0 items>	Fixed	84.2	4,822.00
J-62	Zone - 2	0.00	5,016.59	<Collection: 0 items>	Fixed	81.2	4,829.00
J-64	Zone - 2	3.60	5,016.59	<Collection: 1 items>	Fixed	83.3	4,824.00
J-65	Zone - 2	3.60	5,016.59	<Collection: 1 items>	Fixed	80.7	4,830.00
J-68	Zone - 1	3.60	4,986.49	<Collection: 1 items>	Fixed	74.2	4,815.00
J-69	Zone - 1	3.60	4,986.54	<Collection: 1 items>	Fixed	77.2	4,808.00
J-70	Zone - 1	0.00	4,986.29	<Collection: 0 items>	Fixed	72.8	4,818.00
J-73	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	76.3	4,810.00
J-74	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	78.4	4,805.00
J-75	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	80.6	4,800.00
J-76	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	81.0	4,799.00
J-77	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	84.9	4,790.00
J-78	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	87.1	4,785.00
J-79	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	89.2	4,780.00
J-80	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	94.0	4,769.00
J-81	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	91.8	4,774.00
J-82	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	89.7	4,779.00
J-83	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	87.5	4,784.00
J-84	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	94.9	4,767.00
J-85	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	92.7	4,772.00
J-86	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	90.5	4,777.00
J-87	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	88.4	4,782.00
J-88	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	81.5	4,798.00
J-89	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	75.4	4,812.00
J-90	Zone - 2	3.60	5,016.94	<Collection: 1 items>	Fixed	90.0	4,809.00
J-91	Zone - 2	3.60	5,019.16	<Collection: 1 items>	Fixed	92.7	4,805.00
J-92	Zone - 2	3.60	5,018.99	<Collection: 1 items>	Fixed	94.3	4,801.00
J-93	Zone - 2	3.60	5,018.89	<Collection: 1 items>	Fixed	94.1	4,801.50
J-94	Zone - 2	3.60	5,018.79	<Collection: 1 items>	Fixed	93.8	4,802.00
J-95	Zone - 2	3.60	5,018.59	<Collection: 1 items>	Fixed	92.0	4,806.00
J-96	Zone - 2	3.60	5,018.42	<Collection: 1 items>	Fixed	90.2	4,810.00
J-97	Zone - 2	3.60	5,018.38	<Collection: 1 items>	Fixed	89.7	4,811.00
J-98	Zone - 2	3.60	5,015.37	<Collection: 1 items>	Fixed	83.2	4,823.00
J-99	Zone - 2	3.60	5,015.71	<Collection: 1 items>	Fixed	82.1	4,826.00
J-100	Zone - 3	3.60	5,091.31	<Collection: 1 items>	Fixed	86.2	4,892.00
J-103	Zone - 3	3.60	5,091.53	<Collection: 1 items>	Fixed	88.1	4,888.00
J-104	Zone - 3	3.60	5,091.70	<Collection: 1 items>	Fixed	88.6	4,887.00
J-105	Zone - 3	3.60	5,091.87	<Collection: 1 items>	Fixed	89.1	4,886.00
J-106	Zone - 3	3.60	5,092.05	<Collection: 1 items>	Fixed	89.6	4,885.00
J-107	Zone - 3	3.60	5,092.22	<Collection: 1 items>	Fixed	90.1	4,884.00
J-108	Zone - 3	3.60	5,092.40	<Collection: 1 items>	Fixed	90.6	4,883.00
J-109	Zone - 3	3.60	5,092.58	<Collection: 1 items>	Fixed	91.1	4,882.00
J-110	Zone - 3	3.60	5,092.76	<Collection: 1 items>	Fixed	92.1	4,880.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF@ J55

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-111	Zone - 3	3.60	5,092.95	<Collection: 1 items>	Fixed	93.0	4,878.00
J-112	Zone - 3	3.60	5,093.13	<Collection: 1 items>	Fixed	93.9	4,876.00
J-113	Zone - 3	3.60	5,093.32	<Collection: 1 items>	Fixed	94.9	4,874.00
J-114	Zone - 3	3.60	5,093.50	<Collection: 1 items>	Fixed	95.8	4,872.00
J-115	Zone - 3	3.60	5,093.69	<Collection: 1 items>	Fixed	96.8	4,870.00
J-116	Zone - 3	3.60	5,093.88	<Collection: 1 items>	Fixed	97.7	4,868.00
J-117	Zone - 3	3.60	5,094.08	<Collection: 1 items>	Fixed	98.7	4,866.00
J-118	Zone - 3	3.60	5,094.27	<Collection: 1 items>	Fixed	99.6	4,864.00
J-119	Zone - 3	3.60	5,094.46	<Collection: 1 items>	Fixed	100.6	4,862.00
J-121	Zone - 3	3.60	5,095.09	<Collection: 1 items>	Fixed	103.9	4,855.00
J-122	Zone - 3	0.00	5,119.94	<Collection: 0 items>	Fixed	138.9	4,799.00
J-123	Zone - 2	0.00	5,119.94	<Collection: 0 items>	Fixed	140.2	4,796.00
J-125	Zone - 3	0.00	5,119.94	<Collection: 0 items>	Fixed	139.1	4,798.50
J-126	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	82.3	4,796.00
J-127	Zone - 3	0.00	5,119.94	<Collection: 0 items>	Fixed	139.3	4,798.00
J-129	Zone - 2	0.00	5,019.35	<Collection: 0 items>	Fixed	98.4	4,792.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF@ J55

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-1	1,094.21	30.0	100.0	1,366.39	0.62	0.09	Steel	0.085	5,120.00	True	5,119.91
P-2	37.82	30.0	100.0	-73.37	0.03	0.00	Steel	0.000	5,119.91	True	5,119.91
P-3	7.44	18.0	140.0	6.00	0.01	0.00	Asbestos Cement	0.000	5,119.91	True	5,119.91
P-4	7.39	18.0	140.0	6.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-5	461.01	18.0	140.0	-6.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-6	691.43	18.0	140.0	-4.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-7	645.24	18.0	140.0	2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-8	346.44	18.0	140.0	2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-9	1,826.43	30.0	100.0	-67.37	0.03	0.00	Steel	0.000	5,119.91	True	5,119.91
P-11	30.30	12.0	150.0	123.04	0.35	0.00	PVC	0.032	5,119.91	True	5,119.91
P-12	25.33	12.0	150.0	123.05	0.35	0.00	PVC	0.039	4,986.66	True	4,986.66
P-13	36.10	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,977.97	True	4,977.97
P-14	52.44	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-15	653.52	12.0	150.0	123.04	0.35	0.03	PVC	0.040	4,986.66	True	4,986.63
P-16	366.19	12.0	150.0	119.44	0.34	0.01	PVC	0.037	4,986.63	True	4,986.62
P-17	711.39	12.0	150.0	29.44	0.08	0.00	PVC	0.003	4,986.62	True	4,986.61
P-18	329.62	12.0	150.0	14.72	0.04	0.00	PVC	0.001	4,986.61	True	4,986.61
P-19	32.01	8.0	150.0	90.00	0.57	0.01	PVC	0.168	4,986.62	True	4,986.61
P-20	307.08	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,986.61	True	4,986.61
P-21	302.29	8.0	150.0	86.40	0.55	0.05	PVC	0.150	4,986.61	True	4,986.57
P-22	175.00	8.0	140.0	82.80	0.53	0.03	Asbestos Cement	0.159	4,986.57	True	4,986.54
P-23	331.85	8.0	140.0	79.20	0.51	0.05	Asbestos Cement	0.144	4,986.54	True	4,986.49
P-24	153.34	8.0	140.0	75.60	0.48	0.02	Asbestos Cement	0.134	4,986.49	True	4,986.47
P-25	177.80	8.0	150.0	75.60	0.48	0.02	PVC	0.118	4,986.47	True	4,986.45
P-26	101.80	8.0	150.0	75.60	0.48	0.01	PVC	0.115	4,986.45	True	4,986.44
P-27	343.59	8.0	150.0	75.60	0.48	0.04	PVC	0.118	4,986.44	True	4,986.40
P-28	273.59	8.0	150.0	75.60	0.48	0.03	PVC	0.118	4,986.40	True	4,986.36
P-29	600.56	8.0	150.0	75.60	0.48	0.07	PVC	0.117	4,986.36	True	4,986.29
P-30	549.58	8.0	150.0	39.83	0.25	0.02	PVC	0.036	4,986.29	True	4,986.27
P-31	245.14	8.0	150.0	4.76	0.03	0.00	PVC	0.000	4,986.27	True	4,986.27
P-32	246.24	8.0	150.0	-35.77	0.23	0.01	PVC	0.030	4,986.29	True	4,986.29
P-33	381.60	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.29	True	4,986.29
P-34	332.48	8.0	150.0	-32.17	0.21	0.01	PVC	0.023	4,986.28	True	4,986.29
P-35	191.14	8.0	150.0	-32.17	0.21	0.00	PVC	0.026	4,986.27	True	4,986.28
P-36	110.24	8.0	150.0	33.33	0.21	0.00	PVC	0.027	4,986.27	True	4,986.27
P-37	82.46	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,986.27	True	4,986.27
P-38	94.56	12.0	140.0	1,293.02	3.67	0.34	Asbestos Cement	3.553	5,119.91	True	5,119.57
P-40	457.35	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,018.67	True	5,018.67
P-41	854.39	12.0	150.0	922.49	2.62	1.43	PVC	1.674	5,018.67	True	5,017.24
P-42	315.19	12.0	150.0	922.49	2.62	0.53	PVC	1.675	5,017.24	True	5,016.71
P-43	518.31	12.0	150.0	3.60	0.01	0.00	PVC	0.000	5,016.71	True	5,016.71
P-44	70.88	12.0	150.0	918.89	2.61	0.12	PVC	1.660	5,016.71	True	5,016.59
P-45	113.04	12.0	150.0	28.80	0.08	0.00	PVC	0.004	5,016.59	True	5,016.59
P-46	167.37	12.0	150.0	19.40	0.06	0.00	PVC	0.000	5,016.59	True	5,016.59
P-47	359.22	12.0	150.0	15.80	0.04	0.00	PVC	0.001	5,016.59	True	5,016.59
P-48	52.69	12.0	150.0	12.20	0.03	0.00	PVC	0.000	5,016.59	True	5,016.59
P-49	370.87	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,016.59	True	5,016.59
P-50	62.99	8.0	150.0	8.60	0.05	0.00	PVC	0.000	5,016.59	True	5,016.59

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF@ J55

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-51	221.10	8.0	150.0	5.00	0.03	0.00	PVC	0.002	5,016.59	True	5,016.59
P-52	81.21	8.0	150.0	1.40	0.01	0.00	PVC	0.000	5,016.59	True	5,016.59
P-53	353.77	8.0	150.0	-2.20	0.01	0.00	PVC	0.000	5,016.59	True	5,016.59
P-54	332.21	8.0	150.0	-9.40	0.06	0.00	PVC	0.003	5,016.59	True	5,016.59
P-55	561.26	8.0	150.0	7.20	0.05	0.00	PVC	0.001	5,016.59	True	5,016.59
P-56	134.25	8.0	150.0	3.60	0.02	0.00	PVC	0.004	5,016.59	True	5,016.59
P-57	330.48	8.0	150.0	3.60	0.02	0.00	PVC	0.001	5,016.59	True	5,016.59
P-58	161.67	12.0	150.0	890.09	2.53	0.25	PVC	1.567	5,016.59	True	5,016.34
P-59	213.49	12.0	150.0	957.06	2.71	0.38	PVC	1.793	5,016.34	True	5,015.96
P-60	350.73	12.0	150.0	1,199.42	3.40	0.96	PVC	2.723	5,015.96	True	5,015.00
P-61	286.24	12.0	150.0	1,195.82	3.39	0.78	PVC	2.709	5,015.00	True	5,014.23
P-62	353.63	12.0	150.0	-814.98	2.31	0.47	PVC	1.332	5,014.23	True	5,014.70
P-63	94.38	12.0	150.0	-818.58	2.32	0.13	PVC	1.340	5,014.70	True	5,014.82
P-64	203.48	8.0	150.0	-70.57	0.45	0.02	PVC	0.103	5,016.34	True	5,016.36
P-65	228.49	8.0	150.0	-74.17	0.47	0.03	PVC	0.113	5,016.36	True	5,016.39
P-66	208.58	8.0	150.0	-77.77	0.50	0.03	PVC	0.124	5,016.39	True	5,016.41
P-67	87.29	8.0	150.0	253.16	1.62	0.10	PVC	1.102	5,016.41	True	5,016.31
P-68	212.45	8.0	150.0	249.56	1.59	0.23	PVC	1.071	5,016.31	True	5,016.09
P-69	126.18	8.0	150.0	245.96	1.57	0.13	PVC	1.045	5,016.09	True	5,015.96
P-70	140.87	8.0	150.0	-334.53	2.14	0.26	PVC	1.844	5,016.41	True	5,016.67
P-72	326.41	8.0	150.0	2,007.20	12.81	16.62	PVC	50.926	5,014.23	True	4,997.60
P-73	185.39	8.0	150.0	2,003.60	12.79	9.41	PVC	50.757	4,997.60	True	4,988.19
P-117	722.25	12.0	150.0	29.73	0.08	0.00	PVC	0.003	4,986.27	True	4,986.27
P-118	875.21	12.0	150.0	26.13	0.07	0.00	PVC	0.002	4,986.27	True	4,986.27
P-119	530.70	12.0	150.0	22.53	0.06	0.00	PVC	0.002	4,986.27	True	4,986.27
P-120	1,399.56	12.0	150.0	18.93	0.05	0.00	PVC	0.001	4,986.27	True	4,986.26
P-122	1,136.72	12.0	150.0	8.12	0.02	0.00	PVC	0.000	4,986.26	True	4,986.26
P-123	1,042.45	12.0	150.0	4.52	0.01	0.00	PVC	0.000	4,986.26	True	4,986.26
P-124	528.52	12.0	150.0	0.92	0.00	0.00	PVC	0.000	4,986.26	True	4,986.26
P-125	1,076.20	12.0	150.0	-2.68	0.01	0.00	PVC	0.000	4,986.26	True	4,986.26
P-126	866.57	12.0	150.0	-6.28	0.02	0.00	PVC	0.001	4,986.26	True	4,986.26
P-127	1,176.69	12.0	150.0	-9.88	0.03	0.00	PVC	0.000	4,986.26	True	4,986.26
P-128	873.65	12.0	150.0	-13.48	0.04	0.00	PVC	0.001	4,986.26	True	4,986.26
P-129	910.87	12.0	150.0	-17.08	0.05	0.00	PVC	0.001	4,986.26	True	4,986.27
P-130	994.16	12.0	150.0	-20.68	0.06	0.00	PVC	0.001	4,986.27	True	4,986.27
P-131	1,087.30	12.0	150.0	-24.28	0.07	0.00	PVC	0.002	4,986.27	True	4,986.27
P-132	602.18	12.0	150.0	-27.88	0.08	0.00	PVC	0.002	4,986.27	True	4,986.27
P-133	570.66	12.0	150.0	-31.48	0.09	0.00	PVC	0.003	4,986.27	True	4,986.27
P-134	422.43	12.0	150.0	-35.08	0.10	0.00	PVC	0.003	4,986.27	True	4,986.27
P-135	143.84	8.0	150.0	-338.13	2.16	0.27	PVC	1.881	5,016.67	True	5,016.94
P-138	590.21	12.0	150.0	366.93	1.04	0.18	PVC	0.304	5,019.16	True	5,018.99
P-139	336.82	12.0	150.0	363.33	1.03	0.10	PVC	0.297	5,018.99	True	5,018.89
P-140	331.77	12.0	150.0	359.73	1.02	0.10	PVC	0.293	5,018.89	True	5,018.79
P-141	691.41	12.0	150.0	356.13	1.01	0.20	PVC	0.287	5,018.79	True	5,018.59
P-142	600.23	12.0	150.0	352.53	1.00	0.17	PVC	0.282	5,018.59	True	5,018.42
P-143	749.15	8.0	150.0	-341.73	2.18	1.44	PVC	1.918	5,016.94	True	5,018.38
P-144	262.10	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,018.38	True	5,018.38
P-145	150.63	12.0	150.0	348.93	0.99	0.04	PVC	0.276	5,018.42	True	5,018.38

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 2000gpm FF@ J55

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-146	404.83	12.0	150.0	-822.18	2.33	0.55	PVC	1.353	5,014.82	True	5,015.37
P-147	251.86	12.0	150.0	-825.78	2.34	0.34	PVC	1.363	5,015.37	True	5,015.71
P-152	628.26	16.0	150.0	-832.98	1.33	0.21	PVC	0.342	5,091.31	True	5,091.53
P-153	499.26	16.0	150.0	-836.58	1.33	0.17	PVC	0.344	5,091.53	True	5,091.70
P-154	499.14	16.0	150.0	-840.18	1.34	0.17	PVC	0.346	5,091.70	True	5,091.87
P-155	495.91	16.0	150.0	-843.78	1.35	0.17	PVC	0.350	5,091.87	True	5,092.05
P-156	498.45	16.0	150.0	-847.38	1.35	0.18	PVC	0.353	5,092.05	True	5,092.22
P-157	502.65	16.0	150.0	-850.98	1.36	0.18	PVC	0.356	5,092.22	True	5,092.40
P-158	505.16	16.0	150.0	-854.58	1.36	0.18	PVC	0.358	5,092.40	True	5,092.58
P-159	501.02	16.0	150.0	-858.18	1.37	0.18	PVC	0.361	5,092.58	True	5,092.76
P-160	504.09	16.0	150.0	-861.78	1.38	0.18	PVC	0.363	5,092.76	True	5,092.95
P-161	507.65	16.0	150.0	-865.38	1.38	0.19	PVC	0.366	5,092.95	True	5,093.13
P-162	499.19	16.0	150.0	-868.98	1.39	0.18	PVC	0.370	5,093.13	True	5,093.32
P-163	505.77	16.0	150.0	-872.58	1.39	0.19	PVC	0.372	5,093.32	True	5,093.50
P-164	500.85	16.0	150.0	-876.18	1.40	0.19	PVC	0.375	5,093.50	True	5,093.69
P-165	500.07	16.0	150.0	-879.78	1.40	0.19	PVC	0.378	5,093.69	True	5,093.88
P-166	509.76	16.0	150.0	-883.38	1.41	0.19	PVC	0.380	5,093.88	True	5,094.08
P-167	497.27	16.0	150.0	-886.98	1.42	0.19	PVC	0.384	5,094.08	True	5,094.27
P-168	498.43	16.0	150.0	-890.58	1.42	0.19	PVC	0.386	5,094.27	True	5,094.46
P-169	1,630.19	16.0	150.0	-894.18	1.43	0.63	PVC	0.389	5,094.46	True	5,095.09
P-176	3,079.47	12.0	150.0	-829.38	2.35	4.23	PVC	1.375	5,015.71	True	5,019.95
P-177	245.89	12.0	150.0	-829.38	2.35	0.34	PVC	1.374	5,090.98	True	5,091.31
P-178	1,518.48	30.0	100.0	-124.08	0.06	0.00	Steel	0.001	5,119.94	True	5,119.94
P-179	5,987.75	30.0	100.0	-124.08	0.06	0.01	Steel	0.001	5,119.94	True	5,119.95
P-181	111.34	30.0	100.0	-124.08	0.06	0.00	Steel	0.000	5,119.94	True	5,119.94
P-182	216.90	16.0	150.0	897.78	1.43	0.09	PVC	0.394	5,119.94	True	5,119.85
P-183	2,362.21	16.0	150.0	897.78	1.43	0.93	PVC	0.392	5,096.02	True	5,095.09
P-184	275.55	12.0	150.0	15.33	0.04	0.00	PVC	0.000	4,986.26	True	4,986.26
P-185	818.88	12.0	150.0	11.72	0.03	0.00	PVC	0.001	4,986.26	True	4,986.26
P-186	2,007.25	30.0	100.0	773.71	0.35	0.06	Steel	0.029	5,120.00	True	5,119.94
P-187	97.75	30.0	100.0	773.71	0.35	0.00	Steel	0.030	5,119.94	True	5,119.94
P-188	76.65	12.0	150.0	0.00	0.00	0.00	PVC	0.000	5,119.94	True	5,119.94
P-189	87.63	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.26	True	4,986.26
P-192	66.81	12.0	140.0	1,293.02	3.67	0.24	Asbestos Cement	3.559	5,019.59	True	5,019.35
P-193	360.31	12.0	140.0	922.49	2.62	0.69	Asbestos Cement	1.903	5,019.35	True	5,018.67
P-194	611.18	12.0	150.0	-370.53	1.05	0.19	PVC	0.309	5,019.16	True	5,019.35

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J58

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-1	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	84.1	4,783.50
J-2	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	83.5	4,785.00
J-3	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	84.4	4,783.00
J-6	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	80.9	4,791.00
J-7	Zone - 3	0.00	5,119.67	<Collection: 0 items>	Fixed	144.8	4,785.00
J-8	Zone - 3	0.00	5,119.67	<Collection: 0 items>	Fixed	141.3	4,793.00
J-10	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	87.0	4,785.50
J-11	Zone - 1	3.60	4,986.63	<Collection: 1 items>	Fixed	82.3	4,796.50
J-12	Zone - 1	0.00	4,986.62	<Collection: 0 items>	Fixed	78.8	4,804.50
J-13	Zone - 1	14.72	4,986.61	<Collection: 1 items>	Fixed	74.5	4,814.50
J-14	Zone - 1	14.72	4,986.61	<Collection: 1 items>	Fixed	74.7	4,814.00
J-15	Zone - 1	0.00	4,986.61	<Collection: 0 items>	Fixed	78.6	4,805.00
J-16	Zone - 1	3.60	4,986.57	<Collection: 1 items>	Fixed	78.3	4,805.50
J-17	Zone - 1	0.00	4,986.47	<Collection: 0 items>	Fixed	74.6	4,814.00
J-18	Zone - 1	0.00	4,986.45	<Collection: 0 items>	Fixed	72.0	4,820.00
J-19	Zone - 1	0.00	4,986.44	<Collection: 0 items>	Fixed	71.1	4,822.00
J-20	Zone - 1	0.00	4,986.40	<Collection: 0 items>	Fixed	70.7	4,823.00
J-21	Zone - 1	0.00	4,986.36	<Collection: 0 items>	Fixed	71.1	4,822.00
J-22	Zone - 1	0.00	4,986.27	<Collection: 0 items>	Fixed	73.9	4,815.50
J-23	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	73.7	4,816.00
J-24	Zone - 1	0.00	4,986.28	<Collection: 0 items>	Fixed	73.2	4,817.00
J-25	Zone - 1	3.60	4,986.29	<Collection: 1 items>	Fixed	74.1	4,815.00
J-26	Zone - 1	0.00	4,986.29	<Collection: 0 items>	Fixed	76.3	4,810.00
J-27	Zone - 1	0.00	4,986.27	<Collection: 0 items>	Fixed	74.5	4,814.00
J-28	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	72.8	4,818.00
J-29	Zone - 1	3.60	4,986.61	<Collection: 1 items>	Fixed	75.5	4,812.00
J-30	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	80.0	4,793.00
J-31	Zone - 3	0.00	5,119.67	<Collection: 0 items>	Fixed	141.3	4,793.00
J-32	Zone - 2	0.00	5,010.27	<Collection: 0 items>	Fixed	94.4	4,792.00
J-33	Zone - 2	0.00	5,010.27	<Collection: 0 items>	Fixed	97.9	4,784.00
J-34	Zone - 2	0.00	4,995.49	<Collection: 0 items>	Fixed	82.0	4,806.00
J-35	Zone - 2	0.00	4,990.03	<Collection: 0 items>	Fixed	77.5	4,811.00
J-36	Zone - 2	3.60	4,990.03	<Collection: 1 items>	Fixed	77.5	4,811.00
J-37	Zone - 2	0.00	4,988.81	<Collection: 0 items>	Fixed	76.7	4,811.50
J-38	Zone - 2	0.00	4,982.69	<Collection: 0 items>	Fixed	71.7	4,817.00
J-39	Zone - 2	3.60	4,977.51	<Collection: 1 items>	Fixed	67.9	4,820.50
J-40	Zone - 2	0.00	4,966.42	<Collection: 0 items>	Fixed	61.8	4,823.50
J-41	Zone - 2	3.60	4,990.89	<Collection: 1 items>	Fixed	76.5	4,814.00
J-42	Zone - 2	3.60	4,992.70	<Collection: 1 items>	Fixed	73.4	4,823.00
J-43	Zone - 2	3.60	4,994.63	<Collection: 1 items>	Fixed	76.9	4,817.00
J-44	Zone - 2	3.60	4,996.22	<Collection: 1 items>	Fixed	77.5	4,817.00
J-45	Zone - 2	3.60	4,998.20	<Collection: 1 items>	Fixed	77.3	4,819.50
J-46	Zone - 2	3.60	4,998.73	<Collection: 1 items>	Fixed	77.3	4,820.00
J-47	Zone - 2	3.60	4,991.90	<Collection: 1 items>	Fixed	77.8	4,812.00
J-48	Zone - 2	3.60	4,993.05	<Collection: 1 items>	Fixed	79.2	4,810.00
J-49	Zone - 2	3.60	4,994.11	<Collection: 1 items>	Fixed	79.2	4,811.00
J-50	Zone - 2	3.60	4,993.82	<Collection: 1 items>	Fixed	78.7	4,812.00
J-51	Zone - 2	3.60	4,993.11	<Collection: 1 items>	Fixed	77.5	4,814.00
J-52	Zone - 2	3.60	4,996.26	<Collection: 1 items>	Fixed	80.6	4,810.00
J-53	Zone - 2	3.60	5,010.02	<Collection: 1 items>	Fixed	85.5	4,812.50

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J58

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-54	Zone - 2	3.60	4,996.22	<Collection: 1 items>	Fixed	75.8	4,821.00
J-55	Zone - 2	3.60	4,996.22	<Collection: 1 items>	Fixed	74.9	4,823.00
J-56	Zone - 2	3.60	4,966.42	<Collection: 1 items>	Fixed	59.9	4,828.00
J-57	Zone - 2	3.60	4,964.79	<Collection: 1 items>	Fixed	60.3	4,825.50
J-58	Zone - 2	6,003.60	4,950.82	<Collection: 1 items>	Fixed	54.2	4,825.50
J-59	Zone - 2	3.60	4,957.88	<Collection: 1 items>	Fixed	56.4	4,827.50
J-60	Zone - 2	3.60	4,960.49	<Collection: 1 items>	Fixed	55.6	4,832.00
J-61	Zone - 2	0.00	4,971.89	<Collection: 0 items>	Fixed	64.8	4,822.00
J-62	Zone - 2	0.00	4,971.89	<Collection: 0 items>	Fixed	61.8	4,829.00
J-64	Zone - 2	3.60	4,971.89	<Collection: 1 items>	Fixed	64.0	4,824.00
J-65	Zone - 2	3.60	4,971.89	<Collection: 1 items>	Fixed	61.4	4,830.00
J-68	Zone - 1	3.60	4,986.49	<Collection: 1 items>	Fixed	74.2	4,815.00
J-69	Zone - 1	3.60	4,986.54	<Collection: 1 items>	Fixed	77.2	4,808.00
J-70	Zone - 1	0.00	4,986.29	<Collection: 0 items>	Fixed	72.8	4,818.00
J-73	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	76.3	4,810.00
J-74	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	78.4	4,805.00
J-75	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	80.6	4,800.00
J-76	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	81.0	4,799.00
J-77	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	84.9	4,790.00
J-78	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	87.1	4,785.00
J-79	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	89.2	4,780.00
J-80	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	94.0	4,769.00
J-81	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	91.8	4,774.00
J-82	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	89.7	4,779.00
J-83	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	87.5	4,784.00
J-84	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	94.9	4,767.00
J-85	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	92.7	4,772.00
J-86	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	90.5	4,777.00
J-87	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	88.4	4,782.00
J-88	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	81.5	4,798.00
J-89	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	75.4	4,812.00
J-90	Zone - 2	3.60	4,998.47	<Collection: 1 items>	Fixed	82.0	4,809.00
J-91	Zone - 2	3.60	5,015.98	<Collection: 1 items>	Fixed	91.3	4,805.00
J-92	Zone - 2	3.60	5,014.66	<Collection: 1 items>	Fixed	92.4	4,801.00
J-93	Zone - 2	3.60	5,013.91	<Collection: 1 items>	Fixed	91.9	4,801.50
J-94	Zone - 2	3.60	5,013.18	<Collection: 1 items>	Fixed	91.4	4,802.00
J-95	Zone - 2	3.60	5,011.66	<Collection: 1 items>	Fixed	89.0	4,806.00
J-96	Zone - 2	3.60	5,010.35	<Collection: 1 items>	Fixed	86.7	4,810.00
J-97	Zone - 2	3.60	5,010.02	<Collection: 1 items>	Fixed	86.1	4,811.00
J-98	Zone - 2	3.60	5,001.01	<Collection: 1 items>	Fixed	77.0	4,823.00
J-99	Zone - 2	3.60	5,002.44	<Collection: 1 items>	Fixed	76.3	4,826.00
J-100	Zone - 3	3.60	5,077.51	<Collection: 1 items>	Fixed	80.3	4,892.00
J-103	Zone - 3	3.60	5,078.39	<Collection: 1 items>	Fixed	82.4	4,888.00
J-104	Zone - 3	3.60	5,079.10	<Collection: 1 items>	Fixed	83.1	4,887.00
J-105	Zone - 3	3.60	5,079.81	<Collection: 1 items>	Fixed	83.9	4,886.00
J-106	Zone - 3	3.60	5,080.51	<Collection: 1 items>	Fixed	84.6	4,885.00
J-107	Zone - 3	3.60	5,081.22	<Collection: 1 items>	Fixed	85.3	4,884.00
J-108	Zone - 3	3.60	5,081.94	<Collection: 1 items>	Fixed	86.1	4,883.00
J-109	Zone - 3	3.60	5,082.67	<Collection: 1 items>	Fixed	86.8	4,882.00
J-110	Zone - 3	3.60	5,083.39	<Collection: 1 items>	Fixed	88.0	4,880.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J58

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-111	Zone - 3	3.60	5,084.12	<Collection: 1 items>	Fixed	89.2	4,878.00
J-112	Zone - 3	3.60	5,084.86	<Collection: 1 items>	Fixed	90.4	4,876.00
J-113	Zone - 3	3.60	5,085.59	<Collection: 1 items>	Fixed	91.5	4,874.00
J-114	Zone - 3	3.60	5,086.33	<Collection: 1 items>	Fixed	92.7	4,872.00
J-115	Zone - 3	3.60	5,087.06	<Collection: 1 items>	Fixed	93.9	4,870.00
J-116	Zone - 3	3.60	5,087.80	<Collection: 1 items>	Fixed	95.1	4,868.00
J-117	Zone - 3	3.60	5,088.55	<Collection: 1 items>	Fixed	96.3	4,866.00
J-118	Zone - 3	3.60	5,089.29	<Collection: 1 items>	Fixed	97.5	4,864.00
J-119	Zone - 3	3.60	5,090.03	<Collection: 1 items>	Fixed	98.7	4,862.00
J-121	Zone - 3	3.60	5,092.47	<Collection: 1 items>	Fixed	102.7	4,855.00
J-122	Zone - 3	0.00	5,119.67	<Collection: 0 items>	Fixed	138.7	4,799.00
J-123	Zone - 2	0.00	5,119.67	<Collection: 0 items>	Fixed	140.0	4,796.00
J-125	Zone - 3	0.00	5,119.67	<Collection: 0 items>	Fixed	139.0	4,798.50
J-126	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	82.3	4,796.00
J-127	Zone - 3	0.00	5,119.68	<Collection: 0 items>	Fixed	139.2	4,798.00
J-129	Zone - 2	0.00	5,017.36	<Collection: 0 items>	Fixed	97.5	4,792.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J58

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-1	1,094.21	30.0	100.0	3,911.22	1.78	0.65	Steel	0.593	5,120.00	True	5,119.35
P-2	37.82	30.0	100.0	426.27	0.19	0.00	Steel	0.000	5,119.35	True	5,119.35
P-3	7.44	18.0	140.0	6.00	0.01	0.00	Asbestos Cement	0.000	5,119.35	True	5,119.35
P-4	7.39	18.0	140.0	6.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-5	461.01	18.0	140.0	-6.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-6	691.43	18.0	140.0	-4.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-7	645.24	18.0	140.0	2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-8	346.44	18.0	140.0	2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-9	1,826.43	30.0	100.0	432.27	0.20	0.02	Steel	0.010	5,119.37	True	5,119.35
P-11	30.30	12.0	150.0	123.04	0.35	0.00	PVC	0.032	5,119.37	True	5,119.37
P-12	25.33	12.0	150.0	123.04	0.35	0.00	PVC	0.039	4,986.66	True	4,986.66
P-13	36.10	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,977.97	True	4,977.97
P-14	52.44	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-15	653.52	12.0	150.0	123.04	0.35	0.03	PVC	0.040	4,986.66	True	4,986.63
P-16	366.19	12.0	150.0	119.44	0.34	0.01	PVC	0.037	4,986.63	True	4,986.62
P-17	711.39	12.0	150.0	29.44	0.08	0.00	PVC	0.003	4,986.62	True	4,986.61
P-18	329.62	12.0	150.0	14.72	0.04	0.00	PVC	0.001	4,986.61	True	4,986.61
P-19	32.01	8.0	150.0	90.00	0.57	0.01	PVC	0.168	4,986.62	True	4,986.61
P-20	307.08	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,986.61	True	4,986.61
P-21	302.29	8.0	150.0	86.40	0.55	0.05	PVC	0.150	4,986.61	True	4,986.57
P-22	175.00	8.0	140.0	82.80	0.53	0.03	Asbestos Cement	0.159	4,986.57	True	4,986.54
P-23	331.85	8.0	140.0	79.20	0.51	0.05	Asbestos Cement	0.144	4,986.54	True	4,986.49
P-24	153.34	8.0	140.0	75.60	0.48	0.02	Asbestos Cement	0.134	4,986.49	True	4,986.47
P-25	177.80	8.0	150.0	75.60	0.48	0.02	PVC	0.118	4,986.47	True	4,986.45
P-26	101.80	8.0	150.0	75.60	0.48	0.01	PVC	0.115	4,986.45	True	4,986.44
P-27	343.59	8.0	150.0	75.60	0.48	0.04	PVC	0.118	4,986.44	True	4,986.40
P-28	273.59	8.0	150.0	75.60	0.48	0.03	PVC	0.118	4,986.40	True	4,986.36
P-29	600.56	8.0	150.0	75.60	0.48	0.07	PVC	0.117	4,986.36	True	4,986.29
P-30	549.58	8.0	150.0	39.83	0.25	0.02	PVC	0.036	4,986.29	True	4,986.27
P-31	245.14	8.0	150.0	4.76	0.03	0.00	PVC	0.002	4,986.27	True	4,986.27
P-32	246.24	8.0	150.0	-35.77	0.23	0.01	PVC	0.030	4,986.29	True	4,986.29
P-33	381.60	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.29	True	4,986.29
P-34	332.48	8.0	150.0	-32.17	0.21	0.01	PVC	0.023	4,986.28	True	4,986.29
P-35	191.14	8.0	150.0	-32.17	0.21	0.00	PVC	0.026	4,986.27	True	4,986.28
P-36	110.24	8.0	150.0	33.33	0.21	0.00	PVC	0.027	4,986.27	True	4,986.27
P-37	82.46	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,986.27	True	4,986.27
P-38	94.56	12.0	140.0	4,337.50	12.30	3.16	Asbestos Cement	33.454	5,119.35	True	5,116.19
P-40	457.35	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,010.27	True	5,010.27
P-41	854.39	12.0	150.0	3,255.34	9.23	14.78	PVC	17.304	5,010.27	True	4,995.49
P-42	315.19	12.0	150.0	3,255.34	9.23	5.45	PVC	17.304	4,995.49	True	4,990.03
P-43	518.31	12.0	150.0	3.60	0.01	0.00	PVC	0.000	4,990.03	True	4,990.03
P-44	70.88	12.0	150.0	3,251.74	9.22	1.22	PVC	17.270	4,990.03	True	4,988.81
P-45	113.04	12.0	150.0	6,028.80	17.10	6.12	PVC	54.171	4,988.81	True	4,982.69
P-46	167.37	12.0	150.0	4,453.89	12.63	5.18	PVC	30.922	4,982.69	True	4,977.51
P-47	359.22	12.0	150.0	4,450.29	12.62	11.09	PVC	30.876	4,977.51	True	4,966.42
P-48	52.69	12.0	150.0	4,446.69	12.61	1.62	PVC	30.830	4,966.42	True	4,964.79
P-49	370.87	8.0	150.0	3.60	0.02	0.00	PVC	0.001	4,966.42	True	4,966.42
P-50	62.99	8.0	150.0	4,443.09	28.36	13.98	PVC	221.855	4,964.79	True	4,950.82

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J58

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-51	221.10	8.0	150.0	-1,560.51	9.96	7.06	PVC	31.951	4,950.82	True	4,957.88
P-52	81.21	8.0	150.0	-1,564.11	9.98	2.61	PVC	32.083	4,957.88	True	4,960.49
P-53	353.77	8.0	150.0	-1,567.71	10.01	11.40	PVC	32.224	4,960.49	True	4,971.89
P-54	332.21	8.0	150.0	-1,574.91	10.05	10.80	PVC	32.500	4,971.89	True	4,982.69
P-55	561.26	8.0	150.0	7.20	0.05	0.00	PVC	0.001	4,971.89	True	4,971.89
P-56	134.25	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,971.89	True	4,971.89
P-57	330.48	8.0	150.0	3.60	0.02	0.00	PVC	0.001	4,971.89	True	4,971.89
P-58	161.67	12.0	150.0	-2,777.06	7.88	2.08	PVC	12.893	4,988.81	True	4,990.89
P-59	213.49	12.0	150.0	-2,209.41	6.27	1.80	PVC	8.442	4,990.89	True	4,992.70
P-60	350.73	12.0	150.0	-1,756.11	4.98	1.94	PVC	5.517	4,992.70	True	4,994.63
P-61	286.24	12.0	150.0	-1,759.71	4.99	1.58	PVC	5.537	4,994.63	True	4,996.22
P-62	353.63	12.0	150.0	-1,770.51	5.02	1.98	PVC	5.602	4,996.22	True	4,998.20
P-63	94.38	12.0	150.0	-1,774.11	5.03	0.53	PVC	5.624	4,998.20	True	4,998.73
P-64	203.48	8.0	150.0	-571.25	3.65	1.01	PVC	4.967	4,990.89	True	4,991.90
P-65	228.49	8.0	150.0	-574.85	3.67	1.15	PVC	5.026	4,991.90	True	4,993.05
P-66	208.58	8.0	150.0	-578.45	3.69	1.06	PVC	5.085	4,993.05	True	4,994.11
P-67	87.29	8.0	150.0	464.10	2.96	0.29	PVC	3.379	4,994.11	True	4,993.82
P-68	212.45	8.0	150.0	460.50	2.94	0.71	PVC	3.333	4,993.82	True	4,993.11
P-69	126.18	8.0	150.0	456.90	2.92	0.41	PVC	3.285	4,993.11	True	4,992.70
P-70	140.87	8.0	150.0	-1,046.15	6.68	2.15	PVC	15.237	4,994.11	True	4,996.26
P-72	326.41	8.0	150.0	7.20	0.05	0.00	PVC	0.001	4,996.22	True	4,996.22
P-73	185.39	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,996.22	True	4,996.22
P-117	722.25	12.0	150.0	29.73	0.08	0.00	PVC	0.003	4,986.27	True	4,986.27
P-118	875.21	12.0	150.0	26.13	0.07	0.00	PVC	0.002	4,986.27	True	4,986.27
P-119	530.70	12.0	150.0	22.53	0.06	0.00	PVC	0.002	4,986.27	True	4,986.27
P-120	1,399.56	12.0	150.0	18.93	0.05	0.00	PVC	0.001	4,986.27	True	4,986.26
P-122	1,136.72	12.0	150.0	8.12	0.02	0.00	PVC	0.000	4,986.26	True	4,986.26
P-123	1,042.45	12.0	150.0	4.52	0.01	0.00	PVC	0.000	4,986.26	True	4,986.26
P-124	528.52	12.0	150.0	0.92	0.00	0.00	PVC	0.000	4,986.26	True	4,986.26
P-125	1,076.20	12.0	150.0	-2.68	0.01	0.00	PVC	0.000	4,986.26	True	4,986.26
P-126	866.57	12.0	150.0	-6.28	0.02	0.00	PVC	0.001	4,986.26	True	4,986.26
P-127	1,176.69	12.0	150.0	-9.88	0.03	0.00	PVC	0.000	4,986.26	True	4,986.26
P-128	873.65	12.0	150.0	-13.48	0.04	0.00	PVC	0.001	4,986.26	True	4,986.26
P-129	910.87	12.0	150.0	-17.08	0.05	0.00	PVC	0.001	4,986.26	True	4,986.27
P-130	994.16	12.0	150.0	-20.68	0.06	0.00	PVC	0.001	4,986.27	True	4,986.27
P-131	1,087.30	12.0	150.0	-24.28	0.07	0.00	PVC	0.002	4,986.27	True	4,986.27
P-132	602.18	12.0	150.0	-27.88	0.08	0.00	PVC	0.002	4,986.27	True	4,986.27
P-133	570.66	12.0	150.0	-31.48	0.09	0.00	PVC	0.003	4,986.27	True	4,986.27
P-134	422.43	12.0	150.0	-35.08	0.10	0.00	PVC	0.003	4,986.27	True	4,986.27
P-135	143.84	8.0	150.0	-1,049.75	6.70	2.21	PVC	15.331	4,996.26	True	4,998.47
P-138	590.21	12.0	150.0	1,078.55	3.06	1.32	PVC	2.237	5,015.98	True	5,014.66
P-139	336.82	12.0	150.0	1,074.95	3.05	0.75	PVC	2.222	5,014.66	True	5,013.91
P-140	331.77	12.0	150.0	1,071.35	3.04	0.73	PVC	2.209	5,013.91	True	5,013.18
P-141	691.41	12.0	150.0	1,067.75	3.03	1.52	PVC	2.196	5,013.18	True	5,011.66
P-142	600.23	12.0	150.0	1,064.15	3.02	1.31	PVC	2.182	5,011.66	True	5,010.35
P-143	749.15	8.0	150.0	-1,053.35	6.72	11.56	PVC	15.430	4,998.47	True	5,010.02
P-144	262.10	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,010.02	True	5,010.02
P-145	150.63	12.0	150.0	1,060.55	3.01	0.33	PVC	2.169	5,010.35	True	5,010.02

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J58

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-146	404.83	12.0	150.0	-1,777.71	5.04	2.28	PVC	5.644	4,998.73	True	5,001.01
P-147	251.86	12.0	150.0	-1,781.31	5.05	1.43	PVC	5.663	5,001.01	True	5,002.44
P-152	628.26	16.0	150.0	-1,788.51	2.85	0.88	PVC	1.406	5,077.51	True	5,078.39
P-153	499.26	16.0	150.0	-1,792.11	2.86	0.70	PVC	1.410	5,078.39	True	5,079.10
P-154	499.14	16.0	150.0	-1,795.71	2.87	0.71	PVC	1.416	5,079.10	True	5,079.81
P-155	495.91	16.0	150.0	-1,799.31	2.87	0.70	PVC	1.421	5,079.81	True	5,080.51
P-156	498.45	16.0	150.0	-1,802.91	2.88	0.71	PVC	1.427	5,080.51	True	5,081.22
P-157	502.65	16.0	150.0	-1,806.51	2.88	0.72	PVC	1.432	5,081.22	True	5,081.94
P-158	505.16	16.0	150.0	-1,810.11	2.89	0.73	PVC	1.437	5,081.94	True	5,082.67
P-159	501.02	16.0	150.0	-1,813.71	2.89	0.72	PVC	1.442	5,082.67	True	5,083.39
P-160	504.09	16.0	150.0	-1,817.31	2.90	0.73	PVC	1.447	5,083.39	True	5,084.12
P-161	507.65	16.0	150.0	-1,820.91	2.91	0.74	PVC	1.453	5,084.12	True	5,084.86
P-162	499.19	16.0	150.0	-1,824.51	2.91	0.73	PVC	1.458	5,084.86	True	5,085.59
P-163	505.77	16.0	150.0	-1,828.11	2.92	0.74	PVC	1.464	5,085.59	True	5,086.33
P-164	500.85	16.0	150.0	-1,831.71	2.92	0.74	PVC	1.469	5,086.33	True	5,087.06
P-165	500.07	16.0	150.0	-1,835.31	2.93	0.74	PVC	1.474	5,087.06	True	5,087.80
P-166	509.76	16.0	150.0	-1,838.91	2.93	0.75	PVC	1.480	5,087.80	True	5,088.55
P-167	497.27	16.0	150.0	-1,842.51	2.94	0.74	PVC	1.485	5,088.55	True	5,089.29
P-168	498.43	16.0	150.0	-1,846.11	2.95	0.74	PVC	1.491	5,089.29	True	5,090.03
P-169	1,630.19	16.0	150.0	-1,849.71	2.95	2.44	PVC	1.496	5,090.03	True	5,092.47
P-176	3,079.47	12.0	150.0	-1,784.91	5.06	17.51	PVC	5.686	5,002.44	True	5,019.95
P-177	245.89	12.0	150.0	-1,784.91	5.06	1.40	PVC	5.685	5,076.11	True	5,077.51
P-178	1,518.48	30.0	100.0	58.97	0.03	0.00	Steel	0.000	5,119.67	True	5,119.67
P-179	5,987.75	30.0	100.0	58.97	0.03	0.00	Steel	0.000	5,119.67	True	5,119.67
P-181	111.34	30.0	100.0	58.97	0.03	0.00	Steel	0.000	5,119.67	True	5,119.67
P-182	216.90	16.0	150.0	1,853.31	2.96	0.33	PVC	1.502	5,119.67	True	5,119.34
P-183	2,362.21	16.0	150.0	1,853.31	2.96	3.55	PVC	1.501	5,096.02	True	5,092.47
P-184	275.55	12.0	150.0	15.33	0.04	0.00	PVC	0.000	4,986.26	True	4,986.26
P-185	818.88	12.0	150.0	11.72	0.03	0.00	PVC	0.001	4,986.26	True	4,986.26
P-186	2,007.25	30.0	100.0	1,912.28	0.87	0.32	Steel	0.158	5,120.00	True	5,119.68
P-187	97.75	30.0	100.0	1,912.28	0.87	0.02	Steel	0.155	5,119.68	True	5,119.67
P-188	76.65	12.0	150.0	0.00	0.00	0.00	PVC	0.000	5,119.68	True	5,119.68
P-189	87.63	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.26	True	4,986.26
P-192	66.81	12.0	140.0	4,337.49	12.30	2.24	Asbestos Cement	33.458	5,019.59	True	5,017.36
P-193	360.31	12.0	140.0	3,255.34	9.23	7.08	Asbestos Cement	19.661	5,017.36	True	5,010.27
P-194	611.18	12.0	150.0	-1,082.15	3.07	1.38	PVC	2.251	5,015.98	True	5,017.36

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J79

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-1	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	84.1	4,783.50
J-2	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	83.5	4,785.00
J-3	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	84.4	4,783.00
J-6	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	80.9	4,791.00
J-7	Zone - 3	0.00	5,119.50	<Collection: 0 items>	Fixed	144.7	4,785.00
J-8	Zone - 3	0.00	5,119.89	<Collection: 0 items>	Fixed	141.4	4,793.00
J-10	Zone - 1	0.00	4,986.63	<Collection: 0 items>	Fixed	87.0	4,785.50
J-11	Zone - 1	3.60	4,985.82	<Collection: 1 items>	Fixed	81.9	4,796.50
J-12	Zone - 1	0.00	4,985.37	<Collection: 0 items>	Fixed	78.3	4,804.50
J-13	Zone - 1	14.72	4,985.37	<Collection: 1 items>	Fixed	73.9	4,814.50
J-14	Zone - 1	14.72	4,985.37	<Collection: 1 items>	Fixed	74.1	4,814.00
J-15	Zone - 1	0.00	4,985.11	<Collection: 0 items>	Fixed	77.9	4,805.00
J-16	Zone - 1	3.60	4,982.64	<Collection: 1 items>	Fixed	76.6	4,805.50
J-17	Zone - 1	0.00	4,976.64	<Collection: 0 items>	Fixed	70.4	4,814.00
J-18	Zone - 1	0.00	4,975.23	<Collection: 0 items>	Fixed	67.2	4,820.00
J-19	Zone - 1	0.00	4,974.42	<Collection: 0 items>	Fixed	65.9	4,822.00
J-20	Zone - 1	0.00	4,971.70	<Collection: 0 items>	Fixed	64.3	4,823.00
J-21	Zone - 1	0.00	4,969.53	<Collection: 0 items>	Fixed	63.8	4,822.00
J-22	Zone - 1	0.00	4,960.03	<Collection: 0 items>	Fixed	62.5	4,815.50
J-23	Zone - 1	3.60	4,964.79	<Collection: 1 items>	Fixed	64.4	4,816.00
J-24	Zone - 1	0.00	4,964.79	<Collection: 0 items>	Fixed	63.9	4,817.00
J-25	Zone - 1	3.60	4,964.77	<Collection: 1 items>	Fixed	64.8	4,815.00
J-26	Zone - 1	0.00	4,964.77	<Collection: 0 items>	Fixed	67.0	4,810.00
J-27	Zone - 1	0.00	4,967.08	<Collection: 0 items>	Fixed	66.2	4,814.00
J-28	Zone - 1	3.60	4,967.08	<Collection: 1 items>	Fixed	64.5	4,818.00
J-29	Zone - 1	3.60	4,985.11	<Collection: 1 items>	Fixed	74.9	4,812.00
J-30	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	80.0	4,793.00
J-31	Zone - 3	0.00	5,119.90	<Collection: 0 items>	Fixed	141.4	4,793.00
J-32	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	98.5	4,792.00
J-33	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	102.0	4,784.00
J-34	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	92.5	4,806.00
J-35	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	90.3	4,811.00
J-36	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	90.3	4,811.00
J-37	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	90.1	4,811.50
J-38	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	87.7	4,817.00
J-39	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	86.2	4,820.50
J-40	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	84.9	4,823.50
J-41	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	89.0	4,814.00
J-42	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	85.1	4,823.00
J-43	Zone - 2	3.60	5,019.78	<Collection: 1 items>	Fixed	87.7	4,817.00
J-44	Zone - 2	3.60	5,019.79	<Collection: 1 items>	Fixed	87.7	4,817.00
J-45	Zone - 2	3.60	5,019.80	<Collection: 1 items>	Fixed	86.7	4,819.50
J-46	Zone - 2	3.60	5,019.80	<Collection: 1 items>	Fixed	86.4	4,820.00
J-47	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	89.9	4,812.00
J-48	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	90.8	4,810.00
J-49	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	90.3	4,811.00
J-50	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	89.9	4,812.00
J-51	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	89.0	4,814.00
J-52	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	90.8	4,810.00
J-53	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	89.7	4,812.50

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J79

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-54	Zone - 2	3.60	5,019.79	<Collection: 1 items>	Fixed	86.0	4,821.00
J-55	Zone - 2	3.60	5,019.79	<Collection: 1 items>	Fixed	85.1	4,823.00
J-56	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	83.0	4,828.00
J-57	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	84.1	4,825.50
J-58	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	84.1	4,825.50
J-59	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	83.2	4,827.50
J-60	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	81.2	4,832.00
J-61	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	85.6	4,822.00
J-62	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	82.5	4,829.00
J-64	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	84.7	4,824.00
J-65	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	82.1	4,830.00
J-68	Zone - 1	3.60	4,978.02	<Collection: 1 items>	Fixed	70.5	4,815.00
J-69	Zone - 1	3.60	4,981.04	<Collection: 1 items>	Fixed	74.9	4,808.00
J-70	Zone - 1	0.00	4,964.77	<Collection: 0 items>	Fixed	63.5	4,818.00
J-73	Zone - 1	3.60	4,969.16	<Collection: 1 items>	Fixed	68.9	4,810.00
J-74	Zone - 1	3.60	4,971.71	<Collection: 1 items>	Fixed	72.1	4,805.00
J-75	Zone - 1	3.60	4,973.26	<Collection: 1 items>	Fixed	75.0	4,800.00
J-76	Zone - 1	3.60	4,977.37	<Collection: 1 items>	Fixed	77.2	4,799.00
J-77	Zone - 1	3.60	4,956.62	<Collection: 1 items>	Fixed	72.1	4,790.00
J-78	Zone - 1	3.60	4,926.73	<Collection: 1 items>	Fixed	61.3	4,785.00
J-79	Zone - 1	6,003.60	4,899.37	<Collection: 1 items>	Fixed	51.6	4,780.00
J-80	Zone - 1	3.60	4,902.84	<Collection: 1 items>	Fixed	57.9	4,769.00
J-81	Zone - 1	3.60	4,909.91	<Collection: 1 items>	Fixed	58.8	4,774.00
J-82	Zone - 1	3.60	4,915.63	<Collection: 1 items>	Fixed	59.1	4,779.00
J-83	Zone - 1	3.60	4,923.42	<Collection: 1 items>	Fixed	60.3	4,784.00
J-84	Zone - 1	3.60	4,929.23	<Collection: 1 items>	Fixed	70.2	4,767.00
J-85	Zone - 1	3.60	4,935.30	<Collection: 1 items>	Fixed	70.7	4,772.00
J-86	Zone - 1	3.60	4,941.95	<Collection: 1 items>	Fixed	71.4	4,777.00
J-87	Zone - 1	3.60	4,949.25	<Collection: 1 items>	Fixed	72.4	4,782.00
J-88	Zone - 1	3.60	4,953.30	<Collection: 1 items>	Fixed	67.2	4,798.00
J-89	Zone - 1	3.60	4,957.16	<Collection: 1 items>	Fixed	62.8	4,812.00
J-90	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	91.2	4,809.00
J-91	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	92.9	4,805.00
J-92	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	94.6	4,801.00
J-93	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	94.4	4,801.50
J-94	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	94.2	4,802.00
J-95	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	92.5	4,806.00
J-96	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	90.8	4,810.00
J-97	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	90.3	4,811.00
J-98	Zone - 2	3.60	5,019.82	<Collection: 1 items>	Fixed	85.2	4,823.00
J-99	Zone - 2	3.60	5,019.83	<Collection: 1 items>	Fixed	83.9	4,826.00
J-100	Zone - 3	3.60	5,095.80	<Collection: 1 items>	Fixed	88.2	4,892.00
J-103	Zone - 3	3.60	5,095.81	<Collection: 1 items>	Fixed	89.9	4,888.00
J-104	Zone - 3	3.60	5,095.81	<Collection: 1 items>	Fixed	90.3	4,887.00
J-105	Zone - 3	3.60	5,095.82	<Collection: 1 items>	Fixed	90.8	4,886.00
J-106	Zone - 3	3.60	5,095.82	<Collection: 1 items>	Fixed	91.2	4,885.00
J-107	Zone - 3	3.60	5,095.83	<Collection: 1 items>	Fixed	91.6	4,884.00
J-108	Zone - 3	3.60	5,095.84	<Collection: 1 items>	Fixed	92.1	4,883.00
J-109	Zone - 3	3.60	5,095.84	<Collection: 1 items>	Fixed	92.5	4,882.00
J-110	Zone - 3	3.60	5,095.85	<Collection: 1 items>	Fixed	93.4	4,880.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J79

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-111	Zone - 3	3.60	5,095.86	<Collection: 1 items>	Fixed	94.3	4,878.00
J-112	Zone - 3	3.60	5,095.87	<Collection: 1 items>	Fixed	95.1	4,876.00
J-113	Zone - 3	3.60	5,095.88	<Collection: 1 items>	Fixed	96.0	4,874.00
J-114	Zone - 3	3.60	5,095.88	<Collection: 1 items>	Fixed	96.9	4,872.00
J-115	Zone - 3	3.60	5,095.89	<Collection: 1 items>	Fixed	97.7	4,870.00
J-116	Zone - 3	3.60	5,095.90	<Collection: 1 items>	Fixed	98.6	4,868.00
J-117	Zone - 3	3.60	5,095.91	<Collection: 1 items>	Fixed	99.5	4,866.00
J-118	Zone - 3	3.60	5,095.92	<Collection: 1 items>	Fixed	100.3	4,864.00
J-119	Zone - 3	3.60	5,095.93	<Collection: 1 items>	Fixed	101.2	4,862.00
J-121	Zone - 3	3.60	5,095.97	<Collection: 1 items>	Fixed	104.3	4,855.00
J-122	Zone - 3	0.00	5,118.75	<Collection: 0 items>	Fixed	138.3	4,799.00
J-123	Zone - 2	0.00	5,118.90	<Collection: 0 items>	Fixed	139.7	4,796.00
J-125	Zone - 3	0.00	5,118.74	<Collection: 0 items>	Fixed	138.6	4,798.50
J-126	Zone - 1	3.60	4,978.18	<Collection: 1 items>	Fixed	78.8	4,796.00
J-127	Zone - 3	0.00	5,118.73	<Collection: 0 items>	Fixed	138.8	4,798.00
J-129	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	98.5	4,792.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J79

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-1	1,094.21	30.0	100.0	2,208.69	1.00	0.23	Steel	0.206	5,120.00	True	5,119.77
P-2	37.82	30.0	100.0	-2,208.69	1.00	0.01	Steel	0.207	5,119.77	True	5,119.77
P-3	7.44	18.0	140.0	6.00	0.01	0.00	Asbestos Cement	0.000	5,119.77	True	5,119.77
P-4	7.39	18.0	140.0	6.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-5	461.01	18.0	140.0	-6.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-6	691.43	18.0	140.0	-4.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-7	645.24	18.0	140.0	2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-8	346.44	18.0	140.0	2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-9	1,826.43	30.0	100.0	-2,202.68	1.00	0.37	Steel	0.205	5,119.39	True	5,119.77
P-11	30.30	12.0	150.0	782.73	2.22	0.04	PVC	1.241	5,119.39	True	5,119.35
P-12	25.33	12.0	150.0	782.73	2.22	0.03	PVC	1.234	4,986.66	True	4,986.63
P-13	36.10	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,977.97	True	4,977.97
P-14	52.44	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.63	True	4,986.63
P-15	653.52	12.0	150.0	782.73	2.22	0.81	PVC	1.235	4,986.63	True	4,985.82
P-16	366.19	12.0	150.0	779.13	2.21	0.45	PVC	1.225	4,985.82	True	4,985.37
P-17	711.39	12.0	150.0	29.44	0.08	0.00	PVC	0.003	4,985.37	True	4,985.37
P-18	329.62	12.0	150.0	14.72	0.04	0.00	PVC	0.001	4,985.37	True	4,985.37
P-19	32.01	8.0	150.0	749.69	4.79	0.26	PVC	8.222	4,985.37	True	4,985.11
P-20	307.08	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,985.11	True	4,985.11
P-21	302.29	8.0	150.0	746.09	4.76	2.46	PVC	8.146	4,985.11	True	4,982.64
P-22	175.00	8.0	140.0	742.49	4.74	1.61	Asbestos Cement	9.174	4,982.64	True	4,981.04
P-23	331.85	8.0	140.0	738.89	4.72	3.02	Asbestos Cement	9.092	4,981.04	True	4,978.02
P-24	153.34	8.0	140.0	735.29	4.69	1.38	Asbestos Cement	9.012	4,978.02	True	4,976.64
P-25	177.80	8.0	150.0	735.29	4.69	1.41	PVC	7.929	4,976.64	True	4,975.23
P-26	101.80	8.0	150.0	735.29	4.69	0.81	PVC	7.929	4,975.23	True	4,974.42
P-27	343.59	8.0	150.0	735.29	4.69	2.72	PVC	7.930	4,974.42	True	4,971.70
P-28	273.59	8.0	150.0	735.29	4.69	2.17	PVC	7.928	4,971.70	True	4,969.53
P-29	600.56	8.0	150.0	735.29	4.69	4.76	PVC	7.930	4,969.53	True	4,964.77
P-30	549.58	8.0	150.0	769.65	4.91	4.74	PVC	8.629	4,964.77	True	4,960.03
P-31	245.14	8.0	150.0	-1,193.41	7.62	4.77	PVC	19.442	4,960.03	True	4,964.79
P-32	246.24	8.0	150.0	34.36	0.22	0.01	PVC	0.028	4,964.77	True	4,964.77
P-33	381.60	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,964.77	True	4,964.77
P-34	332.48	8.0	150.0	37.96	0.24	0.01	PVC	0.032	4,964.79	True	4,964.77
P-35	191.14	8.0	150.0	37.96	0.24	0.01	PVC	0.033	4,964.79	True	4,964.79
P-36	110.24	8.0	150.0	-1,234.98	7.88	2.28	PVC	20.716	4,964.79	True	4,967.08
P-37	82.46	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,967.08	True	4,967.08
P-38	94.56	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,119.77	True	5,119.77
P-40	457.35	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,019.77	True	5,019.77
P-41	854.39	12.0	150.0	-19.11	0.05	0.00	PVC	0.001	5,019.77	True	5,019.77
P-42	315.19	12.0	150.0	-19.11	0.05	0.00	PVC	0.002	5,019.77	True	5,019.77
P-43	518.31	12.0	150.0	3.60	0.01	0.00	PVC	0.000	5,019.77	True	5,019.77
P-44	70.88	12.0	150.0	-22.71	0.06	0.00	PVC	0.000	5,019.77	True	5,019.77
P-45	113.04	12.0	150.0	28.80	0.08	0.00	PVC	0.000	5,019.77	True	5,019.77
P-46	167.37	12.0	150.0	19.40	0.06	0.00	PVC	0.003	5,019.77	True	5,019.77
P-47	359.22	12.0	150.0	15.80	0.04	0.00	PVC	0.001	5,019.77	True	5,019.77
P-48	52.69	12.0	150.0	12.20	0.03	0.00	PVC	0.000	5,019.77	True	5,019.77
P-49	370.87	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.77	True	5,019.77
P-50	62.99	8.0	150.0	8.60	0.05	0.00	PVC	0.000	5,019.77	True	5,019.77

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J79

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-51	221.10	8.0	150.0	5.00	0.03	0.00	PVC	0.000	5,019.77	True	5,019.77
P-52	81.21	8.0	150.0	1.40	0.01	0.00	PVC	0.000	5,019.77	True	5,019.77
P-53	353.77	8.0	150.0	-2.20	0.01	0.00	PVC	0.000	5,019.77	True	5,019.77
P-54	332.21	8.0	150.0	-9.40	0.06	0.00	PVC	0.001	5,019.77	True	5,019.77
P-55	561.26	8.0	150.0	7.20	0.05	0.00	PVC	0.002	5,019.77	True	5,019.77
P-56	134.25	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.77	True	5,019.77
P-57	330.48	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.77	True	5,019.77
P-58	161.67	12.0	150.0	-51.51	0.15	0.00	PVC	0.009	5,019.77	True	5,019.77
P-59	213.49	12.0	150.0	-67.09	0.19	0.00	PVC	0.011	5,019.77	True	5,019.77
P-60	350.73	12.0	150.0	-93.61	0.27	0.01	PVC	0.025	5,019.77	True	5,019.78
P-61	286.24	12.0	150.0	-97.21	0.28	0.01	PVC	0.026	5,019.78	True	5,019.79
P-62	353.63	12.0	150.0	-108.01	0.31	0.01	PVC	0.032	5,019.79	True	5,019.80
P-63	94.38	12.0	150.0	-111.61	0.32	0.00	PVC	0.031	5,019.80	True	5,019.80
P-64	203.48	8.0	150.0	11.98	0.08	0.00	PVC	0.005	5,019.77	True	5,019.77
P-65	228.49	8.0	150.0	8.38	0.05	0.00	PVC	0.002	5,019.77	True	5,019.77
P-66	208.58	8.0	150.0	4.78	0.03	0.00	PVC	0.000	5,019.77	True	5,019.77
P-67	87.29	8.0	150.0	-15.72	0.10	0.00	PVC	0.006	5,019.77	True	5,019.77
P-68	212.45	8.0	150.0	-19.32	0.12	0.00	PVC	0.009	5,019.77	True	5,019.77
P-69	126.18	8.0	150.0	-22.92	0.15	0.00	PVC	0.012	5,019.77	True	5,019.77
P-70	140.87	8.0	150.0	16.90	0.11	0.00	PVC	0.007	5,019.77	True	5,019.77
P-72	326.41	8.0	150.0	7.20	0.05	0.00	PVC	0.001	5,019.79	True	5,019.79
P-73	185.39	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.79	True	5,019.79
P-117	722.25	12.0	150.0	-1,238.57	3.51	2.09	PVC	2.890	4,967.08	True	4,969.16
P-118	875.21	12.0	150.0	-1,242.17	3.52	2.54	PVC	2.906	4,969.16	True	4,971.71
P-119	530.70	12.0	150.0	-1,245.77	3.53	1.55	PVC	2.921	4,971.71	True	4,973.26
P-120	1,399.56	12.0	150.0	-1,249.37	3.54	4.11	PVC	2.937	4,973.26	True	4,977.37
P-122	1,136.72	12.0	150.0	4,080.14	11.57	29.88	PVC	26.289	4,956.62	True	4,926.73
P-123	1,042.45	12.0	150.0	4,076.54	11.56	27.36	PVC	26.246	4,926.73	True	4,899.37
P-124	528.52	12.0	150.0	-1,927.06	5.47	3.46	PVC	6.553	4,899.37	True	4,902.84
P-125	1,076.20	12.0	150.0	-1,930.66	5.48	7.08	PVC	6.576	4,902.84	True	4,909.91
P-126	866.57	12.0	150.0	-1,934.26	5.49	5.72	PVC	6.598	4,909.91	True	4,915.63
P-127	1,176.69	12.0	150.0	-1,937.86	5.50	7.79	PVC	6.621	4,915.63	True	4,923.42
P-128	873.65	12.0	150.0	-1,941.46	5.51	5.80	PVC	6.644	4,923.42	True	4,929.23
P-129	910.87	12.0	150.0	-1,945.06	5.52	6.07	PVC	6.666	4,929.23	True	4,935.30
P-130	994.16	12.0	150.0	-1,948.66	5.53	6.65	PVC	6.689	4,935.30	True	4,941.95
P-131	1,087.30	12.0	150.0	-1,952.26	5.54	7.30	PVC	6.713	4,941.95	True	4,949.25
P-132	602.18	12.0	150.0	-1,955.86	5.55	4.06	PVC	6.735	4,949.25	True	4,953.30
P-133	570.66	12.0	150.0	-1,959.46	5.56	3.86	PVC	6.759	4,953.30	True	4,957.16
P-134	422.43	12.0	150.0	-1,963.06	5.57	2.86	PVC	6.782	4,957.16	True	4,960.03
P-135	143.84	8.0	150.0	13.30	0.08	0.00	PVC	0.007	5,019.77	True	5,019.77
P-138	590.21	12.0	150.0	15.50	0.04	0.00	PVC	0.001	5,019.77	True	5,019.76
P-139	336.82	12.0	150.0	11.90	0.03	0.00	PVC	0.000	5,019.76	True	5,019.76
P-140	331.77	12.0	150.0	8.30	0.02	0.00	PVC	0.000	5,019.76	True	5,019.76
P-141	691.41	12.0	150.0	4.70	0.01	0.00	PVC	0.001	5,019.76	True	5,019.76
P-142	600.23	12.0	150.0	1.10	0.00	0.00	PVC	0.000	5,019.76	True	5,019.76
P-143	749.15	8.0	150.0	9.70	0.06	0.00	PVC	0.003	5,019.77	True	5,019.76
P-144	262.10	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.76	True	5,019.76
P-145	150.63	12.0	150.0	-2.50	0.01	0.00	PVC	0.000	5,019.76	True	5,019.76

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J79

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-146	404.83	12.0	150.0	-115.21	0.33	0.01	PVC	0.036	5,019.80	True	5,019.82
P-147	251.86	12.0	150.0	-118.81	0.34	0.01	PVC	0.037	5,019.82	True	5,019.83
P-152	628.26	16.0	150.0	-126.00	0.20	0.01	PVC	0.010	5,095.80	True	5,095.81
P-153	499.26	16.0	150.0	-129.60	0.21	0.01	PVC	0.011	5,095.81	True	5,095.81
P-154	499.14	16.0	150.0	-133.20	0.21	0.01	PVC	0.012	5,095.81	True	5,095.82
P-155	495.91	16.0	150.0	-136.80	0.22	0.01	PVC	0.012	5,095.82	True	5,095.82
P-156	498.45	16.0	150.0	-140.40	0.22	0.01	PVC	0.013	5,095.82	True	5,095.83
P-157	502.65	16.0	150.0	-144.00	0.23	0.01	PVC	0.014	5,095.83	True	5,095.84
P-158	505.16	16.0	150.0	-147.60	0.24	0.01	PVC	0.014	5,095.84	True	5,095.84
P-159	501.02	16.0	150.0	-151.20	0.24	0.01	PVC	0.015	5,095.84	True	5,095.85
P-160	504.09	16.0	150.0	-154.80	0.25	0.01	PVC	0.015	5,095.85	True	5,095.86
P-161	507.65	16.0	150.0	-158.40	0.25	0.01	PVC	0.015	5,095.86	True	5,095.87
P-162	499.19	16.0	150.0	-162.00	0.26	0.01	PVC	0.017	5,095.87	True	5,095.88
P-163	505.77	16.0	150.0	-165.60	0.26	0.01	PVC	0.016	5,095.88	True	5,095.88
P-164	500.85	16.0	150.0	-169.20	0.27	0.01	PVC	0.019	5,095.88	True	5,095.89
P-165	500.07	16.0	150.0	-172.80	0.28	0.01	PVC	0.019	5,095.89	True	5,095.90
P-166	509.76	16.0	150.0	-176.40	0.28	0.01	PVC	0.019	5,095.90	True	5,095.91
P-167	497.27	16.0	150.0	-180.00	0.29	0.01	PVC	0.020	5,095.91	True	5,095.92
P-168	498.43	16.0	150.0	-183.60	0.29	0.01	PVC	0.021	5,095.92	True	5,095.93
P-169	1,630.19	16.0	150.0	-187.20	0.30	0.04	PVC	0.022	5,095.93	True	5,095.97
P-176	3,079.47	12.0	150.0	-122.41	0.35	0.12	PVC	0.040	5,019.83	True	5,019.95
P-177	245.89	12.0	150.0	-122.40	0.35	0.01	PVC	0.040	5,095.79	True	5,095.80
P-178	1,518.48	30.0	100.0	-1,489.01	0.68	0.15	Steel	0.099	5,118.75	True	5,118.90
P-179	5,987.75	30.0	100.0	-1,489.01	0.68	0.59	Steel	0.099	5,118.90	True	5,119.50
P-181	111.34	30.0	100.0	-1,489.01	0.68	0.01	Steel	0.096	5,118.74	True	5,118.75
P-182	216.90	16.0	150.0	190.80	0.30	0.00	PVC	0.023	5,118.74	True	5,118.74
P-183	2,362.21	16.0	150.0	190.80	0.30	0.05	PVC	0.022	5,096.02	True	5,095.97
P-184	275.55	12.0	150.0	-1,252.97	3.55	0.81	PVC	2.952	4,977.37	True	4,978.18
P-185	818.88	12.0	150.0	4,083.74	11.58	21.56	PVC	26.332	4,978.18	True	4,956.62
P-186	2,007.25	30.0	100.0	4,042.10	1.83	1.27	Steel	0.631	5,120.00	True	5,118.73
P-187	97.75	30.0	100.0	-1,298.21	0.59	0.01	Steel	0.080	5,118.73	True	5,118.74
P-188	76.65	12.0	150.0	5,340.31	15.15	3.32	PVC	43.274	5,118.73	True	5,115.42
P-189	87.63	12.0	150.0	5,340.31	15.15	3.79	PVC	43.277	4,981.97	True	4,978.18
P-192	66.81	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,019.77	True	5,019.77
P-193	360.31	12.0	140.0	-19.11	0.05	0.00	Asbestos Cement	0.001	5,019.77	True	5,019.77
P-194	611.18	12.0	150.0	-19.10	0.05	0.00	PVC	0.002	5,019.77	True	5,019.77

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J84

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-1	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	84.1	4,783.50
J-2	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	83.5	4,785.00
J-3	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	84.4	4,783.00
J-6	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	80.9	4,791.00
J-7	Zone - 3	0.00	5,119.44	<Collection: 0 items>	Fixed	144.7	4,785.00
J-8	Zone - 3	0.00	5,119.88	<Collection: 0 items>	Fixed	141.4	4,793.00
J-10	Zone - 1	0.00	4,986.60	<Collection: 0 items>	Fixed	87.0	4,785.50
J-11	Zone - 1	3.60	4,985.13	<Collection: 1 items>	Fixed	81.6	4,796.50
J-12	Zone - 1	0.00	4,984.31	<Collection: 0 items>	Fixed	77.8	4,804.50
J-13	Zone - 1	14.72	4,984.31	<Collection: 1 items>	Fixed	73.5	4,814.50
J-14	Zone - 1	14.72	4,984.31	<Collection: 1 items>	Fixed	73.7	4,814.00
J-15	Zone - 1	0.00	4,983.83	<Collection: 0 items>	Fixed	77.4	4,805.00
J-16	Zone - 1	3.60	4,979.23	<Collection: 1 items>	Fixed	75.2	4,805.50
J-17	Zone - 1	0.00	4,967.98	<Collection: 0 items>	Fixed	66.6	4,814.00
J-18	Zone - 1	0.00	4,965.33	<Collection: 0 items>	Fixed	62.9	4,820.00
J-19	Zone - 1	0.00	4,963.82	<Collection: 0 items>	Fixed	61.4	4,822.00
J-20	Zone - 1	0.00	4,958.70	<Collection: 0 items>	Fixed	58.7	4,823.00
J-21	Zone - 1	0.00	4,954.62	<Collection: 0 items>	Fixed	57.4	4,822.00
J-22	Zone - 1	0.00	4,935.25	<Collection: 0 items>	Fixed	51.8	4,815.50
J-23	Zone - 1	3.60	4,945.98	<Collection: 1 items>	Fixed	56.2	4,816.00
J-24	Zone - 1	0.00	4,945.91	<Collection: 0 items>	Fixed	55.8	4,817.00
J-25	Zone - 1	3.60	4,945.77	<Collection: 1 items>	Fixed	56.6	4,815.00
J-26	Zone - 1	0.00	4,945.77	<Collection: 0 items>	Fixed	58.7	4,810.00
J-27	Zone - 1	0.00	4,951.57	<Collection: 0 items>	Fixed	59.5	4,814.00
J-28	Zone - 1	3.60	4,951.57	<Collection: 1 items>	Fixed	57.8	4,818.00
J-29	Zone - 1	3.60	4,983.83	<Collection: 1 items>	Fixed	74.3	4,812.00
J-30	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	80.0	4,793.00
J-31	Zone - 3	0.00	5,119.89	<Collection: 0 items>	Fixed	141.4	4,793.00
J-32	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	98.5	4,792.00
J-33	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	102.0	4,784.00
J-34	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	92.5	4,806.00
J-35	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	90.3	4,811.00
J-36	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	90.3	4,811.00
J-37	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	90.1	4,811.50
J-38	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	87.7	4,817.00
J-39	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	86.2	4,820.50
J-40	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	84.9	4,823.50
J-41	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	89.0	4,814.00
J-42	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	85.1	4,823.00
J-43	Zone - 2	3.60	5,019.78	<Collection: 1 items>	Fixed	87.7	4,817.00
J-44	Zone - 2	3.60	5,019.79	<Collection: 1 items>	Fixed	87.7	4,817.00
J-45	Zone - 2	3.60	5,019.80	<Collection: 1 items>	Fixed	86.7	4,819.50
J-46	Zone - 2	3.60	5,019.80	<Collection: 1 items>	Fixed	86.4	4,820.00
J-47	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	89.9	4,812.00
J-48	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	90.8	4,810.00
J-49	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	90.3	4,811.00
J-50	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	89.9	4,812.00
J-51	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	89.0	4,814.00
J-52	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	90.8	4,810.00
J-53	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	89.7	4,812.50

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J84

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-54	Zone - 2	3.60	5,019.79	<Collection: 1 items>	Fixed	86.0	4,821.00
J-55	Zone - 2	3.60	5,019.79	<Collection: 1 items>	Fixed	85.1	4,823.00
J-56	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	83.0	4,828.00
J-57	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	84.1	4,825.50
J-58	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	84.1	4,825.50
J-59	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	83.2	4,827.50
J-60	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	81.2	4,832.00
J-61	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	85.6	4,822.00
J-62	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	82.5	4,829.00
J-64	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	84.7	4,824.00
J-65	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	82.1	4,830.00
J-68	Zone - 1	3.60	4,970.58	<Collection: 1 items>	Fixed	67.3	4,815.00
J-69	Zone - 1	3.60	4,976.23	<Collection: 1 items>	Fixed	72.8	4,808.00
J-70	Zone - 1	0.00	4,945.68	<Collection: 0 items>	Fixed	55.2	4,818.00
J-73	Zone - 1	3.60	4,956.66	<Collection: 1 items>	Fixed	63.5	4,810.00
J-74	Zone - 1	3.60	4,962.86	<Collection: 1 items>	Fixed	68.3	4,805.00
J-75	Zone - 1	3.60	4,966.62	<Collection: 1 items>	Fixed	72.1	4,800.00
J-76	Zone - 1	3.60	4,976.59	<Collection: 1 items>	Fixed	76.8	4,799.00
J-77	Zone - 1	3.60	4,966.24	<Collection: 1 items>	Fixed	76.3	4,790.00
J-78	Zone - 1	3.60	4,949.17	<Collection: 1 items>	Fixed	71.0	4,785.00
J-79	Zone - 1	3.60	4,933.55	<Collection: 1 items>	Fixed	66.4	4,780.00
J-80	Zone - 1	3.60	4,925.65	<Collection: 1 items>	Fixed	67.8	4,769.00
J-81	Zone - 1	3.60	4,909.60	<Collection: 1 items>	Fixed	58.7	4,774.00
J-82	Zone - 1	3.60	4,896.70	<Collection: 1 items>	Fixed	50.9	4,779.00
J-83	Zone - 1	3.60	4,879.23	<Collection: 1 items>	Fixed	41.2	4,784.00
J-84	Zone - 1	6,003.60	4,866.28	<Collection: 1 items>	Fixed	43.0	4,767.00
J-85	Zone - 1	3.60	4,879.92	<Collection: 1 items>	Fixed	46.7	4,772.00
J-86	Zone - 1	3.60	4,894.83	<Collection: 1 items>	Fixed	51.0	4,777.00
J-87	Zone - 1	3.60	4,911.17	<Collection: 1 items>	Fixed	55.9	4,782.00
J-88	Zone - 1	3.60	4,920.24	<Collection: 1 items>	Fixed	52.9	4,798.00
J-89	Zone - 1	3.60	4,928.86	<Collection: 1 items>	Fixed	50.6	4,812.00
J-90	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	91.2	4,809.00
J-91	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	92.9	4,805.00
J-92	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	94.6	4,801.00
J-93	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	94.4	4,801.50
J-94	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	94.2	4,802.00
J-95	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	92.5	4,806.00
J-96	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	90.8	4,810.00
J-97	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	90.3	4,811.00
J-98	Zone - 2	3.60	5,019.82	<Collection: 1 items>	Fixed	85.2	4,823.00
J-99	Zone - 2	3.60	5,019.83	<Collection: 1 items>	Fixed	83.9	4,826.00
J-100	Zone - 3	3.60	5,095.80	<Collection: 1 items>	Fixed	88.2	4,892.00
J-103	Zone - 3	3.60	5,095.81	<Collection: 1 items>	Fixed	89.9	4,888.00
J-104	Zone - 3	3.60	5,095.81	<Collection: 1 items>	Fixed	90.3	4,887.00
J-105	Zone - 3	3.60	5,095.82	<Collection: 1 items>	Fixed	90.8	4,886.00
J-106	Zone - 3	3.60	5,095.82	<Collection: 1 items>	Fixed	91.2	4,885.00
J-107	Zone - 3	3.60	5,095.83	<Collection: 1 items>	Fixed	91.6	4,884.00
J-108	Zone - 3	3.60	5,095.84	<Collection: 1 items>	Fixed	92.1	4,883.00
J-109	Zone - 3	3.60	5,095.84	<Collection: 1 items>	Fixed	92.5	4,882.00
J-110	Zone - 3	3.60	5,095.85	<Collection: 1 items>	Fixed	93.4	4,880.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J84

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-111	Zone - 3	3.60	5,095.86	<Collection: 1 items>	Fixed	94.3	4,878.00
J-112	Zone - 3	3.60	5,095.87	<Collection: 1 items>	Fixed	95.1	4,876.00
J-113	Zone - 3	3.60	5,095.88	<Collection: 1 items>	Fixed	96.0	4,874.00
J-114	Zone - 3	3.60	5,095.88	<Collection: 1 items>	Fixed	96.9	4,872.00
J-115	Zone - 3	3.60	5,095.89	<Collection: 1 items>	Fixed	97.7	4,870.00
J-116	Zone - 3	3.60	5,095.90	<Collection: 1 items>	Fixed	98.6	4,868.00
J-117	Zone - 3	3.60	5,095.91	<Collection: 1 items>	Fixed	99.5	4,866.00
J-118	Zone - 3	3.60	5,095.92	<Collection: 1 items>	Fixed	100.3	4,864.00
J-119	Zone - 3	3.60	5,095.93	<Collection: 1 items>	Fixed	101.2	4,862.00
J-121	Zone - 3	3.60	5,095.97	<Collection: 1 items>	Fixed	104.3	4,855.00
J-122	Zone - 3	0.00	5,118.83	<Collection: 0 items>	Fixed	138.4	4,799.00
J-123	Zone - 2	0.00	5,118.95	<Collection: 0 items>	Fixed	139.7	4,796.00
J-125	Zone - 3	0.00	5,118.82	<Collection: 0 items>	Fixed	138.6	4,798.50
J-126	Zone - 1	3.60	4,978.56	<Collection: 1 items>	Fixed	79.0	4,796.00
J-127	Zone - 3	0.00	5,118.81	<Collection: 0 items>	Fixed	138.8	4,798.00
J-129	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	98.5	4,792.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J84

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-1	1,094.21	30.0	100.0	2,339.93	1.06	0.25	Steel	0.229	5,120.00	True	5,119.75
P-2	37.82	30.0	100.0	-2,339.92	1.06	0.01	Steel	0.232	5,119.74	True	5,119.75
P-3	7.44	18.0	140.0	6.00	0.01	0.00	Asbestos Cement	0.000	5,119.74	True	5,119.74
P-4	7.39	18.0	140.0	6.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-5	461.01	18.0	140.0	-6.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-6	691.43	18.0	140.0	-4.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-7	645.24	18.0	140.0	2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-8	346.44	18.0	140.0	2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-9	1,826.43	30.0	100.0	-2,333.93	1.06	0.42	Steel	0.228	5,119.32	True	5,119.74
P-11	30.30	12.0	150.0	1,081.03	3.07	0.07	PVC	2.240	5,119.32	True	5,119.26
P-12	25.33	12.0	150.0	1,081.03	3.07	0.06	PVC	2.255	4,986.66	True	4,986.60
P-13	36.10	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,977.97	True	4,977.97
P-14	52.44	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.60	True	4,986.60
P-15	653.52	12.0	150.0	1,081.03	3.07	1.47	PVC	2.246	4,986.60	True	4,985.13
P-16	366.19	12.0	150.0	1,077.43	3.06	0.82	PVC	2.232	4,985.13	True	4,984.31
P-17	711.39	12.0	150.0	29.44	0.08	0.00	PVC	0.003	4,984.31	True	4,984.31
P-18	329.62	12.0	150.0	14.72	0.04	0.00	PVC	0.000	4,984.31	True	4,984.31
P-19	32.01	8.0	150.0	1,047.99	6.69	0.49	PVC	15.284	4,984.31	True	4,983.83
P-20	307.08	8.0	150.0	3.60	0.02	0.00	PVC	0.002	4,983.83	True	4,983.83
P-21	302.29	8.0	150.0	1,044.39	6.67	4.59	PVC	15.188	4,983.83	True	4,979.23
P-22	175.00	8.0	140.0	1,040.79	6.64	3.00	Asbestos Cement	17.149	4,979.23	True	4,976.23
P-23	331.85	8.0	140.0	1,037.19	6.62	5.65	Asbestos Cement	17.037	4,976.23	True	4,970.58
P-24	153.34	8.0	140.0	1,033.59	6.60	2.60	Asbestos Cement	16.928	4,970.58	True	4,967.98
P-25	177.80	8.0	150.0	1,033.59	6.60	2.65	PVC	14.899	4,967.98	True	4,965.33
P-26	101.80	8.0	150.0	1,033.59	6.60	1.52	PVC	14.898	4,965.33	True	4,963.82
P-27	343.59	8.0	150.0	1,033.59	6.60	5.12	PVC	14.897	4,963.82	True	4,958.70
P-28	273.59	8.0	150.0	1,033.59	6.60	4.08	PVC	14.897	4,958.70	True	4,954.62
P-29	600.56	8.0	150.0	1,033.59	6.60	8.95	PVC	14.898	4,954.62	True	4,945.68
P-30	549.58	8.0	150.0	1,177.75	7.52	10.43	PVC	18.973	4,945.68	True	4,935.25
P-31	245.14	8.0	150.0	-1,850.12	11.81	10.74	PVC	43.793	4,935.25	True	4,945.98
P-32	246.24	8.0	150.0	144.15	0.92	0.10	PVC	0.389	4,945.77	True	4,945.68
P-33	381.60	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,945.77	True	4,945.77
P-34	332.48	8.0	150.0	147.76	0.94	0.13	PVC	0.405	4,945.91	True	4,945.77
P-35	191.14	8.0	150.0	147.76	0.94	0.08	PVC	0.406	4,945.98	True	4,945.91
P-36	110.24	8.0	150.0	-2,001.48	12.77	5.58	PVC	50.659	4,945.98	True	4,951.57
P-37	82.46	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,951.57	True	4,951.57
P-38	94.56	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,119.75	True	5,119.75
P-40	457.35	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,019.77	True	5,019.77
P-41	854.39	12.0	150.0	-19.11	0.05	0.00	PVC	0.001	5,019.77	True	5,019.77
P-42	315.19	12.0	150.0	-19.11	0.05	0.00	PVC	0.002	5,019.77	True	5,019.77
P-43	518.31	12.0	150.0	3.60	0.01	0.00	PVC	0.000	5,019.77	True	5,019.77
P-44	70.88	12.0	150.0	-22.71	0.06	0.00	PVC	0.000	5,019.77	True	5,019.77
P-45	113.04	12.0	150.0	28.80	0.08	0.00	PVC	0.000	5,019.77	True	5,019.77
P-46	167.37	12.0	150.0	19.40	0.06	0.00	PVC	0.003	5,019.77	True	5,019.77
P-47	359.22	12.0	150.0	15.80	0.04	0.00	PVC	0.001	5,019.77	True	5,019.77
P-48	52.69	12.0	150.0	12.20	0.03	0.00	PVC	0.000	5,019.77	True	5,019.77
P-49	370.87	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.77	True	5,019.77
P-50	62.99	8.0	150.0	8.60	0.05	0.00	PVC	0.000	5,019.77	True	5,019.77

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J84

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-51	221.10	8.0	150.0	5.00	0.03	0.00	PVC	0.000	5,019.77	True	5,019.77
P-52	81.21	8.0	150.0	1.40	0.01	0.00	PVC	0.000	5,019.77	True	5,019.77
P-53	353.77	8.0	150.0	-2.20	0.01	0.00	PVC	0.000	5,019.77	True	5,019.77
P-54	332.21	8.0	150.0	-9.40	0.06	0.00	PVC	0.003	5,019.77	True	5,019.77
P-55	561.26	8.0	150.0	7.20	0.05	0.00	PVC	0.002	5,019.77	True	5,019.77
P-56	134.25	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.77	True	5,019.77
P-57	330.48	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.77	True	5,019.77
P-58	161.67	12.0	150.0	-51.51	0.15	0.00	PVC	0.009	5,019.77	True	5,019.77
P-59	213.49	12.0	150.0	-67.08	0.19	0.00	PVC	0.014	5,019.77	True	5,019.77
P-60	350.73	12.0	150.0	-93.60	0.27	0.01	PVC	0.024	5,019.77	True	5,019.78
P-61	286.24	12.0	150.0	-97.20	0.28	0.01	PVC	0.026	5,019.78	True	5,019.79
P-62	353.63	12.0	150.0	-108.00	0.31	0.01	PVC	0.032	5,019.79	True	5,019.80
P-63	94.38	12.0	150.0	-111.60	0.32	0.00	PVC	0.031	5,019.80	True	5,019.80
P-64	203.48	8.0	150.0	11.98	0.08	0.00	PVC	0.005	5,019.77	True	5,019.77
P-65	228.49	8.0	150.0	8.38	0.05	0.00	PVC	0.002	5,019.77	True	5,019.77
P-66	208.58	8.0	150.0	4.78	0.03	0.00	PVC	0.000	5,019.77	True	5,019.77
P-67	87.29	8.0	150.0	-15.72	0.10	0.00	PVC	0.006	5,019.77	True	5,019.77
P-68	212.45	8.0	150.0	-19.32	0.12	0.00	PVC	0.009	5,019.77	True	5,019.77
P-69	126.18	8.0	150.0	-22.92	0.15	0.00	PVC	0.015	5,019.77	True	5,019.77
P-70	140.87	8.0	150.0	16.90	0.11	0.00	PVC	0.007	5,019.77	True	5,019.77
P-72	326.41	8.0	150.0	7.20	0.05	0.00	PVC	0.001	5,019.79	True	5,019.79
P-73	185.39	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.79	True	5,019.79
P-117	722.25	12.0	150.0	-2,005.08	5.69	5.09	PVC	7.053	4,951.57	True	4,956.66
P-118	875.21	12.0	150.0	-2,008.68	5.70	6.19	PVC	7.076	4,956.66	True	4,962.86
P-119	530.70	12.0	150.0	-2,012.28	5.71	3.77	PVC	7.099	4,962.86	True	4,966.62
P-120	1,399.56	12.0	150.0	-2,015.88	5.72	9.97	PVC	7.123	4,966.62	True	4,976.59
P-122	1,136.72	12.0	150.0	3,015.33	8.55	17.07	PVC	15.015	4,966.24	True	4,949.17
P-123	1,042.45	12.0	150.0	3,011.73	8.54	15.62	PVC	14.982	4,949.17	True	4,933.55
P-124	528.52	12.0	150.0	3,008.13	8.53	7.90	PVC	14.949	4,933.55	True	4,925.65
P-125	1,076.20	12.0	150.0	3,004.53	8.52	16.05	PVC	14.916	4,925.65	True	4,909.60
P-126	866.57	12.0	150.0	3,000.93	8.51	12.90	PVC	14.883	4,909.60	True	4,896.70
P-127	1,176.69	12.0	150.0	2,997.33	8.50	17.47	PVC	14.850	4,896.70	True	4,879.23
P-128	873.65	12.0	150.0	2,993.73	8.49	12.94	PVC	14.817	4,879.23	True	4,866.28
P-129	910.87	12.0	150.0	-3,009.87	8.54	13.63	PVC	14.965	4,866.28	True	4,879.92
P-130	994.16	12.0	150.0	-3,013.47	8.55	14.91	PVC	14.998	4,879.92	True	4,894.83
P-131	1,087.30	12.0	150.0	-3,017.07	8.56	16.34	PVC	15.031	4,894.83	True	4,911.17
P-132	602.18	12.0	150.0	-3,020.67	8.57	9.07	PVC	15.064	4,911.17	True	4,920.24
P-133	570.66	12.0	150.0	-3,024.27	8.58	8.62	PVC	15.098	4,920.24	True	4,928.86
P-134	422.43	12.0	150.0	-3,027.87	8.59	6.39	PVC	15.132	4,928.86	True	4,935.25
P-135	143.84	8.0	150.0	13.30	0.08	0.00	PVC	0.007	5,019.77	True	5,019.77
P-138	590.21	12.0	150.0	15.50	0.04	0.00	PVC	0.001	5,019.77	True	5,019.76
P-139	336.82	12.0	150.0	11.90	0.03	0.00	PVC	0.000	5,019.76	True	5,019.76
P-140	331.77	12.0	150.0	8.30	0.02	0.00	PVC	0.000	5,019.76	True	5,019.76
P-141	691.41	12.0	150.0	4.70	0.01	0.00	PVC	0.001	5,019.76	True	5,019.76
P-142	600.23	12.0	150.0	1.10	0.00	0.00	PVC	0.000	5,019.76	True	5,019.76
P-143	749.15	8.0	150.0	9.70	0.06	0.00	PVC	0.003	5,019.77	True	5,019.76
P-144	262.10	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.76	True	5,019.76
P-145	150.63	12.0	150.0	-2.50	0.01	0.00	PVC	0.000	5,019.76	True	5,019.76

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J84

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-146	404.83	12.0	150.0	-115.20	0.33	0.01	PVC	0.036	5,019.80	True	5,019.82
P-147	251.86	12.0	150.0	-118.80	0.34	0.01	PVC	0.037	5,019.82	True	5,019.83
P-152	628.26	16.0	150.0	-126.01	0.20	0.01	PVC	0.010	5,095.80	True	5,095.81
P-153	499.26	16.0	150.0	-129.61	0.21	0.01	PVC	0.011	5,095.81	True	5,095.81
P-154	499.14	16.0	150.0	-133.21	0.21	0.01	PVC	0.012	5,095.81	True	5,095.82
P-155	495.91	16.0	150.0	-136.81	0.22	0.01	PVC	0.012	5,095.82	True	5,095.82
P-156	498.45	16.0	150.0	-140.41	0.22	0.01	PVC	0.013	5,095.82	True	5,095.83
P-157	502.65	16.0	150.0	-144.01	0.23	0.01	PVC	0.014	5,095.83	True	5,095.84
P-158	505.16	16.0	150.0	-147.61	0.24	0.01	PVC	0.014	5,095.84	True	5,095.84
P-159	501.02	16.0	150.0	-151.21	0.24	0.01	PVC	0.015	5,095.84	True	5,095.85
P-160	504.09	16.0	150.0	-154.81	0.25	0.01	PVC	0.015	5,095.85	True	5,095.86
P-161	507.65	16.0	150.0	-158.41	0.25	0.01	PVC	0.016	5,095.86	True	5,095.87
P-162	499.19	16.0	150.0	-162.01	0.26	0.01	PVC	0.017	5,095.87	True	5,095.88
P-163	505.77	16.0	150.0	-165.61	0.26	0.01	PVC	0.016	5,095.88	True	5,095.88
P-164	500.85	16.0	150.0	-169.21	0.27	0.01	PVC	0.019	5,095.88	True	5,095.89
P-165	500.07	16.0	150.0	-172.81	0.28	0.01	PVC	0.019	5,095.89	True	5,095.90
P-166	509.76	16.0	150.0	-176.41	0.28	0.01	PVC	0.019	5,095.90	True	5,095.91
P-167	497.27	16.0	150.0	-180.01	0.29	0.01	PVC	0.020	5,095.91	True	5,095.92
P-168	498.43	16.0	150.0	-183.61	0.29	0.01	PVC	0.021	5,095.92	True	5,095.93
P-169	1,630.19	16.0	150.0	-187.21	0.30	0.04	PVC	0.022	5,095.93	True	5,095.97
P-176	3,079.47	12.0	150.0	-122.40	0.35	0.12	PVC	0.040	5,019.83	True	5,019.95
P-177	245.89	12.0	150.0	-122.41	0.35	0.01	PVC	0.040	5,095.79	True	5,095.80
P-178	1,518.48	30.0	100.0	-1,333.30	0.61	0.12	Steel	0.081	5,118.83	True	5,118.95
P-179	5,987.75	30.0	100.0	-1,333.30	0.61	0.48	Steel	0.081	5,118.95	True	5,119.44
P-181	111.34	30.0	100.0	-1,333.30	0.61	0.01	Steel	0.083	5,118.82	True	5,118.83
P-182	216.90	16.0	150.0	190.81	0.30	0.00	PVC	0.023	5,118.82	True	5,118.82
P-183	2,362.21	16.0	150.0	190.81	0.30	0.05	PVC	0.022	5,096.02	True	5,095.97
P-184	275.55	12.0	150.0	-2,019.48	5.73	1.97	PVC	7.146	4,976.59	True	4,978.56
P-185	818.88	12.0	150.0	3,018.93	8.56	12.32	PVC	15.048	4,978.56	True	4,966.24
P-186	2,007.25	30.0	100.0	3,899.52	1.77	1.19	Steel	0.590	5,120.00	True	5,118.81
P-187	97.75	30.0	100.0	-1,142.49	0.52	0.01	Steel	0.060	5,118.81	True	5,118.82
P-188	76.65	12.0	150.0	5,042.01	14.30	2.98	PVC	38.904	5,118.81	True	5,115.83
P-189	87.63	12.0	150.0	5,042.01	14.30	3.41	PVC	38.909	4,981.97	True	4,978.56
P-192	66.81	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,019.77	True	5,019.77
P-193	360.31	12.0	140.0	-19.11	0.05	0.00	Asbestos Cement	0.001	5,019.77	True	5,019.77
P-194	611.18	12.0	150.0	-19.10	0.05	0.00	PVC	0.002	5,019.77	True	5,019.77

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J94

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-1	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	84.1	4,783.50
J-2	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	83.5	4,785.00
J-3	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	84.4	4,783.00
J-6	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	80.9	4,791.00
J-7	Zone - 3	0.00	5,119.63	<Collection: 0 items>	Fixed	144.8	4,785.00
J-8	Zone - 3	0.00	5,119.61	<Collection: 0 items>	Fixed	141.3	4,793.00
J-10	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	87.0	4,785.50
J-11	Zone - 1	3.60	4,986.63	<Collection: 1 items>	Fixed	82.3	4,796.50
J-12	Zone - 1	0.00	4,986.62	<Collection: 0 items>	Fixed	78.8	4,804.50
J-13	Zone - 1	14.72	4,986.61	<Collection: 1 items>	Fixed	74.5	4,814.50
J-14	Zone - 1	14.72	4,986.61	<Collection: 1 items>	Fixed	74.7	4,814.00
J-15	Zone - 1	0.00	4,986.61	<Collection: 0 items>	Fixed	78.6	4,805.00
J-16	Zone - 1	3.60	4,986.57	<Collection: 1 items>	Fixed	78.3	4,805.50
J-17	Zone - 1	0.00	4,986.47	<Collection: 0 items>	Fixed	74.6	4,814.00
J-18	Zone - 1	0.00	4,986.45	<Collection: 0 items>	Fixed	72.0	4,820.00
J-19	Zone - 1	0.00	4,986.44	<Collection: 0 items>	Fixed	71.1	4,822.00
J-20	Zone - 1	0.00	4,986.40	<Collection: 0 items>	Fixed	70.7	4,823.00
J-21	Zone - 1	0.00	4,986.36	<Collection: 0 items>	Fixed	71.1	4,822.00
J-22	Zone - 1	0.00	4,986.27	<Collection: 0 items>	Fixed	73.9	4,815.50
J-23	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	73.7	4,816.00
J-24	Zone - 1	0.00	4,986.28	<Collection: 0 items>	Fixed	73.2	4,817.00
J-25	Zone - 1	3.60	4,986.29	<Collection: 1 items>	Fixed	74.1	4,815.00
J-26	Zone - 1	0.00	4,986.29	<Collection: 0 items>	Fixed	76.3	4,810.00
J-27	Zone - 1	0.00	4,986.27	<Collection: 0 items>	Fixed	74.5	4,814.00
J-28	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	72.8	4,818.00
J-29	Zone - 1	3.60	4,986.61	<Collection: 1 items>	Fixed	75.5	4,812.00
J-30	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	80.0	4,793.00
J-31	Zone - 3	0.00	5,119.61	<Collection: 0 items>	Fixed	141.3	4,793.00
J-32	Zone - 2	0.00	5,015.65	<Collection: 0 items>	Fixed	96.8	4,792.00
J-33	Zone - 2	0.00	5,015.65	<Collection: 0 items>	Fixed	100.2	4,784.00
J-34	Zone - 2	0.00	5,014.15	<Collection: 0 items>	Fixed	90.1	4,806.00
J-35	Zone - 2	0.00	5,013.59	<Collection: 0 items>	Fixed	87.7	4,811.00
J-36	Zone - 2	3.60	5,013.59	<Collection: 1 items>	Fixed	87.7	4,811.00
J-37	Zone - 2	0.00	5,013.47	<Collection: 0 items>	Fixed	87.4	4,811.50
J-38	Zone - 2	0.00	5,013.47	<Collection: 0 items>	Fixed	85.0	4,817.00
J-39	Zone - 2	3.60	5,013.46	<Collection: 1 items>	Fixed	83.5	4,820.50
J-40	Zone - 2	0.00	5,013.46	<Collection: 0 items>	Fixed	82.2	4,823.50
J-41	Zone - 2	3.60	5,013.20	<Collection: 1 items>	Fixed	86.2	4,814.00
J-42	Zone - 2	3.60	5,013.19	<Collection: 1 items>	Fixed	82.3	4,823.00
J-43	Zone - 2	3.60	5,013.65	<Collection: 1 items>	Fixed	85.1	4,817.00
J-44	Zone - 2	3.60	5,014.04	<Collection: 1 items>	Fixed	85.2	4,817.00
J-45	Zone - 2	3.60	5,014.52	<Collection: 1 items>	Fixed	84.4	4,819.50
J-46	Zone - 2	3.60	5,014.66	<Collection: 1 items>	Fixed	84.2	4,820.00
J-47	Zone - 2	3.60	5,011.45	<Collection: 1 items>	Fixed	86.3	4,812.00
J-48	Zone - 2	3.60	5,009.50	<Collection: 1 items>	Fixed	86.3	4,810.00
J-49	Zone - 2	3.60	5,007.73	<Collection: 1 items>	Fixed	85.1	4,811.00
J-50	Zone - 2	3.60	5,008.84	<Collection: 1 items>	Fixed	85.2	4,812.00
J-51	Zone - 2	3.60	5,011.56	<Collection: 1 items>	Fixed	85.5	4,814.00
J-52	Zone - 2	3.60	5,002.42	<Collection: 1 items>	Fixed	83.3	4,810.00
J-53	Zone - 2	3.60	4,968.99	<Collection: 1 items>	Fixed	67.7	4,812.50

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J94

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-54	Zone - 2	3.60	5,014.04	<Collection: 1 items>	Fixed	83.5	4,821.00
J-55	Zone - 2	3.60	5,014.04	<Collection: 1 items>	Fixed	82.7	4,823.00
J-56	Zone - 2	3.60	5,013.46	<Collection: 1 items>	Fixed	80.2	4,828.00
J-57	Zone - 2	3.60	5,013.46	<Collection: 1 items>	Fixed	81.3	4,825.50
J-58	Zone - 2	3.60	5,013.46	<Collection: 1 items>	Fixed	81.3	4,825.50
J-59	Zone - 2	3.60	5,013.46	<Collection: 1 items>	Fixed	80.5	4,827.50
J-60	Zone - 2	3.60	5,013.46	<Collection: 1 items>	Fixed	78.5	4,832.00
J-61	Zone - 2	0.00	5,013.46	<Collection: 0 items>	Fixed	82.8	4,822.00
J-62	Zone - 2	0.00	5,013.46	<Collection: 0 items>	Fixed	79.8	4,829.00
J-64	Zone - 2	3.60	5,013.46	<Collection: 1 items>	Fixed	82.0	4,824.00
J-65	Zone - 2	3.60	5,013.46	<Collection: 1 items>	Fixed	79.4	4,830.00
J-68	Zone - 1	3.60	4,986.49	<Collection: 1 items>	Fixed	74.2	4,815.00
J-69	Zone - 1	3.60	4,986.54	<Collection: 1 items>	Fixed	77.2	4,808.00
J-70	Zone - 1	0.00	4,986.29	<Collection: 0 items>	Fixed	72.8	4,818.00
J-73	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	76.3	4,810.00
J-74	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	78.4	4,805.00
J-75	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	80.6	4,800.00
J-76	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	81.0	4,799.00
J-77	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	84.9	4,790.00
J-78	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	87.1	4,785.00
J-79	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	89.2	4,780.00
J-80	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	94.0	4,769.00
J-81	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	91.8	4,774.00
J-82	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	89.7	4,779.00
J-83	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	87.5	4,784.00
J-84	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	94.9	4,767.00
J-85	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	92.7	4,772.00
J-86	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	90.5	4,777.00
J-87	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	88.4	4,782.00
J-88	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	81.5	4,798.00
J-89	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	75.4	4,812.00
J-90	Zone - 2	3.60	4,997.02	<Collection: 1 items>	Fixed	81.3	4,809.00
J-91	Zone - 2	3.60	4,998.44	<Collection: 1 items>	Fixed	83.7	4,805.00
J-92	Zone - 2	3.60	4,981.15	<Collection: 1 items>	Fixed	77.9	4,801.00
J-93	Zone - 2	3.60	4,971.30	<Collection: 1 items>	Fixed	73.5	4,801.50
J-94	Zone - 2	6,003.60	4,961.61	<Collection: 1 items>	Fixed	69.1	4,802.00
J-95	Zone - 2	3.60	4,965.14	<Collection: 1 items>	Fixed	68.9	4,806.00
J-96	Zone - 2	3.60	4,968.22	<Collection: 1 items>	Fixed	68.5	4,810.00
J-97	Zone - 2	3.60	4,968.99	<Collection: 1 items>	Fixed	68.4	4,811.00
J-98	Zone - 2	3.60	5,015.22	<Collection: 1 items>	Fixed	83.2	4,823.00
J-99	Zone - 2	3.60	5,015.58	<Collection: 1 items>	Fixed	82.0	4,826.00
J-100	Zone - 3	3.60	5,091.17	<Collection: 1 items>	Fixed	86.2	4,892.00
J-103	Zone - 3	3.60	5,091.39	<Collection: 1 items>	Fixed	88.0	4,888.00
J-104	Zone - 3	3.60	5,091.57	<Collection: 1 items>	Fixed	88.5	4,887.00
J-105	Zone - 3	3.60	5,091.75	<Collection: 1 items>	Fixed	89.0	4,886.00
J-106	Zone - 3	3.60	5,091.92	<Collection: 1 items>	Fixed	89.5	4,885.00
J-107	Zone - 3	3.60	5,092.11	<Collection: 1 items>	Fixed	90.0	4,884.00
J-108	Zone - 3	3.60	5,092.29	<Collection: 1 items>	Fixed	90.5	4,883.00
J-109	Zone - 3	3.60	5,092.48	<Collection: 1 items>	Fixed	91.1	4,882.00
J-110	Zone - 3	3.60	5,092.66	<Collection: 1 items>	Fixed	92.0	4,880.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J94

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-111	Zone - 3	3.60	5,092.85	<Collection: 1 items>	Fixed	93.0	4,878.00
J-112	Zone - 3	3.60	5,093.04	<Collection: 1 items>	Fixed	93.9	4,876.00
J-113	Zone - 3	3.60	5,093.23	<Collection: 1 items>	Fixed	94.9	4,874.00
J-114	Zone - 3	3.60	5,093.43	<Collection: 1 items>	Fixed	95.8	4,872.00
J-115	Zone - 3	3.60	5,093.62	<Collection: 1 items>	Fixed	96.8	4,870.00
J-116	Zone - 3	3.60	5,093.82	<Collection: 1 items>	Fixed	97.7	4,868.00
J-117	Zone - 3	3.60	5,094.02	<Collection: 1 items>	Fixed	98.7	4,866.00
J-118	Zone - 3	3.60	5,094.21	<Collection: 1 items>	Fixed	99.6	4,864.00
J-119	Zone - 3	3.60	5,094.41	<Collection: 1 items>	Fixed	100.6	4,862.00
J-121	Zone - 3	3.60	5,095.06	<Collection: 1 items>	Fixed	103.9	4,855.00
J-122	Zone - 3	0.00	5,119.78	<Collection: 0 items>	Fixed	138.8	4,799.00
J-123	Zone - 2	0.00	5,119.75	<Collection: 0 items>	Fixed	140.1	4,796.00
J-125	Zone - 3	0.00	5,119.78	<Collection: 0 items>	Fixed	139.0	4,798.50
J-126	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	82.3	4,796.00
J-127	Zone - 3	0.00	5,119.79	<Collection: 0 items>	Fixed	139.2	4,798.00
J-129	Zone - 2	0.00	5,016.38	<Collection: 0 items>	Fixed	97.1	4,792.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J94

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-1	1,094.21	30.0	100.0	4,375.88	1.99	0.80	Steel	0.731	5,120.00	True	5,119.20
P-2	37.82	30.0	100.0	902.62	0.41	0.00	Steel	0.039	5,119.20	True	5,119.20
P-3	7.44	18.0	140.0	6.00	0.01	0.00	Asbestos Cement	0.000	5,119.20	True	5,119.20
P-4	7.39	18.0	140.0	6.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-5	461.01	18.0	140.0	-6.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-6	691.43	18.0	140.0	-4.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-7	645.24	18.0	140.0	2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-8	346.44	18.0	140.0	2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-9	1,826.43	30.0	100.0	908.61	0.41	0.07	Steel	0.040	5,119.27	True	5,119.20
P-11	30.30	12.0	150.0	123.05	0.35	0.00	PVC	0.032	5,119.27	True	5,119.27
P-12	25.33	12.0	150.0	123.04	0.35	0.00	PVC	0.039	4,986.66	True	4,986.66
P-13	36.10	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,977.97	True	4,977.97
P-14	52.44	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-15	653.52	12.0	150.0	123.04	0.35	0.03	PVC	0.040	4,986.66	True	4,986.63
P-16	366.19	12.0	150.0	119.44	0.34	0.01	PVC	0.037	4,986.63	True	4,986.62
P-17	711.39	12.0	150.0	29.44	0.08	0.00	PVC	0.003	4,986.62	True	4,986.61
P-18	329.62	12.0	150.0	14.72	0.04	0.00	PVC	0.001	4,986.61	True	4,986.61
P-19	32.01	8.0	150.0	90.00	0.57	0.01	PVC	0.168	4,986.62	True	4,986.61
P-20	307.08	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,986.61	True	4,986.61
P-21	302.29	8.0	150.0	86.40	0.55	0.05	PVC	0.150	4,986.61	True	4,986.57
P-22	175.00	8.0	140.0	82.80	0.53	0.03	Asbestos Cement	0.159	4,986.57	True	4,986.54
P-23	331.85	8.0	140.0	79.20	0.51	0.05	Asbestos Cement	0.144	4,986.54	True	4,986.49
P-24	153.34	8.0	140.0	75.60	0.48	0.02	Asbestos Cement	0.134	4,986.49	True	4,986.47
P-25	177.80	8.0	150.0	75.60	0.48	0.02	PVC	0.118	4,986.47	True	4,986.45
P-26	101.80	8.0	150.0	75.60	0.48	0.01	PVC	0.115	4,986.45	True	4,986.44
P-27	343.59	8.0	150.0	75.60	0.48	0.04	PVC	0.118	4,986.44	True	4,986.40
P-28	273.59	8.0	150.0	75.60	0.48	0.03	PVC	0.118	4,986.40	True	4,986.36
P-29	600.56	8.0	150.0	75.60	0.48	0.07	PVC	0.117	4,986.36	True	4,986.29
P-30	549.58	8.0	150.0	39.83	0.25	0.02	PVC	0.036	4,986.29	True	4,986.27
P-31	245.14	8.0	150.0	4.76	0.03	0.00	PVC	0.002	4,986.27	True	4,986.27
P-32	246.24	8.0	150.0	-35.77	0.23	0.01	PVC	0.030	4,986.29	True	4,986.29
P-33	381.60	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.29	True	4,986.29
P-34	332.48	8.0	150.0	-32.17	0.21	0.01	PVC	0.023	4,986.28	True	4,986.29
P-35	191.14	8.0	150.0	-32.17	0.21	0.00	PVC	0.026	4,986.27	True	4,986.28
P-36	110.24	8.0	150.0	33.33	0.21	0.00	PVC	0.027	4,986.27	True	4,986.27
P-37	82.46	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,986.27	True	4,986.27
P-38	94.56	12.0	140.0	5,278.50	14.97	4.55	Asbestos Cement	48.124	5,119.20	True	5,114.65
P-40	457.35	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,015.65	True	5,015.65
P-41	854.39	12.0	150.0	948.91	2.69	1.51	PVC	1.764	5,015.65	True	5,014.15
P-42	315.19	12.0	150.0	948.91	2.69	0.56	PVC	1.764	5,014.15	True	5,013.59
P-43	518.31	12.0	150.0	3.60	0.01	0.00	PVC	0.000	5,013.59	True	5,013.59
P-44	70.88	12.0	150.0	945.31	2.68	0.12	PVC	1.757	5,013.59	True	5,013.47
P-45	113.04	12.0	150.0	28.80	0.08	0.00	PVC	0.000	5,013.47	True	5,013.47
P-46	167.37	12.0	150.0	19.40	0.06	0.00	PVC	0.003	5,013.47	True	5,013.46
P-47	359.22	12.0	150.0	15.80	0.04	0.00	PVC	0.000	5,013.46	True	5,013.46
P-48	52.69	12.0	150.0	12.20	0.03	0.00	PVC	0.000	5,013.46	True	5,013.46
P-49	370.87	8.0	150.0	3.60	0.02	0.00	PVC	0.001	5,013.46	True	5,013.46
P-50	62.99	8.0	150.0	8.60	0.05	0.00	PVC	0.008	5,013.46	True	5,013.46

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J94

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-51	221.10	8.0	150.0	5.00	0.03	0.00	PVC	0.000	5,013.46	True	5,013.46
P-52	81.21	8.0	150.0	1.40	0.01	0.00	PVC	0.000	5,013.46	True	5,013.46
P-53	353.77	8.0	150.0	-2.20	0.01	0.00	PVC	0.000	5,013.46	True	5,013.46
P-54	332.21	8.0	150.0	-9.40	0.06	0.00	PVC	0.003	5,013.46	True	5,013.47
P-55	561.26	8.0	150.0	7.20	0.05	0.00	PVC	0.002	5,013.46	True	5,013.46
P-56	134.25	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,013.46	True	5,013.46
P-57	330.48	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,013.46	True	5,013.46
P-58	161.67	12.0	150.0	916.51	2.60	0.27	PVC	1.655	5,013.47	True	5,013.20
P-59	213.49	12.0	150.0	144.27	0.41	0.01	PVC	0.053	5,013.20	True	5,013.19
P-60	350.73	12.0	150.0	-815.11	2.31	0.47	PVC	1.331	5,013.19	True	5,013.65
P-61	286.24	12.0	150.0	-818.71	2.32	0.38	PVC	1.343	5,013.65	True	5,014.04
P-62	353.63	12.0	150.0	-829.51	2.35	0.49	PVC	1.377	5,014.04	True	5,014.52
P-63	94.38	12.0	150.0	-833.11	2.36	0.13	PVC	1.387	5,014.52	True	5,014.66
P-64	203.48	8.0	150.0	768.64	4.91	1.75	PVC	8.608	5,013.20	True	5,011.45
P-65	228.49	8.0	150.0	765.04	4.88	1.95	PVC	8.533	5,011.45	True	5,009.50
P-66	208.58	8.0	150.0	761.44	4.86	1.76	PVC	8.458	5,009.50	True	5,007.73
P-67	87.29	8.0	150.0	-948.58	6.05	1.11	PVC	12.703	5,007.73	True	5,008.84
P-68	212.45	8.0	150.0	-952.18	6.08	2.72	PVC	12.800	5,008.84	True	5,011.56
P-69	126.18	8.0	150.0	-955.78	6.10	1.63	PVC	12.886	5,011.56	True	5,013.19
P-70	140.87	8.0	150.0	1,706.42	10.89	5.31	PVC	37.705	5,007.73	True	5,002.42
P-72	326.41	8.0	150.0	7.20	0.05	0.00	PVC	0.001	5,014.04	True	5,014.04
P-73	185.39	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,014.04	True	5,014.04
P-117	722.25	12.0	150.0	29.73	0.08	0.00	PVC	0.003	4,986.27	True	4,986.27
P-118	875.21	12.0	150.0	26.13	0.07	0.00	PVC	0.002	4,986.27	True	4,986.27
P-119	530.70	12.0	150.0	22.53	0.06	0.00	PVC	0.002	4,986.27	True	4,986.27
P-120	1,399.56	12.0	150.0	18.93	0.05	0.00	PVC	0.001	4,986.27	True	4,986.26
P-122	1,136.72	12.0	150.0	8.13	0.02	0.00	PVC	0.000	4,986.26	True	4,986.26
P-123	1,042.45	12.0	150.0	4.53	0.01	0.00	PVC	0.000	4,986.26	True	4,986.26
P-124	528.52	12.0	150.0	0.93	0.00	0.00	PVC	0.000	4,986.26	True	4,986.26
P-125	1,076.20	12.0	150.0	-2.67	0.01	0.00	PVC	0.000	4,986.26	True	4,986.26
P-126	866.57	12.0	150.0	-6.27	0.02	0.00	PVC	0.001	4,986.26	True	4,986.26
P-127	1,176.69	12.0	150.0	-9.87	0.03	0.00	PVC	0.000	4,986.26	True	4,986.26
P-128	873.65	12.0	150.0	-13.47	0.04	0.00	PVC	0.001	4,986.26	True	4,986.26
P-129	910.87	12.0	150.0	-17.07	0.05	0.00	PVC	0.001	4,986.26	True	4,986.27
P-130	994.16	12.0	150.0	-20.67	0.06	0.00	PVC	0.001	4,986.27	True	4,986.27
P-131	1,087.30	12.0	150.0	-24.27	0.07	0.00	PVC	0.002	4,986.27	True	4,986.27
P-132	602.18	12.0	150.0	-27.87	0.08	0.00	PVC	0.002	4,986.27	True	4,986.27
P-133	570.66	12.0	150.0	-31.47	0.09	0.00	PVC	0.003	4,986.27	True	4,986.27
P-134	422.43	12.0	150.0	-35.07	0.10	0.00	PVC	0.005	4,986.27	True	4,986.27
P-135	143.84	8.0	150.0	1,702.82	10.87	5.40	PVC	37.556	5,002.42	True	4,997.02
P-138	590.21	12.0	150.0	4,325.98	12.27	17.29	PVC	29.297	4,998.44	True	4,981.15
P-139	336.82	12.0	150.0	4,322.38	12.26	9.85	PVC	29.253	4,981.15	True	4,971.30
P-140	331.77	12.0	150.0	4,318.78	12.25	9.69	PVC	29.207	4,971.30	True	4,961.61
P-141	691.41	12.0	150.0	-1,684.82	4.78	3.53	PVC	5.109	4,961.61	True	4,965.14
P-142	600.23	12.0	150.0	-1,688.42	4.79	3.08	PVC	5.130	4,965.14	True	4,968.22
P-143	749.15	8.0	150.0	1,699.22	10.85	28.02	PVC	37.408	4,997.02	True	4,968.99
P-144	262.10	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,968.99	True	4,968.99
P-145	150.63	12.0	150.0	-1,692.02	4.80	0.78	PVC	5.148	4,968.22	True	4,968.99

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J94

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-146	404.83	12.0	150.0	-836.71	2.37	0.57	PVC	1.397	5,014.66	True	5,015.22
P-147	251.86	12.0	150.0	-840.31	2.38	0.35	PVC	1.409	5,015.22	True	5,015.58
P-152	628.26	16.0	150.0	-847.51	1.35	0.22	PVC	0.353	5,091.17	True	5,091.39
P-153	499.26	16.0	150.0	-851.11	1.36	0.18	PVC	0.355	5,091.39	True	5,091.57
P-154	499.14	16.0	150.0	-854.71	1.36	0.18	PVC	0.358	5,091.57	True	5,091.75
P-155	495.91	16.0	150.0	-858.31	1.37	0.18	PVC	0.361	5,091.75	True	5,091.92
P-156	498.45	16.0	150.0	-861.91	1.38	0.18	PVC	0.363	5,091.92	True	5,092.11
P-157	502.65	16.0	150.0	-865.51	1.38	0.18	PVC	0.366	5,092.11	True	5,092.29
P-158	505.16	16.0	150.0	-869.11	1.39	0.19	PVC	0.369	5,092.29	True	5,092.48
P-159	501.02	16.0	150.0	-872.71	1.39	0.19	PVC	0.372	5,092.48	True	5,092.66
P-160	504.09	16.0	150.0	-876.31	1.40	0.19	PVC	0.375	5,092.66	True	5,092.85
P-161	507.65	16.0	150.0	-879.91	1.40	0.19	PVC	0.378	5,092.85	True	5,093.04
P-162	499.19	16.0	150.0	-883.51	1.41	0.19	PVC	0.381	5,093.04	True	5,093.23
P-163	505.77	16.0	150.0	-887.11	1.42	0.19	PVC	0.384	5,093.23	True	5,093.43
P-164	500.85	16.0	150.0	-890.71	1.42	0.19	PVC	0.386	5,093.43	True	5,093.62
P-165	500.07	16.0	150.0	-894.31	1.43	0.19	PVC	0.390	5,093.62	True	5,093.82
P-166	509.76	16.0	150.0	-897.91	1.43	0.20	PVC	0.392	5,093.82	True	5,094.02
P-167	497.27	16.0	150.0	-901.51	1.44	0.20	PVC	0.396	5,094.02	True	5,094.21
P-168	498.43	16.0	150.0	-905.11	1.44	0.20	PVC	0.398	5,094.21	True	5,094.41
P-169	1,630.19	16.0	150.0	-908.71	1.45	0.65	PVC	0.401	5,094.41	True	5,095.06
P-176	3,079.47	12.0	150.0	-843.91	2.39	4.37	PVC	1.420	5,015.58	True	5,019.95
P-177	245.89	12.0	150.0	-843.91	2.39	0.35	PVC	1.420	5,090.82	True	5,091.17
P-178	1,518.48	30.0	100.0	614.56	0.28	0.03	Steel	0.019	5,119.78	True	5,119.75
P-179	5,987.75	30.0	100.0	614.56	0.28	0.12	Steel	0.019	5,119.75	True	5,119.63
P-181	111.34	30.0	100.0	614.56	0.28	0.00	Steel	0.022	5,119.78	True	5,119.78
P-182	216.90	16.0	150.0	912.31	1.46	0.09	PVC	0.405	5,119.78	True	5,119.69
P-183	2,362.21	16.0	150.0	912.31	1.46	0.95	PVC	0.404	5,096.02	True	5,095.06
P-184	275.55	12.0	150.0	15.33	0.04	0.00	PVC	0.002	4,986.26	True	4,986.26
P-185	818.88	12.0	150.0	11.73	0.03	0.00	PVC	0.001	4,986.26	True	4,986.26
P-186	2,007.25	30.0	100.0	1,526.86	0.69	0.21	Steel	0.104	5,120.00	True	5,119.79
P-187	97.75	30.0	100.0	1,526.86	0.69	0.01	Steel	0.105	5,119.79	True	5,119.78
P-188	76.65	12.0	150.0	0.00	0.00	0.00	PVC	0.000	5,119.79	True	5,119.79
P-189	87.63	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.26	True	4,986.26
P-192	66.81	12.0	140.0	5,278.49	14.97	3.22	Asbestos Cement	48.125	5,019.59	True	5,016.38
P-193	360.31	12.0	140.0	948.91	2.69	0.72	Asbestos Cement	2.006	5,016.38	True	5,015.65
P-194	611.18	12.0	150.0	-4,329.58	12.28	17.93	PVC	29.343	4,998.44	True	5,016.38

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J103

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-1	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	84.1	4,783.50
J-2	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	83.5	4,785.00
J-3	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	84.4	4,783.00
J-6	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	80.9	4,791.00
J-7	Zone - 3	0.00	5,119.62	<Collection: 0 items>	Fixed	144.8	4,785.00
J-8	Zone - 3	0.00	5,119.91	<Collection: 0 items>	Fixed	141.4	4,793.00
J-10	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	87.0	4,785.50
J-11	Zone - 1	3.60	4,986.63	<Collection: 1 items>	Fixed	82.3	4,796.50
J-12	Zone - 1	0.00	4,986.62	<Collection: 0 items>	Fixed	78.8	4,804.50
J-13	Zone - 1	14.72	4,986.61	<Collection: 1 items>	Fixed	74.5	4,814.50
J-14	Zone - 1	14.72	4,986.61	<Collection: 1 items>	Fixed	74.7	4,814.00
J-15	Zone - 1	0.00	4,986.61	<Collection: 0 items>	Fixed	78.6	4,805.00
J-16	Zone - 1	3.60	4,986.57	<Collection: 1 items>	Fixed	78.3	4,805.50
J-17	Zone - 1	0.00	4,986.47	<Collection: 0 items>	Fixed	74.6	4,814.00
J-18	Zone - 1	0.00	4,986.45	<Collection: 0 items>	Fixed	72.0	4,820.00
J-19	Zone - 1	0.00	4,986.44	<Collection: 0 items>	Fixed	71.1	4,822.00
J-20	Zone - 1	0.00	4,986.40	<Collection: 0 items>	Fixed	70.7	4,823.00
J-21	Zone - 1	0.00	4,986.36	<Collection: 0 items>	Fixed	71.1	4,822.00
J-22	Zone - 1	0.00	4,986.27	<Collection: 0 items>	Fixed	73.9	4,815.50
J-23	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	73.7	4,816.00
J-24	Zone - 1	0.00	4,986.28	<Collection: 0 items>	Fixed	73.2	4,817.00
J-25	Zone - 1	3.60	4,986.29	<Collection: 1 items>	Fixed	74.1	4,815.00
J-26	Zone - 1	0.00	4,986.29	<Collection: 0 items>	Fixed	76.3	4,810.00
J-27	Zone - 1	0.00	4,986.27	<Collection: 0 items>	Fixed	74.5	4,814.00
J-28	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	72.8	4,818.00
J-29	Zone - 1	3.60	4,986.61	<Collection: 1 items>	Fixed	75.5	4,812.00
J-30	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	80.0	4,793.00
J-31	Zone - 3	0.00	5,119.92	<Collection: 0 items>	Fixed	141.4	4,793.00
J-32	Zone - 2	0.00	5,019.58	<Collection: 0 items>	Fixed	98.5	4,792.00
J-33	Zone - 2	0.00	5,019.58	<Collection: 0 items>	Fixed	101.9	4,784.00
J-34	Zone - 2	0.00	5,019.57	<Collection: 0 items>	Fixed	92.4	4,806.00
J-35	Zone - 2	0.00	5,019.56	<Collection: 0 items>	Fixed	90.2	4,811.00
J-36	Zone - 2	3.60	5,019.56	<Collection: 1 items>	Fixed	90.2	4,811.00
J-37	Zone - 2	0.00	5,019.56	<Collection: 0 items>	Fixed	90.0	4,811.50
J-38	Zone - 2	0.00	5,019.56	<Collection: 0 items>	Fixed	87.6	4,817.00
J-39	Zone - 2	3.60	5,019.56	<Collection: 1 items>	Fixed	86.1	4,820.50
J-40	Zone - 2	0.00	5,019.56	<Collection: 0 items>	Fixed	84.8	4,823.50
J-41	Zone - 2	3.60	5,019.56	<Collection: 1 items>	Fixed	88.9	4,814.00
J-42	Zone - 2	3.60	5,019.56	<Collection: 1 items>	Fixed	85.0	4,823.00
J-43	Zone - 2	3.60	5,019.56	<Collection: 1 items>	Fixed	87.6	4,817.00
J-44	Zone - 2	3.60	5,019.56	<Collection: 1 items>	Fixed	87.6	4,817.00
J-45	Zone - 2	3.60	5,019.56	<Collection: 1 items>	Fixed	86.6	4,819.50
J-46	Zone - 2	3.60	5,019.56	<Collection: 1 items>	Fixed	86.3	4,820.00
J-47	Zone - 2	3.60	5,019.56	<Collection: 1 items>	Fixed	89.8	4,812.00
J-48	Zone - 2	3.60	5,019.56	<Collection: 1 items>	Fixed	90.7	4,810.00
J-49	Zone - 2	3.60	5,019.56	<Collection: 1 items>	Fixed	90.2	4,811.00
J-50	Zone - 2	3.60	5,019.56	<Collection: 1 items>	Fixed	89.8	4,812.00
J-51	Zone - 2	3.60	5,019.56	<Collection: 1 items>	Fixed	88.9	4,814.00
J-52	Zone - 2	3.60	5,019.56	<Collection: 1 items>	Fixed	90.7	4,810.00
J-53	Zone - 2	3.60	5,019.57	<Collection: 1 items>	Fixed	89.6	4,812.50

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J103

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-54	Zone - 2	3.60	5,019.56	<Collection: 1 items>	Fixed	85.9	4,821.00
J-55	Zone - 2	3.60	5,019.56	<Collection: 1 items>	Fixed	85.0	4,823.00
J-56	Zone - 2	3.60	5,019.56	<Collection: 1 items>	Fixed	82.9	4,828.00
J-57	Zone - 2	3.60	5,019.56	<Collection: 1 items>	Fixed	84.0	4,825.50
J-58	Zone - 2	3.60	5,019.56	<Collection: 1 items>	Fixed	84.0	4,825.50
J-59	Zone - 2	3.60	5,019.56	<Collection: 1 items>	Fixed	83.1	4,827.50
J-60	Zone - 2	3.60	5,019.56	<Collection: 1 items>	Fixed	81.1	4,832.00
J-61	Zone - 2	0.00	5,019.56	<Collection: 0 items>	Fixed	85.5	4,822.00
J-62	Zone - 2	0.00	5,019.56	<Collection: 0 items>	Fixed	82.4	4,829.00
J-64	Zone - 2	3.60	5,019.56	<Collection: 1 items>	Fixed	84.6	4,824.00
J-65	Zone - 2	3.60	5,019.56	<Collection: 1 items>	Fixed	82.0	4,830.00
J-68	Zone - 1	3.60	4,986.49	<Collection: 1 items>	Fixed	74.2	4,815.00
J-69	Zone - 1	3.60	4,986.54	<Collection: 1 items>	Fixed	77.2	4,808.00
J-70	Zone - 1	0.00	4,986.29	<Collection: 0 items>	Fixed	72.8	4,818.00
J-73	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	76.3	4,810.00
J-74	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	78.4	4,805.00
J-75	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	80.6	4,800.00
J-76	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	81.0	4,799.00
J-77	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	84.9	4,790.00
J-78	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	87.1	4,785.00
J-79	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	89.2	4,780.00
J-80	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	94.0	4,769.00
J-81	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	91.8	4,774.00
J-82	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	89.7	4,779.00
J-83	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	87.5	4,784.00
J-84	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	94.9	4,767.00
J-85	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	92.7	4,772.00
J-86	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	90.5	4,777.00
J-87	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	88.4	4,782.00
J-88	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	81.5	4,798.00
J-89	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	75.4	4,812.00
J-90	Zone - 2	3.60	5,019.56	<Collection: 1 items>	Fixed	91.1	4,809.00
J-91	Zone - 2	3.60	5,019.58	<Collection: 1 items>	Fixed	92.8	4,805.00
J-92	Zone - 2	3.60	5,019.58	<Collection: 1 items>	Fixed	94.6	4,801.00
J-93	Zone - 2	3.60	5,019.58	<Collection: 1 items>	Fixed	94.4	4,801.50
J-94	Zone - 2	3.60	5,019.58	<Collection: 1 items>	Fixed	94.1	4,802.00
J-95	Zone - 2	3.60	5,019.57	<Collection: 1 items>	Fixed	92.4	4,806.00
J-96	Zone - 2	3.60	5,019.57	<Collection: 1 items>	Fixed	90.7	4,810.00
J-97	Zone - 2	3.60	5,019.57	<Collection: 1 items>	Fixed	90.2	4,811.00
J-98	Zone - 2	3.60	5,019.56	<Collection: 1 items>	Fixed	85.0	4,823.00
J-99	Zone - 2	3.60	5,019.56	<Collection: 1 items>	Fixed	83.7	4,826.00
J-100	Zone - 3	3.60	4,934.88	<Collection: 1 items>	Fixed	18.6	4,892.00
J-103	Zone - 3	6,003.60	4,934.88	<Collection: 1 items>	Fixed	20.3	4,888.00
J-104	Zone - 3	3.60	4,941.50	<Collection: 1 items>	Fixed	23.6	4,887.00
J-105	Zone - 3	3.60	4,948.12	<Collection: 1 items>	Fixed	26.9	4,886.00
J-106	Zone - 3	3.60	4,954.71	<Collection: 1 items>	Fixed	30.2	4,885.00
J-107	Zone - 3	3.60	4,961.34	<Collection: 1 items>	Fixed	33.5	4,884.00
J-108	Zone - 3	3.60	4,968.03	<Collection: 1 items>	Fixed	36.8	4,883.00
J-109	Zone - 3	3.60	4,974.76	<Collection: 1 items>	Fixed	40.1	4,882.00
J-110	Zone - 3	3.60	4,981.45	<Collection: 1 items>	Fixed	43.9	4,880.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J103

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-111	Zone - 3	3.60	4,988.18	<Collection: 1 items>	Fixed	47.7	4,878.00
J-112	Zone - 3	3.60	4,994.97	<Collection: 1 items>	Fixed	51.5	4,876.00
J-113	Zone - 3	3.60	5,001.65	<Collection: 1 items>	Fixed	55.2	4,874.00
J-114	Zone - 3	3.60	5,008.43	<Collection: 1 items>	Fixed	59.0	4,872.00
J-115	Zone - 3	3.60	5,015.15	<Collection: 1 items>	Fixed	62.8	4,870.00
J-116	Zone - 3	3.60	5,021.86	<Collection: 1 items>	Fixed	66.6	4,868.00
J-117	Zone - 3	3.60	5,028.72	<Collection: 1 items>	Fixed	70.4	4,866.00
J-118	Zone - 3	3.60	5,035.41	<Collection: 1 items>	Fixed	74.2	4,864.00
J-119	Zone - 3	3.60	5,042.13	<Collection: 1 items>	Fixed	77.9	4,862.00
J-121	Zone - 3	3.60	5,064.12	<Collection: 1 items>	Fixed	90.5	4,855.00
J-122	Zone - 3	0.00	5,118.55	<Collection: 0 items>	Fixed	138.3	4,799.00
J-123	Zone - 2	0.00	5,118.77	<Collection: 0 items>	Fixed	139.6	4,796.00
J-125	Zone - 3	0.00	5,118.54	<Collection: 0 items>	Fixed	138.5	4,798.50
J-126	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	82.3	4,796.00
J-127	Zone - 3	0.00	5,118.60	<Collection: 0 items>	Fixed	138.7	4,798.00
J-129	Zone - 2	0.00	5,019.59	<Collection: 0 items>	Fixed	98.5	4,792.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J103

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-1	1,094.21	30.0	100.0	2,006.29	0.91	0.19	Steel	0.172	5,120.00	True	5,119.81
P-2	37.82	30.0	100.0	-1,883.89	0.86	0.01	Steel	0.155	5,119.81	True	5,119.81
P-3	7.44	18.0	140.0	5.99	0.01	0.00	Asbestos Cement	0.000	5,119.81	True	5,119.81
P-4	7.39	18.0	140.0	6.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-5	461.01	18.0	140.0	-6.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-6	691.43	18.0	140.0	-4.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-7	645.24	18.0	140.0	2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-8	346.44	18.0	140.0	2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-9	1,826.43	30.0	100.0	-1,877.89	0.85	0.28	Steel	0.153	5,119.53	True	5,119.81
P-11	30.30	12.0	150.0	123.04	0.35	0.00	PVC	0.032	5,119.53	True	5,119.53
P-12	25.33	12.0	150.0	123.04	0.35	0.00	PVC	0.039	4,986.66	True	4,986.66
P-13	36.10	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,977.97	True	4,977.97
P-14	52.44	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-15	653.52	12.0	150.0	123.04	0.35	0.03	PVC	0.040	4,986.66	True	4,986.63
P-16	366.19	12.0	150.0	119.44	0.34	0.01	PVC	0.037	4,986.63	True	4,986.62
P-17	711.39	12.0	150.0	29.44	0.08	0.00	PVC	0.003	4,986.62	True	4,986.61
P-18	329.62	12.0	150.0	14.72	0.04	0.00	PVC	0.001	4,986.61	True	4,986.61
P-19	32.01	8.0	150.0	90.00	0.57	0.01	PVC	0.168	4,986.62	True	4,986.61
P-20	307.08	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,986.61	True	4,986.61
P-21	302.29	8.0	150.0	86.40	0.55	0.05	PVC	0.150	4,986.61	True	4,986.57
P-22	175.00	8.0	140.0	82.80	0.53	0.03	Asbestos Cement	0.159	4,986.57	True	4,986.54
P-23	331.85	8.0	140.0	79.20	0.51	0.05	Asbestos Cement	0.144	4,986.54	True	4,986.49
P-24	153.34	8.0	140.0	75.60	0.48	0.02	Asbestos Cement	0.134	4,986.49	True	4,986.47
P-25	177.80	8.0	150.0	75.60	0.48	0.02	PVC	0.118	4,986.47	True	4,986.45
P-26	101.80	8.0	150.0	75.60	0.48	0.01	PVC	0.115	4,986.45	True	4,986.44
P-27	343.59	8.0	150.0	75.60	0.48	0.04	PVC	0.118	4,986.44	True	4,986.40
P-28	273.59	8.0	150.0	75.60	0.48	0.03	PVC	0.118	4,986.40	True	4,986.36
P-29	600.56	8.0	150.0	75.60	0.48	0.07	PVC	0.117	4,986.36	True	4,986.29
P-30	549.58	8.0	150.0	39.83	0.25	0.02	PVC	0.036	4,986.29	True	4,986.27
P-31	245.14	8.0	150.0	4.76	0.03	0.00	PVC	0.002	4,986.27	True	4,986.27
P-32	246.24	8.0	150.0	-35.77	0.23	0.01	PVC	0.030	4,986.29	True	4,986.29
P-33	381.60	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.29	True	4,986.29
P-34	332.48	8.0	150.0	-32.17	0.21	0.01	PVC	0.023	4,986.28	True	4,986.29
P-35	191.14	8.0	150.0	-32.17	0.21	0.00	PVC	0.026	4,986.27	True	4,986.28
P-36	110.24	8.0	150.0	33.33	0.21	0.00	PVC	0.027	4,986.27	True	4,986.27
P-37	82.46	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,986.27	True	4,986.27
P-38	94.56	12.0	140.0	122.40	0.35	0.00	Asbestos Cement	0.046	5,119.81	True	5,119.81
P-40	457.35	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,019.58	True	5,019.58
P-41	854.39	12.0	150.0	73.00	0.21	0.01	PVC	0.015	5,019.58	True	5,019.57
P-42	315.19	12.0	150.0	73.00	0.21	0.00	PVC	0.014	5,019.57	True	5,019.56
P-43	518.31	12.0	150.0	3.60	0.01	0.00	PVC	0.001	5,019.56	True	5,019.56
P-44	70.88	12.0	150.0	69.40	0.20	0.00	PVC	0.021	5,019.56	True	5,019.56
P-45	113.04	12.0	150.0	28.80	0.08	0.00	PVC	0.000	5,019.56	True	5,019.56
P-46	167.37	12.0	150.0	19.40	0.06	0.00	PVC	0.003	5,019.56	True	5,019.56
P-47	359.22	12.0	150.0	15.80	0.04	0.00	PVC	0.000	5,019.56	True	5,019.56
P-48	52.69	12.0	150.0	12.20	0.03	0.00	PVC	0.000	5,019.56	True	5,019.56
P-49	370.87	8.0	150.0	3.60	0.02	0.00	PVC	0.001	5,019.56	True	5,019.56
P-50	62.99	8.0	150.0	8.60	0.05	0.00	PVC	0.008	5,019.56	True	5,019.56

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J103

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-51	221.10	8.0	150.0	5.00	0.03	0.00	PVC	0.000	5,019.56	True	5,019.56
P-52	81.21	8.0	150.0	1.40	0.01	0.00	PVC	0.000	5,019.56	True	5,019.56
P-53	353.77	8.0	150.0	-2.20	0.01	0.00	PVC	0.000	5,019.56	True	5,019.56
P-54	332.21	8.0	150.0	-9.40	0.06	0.00	PVC	0.003	5,019.56	True	5,019.56
P-55	561.26	8.0	150.0	7.20	0.05	0.00	PVC	0.002	5,019.56	True	5,019.56
P-56	134.25	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.56	True	5,019.56
P-57	330.48	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.56	True	5,019.56
P-58	161.67	12.0	150.0	40.60	0.12	0.00	PVC	0.003	5,019.56	True	5,019.56
P-59	213.49	12.0	150.0	29.59	0.08	0.00	PVC	0.002	5,019.56	True	5,019.56
P-60	350.73	12.0	150.0	28.80	0.08	0.00	PVC	0.003	5,019.56	True	5,019.56
P-61	286.24	12.0	150.0	25.20	0.07	0.00	PVC	0.003	5,019.56	True	5,019.56
P-62	353.63	12.0	150.0	14.40	0.04	0.00	PVC	0.000	5,019.56	True	5,019.56
P-63	94.38	12.0	150.0	10.80	0.03	0.00	PVC	0.000	5,019.56	True	5,019.56
P-64	203.48	8.0	150.0	7.41	0.05	0.00	PVC	0.002	5,019.56	True	5,019.56
P-65	228.49	8.0	150.0	3.81	0.02	0.00	PVC	0.000	5,019.56	True	5,019.56
P-66	208.58	8.0	150.0	0.21	0.00	0.00	PVC	0.000	5,019.56	True	5,019.56
P-67	87.29	8.0	150.0	10.01	0.06	0.00	PVC	0.000	5,019.56	True	5,019.56
P-68	212.45	8.0	150.0	6.41	0.04	0.00	PVC	0.002	5,019.56	True	5,019.56
P-69	126.18	8.0	150.0	2.81	0.02	0.00	PVC	0.004	5,019.56	True	5,019.56
P-70	140.87	8.0	150.0	-13.40	0.09	0.00	PVC	0.003	5,019.56	True	5,019.56
P-72	326.41	8.0	150.0	7.20	0.05	0.00	PVC	0.001	5,019.56	True	5,019.56
P-73	185.39	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.56	True	5,019.56
P-117	722.25	12.0	150.0	29.73	0.08	0.00	PVC	0.003	4,986.27	True	4,986.27
P-118	875.21	12.0	150.0	26.13	0.07	0.00	PVC	0.002	4,986.27	True	4,986.27
P-119	530.70	12.0	150.0	22.53	0.06	0.00	PVC	0.002	4,986.27	True	4,986.27
P-120	1,399.56	12.0	150.0	18.93	0.05	0.00	PVC	0.001	4,986.27	True	4,986.26
P-122	1,136.72	12.0	150.0	8.13	0.02	0.00	PVC	0.000	4,986.26	True	4,986.26
P-123	1,042.45	12.0	150.0	4.53	0.01	0.00	PVC	0.000	4,986.26	True	4,986.26
P-124	528.52	12.0	150.0	0.93	0.00	0.00	PVC	0.000	4,986.26	True	4,986.26
P-125	1,076.20	12.0	150.0	-2.67	0.01	0.00	PVC	0.000	4,986.26	True	4,986.26
P-126	866.57	12.0	150.0	-6.27	0.02	0.00	PVC	0.001	4,986.26	True	4,986.26
P-127	1,176.69	12.0	150.0	-9.87	0.03	0.00	PVC	0.000	4,986.26	True	4,986.26
P-128	873.65	12.0	150.0	-13.47	0.04	0.00	PVC	0.001	4,986.26	True	4,986.26
P-129	910.87	12.0	150.0	-17.07	0.05	0.00	PVC	0.001	4,986.26	True	4,986.27
P-130	994.16	12.0	150.0	-20.67	0.06	0.00	PVC	0.001	4,986.27	True	4,986.27
P-131	1,087.30	12.0	150.0	-24.27	0.07	0.00	PVC	0.002	4,986.27	True	4,986.27
P-132	602.18	12.0	150.0	-27.87	0.08	0.00	PVC	0.002	4,986.27	True	4,986.27
P-133	570.66	12.0	150.0	-31.47	0.09	0.00	PVC	0.003	4,986.27	True	4,986.27
P-134	422.43	12.0	150.0	-35.07	0.10	0.00	PVC	0.003	4,986.27	True	4,986.27
P-135	143.84	8.0	150.0	-17.00	0.11	0.00	PVC	0.010	5,019.56	True	5,019.56
P-138	590.21	12.0	150.0	45.80	0.13	0.00	PVC	0.007	5,019.58	True	5,019.58
P-139	336.82	12.0	150.0	42.20	0.12	0.00	PVC	0.006	5,019.58	True	5,019.58
P-140	331.77	12.0	150.0	38.60	0.11	0.00	PVC	0.004	5,019.58	True	5,019.58
P-141	691.41	12.0	150.0	35.00	0.10	0.00	PVC	0.004	5,019.58	True	5,019.57
P-142	600.23	12.0	150.0	31.40	0.09	0.00	PVC	0.003	5,019.57	True	5,019.57
P-143	749.15	8.0	150.0	-20.60	0.13	0.01	PVC	0.010	5,019.56	True	5,019.57
P-144	262.10	8.0	150.0	3.60	0.02	0.00	PVC	0.002	5,019.57	True	5,019.57
P-145	150.63	12.0	150.0	27.80	0.08	0.00	PVC	0.000	5,019.57	True	5,019.57

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J103

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-146	404.83	12.0	150.0	7.20	0.02	0.00	PVC	0.000	5,019.56	True	5,019.56
P-147	251.86	12.0	150.0	3.60	0.01	0.00	PVC	0.000	5,019.56	True	5,019.56
P-152	628.26	16.0	150.0	-3.60	0.01	0.00	PVC	0.000	4,934.88	True	4,934.88
P-153	499.26	16.0	150.0	-6,007.20	9.59	6.62	PVC	13.254	4,934.88	True	4,941.50
P-154	499.14	16.0	150.0	-6,010.80	9.59	6.62	PVC	13.268	4,941.50	True	4,948.12
P-155	495.91	16.0	150.0	-6,014.40	9.60	6.59	PVC	13.283	4,948.12	True	4,954.71
P-156	498.45	16.0	150.0	-6,018.00	9.60	6.63	PVC	13.298	4,954.71	True	4,961.34
P-157	502.65	16.0	150.0	-6,021.60	9.61	6.69	PVC	13.312	4,961.34	True	4,968.03
P-158	505.16	16.0	150.0	-6,025.20	9.61	6.73	PVC	13.327	4,968.03	True	4,974.76
P-159	501.02	16.0	150.0	-6,028.80	9.62	6.68	PVC	13.342	4,974.76	True	4,981.45
P-160	504.09	16.0	150.0	-6,032.40	9.63	6.73	PVC	13.357	4,981.45	True	4,988.18
P-161	507.65	16.0	150.0	-6,036.00	9.63	6.79	PVC	13.372	4,988.18	True	4,994.97
P-162	499.19	16.0	150.0	-6,039.60	9.64	6.68	PVC	13.386	4,994.97	True	5,001.65
P-163	505.77	16.0	150.0	-6,043.20	9.64	6.78	PVC	13.401	5,001.65	True	5,008.43
P-164	500.85	16.0	150.0	-6,046.80	9.65	6.72	PVC	13.416	5,008.43	True	5,015.15
P-165	500.07	16.0	150.0	-6,050.40	9.65	6.72	PVC	13.431	5,015.15	True	5,021.86
P-166	509.76	16.0	150.0	-6,054.00	9.66	6.85	PVC	13.446	5,021.86	True	5,028.72
P-167	497.27	16.0	150.0	-6,057.60	9.67	6.69	PVC	13.460	5,028.72	True	5,035.41
P-168	498.43	16.0	150.0	-6,061.20	9.67	6.72	PVC	13.475	5,035.41	True	5,042.13
P-169	1,630.19	16.0	150.0	-6,064.80	9.68	21.99	PVC	13.490	5,042.13	True	5,064.12
P-176	3,079.47	12.0	150.0	0.00	0.00	0.00	PVC	0.000	5,019.56	True	5,019.56
P-177	245.89	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,934.88	True	4,934.88
P-178	1,518.48	30.0	100.0	-1,807.94	0.82	0.22	Steel	0.142	5,118.55	True	5,118.77
P-179	5,987.75	30.0	100.0	-1,807.94	0.82	0.85	Steel	0.142	5,118.77	True	5,119.62
P-181	111.34	30.0	100.0	-1,807.94	0.82	0.02	Steel	0.140	5,118.54	True	5,118.55
P-182	216.90	16.0	150.0	6,068.40	9.68	2.93	PVC	13.505	5,118.54	True	5,115.61
P-183	2,362.21	16.0	150.0	6,068.40	9.68	31.90	PVC	13.505	5,096.02	True	5,064.12
P-184	275.55	12.0	150.0	15.33	0.04	0.00	PVC	0.000	4,986.26	True	4,986.26
P-185	818.88	12.0	150.0	11.73	0.03	0.00	PVC	0.001	4,986.26	True	4,986.26
P-186	2,007.25	30.0	100.0	4,260.46	1.93	1.40	Steel	0.695	5,120.00	True	5,118.60
P-187	97.75	30.0	100.0	4,260.46	1.93	0.07	Steel	0.694	5,118.60	True	5,118.54
P-188	76.65	12.0	150.0	0.00	0.00	0.00	PVC	0.000	5,118.60	True	5,118.60
P-189	87.63	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.26	True	4,986.26
P-192	66.81	12.0	140.0	122.40	0.35	0.00	Asbestos Cement	0.044	5,019.59	True	5,019.59
P-193	360.31	12.0	140.0	73.00	0.21	0.01	Asbestos Cement	0.018	5,019.59	True	5,019.58
P-194	611.18	12.0	150.0	-49.40	0.14	0.00	PVC	0.007	5,019.58	True	5,019.59

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J121

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-1	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	84.1	4,783.50
J-2	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	83.5	4,785.00
J-3	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	84.4	4,783.00
J-6	Zone - 4	2.00	4,977.97	<Collection: 1 items>	Fixed	80.9	4,791.00
J-7	Zone - 3	0.00	5,119.61	<Collection: 0 items>	Fixed	144.8	4,785.00
J-8	Zone - 3	0.00	5,119.92	<Collection: 0 items>	Fixed	141.4	4,793.00
J-10	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	87.0	4,785.50
J-11	Zone - 1	3.60	4,986.63	<Collection: 1 items>	Fixed	82.3	4,796.50
J-12	Zone - 1	0.00	4,986.62	<Collection: 0 items>	Fixed	78.8	4,804.50
J-13	Zone - 1	14.72	4,986.61	<Collection: 1 items>	Fixed	74.5	4,814.50
J-14	Zone - 1	14.72	4,986.61	<Collection: 1 items>	Fixed	74.7	4,814.00
J-15	Zone - 1	0.00	4,986.61	<Collection: 0 items>	Fixed	78.6	4,805.00
J-16	Zone - 1	3.60	4,986.57	<Collection: 1 items>	Fixed	78.3	4,805.50
J-17	Zone - 1	0.00	4,986.47	<Collection: 0 items>	Fixed	74.6	4,814.00
J-18	Zone - 1	0.00	4,986.45	<Collection: 0 items>	Fixed	72.0	4,820.00
J-19	Zone - 1	0.00	4,986.44	<Collection: 0 items>	Fixed	71.1	4,822.00
J-20	Zone - 1	0.00	4,986.40	<Collection: 0 items>	Fixed	70.7	4,823.00
J-21	Zone - 1	0.00	4,986.36	<Collection: 0 items>	Fixed	71.1	4,822.00
J-22	Zone - 1	0.00	4,986.27	<Collection: 0 items>	Fixed	73.9	4,815.50
J-23	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	73.7	4,816.00
J-24	Zone - 1	0.00	4,986.28	<Collection: 0 items>	Fixed	73.2	4,817.00
J-25	Zone - 1	3.60	4,986.29	<Collection: 1 items>	Fixed	74.1	4,815.00
J-26	Zone - 1	0.00	4,986.29	<Collection: 0 items>	Fixed	76.3	4,810.00
J-27	Zone - 1	0.00	4,986.27	<Collection: 0 items>	Fixed	74.5	4,814.00
J-28	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	72.8	4,818.00
J-29	Zone - 1	3.60	4,986.61	<Collection: 1 items>	Fixed	75.5	4,812.00
J-30	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	80.0	4,793.00
J-31	Zone - 3	0.00	5,119.92	<Collection: 0 items>	Fixed	141.4	4,793.00
J-32	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	98.5	4,792.00
J-33	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	102.0	4,784.00
J-34	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	92.5	4,806.00
J-35	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	90.3	4,811.00
J-36	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	90.3	4,811.00
J-37	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	90.1	4,811.50
J-38	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	87.7	4,817.00
J-39	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	86.2	4,820.50
J-40	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	84.9	4,823.50
J-41	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	89.0	4,814.00
J-42	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	85.1	4,823.00
J-43	Zone - 2	3.60	5,019.78	<Collection: 1 items>	Fixed	87.7	4,817.00
J-44	Zone - 2	3.60	5,019.79	<Collection: 1 items>	Fixed	87.7	4,817.00
J-45	Zone - 2	3.60	5,019.80	<Collection: 1 items>	Fixed	86.7	4,819.50
J-46	Zone - 2	3.60	5,019.80	<Collection: 1 items>	Fixed	86.4	4,820.00
J-47	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	89.9	4,812.00
J-48	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	90.8	4,810.00
J-49	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	90.3	4,811.00
J-50	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	89.9	4,812.00
J-51	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	89.0	4,814.00
J-52	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	90.8	4,810.00
J-53	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	89.7	4,812.50

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J121

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-54	Zone - 2	3.60	5,019.79	<Collection: 1 items>	Fixed	86.0	4,821.00
J-55	Zone - 2	3.60	5,019.79	<Collection: 1 items>	Fixed	85.1	4,823.00
J-56	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	83.0	4,828.00
J-57	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	84.1	4,825.50
J-58	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	84.1	4,825.50
J-59	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	83.2	4,827.50
J-60	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	81.2	4,832.00
J-61	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	85.6	4,822.00
J-62	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	82.5	4,829.00
J-64	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	84.7	4,824.00
J-65	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	82.1	4,830.00
J-68	Zone - 1	3.60	4,986.49	<Collection: 1 items>	Fixed	74.2	4,815.00
J-69	Zone - 1	3.60	4,986.54	<Collection: 1 items>	Fixed	77.2	4,808.00
J-70	Zone - 1	0.00	4,986.29	<Collection: 0 items>	Fixed	72.8	4,818.00
J-73	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	76.3	4,810.00
J-74	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	78.4	4,805.00
J-75	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	80.6	4,800.00
J-76	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	81.0	4,799.00
J-77	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	84.9	4,790.00
J-78	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	87.1	4,785.00
J-79	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	89.2	4,780.00
J-80	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	94.0	4,769.00
J-81	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	91.8	4,774.00
J-82	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	89.7	4,779.00
J-83	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	87.5	4,784.00
J-84	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	94.9	4,767.00
J-85	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	92.7	4,772.00
J-86	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	90.5	4,777.00
J-87	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	88.4	4,782.00
J-88	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	81.5	4,798.00
J-89	Zone - 1	3.60	4,986.27	<Collection: 1 items>	Fixed	75.4	4,812.00
J-90	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	91.2	4,809.00
J-91	Zone - 2	3.60	5,019.77	<Collection: 1 items>	Fixed	92.9	4,805.00
J-92	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	94.6	4,801.00
J-93	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	94.4	4,801.50
J-94	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	94.2	4,802.00
J-95	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	92.5	4,806.00
J-96	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	90.8	4,810.00
J-97	Zone - 2	3.60	5,019.76	<Collection: 1 items>	Fixed	90.3	4,811.00
J-98	Zone - 2	3.60	5,019.82	<Collection: 1 items>	Fixed	85.2	4,823.00
J-99	Zone - 2	3.60	5,019.83	<Collection: 1 items>	Fixed	83.9	4,826.00
J-100	Zone - 3	3.60	5,062.75	<Collection: 1 items>	Fixed	73.9	4,892.00
J-103	Zone - 3	3.60	5,062.76	<Collection: 1 items>	Fixed	75.6	4,888.00
J-104	Zone - 3	3.60	5,062.76	<Collection: 1 items>	Fixed	76.0	4,887.00
J-105	Zone - 3	3.60	5,062.77	<Collection: 1 items>	Fixed	76.5	4,886.00
J-106	Zone - 3	3.60	5,062.77	<Collection: 1 items>	Fixed	76.9	4,885.00
J-107	Zone - 3	3.60	5,062.78	<Collection: 1 items>	Fixed	77.3	4,884.00
J-108	Zone - 3	3.60	5,062.79	<Collection: 1 items>	Fixed	77.8	4,883.00
J-109	Zone - 3	3.60	5,062.79	<Collection: 1 items>	Fixed	78.2	4,882.00
J-110	Zone - 3	3.60	5,062.80	<Collection: 1 items>	Fixed	79.1	4,880.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J121

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-111	Zone - 3	3.60	5,062.81	<Collection: 1 items>	Fixed	80.0	4,878.00
J-112	Zone - 3	3.60	5,062.82	<Collection: 1 items>	Fixed	80.8	4,876.00
J-113	Zone - 3	3.60	5,062.82	<Collection: 1 items>	Fixed	81.7	4,874.00
J-114	Zone - 3	3.60	5,062.83	<Collection: 1 items>	Fixed	82.6	4,872.00
J-115	Zone - 3	3.60	5,062.84	<Collection: 1 items>	Fixed	83.4	4,870.00
J-116	Zone - 3	3.60	5,062.85	<Collection: 1 items>	Fixed	84.3	4,868.00
J-117	Zone - 3	3.60	5,062.86	<Collection: 1 items>	Fixed	85.2	4,866.00
J-118	Zone - 3	3.60	5,062.87	<Collection: 1 items>	Fixed	86.0	4,864.00
J-119	Zone - 3	3.60	5,062.88	<Collection: 1 items>	Fixed	86.9	4,862.00
J-121	Zone - 3	6,003.60	5,062.92	<Collection: 1 items>	Fixed	90.0	4,855.00
J-122	Zone - 3	0.00	5,118.50	<Collection: 0 items>	Fixed	138.2	4,799.00
J-123	Zone - 2	0.00	5,118.73	<Collection: 0 items>	Fixed	139.6	4,796.00
J-125	Zone - 3	0.00	5,118.48	<Collection: 0 items>	Fixed	138.4	4,798.50
J-126	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	82.3	4,796.00
J-127	Zone - 3	0.00	5,118.55	<Collection: 0 items>	Fixed	138.7	4,798.00
J-129	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	98.5	4,792.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J121

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-1	1,094.21	30.0	100.0	1,929.56	0.88	0.18	Steel	0.160	5,120.00	True	5,119.82
P-2	37.82	30.0	100.0	-1,929.56	0.88	0.01	Steel	0.168	5,119.82	True	5,119.82
P-3	7.44	18.0	140.0	6.00	0.01	0.00	Asbestos Cement	0.000	5,119.82	True	5,119.82
P-4	7.39	18.0	140.0	6.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-5	461.01	18.0	140.0	-6.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-6	691.43	18.0	140.0	-4.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-7	645.24	18.0	140.0	2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-8	346.44	18.0	140.0	2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-9	1,826.43	30.0	100.0	-1,923.56	0.87	0.29	Steel	0.159	5,119.53	True	5,119.82
P-11	30.30	12.0	150.0	123.05	0.35	0.00	PVC	0.048	5,119.53	True	5,119.53
P-12	25.33	12.0	150.0	123.05	0.35	0.00	PVC	0.039	4,986.66	True	4,986.66
P-13	36.10	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,977.97	True	4,977.97
P-14	52.44	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-15	653.52	12.0	150.0	123.04	0.35	0.03	PVC	0.040	4,986.66	True	4,986.63
P-16	366.19	12.0	150.0	119.44	0.34	0.01	PVC	0.037	4,986.63	True	4,986.62
P-17	711.39	12.0	150.0	29.44	0.08	0.00	PVC	0.003	4,986.62	True	4,986.61
P-18	329.62	12.0	150.0	14.72	0.04	0.00	PVC	0.001	4,986.61	True	4,986.61
P-19	32.01	8.0	150.0	90.00	0.57	0.01	PVC	0.168	4,986.62	True	4,986.61
P-20	307.08	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,986.61	True	4,986.61
P-21	302.29	8.0	150.0	86.40	0.55	0.05	PVC	0.150	4,986.61	True	4,986.57
P-22	175.00	8.0	140.0	82.80	0.53	0.03	Asbestos Cement	0.159	4,986.57	True	4,986.54
P-23	331.85	8.0	140.0	79.20	0.51	0.05	Asbestos Cement	0.144	4,986.54	True	4,986.49
P-24	153.34	8.0	140.0	75.60	0.48	0.02	Asbestos Cement	0.134	4,986.49	True	4,986.47
P-25	177.80	8.0	150.0	75.60	0.48	0.02	PVC	0.118	4,986.47	True	4,986.45
P-26	101.80	8.0	150.0	75.60	0.48	0.01	PVC	0.115	4,986.45	True	4,986.44
P-27	343.59	8.0	150.0	75.60	0.48	0.04	PVC	0.118	4,986.44	True	4,986.40
P-28	273.59	8.0	150.0	75.60	0.48	0.03	PVC	0.118	4,986.40	True	4,986.36
P-29	600.56	8.0	150.0	75.60	0.48	0.07	PVC	0.117	4,986.36	True	4,986.29
P-30	549.58	8.0	150.0	39.83	0.25	0.02	PVC	0.036	4,986.29	True	4,986.27
P-31	245.14	8.0	150.0	4.76	0.03	0.00	PVC	0.000	4,986.27	True	4,986.27
P-32	246.24	8.0	150.0	-35.77	0.23	0.01	PVC	0.030	4,986.29	True	4,986.29
P-33	381.60	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.29	True	4,986.29
P-34	332.48	8.0	150.0	-32.17	0.21	0.01	PVC	0.023	4,986.28	True	4,986.29
P-35	191.14	8.0	150.0	-32.17	0.21	0.00	PVC	0.026	4,986.27	True	4,986.28
P-36	110.24	8.0	150.0	33.33	0.21	0.00	PVC	0.027	4,986.27	True	4,986.27
P-37	82.46	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,986.27	True	4,986.27
P-38	94.56	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,119.82	True	5,119.82
P-40	457.35	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,019.77	True	5,019.77
P-41	854.39	12.0	150.0	-19.05	0.05	0.00	PVC	0.001	5,019.77	True	5,019.77
P-42	315.19	12.0	150.0	-19.05	0.05	0.00	PVC	0.002	5,019.77	True	5,019.77
P-43	518.31	12.0	150.0	3.60	0.01	0.00	PVC	0.000	5,019.77	True	5,019.77
P-44	70.88	12.0	150.0	-22.65	0.06	0.00	PVC	0.000	5,019.77	True	5,019.77
P-45	113.04	12.0	150.0	28.80	0.08	0.00	PVC	0.000	5,019.77	True	5,019.77
P-46	167.37	12.0	150.0	19.40	0.06	0.00	PVC	0.003	5,019.77	True	5,019.77
P-47	359.22	12.0	150.0	15.80	0.04	0.00	PVC	0.001	5,019.77	True	5,019.77
P-48	52.69	12.0	150.0	12.20	0.03	0.00	PVC	0.000	5,019.77	True	5,019.77
P-49	370.87	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.77	True	5,019.77
P-50	62.99	8.0	150.0	8.60	0.05	0.00	PVC	0.000	5,019.77	True	5,019.77

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J121

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-111	Zone - 3	3.60	5,062.81	<Collection: 1 items>	Fixed	80.0	4,878.00
J-112	Zone - 3	3.60	5,062.82	<Collection: 1 items>	Fixed	80.8	4,876.00
J-113	Zone - 3	3.60	5,062.82	<Collection: 1 items>	Fixed	81.7	4,874.00
J-114	Zone - 3	3.60	5,062.83	<Collection: 1 items>	Fixed	82.6	4,872.00
J-115	Zone - 3	3.60	5,062.84	<Collection: 1 items>	Fixed	83.4	4,870.00
J-116	Zone - 3	3.60	5,062.85	<Collection: 1 items>	Fixed	84.3	4,868.00
J-117	Zone - 3	3.60	5,062.86	<Collection: 1 items>	Fixed	85.2	4,866.00
J-118	Zone - 3	3.60	5,062.87	<Collection: 1 items>	Fixed	86.0	4,864.00
J-119	Zone - 3	3.60	5,062.88	<Collection: 1 items>	Fixed	86.9	4,862.00
J-121	Zone - 3	6,003.60	5,062.92	<Collection: 1 items>	Fixed	90.0	4,855.00
J-122	Zone - 3	0.00	5,118.50	<Collection: 0 items>	Fixed	138.2	4,799.00
J-123	Zone - 2	0.00	5,118.73	<Collection: 0 items>	Fixed	139.6	4,796.00
J-125	Zone - 3	0.00	5,118.48	<Collection: 0 items>	Fixed	138.4	4,798.50
J-126	Zone - 1	3.60	4,986.26	<Collection: 1 items>	Fixed	82.3	4,796.00
J-127	Zone - 3	0.00	5,118.55	<Collection: 0 items>	Fixed	138.7	4,798.00
J-129	Zone - 2	0.00	5,019.77	<Collection: 0 items>	Fixed	98.5	4,792.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J121

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-1	1,094.21	36.0	100.0	1,978.13	0.62	0.08	Steel	0.069	5,120.00	True	5,119.92
P-2	37.82	30.0	100.0	-1,978.12	0.90	0.01	Steel	0.168	5,119.92	True	5,119.92
P-3	7.44	18.0	140.0	6.00	0.01	0.00	Asbestos Cement	0.000	5,119.92	True	5,119.92
P-4	7.39	18.0	140.0	6.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-5	461.01	18.0	140.0	-6.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-6	691.43	18.0	140.0	-4.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-7	645.24	18.0	140.0	2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-8	346.44	18.0	140.0	2.00	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-9	1,826.43	30.0	100.0	-1,972.12	0.90	0.31	Steel	0.167	5,119.61	True	5,119.92
P-11	30.30	12.0	150.0	123.06	0.35	0.00	PVC	0.032	5,119.61	True	5,119.61
P-12	25.33	12.0	150.0	123.04	0.35	0.00	PVC	0.039	4,986.66	True	4,986.66
P-13	36.10	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,977.97	True	4,977.97
P-14	52.44	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-15	653.52	12.0	150.0	123.04	0.35	0.03	PVC	0.040	4,986.66	True	4,986.63
P-16	366.19	12.0	150.0	119.44	0.34	0.01	PVC	0.037	4,986.63	True	4,986.62
P-17	711.39	12.0	150.0	29.44	0.08	0.00	PVC	0.003	4,986.62	True	4,986.61
P-18	329.62	12.0	150.0	14.72	0.04	0.00	PVC	0.001	4,986.61	True	4,986.61
P-19	32.01	8.0	150.0	90.00	0.57	0.01	PVC	0.168	4,986.62	True	4,986.61
P-20	307.08	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,986.61	True	4,986.61
P-21	302.29	8.0	150.0	86.40	0.55	0.05	PVC	0.150	4,986.61	True	4,986.57
P-22	175.00	8.0	140.0	82.80	0.53	0.03	Asbestos Cement	0.159	4,986.57	True	4,986.54
P-23	331.85	8.0	140.0	79.20	0.51	0.05	Asbestos Cement	0.144	4,986.54	True	4,986.49
P-24	153.34	8.0	140.0	75.60	0.48	0.02	Asbestos Cement	0.134	4,986.49	True	4,986.47
P-25	177.80	8.0	150.0	75.60	0.48	0.02	PVC	0.118	4,986.47	True	4,986.45
P-26	101.80	8.0	150.0	75.60	0.48	0.01	PVC	0.115	4,986.45	True	4,986.44
P-27	343.59	8.0	150.0	75.60	0.48	0.04	PVC	0.118	4,986.44	True	4,986.40
P-28	273.59	8.0	150.0	75.60	0.48	0.03	PVC	0.118	4,986.40	True	4,986.36
P-29	600.56	8.0	150.0	75.60	0.48	0.07	PVC	0.117	4,986.36	True	4,986.29
P-30	549.58	8.0	150.0	39.83	0.25	0.02	PVC	0.036	4,986.29	True	4,986.27
P-31	245.14	8.0	150.0	4.76	0.03	0.00	PVC	0.002	4,986.27	True	4,986.27
P-32	246.24	8.0	150.0	-35.77	0.23	0.01	PVC	0.030	4,986.29	True	4,986.29
P-33	381.60	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.29	True	4,986.29
P-34	332.48	8.0	150.0	-32.17	0.21	0.01	PVC	0.023	4,986.28	True	4,986.29
P-35	191.14	8.0	150.0	-32.17	0.21	0.00	PVC	0.026	4,986.27	True	4,986.28
P-36	110.24	8.0	150.0	33.33	0.21	0.00	PVC	0.027	4,986.27	True	4,986.27
P-37	82.46	8.0	150.0	3.60	0.02	0.00	PVC	0.000	4,986.27	True	4,986.27
P-38	94.56	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,119.92	True	5,119.92
P-40	457.35	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,019.77	True	5,019.77
P-41	854.39	12.0	150.0	-19.05	0.05	0.00	PVC	0.001	5,019.77	True	5,019.77
P-42	315.19	12.0	150.0	-19.05	0.05	0.00	PVC	0.002	5,019.77	True	5,019.77
P-43	518.31	12.0	150.0	3.60	0.01	0.00	PVC	0.000	5,019.77	True	5,019.77
P-44	70.88	12.0	150.0	-22.65	0.06	0.00	PVC	0.000	5,019.77	True	5,019.77
P-45	113.04	12.0	150.0	28.80	0.08	0.00	PVC	0.000	5,019.77	True	5,019.77
P-46	167.37	12.0	150.0	19.40	0.06	0.00	PVC	0.003	5,019.77	True	5,019.77
P-47	359.22	12.0	150.0	15.80	0.04	0.00	PVC	0.001	5,019.77	True	5,019.77
P-48	52.69	12.0	150.0	12.20	0.03	0.00	PVC	0.000	5,019.77	True	5,019.77
P-49	370.87	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.77	True	5,019.77
P-50	62.99	8.0	150.0	8.60	0.05	0.00	PVC	0.000	5,019.77	True	5,019.77

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J121

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-51	221.10	8.0	150.0	5.00	0.03	0.00	PVC	0.000	5,019.77	True	5,019.77
P-52	81.21	8.0	150.0	1.40	0.01	0.00	PVC	0.000	5,019.77	True	5,019.77
P-53	353.77	8.0	150.0	-2.20	0.01	0.00	PVC	0.000	5,019.77	True	5,019.77
P-54	332.21	8.0	150.0	-9.40	0.06	0.00	PVC	0.003	5,019.77	True	5,019.77
P-55	561.26	8.0	150.0	7.20	0.05	0.00	PVC	0.002	5,019.77	True	5,019.77
P-56	134.25	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.77	True	5,019.77
P-57	330.48	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.77	True	5,019.77
P-58	161.67	12.0	150.0	-51.45	0.15	0.00	PVC	0.009	5,019.77	True	5,019.77
P-59	213.49	12.0	150.0	-67.05	0.19	0.00	PVC	0.014	5,019.77	True	5,019.77
P-60	350.73	12.0	150.0	-93.60	0.27	0.01	PVC	0.024	5,019.77	True	5,019.78
P-61	286.24	12.0	150.0	-97.20	0.28	0.01	PVC	0.026	5,019.78	True	5,019.79
P-62	353.63	12.0	150.0	-108.00	0.31	0.01	PVC	0.032	5,019.79	True	5,019.80
P-63	94.38	12.0	150.0	-111.60	0.32	0.00	PVC	0.031	5,019.80	True	5,019.80
P-64	203.48	8.0	150.0	12.00	0.08	0.00	PVC	0.005	5,019.77	True	5,019.77
P-65	228.49	8.0	150.0	8.40	0.05	0.00	PVC	0.002	5,019.77	True	5,019.77
P-66	208.58	8.0	150.0	4.80	0.03	0.00	PVC	0.000	5,019.77	True	5,019.77
P-67	87.29	8.0	150.0	-15.75	0.10	0.00	PVC	0.006	5,019.77	True	5,019.77
P-68	212.45	8.0	150.0	-19.35	0.12	0.00	PVC	0.009	5,019.77	True	5,019.77
P-69	126.18	8.0	150.0	-22.95	0.15	0.00	PVC	0.015	5,019.77	True	5,019.77
P-70	140.87	8.0	150.0	16.95	0.11	0.00	PVC	0.007	5,019.77	True	5,019.77
P-72	326.41	8.0	150.0	7.20	0.05	0.00	PVC	0.001	5,019.79	True	5,019.79
P-73	185.39	8.0	150.0	3.60	0.02	0.00	PVC	0.000	5,019.79	True	5,019.79
P-117	722.25	12.0	150.0	29.73	0.08	0.00	PVC	0.003	4,986.27	True	4,986.27
P-118	875.21	12.0	150.0	26.13	0.07	0.00	PVC	0.002	4,986.27	True	4,986.27
P-119	530.70	12.0	150.0	22.53	0.06	0.00	PVC	0.002	4,986.27	True	4,986.27
P-120	1,399.56	12.0	150.0	18.93	0.05	0.00	PVC	0.001	4,986.27	True	4,986.26
P-122	1,136.72	12.0	150.0	8.13	0.02	0.00	PVC	0.000	4,986.26	True	4,986.26
P-123	1,042.45	12.0	150.0	4.53	0.01	0.00	PVC	0.000	4,986.26	True	4,986.26
P-124	528.52	12.0	150.0	0.93	0.00	0.00	PVC	0.000	4,986.26	True	4,986.26
P-125	1,076.20	12.0	150.0	-2.67	0.01	0.00	PVC	0.000	4,986.26	True	4,986.26
P-126	866.57	12.0	150.0	-6.27	0.02	0.00	PVC	0.001	4,986.26	True	4,986.26
P-127	1,176.69	12.0	150.0	-9.87	0.03	0.00	PVC	0.000	4,986.26	True	4,986.26
P-128	873.65	12.0	150.0	-13.47	0.04	0.00	PVC	0.001	4,986.26	True	4,986.26
P-129	910.87	12.0	150.0	-17.07	0.05	0.00	PVC	0.001	4,986.26	True	4,986.27
P-130	994.16	12.0	150.0	-20.67	0.06	0.00	PVC	0.001	4,986.27	True	4,986.27
P-131	1,087.30	12.0	150.0	-24.27	0.07	0.00	PVC	0.002	4,986.27	True	4,986.27
P-132	602.18	12.0	150.0	-27.87	0.08	0.00	PVC	0.002	4,986.27	True	4,986.27
P-133	570.66	12.0	150.0	-31.47	0.09	0.00	PVC	0.003	4,986.27	True	4,986.27
P-134	422.43	12.0	150.0	-35.07	0.10	0.00	PVC	0.005	4,986.27	True	4,986.27
P-135	143.84	8.0	150.0	13.35	0.09	0.00	PVC	0.003	5,019.77	True	5,019.77
P-138	590.21	12.0	150.0	15.45	0.04	0.00	PVC	0.001	5,019.77	True	5,019.76
P-139	336.82	12.0	150.0	11.85	0.03	0.00	PVC	0.000	5,019.76	True	5,019.76
P-140	331.77	12.0	150.0	8.25	0.02	0.00	PVC	0.000	5,019.76	True	5,019.76
P-141	691.41	12.0	150.0	4.65	0.01	0.00	PVC	0.000	5,019.76	True	5,019.76
P-142	600.23	12.0	150.0	1.05	0.00	0.00	PVC	0.000	5,019.76	True	5,019.76
P-143	749.15	8.0	150.0	9.75	0.06	0.00	PVC	0.003	5,019.77	True	5,019.76
P-144	262.10	8.0	150.0	3.60	0.02	0.00	PVC	0.002	5,019.76	True	5,019.76
P-145	150.63	12.0	150.0	-2.55	0.01	0.00	PVC	0.000	5,019.76	True	5,019.76

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Max Day + 6000gpm FF@ J121

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-146	404.83	12.0	150.0	-115.20	0.33	0.01	PVC	0.036	5,019.80	True	5,019.82
P-147	251.86	12.0	150.0	-118.80	0.34	0.01	PVC	0.037	5,019.82	True	5,019.83
P-152	628.26	16.0	150.0	-126.00	0.20	0.01	PVC	0.011	5,062.75	True	5,062.76
P-153	499.26	16.0	150.0	-129.60	0.21	0.01	PVC	0.011	5,062.76	True	5,062.76
P-154	499.14	16.0	150.0	-133.20	0.21	0.01	PVC	0.011	5,062.76	True	5,062.77
P-155	495.91	16.0	150.0	-136.80	0.22	0.01	PVC	0.013	5,062.77	True	5,062.77
P-156	498.45	16.0	150.0	-140.40	0.22	0.01	PVC	0.012	5,062.77	True	5,062.78
P-157	502.65	16.0	150.0	-144.00	0.23	0.01	PVC	0.014	5,062.78	True	5,062.79
P-158	505.16	16.0	150.0	-147.60	0.24	0.01	PVC	0.014	5,062.79	True	5,062.79
P-159	501.02	16.0	150.0	-151.20	0.24	0.01	PVC	0.015	5,062.79	True	5,062.80
P-160	504.09	16.0	150.0	-154.80	0.25	0.01	PVC	0.015	5,062.80	True	5,062.81
P-161	507.65	16.0	150.0	-158.40	0.25	0.01	PVC	0.015	5,062.81	True	5,062.82
P-162	499.19	16.0	150.0	-162.00	0.26	0.01	PVC	0.017	5,062.82	True	5,062.82
P-163	505.77	16.0	150.0	-165.60	0.26	0.01	PVC	0.017	5,062.82	True	5,062.83
P-164	500.85	16.0	150.0	-169.20	0.27	0.01	PVC	0.018	5,062.83	True	5,062.84
P-165	500.07	16.0	150.0	-172.80	0.28	0.01	PVC	0.019	5,062.84	True	5,062.85
P-166	509.76	16.0	150.0	-176.40	0.28	0.01	PVC	0.019	5,062.85	True	5,062.86
P-167	497.27	16.0	150.0	-180.00	0.29	0.01	PVC	0.021	5,062.86	True	5,062.87
P-168	498.43	16.0	150.0	-183.60	0.29	0.01	PVC	0.021	5,062.87	True	5,062.88
P-169	1,630.19	16.0	150.0	-187.20	0.30	0.04	PVC	0.022	5,062.88	True	5,062.92
P-176	3,079.47	12.0	150.0	-122.40	0.35	0.12	PVC	0.040	5,019.83	True	5,019.95
P-177	245.89	12.0	150.0	-122.40	0.35	0.01	PVC	0.040	5,062.74	True	5,062.75
P-178	1,518.48	30.0	100.0	-1,849.07	0.84	0.23	Steel	0.148	5,118.50	True	5,118.73
P-179	5,987.75	30.0	100.0	-1,849.07	0.84	0.89	Steel	0.148	5,118.73	True	5,119.61
P-181	111.34	30.0	100.0	-1,849.07	0.84	0.02	Steel	0.149	5,118.48	True	5,118.50
P-182	216.90	16.0	150.0	6,190.81	9.88	3.04	PVC	14.014	5,118.48	True	5,115.44
P-183	2,362.21	16.0	150.0	6,190.80	9.88	33.10	PVC	14.013	5,096.02	True	5,062.92
P-184	275.55	12.0	150.0	15.33	0.04	0.00	PVC	0.002	4,986.26	True	4,986.26
P-185	818.88	12.0	150.0	11.73	0.03	0.00	PVC	0.001	4,986.26	True	4,986.26
P-186	2,007.25	30.0	100.0	4,341.75	1.97	1.45	Steel	0.720	5,120.00	True	5,118.55
P-187	97.75	30.0	100.0	4,341.74	1.97	0.07	Steel	0.719	5,118.55	True	5,118.48
P-188	76.65	12.0	150.0	0.00	0.00	0.00	PVC	0.000	5,118.55	True	5,118.55
P-189	87.63	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.26	True	4,986.26
P-192	66.81	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,019.77	True	5,019.77
P-193	360.31	12.0	140.0	-19.05	0.05	0.00	Asbestos Cement	0.001	5,019.77	True	5,019.77
P-194	611.18	12.0	150.0	-19.05	0.05	0.00	PVC	0.002	5,019.77	True	5,019.77

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Peak Hour

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-1	Zone - 4	2.50	4,977.97	<Collection: 1 items>	Fixed	84.1	4,783.50
J-2	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	83.5	4,785.00
J-3	Zone - 4	2.50	4,977.97	<Collection: 1 items>	Fixed	84.4	4,783.00
J-6	Zone - 4	2.50	4,977.97	<Collection: 1 items>	Fixed	80.9	4,791.00
J-7	Zone - 3	0.00	5,120.00	<Collection: 0 items>	Fixed	144.9	4,785.00
J-8	Zone - 3	0.00	5,120.00	<Collection: 0 items>	Fixed	141.5	4,793.00
J-10	Zone - 1	0.00	4,986.66	<Collection: 0 items>	Fixed	87.0	4,785.50
J-11	Zone - 1	4.50	4,986.62	<Collection: 1 items>	Fixed	82.3	4,796.50
J-12	Zone - 1	0.00	4,986.60	<Collection: 0 items>	Fixed	78.8	4,804.50
J-13	Zone - 1	18.40	4,986.59	<Collection: 1 items>	Fixed	74.5	4,814.50
J-14	Zone - 1	18.40	4,986.59	<Collection: 1 items>	Fixed	74.7	4,814.00
J-15	Zone - 1	0.00	4,986.59	<Collection: 0 items>	Fixed	78.6	4,805.00
J-16	Zone - 1	4.50	4,986.52	<Collection: 1 items>	Fixed	78.3	4,805.50
J-17	Zone - 1	0.00	4,986.37	<Collection: 0 items>	Fixed	74.6	4,814.00
J-18	Zone - 1	0.00	4,986.34	<Collection: 0 items>	Fixed	72.0	4,820.00
J-19	Zone - 1	0.00	4,986.32	<Collection: 0 items>	Fixed	71.1	4,822.00
J-20	Zone - 1	0.00	4,986.26	<Collection: 0 items>	Fixed	70.6	4,823.00
J-21	Zone - 1	0.00	4,986.21	<Collection: 0 items>	Fixed	71.0	4,822.00
J-22	Zone - 1	0.00	4,986.08	<Collection: 0 items>	Fixed	73.8	4,815.50
J-23	Zone - 1	4.50	4,986.08	<Collection: 1 items>	Fixed	73.6	4,816.00
J-24	Zone - 1	0.00	4,986.08	<Collection: 0 items>	Fixed	73.2	4,817.00
J-25	Zone - 1	4.50	4,986.10	<Collection: 1 items>	Fixed	74.0	4,815.00
J-26	Zone - 1	0.00	4,986.10	<Collection: 0 items>	Fixed	76.2	4,810.00
J-27	Zone - 1	0.00	4,986.07	<Collection: 0 items>	Fixed	74.4	4,814.00
J-28	Zone - 1	4.50	4,986.07	<Collection: 1 items>	Fixed	72.7	4,818.00
J-29	Zone - 1	4.50	4,986.59	<Collection: 1 items>	Fixed	75.5	4,812.00
J-30	Zone - 4	0.00	4,977.97	<Collection: 0 items>	Fixed	80.0	4,793.00
J-31	Zone - 3	0.00	5,120.00	<Collection: 0 items>	Fixed	141.5	4,793.00
J-32	Zone - 2	0.00	5,019.67	<Collection: 0 items>	Fixed	98.5	4,792.00
J-33	Zone - 2	0.00	5,019.67	<Collection: 0 items>	Fixed	102.0	4,784.00
J-34	Zone - 2	0.00	5,019.67	<Collection: 0 items>	Fixed	92.4	4,806.00
J-35	Zone - 2	0.00	5,019.68	<Collection: 0 items>	Fixed	90.3	4,811.00
J-36	Zone - 2	4.50	5,019.68	<Collection: 1 items>	Fixed	90.3	4,811.00
J-37	Zone - 2	0.00	5,019.68	<Collection: 0 items>	Fixed	90.1	4,811.50
J-38	Zone - 2	0.00	5,019.68	<Collection: 0 items>	Fixed	87.7	4,817.00
J-39	Zone - 2	4.50	5,019.67	<Collection: 1 items>	Fixed	86.2	4,820.50
J-40	Zone - 2	0.00	5,019.67	<Collection: 0 items>	Fixed	84.9	4,823.50
J-41	Zone - 2	4.50	5,019.68	<Collection: 1 items>	Fixed	89.0	4,814.00
J-42	Zone - 2	4.50	5,019.68	<Collection: 1 items>	Fixed	85.1	4,823.00
J-43	Zone - 2	4.50	5,019.69	<Collection: 1 items>	Fixed	87.7	4,817.00
J-44	Zone - 2	4.50	5,019.71	<Collection: 1 items>	Fixed	87.7	4,817.00
J-45	Zone - 2	4.50	5,019.72	<Collection: 1 items>	Fixed	86.6	4,819.50
J-46	Zone - 2	4.50	5,019.73	<Collection: 1 items>	Fixed	86.4	4,820.00
J-47	Zone - 2	4.50	5,019.68	<Collection: 1 items>	Fixed	89.9	4,812.00
J-48	Zone - 2	4.50	5,019.68	<Collection: 1 items>	Fixed	90.7	4,810.00
J-49	Zone - 2	4.50	5,019.68	<Collection: 1 items>	Fixed	90.3	4,811.00
J-50	Zone - 2	4.50	5,019.68	<Collection: 1 items>	Fixed	89.9	4,812.00
J-51	Zone - 2	4.50	5,019.68	<Collection: 1 items>	Fixed	89.0	4,814.00
J-52	Zone - 2	4.50	5,019.67	<Collection: 1 items>	Fixed	90.7	4,810.00
J-53	Zone - 2	4.50	5,019.67	<Collection: 1 items>	Fixed	89.6	4,812.50

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Peak Hour

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-54	Zone - 2	4.50	5,019.71	<Collection: 1 items>	Fixed	86.0	4,821.00
J-55	Zone - 2	4.50	5,019.71	<Collection: 1 items>	Fixed	85.1	4,823.00
J-56	Zone - 2	4.50	5,019.67	<Collection: 1 items>	Fixed	82.9	4,828.00
J-57	Zone - 2	4.50	5,019.67	<Collection: 1 items>	Fixed	84.0	4,825.50
J-58	Zone - 2	4.50	5,019.67	<Collection: 1 items>	Fixed	84.0	4,825.50
J-59	Zone - 2	4.50	5,019.67	<Collection: 1 items>	Fixed	83.1	4,827.50
J-60	Zone - 2	4.50	5,019.67	<Collection: 1 items>	Fixed	81.2	4,832.00
J-61	Zone - 2	0.00	5,019.67	<Collection: 0 items>	Fixed	85.5	4,822.00
J-62	Zone - 2	0.00	5,019.67	<Collection: 0 items>	Fixed	82.5	4,829.00
J-64	Zone - 2	4.50	5,019.67	<Collection: 1 items>	Fixed	84.7	4,824.00
J-65	Zone - 2	4.50	5,019.67	<Collection: 1 items>	Fixed	82.1	4,830.00
J-68	Zone - 1	4.50	4,986.40	<Collection: 1 items>	Fixed	74.2	4,815.00
J-69	Zone - 1	4.50	4,986.48	<Collection: 1 items>	Fixed	77.2	4,808.00
J-70	Zone - 1	0.00	4,986.11	<Collection: 0 items>	Fixed	72.7	4,818.00
J-73	Zone - 1	4.50	4,986.07	<Collection: 1 items>	Fixed	76.2	4,810.00
J-74	Zone - 1	4.50	4,986.07	<Collection: 1 items>	Fixed	78.3	4,805.00
J-75	Zone - 1	4.50	4,986.07	<Collection: 1 items>	Fixed	80.5	4,800.00
J-76	Zone - 1	4.50	4,986.06	<Collection: 1 items>	Fixed	80.9	4,799.00
J-77	Zone - 1	4.50	4,986.06	<Collection: 1 items>	Fixed	84.8	4,790.00
J-78	Zone - 1	4.50	4,986.06	<Collection: 1 items>	Fixed	87.0	4,785.00
J-79	Zone - 1	4.50	4,986.06	<Collection: 1 items>	Fixed	89.2	4,780.00
J-80	Zone - 1	4.50	4,986.06	<Collection: 1 items>	Fixed	93.9	4,769.00
J-81	Zone - 1	4.50	4,986.06	<Collection: 1 items>	Fixed	91.7	4,774.00
J-82	Zone - 1	4.50	4,986.06	<Collection: 1 items>	Fixed	89.6	4,779.00
J-83	Zone - 1	4.50	4,986.06	<Collection: 1 items>	Fixed	87.4	4,784.00
J-84	Zone - 1	4.50	4,986.06	<Collection: 1 items>	Fixed	94.8	4,767.00
J-85	Zone - 1	4.50	4,986.06	<Collection: 1 items>	Fixed	92.6	4,772.00
J-86	Zone - 1	4.50	4,986.07	<Collection: 1 items>	Fixed	90.5	4,777.00
J-87	Zone - 1	4.50	4,986.07	<Collection: 1 items>	Fixed	88.3	4,782.00
J-88	Zone - 1	4.50	4,986.07	<Collection: 1 items>	Fixed	81.4	4,798.00
J-89	Zone - 1	4.50	4,986.07	<Collection: 1 items>	Fixed	75.3	4,812.00
J-90	Zone - 2	4.50	5,019.67	<Collection: 1 items>	Fixed	91.1	4,809.00
J-91	Zone - 2	4.50	5,019.67	<Collection: 1 items>	Fixed	92.9	4,805.00
J-92	Zone - 2	4.50	5,019.67	<Collection: 1 items>	Fixed	94.6	4,801.00
J-93	Zone - 2	4.50	5,019.67	<Collection: 1 items>	Fixed	94.4	4,801.50
J-94	Zone - 2	4.50	5,019.67	<Collection: 1 items>	Fixed	94.2	4,802.00
J-95	Zone - 2	4.50	5,019.67	<Collection: 1 items>	Fixed	92.4	4,806.00
J-96	Zone - 2	4.50	5,019.67	<Collection: 1 items>	Fixed	90.7	4,810.00
J-97	Zone - 2	4.50	5,019.67	<Collection: 1 items>	Fixed	90.3	4,811.00
J-98	Zone - 2	4.50	5,019.75	<Collection: 1 items>	Fixed	85.1	4,823.00
J-99	Zone - 2	4.50	5,019.76	<Collection: 1 items>	Fixed	83.8	4,826.00
J-100	Zone - 3	4.50	5,095.69	<Collection: 1 items>	Fixed	88.1	4,892.00
J-103	Zone - 3	4.50	5,095.70	<Collection: 1 items>	Fixed	89.9	4,888.00
J-104	Zone - 3	4.50	5,095.71	<Collection: 1 items>	Fixed	90.3	4,887.00
J-105	Zone - 3	4.50	5,095.71	<Collection: 1 items>	Fixed	90.7	4,886.00
J-106	Zone - 3	4.50	5,095.72	<Collection: 1 items>	Fixed	91.2	4,885.00
J-107	Zone - 3	4.50	5,095.73	<Collection: 1 items>	Fixed	91.6	4,884.00
J-108	Zone - 3	4.50	5,095.74	<Collection: 1 items>	Fixed	92.0	4,883.00
J-109	Zone - 3	4.50	5,095.75	<Collection: 1 items>	Fixed	92.5	4,882.00
J-110	Zone - 3	4.50	5,095.76	<Collection: 1 items>	Fixed	93.4	4,880.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Peak Hour

FlexTable: Junction Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Demand (gpm)	Hydraulic Grade (ft)	Demand Collection	Pattern (Constituent)	Pressure (psi)	Elevation (ft)
J-111	Zone - 3	4.50	5,095.78	<Collection: 1 items>	Fixed	94.2	4,878.00
J-112	Zone - 3	4.50	5,095.79	<Collection: 1 items>	Fixed	95.1	4,876.00
J-113	Zone - 3	4.50	5,095.80	<Collection: 1 items>	Fixed	96.0	4,874.00
J-114	Zone - 3	4.50	5,095.81	<Collection: 1 items>	Fixed	96.8	4,872.00
J-115	Zone - 3	4.50	5,095.83	<Collection: 1 items>	Fixed	97.7	4,870.00
J-116	Zone - 3	4.50	5,095.84	<Collection: 1 items>	Fixed	98.6	4,868.00
J-117	Zone - 3	4.50	5,095.86	<Collection: 1 items>	Fixed	99.4	4,866.00
J-118	Zone - 3	4.50	5,095.87	<Collection: 1 items>	Fixed	100.3	4,864.00
J-119	Zone - 3	4.50	5,095.89	<Collection: 1 items>	Fixed	101.2	4,862.00
J-121	Zone - 3	4.50	5,095.94	<Collection: 1 items>	Fixed	104.2	4,855.00
J-122	Zone - 3	0.00	5,119.99	<Collection: 0 items>	Fixed	138.9	4,799.00
J-123	Zone - 2	0.00	5,119.99	<Collection: 0 items>	Fixed	140.2	4,796.00
J-125	Zone - 3	0.00	5,119.99	<Collection: 0 items>	Fixed	139.1	4,798.50
J-126	Zone - 1	4.50	4,986.06	<Collection: 1 items>	Fixed	82.2	4,796.00
J-127	Zone - 3	0.00	5,119.99	<Collection: 0 items>	Fixed	139.3	4,798.00
J-129	Zone - 2	0.00	5,019.67	<Collection: 0 items>	Fixed	98.5	4,792.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Peak Hour

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-1	1,094.21	30.0	100.0	181.67	0.08	0.00	Steel	0.002	5,120.00	True	5,120.00
P-2	37.82	30.0	100.0	-181.67	0.08	0.00	Steel	0.000	5,120.00	True	5,120.00
P-3	7.44	18.0	140.0	7.50	0.01	0.00	Asbestos Cement	0.000	5,120.00	True	5,120.00
P-4	7.39	18.0	140.0	7.50	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-5	461.01	18.0	140.0	-7.50	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-6	691.43	18.0	140.0	-5.00	0.01	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-7	645.24	18.0	140.0	2.50	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-8	346.44	18.0	140.0	2.50	0.00	0.00	Asbestos Cement	0.000	4,977.97	True	4,977.97
P-9	1,826.43	30.0	100.0	-174.17	0.08	0.00	Steel	0.002	5,119.99	True	5,120.00
P-11	30.30	12.0	150.0	153.80	0.44	0.00	PVC	0.048	5,119.99	True	5,119.99
P-12	25.33	12.0	150.0	153.80	0.44	0.00	PVC	0.058	4,986.66	True	4,986.66
P-13	36.10	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,977.97	True	4,977.97
P-14	52.44	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.66	True	4,986.66
P-15	653.52	12.0	150.0	153.80	0.44	0.04	PVC	0.061	4,986.66	True	4,986.62
P-16	366.19	12.0	150.0	149.30	0.42	0.02	PVC	0.057	4,986.62	True	4,986.60
P-17	711.39	12.0	150.0	36.80	0.10	0.00	PVC	0.005	4,986.60	True	4,986.59
P-18	329.62	12.0	150.0	18.40	0.05	0.00	PVC	0.000	4,986.59	True	4,986.59
P-19	32.01	8.0	150.0	112.50	0.72	0.01	PVC	0.244	4,986.60	True	4,986.59
P-20	307.08	8.0	150.0	4.50	0.03	0.00	PVC	0.002	4,986.59	True	4,986.59
P-21	302.29	8.0	150.0	108.00	0.69	0.07	PVC	0.228	4,986.59	True	4,986.52
P-22	175.00	8.0	140.0	103.50	0.66	0.04	Asbestos Cement	0.240	4,986.52	True	4,986.48
P-23	331.85	8.0	140.0	99.00	0.63	0.07	Asbestos Cement	0.219	4,986.48	True	4,986.40
P-24	153.34	8.0	140.0	94.50	0.60	0.03	Asbestos Cement	0.201	4,986.40	True	4,986.37
P-25	177.80	8.0	150.0	94.50	0.60	0.03	PVC	0.179	4,986.37	True	4,986.34
P-26	101.80	8.0	150.0	94.50	0.60	0.02	PVC	0.177	4,986.34	True	4,986.32
P-27	343.59	8.0	150.0	94.50	0.60	0.06	PVC	0.178	4,986.32	True	4,986.26
P-28	273.59	8.0	150.0	94.50	0.60	0.05	PVC	0.177	4,986.26	True	4,986.21
P-29	600.56	8.0	150.0	94.50	0.60	0.11	PVC	0.177	4,986.21	True	4,986.11
P-30	549.58	8.0	150.0	49.78	0.32	0.03	PVC	0.054	4,986.11	True	4,986.08
P-31	245.14	8.0	150.0	5.94	0.04	0.00	PVC	0.002	4,986.08	True	4,986.08
P-32	246.24	8.0	150.0	-44.71	0.29	0.01	PVC	0.046	4,986.10	True	4,986.11
P-33	381.60	8.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.10	True	4,986.10
P-34	332.48	8.0	150.0	-40.21	0.26	0.01	PVC	0.037	4,986.08	True	4,986.10
P-35	191.14	8.0	150.0	-40.21	0.26	0.01	PVC	0.036	4,986.08	True	4,986.08
P-36	110.24	8.0	150.0	41.65	0.27	0.00	PVC	0.040	4,986.08	True	4,986.07
P-37	82.46	8.0	150.0	4.50	0.03	0.00	PVC	0.000	4,986.07	True	4,986.07
P-38	94.56	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,120.00	True	5,120.00
P-40	457.35	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,019.67	True	5,019.67
P-41	854.39	12.0	150.0	-23.88	0.07	0.00	PVC	0.002	5,019.67	True	5,019.67
P-42	315.19	12.0	150.0	-23.88	0.07	0.00	PVC	0.003	5,019.67	True	5,019.68
P-43	518.31	12.0	150.0	4.50	0.01	0.00	PVC	0.001	5,019.68	True	5,019.68
P-44	70.88	12.0	150.0	-28.38	0.08	0.00	PVC	0.000	5,019.68	True	5,019.68
P-45	113.04	12.0	150.0	36.00	0.10	0.00	PVC	0.004	5,019.68	True	5,019.68
P-46	167.37	12.0	150.0	24.26	0.07	0.00	PVC	0.003	5,019.68	True	5,019.67
P-47	359.22	12.0	150.0	19.76	0.06	0.00	PVC	0.001	5,019.67	True	5,019.67
P-48	52.69	12.0	150.0	15.26	0.04	0.00	PVC	0.000	5,019.67	True	5,019.67
P-49	370.87	8.0	150.0	4.50	0.03	0.00	PVC	0.000	5,019.67	True	5,019.67
P-50	62.99	8.0	150.0	10.76	0.07	0.00	PVC	0.000	5,019.67	True	5,019.67

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Peak Hour

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-51	221.10	8.0	150.0	6.26	0.04	0.00	PVC	0.002	5,019.67	True	5,019.67
P-52	81.21	8.0	150.0	1.76	0.01	0.00	PVC	0.000	5,019.67	True	5,019.67
P-53	353.77	8.0	150.0	-2.74	0.02	0.00	PVC	0.000	5,019.67	True	5,019.67
P-54	332.21	8.0	150.0	-11.74	0.07	0.00	PVC	0.004	5,019.67	True	5,019.68
P-55	561.26	8.0	150.0	9.00	0.06	0.00	PVC	0.002	5,019.67	True	5,019.67
P-56	134.25	8.0	150.0	4.50	0.03	0.00	PVC	0.000	5,019.67	True	5,019.67
P-57	330.48	8.0	150.0	4.50	0.03	0.00	PVC	0.001	5,019.67	True	5,019.67
P-58	161.67	12.0	150.0	-64.39	0.18	0.00	PVC	0.012	5,019.68	True	5,019.68
P-59	213.49	12.0	150.0	-83.85	0.24	0.00	PVC	0.021	5,019.68	True	5,019.68
P-60	350.73	12.0	150.0	-117.01	0.33	0.01	PVC	0.036	5,019.68	True	5,019.69
P-61	286.24	12.0	150.0	-121.51	0.34	0.01	PVC	0.039	5,019.69	True	5,019.71
P-62	353.63	12.0	150.0	-135.01	0.38	0.02	PVC	0.047	5,019.71	True	5,019.72
P-63	94.38	12.0	150.0	-139.51	0.40	0.00	PVC	0.052	5,019.72	True	5,019.73
P-64	203.48	8.0	150.0	14.97	0.10	0.00	PVC	0.007	5,019.68	True	5,019.68
P-65	228.49	8.0	150.0	10.47	0.07	0.00	PVC	0.002	5,019.68	True	5,019.68
P-66	208.58	8.0	150.0	5.97	0.04	0.00	PVC	0.000	5,019.68	True	5,019.68
P-67	87.29	8.0	150.0	-19.65	0.13	0.00	PVC	0.006	5,019.68	True	5,019.68
P-68	212.45	8.0	150.0	-24.15	0.15	0.00	PVC	0.014	5,019.68	True	5,019.68
P-69	126.18	8.0	150.0	-28.65	0.18	0.00	PVC	0.023	5,019.68	True	5,019.68
P-70	140.87	8.0	150.0	21.12	0.13	0.00	PVC	0.014	5,019.68	True	5,019.67
P-72	326.41	8.0	150.0	9.00	0.06	0.00	PVC	0.003	5,019.71	True	5,019.71
P-73	185.39	8.0	150.0	4.50	0.03	0.00	PVC	0.000	5,019.71	True	5,019.71
P-117	722.25	12.0	150.0	37.16	0.11	0.00	PVC	0.004	4,986.07	True	4,986.07
P-118	875.21	12.0	150.0	32.66	0.09	0.00	PVC	0.004	4,986.07	True	4,986.07
P-119	530.70	12.0	150.0	28.16	0.08	0.00	PVC	0.002	4,986.07	True	4,986.07
P-120	1,399.56	12.0	150.0	23.66	0.07	0.00	PVC	0.002	4,986.07	True	4,986.06
P-122	1,136.72	12.0	150.0	10.16	0.03	0.00	PVC	0.000	4,986.06	True	4,986.06
P-123	1,042.45	12.0	150.0	5.66	0.02	0.00	PVC	0.000	4,986.06	True	4,986.06
P-124	528.52	12.0	150.0	1.16	0.00	0.00	PVC	0.000	4,986.06	True	4,986.06
P-125	1,076.20	12.0	150.0	-3.34	0.01	0.00	PVC	0.000	4,986.06	True	4,986.06
P-126	866.57	12.0	150.0	-7.84	0.02	0.00	PVC	0.001	4,986.06	True	4,986.06
P-127	1,176.69	12.0	150.0	-12.34	0.04	0.00	PVC	0.000	4,986.06	True	4,986.06
P-128	873.65	12.0	150.0	-16.84	0.05	0.00	PVC	0.001	4,986.06	True	4,986.06
P-129	910.87	12.0	150.0	-21.34	0.06	0.00	PVC	0.002	4,986.06	True	4,986.06
P-130	994.16	12.0	150.0	-25.84	0.07	0.00	PVC	0.002	4,986.06	True	4,986.07
P-131	1,087.30	12.0	150.0	-30.34	0.09	0.00	PVC	0.003	4,986.07	True	4,986.07
P-132	602.18	12.0	150.0	-34.84	0.10	0.00	PVC	0.004	4,986.07	True	4,986.07
P-133	570.66	12.0	150.0	-39.34	0.11	0.00	PVC	0.004	4,986.07	True	4,986.07
P-134	422.43	12.0	150.0	-43.84	0.12	0.00	PVC	0.006	4,986.07	True	4,986.08
P-135	143.84	8.0	150.0	16.62	0.11	0.00	PVC	0.007	5,019.67	True	5,019.67
P-138	590.21	12.0	150.0	19.38	0.05	0.00	PVC	0.002	5,019.67	True	5,019.67
P-139	336.82	12.0	150.0	14.88	0.04	0.00	PVC	0.000	5,019.67	True	5,019.67
P-140	331.77	12.0	150.0	10.38	0.03	0.00	PVC	0.001	5,019.67	True	5,019.67
P-141	691.41	12.0	150.0	5.88	0.02	0.00	PVC	0.000	5,019.67	True	5,019.67
P-142	600.23	12.0	150.0	1.38	0.00	0.00	PVC	0.000	5,019.67	True	5,019.67
P-143	749.15	8.0	150.0	12.12	0.08	0.00	PVC	0.004	5,019.67	True	5,019.67
P-144	262.10	8.0	150.0	4.50	0.03	0.00	PVC	0.000	5,019.67	True	5,019.67
P-145	150.63	12.0	150.0	-3.12	0.01	0.00	PVC	0.000	5,019.67	True	5,019.67

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Peak Hour

FlexTable: Pipe Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Material	Headloss Gradient (ft/1000ft)	Hydraulic Grade (Start) (ft)	Is Open?	Hydraulic Grade (Stop) (ft)
P-146	404.83	12.0	150.0	-144.01	0.41	0.02	PVC	0.054	5,019.73	True	5,019.75
P-147	251.86	12.0	150.0	-148.51	0.42	0.01	PVC	0.056	5,019.75	True	5,019.76
P-152	628.26	16.0	150.0	-157.51	0.25	0.01	PVC	0.016	5,095.69	True	5,095.70
P-153	499.26	16.0	150.0	-162.01	0.26	0.01	PVC	0.017	5,095.70	True	5,095.71
P-154	499.14	16.0	150.0	-166.51	0.27	0.01	PVC	0.018	5,095.71	True	5,095.71
P-155	495.91	16.0	150.0	-171.01	0.27	0.01	PVC	0.018	5,095.71	True	5,095.72
P-156	498.45	16.0	150.0	-175.51	0.28	0.01	PVC	0.020	5,095.72	True	5,095.73
P-157	502.65	16.0	150.0	-180.01	0.29	0.01	PVC	0.019	5,095.73	True	5,095.74
P-158	505.16	16.0	150.0	-184.51	0.29	0.01	PVC	0.021	5,095.74	True	5,095.75
P-159	501.02	16.0	150.0	-189.01	0.30	0.01	PVC	0.021	5,095.75	True	5,095.76
P-160	504.09	16.0	150.0	-193.51	0.31	0.01	PVC	0.023	5,095.76	True	5,095.78
P-161	507.65	16.0	150.0	-198.01	0.32	0.01	PVC	0.024	5,095.78	True	5,095.79
P-162	499.19	16.0	150.0	-202.51	0.32	0.01	PVC	0.024	5,095.79	True	5,095.80
P-163	505.77	16.0	150.0	-207.01	0.33	0.01	PVC	0.026	5,095.80	True	5,095.81
P-164	500.85	16.0	150.0	-211.51	0.34	0.01	PVC	0.027	5,095.81	True	5,095.83
P-165	500.07	16.0	150.0	-216.01	0.34	0.01	PVC	0.027	5,095.83	True	5,095.84
P-166	509.76	16.0	150.0	-220.51	0.35	0.02	PVC	0.030	5,095.84	True	5,095.86
P-167	497.27	16.0	150.0	-225.01	0.36	0.02	PVC	0.030	5,095.86	True	5,095.87
P-168	498.43	16.0	150.0	-229.51	0.37	0.02	PVC	0.031	5,095.87	True	5,095.89
P-169	1,630.19	16.0	150.0	-234.01	0.37	0.05	PVC	0.032	5,095.89	True	5,095.94
P-176	3,079.47	12.0	150.0	-153.01	0.43	0.19	PVC	0.060	5,019.76	True	5,019.95
P-177	245.89	12.0	150.0	-153.01	0.43	0.01	PVC	0.060	5,095.67	True	5,095.69
P-178	1,518.48	30.0	100.0	-30.65	0.01	0.00	Steel	0.000	5,119.99	True	5,119.99
P-179	5,987.75	30.0	100.0	-30.65	0.01	0.00	Steel	0.000	5,119.99	True	5,120.00
P-181	111.34	30.0	100.0	-30.65	0.01	0.00	Steel	0.000	5,119.99	True	5,119.99
P-182	216.90	16.0	150.0	238.51	0.38	0.01	PVC	0.034	5,119.99	True	5,119.99
P-183	2,362.21	16.0	150.0	238.51	0.38	0.08	PVC	0.034	5,096.02	True	5,095.94
P-184	275.55	12.0	150.0	19.16	0.05	0.00	PVC	0.002	4,986.06	True	4,986.06
P-185	818.88	12.0	150.0	14.66	0.04	0.00	PVC	0.001	4,986.06	True	4,986.06
P-186	2,007.25	30.0	100.0	207.85	0.09	0.01	Steel	0.003	5,120.00	True	5,119.99
P-187	97.75	30.0	100.0	207.85	0.09	0.00	Steel	0.000	5,119.99	True	5,119.99
P-188	76.65	12.0	150.0	0.00	0.00	0.00	PVC	0.000	5,119.99	True	5,119.99
P-189	87.63	12.0	150.0	0.00	0.00	0.00	PVC	0.000	4,986.06	True	4,986.06
P-192	66.81	12.0	140.0	0.00	0.00	0.00	Asbestos Cement	0.000	5,019.67	True	5,019.67
P-193	360.31	12.0	140.0	-23.88	0.07	0.00	Asbestos Cement	0.003	5,019.67	True	5,019.67
P-194	611.18	12.0	150.0	-23.88	0.07	0.00	PVC	0.002	5,019.67	True	5,019.67

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

Active Scenario: Peak Hour

FlexTable: PRV Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Zone	Elevation (ft)	Diameter (Valve) (in)	Hydraulic Grade Setting (Initial) (ft)	Pressure Setting (Initial) (psi)	Flow (gpm)	Hydraulic Grade (From) (ft)	Hydraulic Grade (To) (ft)	Headloss (ft)
PRV-1	Zone - 1	4,785.50	8.0	4,986.51	87.0	153.80	5,119.99	4,986.66	133.34
PRV-2	Zone - 2	4,793.00	8.0	5,019.43	98.0	0.00	5,120.00	5,019.67	0.00
PRV-3	Zone - 4	4,793.00	12.0	4,977.84	80.0	7.50	5,120.00	4,977.97	142.03
PRV-4	Zone - 1	4,785.50	8.0	4,785.50	0.0	0.00	4,977.97	4,986.66	0.00
PRV-5	Zone - 2	4,887.00	8.0	5,019.85	57.5	153.01	5,095.67	5,019.95	75.72
PRV-18	Zone - 3	4,807.00	12.0	5,095.81	125.0	238.51	5,119.99	5,096.02	23.97
PRV-19	Zone - 1	4,797.00	8.0	4,981.84	80.0	0.00	5,119.99	4,986.06	0.00

GRAND JUNCTION REGIONAL AIRPORT - Utility Study 2008

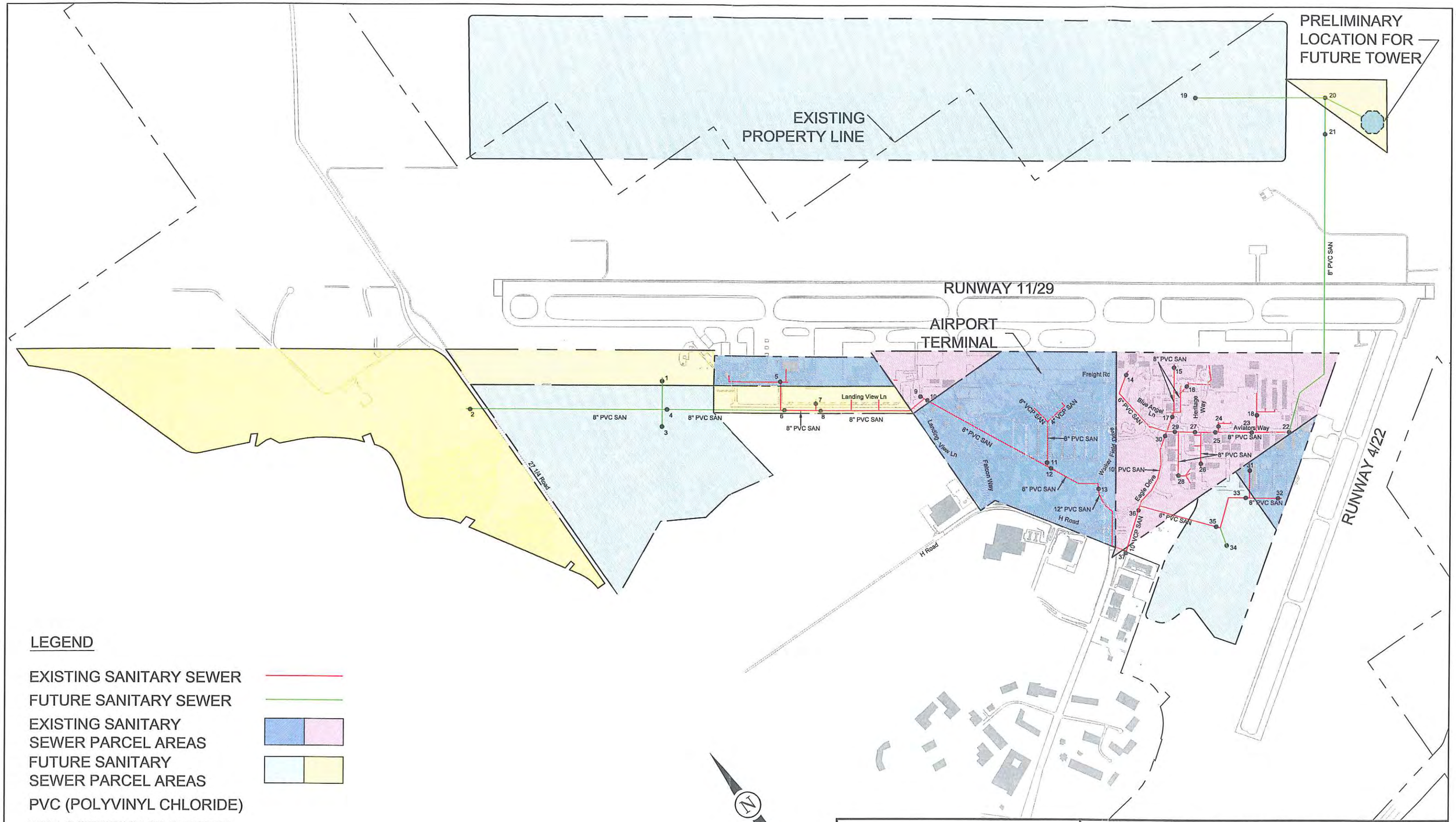
Active Scenario: Peak Hour

FlexTable: Reservoir Table (GJT-water-proposed.7-10-09.wtg)

Current Time: 0.000 hours

Label	Elevation (ft)	Zone	Net Outflow (gpm)	Hydraulic Grade (ft)
R-1	5,120.00	Zone - 3	191.95	5,120.00
R-2	5,120.00	Zone - 3	207.85	5,120.00

APPENDIX F



LEGEND

- EXISTING SANITARY SEWER
- FUTURE SANITARY SEWER
- EXISTING SANITARY SEWER PARCEL AREAS
- FUTURE SANITARY SEWER PARCEL AREAS
- PVC (POLYVINYL CHLORIDE)
- VCP (VITRIFIED CLAY PIPE)

N

GRAPHIC SCALE
500 0 500 1000
(IN FEET)

JVIATION SM
ENGINEERING & PLANNING
900 S. BROADWAY • SUITE 350 • DENVER, COLORADO 80203
PHONE: 303-524-3030 • FAX: 303-524-3031
• WWW.JVIATION.COM •

GRAND JUNCTION REGIONAL AIRPORT MASTER PLAN PROPOSED SANITARY SEWER MAP

DATE:3/09/09

PRELIMINARY LOCATION FOR FUTURE TOWER

EXISTING PROPERTY LINE

RUNWAY 11/29

AIRPORT TERMINAL

RUNWAY 4/22

Freight Rd

Landing View Ln

Falcon Way

Walker Field Drive

Blue Angel Ln

Heritage Way

Aviators Way

Eagle Drive

27 1/4 Road

H Road

8" PVC SAN

6" VCP SAN

4" VCP SAN

10" VCP SAN

12" PVC SAN

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37

LEGEND

- EXISTING SANITARY SEWER
- FUTURE SANITARY SEWER
- EXISTING SANITARY SEWER PARCEL AREAS
- FUTURE SANITARY SEWER PARCEL AREAS
- PVC (POLYVINYL CHLORIDE)
- VCP (VITRIFIED CLAY PIPE)

N

GRAPHIC SCALE
400 0 400 800
(IN FEET)

JVIATION SM
ENGINEERING & PLANNING
900 S. BROADWAY • SUITE 350 • DENVER, COLORADO 80203
PHONE: 303-524-3030 • FAX: 303-524-3031
• WWW.JVIATION.COM •

GRAND JUNCTION REGIONAL AIRPORT MASTER PLAN
PROPOSED SANITARY SEWER MAP

DATE:3/09/09

If the projected ultimate average flow for the planning area is less than 25 MGD, then additional areas can be added to the 201 Area without impacting the future plant design. If the projected flows exceed 25 MGD, existing service areas must either be deleted or projected land use modified to reduce the projected flows. Any land use modifications must be justified based on existing land use trends or other limiting factors.

Based upon the existing development and projected land use developed in the 1985 Sewer System Analysis and utilizing the flow criteria established in Table 3-3, the projected ultimate wastewater flow was 24.27 MGD. Additional areas added to the 201 Area since 1985 increased the projected flows to 24.62 MGD. The ultimate flows were estimated by adding the existing 1984 flows to the projected increase in flows for ultimate development from the previous report in 1985. Table 3-4 summarizes the 1984 and ultimate projected flows based on the 1985 Sewer System Analysis and Use.

TABLE 3-3
Grand Junction Comprehensive Wastewater Basin Study
Planning Criteria

WASTEWATER FLOW CRITERIA				
Residential (including 30 gpcd I/I allowance)			105 gallon per capita per day (gpcd)	
Commercial				
Light business (B-1, B-2)			100 gallons per acre per day (gpad)	
Light commercial (I-1, B-3, C-1, PB, PI, PE)			175 gallons per acre per day (gpad)	
Industrial				
Heavy Industrial (I-2, C-2, H0)			350 gallons per acre per day (gpad)	
Peak flow to average flow ratio			2.0	
Residential density			2.5 persons per unit	
INTERCEPTOR SEWER DESIGN CRITERIA				
Mannings pipe roughness factor, n			0.013	
Flow depth ratio, d at peak flow (d/D), where D is pipe diameter (interceptor sewers) (outfall or sewer extensions)			1.0 0.80	
Maximum sewer excavation depth for gravity line			20 feet	
Sewer slopes			Sewer Diameter (inches)	Slope (%) max / min
Maximum	(Based on 10 feet per second (fps) maximum flow velocity)		8	5.00 / 0.40
			10	4.00 / 0.25
Minimum	(Based on 2 feet per second (fps) minimum flow velocity)		12	3.00 / 0.20
			15	2.50 / 0.15

Description: Grand Junction Regional Airport-Proposed and Existing Sanitary Sewer Study Calculations Table
AIP No: 3-08-0027-36
Date: 5-Feb-09
Designed by: SJH

Sanitary Sewer Demand Rates:
Average daily flows: Light Commercial 175 gallons per acre per day (gpad)
Peak Hour flows: 2.0 x Avg. flow
4.0 for higher uses (ie., motels/restaurants/terminal/Airline sewage drain location).

Design Point	Acres	Acres (CUMMULATIVE)	Demand Rate (GPAD)	Average Day Demand		Min. Slope (%)	Average Demand Velocity (FT/S) (Min. Slope)	Peaking Factor	Peak Flow		Max. Slope (%)	Peak Demand Velocity (FT/S) (Max. Slope)	Peak Demand (Min. Slope) % Full	Pipe Dia. Size (IN)
				(GPD)	(GPM)				(GPD)	(GPM)				
1	26.71	26.71	175	4,674	3.2	0.40	0.69	2	9,348.5	6.5	5.00	2.06	9.5	8
2	143.66	143.66	175	25,141	17.5	0.40	1.15	2	50,281.0	34.9	5.00	3.42	21.5	8
3	96.52	96.52	175	16,891	11.7	0.40	1.02	2	33,781.4	23.5	5.00	3.04	17.7	8
4		266.89	175	46,705	32.4	0.40	1.38	2	93,410.9	64.9	5.00	4.12	29.5	8
5	14.96	14.96	175	2,618	1.8	2.92	1.15	2	5,236.0	3.6	2.92	1.42	4.5	8
6		281.85	175	49,323	34.3	0.21	1.11	2	98,646.8	68.5	0.21	1.38	35.9	8
7	15.31	15.31	175	2,679	1.9	0.40	0.59	2	5,358.6	3.7	5.00	1.73	7.3	8
8		297.16	175	52,003	36.1	0.40	1.42	2	104,005.5	72.2	5.00	4.25	31.1	8
9	12.12	12.12	175	2,121	1.5	0.40	0.55	2	4,242.0	2.9	5.00	1.61	6.5	8
10		309.28	175	54,124	37.6	0.18	1.08	2	108,247.5	75.2	0.43	1.80	39.3	8
11	82.58	82.58	175	14,452	10.0	2.14	1.74	4	57,806.8	40.1	2.14	2.65	15.3	8
12		391.86	175	68,575	47.6	0.36	1.48	4	274,301.7	190.5	0.44	2.33	55.0	8
13		391.86	175	68,575	47.6	2.05	2.60	4	274,301.7	190.5	2.17	4.02	19.5	12
14	10.13	10.13	175	1,773	1.2	1.59	0.86	4	7,090.3	4.9	5.14	1.99	8.7	6
15	10.13	10.13	175	1,773	1.2	0.40	0.51	2	3,545.2	2.5	5.00	1.54	6.1	8
16	10.13	10.13	175	1,773	1.2	0.69	0.62	2	3,545.2	2.5	2.46	1.20	5.4	8
17		20.26	175	3,545	2.5	2.25	1.13	2	7,090.3	4.9	2.25	1.38	4.2	10
18	10.13	10.13	175	1,773	1.2	0.40	0.51	2	3,545.2	2.5	5.00	1.54	6.1	8
19	342.61	342.61	175	59,956	41.6	0.40	1.48	2	119,912.1	83.3	5.00	4.43	33.6	8
20	10.97	10.97	175	1,919	1.3	0.40	0.52	2	3,838.4	2.7	5.00	1.57	6.3	8
21		353.57	175	61,875	43.0	0.40	1.50	2	123,750.5	85.9	5.00	4.47	34.1	8
22	13.64	367.21	175	64,262	44.6	0.40	1.51	2	128,523.1	89.3	5.00	4.52	34.8	8
23	10.13	377.34	175	66,034	45.9	0.45	1.59	2	132,068.3	91.7	0.45	1.93	34.2	8
24	10.13	10.13	175	1,773	1.2	0.45	0.53	2	3,545.2	2.5	0.45	0.67	5.9	8
25		387.47	175	67,807	47.1	0.45	1.60	2	135,613.4	94.2	0.45	1.95	34.7	8
26	10.13	10.13	175	1,773	1.2	0.40	0.51	2	3,545.2	2.5	5.00	1.54	6.1	8
27		397.60	175	69,579	48.3	0.45	1.61	2	139,158.6	96.6	0.45	1.96	35.2	8
28	10.13	10.13	175	1,773	1.2	0.40	0.51	2	3,545.2	2.5	5.00	1.54	6.1	8
29		407.72	175	71,352	49.5	0.45	1.62	2	142,703.7	99.1	0.45	1.98	35.7	8
30		438.11	175	76,670	53.2	1.65	2.56	4	306,678.3	213.0	2.89	4.69	27.8	10
31	5.21	5.21	175	911	0.6	0.40	0.41	2	1,822.6	1.3	5.00	1.26	4.5	8
32	5.21	5.21	175	911	0.6	0.40	0.41	2	1,822.6	1.3	5.00	1.26	4.5	8
33		10.41	175	1,823	1.3	0.40	0.52	2	3,645.1	2.5	5.00	1.54	6.1	8
34	37.10	37.10	175	6,492	4.5	0.40	0.76	2	12,984.1	9.0	5.00	2.27	11.2	8
35		47.51	175	8,315	5.8	0.40	0.82	2	16,629.2	11.5	5.00	2.45	12.5	8
36		485.62	175	84,984	59.0	2.10	2.87	4	339,936.7	236.1	2.10	4.31	27.5	10
37		877.48	175	153,560	106.6	0.25	1.60	4	614,238.5	426.6	4.00	6.42	72.0	10

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #1

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 3.2000 gpm-US
Slope ..... 0.0040 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.5464 in
Area 0.3491 ft2
Wetted Area 0.0104 ft2
Wetted Perimeter ..... 4.2305 in
Perimeter ..... 25.1327 in
Velocity ..... 0.6883 fps
Hydraulic Radius ..... 0.3526 in
Percent Full ..... 6.8298 %
Full flow Flowrate ..... 343.0270 gpm-US
Full flow velocity ..... 2.1895 fps

Critical Information:

Critical depth ..... 0.4543 in
Critical slope ..... 0.0088 ft/ft
Critical velocity ..... 0.9047 fps
Critical area 0.0079 ft2
Critical perimeter ..... 3.8497 in
Critical hydraulic radius ..... 0.2948 in
Critical top width ..... 3.7012 in
Specific energy ..... 0.0529 ft
Minimum energy ..... 0.0568 ft
Froude number 0.6915
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #1

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 6.5000 gpm-US
Slope ..... 0.0040 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.7640 in
Area 0.3491 ft2
Wetted Area 0.0170 ft2
Wetted Perimeter ..... 5.0266 in
Perimeter ..... 25.1327 in
Velocity ..... 0.8530 fps
Hydraulic Radius ..... 0.4864 in
Percent Full ..... 9.5494 %
Full flow Flowrate ..... 343.0270 gpm-US
Full flow velocity ..... 2.1895 fps

Critical Information:

Critical depth ..... 0.6485 in
Critical slope ..... 0.0080 ft/ft
Critical velocity ..... 1.0856 fps
Critical area 0.0133 ft2
Critical perimeter ..... 4.6194 in
Critical hydraulic radius ..... 0.4158 in
Critical top width ..... 4.3666 in
Specific energy ..... 0.0750 ft
Minimum energy ..... 0.0811 ft
Froude number 0.7225
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #2

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 34.9000 gpm-US
Slope ..... 0.0500 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.9324 in
Area 0.3491 ft2
Wetted Area 0.0227 ft2
Wetted Perimeter ..... 5.5744 in
Perimeter ..... 25.1327 in
Velocity ..... 3.4200 fps
Hydraulic Radius ..... 0.5873 in
Percent Full ..... 11.6548 %
Full flow Flowrate ..... 1212.7836 gpm-US
Full flow velocity ..... 7.7409 fps

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #3

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 11.7000 gpm-US
Slope ..... 0.0040 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 1.0115 in
Area 0.3491 ft2
Wetted Area 0.0256 ft2
Wetted Perimeter ..... 5.8167 in
Perimeter ..... 25.1327 in
Velocity ..... 1.0179 fps
Hydraulic Radius ..... 0.6340 in
Percent Full ..... 12.6443 %
Full flow Flowrate ..... 343.0270 gpm-US
Full flow velocity ..... 2.1895 fps

Critical Information:

Critical depth ..... 0.8724 in
Critical slope ..... 0.0074 ft/ft
Critical velocity ..... 1.2637 fps
Critical area 0.0206 ft2
Critical perimeter ..... 5.3848 in
Critical hydraulic radius ..... 0.5516 in
Critical top width ..... 4.9873 in
Specific energy ..... 0.1004 ft
Minimum energy ..... 0.1091 ft
Froude number 0.7465
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #3

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 23.5000 gpm-US
Slope ..... 0.0040 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 1.4181 in
Area 0.3491 ft2
Wetted Area 0.0418 ft2
Wetted Perimeter ..... 6.9533 in
Perimeter ..... 25.1327 in
Velocity ..... 1.2527 fps
Hydraulic Radius ..... 0.8656 in
Percent Full ..... 17.7266 %
Full flow Flowrate ..... 343.0270 gpm-US
Full flow velocity ..... 2.1895 fps

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #4

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 64.9000 gpm-US
Slope ..... 0.0500 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 1.2573 in
Area 0.3491 ft2
Wetted Area 0.0351 ft2
Wetted Perimeter ..... 6.5220 in
Perimeter ..... 25.1327 in
Velocity ..... 4.1164 fps
Hydraulic Radius ..... 0.7756 in
Percent Full ..... 15.7157 %
Full flow Flowrate ..... 1212.7836 gpm-US
Full flow velocity ..... 7.7409 fps

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #5

Given Input Data:

Shape	Circular
Solving for	Depth of Flow
Diameter	8.0000 in
Flowrate	1.8000 gpm-US
Slope	0.0292 ft/ft
Manning's n	0.0130

Computed Results:

Depth	0.2621 in
Area	0.3491 ft2
Wetted Area	0.0035 ft2
Wetted Perimeter	2.9120 in
Perimeter	25.1327 in
Velocity	1.1527 fps
Hydraulic Radius	0.1720 in
Percent Full	3.2760 %
Full flow Flowrate	926.8080 gpm-US
Full flow velocity	5.9156 fps

Critical Information:

Critical depth	0.3408 in
Critical slope	0.0096 ft/ft
Critical velocity	0.7798 fps
Critical area	0.0051 ft2
Critical perimeter	3.3262 in
Critical hydraulic radius	0.2226 in
Critical top width	3.2271 in
Specific energy	0.0425 ft
Minimum energy	0.0426 ft
Froude number	1.6786
Flow condition	Supercritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #6

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 34.3000 gpm-US
Slope ..... 0.0021 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 2.0075 in
Area 0.3491 ft2
Wetted Area 0.0686 ft2
Wetted Perimeter ..... 8.3949 in
Perimeter ..... 25.1327 in
Velocity ..... 1.1139 fps
Hydraulic Radius ..... 1.1768 in
Percent Full ..... 25.0938 %
Full flow Flowrate ..... 248.5467 gpm-US
Full flow velocity ..... 1.5864 fps

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #7

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 1.9000 gpm-US
Slope ..... 0.0040 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.4277 in
Area 0.3491 ft2
Wetted Area 0.0072 ft2
Wetted Perimeter ..... 3.7332 in
Perimeter ..... 25.1327 in
Velocity ..... 0.5875 fps
Hydraulic Radius ..... 0.2780 in
Percent Full ..... 5.3459 %
Full flow Flowrate ..... 343.0270 gpm-US
Full flow velocity ..... 2.1895 fps

Critical Information:

Critical depth ..... 0.3501 in
Critical slope ..... 0.0095 ft/ft
Critical velocity ..... 0.7907 fps
Critical area 0.0054 ft2
Critical perimeter ..... 3.3722 in
Critical hydraulic radius ..... 0.2286 in
Critical top width ..... 3.2692 in
Specific energy ..... 0.0410 ft
Minimum energy ..... 0.0438 ft
Froude number 0.6682
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #7

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 3.7000 gpm-US
Slope ..... 0.0040 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.5851 in
Area 0.3491 ft2
Wetted Area 0.0115 ft2
Wetted Perimeter ..... 4.3815 in
Perimeter ..... 25.1327 in
Velocity ..... 0.7193 fps
Hydraulic Radius ..... 0.3766 in
Percent Full ..... 7.3136 %
Full flow Flowrate ..... 343.0270 gpm-US
Full flow velocity ..... 2.1895 fps

Critical Information:

Critical depth ..... 0.4886 in
Critical slope ..... 0.0086 ft/ft
Critical velocity ..... 0.9389 fps
Critical area 0.0088 ft2
Critical perimeter ..... 3.9957 in
Critical hydraulic radius ..... 0.3164 in
Critical top width ..... 3.8301 in
Specific energy ..... 0.0568 ft
Minimum energy ..... 0.0611 ft
Froude number 0.6980
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #8

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 72.2000 gpm-US
Slope ..... 0.0500 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 1.3242 in
Area 0.3491 ft2
Wetted Area 0.0379 ft2
Wetted Perimeter ..... 6.7039 in
Perimeter ..... 25.1327 in
Velocity ..... 4.2487 fps
Hydraulic Radius ..... 0.8133 in
Percent Full ..... 16.5520 %
Full flow Flowrate ..... 1212.7836 gpm-US
Full flow velocity ..... 7.7409 fps

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #9

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 1.5000 gpm-US
Slope ..... 0.0040 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.3828 in
Area 0.3491 ft2
Wetted Area 0.0061 ft2
Wetted Perimeter ..... 3.5287 in
Perimeter ..... 25.1327 in
Velocity ..... 0.5466 fps
Hydraulic Radius ..... 0.2495 in
Percent Full ..... 4.7855 %
Full flow Flowrate ..... 343.0270 gpm-US
Full flow velocity ..... 2.1895 fps

Critical Information:

Critical depth ..... 0.3120 in
Critical slope ..... 0.0099 ft/ft
Critical velocity ..... 0.7411 fps
Critical area 0.0045 ft2
Critical perimeter ..... 3.1804 in
Critical hydraulic radius ..... 0.2042 in
Critical top width ..... 3.0887 in
Specific energy ..... 0.0365 ft
Minimum energy ..... 0.0390 ft
Froude number 0.6575
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #9

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 2.9000 gpm-US
Slope ..... 0.0040 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.5216 in
Area 0.3491 ft2
Wetted Area 0.0097 ft2
Wetted Perimeter ..... 4.1314 in
Perimeter ..... 25.1327 in
Velocity ..... 0.6681 fps
Hydraulic Radius ..... 0.3371 in
Percent Full ..... 6.5205 %
Full flow Flowrate ..... 343.0270 gpm-US
Full flow velocity ..... 2.1895 fps

Critical Information:

Critical depth ..... 0.4323 in
Critical slope ..... 0.0089 ft/ft
Critical velocity ..... 0.8823 fps
Critical area 0.0073 ft2
Critical perimeter ..... 3.7539 in
Critical hydraulic radius ..... 0.2809 in
Critical top width ..... 3.6159 in
Specific energy ..... 0.0504 ft
Minimum energy ..... 0.0540 ft
Froude number 0.6871
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #10

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 37.6000 gpm-US
Slope ..... 0.0018 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 2.1871 in
Area 0.3491 ft2
Wetted Area 0.0774 ft2
Wetted Perimeter ..... 8.8033 in
Perimeter ..... 25.1327 in
Velocity ..... 1.0826 fps
Hydraulic Radius ..... 1.2657 in
Percent Full ..... 27.3386 %
Full flow Flowrate ..... 230.1095 gpm-US
Full flow velocity ..... 1.4687 fps

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #10

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 75.2000 gpm-US
Slope ..... 0.0018 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 3.1469 in
Area 0.3491 ft2
Wetted Area 0.1275 ft2
Wetted Perimeter ..... 10.8469 in
Perimeter ..... 25.1327 in
Velocity ..... 1.3141 fps
Hydraulic Radius ..... 1.6926 in
Percent Full ..... 39.3357 %
Full flow Flowrate ..... 230.1095 gpm-US
Full flow velocity ..... 1.4687 fps

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #11

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 40.1000 gpm-US
Slope ..... 0.0214 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 1.2229 in
Area 0.3491 ft2
Wetted Area 0.0337 ft2
Wetted Perimeter ..... 6.4270 in
Perimeter ..... 25.1327 in
Velocity ..... 2.6477 fps
Hydraulic Radius ..... 0.7561 in
Percent Full ..... 15.2859 %
Full flow Flowrate ..... 793.4238 gpm-US
Full flow velocity ..... 5.0642 fps

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #12

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 190.5000 gpm-US
Slope ..... 0.0044 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 4.1385 in
Area 0.3491 ft2
Wetted Area 0.1822 ft2
Wetted Perimeter ..... 12.8434 in
Perimeter ..... 25.1327 in
Velocity ..... 2.3292 fps
Hydraulic Radius ..... 2.0431 in
Percent Full ..... 51.7308 %
Full flow Flowrate ..... 359.7698 gpm-US
Full flow velocity ..... 2.2963 fps

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #13

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 12.0000 in
Flowrate ..... 47.6000 gpm-US
Slope ..... 0.0205 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 1.1976 in
Area 0.7854 ft2
Wetted Area 0.0408 ft2
Wetted Perimeter ..... 7.7140 in
Perimeter ..... 37.6991 in
Velocity ..... 2.6022 fps
Hydraulic Radius ..... 0.7608 in
Percent Full ..... 9.9800 %
Full flow Flowrate ..... 2289.5596 gpm-US
Full flow velocity ..... 6.4950 fps

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #13

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 12.0000 in
Flowrate ..... 190.5000 gpm-US
Slope ..... 0.0205 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 2.3402 in
Area 0.7854 ft2
Wetted Area 0.1079 ft2
Wetted Perimeter ..... 10.9773 in
Perimeter ..... 37.6991 in
Velocity ..... 3.9352 fps
Hydraulic Radius ..... 1.4148 in
Percent Full ..... 19.5016 %
Full flow Flowrate ..... 2289.5596 gpm-US
Full flow velocity ..... 6.4950 fps

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #14

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 6.0000 in
Flowrate ..... 4.9000 gpm-US
Slope ..... 0.0514 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.3940 in
Area 0.1963 ft2
Wetted Area 0.0055 ft2
Wetted Perimeter ..... 3.1098 in
Perimeter ..... 18.8496 in
Velocity ..... 1.9859 fps
Hydraulic Radius ..... 0.2546 in
Percent Full ..... 6.5667 %
Full flow Flowrate ..... 570.9656 gpm-US
Full flow velocity ..... 6.4788 fps

Critical Information:

Critical depth ..... 0.6063 in
Critical slope ..... 0.0083 ft/ft
Critical velocity ..... 1.0520 fps
Critical area 0.0104 ft2
Critical perimeter ..... 3.8821 in
Critical hydraulic radius ..... 0.3849 in
Critical top width ..... 3.6164 in
Specific energy ..... 0.0941 ft
Minimum energy ..... 0.0758 ft
Froude number 2.3501
Flow condition ..... Supercritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #15

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 1.2000 gpm-US
Slope ..... 0.0040 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.3449 in
Area 0.3491 ft2
Wetted Area 0.0052 ft2
Wetted Perimeter ..... 3.3465 in
Perimeter ..... 25.1327 in
Velocity ..... 0.5107 fps
Hydraulic Radius ..... 0.2253 in
Percent Full ..... 4.3112 %
Full flow Flowrate ..... 343.0270 gpm-US
Full flow velocity ..... 2.1895 fps

Critical Information:

Critical depth ..... 0.2791 in
Critical slope ..... 0.0102 ft/ft
Critical velocity ..... 0.6997 fps
Critical area 0.0038 ft2
Critical perimeter ..... 3.0062 in
Critical hydraulic radius ..... 0.1830 in
Critical top width ..... 2.9267 in
Specific energy ..... 0.0328 ft
Minimum energy ..... 0.0349 ft
Froude number 0.6475
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #15

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 2.5000 gpm-US
Slope ..... 0.0040 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.4865 in
Area 0.3491 ft2
Wetted Area 0.0087 ft2
Wetted Perimeter ..... 3.9866 in
Perimeter ..... 25.1327 in
Velocity ..... 0.6386 fps
Hydraulic Radius ..... 0.3150 in
Percent Full ..... 6.0809 %
Full flow Flowrate ..... 343.0270 gpm-US
Full flow velocity ..... 2.1895 fps

Critical Information:

Critical depth ..... 0.4017 in
Critical slope ..... 0.0091 ft/ft
Critical velocity ..... 0.8481 fps
Critical area 0.0066 ft2
Critical perimeter ..... 3.6162 in
Critical hydraulic radius ..... 0.2615 in
Critical top width ..... 3.4907 in
Specific energy ..... 0.0469 ft
Minimum energy ..... 0.0502 ft
Froude number 0.6805
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #16

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 2.5000 gpm-US
Slope ..... 0.0246 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.3179 in
Area 0.3491 ft2
Wetted Area 0.0046 ft2
Wetted Perimeter ..... 3.2112 in
Perimeter ..... 25.1327 in
Velocity ..... 1.2008 fps
Hydraulic Radius ..... 0.2080 in
Percent Full ..... 3.9742 %
Full flow Flowrate ..... 850.6793 gpm-US
Full flow velocity ..... 5.4297 fps

Critical Information:

Critical depth ..... 0.4017 in
Critical slope ..... 0.0091 ft/ft
Critical velocity ..... 0.8481 fps
Critical area 0.0066 ft2
Critical perimeter ..... 3.6162 in
Critical hydraulic radius ..... 0.2615 in
Critical top width ..... 3.4907 in
Specific energy ..... 0.0489 ft
Minimum energy ..... 0.0502 ft
Froude number 1.5864
Flow condition ..... Supercritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #17

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 10.0000 in
Flowrate ..... 2.5000 gpm-US
Slope ..... 0.0225 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.3075 in
Area 0.5454 ft2
Wetted Area 0.0049 ft2
Wetted Perimeter ..... 3.5251 in
Perimeter ..... 31.4159 in
Velocity ..... 1.1263 fps
Hydraulic Radius ..... 0.2020 in
Percent Full ..... 3.0746 %
Full flow Flowrate ..... 1475.0824 gpm-US
Full flow velocity ..... 6.0257 fps

Critical Information:

Critical depth ..... 0.3792 in
Critical slope ..... 0.0092 ft/ft
Critical velocity ..... 0.8241 fps
Critical area 0.0068 ft2
Critical perimeter ..... 3.9197 in
Critical hydraulic radius ..... 0.2483 in
Critical top width ..... 3.8174 in
Specific energy ..... 0.0453 ft
Minimum energy ..... 0.0474 ft
Froude number 1.5145
Flow condition ..... Supercritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #18

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 1.2000 gpm-US
Slope ..... 0.0040 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.3449 in
Area 0.3491 ft2
Wetted Area 0.0052 ft2
Wetted Perimeter ..... 3.3465 in
Perimeter ..... 25.1327 in
Velocity ..... 0.5107 fps
Hydraulic Radius ..... 0.2253 in
Percent Full ..... 4.3112 %
Full flow Flowrate ..... 343.0270 gpm-US
Full flow velocity ..... 2.1895 fps

Critical Information:

Critical depth ..... 0.2791 in
Critical slope ..... 0.0102 ft/ft
Critical velocity ..... 0.6997 fps
Critical area 0.0038 ft2
Critical perimeter ..... 3.0062 in
Critical hydraulic radius ..... 0.1830 in
Critical top width ..... 2.9267 in
Specific energy ..... 0.0328 ft
Minimum energy ..... 0.0349 ft
Froude number 0.6475
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #18

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 2.5000 gpm-US
Slope ..... 0.0040 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.4865 in
Area 0.3491 ft2
Wetted Area 0.0087 ft2
Wetted Perimeter ..... 3.9866 in
Perimeter ..... 25.1327 in
Velocity ..... 0.6386 fps
Hydraulic Radius ..... 0.3150 in
Percent Full ..... 6.0809 %
Full flow Flowrate ..... 343.0270 gpm-US
Full flow velocity ..... 2.1895 fps

Critical Information:

Critical depth ..... 0.4017 in
Critical slope ..... 0.0091 ft/ft
Critical velocity ..... 0.8481 fps
Critical area 0.0066 ft2
Critical perimeter ..... 3.6162 in
Critical hydraulic radius ..... 0.2615 in
Critical top width ..... 3.4907 in
Specific energy ..... 0.0469 ft
Minimum energy ..... 0.0502 ft
Froude number 0.6805
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #19

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 83.3000 gpm-US
Slope ..... 0.0500 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 1.4199 in
Area 0.3491 ft2
Wetted Area 0.0419 ft2
Wetted Perimeter ..... 6.9580 in
Perimeter ..... 25.1327 in
Velocity ..... 4.4324 fps
Hydraulic Radius ..... 0.8666 in
Percent Full ..... 17.7491 %
Full flow Flowrate ..... 1212.7836 gpm-US
Full flow velocity ..... 7.7409 fps

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #20

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 1.3000 gpm-US
Slope ..... 0.0040 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.3580 in
Area 0.3491 ft2
Wetted Area 0.0055 ft2
Wetted Perimeter ..... 3.4107 in
Perimeter ..... 25.1327 in
Velocity ..... 0.5233 fps
Hydraulic Radius ..... 0.2337 in
Percent Full ..... 4.4756 %
Full flow Flowrate ..... 343.0270 gpm-US
Full flow velocity ..... 2.1895 fps

Critical Information:

Critical depth ..... 0.2905 in
Critical slope ..... 0.0101 ft/ft
Critical velocity ..... 0.7143 fps
Critical area 0.0041 ft2
Critical perimeter ..... 3.0675 in
Critical hydraulic radius ..... 0.1904 in
Critical top width ..... 2.9839 in
Specific energy ..... 0.0341 ft
Minimum energy ..... 0.0363 ft
Froude number 0.6511
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #20

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 2.7000 gpm-US
Slope ..... 0.0040 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.5044 in
Area 0.3491 ft2
Wetted Area 0.0092 ft2
Wetted Perimeter ..... 4.0610 in
Perimeter ..... 25.1327 in
Velocity ..... 0.6537 fps
Hydraulic Radius ..... 0.3263 in
Percent Full ..... 6.3049 %
Full flow Flowrate ..... 343.0270 gpm-US
Full flow velocity ..... 2.1895 fps

Critical Information:

Critical depth ..... 0.4171 in
Critical slope ..... 0.0090 ft/ft
Critical velocity ..... 0.8664 fps
Critical area 0.0069 ft2
Critical perimeter ..... 3.6859 in
Critical hydraulic radius ..... 0.2713 in
Critical top width ..... 3.5552 in
Specific energy ..... 0.0487 ft
Minimum energy ..... 0.0521 ft
Froude number 0.6839
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #21

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 85.9000 gpm-US
Slope ..... 0.0500 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 1.4415 in
Area 0.3491 ft2
Wetted Area 0.0428 ft2
Wetted Perimeter ..... 7.0142 in
Perimeter ..... 25.1327 in
Velocity ..... 4.4728 fps
Hydraulic Radius ..... 0.8784 in
Percent Full ..... 18.0182 %
Full flow Flowrate ..... 1212.7836 gpm-US
Full flow velocity ..... 7.7409 fps

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #22

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 44.6000 gpm-US
Slope ..... 0.0040 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 1.9481 in
Area 0.3491 ft2
Wetted Area 0.0658 ft2
Wetted Perimeter ..... 8.2573 in
Perimeter ..... 25.1327 in
Velocity ..... 1.5111 fps
Hydraulic Radius ..... 1.1468 in
Percent Full ..... 24.3517 %
Full flow Flowrate ..... 343.0270 gpm-US
Full flow velocity ..... 2.1895 fps

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #22

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 89.3000 gpm-US
Slope ..... 0.0040 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 2.7852 in
Area 0.3491 ft2
Wetted Area 0.1081 ft2
Wetted Perimeter ..... 10.0978 in
Perimeter ..... 25.1327 in
Velocity ..... 1.8406 fps
Hydraulic Radius ..... 1.5415 in
Percent Full ..... 34.8153 %
Full flow Flowrate ..... 343.0270 gpm-US
Full flow velocity ..... 2.1895 fps

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #23

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 91.7000 gpm-US
Slope ..... 0.0045 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 2.7379 in
Area 0.3491 ft2
Wetted Area 0.1056 ft2
Wetted Perimeter ..... 9.9984 in
Perimeter ..... 25.1327 in
Velocity ..... 1.9347 fps
Hydraulic Radius ..... 1.5209 in
Percent Full ..... 34.2242 %
Full flow Flowrate ..... 363.8351 gpm-US
Full flow velocity ..... 2.3223 fps

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #24

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 1.2000 gpm-US
Slope ..... 0.0045 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.3355 in
Area 0.3491 ft2
Wetted Area 0.0050 ft2
Wetted Perimeter ..... 3.3001 in
Perimeter ..... 25.1327 in
Velocity ..... 0.5320 fps
Hydraulic Radius ..... 0.2193 in
Percent Full ..... 4.1942 %
Full flow Flowrate ..... 363.8351 gpm-US
Full flow velocity ..... 2.3223 fps

Critical Information:

Critical depth ..... 0.2791 in
Critical slope ..... 0.0102 ft/ft
Critical velocity ..... 0.6997 fps
Critical area 0.0038 ft2
Critical perimeter ..... 3.0062 in
Critical hydraulic radius ..... 0.1830 in
Critical top width ..... 2.9267 in
Specific energy ..... 0.0324 ft
Minimum energy ..... 0.0349 ft
Froude number 0.6840
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #24

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 2.5000 gpm-US
Slope ..... 0.0045 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.4732 in
Area 0.3491 ft2
Wetted Area 0.0084 ft2
Wetted Perimeter ..... 3.9307 in
Perimeter ..... 25.1327 in
Velocity ..... 0.6653 fps
Hydraulic Radius ..... 0.3067 in
Percent Full ..... 5.9149 %
Full flow Flowrate ..... 363.8351 gpm-US
Full flow velocity ..... 2.3223 fps

Critical Information:

Critical depth ..... 0.4017 in
Critical slope ..... 0.0091 ft/ft
Critical velocity ..... 0.8481 fps
Critical area 0.0066 ft2
Critical perimeter ..... 3.6162 in
Critical hydraulic radius ..... 0.2615 in
Critical top width ..... 3.4907 in
Specific energy ..... 0.0463 ft
Minimum energy ..... 0.0502 ft
Froude number 0.7190
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #25

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 94.2000 gpm-US
Slope ..... 0.0045 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 2.7772 in
Area 0.3491 ft2
Wetted Area 0.1077 ft2
Wetted Perimeter ..... 10.0809 in
Perimeter ..... 25.1327 in
Velocity ..... 1.9493 fps
Hydraulic Radius ..... 1.5380 in
Percent Full ..... 34.7145 %
Full flow Flowrate ..... 363.8351 gpm-US
Full flow velocity ..... 2.3223 fps

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #26

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 2.5000 gpm-US
Slope ..... 0.0500 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.2695 in
Area 0.3491 ft2
Wetted Area 0.0036 ft2
Wetted Perimeter ..... 2.9532 in
Perimeter ..... 25.1327 in
Velocity ..... 1.5362 fps
Hydraulic Radius ..... 0.1768 in
Percent Full ..... 3.3682 %
Full flow Flowrate ..... 1212.7836 gpm-US
Full flow velocity ..... 7.7409 fps

Critical Information:

Critical depth ..... 0.4017 in
Critical slope ..... 0.0091 ft/ft
Critical velocity ..... 0.8481 fps
Critical area 0.0066 ft2
Critical perimeter ..... 3.6162 in
Critical hydraulic radius ..... 0.2615 in
Critical top width ..... 3.4907 in
Specific energy ..... 0.0591 ft
Minimum energy ..... 0.0502 ft
Froude number 2.2058
Flow condition ..... Supercritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #27

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 48.3000 gpm-US
Slope ..... 0.0045 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 1.9686 in
Area 0.3491 ft2
Wetted Area 0.0667 ft2
Wetted Perimeter ..... 8.3050 in
Perimeter ..... 25.1327 in
Velocity ..... 1.6125 fps
Hydraulic Radius ..... 1.1572 in
Percent Full ..... 24.6080 %
Full flow Flowrate ..... 363.8351 gpm-US
Full flow velocity ..... 2.3223 fps

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #28

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 1.2000 gpm-US
Slope ..... 0.0040 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.3449 in
Area 0.3491 ft2
Wetted Area 0.0052 ft2
Wetted Perimeter ..... 3.3465 in
Perimeter ..... 25.1327 in
Velocity ..... 0.5107 fps
Hydraulic Radius ..... 0.2253 in
Percent Full ..... 4.3112 %
Full flow Flowrate ..... 343.0270 gpm-US
Full flow velocity ..... 2.1895 fps

Critical Information:

Critical depth ..... 0.2791 in
Critical slope ..... 0.0102 ft/ft
Critical velocity ..... 0.6997 fps
Critical area 0.0038 ft2
Critical perimeter ..... 3.0062 in
Critical hydraulic radius ..... 0.1830 in
Critical top width ..... 2.9267 in
Specific energy ..... 0.0328 ft
Minimum energy ..... 0.0349 ft
Froude number 0.6475
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #28

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 2.5000 gpm-US
Slope ..... 0.0040 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.4865 in
Area 0.3491 ft2
Wetted Area 0.0087 ft2
Wetted Perimeter ..... 3.9866 in
Perimeter ..... 25.1327 in
Velocity ..... 0.6386 fps
Hydraulic Radius ..... 0.3150 in
Percent Full ..... 6.0809 %
Full flow Flowrate ..... 343.0270 gpm-US
Full flow velocity ..... 2.1895 fps

Critical Information:

Critical depth ..... 0.4017 in
Critical slope ..... 0.0091 ft/ft
Critical velocity ..... 0.8481 fps
Critical area 0.0066 ft2
Critical perimeter ..... 3.6162 in
Critical hydraulic radius ..... 0.2615 in
Critical top width ..... 3.4907 in
Specific energy ..... 0.0469 ft
Minimum energy ..... 0.0502 ft
Froude number 0.6805
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #29

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 49.5000 gpm-US
Slope ..... 0.0045 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 1.9931 in
Area 0.3491 ft2
Wetted Area 0.0679 ft2
Wetted Perimeter ..... 8.3617 in
Perimeter ..... 25.1327 in
Velocity ..... 1.6239 fps
Hydraulic Radius ..... 1.1695 in
Percent Full ..... 24.9142 %
Full flow Flowrate ..... 363.8351 gpm-US
Full flow velocity ..... 2.3223 fps

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #29

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 99.1000 gpm-US
Slope ..... 0.0045 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 2.8530 in
Area 0.3491 ft2
Wetted Area 0.1117 ft2
Wetted Perimeter ..... 10.2396 in
Perimeter ..... 25.1327 in
Velocity ..... 1.9768 fps
Hydraulic Radius ..... 1.5707 in
Percent Full ..... 35.6621 %
Full flow Flowrate ..... 363.8351 gpm-US
Full flow velocity ..... 2.3223 fps

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #30

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 10.0000 in
Flowrate ..... 213.0000 gpm-US
Slope ..... 0.0289 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 2.4105 in
Area 0.5454 ft2
Wetted Area 0.1013 ft2
Wetted Perimeter ..... 10.2640 in
Perimeter ..... 31.4159 in
Velocity ..... 4.6858 fps
Hydraulic Radius ..... 1.4209 in
Percent Full ..... 24.1049 %
Full flow Flowrate ..... 1671.7601 gpm-US
Full flow velocity ..... 6.8291 fps

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #31

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 0.6000 gpm-US
Slope ..... 0.0040 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.2496 in
Area 0.3491 ft2
Wetted Area 0.0032 ft2
Wetted Perimeter ..... 2.8411 in
Perimeter ..... 25.1327 in
Velocity ..... 0.4132 fps
Hydraulic Radius ..... 0.1640 in
Percent Full ..... 3.1201 %
Full flow Flowrate ..... 343.0270 gpm-US
Full flow velocity ..... 2.1895 fps

Critical Information:

Critical depth ..... 0.2033 in
Critical slope ..... 0.0114 ft/ft
Critical velocity ..... 0.5611 fps
Critical area 0.0024 ft2
Critical perimeter ..... 2.5616 in
Critical hydraulic radius ..... 0.1339 in
Critical top width ..... 2.4728 in
Specific energy ..... 0.0235 ft
Minimum energy ..... 0.0254 ft
Froude number 0.6166
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #31

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 1.3000 gpm-US
Slope ..... 0.0500 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.1988 in
Area 0.3491 ft2
Wetted Area 0.0023 ft2
Wetted Perimeter ..... 2.5325 in
Perimeter ..... 25.1327 in
Velocity ..... 1.2576 fps
Hydraulic Radius ..... 0.1310 in
Percent Full ..... 2.4844 %
Full flow Flowrate ..... 1212.7836 gpm-US
Full flow velocity ..... 7.7409 fps

Critical Information:

Critical depth ..... 0.2905 in
Critical slope ..... 0.0101 ft/ft
Critical velocity ..... 0.7143 fps
Critical area 0.0041 ft2
Critical perimeter ..... 3.0675 in
Critical hydraulic radius ..... 0.1904 in
Critical top width ..... 2.9839 in
Specific energy ..... 0.0411 ft
Minimum energy ..... 0.0363 ft
Froude number 2.1046
Flow condition ..... Supercritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #31

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 1.3000 gpm-US
Slope ..... 0.0040 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.3580 in
Area 0.3491 ft2
Wetted Area 0.0055 ft2
Wetted Perimeter ..... 3.4107 in
Perimeter ..... 25.1327 in
Velocity ..... 0.5233 fps
Hydraulic Radius ..... 0.2337 in
Percent Full ..... 4.4756 %
Full flow Flowrate ..... 343.0270 gpm-US
Full flow velocity ..... 2.1895 fps

Critical Information:

Critical depth ..... 0.2905 in
Critical slope ..... 0.0101 ft/ft
Critical velocity ..... 0.7143 fps
Critical area 0.0041 ft2
Critical perimeter ..... 3.0675 in
Critical hydraulic radius ..... 0.1904 in
Critical top width ..... 2.9839 in
Specific energy ..... 0.0341 ft
Minimum energy ..... 0.0363 ft
Froude number 0.6511
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #32

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 1.3000 gpm-US
Slope ..... 0.0500 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.1988 in
Area 0.3491 ft2
Wetted Area 0.0023 ft2
Wetted Perimeter ..... 2.5325 in
Perimeter ..... 25.1327 in
Velocity ..... 1.2576 fps
Hydraulic Radius ..... 0.1310 in
Percent Full ..... 2.4844 %
Full flow Flowrate ..... 1212.7836 gpm-US
Full flow velocity ..... 7.7409 fps

Critical Information:

Critical depth ..... 0.2905 in
Critical slope ..... 0.0101 ft/ft
Critical velocity ..... 0.7143 fps
Critical area 0.0041 ft2
Critical perimeter ..... 3.0675 in
Critical hydraulic radius ..... 0.1904 in
Critical top width ..... 2.9839 in
Specific energy ..... 0.0411 ft
Minimum energy ..... 0.0363 ft
Froude number 2.1046
Flow condition ..... Supercritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #33

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 1.3000 gpm-US
Slope ..... 0.0040 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.3580 in
Area 0.3491 ft2
Wetted Area 0.0055 ft2
Wetted Perimeter ..... 3.4107 in
Perimeter ..... 25.1327 in
Velocity ..... 0.5233 fps
Hydraulic Radius ..... 0.2337 in
Percent Full ..... 4.4756 %
Full flow Flowrate ..... 343.0270 gpm-US
Full flow velocity ..... 2.1895 fps

Critical Information:

Critical depth ..... 0.2905 in
Critical slope ..... 0.0101 ft/ft
Critical velocity ..... 0.7143 fps
Critical area 0.0041 ft2
Critical perimeter ..... 3.0675 in
Critical hydraulic radius ..... 0.1904 in
Critical top width ..... 2.9839 in
Specific energy ..... 0.0341 ft
Minimum energy ..... 0.0363 ft
Froude number 0.6511
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #33

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 2.5000 gpm-US
Slope ..... 0.0040 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.4865 in
Area 0.3491 ft2
Wetted Area 0.0087 ft2
Wetted Perimeter ..... 3.9866 in
Perimeter ..... 25.1327 in
Velocity ..... 0.6386 fps
Hydraulic Radius ..... 0.3150 in
Percent Full ..... 6.0809 %
Full flow Flowrate ..... 343.0270 gpm-US
Full flow velocity ..... 2.1895 fps

Critical Information:

Critical depth ..... 0.4017 in
Critical slope ..... 0.0091 ft/ft
Critical velocity ..... 0.8481 fps
Critical area 0.0066 ft2
Critical perimeter ..... 3.6162 in
Critical hydraulic radius ..... 0.2615 In
Critical top width ..... 3.4907 in
Specific energy ..... 0.0469 ft
Minimum energy ..... 0.0502 ft
Froude number 0.6805
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #34

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 9.0000 gpm-US
Slope ..... 0.0500 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.4906 in
Area 0.3491 ft2
Wetted Area 0.0088 ft2
Wetted Perimeter ..... 4.0040 in
Perimeter ..... 25.1327 in
Velocity ..... 2.2703 fps
Hydraulic Radius ..... 0.3177 in
Percent Full ..... 6.1327 %
Full flow Flowrate ..... 1212.7836 gpm-US
Full flow velocity ..... 7.7409 fps

Critical Information:

Critical depth ..... 0.7641 in
Critical slope ..... 0.0077 ft/ft
Critical velocity ..... 1.1808 fps
Critical area 0.0170 ft2
Critical perimeter ..... 5.0271 in
Critical hydraulic radius ..... 0.4864 in
Critical top width ..... 4.7027 in
Specific energy ..... 0.1210 ft
Minimum energy ..... 0.0955 ft
Froude number 2.4088
Flow condition ..... Supercritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #35

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 9.0000 gpm-US
Slope ..... 0.0040 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 0.8921 in
Area 0.3491 ft2
Wetted Area 0.0213 ft2
Wetted Perimeter ..... 5.4476 in
Perimeter ..... 25.1327 in
Velocity ..... 0.9408 fps
Hydraulic Radius ..... 0.5634 in
Percent Full ..... 11.1511 %
Full flow Flowrate ..... 343.0270 gpm-US
Full flow velocity ..... 2.1895 fps

Critical Information:

Critical depth ..... 0.7641 in
Critical slope ..... 0.0077 ft/ft
Critical velocity ..... 1.1808 fps
Critical area 0.0170 ft2
Critical perimeter ..... 5.0271 in
Critical hydraulic radius ..... 0.4864 in
Critical top width ..... 4.7027 in
Specific energy ..... 0.0881 ft
Minimum energy ..... 0.0955 ft
Froude number 0.7361
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #35

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 8.0000 in
Flowrate ..... 11.5000 gpm-US
Slope ..... 0.0040 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 1.0032 in
Area 0.3491 ft2
Wetted Area 0.0253 ft2
Wetted Perimeter ..... 5.7916 in
Perimeter ..... 25.1327 in
Velocity ..... 1.0127 fps
Hydraulic Radius ..... 0.6291 in
Percent Full ..... 12.5400 %
Full flow Flowrate ..... 343.0270 gpm-US
Full flow velocity ..... 2.1895 fps

Critical Information:

Critical depth ..... 0.8648 in
Critical slope ..... 0.0074 ft/ft
Critical velocity ..... 1.2581 fps
Critical area 0.0204 ft2
Critical perimeter ..... 5.3604 in
Critical hydraulic radius ..... 0.5471 in
Critical top width ..... 4.9682 in
Specific energy ..... 0.0995 ft
Minimum energy ..... 0.1081 ft
Froude number 0.7458
Flow condition ..... Subcritical

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #36

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 10.0000 in
Flowrate ..... 59.0000 gpm-US
Slope ..... 0.0210 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 1.3880 in
Area 0.5454 ft2
Wetted Area 0.0458 ft2
Wetted Perimeter ..... 7.6354 in
Perimeter ..... 31.4159 in
Velocity ..... 2.8679 fps
Hydraulic Radius ..... 0.8645 in
Percent Full ..... 13.8804 %
Full flow Flowrate ..... 1425.0650 gpm-US
Full flow velocity ..... 5.8214 fps

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #36

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 10.0000 in
Flowrate ..... 236.1000 gpm-US
Slope ..... 0.0210 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 2.7532 in
Area 0.5454 ft2
Wetted Area 0.1221 ft2
Wetted Perimeter ..... 11.0475 in
Perimeter ..... 31.4159 in
Velocity ..... 4.3081 fps
Hydraulic Radius ..... 1.5916 in
Percent Full ..... 27.5322 %
Full flow Flowrate ..... 1425.0650 gpm-US
Full flow velocity ..... 5.8214 fps

Grand Junction Regional Airport

Sanitary Sewer Study Calculations
Design Point #37

Given Input Data:

Shape ..... Circular
Solving for ..... Depth of Flow
Diameter ..... 10.0000 in
Flowrate ..... 426.6000 gpm-US
Slope ..... 0.0400 ft/ft
Manning's n 0.0130

Computed Results:

Depth ..... 3.1633 in
Area 0.5454 ft2
Wetted Area 0.1481 ft2
Wetted Perimeter ..... 11.9465 in
Perimeter ..... 31.4159 in
Velocity ..... 6.4182 fps
Hydraulic Radius ..... 1.7850 in
Percent Full ..... 31.6331 %
Full flow Flowrate ..... 1966.7766 gpm-US
Full flow velocity ..... 8.0342 fps

Critical Information:

Critical depth ..... 5.1896 in
Critical slope ..... 0.0066 ft/ft
Critical velocity ..... 3.3247 fps
Critical area 0.2859 ft2
Critical perimeter ..... 16.0873 in
Critical hydraulic radius ..... 2.6589 in
Critical top width ..... 10.0000 in
Specific energy ..... 0.9038 ft
Minimum energy ..... 0.6487 ft
Froude number 2.5886
Flow condition ..... Supercritical

Appendix Three

STUDY COMMITTEE MEETING NOTES

Study Committee (SC) Meeting Notes

Grand Junction Regional Airport
Master Plan Update
January 15th, 2008

The meeting was held in the conference room at the Grand Junction Regional Airport. Meeting participants included Rex Tippetts and Amy Jordan (Airport), Mark McFarland, Ryk Dunkelberg and Ryan Hayes (BDC) and the Master Plan Study Committee Members.

Agenda

- Introduce Study Committee Members
- Present Master Plan Update Process Overview and Schedule
- Discuss Role and Purpose of Committee
- Airport Development Issues Discussion
- Comments and Questions from Study Committee
- Next Steps

Consultant Team

- It was explained to the committee that the consultant team for the AMP would include BDC, Leibowitz & Horton AMC and the selected engineering consultant for the Airport.

Planning Process

- The steps in the planning process were discussed.

Meetings/Presentations and Schedule

- A list of potential meetings and Airport Authority Board presentations was presented.
- A potential 12 to 18 month estimated schedule was presented.

Roles, Responsibilities and Expectations

- The roles of various groups were discussed including the Sponsor, the FAA, the Study Committee and the Consultant Team.

Issues Identification

- A preliminary list of issues to be studied in the Master Plan were presented and the Study Committee was asked to identify any additional issues to be considered.

Questions and Comments

- The City is updating its Comprehensive Plan in 2008, can we coordinate the plans? The Comp Plan is scheduled for completion in early 2009.
- The two primary concerns of the City are the planned land uses and traffic circulation in the vicinity of the Airport.
- Will the interior leaseable space in the terminal building be analyzed to determined highest/best use of space?

- Engine run-up areas or holding bays are needed at each end of Runway 11/29 for general aviation aircraft.
- Mesa County has several small air strips and helipads and an increased need for helipads due to the oil and gas industry, will the regional air transportation needs of the County be looked at in this Airport Master Plan?
- There is a need for additional commercial ramp space, particularly during Special Traffic Management Program (STMP) days when arrivals to other mountain airports like Aspen are diverted to GJT.
- The tentative date for the next SC meeting is April 15th, 2008. This meeting will be preceded by Working Paper 1.

Study Committee (SC) Meeting Notes

Grand Junction Regional Airport
Master Plan Update
April 15th, 2008

The meeting was held in the conference room at the Grand Junction Regional Airport. Meeting participants included Rex Tippetts, Amy Jordan and Lindsey Holman (Airport), Mark McFarland, and Ryan Hayes (BDC) and the following Master Plan Study Committee Members: Marisa Fay and Collin Fay (Colorado Flight Center), Teresa Gara (WestStar), Ann Driggers (Grand Junction Economic Partnership), Ereal Lewis Jr. (American Eagle), Phillip Smith (AVIS), Tim Hayashi and Linda Dannenberger (Mesa County), Lisa Cox (City of Grand Junction), PJ McGovern (P&L Properties).

Agenda

- Introductions
- Overview of the Master Plan Update Process
- Present Working Paper 1 (Inventory and Forecasts
- Comments and Questions from Study Committee
- Next Steps

Consultant Team

- It was explained to the committee that the consultant team for this planning study would include BDC, Leibowitz & Horton Airport Management Consultants and J3 Aviation Consultants.

Planning Process

- The planning process and where we are in that process was reviewed.

Meetings/Presentations and Schedule

- A list of potential meetings and Airport Authority Board presentations was presented.
- A potential 12 to 18 month estimated schedule was presented.

Inventory

- Inventory items including airport role, airport facilities, airspace and airport environs were discussed.

Forecasts

- The following forecast related items were presented and discussed
    - Regional Socioeconomic Conditions
    - Historical and Existing Airport Activity

- Passenger Enplanements Forecast
- Commercial Service Operations Forecast
- General Aviation Operations Forecast
- Air Cargo Activity Forecast
- Military Operations Forecast
- Based Aircraft Forecast
- Forecast Summary

Airport Reference Code (ARC)/Design Aircraft Analysis

- The design aircraft analysis for both runways was presented and explained.

Airport Planning Considerations

- An explanation of how the Inventory and Forecasts relate to the issues and goals for the Master plan Update was presented.

Questions and Comments

- Airport would like to provide the committee with copies of the existing Airport Layout Plan prior to the next meeting, potentially as a package with Working Paper 2.
- Mesa County is concerned with how roadway access would be provided to north side facilities and a relocated ATCT.
- Mesa County is interested in how projected airport improvements will impact transportation routes in the vicinity of the Airport including H Road, Horizon Drive, I-70, 29 Road, etc. and the potential demands placed on these routes with increased or relocated and expanded air cargo facilities.
- General aviation needs were expressed from several committee members.
  - GA numbers are constrained by lack of aircraft storage space. At least 6 aircraft owners wanting hangars right now.
  - A connection from east ramp to C1A is needed.
  - Small aircraft run-up areas at all runway ends are needed.
  - Improvements to the maintenance run-up area are needed.
- The FBO representatives indicated a need for increase heavy itinerant aircraft (over 100,000 pounds) parking space. The FBO is seeing a significant increase in diversion traffic and would like to be able to better accommodate these diversions.
- Airline representative also expressed concern about lack of heavy ramp space. American Airlines anticipates increase use of the Airport for diversions. Airline terminal needs include restaurant, better handicap terminal access and facilities and potentially a business center.
- Car rental representative stated that all rental car companies are forecasting significant growth in rental car activity for the next few years and their primary need is for increased space for parking cars. Potentially as much as four times the existing space will be needed.

- The City has many of the same interests and concerns as the County, including the transportation network, access to I-70 and the potential 29-Road interchange, etc. The City is also receiving development pressures northwest of the Airport and along 27 ¼ Road and want to be sure that it continues to help protect the Airport from incompatible development northwest of the Airport.
- FBO representatives reiterated that the maintenance and strengthening of the ramp is a very high priority short-term need.
- Discussion took place among the committee about the city property tax rule and the disincentive for long-term leases. The Airport indicated that most hangar lessee's pay more in property tax than they do in lease fees.
- Also discussion of the city sales tax on aircraft parts and its disincentive to aircraft parts manufacturing type business from relocating to GJT. (State and County exempt aircraft parts from sales tax).

Next Steps

- Demand/Capacity Analysis
- Facility Requirements Determination
- Prepare Preliminary Alternatives
- Prepare Recommended Development Plan
- Produce Working Paper 2
- Study Committee Meeting 3 (potentially July 15th, 2008)

Study Committee (SC) Meeting Notes

Grand Junction Regional Airport
Master Plan Update
August 5th, 2008

The meeting was held in the conference room at the Grand Junction Regional Airport. Meeting participants included Rex Tippetts, Amy Jordan (Airport), Mark McFarland, Ryan Hayes and Ryk Dunkelberg (BDC) and the following Master Plan Study Committee Members: Collin Fay (Colorado Flight Center), Ann Driggers (Grand Junction Economic Partnership), Owen Charrier (Mesa Air), Ereal Lewis Jr. (American Eagle), Phillip Smith (AVIS), Lisa Cox (City of Grand Junction).

Agenda

- Introductions
- Overview of the Master Plan Update Process
- Present Working Paper 2 (Revised Forecasts and Capacity Analysis and Facility Requirements)
- Planning Considerations and Alternatives Discussion
- Questions and Comments
- Next Steps

Planning Process

- The planning process and where we are in that process was reviewed.

Revised Forecasts

- The revised enplanement forecast scenario was explained.
- The revised forecast summary was explained.

Capacity Analysis

- The capacity analysis conclusions were discussed.

Facility Requirements

- The FAA dimensional requirements and non-standard conditions were discussed.
- Additional airside facility requirements were presented.
- Landside facility requirements were then presented.
- It was explained to the committee that the RVZ and gradient problems have not changed, but that the potential solution to the problem has changed.

Planning Considerations and Preliminary Alternatives

- The following planning considerations were discussed.
    - Maintenance and rehabilitation of Runway 11/29.
    - Correction of non-standard longitudinal and transverse gradients on Runway 11/29 and connector taxiways.
    - Correction of the non-standard Runway Visibility Zone (RVZ).
    - Potential ARC upgrade of Runway 4/22.
    - The continuation of efforts to acquire adjacent land.
    - Future relocation and siting of the ATCT.
    - Facilities to support Airport's evolving role (pax, cargo, GA).
    - Terminal and terminal area improvements.
    - Vehicular access to various airport development areas.
    - Regional ground transportation issues.
    - Areas programmed for future general aviation development.
    - Heavy ramp for itinerant & diverted traffic/run-up areas
    - Areas programmed for future non-aviation related development.
    - Instrument approach capabilities of both runways.
    - Off-airport land use compatibility and zoning.
- Two preliminary airside alternatives were presented to the committee and discussed.
    - Alternative One – Shift Runway 11/29 and upgrade Runway 4/22
    - Alternative Two – Relocate Runway 11/29 and do not upgrade Runway 4/22
- The study committee overwhelmingly supported Alterative Two.

Questions and Comments

- The City is considering early 2009 for completion of the Comprehensive plan and may have a preferred scenario as early as September. Lisa would like BDC to directly contact Winston Associates to facilitate the exchange of information about the 2 plans.
- The Mesa Air representative preferred Alternative two and does not want to have to operate on Runway 4/22 due to the fact that it is very rarely aligned with the winds. Additional concerns include the general layout of the terminal building and aircraft parking apron.
- The American Eagle representative is still concerned about a restaurant.
- The economic development representative is very concerned about having to shut down the airport to air carriers and likes alternative two due to its constructability while keeping the existing Runway 11/29 open. The landside development area opened up by Alternative 2 is also intriguing.
- The committee requested more aerial be shown to the east and west on the alternative graphics.

Next Steps

- Refine Airfield Development Alternatives

- Prepare Landside Development Alternatives
- Prepare Recommended Development Plan
- Produce Working Paper 3
- Study Committee Meeting 4
    - *Estimated meeting date: October 21st, 2008*

Study Committee (SC) Meeting Notes

Grand Junction Regional Airport
Master Plan Update
October 21st, 2008

The meeting was held in the conference room at the Grand Junction Regional Airport. Meeting participants included Ed Storer, Amy Jordan (Airport), Mark McFarland, Ryan Hayes and Ryk Dunkelberg (BDC), Linda Bruce (FAA) and the following Master Plan Study Committee Members: Collin Fay (Colorado Flight Center), Teresa Garner and Jesse Van Meter (West Star), Barb Bowman and Jennifer Grossheim Harris (Grand Junction Visitor and Convention Bureau), Linda Dannenberger (Mesa County), Ann Driggers (Grand Junction Economic Partnership), Phillip Smith (AVIS), Lisa Cox (City of Grand Junction).

Agenda

- Overview of the Master Plan Update Process
- Present Working Paper 3 (Development Concepts and Alternatives Analysis)
- Discussion of Next Steps
- Questions and Comments

Planning Process

- The planning process and where we are in that process was reviewed.

Development Assumptions

- One. The Airport will be developed and operated in a manner that is consistent with local federal and state regulations.
- Two. Accommodate commercial passenger service activity, along with general aviation activity and a small amount of military activity.
- Three. The size of aircraft is not expected to significantly change.
- Four. Accommodate aircraft operations with great reliability and safety.
- Five. Make most efficient use of the available area for aviation-related activities.
- Six. Enhance the compatibility of the operation of the Airport with the environs.
- Seven. Identify potential sites for future ATCT facilities.

Goals and Objectives for Development

- Provide effective direction for the future development.
- Help fulfill Airport mission to facilitate and enhance regional aviation services.
- Accommodate the forecast aviation activity levels in a safe and efficient manner.
- Accommodate a variety of general aviation activities.

- Plan and develop the Airport to be capable of accommodating the future regional needs and support regional economic development activity.
- Plan for potential property acquisition for approach protection and land use compatibility purposes.

Airside Alternatives

- Airside Alternative One – Runway Shift
- Airside Alternative Two – New Runway Minimum Separation
- Airside Alternative Three – New Runway Maximum Separation
- Engineer's opinion of probable costs for all three alternatives was discussed. From an order of magnitude perspective, the previous plan to shift Runway 11/29 and upgrade Runway 4/22 to air carrier standards (Alternative One) was only slightly less expensive than Alternative Two, Build New Runway. The committee was in agreement with the recommended preferred alternative (Airside Alternative Two). Both Airside Alternatives One and Two correct the non-standard Runway Visibility Zone (RVZ). However, only Airside Alternative Two corrects all the non-standard conditions associated with the longitudinal and transverse gradients on Runway 11/29 and its connector taxiways.
- The Airport's vision for Airside Alternative Two is to be able to phase the construction of the new runway over a number of years and keep the existing Runway 11/29 open to utilized by the passenger and cargo carriers during construction. This eliminates the need to upgrade Runway 4/22 to air carrier standards.
- The committee inquired about how the Airport would fund the construction of the new runway. Airport staff indicated that a combination of AIP entitlement and discretionary funding would be the most likely source and that discussions with FAA had already been initiated. More detail will be provided in the upcoming Implementation Program chapters.
- A discussion took place of the environmental documentation required to implement the preferred alternative.

Landside Development Concepts

- Landside Facilities, Conceptual Layout East
- Landside Facilities, Conceptual Layout West
- Conceptual General Aviation Facilities Layout
- Presentation of Conceptual Development Plan

Next Steps

- Prepare Detailed Airport Plans Set
- Prepare Environmental Review
- Prepare Implementation Program
- Prepare Draft Final Report

APPENDIX C

2017 Terminal Area Plan Amendment

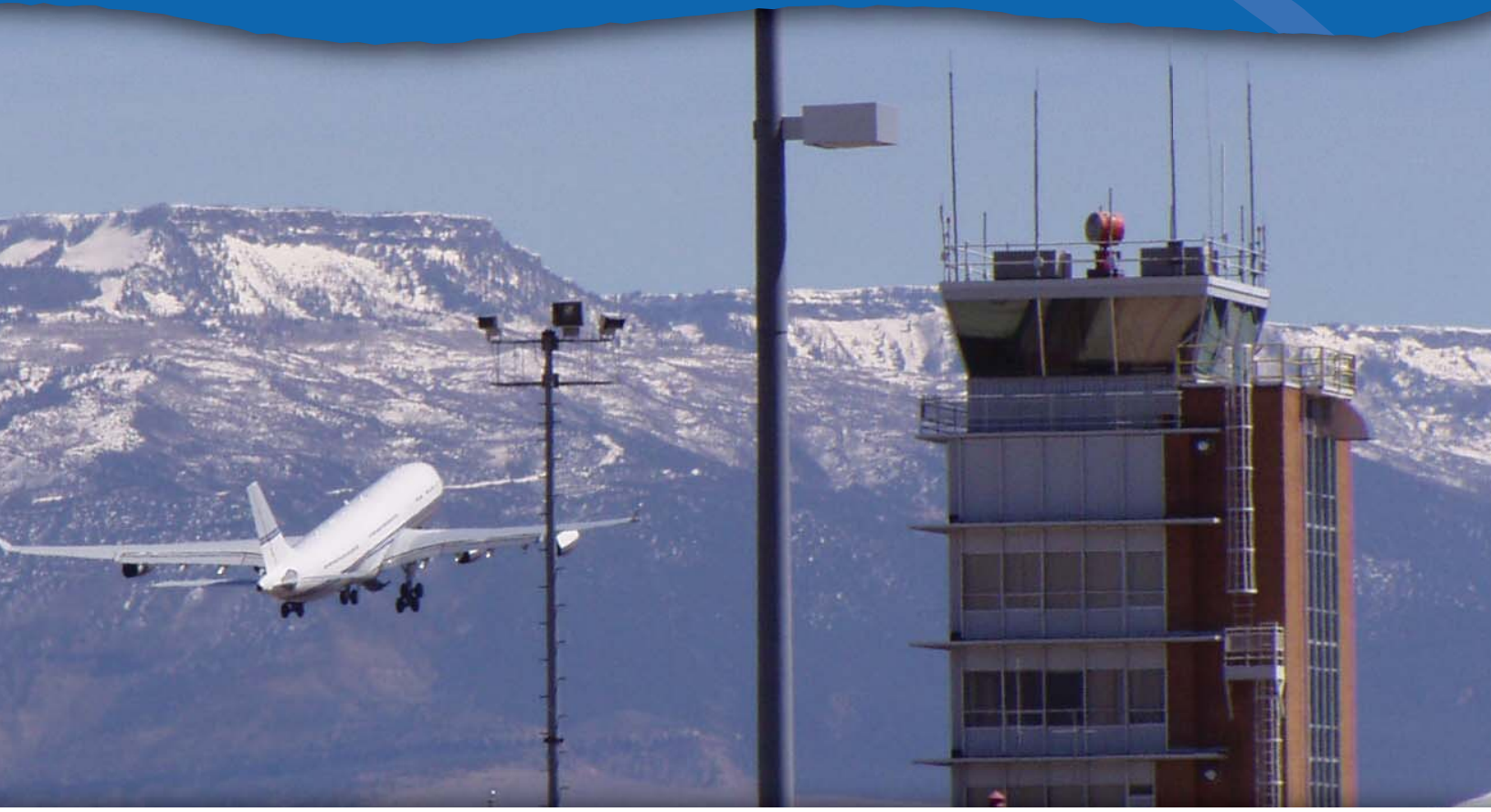
Grand Junction Regional Airport | Master Plan Update

Institutional and Civic Facility Master Plan Review Application



GRAND JUNCTION
REGIONAL AIRPORT

TERMINAL AREA PLAN AMENDMENT

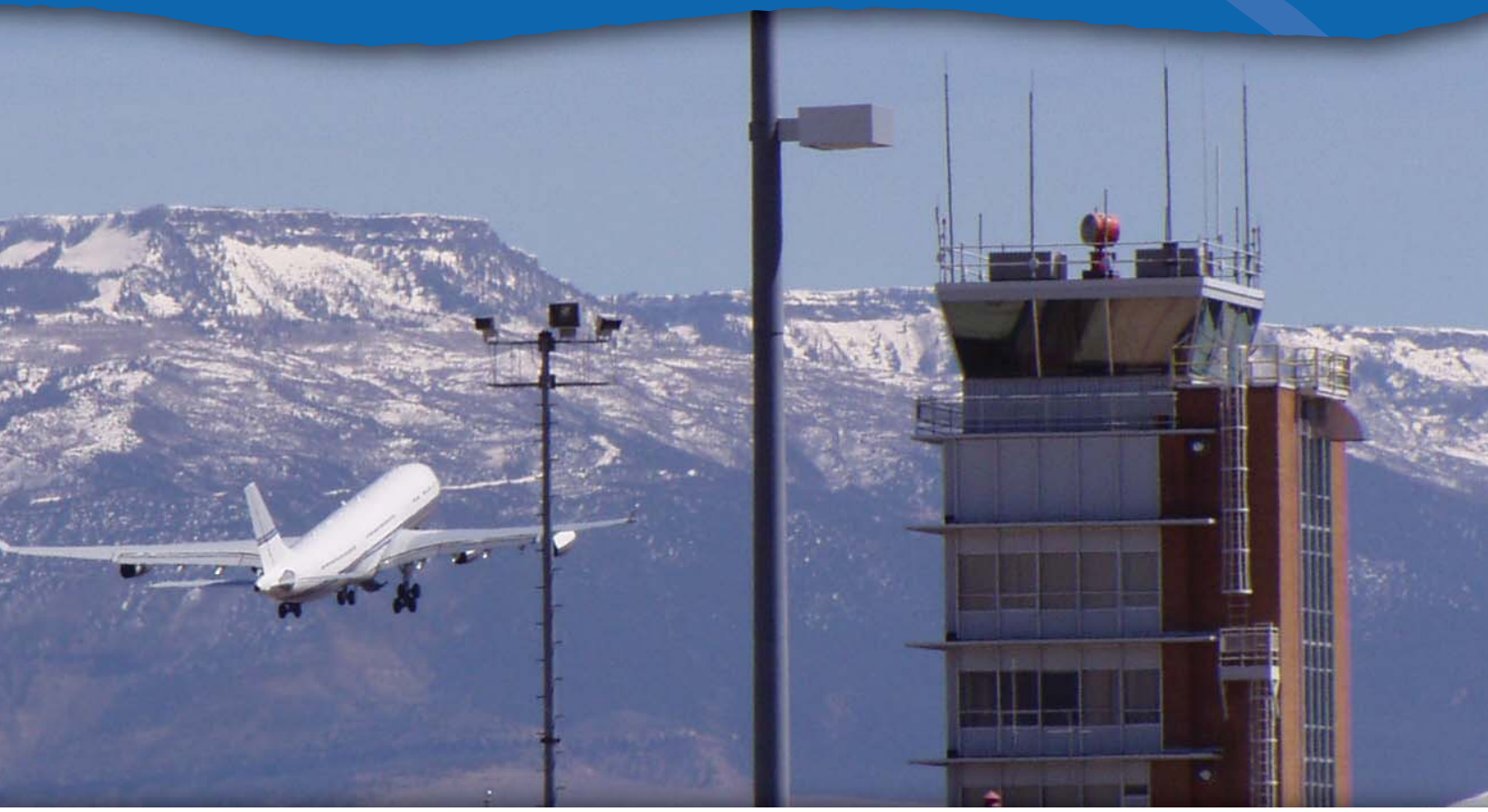


Mead & Hunt

GRAND JUNCTION
REGIONAL AIRPORT

TERMINAL AREA PLAN AMENDMENT

October 2017



Mead & Hunt, Inc.
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GRAND JUNCTION
REGIONAL AIRPORT

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A. Introduction and Background

The Grand Junction Regional Airport (the Airport or GJT) has completed a number of planning studies in recent years including an Airport Master Plan in 2008 and a Terminal Area Plan in 2011. The 2008 Master Plan recommended a replacement of the primary runway (a $100 Million plus program) and consideration of a replacement passenger terminal building. A phasing plan for the replacement of the terminal building was then developed in the 2011 Terminal Area Plan. However, due to a number of changed conditions since 2011, further planning is required to address the lack of an identified improvement program for the existing terminal building. Because the 2011 Terminal Area Plan recommended replacing the terminal, routine and necessary maintenance and improvements to the existing building have been deferred in the years since. Given the current fiscal realities at the Airport associated with the replacement runway program and in the wake of a 2013 FBI investigation, it is likely that the existing terminal will need to be utilized for a longer period of time than was envisioned in the 2011 planning process.

This amendment to the 2011 plan also recognizes that these evolving issues and considerations are significant and cannot be addressed without a comprehensive examination of the Airport's long-term Capital Improvement Program (CIP). It should be noted that this study recognizes the other recently completed studies for the Airport. To the extent possible, the resources provided by those studies were utilized to minimize the work effort associated with this plan amendment.

The Airport has a number of other projects in-progress or scheduled in the near future, those include: 1) a fog seal and remark of the primary runway, 2) rehabilitation of Taxiway A connectors, 3) lighting and windsock relocation, 4) the land transfer with BLM for the replacement runway, 5) the engineering design of the replacement runway project, and 6) air carrier apron design modifications and reconstruction. Due to the strong interrelationship between projects, this study was developed in coordination with the Airport's engineering consultants and Airport Management.

2011 Terminal Area Plan Summary

The development of a Terminal Area Plan for GJT began after completion of the 2008 Airport Master Plan which recommended a replacement terminal program. The plan was initiated with an assessment of the existing facility from a building systems standpoint including analysis of the mechanical, electrical, plumbing, fire alarm, fire protection, structural and roof conditions. The building was also reviewed for current code compliance and the relative "health" of the building's various systems was evaluated. The assessment also provided an understanding of likely future capital expenditures related to these systems and was conducted by a Colorado building engineering firm (BCER Engineering). The assessment is often referred to as the BCER report.

BCER General Observations

The following common observations were generally true for all disciplines involved.

- With only a few exceptions, the facility appeared well maintained and staff was knowledgeable of the equipment and operating requirements.
- The facility, as well as most of its physical infrastructure, is dated and in some cases deficient with regard to code compliance and is generally lacking in what would be considered "desirable" public amenities and features.
- The building has life safety and fire protection deficiencies that require additional study and possible engineering analysis for compliance with the adopted building and fire codes. The most significant issues are related to the egress, occupancy separation of the different occupancies, fire alarm system and the non-code complying atrium.

BCER Recommendations

The BCER report included a number of recommendations related to life safety/fire protection, mechanical, electrical, structural, and roof improvements. Overall the report identified an estimated construction and engineering cost (in 2010 dollars) of $1.2 Million to correct code and standards compliance items and approximately $5 Million in general upgrade or repairs of the existing facility to allow for continued operation of the terminal.

2011 Conceptual Development Plan (CDP)

It was decided early in the planning process for the 2011 Terminal Area Plan that investing significant dollars in a building that was scheduled to be replaced did not make sense. Consequently, the focus of the planning from that point forward was on projecting future demand and making recommendations for a replacement terminal facility that could accommodate future demand. The planning process identified some preliminary replacement terminal concepts and ultimately refined those concepts into a preferred concept referred to as the Conceptual Development Plan (CDP) for the passenger terminal.

The CDP locates the replacement terminal on the east side of the existing terminal with the intention of the full phased build-out to be centrally located to the existing terminal support facilities. Terminal support facilities include the vehicle access loop road, the vehicle and aircraft parking areas, the rental car facilities, the aircraft fueling and deicing facilities, etc. The next step was development of a phasing plan that would allow the final terminal footprint to overlap the existing terminal while maintaining full airport and terminal operations during each phase of construction. The CDP's planned concourse would house six holdrooms with contact gates and loading bridges. The additional remain-over-night (RON) positions would also be in a linear configuration east and west of the concourse accessed by 10-foot wide covered walkways. These can be converted to contact gates as needed and additional RONs added. The proposed concourse was sited at an elevation similar to the existing upper concourse.

A second level connector bridge ties the terminal with the concourse. The connector would house concessions/restroom/support facility node on the concourse level. A portion of the connector bridge would contain a lower level at the terminal elevation. The ground level would house terminal support functions and a public side loading dock accessed from the west. The Ground Service Equipment (GSE) vehicle ramps will be reconstructed to access both the east and west ends of the proposed concourse and will pass under the connector bridge. The construction phasing plan was designed to minimize disruption to airport operations during construction. A detailed description of the phasing plan follows. It was also anticipated that the construction of an airport administration building would be Phase I of the terminal area redevelopment with Phase II being the first phase of the construction of the replacement terminal building.

Landside

- **Phase I.** Construct the airport administration building and associated vehicle access, parking and landscaping improvements.
- **Phase II.** Construct the check-in lobby, airlines operations/offices/bag make-up, vertical core, and connector. The existing terminal would remain in operation during construction. Airline vehicle access to aircraft continues via existing west ramp.

Open phase II building for departing passenger functions. Continue to use existing bag claims.

- **Phase III.** Demolish the single story airline operations portion of the existing terminal. Construct first replacement bag claim unit and partial RAC counters. This would require some sharing of RAC counters on temporary basis.

  Open replacement bag claim unit #1. All terminal functions are now in the replacement building.

- **Phase IV.** Demolish remainder of existing terminal. Construct second bag claim and finish out the replacement landside building.

- **Post-Planning.** Longer term expansion of the check-in lobby for Planning Activity Level would occur as needed on the east side of the terminal. Additional bag claims beyond the forecast period can occur as needed on the west side of the terminal.

Airside

- **Phase I.** Construct vehicle parking for the proposed airport administration building (near the existing air cargo staging area).

- **Phase II.** Construct the eastern four gates of the replacement concourse, and a temporary connection to the existing terminal through Gate #6. Gate #4 would continue to be used during construction.

  Open new gates. These would be accessed from the replacement terminal for departures but use existing bag claim units via the temporary connection to Gate #6.

- **Phase III.** Use four replacement gates and continue to use existing Gates #1-3 until replacement bag claim unit is completed (Phase 2 landside). Close Gate #4, and extend concourse to the west.

  Open fifth gate.

- **Phase IV.** Continue replacement linear concourse to the west. There is an option of either replacing existing holdroom (Gates #2-4), or continuing to use this space and connecting to the replacement concourse. A replacement concourse is shown on the CDP.

- **Post Planning.** Concourse expansions east and west could be constructed as needed.

The CDP is depicted in the following illustration, entitled *2011 CONCEPTUAL DEVELOPMENT PLAN*.

2012 Architectural Terminal Design

Subsequent to the completion of the 2011 Terminal Area Plan for the Airport, a preliminary architectural design and associated renderings were completed for the replacement terminal facilities. An illustration of this architectural rendering is shown in the following figure entitled *2012 ARCHITECTURAL RENDERING*.

Terminal Expansion Phase I Project

As discussed previously, an administration building that would also serve some terminal building functions was envisioned as the first phase of the terminal program. Construction of this building commenced in 2013 and was later halted in May of 2014 due to concerns related to the financing of the building. This first phase of terminal expansion is also illustrated on both CDP and the architectural renderings.

Introduction and Background Summary

As the Airport is now in the design phase of the replacement runway program, and given the financial challenges associated with funding the runway program, combined with the financial challenges associated with the terminal, it has been determined that the Airport will not be able to restart the replacement terminal program for a period of at least 10 to 15 years. Consequently, the focus of this Terminal Area Plan Amendment is on making the existing terminal safe, efficient and as functional as possible for the next few years while minimizing investment into the building where at all possible.

The following sections of this report include a summary of the 2011 inventory, forecasts and facility requirements, a reassessment of the terminal building and its associated systems, analysis of other terminal building considerations and a capital improvement project list with a new interim phase for the terminal building. The ultimate goal of the amendment is to define this interim phase or steps which can to be taken to keep the existing terminal building operational until the construction of the replacement terminal becomes financially feasible.

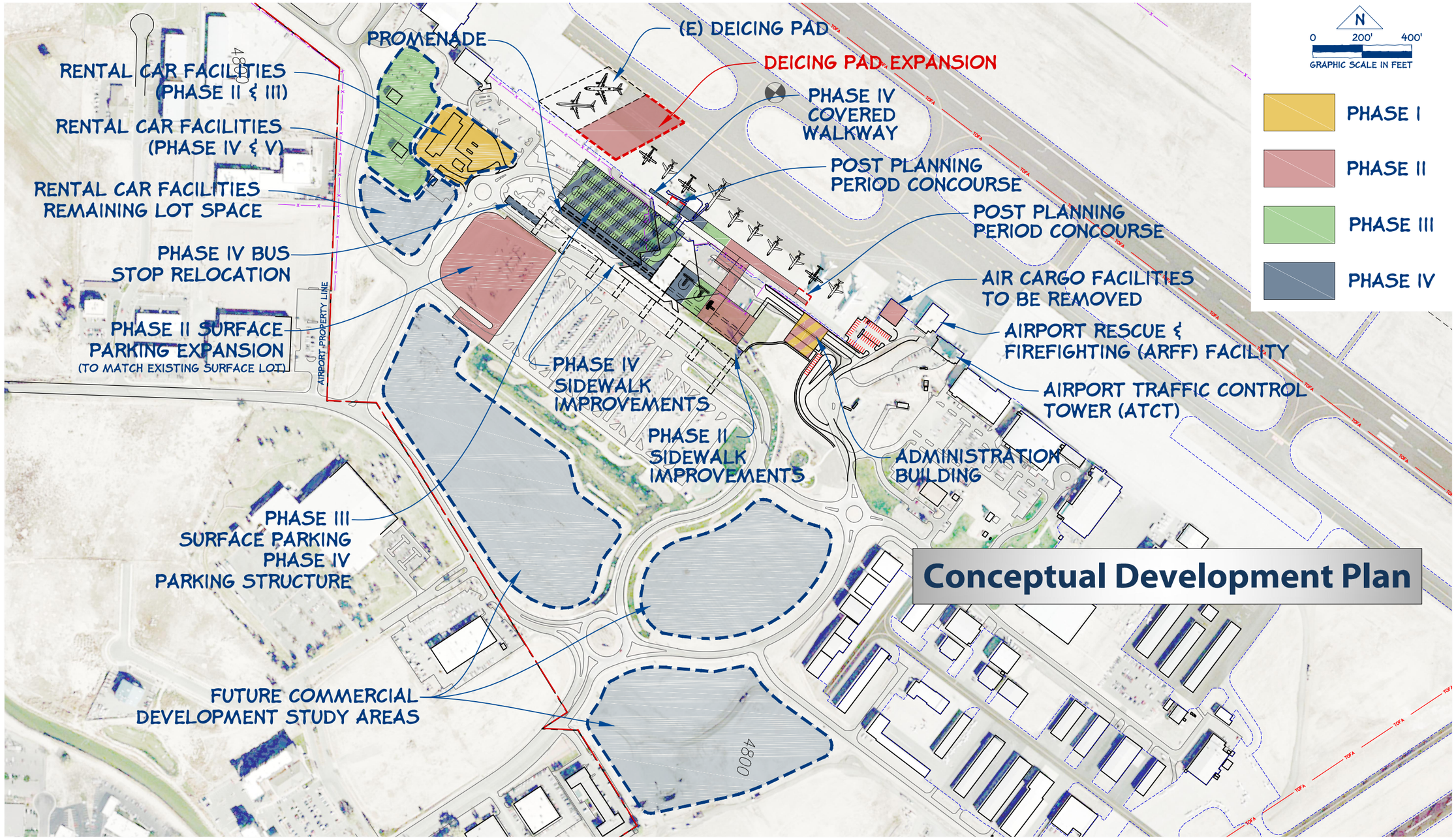


Figure 1 **2011 Conceptual Development Plan**



Figure 2 **2012 Architectural Rendering**

B. Inventory, Forecasts and Facility Requirements

The City of Grand Junction, with a picturesque backdrop of mountains and monuments in Western Colorado, offers year-round amenities to both visitors and local residents. Grand Junction Regional Airport (GJT or the Airport) is located approximately 3.5 miles northeast of downtown. The Airport provides a safe operating environment for all classes of aircraft, including small general aviation aircraft, corporate business jets, and commercial service passenger aircraft. The Airport's location is illustrated in the figures entitled *AIRPORT LOCATION MAP* and *AIRPORT VICINITY MAP*.

The Airport, along with the aviation-related businesses and facilities, represents a vital and significant regional economic asset. In addition to the many aviation-related assets, the Airport also provides benefits to local businesses and industries, promotes tourism, as well as encourages additional business development and expansion throughout Mesa County, the surrounding communities, and adjacent counties. The 2013 Colorado Airports Economic Impact Study quantified the total impact of the Grand Junction Regional Airport at 2,871 jobs with a total payroll of $130.8 million and a total economic output of $380 million.

Following a period of rapid enplanement growth from 2006 to 2011, the Grand Junction Regional Airport completed a Terminal Area Plan which recommended replacing the terminal in phases in order to accommodate future growth. Due partly to the fact that this plan was in place, and also due to the financial issues the Airport has had to face, terminal maintenance and improvements have been deferred in the years since. This document is intended serve as an amendment to the 2011 Terminal Area Plan and will reconsider short-term improvements for the terminal with the goal being to bridge the gap from the present to the point at which the replacement terminal is more financially feasible. It is important to note that this is not an entirely new plan, but instead, an amendment of the 2011 Terminal Area Plan designed to create an interim phase prior to the full replacement terminal. This initial *Inventory, Forecasts and Facility Requirements* chapter reviews the information provided in the initial three chapters of the 2011 plan and updates the information as necessary.

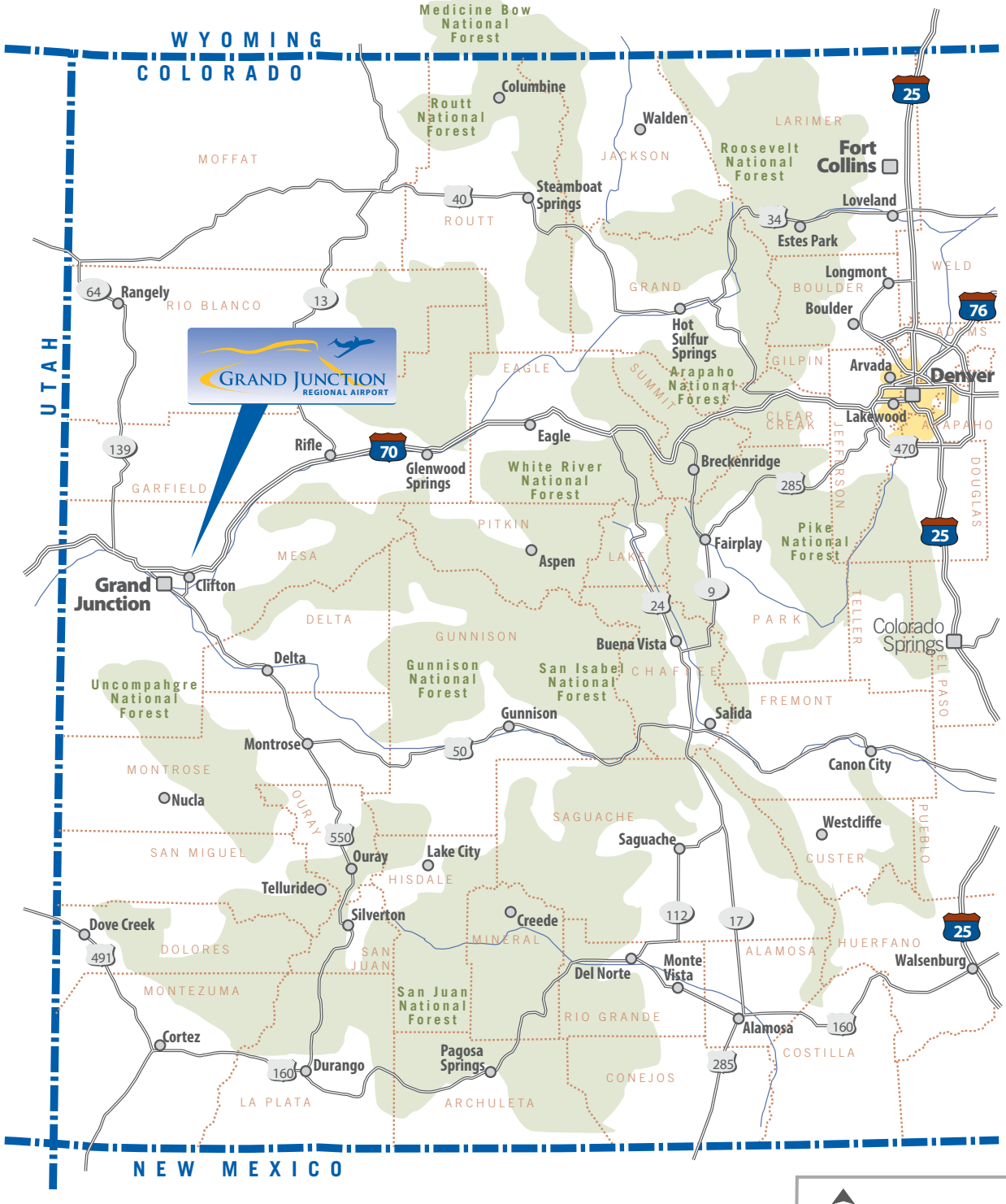


Figure 3 **Airport Location Map**

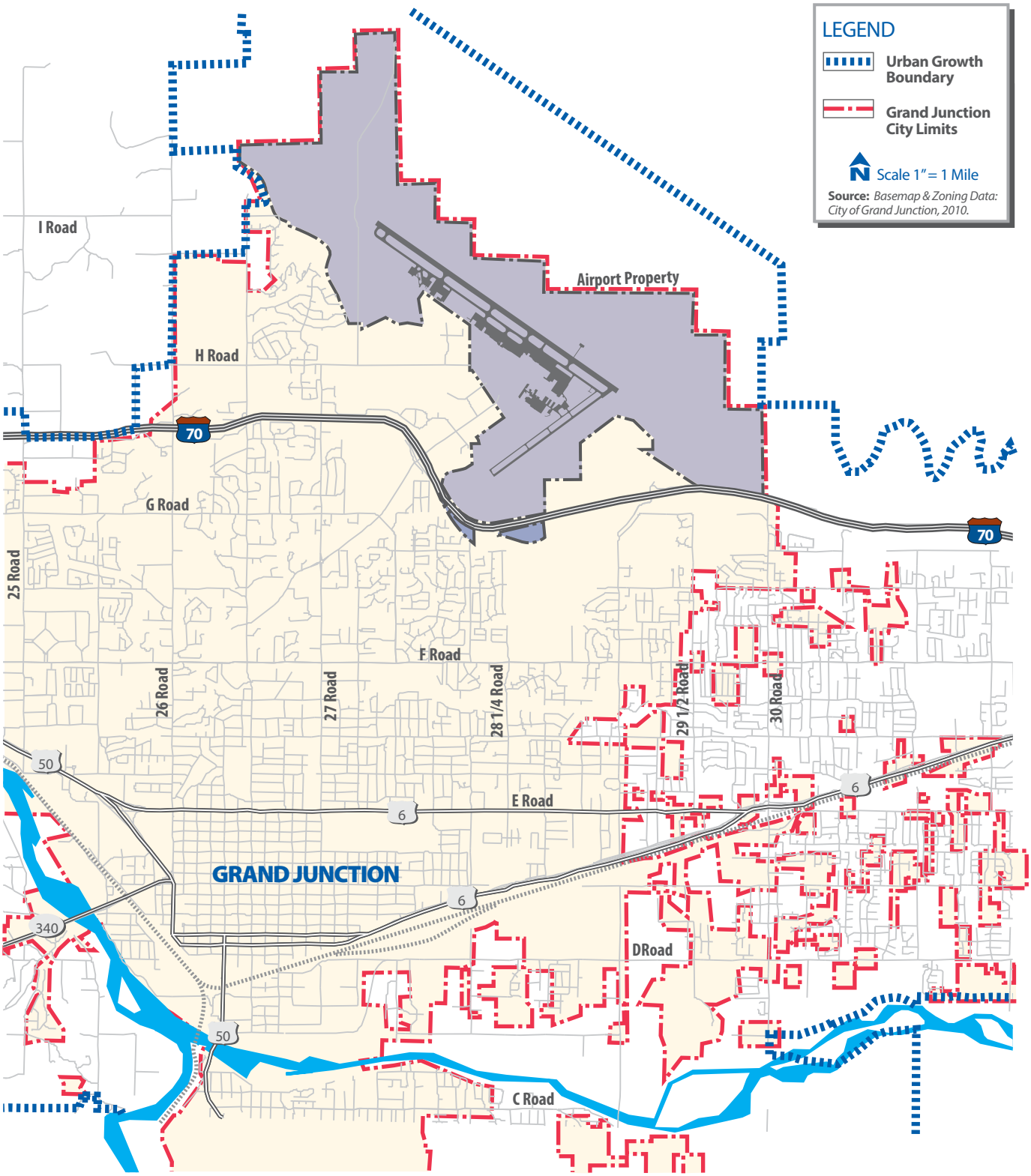


Figure 4 **Airport Vicinity Map**

Grand Junction Airport Authority Board

Grand Junction Regional Airport is owned and operated by the Grand Junction Airport Authority Board. The Board is comprised of seven appointed members; three from Mesa County, three from the City of Grand Junction, and one at-large member. The majority of the land owned by the Grand Junction Regional Airport Authority was purchased/deeded from the City of Grand Junction and Mesa County. The Airport Manager is responsible for the day-to-day operation of the Airport and reports to the Board.

Air Service

Currently, the Airport is served by four airlines providing 14-15 daily scheduled non-stop departures on a yearly basis, which includes: United Express/Skywest with daily service to Denver; Delta Connection/Skywest with daily service to Salt Lake City; American Eagle/American Airlines with daily service to Phoenix and Dallas/Ft. Worth; and Allegiant Air with less than daily service to Las Vegas. American is also planning to initiate direct Los Angeles service in the summer of 2017.

Air Taxi/charter air service is also available at Grand Junction Regional Airport by Denver Air Connection. Denver Air Connection provides service out of the main passenger terminal to Centennial Airport and Rocky Mountain Metropolitan Airport, both located in Denver.

Terminal Area Facilities Inventory

Facilities information for elements of the terminal area was gathered from the 2011 *Terminal Area Plan*, as well as on-site observations and surveys in January 2016. These elements include the physical layout of buildings, runways, taxiways, aprons, and ground access facilities. Later sections of this chapter provide detailed discussions on the functionality of the terminal building and support facilities.

Aprons

The commercial service aircraft parking apron at GJT is located adjacent to the passenger terminal building, south of Runway 11/29. The primary general aviation apron is located east of the commercial service apron adjacent to the various FBO owned facilities. The west half of the general aviation apron is primarily reserved for larger corporate jet and turboprop aircraft parking and rotorcraft parking. The east half of the general aviation apron contain aircraft tie-downs for smaller aircraft. A portion of the commercial service and cargo aprons were recently reconstructed and the commercial service apron was extended to the northeast to improve airline circulation and access to the terminal parking areas and gates.

Passenger Terminal Building

The passenger terminal building at Grand Junction Regional Airport was opened in 1982 and originally consisted of approximately 70,000 square feet of space. The terminal is located on

the south side of Runway 11/29 at approximately the midpoint of the runway. The three-level facility consists of airline ticketing counters, a baggage claim/handling area, passenger-waiting areas, rental car counters, a restaurant, a gift shop, airline and Transportation Security Administration (TSA) administrative offices, and Airport Authority offices. Arriving and departing passengers enter and exit the terminal building on the ground level and airline ticket counters, rental car counters and baggage claim are also located on the ground level. The second level consists of security screening, passenger waiting areas and boarding gates and the restaurant and gift shop. The third level consists primarily of TSA offices and Airport Authority offices are currently located in one of the Airline Ticket Offices (ATOs). A detailed evaluation of the passenger terminal building and support facility functionality is discussed later.

Automobile Parking

There is an automobile parking facility located south of the terminal and support equipment parking located east of the terminal. Three rental car facilities are located southwest of the terminal building and rental car ready car and return (R/R) lot parking lot is located directly west of the passenger terminal. The automobile parking area was reconstructed and expanded in 2007. The redesigned parking area provides for 552 standard parking spaces, 30 handicap parking spaces, 12 motorcycle parking spaces and 38 recreational vehicle spaces. The parking areas are accessed by a dual entrance road system from the northbound section of Walker Field Drive. The exit from the parking area connects with the Falcon Way.

Other Buildings

Airport Administration Building. In 2013, the Airport initiated construction of an Airport Administration Building. The original designed called for a three story, 25,000 square foot building with function including administrative space for airport staff, administrative space for TSA, airport operations and firefighting as well as some baggage screening functions. Construction was halted on the building in May of 2014 at an approximately completion percentage of 51 percent. The building is located immediately east of the terminal.

West Star Aviation Facilities. West Star Aviation is the fixed base operator (FBO) located on airport property. The FBO facilities consist of several large aircraft storage and maintenance hangars. The FBO also maintains 74 aircraft tie-down spaces on the apron.
Hangar Facilities. The general aviation aircraft storage hangar area at the Airport is located south and east of the FBO facilities. There are three privately owned T-hangar facilities located southeast of the FBO facilities containing 38 aircraft parking spaces. In general, the hangar area has good landside access via Aviators Way and Navigators Way which extend east off of Eagle Drive.

Aircraft Rescue and Fire Fighting (ARFF) Facility. The ARFF facility is located east of the terminal building, directly west of the Airport Traffic Control Tower. Per 14 CFR Part 139, *Certification of Airports*, the Airport currently maintains an Index B ARFF capability, which

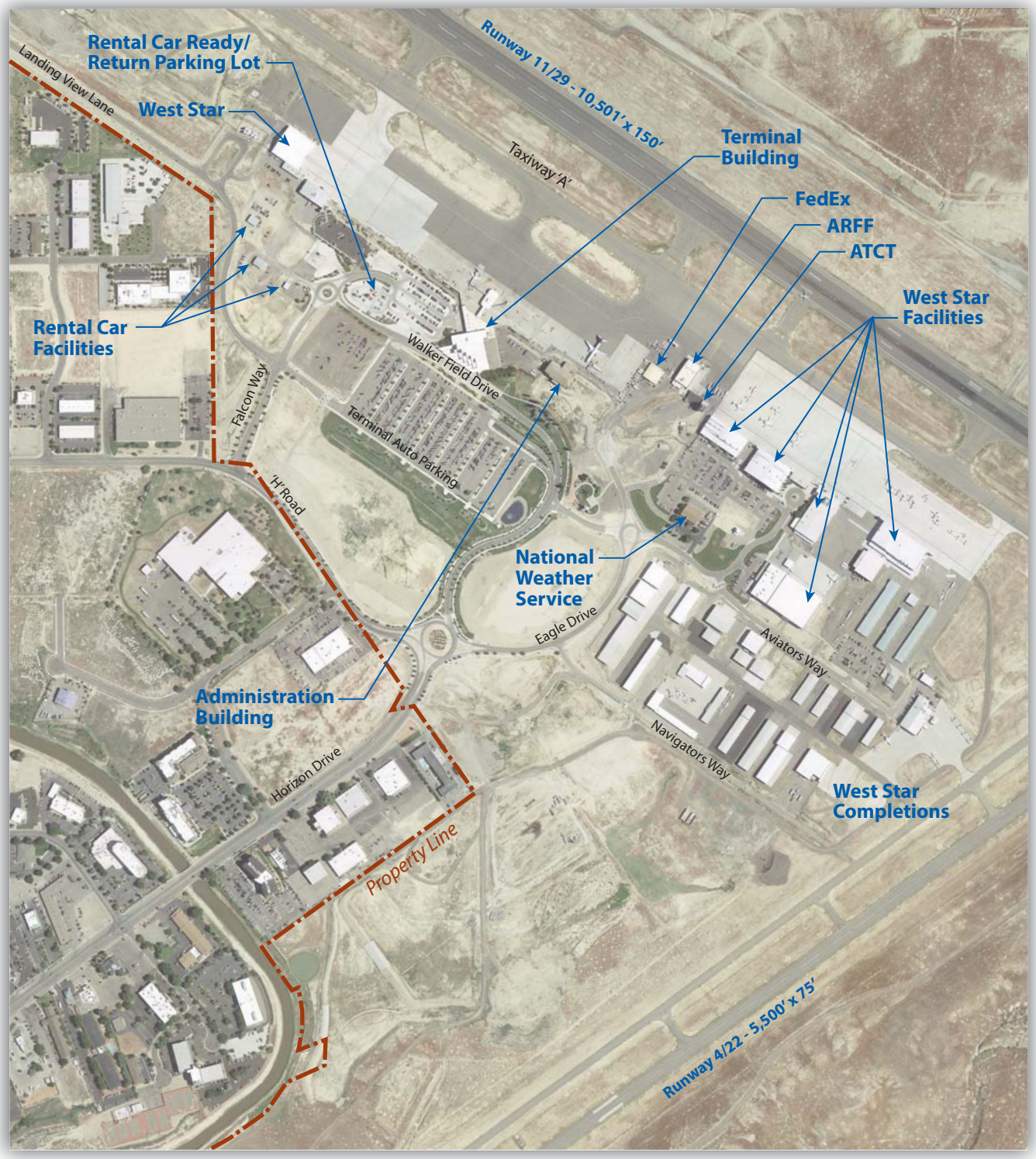
is required by airports that accommodate five daily departures by commercial-use aircraft less than 126 feet in length (e.g., CRJ-700, B-737-700).

Airport Traffic Control Tower (ATCT). The ATCT at the Airport is located immediately east of the ARFF/SRE facility south of Taxiway A between connector taxiways A5 and A6. Access to the ATCT is controlled through a security gate with prior telephone clearance.

National Weather Service. A National Weather Service weather station is located south of the ATCT and provides weather information for the area.

Additional Buildings. Additional buildings located within the Terminal Area include the privately owned FedEx hangar which is located west of the ARFF building, and the privately owned Sky Adventures Building and Hangar located west of the passenger terminal building at the west end of the commercial service aircraft parking apron.

Most of these facilities are shown on the following figure, entitled *EXISTING TERMINAL AREA FACILITIES*.



Scale 1" = 1,200 Feet

Source: *Google Earth Imagery, 2016.*

Figure 5 **Existing Terminal Area Facilities**

Evaluation of Existing Terminal Building Conditions – Functional Issues

In November of 2010, the consultant team for the Terminal Area Plan met with airport management and the TSA to discuss the functioning of the terminal, the utilization of their individual space, and what works and does not work within the terminal building. The consultant team for this Terminal Area Plan Amendment again met with airport staff in January 2016 to discuss the terminal and reassess what works and what does not work. Members of the consultant team also examined the building systems including structure, heating, ventilation and cooling, mechanical and electrical in order to update the 2011 terminal assessment.

The passenger terminal building at the Airport was originally constructed in 1982. The structure is on three levels. The first (ground floor) contains passenger check-in and baggage claim; airline operations and baggage make-up; and rental car counters. Baggage make-up is defined as airline areas for loading checked baggage. The second floor includes non-secure passenger waiting areas, the SSCP; holdrooms for two of the walk-out gates; concessions; and TSA offices. The third floor is used for regional TSA offices.

In 2004 a holdroom expansion (upper holdroom) was added, which is connected to the second floor of the terminal, but due to the ground elevation change across the terminal site, it is a single level building slightly above apron level. The addition includes two loading bridge equipped gates, holdrooms and restrooms. There are also two other "gates" accessible from the holdroom but are simply exit doors to the apron. With the addition, the gross area of the terminal is approximately 77,500 sf.

The following summarizes the results of these meetings and observations.

Passenger Wayfinding and Signage

The terminal has a relatively simple, open plan and wayfinding should be simple. However, as the airlines and rental car companies noted, there are no signs in the main entrance/check-in lobby to direct people up the stairs or escalator to the second floor and gate holdrooms. Although the lobby has a high, open atrium, the SSCP is not visible from the ground floor and additional signage would be helpful. Similarly, although there is a meeter/greeter waiting area at the SSCP exit, there are no signs to direct them to the second floor.

For arriving passengers, there are signs after the SSCP exit toward the escalator to the ground floor for baggage claim and ground transportation. However, it was noted that many passengers are not immediately aware of where baggage claim is located when they get to the ground floor since the claim area is slightly behind them when they disembark from the escalator.

Because departing passengers tend to enter the terminal through the vestibules at the end of the check-in counters, the airline identification signage on the back walls is not readily

identifiable. This is not a major wayfinding issue due to the size of the terminal and relatively good visual access to ticketing, but should be considered as a possible improvement in the future.

The escalators are old and parts have become difficult to obtain. Although the adjacent stairs are wide and very visible, the floor to floor height of the terminal discourages use by passengers, especially with carry-on bags. The main elevator is small and slow, so is not a viable alternative for most passengers. A second elevator in the northwest corner of the terminal is not visible to passengers. It is used primarily for deliveries.

Passenger Check-in

All of the check-in counters (ATO counters) are located in a single row. The passenger circulation and queuing area has been reduced in depth from 38' in the original terminal design to 27' (as measured from the face of the ATO counter to the escalator). This was done to accommodate placing the checked baggage screening equipment behind the ATO counters. The reduced depth affects half of the ATO counters: Denver Air Connection, Delta and United. The passenger queue is approximately 19' deep with approximately 8' for cross-circulation. Although these depths are less than what would be recommended, the passenger volumes for these carriers and the configuration of the passenger queues appear to work. In front of the other ATO counters (Allegiant, American, and the ATO area #1) the 27' depth can be used for passenger queuing without conflict with a 20' deep circulation and seating area.

The number of self-service check-in units (kiosks) is limited at present. Only Delta (4 units) and American (1 unit) have kiosks. These are located in the check-in queue adjacent to the ATO counters from which the power and communications is supplied. The trend in the industry is to have more self-service kiosks, even at smaller airports such as GJT, but the implementation of kiosks at a specific airport by each airline is highly variable, as is the primary customer. At present, Delta directs all passengers, including those with checked bags, to the kiosks, whereas American uses its kiosk primarily for boarding passes. It was the consensus of the airlines that with the high percentage of passengers traveling without checked bags, adding kiosks away from the check-in queues would improve service and reduce congestion near the ATO counters. This would require new power and communications access at non-ATO counter locations in the terminal.

As noted, in order to meet TSA requirements for checked baggage screening, the airport authority has moved the ATO counters to allow reconfiguration of the baggage belts and provide space for a CT-80 EDS (explosive detection system) unit for each of the four make-up areas. These are considered to be ‘mini-inline’ systems because cleared bags go directly to the make-up conveyor. The location of the CT-80s minimizes the disruption to the make-up rooms and removed the units from the passenger queue. However, the related equipment

(inspection tables and explosives trace detection units) and the manual movement of bags from each ATO position to the CT-80 feed conveyor can cause congestion behind the ATO counters. The position of the ATO counters and kiosks relative to the clerestory windows results in glare problems at most of the counter positions at various times of the day, especially in the winter when sun angles are low. The glare problem from the front window wall is most severe at the first ATO counter.

Baggage Claim

Each of the two baggage claim units has 80 linear feet of claim frontage. This size is adequate for the 50-75 seat regional jets which are used by the majority of airlines at GJT. Under most circumstances, these would be too small for 150-seat narrow-body aircraft such as that operated by Allegiant. It was reported that even with Allegiant's high load factors, the claim units are of an acceptable size since the percentage of passengers with checked bags is relatively low. The oversized baggage slide is also of adequate size for skis and other large checked items.

The input side of the claim units, however, does not function well. One of the claim units has limited weather protection (only the actual belt is covered), with poor lighting and ramp apron drainage problems. This leads to icing conditions in winter where the airline personnel unload the bag carts. The second claim unit is under cover from the second floor of the terminal, but also has poor lighting. The addition of wind barriers to both claim units has limited the unload frontage to that of a single bag cart at each. When multiple arrivals occur, only one flight can unload at each claim and baggage delivery has been delayed.

The roll-up door on the oversized baggage slide is manually operated and subject to jams. The locking mechanism is poorly designed.

Passenger Security Screening

The screening checkpoint (SSCP) is located on the second floor. One lane is in operation most of the day with the second lane opened during high volume periods. At 28' wide, the two lane SSCP is narrower than a typical configuration for its equipment, newer, wider baggage X-ray equipment and an advanced imaging technology (AIT) scanner will likely add to congestion within the SSCP. Expansion of the SSCP footprint is limited by the food/beverage kitchen and the exit corridor from the gates.

Passenger Gates and Holdrooms

There are two gate areas: the original terminal's gates (now numbered #1 and #6); and the expansion upper holdroom's four gates (#2 - 5). Gates #3 and 4 have loading bridges, each of which has a carry-on bag cart lift so that passengers can drop off and retrieve carry-on bags from within the loading bridge. This also avoids the time and labor of manually taking

bags to and from the ramp. Both loading bridge gates are common-use on a first come-first serve basis. If the gate is occupied, other aircraft will park at hardstand positions. However, from a practical standpoint, Gate #2/3 is used by Allegiant and American. Gate #4/5 is used for Delta flights, with United as the secondary user. This is primarily due to the location of each airline's gate equipment in the holdrooms and GSE equipment on the ramp a secondary consideration. United also uses Gate #6 for ground boarding flights. Gate #1 is seldom used for scheduled flights. The airlines and the Airport would prefer to have loading bridges for all gates for passenger level of service, safety and security.

The holdrooms for all the gates have large, comfortable soft seating units which present a good image in contrast to typical holdrooms with long rows of bench seating. The triangular configurations of the lower concourse holdrooms and the relatively shallow depth (<20') of the upper concourse holdrooms limit the flexibility to provide different seating layouts or higher seating densities.

Concessions

As of 2016, there are two main concession locations in the terminal: a new restaurant and a new news/gift shop, both located after security. The restaurant recently obtained a liquor license and constructed a bar at the end of the upper concourse. This is a nice amenity for passengers but further reduces necessary holdroom space. Concession support space is also limited. There is no remote storage for the news/gift shop. The food and beverage support is primarily the adjacent kitchen and prep areas.

The terminal has a small loading dock and receiving area which is accessed through the rental car ready/return lot. However, there are no adjacent storage areas for any of the concessions. All concessions supply and waste removal must go through public areas.

Airline Operations and Baggage Handling

The terminal is configured with four individual operational/baggage make-up modules, each associated with a bank of six ATO counter positions; referred to as ATOs #1 though #4. At the time of the revised 2016 inventory, the usage of the four modules was as follows:

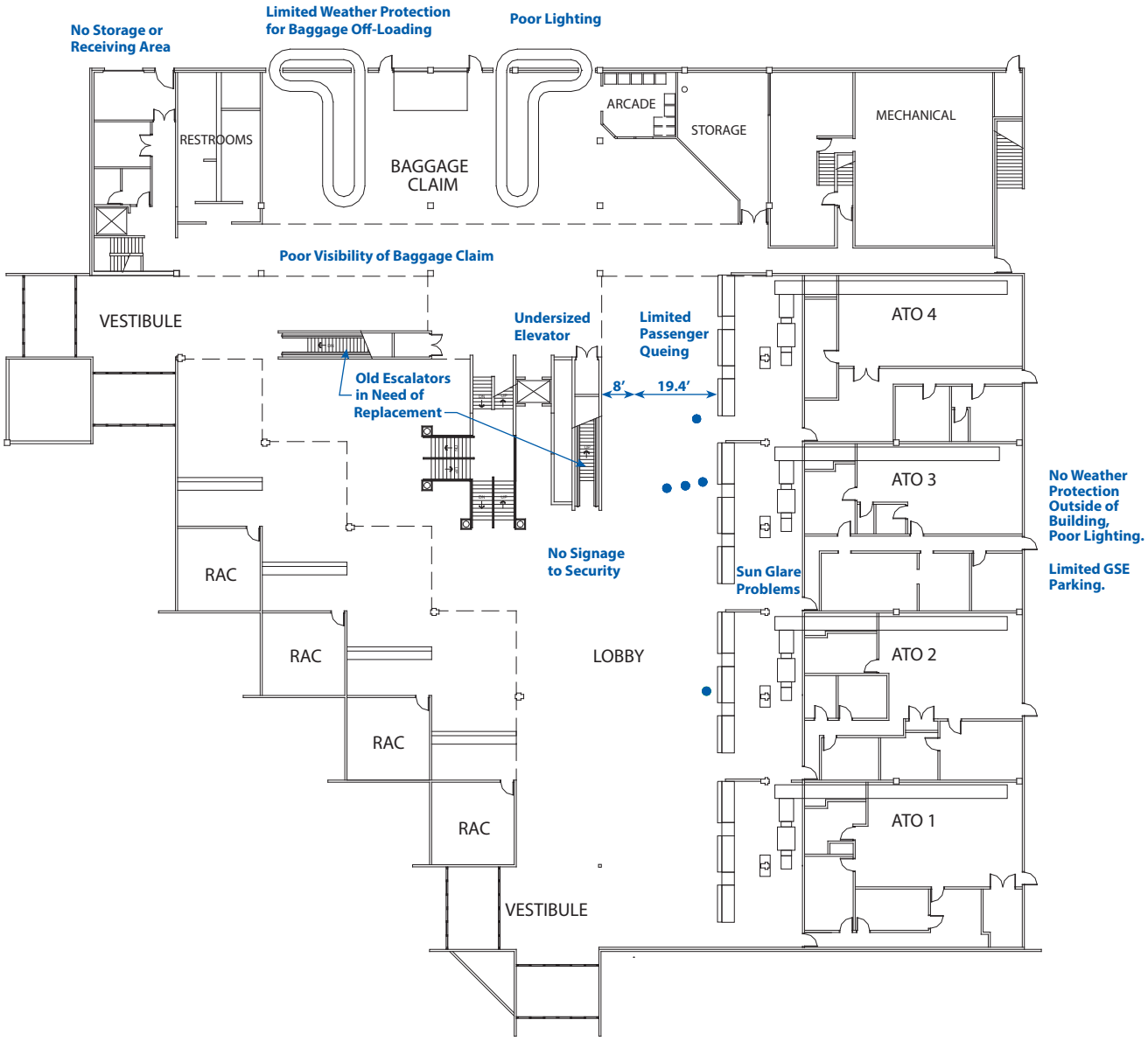
- ATO #1. Airport Administration. The Airport renovated this space in 2015 for airport staff use. The space was formerly occupied by US Airways.
- ATO #2. American (AA). AA currently occupies this space.
- ATO #3. Skywest. Skywest operates flights for both Delta (DL) and United (UA).

- **ATO #4.** Denver Air Connection and Allegiant (G4). Denver Air Connection and Allegiant currently share this space.

Each of the ATO modules has a single baggage make-up belt which can typically stage two bag carts parallel to the belt. In most cases the configuration of the operations/office spaces allows for a second row of bag carts to be staged if necessary. The baggage make-up areas have dual roll-up doors which allow both rows of carts to be pulled straight out by tugs, but empty carts typically have to be positioned by hand. Most of the airlines also use the make-up area for GSE storage at night. Each of the ATO modules has a different office layout for ATO support, operations and break areas. The presence of personnel lockers and other types of storage in the baggage make-up area indicates that operations areas may be undersized for current airline operations. The area outside the ATO modules is used for GSE parking and occasionally overflow baggage make-up. This area is not under cover. Lighting is poor both adjacent to the operations area and in the other GSE parking areas away from the building. There are no electric power outlets for engine block heaters or future electric GSE vehicles. The total amount of GSE parking was considered undersized by most of the airlines.

Ground Transportation

There are six rental car companies operating on airport. Enterprise and Hertz have individual counters. Avis/Budget and Alamo/National share counters and offices due to common corporate ownership. The companies report that the counters are adequately sized for their level of activity, but the offices may be oversized. The location of the counters is visible to passengers from the bottom of the escalator and passenger queuing appears to be adequate without interfering with terminal circulation. The rental car ready and return lot is conveniently located adjacent to the terminal and separate from the public parking area. A detailed layout of the terminal building floor plans, with notes related to functionality, are presented in the following illustrations, *TERMINAL LEVEL 1*, *TERMINAL LEVEL 2* and *TERMINAL LEVEL 3*.



● - Passenger Check-In Kiosk

N Not to Scale

Figure 6 **Terminal Level 1**

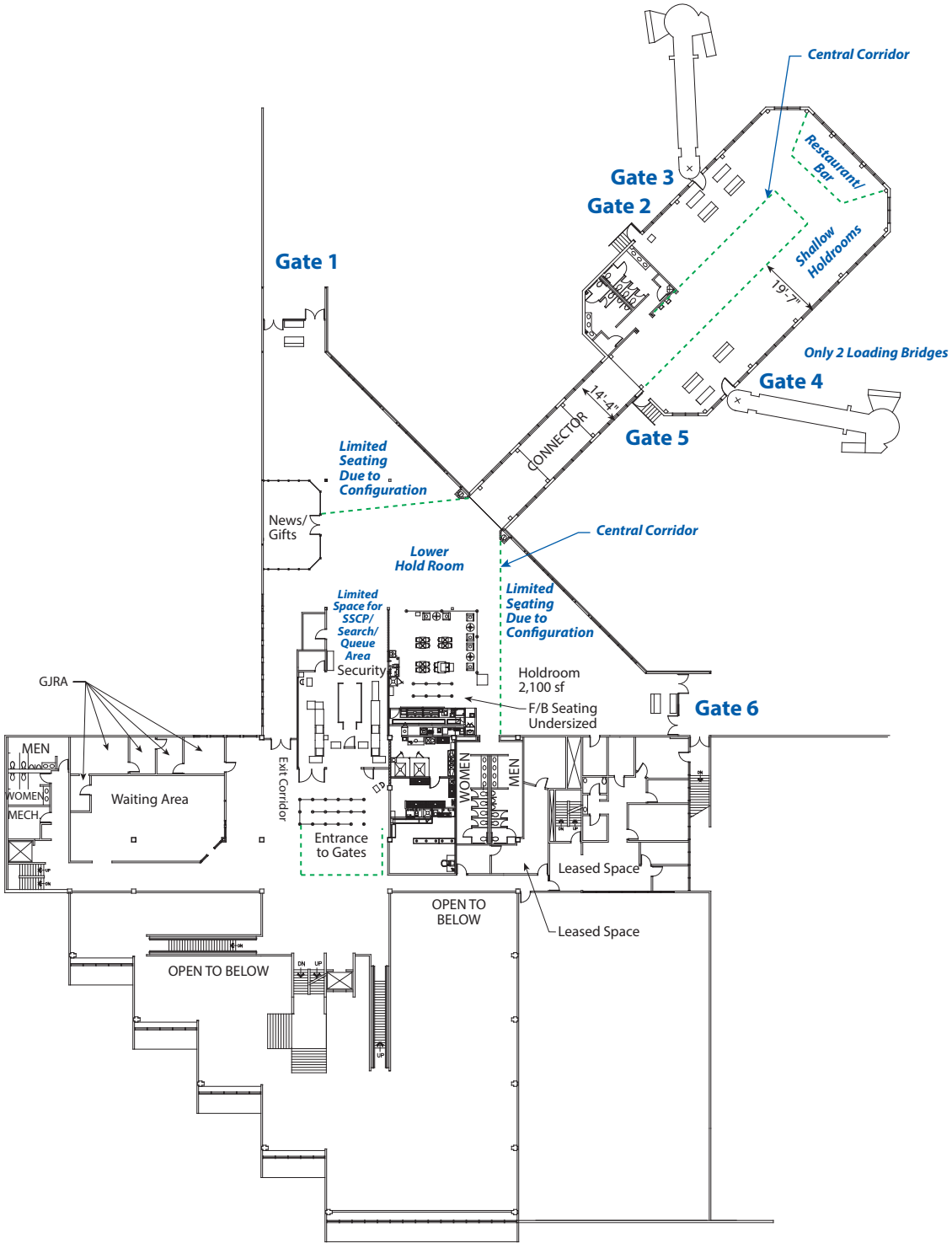
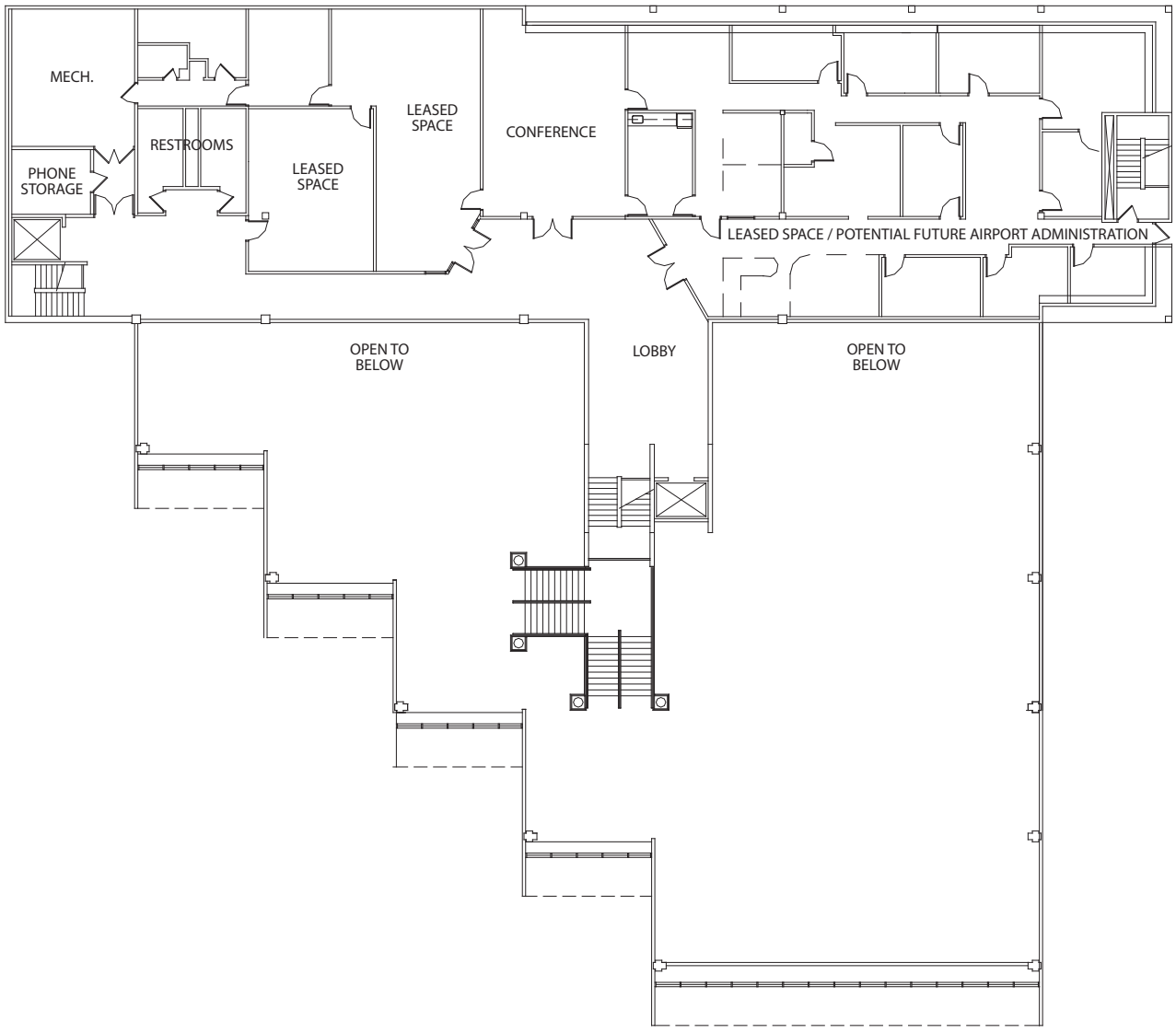


Figure 7 **Terminal Level 2**



● - Passenger Check-In Kiosk

N Not to Scale

Figure 8 **Terminal Level 3**

Summary of Aviation Activity Forecasts

Forecasting is a key element in the terminal area planning process. The forecasts are essential for analyzing existing airport and terminal area facilities and identifying future needs and requirements of the facilities.

Historic Airport Activity

As indicated in Chapter B of the original Terminal Area Plan, passenger enplanements at the Airport grew significantly in the 2000's increasing from 120,057 in 2001 to 218,519 by 2010, a compound annual growth rate of 6.17 percent. In the years since 2010, enplanement growth has slowed and essentially remained flat as 2015 enplanements totaled 219,252. This slowdown in passenger growth has somewhat reduced the need to expand the terminal to accommodate more passengers, however, as discussed in the original terminal area plan, the space configuration of the terminal is still an issue including insufficient space for security screening and passenger holdrooms/gates.

Passenger Enplanement Forecast

The 2011 Terminal Area Plan recommended that the Airport plan for passenger growth of approximately 3.0 percent per year based on the FAA industry projected growth for regional air carriers. This is still considered an appropriate growth rate for planning purposes; however, it is important to note that future terminal improvements should be implemented as warranted by demand and not tied to certain years. The 2016 FAA TAF projects annual enplanement growth for GJT at approximately 1.3 percent which results in 2035 enplanements of 282,790. A 3.0 percent annual growth rate would mean that by 2035, the Airport would be expected to have to accommodate just under 400,000 annual enplanements or approximately 800,000 total passengers per year.

Planning Activity Levels

Because the forecasts project demand over a specific timeframe (i.e. the 20-year planning period), removing the timeframe from the analysis and focusing on an activity level can increase the shelf-life of a future plan. Using Planning Activity Levels (PALs) instead of specific time-based forecasts provides an appropriate response to a future level of demand even if the forecast of exactly when future demand will materialize is incorrect, and will focus planning decisions on the size and configuration of a terminal.

Planning Activity Levels are typically rounded to representative enplanement forecasts rather than focusing on serving a specific demand level for a given year. The following table entitled *PLANNING ACTIVITY LEVELS (PALs)* also includes the approximate years with which the levels correspond based on a 3 percent annual growth rate.

Table 1
PLANNING ACTIVITY LEVELS (PALs)

Level/ Phase	Enplanements	Airport Forecast Corresponding Year	FAA TAF Corresponding Year
I	250,000	2021	2025
II	300,000	2027	2040
III	350,000	2031	>2040
IV	400,000	>2035	>2040
V	450,000	>2035	>2040

Source: *MEAD & HUNT and FAA.*

Summary of Terminal Facility Requirements

The terminal facility requirements outlined in the 2011 TAP determine the type and magnitude of facilities to be ultimately planned and programmed for the Airport's terminal area. Specific allocations of the type and magnitude of such facilities are noted as the basis for the recommendations for improvements. The most important component of the 2011 TAP is the passenger terminal. With the exception of the holdroom/concourse expansion and some minor modifications to the checkpoint, ticket counters and concessions, the existing terminal is basically unchanged since it was originally constructed in 1982. Although the modifications were improvements over the original facilities, some areas still do not function optimally.

Developing a terminal facility program begins with examining the adequacy of each existing component to serve current activity. From that basis, forecast changes in activity are applied to develop recommendations for future planning horizons. These recommendations use actual activity and facilities at Grand Junction Regional Airport as a basis, and are the subject of quantitative as well as qualitative analyses. Although some "industry standard" criteria are used, the recommendations for future facilities are based on local conditions and circumstances.

Aircraft Gate Demands

The following table entitled *PROJECTED GATE DEMAND* summarized the number of recommended gates per PAL from the 2011 TAP.

Table 2

PROJECTED GATE DEMAND – SUMMARY

	Passengers Per Gate Methodology	Departures Per Gate Methodology	Recommended Number of Gates
Existing Gates	---	---	4
PAL I	5	4	5
PAL II	5	5	5
PAL III	6	5	6
PAL IV	7	5	7
PAL V	8	6	8

Note: Using Planning Activity Levels (PALs).

Based on 2016 airline operations the lower level concourse is used by United for ground boarding operations only. The addition of passenger boarding bridges at either or both Gates #1 and #6 would facilitate passenger boarding and improve safety and security of the operation. It would also help to balance airline departures operations by making more holdroom area available. Bridging the distance from the holdroom to the boarding bridge can be achieved using passenger boarding tunnels, as shown in Figure 11. With the addition of either boarding bridge, operations at Gates #2/3 and 4/5 become dependent, requiring a pushback tractor for departure operations (a proposed Gate #6 departure operations will also be dependent, requiring a pushback tractor).

Design Hour Passengers

At Grand Junction Regional Airport, activity is highest on days when Allegiant operates from the terminal. Although an average day of the peak month is typically used for terminal planning, the concentration of Allegiant's activity on these days places additional demand on terminal facilities. Thus it was recommended in the 2011 Terminal Area Plan that a Thursday/Sunday be used as the Design Day. Based on current 2016 airline schedules (October), this recommendation is still valid. An estimate of current peak hour passenger volumes as a percentage of daily activity was made based on analyses of scheduled seats and assumptions as to flight load factors on busy days. Allegiant's operations currently set the peak hour due to their use of 166-seat aircraft with average 90 percent load factors. This compares to all other airlines operating mostly 50 to 75 seat regional jet aircraft.

The enplaning peak hour currently accounts for approximately 18 percent of the daily enplaned passengers and is scheduled in the evening. The future enplaning design hour is estimated to be between 205 and 234 passengers in anticipation of schedule flexibility with full utilization of the lower departures lounge. This is roughly equivalent to the Allegiant flight at a 90 percent load factor, plus either two CRJ-200 aircraft or one CRJ-700 at 85 percent load factor.

The evening deplaning peak hour is also dominated by an Allegiant arrival and accounts for

approximately 18 percent of daily arrivals. As with the enplaning peak, new service will likely increase the early evening (7-8 p.m.) secondary arrivals peak, but not exceed any of the hours when Allegiant operates. Similar reductions in the deplaning peak hour factor have been assumed as for the enplaned peak hour factor. Total peak hour passengers (enplaned plus deplaned) coincide with mid-day activity, and account for approximately 20 percent of daily passengers. This percentage is assumed to decrease over time in the same proportions as enplaned and deplaned peak hours.

Passenger Terminal Facilities Planning Criteria

Terminal facility requirements for an airport (the terminal program) are a function of the specific and unique characteristics of that airport. These include the design levels of passenger (included in Chapter 3 of 2011 TAP) and aircraft activity; the number and type of airlines serving the airport; the operating requirements of the airlines; and local factors such as the proportion of leisure vs. business travelers and local originating passengers. The base year activity in the 2011 TAP was 2010. Since enplanements have remained essentially flat in the five years since (2015 enplanements totaled 214,401), the base year activity levels are still considered valid.

The capacity of each element of a terminal facility can vary depending on the level of crowding and/or processing time which is considered acceptable. In many cases the degree of acceptability may also vary depending on the configuration of the terminal space and the level of amenity provided. Thus, the capacity of a terminal can vary significantly. The approach taken in developing terminal facilities requirements for GJT has been to review the plans and areas of the terminal, make limited observations of passenger activity, and discuss with airport and airline staff how well the present facilities are functioning. These observations - coupled with calculations of area per passenger, per gate, or other determinant of demand - were compared to generally accepted industry planning factors. From these comparisons, a planning factor for each terminal component was determined and used to project facility requirements.

The program areas developed were based on the utilization of existing facilities, and on projected trends as discussed in the previous chapters. The following table entitled *AIRPORT TERMINAL FACILITIES PLANNING CRITERIA* presents the program data in seven columns:

- Column 1. Existing Facilities. These are the areas measured from architectural plans of the terminal, and the current functions as observed.
- Column 2. Base Year 2015 Activity. These areas represent the facilities which would be needed to support levels of passenger activity for the base planning year. These values may differ from existing conditions and either point out deficiencies in existing facilities or facilities with excess capacity. These differences help to

establish whether existing ratios of space per unit of demand are appropriate to use for planning.

- **Columns 3 through 7. Recommended Facilities – Planning Activity Levels.** These are the areas recommended to support each level of Peak Hour passengers and the associated annual enplanements associated with each Planning Activity Level. The timing of the needed improvements would be based on the actual passenger growth rates.

Table 3

AIRPORT TERMINAL FACILITIES PLANNING CRITERIA

	Existing Facilities	2015 Activity	I	II	III	IV	V	Units
Annual Enplanements		214,401	250,000	300,000	350,000	400,000	450,000	
Design Hour Passengers								
Design Hour Enplaned Passengers		220	230	250	250	290	320	
Design Hour Deplaned Passengers		250	270	290	300	340	380	
Design Hour Total Passengers		390	410	450	460	520	580	
Well-Wishers per Enplaning Passenger		.2	.2	.2	.2	.2	.2	
Meeters/Greeters per Deplaning Passenger		.4	.4	.4	.4	.4	.4	
GATES								
Aircraft Gates:								
Regional (Group II)[1]	3	3	4	3	3	4	4	Gates
Regional (Group III)	-	-	-	1	2	2	3	Gates
Narrowbody (Group III)[2]	1	1	1	1	1	1	1	Gates
Total Gates	4	4	5	5	6	7	8	Gates
Total NBEG	3.1	3.1	3.8	4.1	5.1	5.8	6.8	NBEG
Total EQA	2.2	2.2	2.6	2.7	3.2	3.6	4.1	EQA
Additional RON Parking	3	1	2	2	3	3	3	Gates
Departure Lounges:								
Regional (Group II)	0	3,500	4,600	3,500	3,500	4,600	4,600	SF
Regional (Group III)	0	0	0	1,400	2,800	2,800	4,200	SF
Narrowbody (Group III)	0	2,500	2,500	2,500	2,500	2,500	2,500	SF
Total Departure Lounge Area	6,675	6,000	7,100	7,400	8,800	9,900	11,300	SF
AIRLINE SPACE								
Ticketing/Check-in-Positions								
Total Equivalent Position	28	19	20	22	22	25	28	Pos.
Percentage Using Staffed Positions		75%	75%	50%	50%	40%	40%	
Conventional Staffed Positions	23	14	15	11	11	10	11	Pos.
Percentage Using Kiosks		25%	25%	50%	50%	60%	60%	SF
Self Service Kiosks	5	5	5	11	11	15	17	Kiosks
Linear Positions	24	15	16	18	18	20	22	Pos.

[1] Only 2 existing active loading positions have loading bridges.

[2] Gate requirements set at 1 Narrow-body to reflect single NB operation but two NB gates are planned for the planning period to reflect airline aircraft up-gauging typical for peak hour operations.

AIRLINE SPACE (CONT.)	Existing Facilities	2015 Activity	I	II	III	IV	V	Units
Ticket/Check-in Counter length	159	90	100	110	110	120	130	LF
Ticket/Check-in Counter Area	1,590	900	1,000	1,100	1,100	1,200	1,300	SF
ATO Offices	5,140	2,300	2,500	2,800	2,800	3,000	3,300	SF
Airline Operations	Inc. in ATO Offices	3,300	3,900	4,100	4,800	5,400	6,200	SF
Baggage Make-up								
Estimated Make-up capacity	14	10	12	12	14	16	18	Carts
Baggage Make-up area	3,040	5,000	6,000	6,000	7,000	8,000	9,000	SF
Checked Baggage EDS – units	4	3	3	3	3	3	4	Units
Checked Baggage EDS - area	1,590	1,500	1,500	1,500	1,500	1,500	2,000	SF
Baggage Claim:								
Claim Frontage Required	-	130	140	150	160	180	200	LF
Claim Units	2	1	2	2	2	2	2	Units
Claim Frontage Programmed	160	120	240	240	240	240	240	LF
Claim Area	3,760	6,600	7,200	7,200	7,200	7,200	7,200	SF
Oversized Baggage	45	200	200	200	200	200	200	SF
Baggage Service Offices/Storage	0	300	300	300	300	300	400	SF
Baggage Claim Off-Load Area	0	1,500	3,000	3,000	3,000	3,000	3,000	SF
Baggage Train Circulation	0	700	900	900	1,000	1,100	1,200	SF
Subtotal	*15,165*	*19,300*	*26,500*	*27,100*	*28,900*	*30,900*	33,800	SF

CONCESSIONS								
Secure Concessions								
Food/Beverage	1,050	1,500	1,700	2,000	2,400	2,700	3,000	SF
News/Gift/Retail	483	600	700	800	900	1,100	1,200	SF
Subtotal – Secure Concessions	1,533	2,100	2,400	2,800	3,300	3,800	4,200	SF
Non-Secure Concessions								
Food/Beverage	445	200	200	200	300	300	300	SF
News/Gift/Retail	0	100	100	100	100	100	100	SF
Subtotal – Non-Secure Concessions	445	300	300	300	400	400	400	SF
Other Services	270	300	300	400	400	500	500	SF
Concession Support Area	532	700	800	900	1,100	1,300	1,400	SF
Rental Car Counter – length	80	80	100	100	100	100	100	SF
Rental Car Lease Area	2,512	1,600	2,000	2,000	2,000	2,000	2,000	SF
Ground Transportation Services	0	100	100	100	100	100	100	SF
Subtotal	*5,292*	*5,100*	*5,900*	*6,500*	*7,300*	*8,100*	8,600	SF

PUBLIC SPACE	Existing Facilities	2015 Activity	I	II	III	IV	V	Units
Ticket Lobby	4,373	4,500	5,000	5,500	5,500	6,000	6,500	SF
Public Seating/Waiting Area	2,998	2,100	2,200	2,400	2,500	2,800	3,100	SF
RAC Queue Area	800	800	1,000	1,000	1,000	1,000	1,000	SF
Restrooms- Terminal Locations	1,084	1,100	1,100	1,300	1,300	1,500	1,600	SF
Other Public Circulation	13,868	10,000	12,200	12,900	14,000	15,700	17,000	SF
Subtotal – Non-Secure Circulation	23,123	18,500	21,500	23,100	24,300	27,000	29,200	SF
Restrooms – Secure Locations	1,199	1,800	1,800	1,800	1,800	1,800	1,800	Units
Secure Circulation	5,550	5,100	6,300	6,800	8,400	9,600	11,300	SF
Security Screening lanes	2	2	2	2	2	3	3	SF
Checkpoint/search/queue area	2,250	3,400	3,400	3,400	3,400	5,100	5,100	SF
Subtotal – Secure Circulation	*9,000*	*10,300*	*11,500*	*12,000*	*13,600*	*16,500*	18,200	SF
Subtotal	*32,123*	*28,800*	*33,000*	*35,100*	*37,900*	*43,500*	47,400	SF
OTHER AREAS								
Information Counter	50	50	50	50	50	50	50	SF
Airport Administration/Operations	4,472	9,000	0	0	0	0	0	SF
TSA Offices	3,871	1,800	1,800	1,800	1,800	2,100	2,500	SF
Loading Docks and Receiving	213	500	500	500	500	500	500	SF
Non-Public Circulation	2,824	2,700	2,100	2,200	2,400	2,700	3,000	SF
Subtotal	*11,430*	*14,100*	*4,500*	*4,600*	*4,800*	*5,400*	6,100	SF
Total Functional Area	**70,685**	**73,300**	**77,000**	**80,700**	**87,700**	**97,800**	**107,200**	**SF**
Mechanical/Electrical/Utility	3,243	7,300	7,700	8,100	8,800	9,800	10,700	SF
Janitorial/Storage/Shops	913	2,200	2,300	2,400	2,600	2,900	3,200	SF
Structure/Non-Net Areas	2,629	2,500	2,600	2,700	3,000	3,300	3,600	SF
Total Terminal Gross Area	**77,470**	**85,300**	**89,600**	**93,900**	**102,100**	**113,800**	**124,700**	**SF**
Gross Terminal Area per Gate	19,400	21,300	19,900	18,800	17,000	16,300	15,600	SF/gate
Revenue Area: (Airlines, Concessions & Other Tenants)	38.0%	36.0%	44.4%	44.0%	44.4%	43.5%	43.5%	
Non-Revenue Area	62.0%	64.0%	55.6%	56.0%	55.6%	56.5%	56.5%	

Source: *HIRSH ASSOCIATES.*

Notes: *SF – Square Foot. LF – Linear Foot. NBEG – Narrow Body Equivalent Gate. RON – Remain Overnight Parking. EQA – Equivalent Aircraft.*

As noted in grey highlights in the above table, the space requirements for the Security Screening Checkpoint and secure circulation should be reconsidered. These requirements were determined in 2011 based on airline fleet mix and peak hour assumptions that may no longer be valid. Given the industry trends of retirement of smaller regional jet (50 to 75 seat) aircraft and the change to larger next generation of regional jet (90 to 115 seat) aircraft, it is likely that additional square footage may be required in these areas. In particular, the existing two gate upper hold room is already approaching capacity during the peak hour. As larger regional jet aircraft and narrow-body aircraft begin to serve the Airport over the planning period, the Airport should consider either expansion of the upper holdroom and/or increased utilization of the lower holdroom during peak hour times.

One additional change to these requirements since 2011 (also highlighted in grey in the previous table) is that TSA administrative space needs have decreased and the Airport plans to relocate its administrative offices to the previous 3rd floor location as TSA begins to vacate this space.

It should also be noted that the terminal space program represents a starting point for terminal planning. It is generally considered a minimum program which is needed to support the design hour levels of passenger activity. As such, it does not refer to any specific terminal concept or gate configuration. When a final terminal concept is chosen, the gross terminal area may differ from the square foot total presented in the tables. For example, the amount of secure and non-secure circulation may vary from the program due to the terminal configuration and location of the security checkpoint, whereas the amount of airline space is relatively independent of the concept selected.

Terminal Building Requirements Summary

The total gross terminal area including all of the elements described previously is estimated as in the following table entitled *TOTAL GROSS TERMINAL REQUIREMENTS* for each of the forecast levels of activity. While some of the space needs have changed from 2011, the total number of gates and square footage of space required is still the same as it was in 2011. The program area per gate (as expressed in terms of square feet per NBEG) is less than most small to medium sized airports. This is primarily due to the assumption of continued simple EDS systems for checked baggage.

Table 4
TOTAL GROSS TERMINAL REQUIREMENTS

PAL	Gates	Area (SF)
I	5	89,600
II	5	93,900
III	6	102,100
IV	7	113,800
V	8	124,700

Source: *HIRSH ASSOCIATES.*
Note: *Existing Terminal Gross Square Footage is approximately 77,500*

It is important to note that the recommendations in this section on Terminal Area Facilities Requirements were developed to understand which facilities improvements might be needed to serve passengers using commercial flights and the passenger terminal. The information presented in this section is then utilized in following section to develop a recommended concept for the terminal building and for the terminal area which considers potential demand and community/environmental influences.

C. Existing Terminal Building Assessment and Other Considerations

Based on the 2016 Update to the BCER report, recommendations were made and costs estimated for the absolute minimum level of renovation necessary to make the terminal building safe and functional for at least the next 10-15 years. It is important to note that many of the building components and systems have reached or exceeded their useful life and that very few recommendations from the 2011 BCER Assessment have been completed in the years since.

This section also considers other terminal building considerations relative to accommodating growth in enplanements over the next 10-15 years. Specifically, planning considerations relative to the post-security holdrooms/gates and the Security Screening Check Point (SSCP).

Terminal Survival Recommendations

This minimum level of renovation will also be referred to as the Terminal Survival Recommendations. In other words, without completing these recommended renovations, the Airport risks losing its ability to process arriving and departing commercial passengers and thus, risks its survival. The list of survival recommendations and rough order of magnitude (ROM) construction cost estimates and construction plus soft/contingency costs for each recommendations are as follows:

- **Mechanical.** The primary recommendation for terminal building renovation is the complete and total redesign and replacement of the mechanical heating, ventilation, and cooling (air conditioning) or HVAC system serving the main building entrance area and atrium. The cost of this replacement system is estimated at approximately $4,410,400.

- **Structural Foundation and Building Frame Integrity.** The structural issues observed in 2010 and again in 2016 are not currently affecting life-safety. However, all of the structural issues observed are the result of ongoing slab-on-grade and foundation movement due to active soils supporting the building. Because of this, it is likely that some of the structural distress could, in the future, become life-safety issues or impact the structural integrity of the budding. It is recommended that the source of water be investigated and that creation of voids under the grade beams and additional piers under the building be considered to stabilize the structure. The underlying geotechnical conditions, building foundation and frame are citied as difficult

challenges to the building's integrity. The expansive and compressive soils are noted as likely to cause ongoing maintenance and repair of the building for the life of the structure. Identifying and eliminating water penetration under the building would be a first step in a process of repairing the foundation and slab.

The cost of this recommendation, including work to repair beams in the lower level and in the terminal roof, install monitoring gauges on precast panels, and structural foundation and floor slab geotechnical investigation is estimated at $187,740.

- **Code Compliance/Life Safety.** Code compliance/life safety deficiencies were identified during the assessments. These issues include the need for a smoke evacuation system for the three story atrium, fire alarm upgrades and emergency and egress lighting. The cost to address these code compliance/life safety issues including a smoke evacuation system for the atrium, fire alarm upgrades, emergency and egress lighting and exit stair enclosures is estimated at $2,086,000.

- **Other.** The assessment noted issue with portions of the existing terminal roof, most notably the existing asphalt and PVC areas. One additional recommendation is that the Airport replace the escalators in the terminal. The cost of these recommended improvements is estimated at $1,796,940.

The total construction costs plus soft costs including contingencies is estimated at $8,481,080. For budgeting purposes it is recommended that the airport plan for $8,500,000 for implementation of these terminal building survival improvements.

Other Terminal Building Planning Considerations

The purpose of this section is to consider other terminal planning considerations. The goal of this section is to determine an appropriate and financially feasible interim phase of terminal development that results in safe, efficient and functional terminal area facilities that will accommodate passengers for at least the next 10 years which is estimated to be the minimum timeframe to a financially feasible replacement terminal or Phase II of the original terminal program. The existing terminal is located with ideal landside access via a minor arterial in Horizon Drive, with a direct connection to Interstate 70. With this terminal location and adequate expansion opportunities within the terminal area, this analysis focused on utilizing the existing terminal area envelope and does not consider the option of assessing a new terminal site. Again, for the purposes of this study, the terminal area is defined as property that surrounds the terminal building including the vehicle and aircraft parking areas and the property inside of the terminal loop roadway system.

Post Security Holdroom Occupancy and Capacity

This section addresses departure lounge occupancy as determined by building code and seating capacity based on industry standards. At the Grand Junction Regional Airport, part of a seating layout plan has been implemented. The Airport has purchased and installed a portion of this seating plan from the manufacturer, Arconas, and the remainder of the planned seating will be purchased and installed over time.

Departures Concourse Occupancy. The original occupancy calculations by Van Sant Architects show the footprint for the upper concourse expansion to be about 4,500 square feet and 233 occupants using the seating areas for this calculation. Our take-offs for the concourse expansion confirm this at 4,544 square feet for this area. Following the code, removing the concourse corridor from this figure yields approximately 3,526 square feet for waiting area and an occupancy of 235 occupants at 15 square feet per occupant. Together with the concourse corridor at 100 square feet per occupant, overall occupancy for the upper concourse is about 245 people. A fully loaded MD-88 at 166 passengers and a CRJ-700 at 66-70 passengers would come in at 236 occupants. With airline staff it would still be just under the limit. The lower concourse departures lounge area is 5,447 square feet excluding the news/gifts retail store, restaurant and concourse. This yields an occupancy limit of 363 for the lounge areas. With other areas total occupancy is as follows:

Departures lounge	5,447 SF	15 SF/Occupant	363 Occupants
Concourse corridor	3,544 SF	100 SF/Occupant	36 Occupants
Retail	467 SF	60 SF/Occupant	8 Occupants
Restaurant	620 SF	15 SF/Occupant	42 Occupants
Occupancy			449 Occupants

Concourse circulation is calculated at 100 square feet per occupant. The news/gifts retail space is considered mercantile with an occupancy limit of eight (8) people. The restaurant's public space is considered assembly occupancy. There is seating for 22 people in this space plus queue and counter area that could reasonably accommodate another ten people standing. The remaining space would be available for people awaiting their orders so the 42 person limit is appropriate. The total occupancy for the lower concourse is calculated at 449 occupants. Total occupancy for both concourses is 685 occupants as illustrated on the following figure entitled *DEPARTURES CONCOURSE OCCUPANCY*.

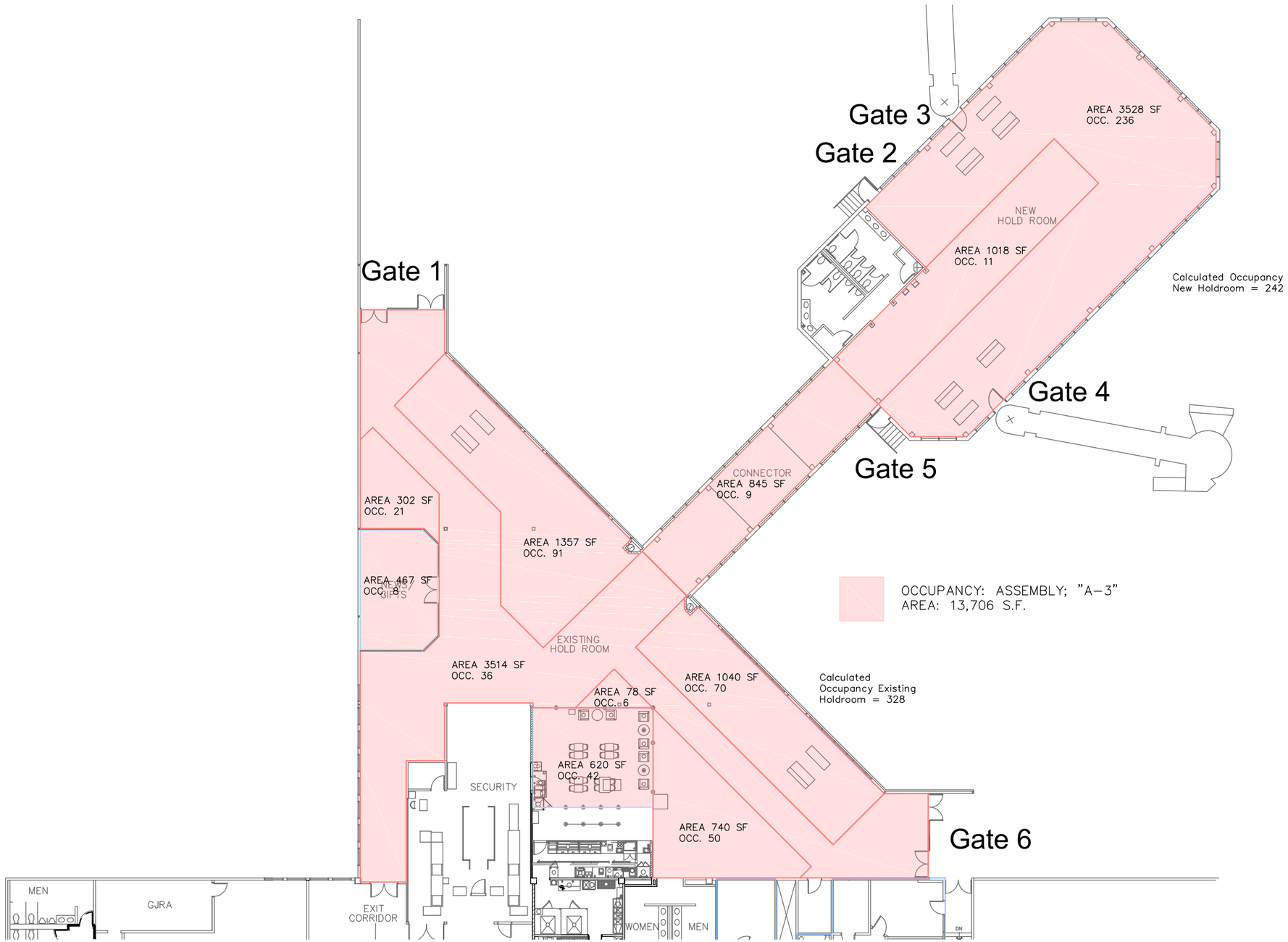


Figure 9 **Departures Concourse Occupancy**

Departures Concourse Capacity. Departures lounge passenger capacity includes a level of service factor in area per passenger that is higher than building code. The IATA industry standard for this is 18.3 square feet. The gate podiums are typically removed from the overall area which reduces the available seating area. For the upper lounge, at 3,526 square feet and deducting space for gate ticket lifts and queues (one at 342 square feet and the second at 384 square feet) yields 2,800 square feet.

Departures Lounge	2,800 SF	18 SF/Passenger	154 Seated Passengers

For the upper concourse, the Arconas seating plan shows 153 seats: 111 linear, or bench seating and 42 cluster seats.

For the lower lounge, at 5447 square feet and deducting space for gate ticket lifts, queues and circulation (here there is a secondary path) yields 3,319 square feet of lounge area:

Departures Lounge	3,319 SF	18 SF/Passenger	184 Seated Passengers

Using a lower area per passenger will increase the capacity of a departures lounge. However, the lower lounge profile sets a limit for Gate 1 in which approximately 78 passengers would be seated per the Arconas layout plan. Other passengers would stand or use the retail gift store or restaurant. Another 61 passengers at Gate 6 would be seated per the Arconas plan while other passengers would stand or use restaurant space.

Total departures lounge capacity is 338 for the upper and lower departures lounges combined. There will be times when this capacity is exceeded, affecting overall level of service in the space (a lower area per passenger with more passengers standing in the concourse corridor area). Typically this is considered acceptable for brief periods of up to fifteen minutes. The capacity calculations are illustrated on the following figure entitled *DEPARTURES CONCOURSE CAPACITY*.

This is adequate capacity to accommodate both the enplaning design hour passengers of 220 and the deplaning design hour passengers of 250. However, this assumes full utilization of both the upper and lower holdrooms. In order to do so, it is recommended that the Airport consider the installation of passenger hallways/corridors leading to boarding bridges for both Gates 1 and 2.

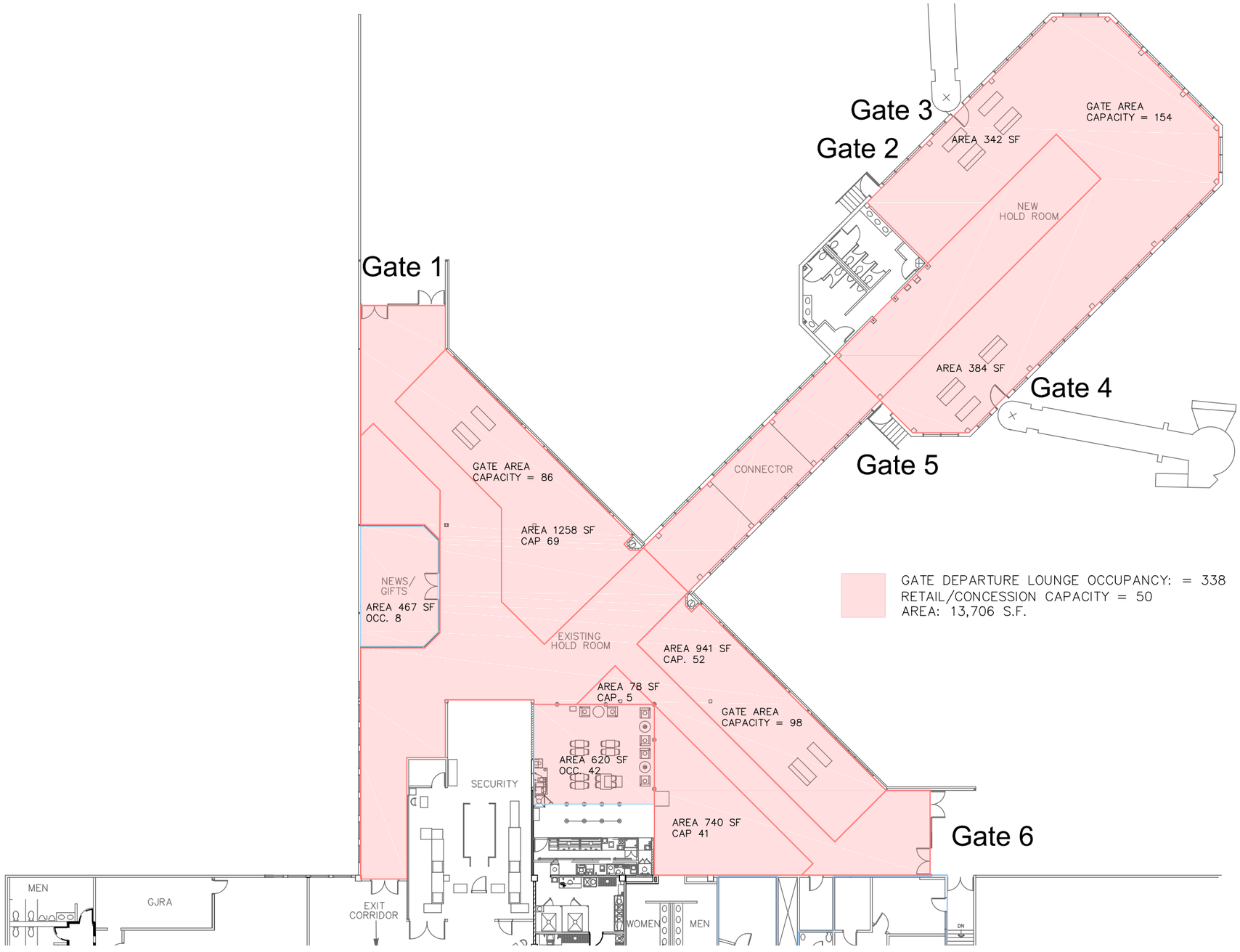


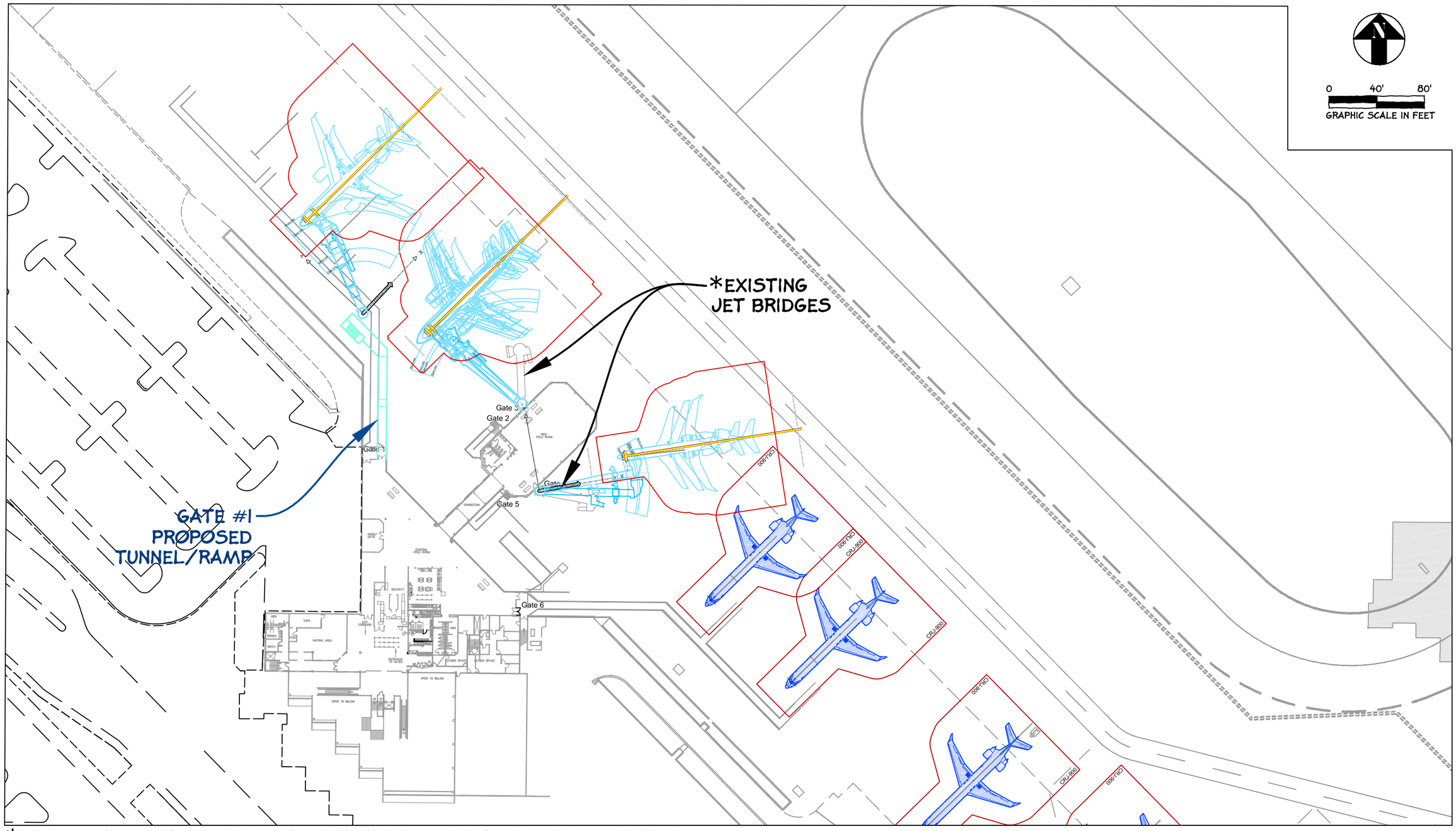
Figure 10 **Departures Concourse Capacity**

Post Security Holdroom/Gate Concepts

As mentioned previously, an additional passenger boarding bridge would increase the level of service provided to GJT passengers. It is recommended that Gate #1 be considered for the installation of a passenger boarding bridge in order to increase level of service and provide an acceptable platform for the airlines to board and disembark passengers from aircraft safely from weather and aircraft ground service operations. In order to bridge the distance from the lower departures lounge to the aircraft, a passenger boarding tunnel is recommended at Gate #1. This will serve to maintain levels of safety and comfort while also serving as ramps to the level of the passenger boarding bridge rotunda, from where passengers will then board the aircraft. A tunnel is used instead of building in order to re-use it in future aircraft gate layouts and avoid building additional structure that will be demolished within a relatively short timeframe of future replacement terminal and concourse development.

A Gate #1 boarding bridge addition enables the Airport to meet its aircraft operations growth requirements with minimum facility investment and greater flexibility through the use of passenger boarding bridges. As described previously, the lower level lounge is currently underutilized. The addition of the bridges brings passenger handling operations to a level playing field, offering all carriers an opportunity to serve their passengers with the same or similar amenities.

The Airport is also planning modifications to the boarding bridge at Gate #3 to accommodate larger aircraft. The aircraft parking position for Gate #1 will be dependent on the modifications to Gate #3. An illustration of this concept is provided in the following figure entitled *GATE #1 BOARDING BRIDGE CONCEPT*.



* - AIRCRAFT PARKING PLAN ESTIMATED BASED ON PENDING MODIFICATIONS TO THE GATE #3 BRIDGE TO ACCOMODATE A-320 AIRCRAFT.

Figure 11 **Gate #1 Boarding Bridge Concept**

Security Screening Check Point (SSCP) Concept

The existing security screening capacity at the terminal is estimated to be approximately 300 passengers an hour when both screening lanes are open. This will serve through the passenger demand for Planning Level IV noted previously and potentially further depending on development of screening technology and operations. The capacity of the machines is based on the TSA's preferred layout as shown in their checkpoint design guidelines. With additional depth not provided at the existing layout, the security lanes will generally degrade in efficiency as passengers have less space in which to reclaim their belongings and move away from the queue in order to provide space for other passengers who are undergoing screening. Another potential issue is the amount of space offered for queuing when entering the screening area. This space immediately in front of the checkpoint is limited. It also serves as the landing for passengers using vertical circulation to the third level. In reviewing the layout, passenger flow to, through and out of the checkpoint are located such that there is little crossflow of either passenger stream.

Reversing the flow into and out of the secure space is one option for addressing the queueing congestion. However, this would create crossflow congestion as passengers exiting the secure area have to cross in front of passengers who are proceeding to the checkpoint. The only way to alleviate the crossing flow would be to relocate/reposition the up and down escalators which is likely cost prohibitive. Assuming that the Airport can move toward a replacement terminal within 10 to 15 years, this improvement may not be necessary and consequently, will not be included in the interim Phase I recommendations.

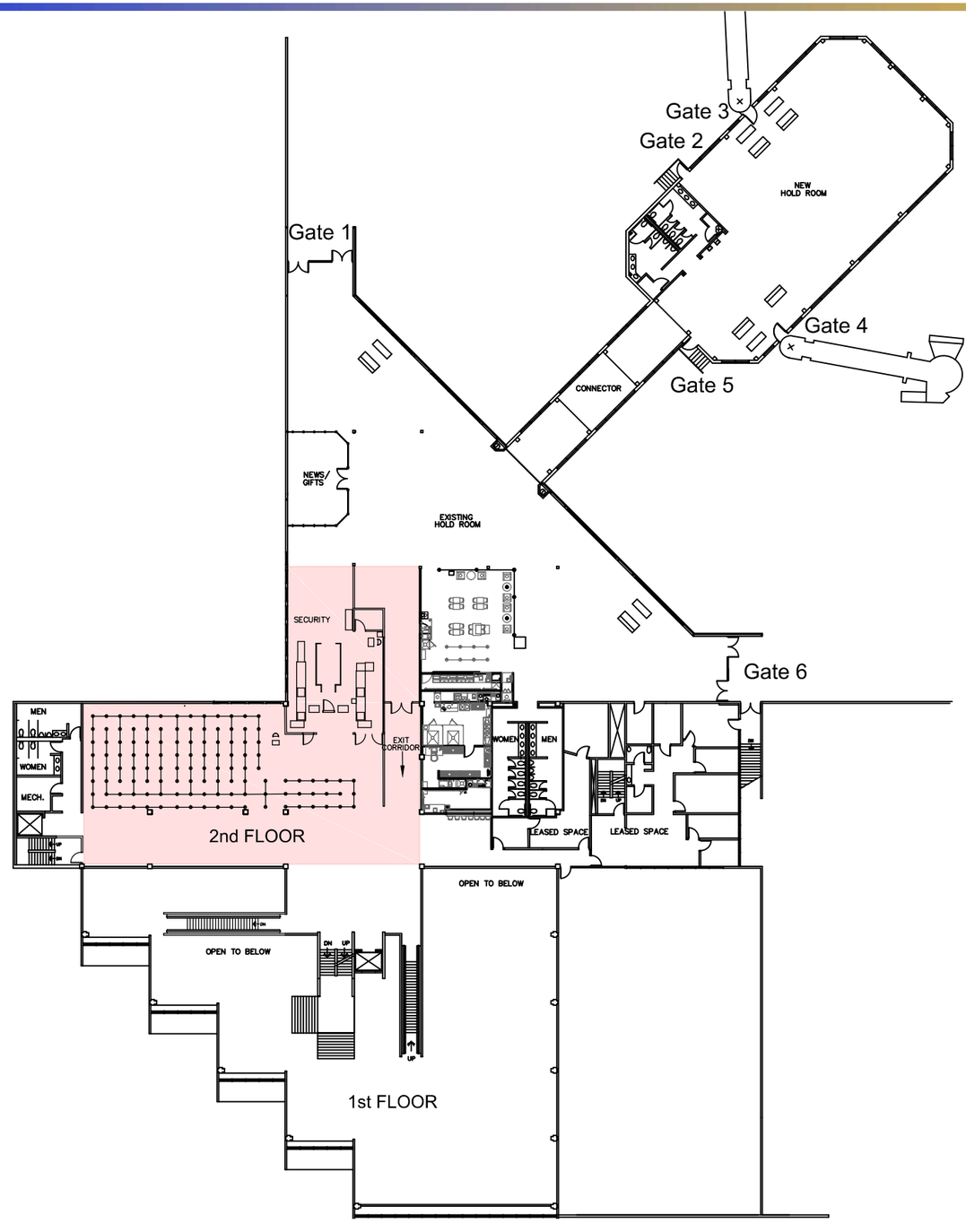


Figure 12 **SCCP Reconfiguration Concept**

Conceptual Development Plan Summary

The following illustration entitled *REVISED CONCEPTUAL DEVELOPMENT PLAN* presents an overall view of the proposed campus and redevelopment of the Grand Junction Regional Airport terminal area. This illustration also shows the proposed construction phasing including the tear down of the previous Phase I, the airport administration building and the newly developed Phase I which includes the recommendations from this Terminal Area Plan Amendment. Those recommendations shown in orange on the illustration include a remodel and renovation program for the existing terminal building, continued monitoring of structural issues, and the construction of a tunnel and passenger boarding bridge at Gate #1.

Phase II of the CDP, shown in red on the illustration include a replacement terminal, connector facility and linear concourse, a vehicle parking expansion and additional rental car facilities. Phase III, shown in green on the illustration includes removal of air cargo facilities, expansion of the existing deice pad, baggage claim and concourse expansion, as well as additional surface parking and rental car facilities. Finally, Phase IV, shown in blue on the CDP includes a long-term parking structure as well as continued expansion of rental car facilities and other terminal functions.

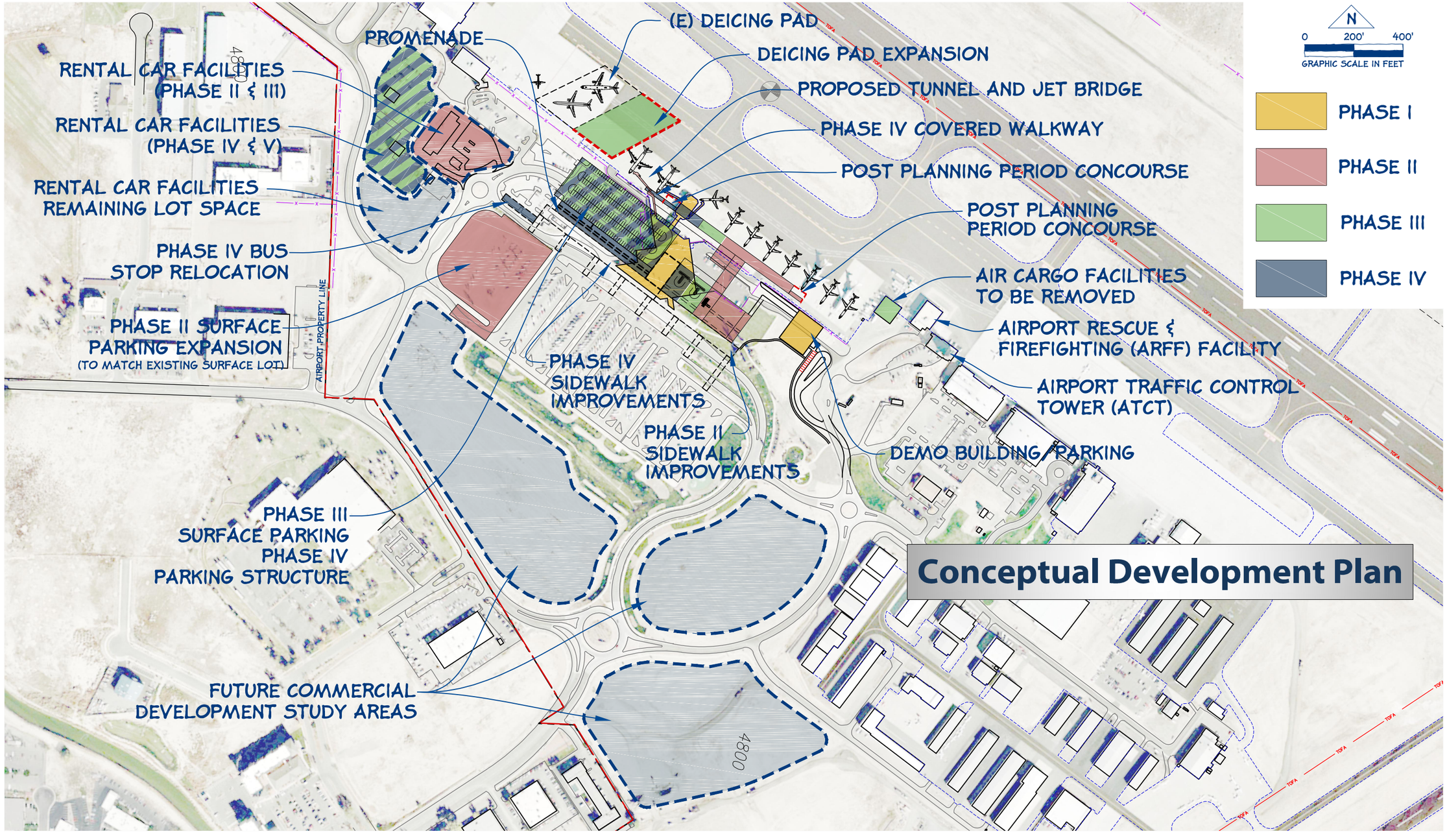


Figure 13 **Revised Conceptual Development Plan**

D. Implementation Plan

The long-term program for development within the terminal area at Grand Junction Regional Airport is presented in this chapter and is intended to establish a prudent implementation plan. Because many of the projects in this program will be implemented on an as-needed basis and only when potential funding sources have been identified, the projects are not organized into a typical year by year Capital Improvement Program (CIP) format. It is also important to note that there is no financial commitment on the part of the federal government or the Airport Sponsor to provide funding for any of these projects.

The potential improvements necessary to accommodate the future terminal area needs of the Grand Junction Regional Airport have been placed into four phases. These four phases are included in the refined Conceptual Development Plan (CDP) for the Grand Junction Regional Airport Terminal Area.

Implementation Schedule and Project List

Using the documentation previously presented regarding anticipated facility demands, a list of capital improvement projects specifically for the terminal area has been assembled. The projects are assembled into four logical phases. The first phase will be completed in 2018/2019. The remaining three phases including the replacement terminal will likely be outside of the 11-year planning period after completion of the replacement runway.

Cost Estimates

Cost estimates for individual projects, based on current construction unit costs, have been prepared for the improvement projects that have been identified as potentially being needed within the terminal area. The improvement cost estimates do not include an escalation factor and are all listed in 2017 dollars for Phase I and 2011 dollars for Phases II through IV. These estimates are intended to be used for planning purposes only and should not be construed as construction cost estimates, which can only be compiled following the preparation of detailed engineering design documents.

Table 5

DEVELOPMENT PROGRAM PROJECT COSTS

	Project Description	Total Estimated Cost
Phase I		
1	Terminal Building Mechanical Renovations including HVAC system Replacement	$4,410,400
2	Terminal Structural Foundation and Building Frame Integrity Assessment	$187,740
3	Terminal Code Compliance/Life Safety	$2,086,000
4	Terminal Roof and Escalator Replacement	$1,796,940
5	Administration Building Modifications	$1,000,000
6	Gate #1 Tunnel/Passenger Boarding Bridge	$1,800,000
7	SSCP Queue Reconfiguration (if necessary)	$750,000
8	Gate #6 Tunnel/Passenger Boarding Bridge	$1,800,000
Sub-Total/Phase I Projects		$13,831,000
PHASE II		
9	Terminal Surface Parking Expansion	$1,900,000
10	Construct Rental Car Facilities (Phase III Building and Surface Parking)	$3,500,000
11	Terminal Building Expansion – Phase II – Construct Replacement Terminal/Concourse (approximately 52,000 SF)	$26,260,000
Sub-Total/Phase II Projects		$31,660,000
PHASE III		
12	Remove Existing Air Cargo Facilities and Construct Replacement Air Cargo Apron, Vehicle Access and Parking	$6,305,000
13	Construct Rental Car Facilities (Phase IV Surface Parking)	$600,000
14	Deicing Pad Expansion	$3,500,000
15	Demo/Remove Existing Terminal Building	$302,000
16	Terminal Building Expansion Phase III – (Baggage Claim and Concourse Expansion) (approximately 15,000 SF)	$8,125,000
17	Surface Parking Expansion West of Terminal	$900,000
Sub-Total/Phase III Projects		$13,427,000
PHASE IV		
18	Terminal Building Expansion Phase IV (Baggage Claim and Concourse Expansion (approximately 15,000 SF)	$8,125,000
19	Construct Rental Car Facilities (Phase V)	$400,000
20	Relocate Bus Stop	$275,000
21	Construct Vehicle Parking Structure (900 spaces)	$19,800,000
Sub-Total Phase IV Projects		$28,600,000
TOTAL		**$87,518,080**

Note: Phase I project cost estimates in 2017 dollars, Phase II, III and IV project cost estimates in 2011 dollars.

Financial Implementation Analysis

Objectives

The primary objective of the Financial Implementation Analysis for the Terminal Area Plan Amendment is to evaluate the Airport's capability to fund the terminal area improvement projects identified in the Terminal Area Plan Amendment planned to be implemented in the 2017-2018 time frame along with the other non-terminal related projects identified in the Airport's overall Capital Improvement Program planned for implementation over an eleven-year review period from 2017 through 2028 and beyond. The Financial Implementation Plan included in this analysis presents the results of the financial evaluation and provides practical guidelines for matching an appropriate amount and timing of financial resources with the planned use of funds.

Overall Approach

The overall approach for conducting the financial implementation analysis for the Terminal Area Plan Amendment included the following steps:

- Reviewing key airport documents related to historical financial operating results, capital improvement plans, and Airport policies
- Interviewing key airport officials to gain an understanding of the existing operating and financial environment, relationships with the airlines and overall management philosophy
- Reviewing the updated aviation traffic forecast
- Reviewing the cost estimates and development schedule for the Terminal Area Plan Amendment and other Capital Improvement Program (CIP) project cost estimates and development schedules anticipated for the review period and projecting the overall financial requirements for the program
- Determining and analyzing the sources and timing of capital funds available to meet the financial requirements for operating the Airport, funding debt service requirements and financing the capital program
- Analyzing historical operations and maintenance expenses, developing operations and maintenance expense growth projection assumptions, reviewing assumptions with Airport management and projecting future operations and maintenance expenses for the review period
- Analyzing historical revenue sources, developing revenue growth projection assumptions, reviewing assumptions with Airport management and projecting future

airline and non-airline revenues for the review period

- Preparing a detailed financial projection for the eleven-year review period that includes capital expenditures, capital funding, revenues, expenses and cash flow

- Completing results of the review in a Financial Plan Summary that provides conclusions regarding the Airport's capability to finance the planned capital improvement program.

Capital Funding Sources

In the past, the Airport has used a combination of FAA Airport Improvement Program (AIP) entitlement and discretionary grants, Colorado DOT grants, debt proceeds, passenger facility charges, rental car customer facility charges, and cash reserves/net operating revenues to fund capital improvements. These funding sources will continue to be important to finance the Airport's Terminal Area Plan Amendment and Capital Improvement Program (CIP) during the eleven-year review period.

Airport Improvement Program Grants

The Airport receives grants from the Federal Aviation Administration (FAA) to finance the eligible costs of certain capital improvements. These federal grants are allocated to commercial passenger service airports through the Airport Improvement Program (AIP). AIP grants include passenger entitlement grants, which are allocated among airports by a formula that is based on passenger enplanements and discretionary grants which are awarded in accordance with FAA guidelines. In February 2012, after several years of continuing budget resolutions in Congress, the FAA Modernization and Reform Act of 2012 was enacted and authorized funding for the AIP through September 30, 2015. The Act was extended to provide AIP funding at current levels through September 2017. Before the Act expired at the end of September, Congress extended FAA's funding and operational authority for another six months through March 2018. Under current AIP authorization legislation, eligible projects are funded on a 90% AIP grant/10% local match basis for small and non-hub airports. Under this authorization, the Airport is projected to receive current entitlements of about $1.9 million in 2017 and future annual grants which are projected to grow to $2.3 million by 2027. Non-Hub airports (those with annual enplanements up to about 410,000 passengers) can accumulate and carryover up to three years of unspent entitlements plus the current year before the awards are revoked. In 2017, the Airport had approximately $4.5 million in unspent entitlements to carryover for use in 2017.

The approval of AIP discretionary funding is based on a project eligibility ranking method the FAA uses to award grants, at their discretion, based on a project's priority and importance to the national air transportation system. In the past, Grand Junction has received discretionary funding support for various eligible capital projects. It is reasonable

to assume that the Airport will receive additional discretionary funding during the planning period for higher priority, eligible projects, such as runway, taxiway and aircraft apron projects. The implementation analysis assumes the application of AIP discretionary funds every year of the eleven-year review period and will range from $2.3 million to over $12.6 during any given year. Since the future availability of AIP discretionary grants is not certain until an actual grant is awarded, it should be noted that any CIP projects which have discretionary funds indicated as a funding source in the implementation plan may need to be delayed until such funds actually become available.

The implementation analysis further assumes that the current AIP program will continue to be extended through 2027 and beyond and that future program authorizations will provide substantially similar funding levels as it currently does and as it has historically provided since the program was established in 1982.

Colorado Department of Transportation Grants

The Colorado Department of Transportation (CDOT), Division of Aeronautics provides Discretionary Aviation Grants for airport projects from a portion of the state sales tax collected on aviation fuel. Grants are approved for projects including those that are AIP eligible, aviation pavement maintenance projects and various other aviation projects. For AIP eligible projects, state grant awards for up to 50% of an airport's local match requirement are allowed. Non-Revenue producing projects that are not AIP eligible (but are still eligible for state funding) may also receive up to 80% funding (with a 20% local match) for the total cost of approved projects. In past years, an estimated limit of about $400,000 per year in state grants was awarded to Colorado airports supported by the Division. More recently the limit has been about $150,000 per year to better fit the trends in lower fuel prices that have reduced the amount of funds the state has available for grants. The grants from the State Aeronautics are anticipated to partially fund a number of projects included in the CIP contributing to the efforts to relocate Runway 11-29. In 2017, the State Aeronautics Grant is anticipated to provide $355,273 for selected high priority projects. Beginning in 2018, the CDOT grants are anticipated to range from $125,000 to 150,000 annually.

Debt Financing

Debt financing is often used by airports to fund capital improvement projects. The type and term of debt financing is dependent on the airport and its governing body. The financial implementation analysis includes just over $9,000,000 of debt proceeds available in 2016-2017 to support the terminal building renovation project. The debt (General Airport Revenue and Refunding Bonds, Series 2016A and 2016B) were issued for twenty years at an average interest rate of about 3.35%. Annual debt service payments of approximately $1.5 million will be funded through a combination of passenger facility charges and net operating cash flows.

Passenger Facility Charges

The Aviation Safety and Capacity Expansion Act of 1990 established the authority for commercial service airports to apply to the FAA for imposing and using a Passenger Facility Charge (PFC) of up to $3.00 per eligible enplaned passenger. With the passage of AIR-21 in June 2000, airports could apply for an increase in the PFC collection amount from $3.00 per eligible enplaned passenger to $4.50. The proceeds from PFCs are eligible to be used for AIP eligible projects and for certain additional projects that preserve or enhance capacity, safety or security; mitigate the effects of aircraft noise; or enhance airline competition. PFCs may also be used to pay debt service on bonds (including principal, interest and issue costs) and other indebtedness incurred to carry out eligible projects. In addition to funding future planned projects, the legislation permits airports to collect PFCs to reimburse the eligible costs of projects that began on or after November 5, 1990.

The Airport currently collects PFC revenues in an approved open application and is planning to submit an additional application to continue collection without interruption of its collection authority. Current collections are over $900 thousand per year and are anticipated to grow to $1.2 million by 2027. The implementation analysis assumes that the Airport will submit additional PFC applications and amendments, as required, to ensure that the collection of PFC revenues continues beyond the authorized expiration date through the end of the eleven-year review period in 2027. The implementation analysis further assumes that PFCs will be used to fund both PFC related debt service as well as capital costs on a pay-as-you-go basis. Of the $18 million in PFC collections anticipated during the review period, approximately $1.8 million will fund capital costs and the remaining $16.2 will fund debt service requirements for PFC eligible projects pledged with PFC revenues.

Rental Car Customer Facility Charges

In the last several years, rental car Customer Facility Charges (CFCs) have become common financing tools for landside improvements at airports in the U.S. Such charges are collected by rental car companies that provide services to commercial passengers at the airports they serve. CFCs are collected by the rental car companies on behalf of, and for the benefit of, the airports where they operate. The charge is typically based on a fee per rental car transaction day that is added to rental car contracts.

The CFC fee is to be used to support the planning, design and construction of various landside and passenger terminal improvements at the Airport including facilities used by the rental car companies as well as for other valid Airport purposes. Currently, CFC revenue is pledged to fund the debt service requirements on the 2009 Colorado State Infrastructure Bank loan that was obtained to build the rental car parking and fuel facilities used by the rental car companies. That loan will be fully repaid in 2019. In 2020, CFCs are programmed to fund a $1.16 million rental car capital improvement project. Beyond these uses identified, the implementation analysis does not apply CFCs to fund specific capital

projects. Instead, the analysis assumes that CFCs will be used to support the cash flow needs of the overall capital program. Current collections are approximately $579,000 per year growing to about $713,000 per year by the end of review period. The capital financial plan projects that approximately $6.9 million in CFC revenue will be available to support cash flow during review period.

Cash Reserves/Airport Net Operating Revenues

The implementation analysis indicates that net operating cash flows are projected to range from $1.2 million to $2.7 million annually during the review period through 2027. At the beginning of 2017, the Airport had accumulated about $7.5 million in unrestricted cash reserves available for operations and capital project funding. The implementation analysis assumes that, after funding any annual debt service requirements, Airport cash reserves/net operating cash flow will be used throughout the review period to fund about $21.9 million project costs (local grant match requirements and project components ineligible for federal funding) during eleven-year review period.

Financial Analysis and Implementation Plan for the Terminal Area Plan Amendment and Capital Improvement Program

This analysis, along with the Schedules presented at the end of Section D, provides the results of evaluating the financial reasonableness of implementing the Terminal Area Plan Amendment and Capital Improvement Program during the planning period from 2017 through 2027.

The capital improvement projects included in this analysis generally focus on two primary categories of infrastructure. The majority of the costs included in the capital improvement program during the eleven-year review period are airfield related projects including runway, taxiway, aircraft apron and navigational aide improvements. As the Airport focuses on the need to relocate their primary runway, a significant portion of the Airport's capital funding sources are utilized toward those projects.

The other category of projects are those related to the Terminal Building Improvements, which are the subject of this Terminal Area Plan Amendment. As described in the previous sections, the original Terminal Area Plan envisioned the replacement of the existing passenger terminal building with a new passenger terminal building. For reasons previously discussed, the timing of the new passenger terminal has been delayed beyond the review period included in this analysis. New, short-term improvements to the existing terminal building have been identified with the goal of bridging the gap until such time a replacement terminal is financially feasible. Therefore, the financial implementation analysis included in this Terminal Area Plan Amendment has removed the terminal related projects associated with the replacement terminal and included those projects identified as being needed to the

existing terminal building during this eleven-year review period.

Estimated Terminal Related Projects Development Costs

Detailed capital cost estimates for planned improvements in the Terminal Area Plan Amendment are presented in Table 5 of Section D. The projects listed in Table 6 below reflect those identified in the Terminal Area Plan Amendment as needing to be accomplished within the review period. Estimates are based on 2017 dollars with no adjustments for future inflation.

Table 6
Estimated Terminal Related Projects Development Costs

Terminal Related Projects and Components	Total Estimated Costs	PFC Funding	Cash Reserves/Net Revenues Funding
Terminal Building Renovations and Rehabilitation	$8,500,000	$5,100,000	$3,400,000
Mechanical renovations	$4,400,000	$2,640,000	$1,760,000
Structural Foundation and Frame Integrity	$200,000	$120,000	$80,000
Code Compliance/Life Safety	$2,100,000	$1,260,000	$840,000
Roof and Escalator Replacements	$1,800,000	$1,080,000	$720,000
Administration Building Modifications	$1,000,000	$0	$1,000,000
Gate #1 Tunnel/Passenger Boarding Bridge	$1,800,000	$1,800,000	$0
TOTAL Terminal Related Project Cost	$11,300,000	$6,900,000	$4,400,000

Note: Addition errors are due to rounding of calculated amounts.
Source: Leibowitz & Horton AMC Analysis.

Estimated Project Costs and Development Schedule

The Terminal Area Plan Amendment and Capital Improvement Program (CIP) Estimated Project Costs and Development Schedule is derived from the results of the Terminal Area Plan Amendment analysis and previously completed capital planning studies. The CIP for capital expansion and improvement projects is projected on an annual basis for the review period from 2017 through 2027, and in total for the period from 2028 and beyond. For each of these review periods, Schedule 1 (provided at the end of Section D) presents the Capital Improvement Program including estimated costs and anticipated development schedule for the identified projects.

As shown in Schedule 1, the total estimated cost of projects is $157,319,322 in 2017 dollars. The estimated costs for projects scheduled during the period 2017 through 2027 are adjusted by an assumed 3% rate of annual inflation. The resulting total project costs escalated for inflation are $190,751,455. Table 7 presents a summary of the Schedule and provides a

comparison of 2017 base year costs with escalated costs adjusted for inflation for stages within the review period.

Table 7
Summary of 2017 Base Year and Total Escalated Costs for the Terminal Area Plan Amendment and Capital Improvement Program

Review Periods	2017 Base Year Costs	Total Escalated Costs
Projects 2017-2021	$65,069,322	$57,813,758
Projects 2022-2027	$62,900,000	$78,468,094
Projects 2028 and Beyond	$39,350,000	$54,469,603
TOTAL Project Cost	$157,319,322	$190,751,455

Note: Addition errors are due to rounding of calculated amounts.
Source: Leibowitz & Horton AMC Analysis.

Sources and Uses of Capital Funding

Funding sources for the CIP depend on many factors, including AIP and PFC project eligibility, the ultimate type and use of facilities to be developed, management's current and desired levels of the Airport's airline cost per enplaned passenger, the availability of other financing sources and the priorities for scheduling project completion. For planning purposes, assumptions were made related to the funding source of each capital improvement.

Schedule 2 lists each of the CIP projects, their estimated costs (escalated annually for inflation) and the assumed funding sources and amounts. During the eleven-year review period, it was assumed that both AIP entitlement and discretionary grants would primarily fund airfield projects including runway/taxiway rehabilitation, aircraft parking aprons, and various eligible improvements toward the ultimate relocation of the runway and taxiways. It was assumed that CDOT aviation grants would provide a portion of the funding for AIP eligible projects. Debt proceeds are anticipated to fund costs related to the terminal renovation and rehabilitation project as well as primary runway relocation project. PFC pay-as-you-go revenues were assumed to fund the Gate #1 tunnel and passenger boarding bridge project. Rental Car Customer Facility Charges and available cash reserves were assumed to fund the rental car project programmed in 2020, a portion of the local match on AIP projects as well as projects ineligible for other funding sources.

A summary of the sources of capital funding by type and uses of capital funding by review period for the CIP is presented in Table 8.

Table 8

Summary of Sources and Uses of Capital Funding for the Terminal Area Plan Amendment and Capital Improvement Program

Sources of Capital Funding	2017-2021	2022-2027	2028 & Beyond	TOTALS
AIP Entitlement Grants	$14,493,197	$13,217,446	$9,713,359	$37,424,003
AIP Discretionary Grants	$24,299,270	$57,403,838	$39,309,283	$121,012,391
CDOT Aviation Grants	$882,223	$900,000	$600,000	$2,382,223
Debt Financing	$5,100,000	$0	$0	$5,100,000
Passenger Facility Charges	$1,800,000	$0	$0	$1,800,000
RAC Customer Facility Charges	$1,160,000	$0	$0	$1,160,000
Cash Reserves/Net Ops Cash Flow	$10,079,069	$6,946,809	$4,846,960	$21,872,838
TOTAL Sources of Capital Funding	$57,813,759	$78,468,093	$54,469,603	$190,751,455
Uses of Capital Funding				
New Runway 11/29 Improvements	$13,255,642	$76,131,332	$44,295,485	$133,682,459
Other Runway/Taxiway Improvements	$13,196,857	$2,336,760	$7,059,593	$22,593,210
Navaid Improvements	$1,339,000	$0	$3,114,526	$4,453,526
Aircraft Apron Improvements	$14,008,760	$0	$0	$14,008,760
Terminal Rehab & Related Projects and Admin Building Modification	$11,300,000	$0	$0	$11,300,000
Road Improvements	$3,553,000	$0	$0	$3,553,000
Rental Car Projects	$1,160,000	$0	$0	$1,160,000
TOTAL Uses of Capital Funding	$57,813,759	$75,468,082	$54,469,604	$190,751,455

Note: Addition errors are due to rounding of calculated amounts.

Source: Leibowitz & Horton AMC Analysis.

Projected Operations and Maintenance Expenses

Operations and Maintenance Expense Projection Assumptions. Operations and maintenance expense growth assumptions, as reflected in Schedule 3, were developed to project the Airport's operating expenses during the planning period. Actual amounts for 2014 through 2016 and budgeted amounts for 2017 provide a comparison with expenses that are projected for the period 2018 through 2027. For each of the following expense categories listed below, projections are based on 2017 budgeted amounts with an assumed 3% annual rate of inflation beginning in 2018.

- Personnel Compensation and Benefits
- Communications and Utilities
- Supplies and Materials

- Contract Services
- Repairs & Maintenance
- Insurance
- Other

Minor capital outlay projections are also based on the 2017 budgeted amounts with an assumed 3% annual rate of inflation beginning in 2018.

Projection of Operations and Maintenance Expenses and Operating Expenses Per Enplaned Passenger. The projection of operations and maintenance expenses including minor capital outlays is provided in Schedule 3. As shown in the Schedule, total expenses are expected to grow from $4,822,559 budgeted in 2017 to $6,481,116 in 2027 reflecting an overall growth rate of 3% per year and a total of $61,766,350 during the review period.

Schedule 3 also provides a comparison of the Airport's total operating expenses per enplaned passenger versus an average of non-hub airports with similar levels of aviation activity. Based on an estimated 3% annual rate of passenger growth along with a 3% annual growth rate of operating expenses, the Airport's operating expenses per enplaned passenger are projected to remain at $20.76 for the duration of the review period. Over the same period of time, the overall non-hub industry average grows from $48.98 in 2017 to $57.03 in 2027 (Source: Non-Hub airports, FAA Operating and Financial Summary Report #127 and FAA Air Carrier Activity Information System enplanement database). These comparisons show that budgeted and projected operating expenses at Grand Junction are substantially lower than other non-hub airports of similar size during all of the eleven-year review period. This implies that the Airport currently manages operations and controls expenses in a manner that is much more cost efficient than other comparable non-hub airports.

Projected Operating Revenues

Operating revenue projections for the eleven-year review period are based on the Airport's 2017 budget, current rates and charges methodology, current leasing practices, the anticipated impacts of inflation, aviation traffic increases, facility expansions and the recent experience of other airports with similar levels of aviation activity.

Operating Revenue Projection Assumptions. Operating revenue growth assumptions, as reflected in Schedule 4, were developed to project the Airport's operating revenues during the planning period. Actual amounts for 2014 through 2016 and budgeted amounts for 2017 provide a comparison with revenues that are projected for the period 2018 through 2027. This analysis organizes revenues into categories for airline revenues, non-airline revenues and non-operating revenues. Annual revenue growth assumptions for the period 2018 through 2027 are provided in the following sections.

- Airline Revenues

- Airline landing fee projections beginning in 2018 are based on the Airport's 2017 budget with growth at a 3% annual inflation rate plus increases in aircraft landed weight using annual growth at ½ the rate of forecast passenger enplanements. This reflects the airlines' practice of managing increased load factors before additional flights are provided.

- Airline terminal rent projections beginning in 2018-2019 are based on the Airport's 2017 budget with growth at a 3% annual inflation rate thereafter.

- The projections for Airline other fees, which include charges for use of the boarding bridges and deicing services, are based on the Airport's 2017 budget with growth at a 3% annual inflation rate thereafter.

- Non-Airline Revenues

  - Cargo Landing Fees, Fuel Flowage Fees, and State Aviation Fuel Tax Excise Tax revenue projections beginning in 2018 are based on the Airport's 2017 budget with growth at a 3% annual inflation rate plus increases in aircraft landed weight using annual growth at ½ the rate of forecast passenger enplanements.

  - Non-Airline revenue projections beginning in 2018 for the following categories are based on the Airport's 2017 budget with growth at a 3% annual inflation rate plus the annual rate of forecast enplanement growth:
    - Rental Car Concession Fees
    - Terminal – Restaurant Concession Fees
    - Terminal – Retail Concession Fees
    - Parking & Ground Transportation Fees

  - Non-Airline revenue projections beginning in 2018 for the following categories are based on the Airport's 2017 budget with growth at a 3% annual inflation rate thereafter:
    - Cargo and Hangar Rentals
    - Other General Aviation Fees
    - Land and Building Leases
    - Rental Car Space Rent
    - Terminal – Other Rent
    - Other Revenues

- Non-Operating Revenues - Non-Operating revenue projections beginning in 2017 for Interest Income are based on the Airport's 2017 budget with no annual inflation growth thereafter.

Projection of Operating Revenues, Airline Cost Per Enplaned Passenger and Operating Revenues Per Enplaned Passenger. The projection of operating revenues is provided in Schedule 4 at the end of Section D. As shown in the Schedule, airline revenues are expected to grow from $1,768,700 budgeted for 2017 to $2,453,461 projected for 2027 with a total of $22,921,545 during the eleven-year review period. The overall annual growth rate for airline revenues is 3.3% during the eleven-year review period. Non-Airline revenues are expected to grow from $4,309,084 budgeted for 2017 to $6,732,452 projected for 2027 with a total of $60,842,675 during the review period. The overall annual growth rate for non-airline revenues is 4.6%. Total airport revenues (including non-operating revenues) are expected to grow from $6,096,984 budgeted for 2017 to $9,205,112 projected for 2027 with a total of $83,975,420 during the review period. The overall annual growth rate for total Airport revenues is 4.2%.

Schedule 4 also provides a comparison of the Airport's airline cost per enplaned passenger (CPEP) versus an average for overall non-hub airports with similar levels of aviation activity. The airline CPEP (all airline fees and rentals divided by enplaned passengers) is a measure airlines use to compare their cost of operations among the airports they serve. Grand Junction's airline CPEP is projected to grow from $7.61 budgeted for 2017 to $7.86 projected for 2027. Over the same period, the overall non-hub industry average grows from $9.20 in 2017 to $12.37 in 2027 (Source: Non-Hub airports, FAA Operating and Financial Summary Report #127 and FAA Air Carrier Activity Information System enplanement database). These comparisons show that airline rates and charges at Grand Junction are currently lower than other similar non-hub airports and are expected to remain lower throughout the review period. The Airport's lower level of CPEP suggests that rate-setting practices and the overall structure of rates and charges could be revised to enable the Airport to recover a greater portion of its operating costs from the airlines that serve Grand Junction.

Schedule 4 also provides a comparison of the Airport's total revenue per enplaned passenger versus an average for other non-hub airports. The Airport's total revenue per enplaned passenger is projected to grow from $26.17 budgeted for 2017 to $29.43 projected for 2027. Over the same period, the overall non-hub industry average grows from $46.92 in 2017 to $63.05 in 2027 (Source: Non-Hub airports, FAA Operating and Financial Summary Report #127 and FAA Air Carrier Activity Information System enplanement database). These comparisons show that non-airline revenues along with airline revenues are substantially lower than the non-hub industry average throughout the review period. This indicates that the Airport's overall policies for setting/negotiating user fees and rental rates could be reviewed and adjusted over time in order to establish rates that are more comparable with other airports having similar levels of aviation activity.

Financial Plan Summary for the Master Plan Capital Improvement Program

The Financial Plan Summary presented in Schedule 5 at the end of Section D includes a

Capital Cash Flow section that presents a summary of projected capital funding (from Schedule 2) and scheduled capital expenditures (from Schedule 1) with the cash flow that results from implementing the Terminal Area Plan Amendment and Capital Improvement Program. Schedule 5 also includes an operating cash flow section that summarizes totals for operating revenues (from Schedule 4) and operating expenses (from Schedule 3) with the addition of beginning cash reserve balances to provide the cash flow that results from these activities.

In Schedule 1 of the financial implementation analysis, practical approaches were provided for scheduling capital expenditures to match the availability of capital funding. Schedule 2 provided practical approaches for matching specific capital funding sources with each of the identified projects. As shown in Schedule 5, positive year end cash reserves are projected throughout the eleven-year planning period 2017 to 2027.

Based on the assumptions underlying the financial implementation analysis summarized in the Capital Cash Flow section of Schedule 5, implementation of projects in the Terminal Area Plan Amendment and Capital Improvement Program that are scheduled throughout the eleven-year planning period are projected to be financially reasonable. Implementation of airfield capital projects during the 2017-2027 planning period that have AIP discretionary grants indicated as a funding source are subject to the availability of those grants which are provided at the sole discretion of the FAA. If the identified portion of discretionary funding is not awarded by the FAA, then these projects will need to be delayed until funding is available.

Additionally, the financial implementation analysis relies on achievement of the aviation activity and passenger enplanement forecast. Actual aviation traffic may temporarily vary from the projected levels of activity without a significant adverse impact on the capital program. If decreased traffic levels occur and persist, implementation of all the proposed projects may not be financially feasible. It should also be noted, however, that if the forecast activity levels are not met, then a number of the planned capital improvements may not be necessary.

Financial Analysis Schedules

Financial analysis **Schedules 1** through **5** are presented on the following pages.

GRAND JUNCTION REGIONAL AIRPORT (GJT)
Grand Junction, Colorado

GJT_TAP5.123

Schedule 1

Terminal Area Plan Amendment
Estimated Project Costs and Development Schedule

06-Jul-17

Capital Improvement Program	Funding Schedule												
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028 & Beyond	Total Funding
Funds Used for Capital Improvement Projects													
AIP Entitlement Grants	$1,918,530	$1,952,685	$1,987,866	$2,024,102	$2,061,425	$2,099,868	$2,139,464	$2,180,248	$2,222,255	$2,265,523	$2,310,089	$9,713,359	$32,875,414
AIP Entitlements carryover from the prior years	4,548,589	460,603	0	0	0	0	0	0	0	0	0	0	4,548,589
AIP Entitlement unspent current year + carryover	(460,603)	0	0	0	0	0	0	0	0	0	0	0	0
AIP Discretionary Grants	2,331,874	3,534,962	6,393,244	5,794,360	6,244,830	6,559,909	12,636,933	12,652,031	6,043,420	9,242,577	10,268,969	39,309,283	121,012,391
CDOT Grants	355,273	126,950	125,000	125,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	600,000	2,382,223
Passenger Facility Charges (@$4.50)	2,098,727	955,154	983,808	1,013,323	1,043,722	1,075,034	1,107,285	1,140,504	1,174,719	1,209,960	1,246,259	4,926,970	17,975,465
Airport Revenue & Refunding Bonds, Series 2016:													
New Money Revenue Bond Proceeds	9,000,682	0	0	0	0	0	0	0	0	0	0	0	9,000,682
Less PFC Funded Debt Service (60%)	(414,105)	(413,860)	(413,217)	(413,270)	(412,577)	(412,742)	(412,577)	(412,646)	(413,538)	(412,440)	(412,165)	(3,716,714)	(8,259,851)
Less Cash Funded Debt Service	(276,070)	(275,907)	(275,478)	(275,513)	(275,051)	(275,161)	(275,051)	(275,097)	(275,692)	(274,960)	(274,777)	(2,477,809)	(5,506,567)
Refunded Bonds Debt Service:													
Less PFC Funded Debt Service (48.5%)	(396,847)	(396,612)	(395,996)	(396,047)	(395,382)	(395,540)	(395,382)	(395,448)	(396,303)	(395,251)	(394,988)	(3,561,817)	(7,915,614)
Less Ineligible Debt Service	(421,394)	(421,144)	(420,491)	(420,545)	(419,839)	(420,007)	(419,839)	(419,909)	(420,817)	(419,699)	(419,420)	(3,782,135)	(8,405,239)
SIB Loan Debt Service	(464,487)	(464,487)	(232,244)	0	0	0	0	0	0	0	0	0	(1,161,218)
Rental Car Customer Facility Charges	579,000	582,218	580,000	580,000	597,400	615,322	633,782	652,795	672,379	692,550	713,327	0	6,898,773
Net Operating Cash Flow	1,274,425	1,418,153	1,544,674	1,680,803	1,931,977	2,096,341	2,266,653	2,449,381	2,313,844	2,508,822	2,723,996	0	22,209,070
Funds Available Current Year	19,673,593	7,058,716	9,877,166	9,712,212	10,526,504	11,093,025	17,431,266	17,721,859	11,070,267	14,567,082	15,911,289	41,011,138	185,654,117
Beginning Cash Balance/Funds Carried Over from Prior Year	7,547,219	6,655,935	7,105,483	7,670,305	7,535,337	6,581,652	8,052,701	9,065,749	10,307,298	12,193,482	13,973,787	15,908,346	7,547,219
Funds Used Current Year	(20,564,877)	(6,609,167)	(9,312,345)	(9,847,180)	(11,480,190)	(9,621,975)	(16,418,219)	(16,480,310)	(9,184,083)	(12,786,777)	(13,976,730)	(54,469,603)	(190,751,455)
Funds Carried Over to Next Year	$6,655,935	$7,105,483	$7,670,305	$7,535,337	$6,581,652	$8,052,701	$9,065,749	$10,307,298	$12,193,482	$13,973,787	$15,908,346	$2,449,881	$2,449,881
Less Beginning Cash Reserve	(3,200,000)	(3,725,427)	(3,837,190)	(3,952,305)	(4,070,874)	(4,193,001)	(4,318,791)	(4,448,354)	(4,581,805)	(4,719,259)	(4,860,837)	-	-
Year End Available Cash Balance	$3,455,935	$3,380,057	$3,833,115	$3,583,032	$2,510,777	$3,859,701	$4,746,958	$5,858,943	$7,611,676	$9,254,527	$11,047,509	$2,449,881	$2,449,881

Capital Project Description	2017 Base Year Costs	Estimated Project Costs and Development Schedule												
		2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028 & Beyond	Total Escalated Costs
Runway Design (Phase 1)	$2,463,018	$2,463,018	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,463,018
East Terminal Apron	4,696,415	4,696,415	0	0	0	0	0	0	0	0	0	0	0	4,696,415
Runway Design (Phase 2)	2,105,444	2,105,444	0	0	0	0	0	0	0	0	0	0	0	2,105,444
Admin Building Modification	1,000,000	1,000,000	0	0	0	0	0	0	0	0	0	0	0	1,000,000
Tunnel and Jet Bridge	1,800,000	1,800,000	0	0	0	0	0	0	0	0	0	0	0	1,800,000
Terminal Bldg Reno and Rehab	8,500,000	8,500,000	0	0	0	0	0	0	0	0	0	0	0	8,500,000
Total Capital Project Costs 2017	$20,564,877	$20,564,877	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$20,564,877
RTR Site Work (RA)	$1,300,000	$0	$1,339,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,339,000
Realign 27 1/4 Road	3,450,000	0	3,553,500	0	0	0	0	0	0	0	0	0	0	3,553,500
Rehab Taxiway A (East & West Ends)	1,666,667	0	1,716,667	0	0	0	0	0	0	0	0	0	0	1,716,667
Total Capital Project Costs 2018	$6,416,667	$0	$6,609,167	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$6,609,167
Rehab West Commercial Apron	$8,777,778	$0	$0	$9,312,345	$0	$0	$0	$0	$0	$0	$0	$0	$0	$9,312,345
-	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Capital Project Costs 2019	$8,777,778	$0	$0	$9,312,345	$0	$0	$0	$0	$0	$0	$0	$0	$0	$9,312,345
New Runway 11/29 - Construct Ponds, North Perimeter Road & Fence	$3,800,000	$0	$0	$0	$4,152,363	$0	$0	$0	$0	$0	$0	$0	$0	$4,152,363
New Runway 11/29 - Earthwork for R/W & All Taxiways (Phase 1 of 3)	4,150,000	0	0	0	4,534,817	0	0	0	0	0	0	0	0	4,534,817
Rental Car Capital Project	1,160,000				1,160,000									1,160,000
Total Capital Project Costs 2020	$9,110,000	$0	$0	$0	$9,847,180	$0	$0	$0	$0	$0	$0	$0	$0	$9,847,180

GRAND JUNCTION REGIONAL AIRPORT (GJT)
Grand Junction, Colorado

GJT_TAP5.123

Schedule 1

Terminal Area Plan Amendment
Estimated Project Costs and Development Schedule

06-Jul-17

Capital Improvement Program	Funding Schedule 2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028 & Beyond	Total Funding
Funds Used for Capital Improvement Projects													
AIP Entitlement Grants	$1,918,530	$1,952,685	$1,987,866	$2,024,102	$2,061,425	$2,099,868	$2,139,464	$2,180,248	$2,222,255	$2,265,523	$2,310,089	$9,713,359	$32,875,414
AIP Entitlements carryover from the prior years	4,548,589	460,603	0	0	0	0	0	0	0	0	0	0	4,548,589
AIP Entitlement unspent current year + carryover	(460,603)	0	0	0	0	0	0	0	0	0	0	0	0
AIP Discretionary Grants	2,331,874	3,534,962	6,393,244	5,794,360	6,244,830	6,559,909	12,636,933	12,652,031	6,043,420	9,242,577	10,268,969	39,309,283	121,012,391
CDOT Grants	355,273	126,950	125,000	125,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	600,000	2,382,223
Passenger Facility Charges (@$4.50)	2,098,727	955,154	983,808	1,013,323	1,043,722	1,075,034	1,107,285	1,140,504	1,174,719	1,209,960	1,246,259	4,926,970	17,975,465
Airport Revenue & Refunding Bonds, Series 2016:													
New Money Revenue Bond Proceeds	9,000,682	0	0	0	0	0	0	0	0	0	0	0	9,000,682
Less PFC Funded Debt Service (60%)	(414,105)	(413,860)	(413,217)	(413,270)	(412,577)	(412,742)	(412,577)	(412,646)	(413,538)	(412,440)	(412,165)	(3,716,714)	(8,259,851)
Less Cash Funded Debt Service	(276,070)	(275,907)	(275,478)	(275,513)	(275,051)	(275,161)	(275,051)	(275,097)	(275,692)	(274,960)	(274,777)	(2,477,809)	(5,506,567)
Refunded Bonds Debt Service:													
Less PFC Funded Debt Service (48.5%)	(396,847)	(396,612)	(395,996)	(396,047)	(395,382)	(395,540)	(395,382)	(395,448)	(396,303)	(395,251)	(394,988)	(3,561,817)	(7,915,614)
Less Ineligible Debt Service	(421,394)	(421,144)	(420,491)	(420,545)	(419,839)	(420,007)	(419,839)	(419,909)	(420,817)	(419,699)	(419,420)	(3,782,135)	(8,405,239)
SIB Loan Debt Service	(464,487)	(464,487)	(232,244)	0	0	0	0	0	0	0	0	0	(1,161,218)
Rental Car Customer Facility Charges	579,000	582,218	580,000	580,000	597,400	615,322	633,782	652,795	672,379	692,550	713,327	0	6,898,773
Net Operating Cash Flow	1,274,425	1,418,153	1,544,674	1,680,803	1,931,977	2,096,341	2,266,653	2,449,381	2,313,844	2,508,822	2,723,996	0	22,209,070
Funds Available Current Year	19,673,593	7,058,716	9,877,166	9,712,212	10,526,504	11,093,025	17,431,266	17,721,859	11,070,267	14,567,082	15,911,289	41,011,138	185,654,117
Beginning Cash Balance/Funds Carried Over from Prior Year	7,547,219	6,655,935	7,105,483	7,670,305	7,535,337	6,581,652	8,052,701	9,065,749	10,307,298	12,193,482	13,973,787	15,908,346	7,547,219
Funds Used Current Year	(20,564,877)	(6,609,167)	(9,312,345)	(9,847,180)	(11,480,190)	(9,621,975)	(16,418,219)	(16,480,310)	(9,184,083)	(12,786,777)	(13,976,730)	(54,469,603)	(190,751,455)
Funds Carried Over to Next Year	$6,655,935	$7,105,483	$7,670,305	$7,535,337	$6,581,652	$8,052,701	$9,065,749	$10,307,298	$12,193,482	$13,973,787	$15,908,346	$2,449,881	$2,449,881
Less Beginning Cash Reserve	(3,200,000)	(3,725,427)	(3,837,190)	(3,952,305)	(4,070,874)	(4,193,001)	(4,318,791)	(4,448,354)	(4,581,805)	(4,719,259)	(4,860,837)	-	-
Year End Available Cash Balance	$3,455,935	$3,380,057	$3,833,115	$3,583,032	$2,510,777	$3,859,701	$4,746,958	$5,858,943	$7,611,676	$9,254,527	$11,047,509	$2,449,881	$2,449,881

Capital Project Description	2017 Base Year Costs	Estimated Project Costs and Development Schedule 2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028 & Beyond	Total Escalated Costs
Current Runway 11/29 - Rehab/Overlay Failed Portions/Seal Coat/Restripe	$3,500,000	$0	$0	$0	$0	$3,939,281	$0	$0	$0	$0	$0	$0	$0	$3,939,281
Rehab Taxiway A (Commercial Apron Section)	2,400,000	0	0	0	0	2,701,221	0	0	0	0	0	0	0	2,701,221
Rehab Taxiway A (BLM to Twin Otter)	2,300,000	0	0	0	0	2,588,670	0	0	0	0	0	0	0	2,588,670
Rehab Runway 4/22	2,000,000	0	0	0	0	2,251,018	0	0	0	0	0	0	0	2,251,018
Total Capital Project Costs 2021	$10,200,000	$0	$0	$0	$0	$11,480,190	$0	$0	$0	$0	$0	$0	$0	$11,480,190
New Runway 11/29 - Earthwork for R/W & All Taxiways (Phase 2 of 3)	$8,300,000	$0	$0	$0	$0	$0	$9,621,975	$0	$0	$0	$0	$0	$0	$9,621,975
-	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Capital Project Costs 2022	$8,300,000	$0	$0	$0	$0	$0	$9,621,975	$0	$0	$0	$0	$0	$0	$9,621,975
New Runway 11/29 - Earthwork for R/W & All Taxiways (Phase 3 of 3)	$4,150,000	$0	$0	$0	$0	$0	$0	$4,955,317	$0	$0	$0	$0	$0	$4,955,317
New Runway 11/29 - Storm Infrastructure & Taxiway's Subgrade, Base & Underdrains	9,600,000	0	0	0	0	0	0	11,462,902	0	0	0	0	0	11,462,902
Total Capital Project Costs 2023	$13,750,000	$0	$0	$0	$0	$0	$0	$16,418,219	$0	$0	$0	$0	$0	$16,418,219
New Runway 11/29 - Runway Subgrade, Base, Underdrain & Electrical Duct	$11,500,000	$0	$0	$0	$0	$0	$0	$0	$14,143,549	$0	$0	$0	$0	$14,143,549
Rehab Taxiway C (T/W A to T/W C1A)	1,900,000	0	0	0	0	0	0	0	2,336,760	0	0	0	0	2,336,760
Total Capital Project Costs 2024	$13,400,000	$0	$0	$0	$0	$0	$0	$0	$16,480,310	$0	$0	$0	$0	$16,480,310

GRAND JUNCTION REGIONAL AIRPORT (GJT)
Grand Junction, Colorado

GJT_TAP5.123

Schedule 1

Terminal Area Plan Amendment
Estimated Project Costs and Development Schedule

06-Jul-17

Capital Improvement Program	Funding Schedule												
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028 & Beyond	Total Funding
Funds Used for Capital Improvement Projects													
AIP Entitlement Grants	$1,918,530	$1,952,685	$1,987,866	$2,024,102	$2,061,425	$2,099,868	$2,139,464	$2,180,248	$2,222,255	$2,265,523	$2,310,089	$9,713,359	$32,875,414
AIP Entitlements carryover from the prior years	4,548,589	460,603	0	0	0	0	0	0	0	0	0	0	4,548,589
AIP Entitlement unspent current year + carryover	(460,603)	0	0	0	0	0	0	0	0	0	0	0	0
AIP Discretionary Grants	2,331,874	3,534,962	6,393,244	5,794,360	6,244,830	6,559,909	12,636,933	12,652,031	6,043,420	9,242,577	10,268,969	39,309,283	121,012,391
CDOT Grants	355,273	126,950	125,000	125,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	600,000	2,382,223
Passenger Facility Charges (@$4.50)	2,098,727	955,154	983,808	1,013,323	1,043,722	1,075,034	1,107,285	1,140,504	1,174,719	1,209,960	1,246,259	4,926,970	17,975,465
Airport Revenue & Refunding Bonds, Series 2016:													
New Money Revenue Bond Proceeds	9,000,682	0	0	0	0	0	0	0	0	0	0	0	9,000,682
Less PFC Funded Debt Service (60%)	(414,105)	(413,860)	(413,217)	(413,270)	(412,577)	(412,742)	(412,577)	(412,646)	(413,538)	(412,440)	(412,165)	(3,716,714)	(8,259,851)
Less Cash Funded Debt Service	(276,070)	(275,907)	(275,478)	(275,513)	(275,051)	(275,161)	(275,051)	(275,097)	(275,692)	(274,960)	(274,777)	(2,477,809)	(5,506,567)
Refunded Bonds Debt Service:													
Less PFC Funded Debt Service (48.5%)	(396,847)	(396,612)	(395,996)	(396,047)	(395,382)	(395,540)	(395,382)	(395,448)	(396,303)	(395,251)	(394,988)	(3,561,817)	(7,915,614)
Less Ineligible Debt Service	(421,394)	(421,144)	(420,491)	(420,545)	(419,839)	(420,007)	(419,839)	(419,909)	(420,817)	(419,699)	(419,420)	(3,782,135)	(8,405,239)
SIB Loan Debt Service	(464,487)	(464,487)	(232,244)	0	0	0	0	0	0	0	0	0	(1,161,218)
Rental Car Customer Facility Charges	579,000	582,218	580,000	580,000	597,400	615,322	633,782	652,795	672,379	692,550	713,327	0	6,898,773
Net Operating Cash Flow	1,274,425	1,418,153	1,544,674	1,680,803	1,931,977	2,096,341	2,266,653	2,449,381	2,313,844	2,508,822	2,723,996	0	22,209,070
Funds Available Current Year	19,673,593	7,058,716	9,877,166	9,712,212	10,526,504	11,093,025	17,431,266	17,721,859	11,070,267	14,567,082	15,911,289	41,011,138	185,654,117
Beginning Cash Balance/Funds Carried Over from Prior Year	7,547,219	6,655,935	7,105,483	7,670,305	7,535,337	6,581,652	8,052,701	9,065,749	10,307,298	12,193,482	13,973,787	15,908,346	7,547,219
Funds Used Current Year	(20,564,877)	(6,609,167)	(9,312,345)	(9,847,180)	(11,480,190)	(9,621,975)	(16,418,219)	(16,480,310)	(9,184,083)	(12,786,777)	(13,976,730)	(54,469,603)	(190,751,455)
Funds Carried Over to Next Year	$6,655,935	$7,105,483	$7,670,305	$7,535,337	$6,581,652	$8,052,701	$9,065,749	$10,307,298	$12,193,482	$13,973,787	$15,908,346	$2,449,881	$2,449,881
Less Beginning Cash Reserve	(3,200,000)	(3,725,427)	(3,837,190)	(3,952,305)	(4,070,874)	(4,193,001)	(4,318,791)	(4,448,354)	(4,581,805)	(4,719,259)	(4,860,837)	-	-
Year End Available Cash Balance	$3,455,935	$3,380,057	$3,833,115	$3,583,032	$2,510,777	$3,859,701	$4,746,958	$5,858,943	$7,611,676	$9,254,527	$11,047,509	$2,449,881	$2,449,881

Capital Project Description	2017 Base Year Costs	Estimated Project Costs and Development Schedule												
		2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028 & Beyond	Total Escalated Costs
New Runway 11/29 - Asphalt Pavements at Taxiways (Bottom Lifts)	$7,250,000	$0	$0	$0	$0	$0	$0	$0	$0	$9,184,083	$0	$0	$0	$9,184,083
-	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Capital Project Costs 2025	$7,250,000	$0	$0	$0	$0	$0	$0	$0	$0	$9,184,083	$0	$0	$0	$9,184,083
New Runway 11/29 - Asphalt Pavements on Runway (Bottom Lifts)	$9,800,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$12,786,777	$0	$0	$12,786,777
-	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Capital Project Costs 2026	$9,800,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$12,786,777	$0	$0	$12,786,777
New Runway 11/29 - Asphalt Pavements on Runway & Taxiways (Top Lifts)	$10,400,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$13,976,730	$0	$13,976,730
-	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Capital Project Costs 2027	$10,400,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$13,976,730	$0	$13,976,730
New Runway 11/29 - Grooving, Pavement Markings, Electrical - 2028	$3,000,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4,152,702	$4,152,702
NAVAIDs for New Runway - Design & Construction (Reimbursable Agreement) - 2028	2,250,000	0	0	0	0	0	0	0	0	0	0	0	3,114,526	3,114,526
Rehab Taxiway A (Remaining Sections) - 2028	5,100,000	0	0	0	0	0	0	0	0	0	0	0	7,059,593	7,059,593
R/W 11/29 to T/W A Conversion & Reconstruction (Phase 1 of 3) - 2029	9,700,000	0	0	0	0	0	0	0	0	0	0	0	13,427,069	13,427,069
R/W 11/29 to T/W A Conversion & Reconstruction (Phase 2 of 3) - 2030	9,700,000	0	0	0	0	0	0	0	0	0	0	0	13,427,069	13,427,069
R/W 11/29 to T/W A Conversion & Reconstruction (Phase 3 of 3) - 2031	9,600,000	0	0	0	0	0	0	0	0	0	0	0	13,288,645	13,288,645
Total Capital Project Costs 2028-2031	$39,350,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$54,469,603	$54,469,603
Total Project Costs	$157,319,322	$20,564,877	$6,609,167	$9,312,345	$9,847,180	$11,480,190	$9,621,975	$16,418,219	$16,480,310	$9,184,083	$12,786,777	$13,976,730	$54,469,603	$190,751,455

GRAND JUNCTION REGIONAL AIRPORT (GJT)
Grand Junction, Colorado

GJT_TAP5.123

Schedule 2

Terminal Area Plan Amendment
Projected Capital Funding Sources

06-Jul-17

Capital Improvement Projects	Total Escalated Costs	AIP Entitlement Funding	AIP Discretionary Funding	Total AIP Funding	CDOT Grants	Passenger Facility Charges (Debt)	Passenger Facility Charges (PAYG)	Rental Car Customer Facility Charge (CFC)	Cash Reserves/ Net Revenues	Total Funding
Runway Design (Phase 1)	$2,463,018	$2,216,716		$2,216,716	$123,151				$123,151	$2,463,018
East Terminal Apron	4,696,415	1,894,900	2,331,874	4,226,774	126,850				342,792	4,696,415
Runway Design (Phase 2)	2,105,444	1,894,900		1,894,900	105,272				105,272	2,105,444
Admin Building Modification	1,000,000			0					1,000,000	1,000,000
Tunnel and Jet Bridge	1,800,000			0			1,800,000		0	1,800,000
Terminal Bldg Reno and Rehab	8,500,000			0		5,100,000			3,400,000	8,500,000
Total Capital Project Costs 2017	$20,564,877	$6,006,516	$2,331,874	$8,338,389	$355,273	$5,100,000	$1,800,000	$0	$4,971,215	$20,564,877
RTR Site Work (RA)	$1,339,000	$0	$1,205,100	$1,205,100	$66,950				$66,950	$1,339,000
Realign 27 1/4 Road	3,553,500	2,413,288	784,862	3,198,150	60,000				295,350	3,553,500
Rehab Taxiway A (East & West Ends)	1,716,667		1,545,000	1,545,000					171,667	1,716,667
Total Capital Project Costs 2018	$6,609,167	$2,413,288	$3,534,962	$5,948,250	$126,950	$0	$0	$0	$533,967	$6,609,167
Rehab West Commercial Apron	$9,312,345	$1,987,866	$6,393,244	$8,381,110	$125,000				$806,234	$9,312,345
-	0			0					0	0
Total Capital Project Costs 2019	$9,312,345	$1,987,866	$6,393,244	$8,381,110	$125,000	$0	$0	$0	$806,234	$9,312,345
New Runway 11/29 - Construct Ponds, North Perimeter Road & Fence	$4,152,363	$2,024,102	$1,713,024	$3,737,126	$125,000				$290,236	$4,152,363
New Runway 11/29 - Earthwork for R/W & All Taxiways (Phase 1 of 3)	4,534,817	0	4,081,335	4,081,335					453,482	4,534,817
Rental Car Capital Project	1,160,000			0				1,160,000	0	1,160,000
Total Capital Project Costs 2020	$9,847,180	$2,024,102	$5,794,360	$7,818,462	$125,000	$0	$0	$1,160,000	$743,718	$9,847,180
Current Runway 11/29 - Rehab/Overlay Failed Portions/Seal Coat/Restripe	$3,939,281	$2,061,425	$1,483,928	$3,545,353	$150,000				$243,928	$3,939,281
Rehab Taxiway A (Commercial Apron Section)	2,701,221	0	2,431,099	2,431,099					270,122	2,701,221
Rehab Taxiway A (BLM to Twin Otter)	2,588,670	0	2,329,803	2,329,803					258,867	2,588,670
Rehab Runway 4/22	2,251,018			0					2,251,018	2,251,018
Total Capital Project Costs 2021	$11,480,190	$2,061,425	$6,244,830	$8,306,255	$150,000	$0	$0	$0	$3,023,935	$11,480,190
New Runway 11/29 - Earthwork for R/W & All Taxiways (Phase 2 of 3)	$9,621,975	$2,099,868	$6,559,909	$8,659,777	$150,000				$812,197	$9,621,975
-	0			0					0	0
Total Capital Project Costs 2022	$9,621,975	$2,099,868	$6,559,909	$8,659,777	$150,000	$0	$0	$0	$812,197	$9,621,975

GRAND JUNCTION REGIONAL AIRPORT (GJT)
Grand Junction, Colorado

GJT_TAP5.123

Schedule 2

Terminal Area Plan Amendment
Projected Capital Funding Sources

06-Jul-17

Capital Improvement Projects	Total Escalated Costs	AIP Entitlement Funding	AIP Discretionary Funding	Total AIP Funding	CDOT Grants	Passenger Facility Charges (Debt)	Passenger Facility Charges (PAYG)	Rental Car Customer Facility Charge (CFC)	Cash Reserves/ Net Revenues	Total Funding
New Runway 11/29 - Earthwork for R/W & All Taxiways (Phase 3 of 3)	$4,955,317	$2,139,464	$2,320,321	$4,459,785	$150,000				$345,532	$4,955,317
New Runway 11/29 - Storm Infrastructure & Taxiway's Subgrade, Base & Underdrains	11,462,902	0	10,316,612	10,316,612					1,146,290	11,462,902
Total Capital Project Costs 2023	$16,418,219	$2,139,464	$12,636,933	$14,776,397	$150,000	$0	$0	$0	$1,491,822	$16,418,219
New Runway 11/29 - Runway Subgrade, Base, Underdrain & Electrical Duct	$14,143,549	$2,180,248	$10,548,947	$12,729,195	$150,000				$1,264,355	$14,143,549
Rehab Taxiway C (T/W A to T/W C1A)	2,336,760	0	2,103,084	2,103,084					233,676	2,336,760
Total Capital Project Costs 2024	$16,480,310	$2,180,248	$12,652,031	$14,832,279	$150,000	$0	$0	$0	$1,498,031	$16,480,310
New Runway 11/29 - Asphalt Pavements at Taxiways (Bottom Lifts)	$9,184,083	$2,222,255	$6,043,420	$8,265,675	$150,000				$768,408	$9,184,083
-	0			0					0	0
Total Capital Project Costs 2025	$9,184,083	$2,222,255	$6,043,420	$8,265,675	$150,000	$0	$0	$0	$768,408	$9,184,083
New Runway 11/29 - Asphalt Pavements on Runway (Bottom Lifts)	$12,786,777	$2,265,523	$9,242,577	$11,508,099	$150,000				$1,128,678	$12,786,777
-	0			0					0	0
Total Capital Project Costs 2026	$12,786,777	$2,265,523	$9,242,577	$11,508,099	$150,000	$0	$0	$0	$1,128,678	$12,786,777
New Runway 11/29 - Asphalt Pavements on Runway & Taxiways (Top Lifts)	$13,976,730	$2,310,089	$10,268,969	$12,579,057	$150,000				$1,247,673	$13,976,730
-	0			0					0	0
Total Capital Project Costs 2027	$13,976,730	$2,310,089	$10,268,969	$12,579,057	$150,000	$0	$0	$0	$1,247,673	$13,976,730
New Runway 11/29 - Grooving, Pavement Markings, Electrical - 2028	$4,152,702	$2,355,991	$1,381,440	$3,737,431	$150,000				$265,270	$4,152,702
NAVAIDs for New Runway - Design & Construction (Reimbursable Agreement) - 2028	3,114,526	0	2,803,074	2,803,074					311,453	3,114,526
Rehab Taxiway A (Remaining Sections) - 2028	7,059,593	0	6,353,633	6,353,633					705,959	7,059,593
R/W 11/29 to T/W A Conversion & Reconstruction (Phase 1 of 3) - 2029	13,427,069	2,403,271	9,681,091	12,084,362	150,000				1,192,707	13,427,069
R/W 11/29 to T/W A Conversion & Reconstruction (Phase 2 of 3) - 2030	13,427,069	2,451,969	9,632,393	12,084,362	150,000				1,192,707	13,427,069
R/W 11/29 to T/W A Conversion & Reconstruction (Phase 3 of 3) - 2031	13,288,645	2,502,128	9,457,652	11,959,781	150,000				1,178,865	13,288,645
Total Capital Project Costs 2028-2031	$54,469,603	$9,713,359	$39,309,283	$49,022,643	$600,000	$0	$0	$0	$4,846,960	$54,469,603
Total Project Costs	$190,751,455	$37,424,003	$121,012,391	$158,436,394	$2,382,223	$5,100,000	$1,800,000	$1,160,000	$21,872,838	$190,751,455

GRAND JUNCTION REGIONAL AIRPORT (GJT)
Grand Junction, Colorado

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Schedule 3

Terminal Area Plan Amendment
Actual, Budgeted and Projected Operations & Maintenance Expenses

06-Jul-17

Operations & Maintenance Expenses	Actual 2014	Actual 2015	Actual 2016	Budgeted 2017	Projected 2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	Total
Personnel Compensation and Benefits	$1,899,044	$2,063,862	$2,025,827	$2,129,122	$2,192,996	$2,258,786	$2,326,549	$2,396,346	$2,468,236	$2,542,283	$2,618,552	$2,697,108	$2,778,021	$2,861,362	$27,269,360
Communications and Utilities	291,679	284,701	289,490	332,666	342,646	352,925	363,513	374,419	385,651	397,221	409,137	421,411	434,054	447,075	4,260,718
Supplies and Materials	695,044	556,840	405,995	445,931	459,309	473,088	487,281	501,899	516,956	532,465	548,439	564,892	581,839	599,294	5,711,393
Contract Services	627,707	536,955	930,041	865,567	891,534	918,280	945,828	974,203	1,003,429	1,033,532	1,064,538	1,096,474	1,129,369	1,163,250	11,086,005
Repairs & Maintenance	250,510	269,023	450,339	424,107	436,830	449,935	463,433	477,336	491,656	506,406	521,598	537,246	553,363	569,964	5,431,876
Insurance	80,384	89,692	91,037	93,276	96,074	98,957	101,925	104,983	108,132	111,376	114,718	118,159	121,704	125,355	1,194,660
Other	143,974	141,202	106,600	176,890	182,197	187,663	193,292	199,091	205,064	211,216	217,552	224,079	230,801	237,725	2,265,571
Total Operations & Maintenance Expenses	$3,988,342	$3,942,275	$4,299,329	$4,467,559	$4,601,586	$4,739,633	$4,881,822	$5,028,277	$5,179,125	$5,334,499	$5,494,534	$5,659,370	$5,829,151	$6,004,026	$57,219,583
Minor Capital Outlays	0	0	0	355,000	365,650	376,620	387,918	399,556	411,542	423,889	436,605	449,703	463,194	477,090	4,546,767
Total Operations & Maintenance Expenses and Minor Capital Outlays	$3,988,342	$3,942,275	$4,299,329	$4,822,559	$4,967,236	$5,116,253	$5,269,740	$5,427,833	$5,590,668	$5,758,388	$5,931,139	$6,109,073	$6,292,346	$6,481,116	$61,766,350
Annual Growth Rate	-	-1.2%	9.1%	12.2%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Operating Expenses Per Enplaned Pax:															
Grand Junction Regional Airport	$18.19	$18.01	$19.06	$20.76	$20.76	$20.76	$20.76	$20.76	$20.76	$20.76	$20.76	$20.76	$20.76	$20.76	$20.76
Non-Hub Industry Average	$44.82	$46.17	$47.55	$48.98	$50.45	$51.96	$53.52	$55.13	$56.78	$58.48	$60.24	$62.05	$63.91	$65.82	$57.03

GRAND JUNCTION REGIONAL AIRPORT (GJT)
Grand Junction, Colorado

GJT_TAP5.123

Schedule 4

Terminal Area Plan Amendment
Actual, Budgeted and Projected Operating Revenues

06-Jul-17

Operating Revenues	Actual 2014	Actual 2015	Actual 2016	Budgeted 2017	Projected 2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	Total
					ENP+INF										
					LDW+INF										
					INF										
					FIXED										
Airline Revenues															
Landing Fees	$502,886	$474,514	$506,670	$486,300	$508,402	$531,509	$555,666	$580,921	$607,324	$634,927	$663,785	$693,954	$725,494	$758,467	$6,746,750
Terminal Rent	1,243,186	1,181,845	1,181,845	1,182,000	1,197,366	1,233,287	1,270,286	1,308,394	1,347,646	1,388,075	1,429,718	1,472,609	1,516,787	1,562,291	14,908,459
Other Fees	89,495	87,015	90,611	100,400	101,705	104,756	107,899	111,136	114,470	117,904	121,441	125,085	128,837	132,702	1,266,336
Total Airline Revenues	$1,835,567	$1,743,374	$1,779,126	$1,768,700	$1,807,474	$1,869,553	$1,933,851	$2,000,452	$2,069,440	$2,140,907	$2,214,943	$2,291,647	$2,371,118	$2,453,461	$22,921,545
Annual Growth Rate	-	-5.0%	2.1%	-0.6%	2.2%	3.4%	3.4%	3.4%	3.4%	3.5%	3.5%	3.5%	3.5%	3.5%	3.3%
Airline Cost Per Enplaned Passenger:								$7.61						$7.77	
Grand Junction Regional Airport	$8.37	$7.96	$7.89	$7.61	$7.55	$7.59	$7.62	$7.65	$7.69	$7.72	$7.75	$7.79	$7.82	$7.86	$7.70
Non-Hub Industry Average	$8.42	$8.67	$8.93	$9.20	$9.48	$9.76	$10.06	$10.36	$10.67	$10.99	$11.32	$11.66	$12.01	$12.37	$10.72
Non-Airline Revenues								$9.77						$11.50	
Cargo Landing Fees	$84,130	$96,294	$106,434	$96,200	$100,572	$105,143	$109,922	$114,918	$120,141	$125,601	$131,310	$137,278	$143,517	$150,040	$1,334,644
Fuel Flowage Fees	414,985	466,040	454,497	464,600	485,716	507,792	530,871	554,999	580,224	606,595	634,165	331,494	346,560	362,311	5,405,327
State Aviation Fuel Excise Tax	316,538	256,975	208,930	257,100	268,785	281,001	293,773	307,125	321,084	335,677	350,934	366,884	383,558	400,991	3,566,912
Cargo and Hangar Rentals	50,505	50,630	50,631	50,400	51,055	51,719	52,391	53,072	53,762	54,461	55,169	55,886	56,613	57,349	591,879
Other GA Fees	0	11,370	3,750	12,000	12,360	12,731	13,113	13,506	13,911	14,329	14,758	15,201	15,657	16,127	153,694
Land and Building Leases	536,864	541,343	565,339	568,500	623,891	632,001	640,217	648,540	656,971	665,512	674,163	682,927	691,805	700,799	7,185,326
Rental Car Concession Fees	1,205,661	1,039,080	1,047,046	1,045,000	1,108,641	1,176,157	1,247,785	1,323,775	1,404,393	1,489,920	1,580,656	1,676,918	1,779,043	1,887,386	15,719,673
Rental Car Space Rent	0	111,585	111,751	111,600	113,051	114,520	116,009	222,318	225,208	228,136	231,102	234,106	237,150	240,233	2,073,433
Terminal - Restaurant Concession Fees	455,007	446,702	61,216	46,800	49,650	52,674	55,882	59,285	62,895	66,726	70,789	75,100	79,674	84,526	704,001
Terminal - Retail Concession Fees	34,415	35,498	34,129	36,000	38,192	40,518	42,986	45,604	48,381	51,327	54,453	57,769	61,288	65,020	541,539
Terminal - Other Rent	241,465	241,466	245,613	190,284	190,284	190,284	190,284	190,284	195,993	195,993	195,993	195,993	195,993	201,872	2,133,255
Parking & Ground Transportation Fees	1,290,743	1,290,840	1,432,442	1,391,600	1,476,348	1,566,258	1,661,643	1,762,837	1,870,194	1,984,089	2,104,920	2,233,109	2,369,106	2,513,384	20,933,489
Other Revenues	84,543	69,120	129,503	39,000	40,170	41,375	42,616	43,895	45,212	46,568	47,965	49,404	50,886	52,413	499,504
Total Non-Airline Revenues	$4,714,856	$4,656,943	$4,451,281	$4,309,084	$4,558,716	$4,772,174	$4,997,492	$5,340,158	$5,598,369	$5,864,934	$6,146,377	$6,112,070	$6,410,850	$6,732,452	$60,842,675
Annual Growth Rate	-	-1.2%	-4.4%	-3.2%	5.8%	4.7%	4.7%	6.9%	4.8%	4.8%	4.8%	-0.6%	4.9%	5.0%	4.6%
Total Operating Revenues	$6,550,423	$6,400,317	$6,230,407	$6,077,784	$6,366,189	$6,641,726	$6,931,343	$7,340,610	$7,667,809	$8,005,840	$8,361,321	$8,403,718	$8,781,968	$9,185,912	$83,764,220
Annual Growth Rate	-	-2.3%	-2.7%	-2.4%	4.7%	4.3%	4.4%	5.9%	4.5%	4.4%	4.4%	0.5%	4.5%	4.6%	4.2%
Non-Operating Revenues/Expenses															
Interest Income	$15,714	$19,630	$29,256	$19,200	$19,200	$19,200	$19,200	$19,200	$19,200	$19,200	$19,200	$19,200	$19,200	$19,200	$211,200
Other	31,276	(14,681)	(561,894)	0	0	0	0	0	0	0	0	0	0	0	0
Total Non-Operating Revenues	$46,990	$4,949	($532,638)	$19,200	$19,200	$19,200	$19,200	$19,200	$19,200	$19,200	$19,200	$19,200	$19,200	$19,200	$211,200
Annual Growth Rate	-	-89.5%	-10862.5%	-103.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total Revenues	$6,597,413	$6,405,266	$5,697,769	$6,096,984	$6,385,389	$6,660,926	$6,950,543	$7,359,810	$7,687,009	$8,025,040	$8,380,521	$8,422,918	$8,801,168	$9,205,112	$83,975,420
Annual Growth Rate	-	-2.9%	-11.0%	7.0%	4.7%	4.3%	4.3%	5.9%	4.4%	4.4%	4.4%	0.5%	4.5%	4.6%	4.2%
Total Revenues Per Enplaned Pax								$27.02						$28.93	
Grand Junction Regional Airport	$29.88	$29.23	$27.63	$26.17	$26.61	$26.95	$27.31	$28.08	$28.48	$28.86	$29.27	$28.56	$28.98	$29.43	$28.23
Non-Hub Industry Average	$42.94	$44.22	$45.55	$46.92	$48.32	$49.77	$51.27	$52.80	$54.39	$56.02	$57.70	$59.43	$61.22	$63.05	$54.63

GRAND JUNCTION REGIONAL AIRPORT (GJT)
Grand Junction, Colorado

GJT_TAP5.123

Schedule 5

Terminal Area Plan Amendment
Financial Plan Summary
Budgeted and Projected Net Revenues, Capital Funding and Capital Expenditures

06-Jul-17

Operating/Capital Cash Flow	Budgeted 2017	Projected 2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028 & Beyond	Total
Operating Cash Flow													
Revenues:													
Airline Revenues	$1,768,700	$1,807,474	$1,869,553	$1,933,851	$2,000,452	$2,069,440	$2,140,907	$2,214,943	$2,291,647	$2,371,118	$2,453,461	-	$22,921,545
Non-Airline Revenues	4,309,084	4,558,716	4,772,174	4,997,492	5,340,158	5,598,369	5,864,934	6,146,377	6,112,070	6,410,850	6,732,452	-	60,842,675
Non-Operating Revenues/Expenses	19,200	19,200	19,200	19,200	19,200	19,200	19,200	19,200	19,200	19,200	19,200	-	211,200
Total Revenues	$6,096,984	$6,385,389	$6,660,926	$6,950,543	$7,359,810	$7,687,009	$8,025,040	$8,380,521	$8,422,918	$8,801,168	$9,205,112	$0	$83,975,420
Operations & Maintenance Expenses	$4,822,559	$4,967,236	$5,116,253	$5,269,740	$5,427,833	$5,590,668	$5,758,388	$5,931,139	$6,109,073	$6,292,346	$6,481,116	-	$61,766,350
Operating Net Cash Flow	$1,274,425	$1,418,153	$1,544,674	$1,680,803	$1,931,977	$2,096,341	$2,266,653	$2,449,381	$2,313,844	$2,508,822	$2,723,996	$0	$22,209,070
Capital Cash Flow													
Beginning Cash Balance	$7,547,219	$6,655,935	$7,105,483	$7,670,305	$7,535,337	$6,581,652	$8,052,701	$9,065,749	$10,307,298	$12,193,482	$13,973,787	$15,908,346	$7,547,219
Other Capital Funding Sources:													
AIP Entitlement Grants	$1,918,530	$1,952,685	$1,987,866	$2,024,102	$2,061,425	$2,099,868	$2,139,464	$2,180,248	$2,222,255	$2,265,523	$2,310,089	$9,713,359	$32,875,414
AIP Entitlements carryover from the prior years	4,548,589	460,603	0	0	0	0	0	0	0	0	0	0	5,009,192
AIP Entitlement unspent current year + carryover	(460,603)	0	0	0	0	0	0	0	0	0	0	0	(460,603)
AIP Discretionary Grants	2,331,874	3,534,962	6,393,244	5,794,360	6,244,830	6,559,909	12,636,933	12,652,031	6,043,420	9,242,577	10,268,969	39,309,283	121,012,391
CDOT Grants	355,273	126,950	125,000	125,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	600,000	2,382,223
Passenger Facility Charges (@$4.50)	2,098,727	955,154	983,808	1,013,323	1,043,722	1,075,034	1,107,285	1,140,504	1,174,719	1,209,960	1,246,259	4,926,970	17,975,465
Airport Revenue & Refunding Bonds, Series 2016:													
New Money Revenue Bond Proceeds	9,000,682	0	0	0	0	0	0	0	0	0	0	0	9,000,682
Less PFC Funded Debt Service (60%)	(414,105)	(413,860)	(413,217)	(413,270)	(412,577)	(412,742)	(412,577)	(412,646)	(413,538)	(412,440)	(412,165)	(3,716,714)	(8,259,851)
Less Cash Funded Debt Service	(276,070)	(275,907)	(275,478)	(275,513)	(275,051)	(275,161)	(275,051)	(275,097)	(275,692)	(274,960)	(274,777)	(2,477,809)	(5,506,567)
Refunded Bonds Debt Service:													
Less PFC Funded Debt Service (48.5%)	(396,847)	(396,612)	(395,996)	(396,047)	(395,382)	(395,540)	(395,382)	(395,448)	(396,303)	(395,251)	(394,988)	(3,561,817)	(7,915,614)
Less Ineligible Debt Service	(421,394)	(421,144)	(420,491)	(420,545)	(419,839)	(420,007)	(419,839)	(419,909)	(420,817)	(419,699)	(419,420)	(3,782,135)	(8,405,239)
SIB Loan Debt Service	(464,487)	(464,487)	(232,244)	0	0	0	0	0	0	0	0	0	(1,161,218)
Rental Car Customer Facility Charges	579,000	582,218	580,000	580,000	597,400	615,322	633,782	652,795	672,379	692,550	713,327	0	6,898,773
Total Other Capital Funding Sources	$18,399,168	$5,640,563	$8,332,492	$8,031,409	$8,594,527	$8,996,683	$15,164,614	$15,272,477	$8,756,422	$12,058,260	$13,187,293	$41,011,138	$163,445,047
Total Funds Available for Capital Expenditures	$27,220,812	$13,714,650	$16,982,650	$17,382,517	$18,061,841	$17,674,676	$25,483,968	$26,787,608	$21,377,565	$26,760,564	$29,885,076	$56,919,483	$193,201,336
Capital Improvement Program Expenditures	20,564,877	6,609,167	9,312,345	9,847,180	11,480,190	9,621,975	16,418,219	16,480,310	9,184,083	12,786,777	13,976,730	54,469,603	190,751,455
Ending Cash Balance	$6,655,935	$7,105,483	$7,670,305	$7,535,337	$6,581,652	$8,052,701	$9,065,749	$10,307,298	$12,193,482	$13,973,787	$15,908,346	$2,449,881	$2,449,881
Less Beginning Cash Reserve	(3,200,000)	(3,725,427)	(3,837,190)	(3,952,305)	(4,070,874)	(4,193,001)	(4,318,791)	(4,448,354)	(4,581,805)	(4,719,259)	(4,860,837)	-	-
Ending Available Cash Balance	$3,455,935	$3,380,057	$3,833,115	$3,583,032	$2,510,777	$3,859,701	$4,746,958	$5,858,943	$7,611,676	$9,254,527	$11,047,509	$2,449,881	$2,449,881



Mead
&Hunt

EXHIBIT 1
Ordinance No. 3679

Grand Junction Regional Airport | Master Plan Update

Institutional and Civic Facility Master Plan Review Application



GRAND JUNCTION REGIONAL AIRPORT

ORDINANCE NO. 3679

AN ORDINANCE ESTABLISHING STANDARDS FOR THE PLANNED DEVELOPMENT (PD) ZONE DISTRICT FOR PROPERTY OWNED BY THE WALKER FIELD AIRPORT AUTHORITY

Recitals:

Walker Field Airport Authority was created in 1971 under the Public Airport Authority Act of 1965. Walker Field Airport currently consists of approximately 2370 acres, including three types of use areas: 1. Aeronautical, 2. Aeronautical/Commercial, and 3. Non-Aeronautical/Commercial. There are two active runways capable of handling commercial, military, propeller and general aviation traffic into the Grand Junction area.

Over the years a Planned Development zone was established for the airport properties. Various versions of the Zoning and Development Code have included an airport overlay zoning district that included use restrictions in the various airport subdistricts, including Area of Influence, Noise Zone, Critical Zone and Clear Zone. The overlay district applies additional standards and requirements to properties, and includes properties not owned or controlled by Walker Field Public Airport Authority. The overlay district does not include specific standards for development of the Walker Field Airport PD (Planned Development). This PD ordinance will establish the standards and requirements for development on the airport property.

The Planning Commission has recommended approval of the PD ordinance. The City Council finds that the request meets the goals and policies set forth in the Growth Plan and the requirements of the Zoning and Development Code.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF GRAND JUNCTION THAT:

The property owned by Walker Field Airport Authority and zoned PD, as shown on the attached Exhibit A, shall be consistent with the adopted Walker Field Airport Master Plan and shall be subject to the following:

<u>Aeronautical:</u>

Allowed Uses:
This zone is primarily for, but not limited to:

- Aircraft Maintenance, Storage, Tie-Down, and Sales
- Aircraft and Aircraft Parts Manufacturer
- Aircraft Charter and Taxi
- Fixed Base Operator (FBO)
- Commercial Airline Operation

- Federal Aviation Administration (FAA)
- Governmental Aeronautical Activities
- Fire Protection and Medical Operation
- BLM Fire Suppression Center
- Pilot and Emergency Personnel Temporary Quarters While on Duty
- Civil Air Patrol
- Flight Club
- Flight School
- Pilot Supply Shop
- Food Service for Aeronautical Customers
- Fly-in Hotel, Bed and Breakfast, or Inn
- Air Cargo Operation
- Private Hangar
- Taxiway
- Runway
- Run-up area
- Passenger Terminal Building
- Aircraft Safety Areas
- Navigation and Landing Aids
- Aeronautical Related Activities Approved by the FAA

Street Improvements:

- All roads located on AUTHORITY property are owned and maintained by AUTHORITY in fee simple absolute.
- Any additional or existing street improvements will be determined by AUTHORITY and FAA.
- Minimum paved street width will be twenty-four (24) feet with a minimum of five (5) foot gravel shoulder on each side of the paved street. Total right-of-way will be a minimum of sixty (60) feet. Street specifications will be determined by AUTHORITY for each project. On-street parking is allowed subject to AUTHORITY rules and regulations.
- Transportation Capacity Payment (TCP) will be determined by the number of daily trips estimated for the specific proposal.

Drainage/Stormwater Management:

- Review by Grand Junction Community Development relative to the Airport's stormwater drainage system. City of Grand Junction stormwater drainage fees will not apply if all runoff is directed to AUTHORITY detention basins.
- Refer to the AUTHORITY's Colorado Discharge Permit System Stormwater Management Plan, as amended from time to time.

Utilities:

- Additional and existing utilities located on AUTHORITY property determined by AUTHORITY.

- All other utilities located off airport property to be determined by utility provider.
- Fire hydrants and water main extensions to be determined by the Grand Junction Fire Department.

Site Development:

bulk requirements

a. TENANT must establish compatible grading and drainage relationships between building, parking areas, ramps, taxiways, and adjacent properties consistent with the AUTHORITY's master plan for grading and drainage and the City of Grand Junction drainage requirements. Tenant shall be responsible for assuring that any proposed alteration of grading or drainage does not result in damage to any other real or personal property surrounding, or in the vicinity of, the subject property.
b. Building setback from all lease lines is zero (0) feet.
c. Building construction and materials must be non-glare and must not interfere with aircraft operations.
d. Enclosed hangars must have a floor consisting of a minimum of 4 inches of concrete.
e. Exterior building colors will be soft colors similar to those found in nature in soil, rocks, and vegetation within the region. Any structure color existing prior to the adoption of these Covenants shall be exempt from the exterior building color requirements. Upon request, manufacturer's standard color chart will be provided to the AUTHORITY for review and approval of the exterior building trim and wall colors.
f. Aircraft movement areas must consist of a minimum of 4 inches of asphalt or concrete and must meet the design criteria for the aircraft weight contemplated.
g. Compliance with the adopted Fire and Building Codes.
h. Approved FAA FORM 7460-1 for the improvements.

parking and traffic circulation

- TENANT may be subject to adequate parking space regulations as required by the AUTHORITY's Requirements and Minimum Standards for Commercial Aeronautical Services and Activities.
- No review by Grand Junction Community Development.

landscaping (street frontages, parking areas)

- Landscaping not required.
- TENANT must eliminate weeds on a regular basis and must comply with all FAA requirements pursuant to FAR Part 139, as amended from time to time.

screening and buffering

- Additional and existing to be determined by AUTHORITY.

lighting

- Lights must be placed or shielded so they do not cause glare or excessive light spillage onto adjacent properties, runways, taxiways, taxilanes, ramp areas, roadways, and the air traffic control tower.

signage

- TENANT must comply with the City of Grand Junction Zoning and Development Code, as amended from time to time, and Federal Aviation Regulations, as amended from time to time, for signage requirements. All lighted signs must be approved in writing, in advance, by the AUTHORITY. Furthermore, final approval of signage will be at the sole discretion of the AUTHORITY.

pedestrian circulation

- Required pedestrian circulation will be at the sole discretion of the AUTHORITY.

review process

- Minor Site Plan Review by City of Grand Junction
- Grading and Drainage review by City of Grand Junction
- Approved FAA FORM 7460-1 for the improvements provided to City of Grand Junction prior to issuance of a Planning Clearance.
- Sign permits required. Signage must meet standards of the City of Grand Junction and AUTHORITY, whichever is more restrictive.

Aeronautical/Commercial:

Allowed Uses:
This zone is primarily for but not limited to:

- Pilot Supply Shop
- Car Rental
- Restaurant
- Aeronautical Support Manufacturer]
- Courier Service
- Parking Infrastructure
- Gift Shop
- Service Business
- Weather Service

- Transportation Security Administration
- Ground Handling Service
- Aircraft Sales
- Multi-modal Transportation Systems
- Aeronautical Related Activities Approved by the FAA

Requirements:

- Compliance with all requirements of the C-1 (Light Commercial) zone district of the City of Grand Junction.
- Review process in accordance with the Zoning and Development Code—Planned Development. All projects will require review and approval of the Planning Commission.
- All required fees and permits in accordance with the City of Grand Junction.
- An approved FAA FORM 7460-1 for the improvements prior to issuance of a Planning Clearance.
- Compliance with adopted Building and Fire Codes.
- Review by Grand Junction Community Development relative to the Airport's stormwater drainage system. City of Grand Junction stormwater drainage fees will not apply if all runoff is directed to AUTHORITY detention basins.

Non-Aeronautical/Commercial:

Allowed Uses:
This zone is primarily for, but not limited to:

- Motel, Hotel, Bed & Breakfast, Inn, etc.
- Restaurant
- Convenience Store
- Car Wash
- Museum
- Theater
- Office Complex
- Multi-modal Transportation Complex
- AUTHORITY may consider any other uses allowed in the C-1 zone district.

Requirements:

- Compliance with all requirements of the C-1 (Light Commercial) zone district of the City of Grand Junction.
- Review process in accordance with the Zoning and Development Code—Planned Development. All projects will require review and approval of the Planning Commission.

- All required fees and permits in accordance with the City of Grand Junction.
- An approved FAA FORM 7460-1 for the improvements prior to issuance of a Planning Clearance.
- Compliance with adopted Building and Fire Codes.
- Review by Grand Junction Community Development relative to the Airport's stormwater drainage system. City of Grand Junction stormwater drainage fees will not apply if all runoff is directed to AUTHORITY detention basins.

INTRODUCED for FIRST READING and PUBLICATION this 6th day of October, 2004.

PASSED on SECOND READING this 20th day of October, 2004.

ATTEST:

Stephanie Tuin
City Clerk

President of Council

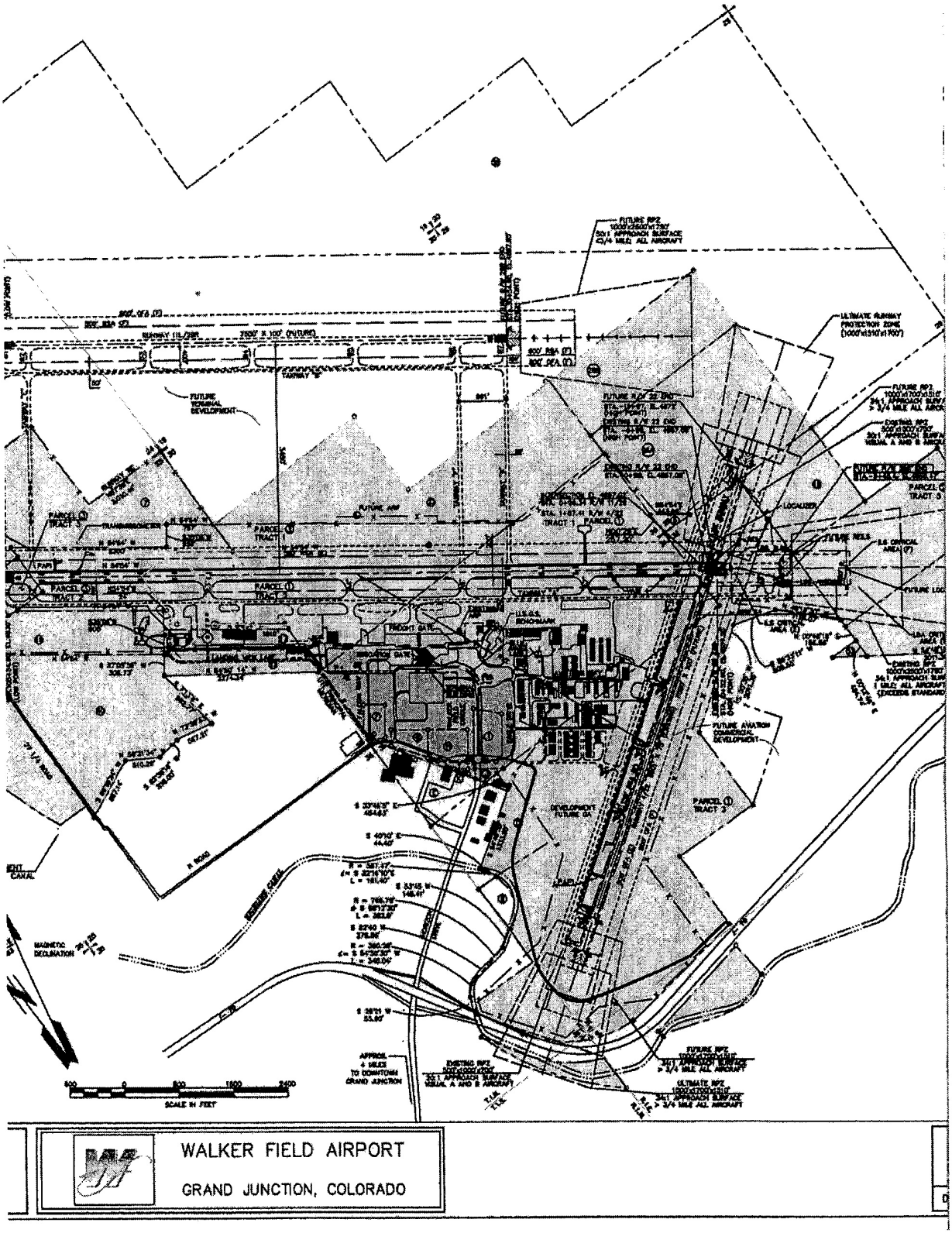

WALKER FIELD AIRPORT
GRAND JUNCTION, COLORADO

EXHIBIT 18

2017 Airport Concept Plan

Grand Junction Regional Airport | Master Plan Update

Institutional and Civic Facility Master Plan Review Application



GRAND JUNCTION REGIONAL AIRPORT

LEGEND

- Existing Airport Property
- Proposed Land Transfer from BLM
- Future Runway Protection Zone
- Proposed Roads
- Existing Building on Airport Property
- Proposed Airfield Pavement
- Potential Pavement Removal
- POFZ

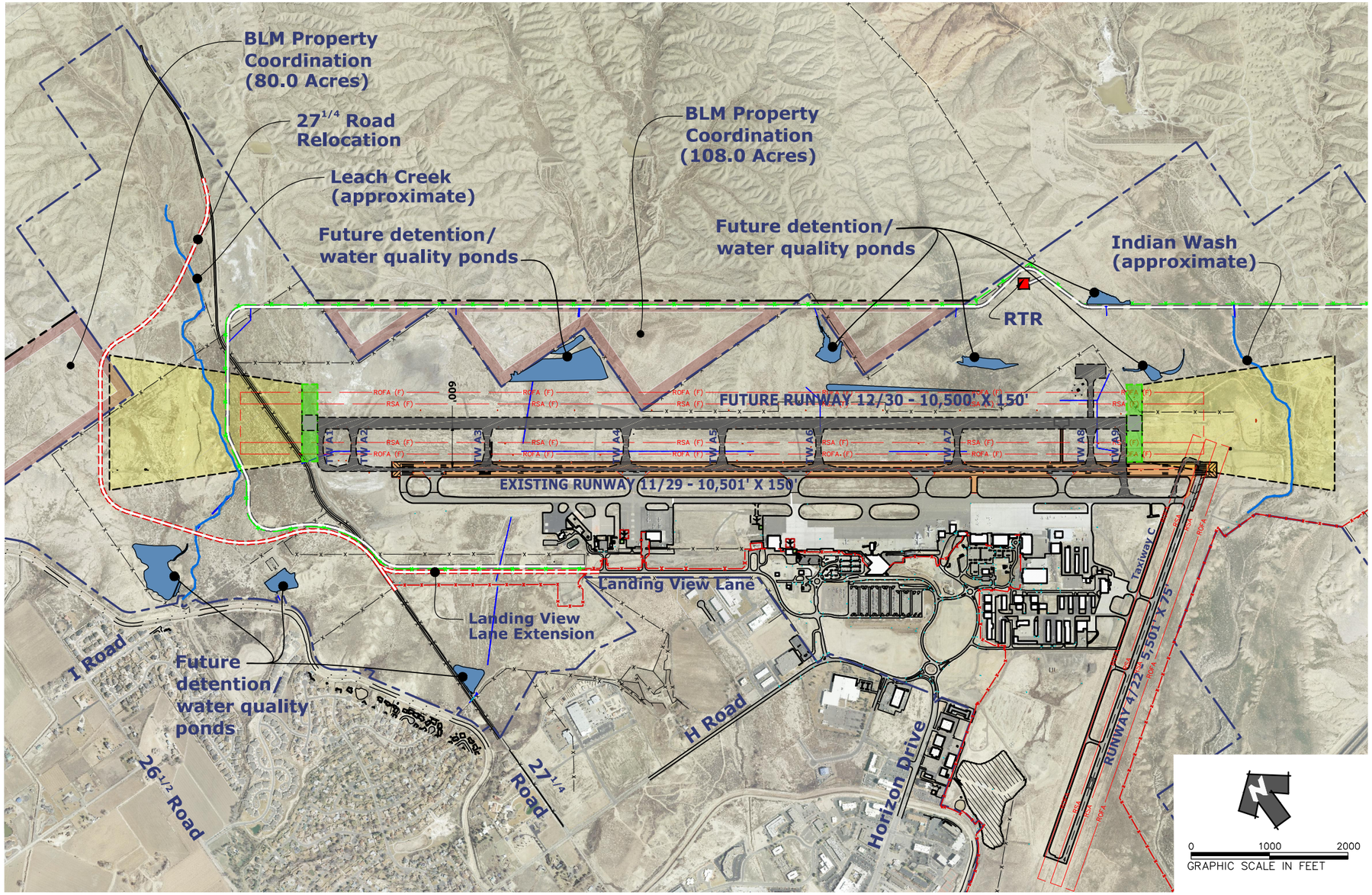
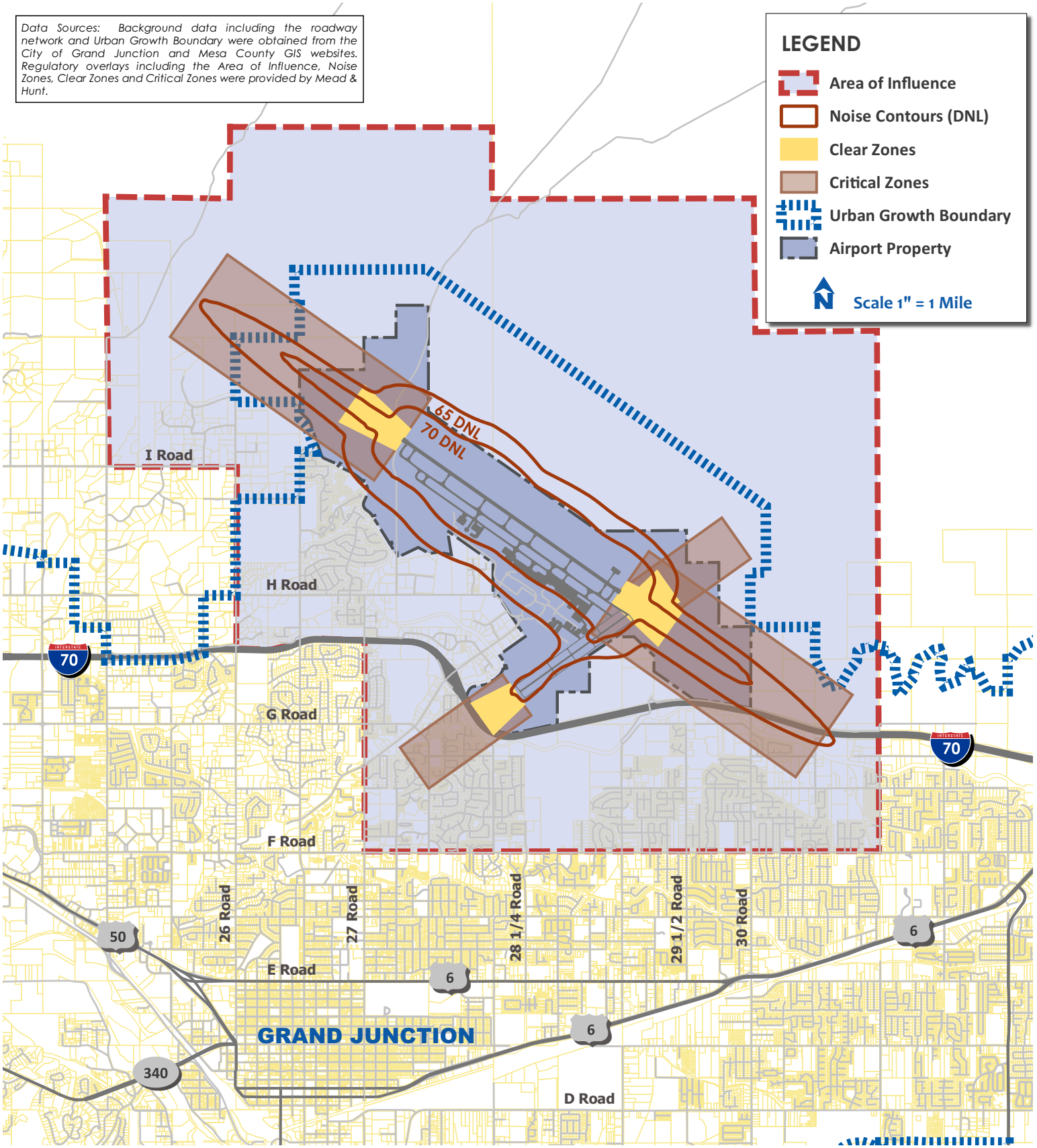


Figure 2 **2017 Concept**

GRAND JUNCTION REGIONAL AIRPORT



Airport Environs Overlay Zone Districts

Reflects Future Alignment for Runway 11/29

Date: 1/24/2019

TGMC, llc
Land Use Planning ▪ Site Design ▪ GIS Analysis ▪ Public Process

GRAND JUNCTION REGIONAL AIRPORT

EXHIBIT 14

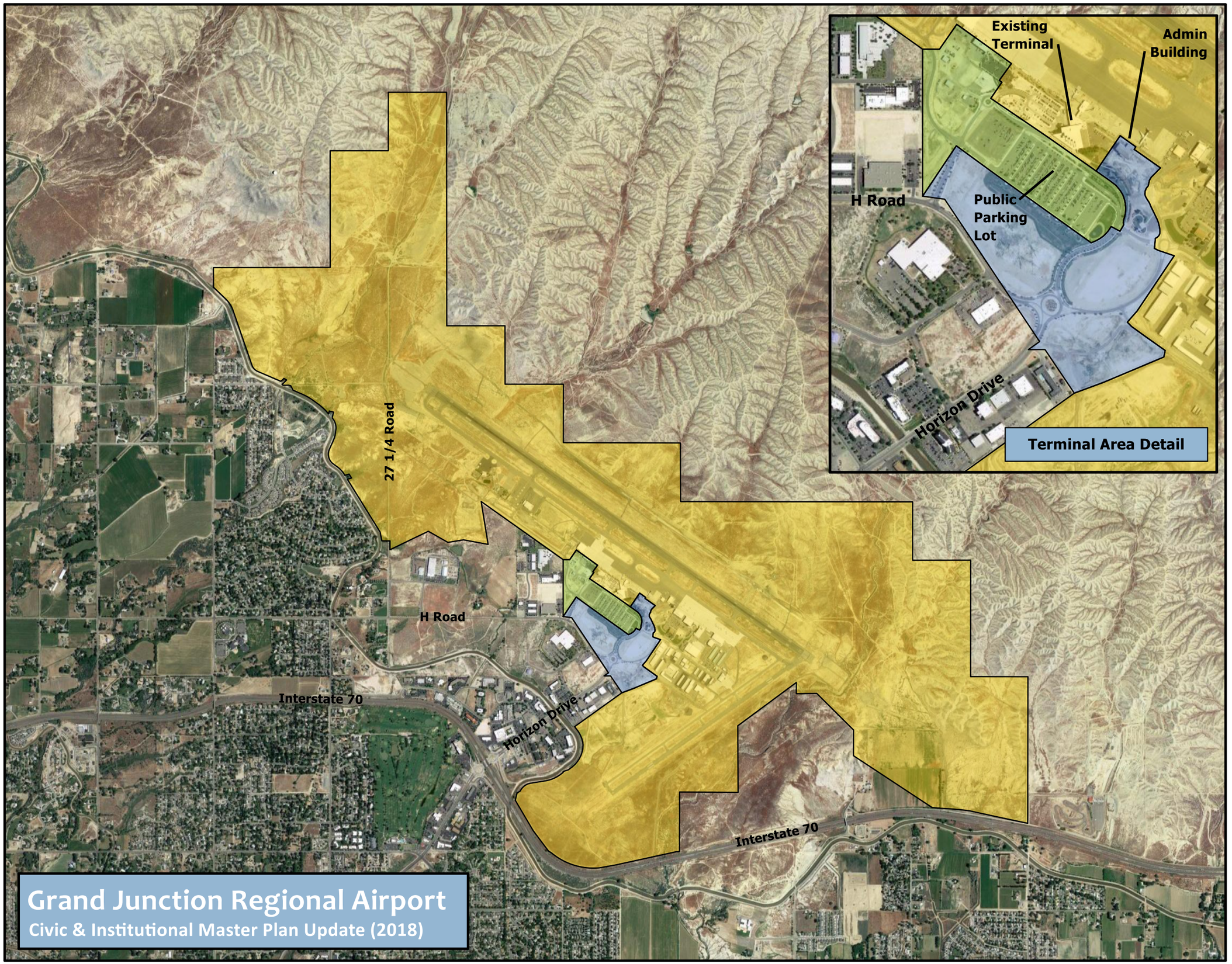
Proposed PD Zones Map

Grand Junction Regional Airport | Master Plan Update

Institutional and Civic Facility Master Plan Review Application



GRAND JUNCTION REGIONAL AIRPORT



Proposed PD Districts

Airport Owner/Operator:
GRAND JUNCTION REGIONAL AIRPORT AUTHORITY
Rex Tippets, Director of Aviation
2828 Walker Field Drive, Suite 301
Grand Junction, CO 81506

Airport Planning Consultant:
MEAD & HUNT
DENVER
1743 Wazee Street, Suite 400
Denver, Colorado 80202
Ph | 303.825.8844

Planning Consultant:
TG MALLOY CONSULTING, LLC
402 Park Drive
Glenwood Springs, Colorado 81601
PH: 970-945-0832
Email: tgmalloy@sopris.net

Legend

- Aeronautical
- Aeronautical/Commercial
- Non-Aeronautical/Commercial

GRAND JUNCTION REGIONAL AIRPORT

N

Not to Scale

May, 2018

Datum: World Geodetic 1984 (WGS84) Auto
Projection: Mercator

Map data obtained from Mesa County GIS Department.

CITY OF GRAND JUNCTION, COLORADO

ORDINANCE NO. _____

AN ORDINANCE APPROVING THE GRAND JUNCTION REGIONAL AIRPORT INSTITUTIONAL AND CIVIC MASTER PLAN AND AMENDING ORDINANCE NO. 3679, PLANNED DEVELOPMENT FOR THE AIRPORT PROPERTY

Recitals

The proposed Institutional and Civic Master Plan for the Grand Junction Regional Airport includes two components: the 2009 Airport Master Plan Update and the 2011 Terminal Area Plan and 2017 Amendment. The update addresses forecasting of future aviation activity, which serves as the basis for the facility improvements necessary to meet the needs. The Terminal Plan includes both the long term needs for the replacement of the terminal building, as well as the near-term improvements needed to maintain safe and efficient operation of the existing building until funding is available for its replacement.

Ordinance No. 3679, adopted in 2004, established standards for the Planned Development (PD) zone district for the Airport property based on three zones, 1. Aeronautical, 2. Aeronautical/Commercial and 3. Non-aeronautical. Modifications proposed for the ordinance include placing the partially constructed Administration Building in the Non-aeronautical/Commercial zone and modifying the review process to be consistent with the current Zoning and Development Code which allows for administrative review of future development.

The City Council finds, after a public hearing and review of the proposed that:

1. The requested Institutional and Civic Master Plan meets the requirements of Section 21.02.190 (c) of the Grand Junction Zoning and Development Code.

2. The Outline Development Plan conforms with the requirements of Section 21.02.150 (b) (2) of the Grand Junction Zoning and Development Code and meets more than one of the rezoning criteria provided in Section 21.02.140 of the Grand Junction Zoning and Development Code.

The City Council also finds and determines that the ODP achieves substantial long-term community benefits, as required by the Zoning and Development Code, as follows:

The Airport, along with the aviation-related businesses and facilities, represents a vital and significant regional economic asset by providing commercial passenger service, general aviation facilities, air cargo, and a small amount of military activity. In addition, the Airport also provides benefits to the local businesses and industries, promotes tourism, and encourages additional business development and expansion throughout Grand Junction and the surrounding region. The 2013 Colorado Airports Economic Impact Study quantified the total impact of the Grand Junction Regional Airport at 2,871 jobs, with a total payroll of $130,775,972 and a total economic output of $380,039,796.

The Master Plan accommodates aircraft operations and the traveling public with great reliability and safety and makes the most efficient use of the available land for aviation related activities and supporting uses by defining improvements necessary to meet future needs.

After public notice and public hearing as required by the Grand Junction Zoning & Development Code, the Planning Commission reviewed the request for the proposed Institutional and Civic Master Plan, Planned Development (PD) and Outline Development Plan (ODP) and determined that it satisfies the applicable criteria of the Zoning and Development Code, is consistent with the purposes, intent, goals and policies of the Comprehensive Plan, and is generally compatible with land uses located in the surrounding area, and recommended approval.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF GRAND JUNCTION THAT THE INSTITUTIONAL AND CIVIC MASTER PLAN (attachment A) AND OUTLINE DEVELOPMENT PLAN (attachments B and C) AS A PLANNED DEVELOPMENT FOR THE GRAND JUNCTION REGIONAL AIRPORT IS APPROVED WITH THE FOLLOWING STANDARDS:

A. This Ordinance applies to the following described property:

Uses and Standards are as follows:

Aeronautical Zone

Allowed uses to be determined by the GJRAA to include:

- Aircraft Maintenance, Storage, Tie-Down, and Sales
- Aircraft and Aircraft Parts Manufacturer
- Aircraft Charter and Taxi
- Fixed Base Operator (FBO)
- Commercial Airline Operation
- Federal Aviation Administration (FAA)
- Governmental Aeronautical Activities
- Fire Protection and Medical Operation
- BLM Fire Suppression Center
- Pilot and Emergency Personnel Temporary Quarters while on duty
- Civil Air Patrol
- Flight Club and School
- Pilot Supply Shop
- Food Service for Aeronautical Customers
- Fly-in Lodging
- Air Cargo Operation
- Private Hangars
- Taxiway, Runway and Run-up area
- Passenger Terminal Building
- Aircraft Safety areas
- Navigational and Landing Aids
- Aeronautical related activities approved by FAA

Street Improvements:

- All internal streets located on GJRAA property are owned and maintained by the Authority.
- Street improvements to serve the Aeronautical Zone will be determined by the Authority and FAA.
- Minimum paved street width shall be 24 feet with a minimum 5’ gravel shoulder on each side.

- On-street parking is subject to Authority rules and regulations.
- Street specifications will be determined by the Authority.
- All new development is subject to the City's Transportation Capacity Payment.

Drainage/Stormwater Management:

- Final drainage report and stormwater permit through the State of Colorado and 521 Drainage Authority must be obtained in accordance with City standards and in accordance with the Airport Master Drainage Report.

Utilities:

- Utility extensions and upgrades to be determined by the Authority and utility providers.
- Fire hydrants and water main extension requirements to be determined by the Grand Junction Fire Department.

Site Development Bulk Requirements:

- Tenant must establish compatible grading and drainage relationships between building, parking areas, ramps, taxiways, and adjacent properties consistent with the Authority's Master Drainage Report and the City's requirements. Tenant shall be responsible for assuring that any alteration of grading or drainage does not result in damage to any other real or personal property surrounding or in the vicinity of the subject property.
- Building setback from all lease lines shall be zero (0) feet.
- Building construction and materials must be non-glare and must not interfere with aircraft operations.
- Enclosed hangars shall have a minimum of 4 inches of concrete for the floor.
- Exterior building colors shall be soft colors similar to those found in nature in soil, rocks and vegetation of the surrounding area, to be approved by the Authority.
- Aircraft movement areas shall consist of a minimum of 4 inches of asphalt or concrete and meet the design criteria for the aircraft weight contemplated.
- Compliance with adopted Fire and Building Codes.
- Approved FAA FORM 7460-1 for all improvements.

Parking and On-site Circulation:

- Tenant subject to adequate parking as required by Authority's Requirements and Minimum Standards for Commercial Aeronautical Services and Activities.
- Required pedestrian circulation to be determined by Authority.

Landscaping, Screening and Buffering:

- Landscaping not required.
- Screening and buffering to be determined by Authority.
- Tenant shall eliminate weeds on a regular basis and comply with all FAA requirements pursuant to FAR Part 139, as amended from time to time.

Lighting:

- Lighting must be placed or shielded to not cause glare or excessive light spillage onto adjacent properties, runways, taxiways, taxilanes, ramp areas, roadways and the air traffic control tower.

Signage:

- Tenants must comply with the City's sign regulations and Federal Aviation Regulations for all signage.
- All lighted signs must be approved in writing by the Authority.
- Final approval of signage will be at the sole discretion of the Authority.

Review Process:

- City review of projects will be limited to grading and drainage plans, site circulation and parking and adequate fire protection.
- Approved FAA FORM 7460-1 for the improvements shall be provided to the City prior to the issuance of a Planning Clearance.
- Sign permits are required. Signage must meet standards of the City and Authority, whichever is more restrictive.

<u>Aeronautical/Commercial Zone</u>

Allowed uses to be determined by the GJRAA to include:

- Pilot Supply Shop
- Car Rental
- Restaurant
- Aeronautical Support Manufacturer
- Courier Service
- Parking Infrastructure
- Gift Shop
- Service Business
- Weather Service
- Transportation Security Administration
- Ground Handling Service
- Aircraft Sales
- Multi-modal Transportation Systems
- Aeronautical Related Activities Approved by the FAA

Requirements:

- Compliance with all requirements of the C-1 zone district
- Review process in accordance with the City's Zoning and Development Code
- All required fees and permits in accordance with the City
- An approved FAA FORM 7460-1 for the improvements prior to issuance of a Planning Clearance
- Compliance with Building and Fire Codes
- Final drainage report and stormwater permit through the State of Colorado and 521 Drainage Authority must be obtained in accordance with City standards and in accordance with the Airport Master Drainage Report.

<u>Non-Aeronautical/Commercial</u>

Allowed Uses Include:

- Lodging
- Restaurant
- Convenience Store
- Car Wash
- Museum

- Theater
- Office Complex
- Multi-modal Transportation Complex
- Authority may consider any other uses allowed in the C-1 zone district

Requirements:

- Compliance with all requirements of the C-1 zone district
- Review process in accordance with the City's Zoning and Development Code
- All required fees and permits in accordance with the City
- An approved FAA FORM 7460-1 for the improvements prior to issuance of a Planning Clearance
- Compliance with Building and Fire Codes
- Final drainage report and stormwater permit through the State of Colorado and 521 Drainage Authority must be obtained in accordance with City standards and in accordance with the Airport Master Drainage Report.

Introduced for first reading on this 20th day of February, 2019 and ordered published in pamphlet form.

PASSED and ADOPTED this _____ day of _____, 2019 and ordered published in pamphlet form.

ATTEST:

_____
Barbara Traylor Smith
President of City Council

_____
Wanda Winkelmann
City Clerk

CITY OF GRAND JUNCTION, COLORADO

ORDINANCE NO. _____

AN ORDINANCE VACATING A PORTION OF THE 27 ¼ ROAD RIGHT-OF-WAY ADJACENT TO AIRPORT PROPERTY

Recitals:

The Plan also includes the relocation of a section of 27 ¼ Road around the west end of the new runway protection zone for the proposed runway 11/29. Approximately 1 mile of the existing 27 ¼ Road will be realigned to swing to the west around the runway zone. The proposed ordinance to vacate the existing section of 27 ¼ Road that is being realigned is conditioned on the acceptance of the realigned improvements, completion of the land patent transfer of property to the Airport and the dedication of right-of-way for the new alignment.

After public notice and public hearing as required by the Grand Junction Zoning and Development Code, and upon recommendation of approval by the Planning Commission, the Grand Junction City Council finds that the request to vacate a portion of the 27 ¼ Road right-of-way adjacent to Airport property is consistent with the Comprehensive Plan, the Grand Valley Circulation Plan and Section 21.02.100 of the Grand Junction Municipal Code.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF GRAND JUNCTION THAT THE FOLLOWING DESCRIBED DEDICATED RIGHT-OF-WAY IS HEREBY VACATED, CONDITIONED ON THE ACCEPTANCE OF THE REALIGNED IMPROVEMENTS, COMPLETION OF THE LAND PATENT TRANSFER OF PROPERTY TO THE AIRPORT AND THE DEDICATION OF RIGHT-OF-WAY FOR THE NEW ALIGNMENT:

A road right of way as described at reception number 1771285 at the Mesa County Clerk and Recorder situated in the southwest quarter of Section 24, and the northwest quarter and the north half of the southwest quarter of Section 25, Township 1 North, Range 1 West of the Ute Meridian, County of Mesa, State of Colorado.

See Exhibit A.

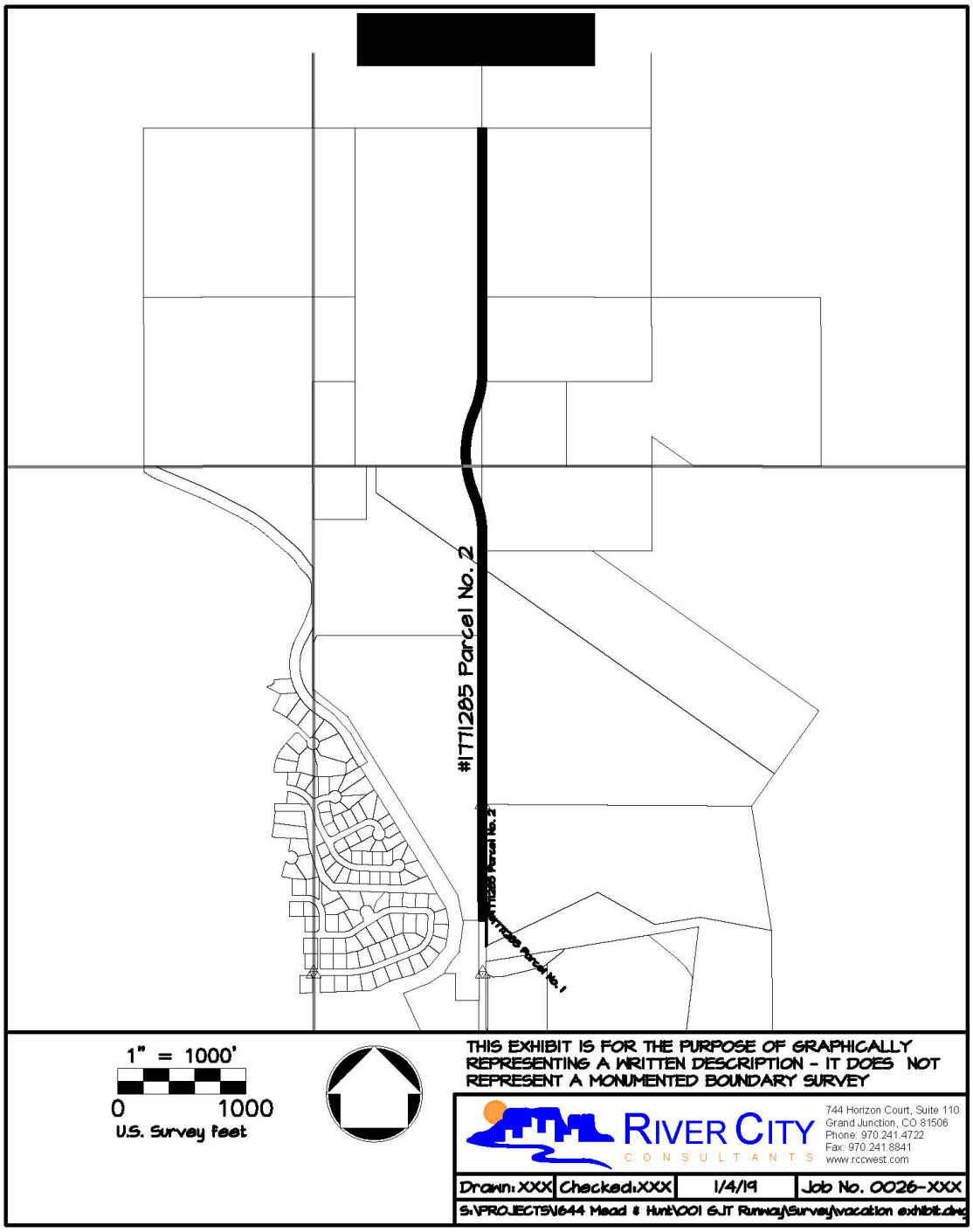
Introduced on first reading this _____day of _____, 2019 and ordered published in pamphlet form.

Adopted on second reading this _____ day of _____, 2019 and ordered published in pamphlet form.

ATTEST:

_____	_____
City Clerk	Mayor

EXHIBIT A


#1771285 Parcel No. 2
1" = 1000'
0
1000
U.S. Survey feet
THIS EXHIBIT IS FOR THE PURPOSE OF GRAPHICALLY REPRESENTING A WRITTEN DESCRIPTION - IT DOES NOT REPRESENT A MONUMENTED BOUNDARY SURVEY
RIVER CITY
CONSULTANTS
744 Horizon Court, Suite 110
Grand Junction, CO 81506
Phone: 970.241.4722
Fax: 970.241.8841
www.rccwest.com
Drawn: XXX
Checked: XXX
1/4/19
Job No. 0026-XXX
S:\PROJECTS\644 Mead & Hunt\001 GJT Runway\Survey\vacation exhibit.dwg

Grand Junction Planning Commission

Regular Session

Item #2.a.vi.

Meeting Date: February 20, 2019

Presented By: Andrew Gingerich, Associate Planner

Department: Community Development

Submitted By: Andrew Gingerich, Associate Planner

Information

SUBJECT:

Introduction of a Proposed Ordinance Rezoning Two Properties from M-U (Mixed Use) to C-2 (General Commercial) Located at 746 23 ½ Road and Set a Public Hearing for March 6, 2019

RECOMMENDATION:

The Planning Commission heard this item at their February 12, 2019 meeting and recommended approval (5-0).

EXECUTIVE SUMMARY:

The Applicant, Western Slope Properties, LLC, is requesting the Rezone of two properties totaling 20.2 acres. The properties include an 18.673-acre property at 746 23 ½ Road and a contiguous unaddressed parcel to the north at 1.533 acres. The Applicant is proposing to Rezone the properties from M-U (Mixed Use) to C-2 (General Commercial) in anticipation of future development of an RV resort. The requested C-2 zone district is consistent with the Comprehensive Plan Future Land Use designation of Commercial/Industrial.

BACKGROUND OR DETAILED INFORMATION:

BACKGROUND
The subject properties are located at 746 23 ½ Rd. The second property, located to the north, does not currently have an address. There is currently one structure onsite; an older stock single-family residence. The Applicant is intending to develop the site for use as an RV resort, provided that the Rezone request is granted.

The site is located directly south of Interstate 70, north of which are properties with heavy commercial uses currently within C-2 and County PUD zone districts. The properties to the west are also currently heavy commercial uses and are located in I-1 zone districts. The properties to the east and south of the site are currently agricultural and single family uses within an M-U zone district.

The site is also located at the northwest corner of the 24 Road Design Overlay. The intent of the overlay is to create a multimodal transportation network, coordinate development around natural open spaces, accommodate a mix of development, provide usable common open space, and establish a pattern and character for the long term development for the region (see ZDC Title 25). The 24 Road Design Overlay standards would apply regardless of zone district designation.

NOTIFICATION REQUIREMENTS

A Neighborhood Meeting was held on Tuesday, November 27, 2018 at 5:30 pm at the Double Tree Inn, located at 743 Horizon Drive, Grand Junction. The Applicant's representative provided an overview of the Rezone request from the M-U (Mixed Use) zone district to the C-2 (General Commercial) zone district. 12 citizens, along with the Applicant's representative and City planning staff were in attendance. Attendees were concerned primarily about drainage, traffic, the difference between the M-U and C-2 zones, and how they could provide public comment for the proposed Rezone.

Public notice for this application was provided in accordance with Sec. 21.02.080(g) of the Code, including posting notification signs on the subject property on all public rights-of-way.

ANALYSIS

Pursuant to Section 21.02.140 of the Grand Junction Zoning and Development Code, the City may Rezone property if the proposed changes are consistent with the vision, goals and policies of the Comprehensive Plan and must meet one or more of the following criteria:

(1) Subsequent events have invalidated the original premise and findings; and/or

Both the proposed C-2 zone and the existing M-U zone district are consistent with the Comprehensive Plan Future Land Use Designation of Commercial/Industrial. Both staff and the Applicant have not identified a subsequent event that would invalidate the existing M-U zoning. Therefore, Staff finds this criterion has not been satisfied by the proposed Rezone.

(2) The character and/or condition of the area has changed such that the amendment is consistent with the Plan; and/or

The area is within the 24 Road Corridor Overlay. The greater area within the overlay, especially east and south of the site, has been transitioning from vacant and agricultural uses to primarily heavy commercial and service-oriented uses. Staff agrees with the Applicant that the proposed Rezone to the C-2 zone district is made in anticipation of future development that is consistent with the trend toward service businesses. The C-2 zone district allows for development that is consistent with the 24 Road Corridor Overlay, as there are many other properties located within the overlay that are zoned C-2.

Properties to the north and east have developed as heavy commercial uses and are allowed to be developed as industrial uses. A C-2 zone district may assist in creating a desirable transition between these areas and the properties to the east located in an M-U zone district, which are intended to develop as a mix of light manufacturing office park employment centers, retail, service, and multifamily residential uses in accordance with the Code. This transition from more intensive industrial type uses to generally less intensive business and service oriented uses is the intention of the Comprehensive plan, which shows the larger area transitioning west to east from Industrial to Commercial/Industrial to Village Center designations. It is staff's finding that creating a C-2 zoning in this area would further the intent of the plan and be consistent with the changing conditions and character of the area. Staff finds this criterion has been met.

(3) Public and community facilities are adequate to serve the type and scope of land use proposed; and/or

The properties can be served by Ute water, City sewer, Xcel Energy electricity and natural gas, and cable network links. The property will also have access to water, sewer and storm drainage infrastructure.

The site is well situated between Community Hospital and Canyon View Park, which both attract visitors of overnight stays. These would be supportive uses should the site develop as a campground/RV park use.

The site is located near the I-70 and 24 Road interchange. Direct access to the site is somewhat limited with 23 ½ Road as the only current access. However, the same limitations would apply to development that is currently allowed in the existing M-U zone district as these two zone districts share similar allowed uses.

The subject properties are within the City of Grand Junction and adequate public and community facilities and services are available and sufficient to serve the anticipated re-development. Therefore, staff finds this criterion has been met.

(4) An inadequate supply of suitably designated land is available in the community, as defined by the presiding body, to accommodate the proposed land use; and/or

An RV park is not an allowable use in an M-U zone district and there are not C-2 zone properties in the immediate vicinity of the site. However, there are several other developable sites in the wider area, that are zoned C-1 or C-2 that would allow for a campground/RV Resort use. These include areas northwest of the I-70 and 24 Road interchange and areas south of 24 ½ Road.

Because there are other properties zoned C-1 and C-2 in the general area, which would currently allow a campground/RV park use, staff finds this criterion has not been met.

(5) The community or area, as defined by the presiding body, will derive benefits from the proposed amendment.

The community will derive benefits from the proposed Rezone by creating an opportunity for the land to be developed in manner that is consistent with recent commercial development in the area. Though uses in the M-U District would allow for similar benefits, the allowable uses in the C-2 zone district will also serve as an appropriate transition from higher intensity uses from the west to the intended village center and mixed-use developments to the east. The Future Land Use designation of Commercial/Industrial contemplates this transition.

Therefore, staff finds that this criterion has been met.

This Rezone request is consistent with the Future Land Use Map designation of Commercial/Industrial as well as the following vision, goals and/or policies of the Comprehensive Plan:

Goal 1 – Policy A:
City and County land use decision will be consistent with the Future Land Use Map.

Goal 3:
The Comprehensive Plan will create ordered and balanced growth and spread future growth throughout the region.

Goal 12 – Policy A:
The City and County will improve as a regional center of commerce, culture and tourism.

Goal 12 – Policy B:
The City and County will provide appropriate commercial and industrial development opportunities.

STAFF RECOMMENDATION AND FINDINGS OF FACT
After reviewing RZN-2018-785, a request to Rezone properties totaling 20.2 acres from the M-U (Mixed Use) zone district to the C-2 (General Commercial) zone district, the following findings of fact have been made:

1. The requested zone is consistent with the goals and policies of the Comprehensive Plan;

2. In accordance with Section 21.02.140 of the Grand Junction Zoning and Development Code, one or more of the criteria have been met.

Therefore, Staff recommends approval of the request to Rezone the properties located at 746 23 ½ Road and the unaddressed contiguous parcel to the north from the M-U (Mixed Use) zone district to the C-2 (General Commercial) zone district.

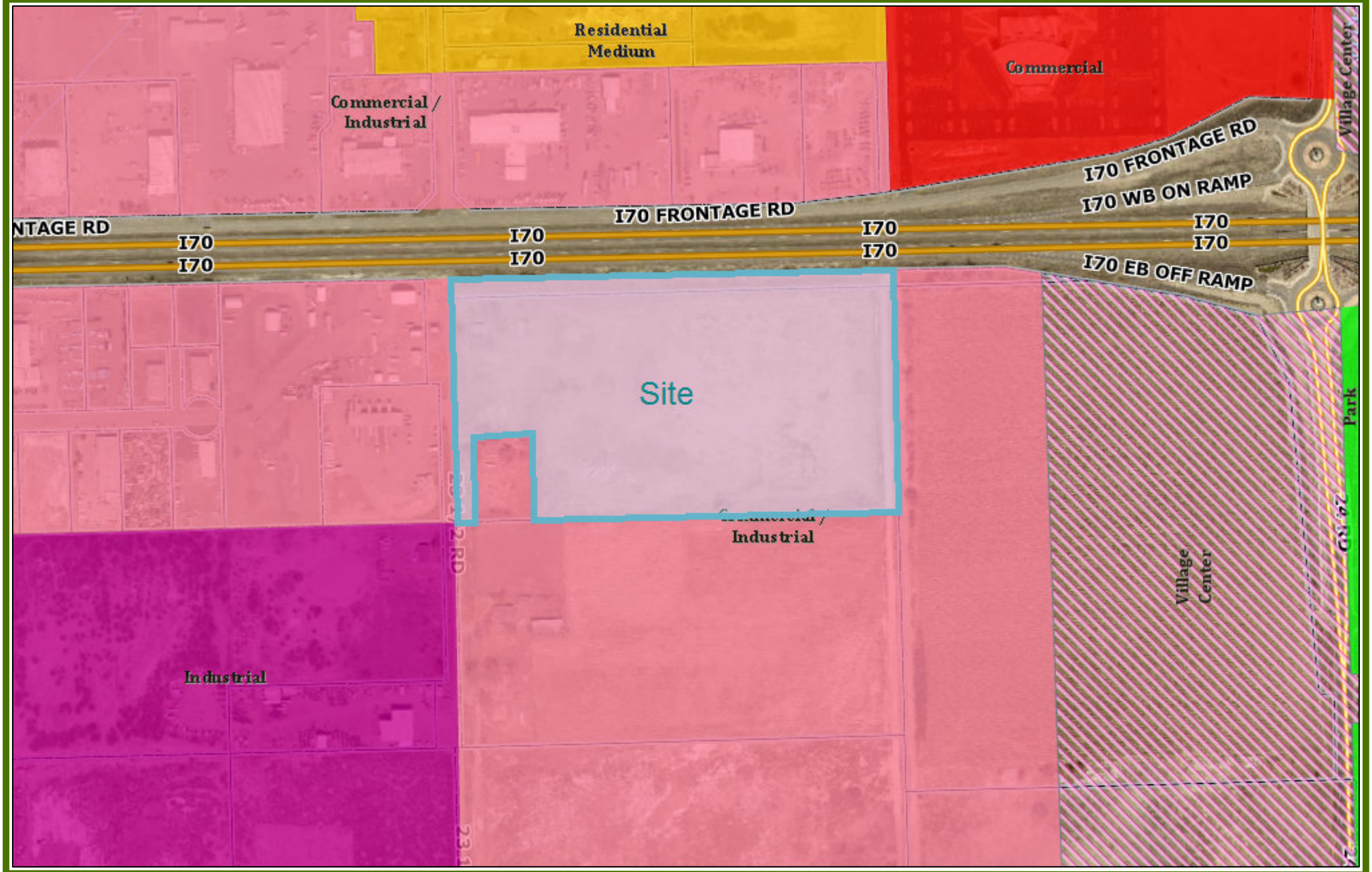
SUGGESTED MOTION:

I move to introduce an ordinance rezoning the Western Slope Properties, LLC properties from M-U (Mixed Use) to C-2 (General Commercial), located at 746 23 ½ Road and set a public hearing for March 6, 2019.

Attachments

1. Site Future Land Use Map
2. Site Vicinity Map
3. Site Zoning Map
4. Ordinance_Rezone_746 23.5 Rd
5. Development Application Binder
6. 746 23.5 Road RV Resort Rezone_Exhibit List_CC

Site Future Land Use Map



N

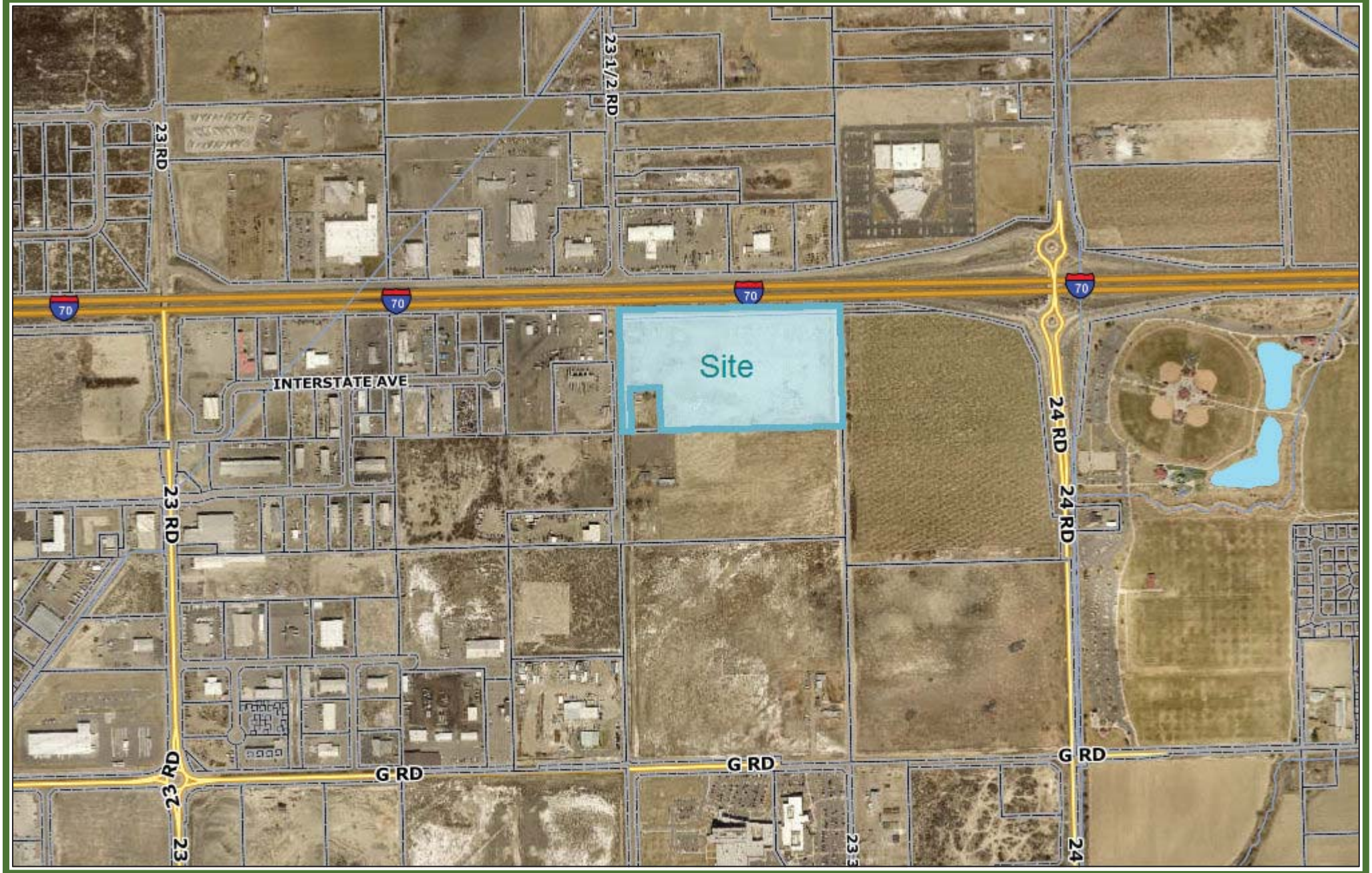
0 0.1 0.2 mi

Printed: 1/23/2019

1 inch = 376 feet

CITY OF Grand Junction COLORADO GEOGRAPHIC INFORMATION SYSTEM

Site Vicinity Map



N

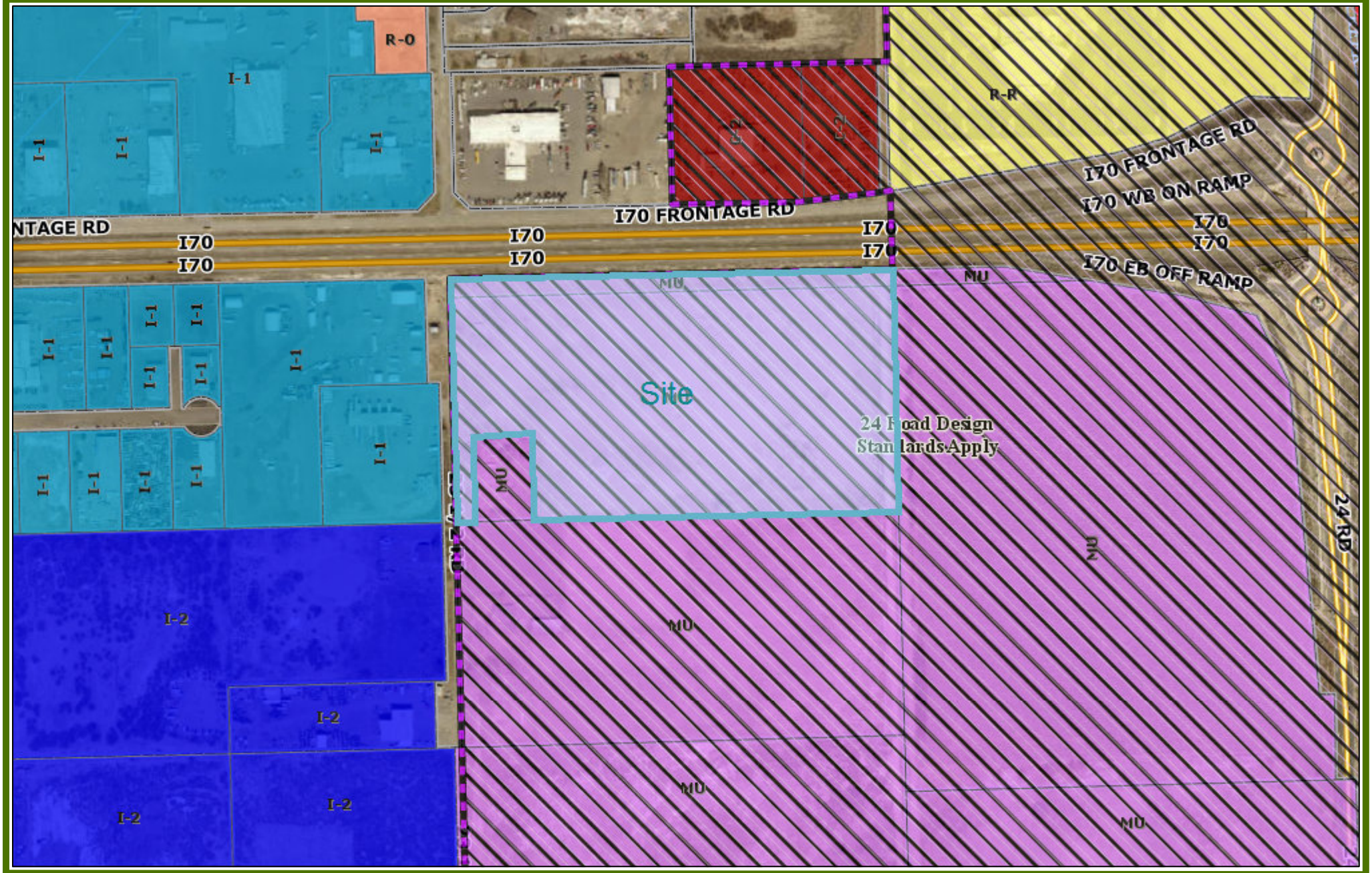
0 0.225 0.45 mi

Printed: 1/23/2019

1 inch = 752 feet

CITY OF Grand Junction COLORADO
GEOGRAPHIC INFORMATION SYSTEM

Site Zoning Map



N

0 0.1 0.2 mi

Printed: 1/23/2019

1 inch = 376 feet

CITY OF Grand Junction COLORADO
GEOGRAPHIC INFORMATION SYSTEM

CITY OF GRAND JUNCTION, COLORADO

ORDINANCE NO.

AN ORDINANCE REZONING THE WESTERN SLOPE PROPERTIES LLC PROPERTIES FROM M-U (MIXED USE) TO C-2 (GENERAL COMMERCIAL)

LOCATED AT 746 23 1/2 ROAD

Recitals:

After public notice and public hearing as required by the Grand Junction Zoning and Development Code, the Grand Junction Planning Commission recommended approval of rezoning the proposed Western Slope Properties LLC properties to the C-2 (General Commercial) zone district, finding that it conforms to and is consistent with the Future Land Use Map designation of Commercial/Industrial of the Comprehensive Plan and the Comprehensive Plan's goals and policies and is generally compatible with land uses located in the surrounding area.

After public notice and public hearing, the Grand Junction City Council finds that the C-2 (General Commercial) zone district is in conformance with at least one of the stated criteria of Section 21.02.140 of the Grand Junction Zoning and Development Code.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF GRAND JUNCTION THAT:

The following properties shall be zoned C-2 (General Commercial):

PARCEL NO. 1
The NI/2 NW1/4 SEI/4 of Section 32,
Township 1 North, Range 1 West of the Ute Meridian;
EXCEPT the following parcel to wit:

Beginning at a point which is 2, 574.82 feet West and I, 980 feet North of the SE corner of said Section 32;
thence East 174.24 feet;
thence North 250 feet;
thence West 174.24 feet;
thence South 250 feet to the Point of Beginning.

PARCEL NO. 2
All that part of the Sl/2 SWI/4 NEI/4 of Section 32,
Township 1 North, Range 1 West of the Ute Meridian lying South of the Right of Way of Interstate 70,

All in County of Mesa, State of Colorado

also known by street and number as: 746 23 1/2 Road, Grand Junction, CO 81505

as identified in Reception # 2819186 in the Office of the Mesa County Clerk and Recorder.

Introduced on first reading this _____day of _____, 2019 and ordered published in pamphlet form.

Adopted on second reading this _____ day of _____, 2019 and ordered published in pamphlet form.

ATTEST:

_____ _____

City Clerk Mayor

CITY OF Grand Junction COLORADO

PUBLIC WORKS & PLANNING

Development Application

We, the undersigned, being the owner's of the property adjacent to or situated in the City of Grand Junction, Mesa County, State of Colorado, as described herein do petition this:

Petition For: Rezone

Please fill in blanks below only for Zone of Annexation, Rezones, and Comprehensive Plan Amendments:

Existing Land Use Designation: CI

Existing Zoning: MU

Proposed Land Use Designation: CI

Proposed Zoning: C-2

Property Information

Site Location: 746 23 1/2 Road

Site Acreage: Approx. 21 acres

Site Tax No(s): 2701-321-00-036 & 2701-324-00-037

Site Zoning: MU

Project Description: Rezone from MU (mixed use) to C-2 (general commercial)

Property Owner Information

Name: EN-SIM Partnership, LLP

Street Address: 2303 W. Ridges Blvd

City/State/Zip: Grand Jct, CO 81507

Business Phone #: (970) 261-7430

E-Mail: doug@enstrom.com

Fax #:

Contact Person: Brad Higginbotham

Contact Phone #: (970) 261-3058

Applicant Information

Name: Western Slope Properties, LL

Street Address: 2700 Gilstrap Crt

City/State/Zip: Glenwood Springs, C

Business Phone #: (970) 945-6100

E-Mail: craig.helm@helmgroup.com

Fax #:

Contact Person: Craig Helm

Contact Phone #: (970) 948-0900

Representative Information

Name: Vortex Engineering, Inc.

Street Address: 2394 Patterson Rd

City/State/Zip: Grand Jct, CO 81601

Business Phone #: (970) 245-9051

E-Mail: rjones@vortexeng.us

Fax #: (970) 245-7639

Contact Person: Robert W. Jones II

Contact Phone #: (970) 245-9051

NOTE: Legal property owner is owner of record on date of submittal.

We hereby acknowledge that we have familiarized ourselves with the rules and regulations with respect to the preparation of this submittal, that the foregoing information is true and complete to the best of our knowledge, and that we assume the responsibility to monitor the status of the application and the review comments. We recognize that we or our representative(s) must be present at all required hearings. In the event that the petitioner is not represented, the item may be dropped from the agenda and an additional fee may be charged to cover rescheduling expenses before it can again be placed on the agenda.

Signature of Person Completing the Application: Jennifer Christensen

Date: 12/06/18

Signature of Legal Property Owner: Douglas S. Simons Jamee E. Simons

Date: 12-10-18

Douglas S. Simons & Jamee E. Simons

General Project Report
For
RV Resort Rezone

Date: December 10, 2018

Prepared by: Robert W. Jones II, P.E.
Vortex Engineering and Architecture, Inc.
2394 Patterson Road, Suite 201
Grand Junction, CO 81505
970-245-9051
VEI# F18-095

Submitted to: City of Grand Junction
250 N. 5th Street
Grand Junction, CO 81501

Type of Design: Rezone from MU (Mixed Use) to C2 (General Commercial)

Owner: EN-SIM Partnership, LLP
701 Colorado Avenue
Grand Junction, CO 81501

Applicant: Western Slope Properties, LLC
2700 Gilstrap Court
Glenwood Springs, CO 81601

Property Address: 746 23 ½ Road
Grand Junction, CO 81505

Tax Schedule No: 2701-324-00-037
2701-321-00-036 (no assigned address)

1. Project Intent

This request is made to rezone two parcels with approximately 20.2 acres from the MU (Mixed Use) zone district to the C2 (General Commercial) zone district in anticipation of future development.



2. Project Background and Description

The site is located at 746 23 ½ Road and contains two parcels that are currently zoned MU (Mixed Use). The subject property is also subject to the 24 Road Design Standards. The applicant would like to rezone the two parcels to the C2 (General Commercial) zone district in anticipation of future development with uses that are permitted in the C2 zone district.

Legal Descriptions

The legal description of **2701-324-00-037** is:
N2NW4SE4 SEC 32 1N 1W EXC BEG 2574.83FT W + 1980FT N OF SE COR SEC 32 E 174.24FT N 250FT W 174.24FT S TO BEG

The legal description of **2701-321-00-036** is:
THAT PT OF S2SW4NE4 SEC 32 1N 1W S OF I-70

3. Neighborhood Meeting

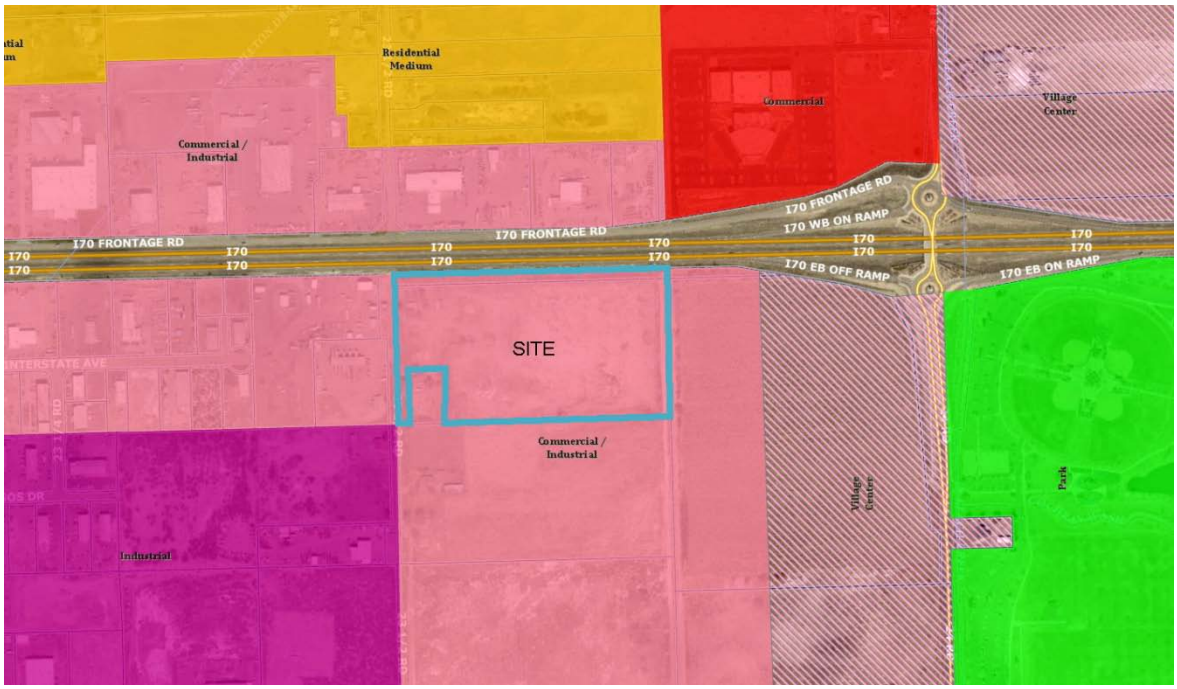
A Neighborhood Meeting was held on Tuesday, November 27, 2018 at 5:30 pm at the DoubleTree Inn, located at 743 Horizon Drive, Grand Junction. The owner's representative provided an overview of the rezone request from the MU (Mixed Use) zone district to the C2 (General Commercial) zone district. Mr. Andrew Gingrich, Associate Planner with the City of Grand Junction, also attended the meeting to answer questions about the rezone review and approval process. A list of all those attending the meeting has been provided with this report, as well as the primary issues of concern that were discussed during the meeting.

Public notice for this application will be provided in accordance with Sec. 21.02.080(g) of the Grand Junction Municipal Code, including posting the subject property on all public rights-of-way.

4. Comprehensive Plan and Zoning

Future Land Use Map

The Comprehensive Plan's Future Land Use Map shows the property as Commercial/Industrial land use classification. The C2 zone district implements the Commercial/Industrial land use classification and is consistent with the Comprehensive Plan.



The proposed rezone meets a number of the goals and policies of the Comprehensive Plan:

Goal 1, Policy D: For development that requires municipal services, those services shall be provided by a municipality or district capable of providing municipal services.

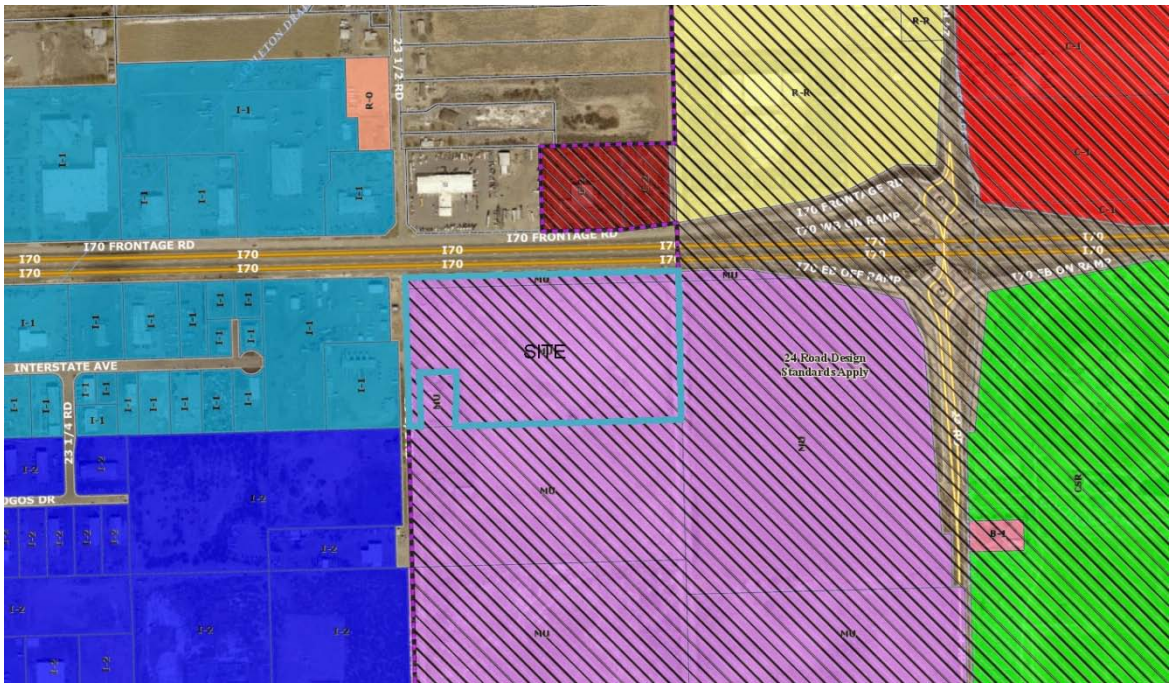
Goal 3: The Comprehensive Plan will create ordered and balanced growth and spread future growth throughout the community.

Zoning and Surrounding Land Use

The applicant is requesting a rezone from the current from MU (Mixed Use) to C2 (General Commercial) zone district. This request is consistent with, and supports, the Comprehensive Plan's Future Land Use Map classification of Commercial/Industrial for the subject property. When development occurs, the property is subject to the 24 Road Corridor Design Standards, irrespective of the zone district assigned to the property. A separate development application will be submitted for the use specific land use.

Surrounding area zoning and land uses include:

North – City C2 and Mesa County PUD with commercial land uses
South – MU (Mixed Use) with two single family residential and agricultural uses
West – I1 (Light Industrial) with commercial and industrial land uses
East – MU (Mixed Use) with agricultural land uses



5. Utility Providers

All required and necessary utilities shall be provided concurrent with development of the subject property. Utility providers for the proposed development have the capacity and willingness to serve the development. Public facilities such as medical, parks and public safety are available to serve development on this site within 2 miles of the site.

Utility providers for the site are as follows:

Sewer: City of Grand Junction/Persigo
Water: Ute Water Conservation District
Drainage: Grand Valley Drainage District
Irrigation water: Grand Valley Irrigation Company
Electric: Grand Valley Power

All utilities shall be constructed to current standards and specifications of the utility and service provider at the time of development.

6. Approval Criteria

Section 21.02.080(d), **General Approval Criteria.** No permit may be approved unless all of the following criteria are satisfied:

(1) Compliance with the Comprehensive Plan and any applicable adopted plan.

Response: The subject property is shown as Commercial/Industrial on the Comprehensive Plan's Future Land Use Map. The property is surrounded by the Commercial/Industrial land use classification which indicates that the Comprehensive Plan anticipates similar type uses of a commercial and industrial nature for this area of the community. Furthermore, the requested rezone to the C2 zone district will implement the Commercial/Industrial land use classification. Allowed uses in the C2 zone district are compatible with surrounding zoning and existing land uses.

The proposed development meets the following goal and policy of the Comprehensive Plan:

Goal 1, Policy D: For development that requires municipal services, those services shall be provided by a municipality or district capable of providing municipal services.
Goal 3: The Comprehensive Plan will create ordered and balanced growth and spread future growth throughout the community.

This criterion has been MET.

(2) Compliance with this zoning and development code.

Response: The requested rezone to C2 zone districts supports the Comprehensive Plan's Future Land Use classification of Commercial/Industrial. Future development will comply with the provisions of Sec. 21.03, Zoning Districts; Sec. 21.04, Uses and Sec. 21.06, Development Standards of the Zoning and Development Code. The approval criteria of Section 21.02.140(a) have been addressed and met.

This criterion has been MET.

(3) Conditions of any prior approvals.

Response: There are no conditions of a prior approval that pertain to the subject property.

This criterion is not applicable.

(4) Public facilities and utilities shall be available concurrent with the development.

Response: All required and necessary utilities shall be provided concurrent with development of the subject property. Utility providers for the subject property have the capacity and willingness to serve future development. Public facilities such as medical, schools, parks and public safety are available to serve development on this site.

This criterion has been MET.

(5) Received all applicable local, State and federal permits.

Response: All applicable local, state and federal permits shall be obtained.

This criterion has been MET.

Section 21.02.140(a), **Code amendment and rezoning**. Approval Criteria. In order to maintain internal consistency between this code and the zoning maps, map amendments must only occur if:

(1) Subsequent events have invalidated the original premises and findings; and/or

Response: Subsequent events have not invalidated the original premises and findings for the land use classification of Commercial/Industrial for the subject property. The Comprehensive Plan anticipates a variety of commercial and industrial land uses that are implemented through various zoning districts. The applicant wishes to rezone the property to a zone district that will continue to support the Comprehensive Plan in anticipation of

future development, but that also supports land uses that are more commercial in nature than what the MU zone district allows.

This criterion is not applicable.

(2) The character and/or condition of the area has changed such that the amendment is consistent with the Plan; and/or

Response: The character and/or condition of the area is evolving with a range of new developments that tend to be more service in nature such as new hotels, a convenience and gas station and a proposed new bank and office building. The proposed rezone to the C2 zone district is made in anticipation of future development that is consistent with the trend toward service businesses. The current zone district does not support the variety of land uses that the applicant would like to develop, while still maintaining the intent of the Comprehensive Plan.

The requested rezone to C2 will further the goals and policies of the Comprehensive Plan by providing for development that is consistent with the type of anticipated growth and development in this area of the community.

This criterion has been MET.

(3) Public and community facilities are adequate to serve the type and scope of land use proposed; and/or

Response: All required and necessary utilities shall be provided concurrent with development of the subject property. Utility providers for the subject property have the capacity and willingness to serve future development. Public facilities such as medical facilities, schools, library and parks are adequate to serve the scope of anticipated residential development.

This criterion has been MET.

(4) An inadequate supply of suitably designated land is available in the community, as defined by the presiding body, to accommodate the proposed land use; and/or

Response: The current and nearby zoning does not support the type of service related business that the applicant would like to develop on the subject property. While there may be other areas in the community that have the C2 zoning, they are not located in the vicinity of the subject property.

This criterion is not applicable.

(5) The community or area, as defined by the presiding body, will derive benefits from the proposed amendment.

Response: The requested rezone seeks to develop the subject property through the C2 zone district, which supports and implements the Comprehensive Plan, to establish a service related business that is also consistent with existing land uses and businesses.

The community will derive benefit from the rezone by supporting a change in zone districts to the C2 which encourages development of businesses that are compatible with and supports existing land uses and businesses.

This criterion has been MET.

7. Conclusion

The request to rezone from the MU (Mixed Use) zone district to the C2 (General Commercial) zone district supports the Comprehensive Plan's Future Land Use Map classification of Commercial/Industrial. After demonstrating how the requested rezone meets the approval criteria of the Zoning and Development Code and the goals and policies of the Comprehensive Plan, we respectfully request approval of the rezone from the MU (Mixed Use) zone district to the C2 (General Commercial) zone district.

8. Limitations/Restrictions

This report is a site-specific report and is applicable only for the client for whom our work was performed. The review and use of this report by City of Grand Junction, affiliates, and review agencies is fully permitted and requires no other form of authorization. Use of this report under other circumstances is not an appropriate application of this document. This report is a product of Vortex Engineering, Inc. and is to be taken in its entirety. Excerpts from this report when taken out of context may not convey the true intent of the report. It is the owner's and owner's agent's responsibility to read this report and become familiar with recommendations and findings contained herein. Should any discrepancies be found, they must be reported to the preparing engineer within 5 days.

The recommendations and findings outlined in this report are based on: 1) The site visit and discussion with the owner, 2) the site conditions disclosed at the specific time of the site investigation of reference, 3) various conversations with planners and utility companies, and 4) a general review of the zoning and transportation manuals. Vortex Engineering, Inc. assumes no liability for the accuracy or completeness of information furnished by the client or municipality/agency personnel. Site conditions are subject to external environmental effects and may change over time. Use of this report under different site conditions is inappropriate. If it becomes apparent that current site conditions vary from those reported, the design

engineering should be contacted to develop any required report modifications. Vortex Engineering, Inc. is not responsible and accepts no liability for any variation of assumed information.

Vortex Engineering, Inc. represents this report has been prepared within the limits prescribed by the owner and in accordance with the current accepted practice of the civil engineering profession in the area. No warranty or representation either expressed or implied is included or intended in this report or in any of our contracts.

November 28, 2018

City of Grand Junction
Andrew Gingrich, Associate Planner
Community Development Dept.
250 N 5th Street
Grand Junction, CO 81501

Neighborhood Meeting - Rezone
RE: RV Resort at 746 23 ½ Rd
Date: Tuesday, November 27, 2018
Time: 5:30 – 6:30 pm
Location: Doubletree Hotel

Dear Mr. Gingrich:

A Neighborhood Meeting was held on November 27, 2018 in accordance with Section 21.02.080(e), Neighborhood Meeting of the Grand Junction Municipal Code, for the above referenced project. The meeting was called to order at 5:30 pm with Ms. Lisa Cox of Vortex Engineering, Inc., presenting an overview of the rezone request.

Ms. Cox explained that the applicant would like to rezone the subject property from the current MU (Mixed Used) zone district to the C2 (General Commercial) zone district in anticipation of future development. She noted that the 24 Road Corridor Design Standards would also apply to the property. Ms. Cox noted that the Comprehensive Plan showed the property as Commercial-Industrial on the Future Land Use map and that the C2 zone district implemented the Comprehensive Plan.

During the meeting, Ms. Cox explained that there were several opportunities for citizen input and comments on the proposed development application, including the following:

1. Written comments could be submitted during the Neighborhood Meeting
2. After the application was submitted, comments could be sent to the City
3. Planning Commission public hearing
4. City Council public hearing

The meeting was attended by twelve citizens with several questions and comments made. Information about the City's review process was addressed by Mr. Andrew Gingrich. The following is a synopsis of the primary issues and questions posed by the meeting attendees.

1. Drainage issues needed to be addressed with development of the site on 23 ½ Road and 24 ¾ Road.
2. Heavy truck traffic on 23 ½ Road by existing businesses.
3. The MU is a terrible zone and never should have been started.
4. Did not want property taxes to go up on adjacent properties after the rezone.
5. Concern that notice for the Neighborhood Meeting said there would be an RV park on the property and that's not what was being discussed. Only the rezone was being discussed at the Neighborhood Meeting.
6. Notice to property owners in the 500' area not very effective because of large lots.

7. Where could you find the City's zoning code?
8. What were examples of allowed uses in the MU and C2 zone districts?
9. Would there be access to the Interstate?
10. More development in this area was good energy.
11. Concerns with drivers hauling large campers/RVs on the 23 ½ Road.
12. Were residents voting on the rezone at the meeting tonight?

Ms. Cox addressed the questions with additional information and explained that a separate application would be submitted to the City at the time of development of the site. Property owners located within 500' of the site would be notified when the application was received by the City. With no further questions, Ms. Cox thanked those who attended and called the meeting to a close at 6:15 pm.

Upon your review of the meeting notes, should you have any questions or amendments, please do not hesitate to contact me at 970-245-9051.

Sincerely,



Robert W. Jones II, P.E.
Vortex Engineering & Architecture, Inc.

Cc: File

746 23 ½ Road Rezone
Neighborhood Meeting Sign In Sheet
Tuesday, November 27, 2018

	Full Name (Printed)	Address	City	Zip
1	Jennifer Rister	2394 Patterson Rd Suite 201	GJ	81505
2	Eddie Fitzpatrick	738 23½ Rd	GJ	81505
3	LOIS DUNN	PO BOX 1889	GJ	81502
4	Sam Susuras	P.O. Box 1330	GJ	81502
5	Craig Helm	Glenwood Springs		81601
6		738 23½ Rd	GJ	81505
7	ANDREW GIACOMICH	CITY OF GJ		
8	ROCKY ARNOTT	2669 PARADISE DR GJ	GJ	81506
9	Jarad Usher			
10	Joe E Jessica SEGREST	821 27 1/4 RD GJ CO 81506 15967 BULL MESA RD CEDAREDGE CO 81413	PHONE - Jessica 970 255 8363 PHONE - Joe 970 856-1038	
11	Dale Beede	2689 Lookout Lane, GJ 81503	GJ	81503
12	Trista Cox - Vortex Eng	2394 Patterson Rd, Suite 201	GJ	81505
13				
14				
15				

Comment Sheet
Neighborhood Meeting – 746 23 ½ Road - Rezone
Tuesday, November 27, 2018

Please notify John Fitzpatrick when the City Planner will be doing the rezoning application is submitted and who will be in charge at the City.

Thank you

John Fitzpatrick

(970) 243 5975

Industrial Pretreatment Division
Persigo Wastewater Plant
2145 River Road
Grand Junction, CO 81505
970-256-4180

INDUSTRIAL PRETREATMENT SURVEY

FOR ALL INDUSTRIAL and COMMERCIAL (Non-Residential) BUSINESSES

The United States Environmental Protection Agency (USEPA) requires the City of Grand Junction (City) Industrial Pretreatment Program to regulate industrial and commercial facilities in our service area that generate wastewater that may be significant to the Persigo Wastewater Treatment Facility. To support this requirement, the City performs business and facility surveys and inspections to obtain information regarding facility operations and chemical usage, and to evaluate the significance of a facility's wastewater discharge to the publicly owned sewer system. This survey is a screening tool to determine if additional City requirements are required and to add local commercial and industrial businesses to the City's Industrial Pretreatment database.

Facility Name: RV Park - 746 23 1/2 Road

Facility Location: 746 23 1/2 Road

Mailing Address: 2700 Gilstrap Court, Glenwood Springs, CO 81601

Facility Owner: EN-SIM Partnership, LLP (Name) | Owner (Title) | (Phone #)

Facility Contact: Craig Helm (Name) | Applicant (Title) | (970) 948-0900 (Phone #)

e-mail address: craig.helm@helmgroup.com

Contractor Contact: TBD (Name) | (Phone #) | (e-mail)

1. **Provide a brief description of new project (ex: new building construction, painting, roofing, remodel, etc.)**
   New building construction - RV Park

2. **Provide a brief description of the operations at this facility including primary products and services (ex: restaurant, retail, garage, office, medical, etc.)** RV Park w/office

3. **Please answer the following questions to determine if other Pretreatment applications may be required to be completed for your project or facility.** *****All Questions Must Be Answered*****

Yes	No	Industrial Pretreatment Survey Form
✓		Is this facility an office or retail store?
✓		Will this facility discharge only domestic wastewater or sewage that is typically only found in a residential home? (Note: *Domestic wastewater* is wastewater generated *only* from typical bathroom and breakroom facilities, such as toilets and breakroom sinks, hand sinks and showers. *All other industrial or commercial wastewater is considered process wastewater.*)

	✓	Will there be any changes to the existing plumbing? If Yes, briefly describe the change: _____ _____
	✓	Is this facility under new ownership or lease agreement?
	✓	Has this facility stopped operation or been closed for a period of 12 months or longer?

Yes	No	Food Service
	✓	Is this a food service or food processing facility (ex: restaurant, coffee shop, fast food, catering, etc.) or has any of the following: bar, bistro, bakery, butcher shop, cannery, etc?
	✓	Does this facility have a commercial kitchen?

Yes	No	Vehicle/Equipment
	✓	Does this facility service or clean any vehicles or equipment (ex: engines, parts, valves)?
	✓	Does this facility do any **materials** or **metal** fabrication (ex: grinding, polishing, cutting, welding, forging, tumbling, etc.)?
	✓	Are there any floor drains in the shop area?

Yes	No	Medical
	✓	Does this facility provide medical services?
	✓	Does this facility provide dental services?
	✓	Does this facility operate a laboratory?

Yes	No	Recreational Vehicle Dump Station
	✓	Does this facility provide a Recreational Vehicle Septage Dump Station?

Yes	No	Other Industrial Discharge
	✓	Does this facility discharge or produce any processed industrial or commercial wastewater other than the types listed above?

Yes	No	Material Use
	✓	Will this facility use, store or generate any flammable, toxic, corrosive or hazardous materials?

CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. *By submitting this survey, I certify that I am the owner/officer/manager of the property or that I have the authority to submit this survey on behalf of the owner.*

Printed Name & Title: Craig Helm - Manager Western Slope Properties LLC

Signature: _____ **Date:** 11/30/10

OWNERSHIP STATEMENT - CORPORATION OR LIMITED LIABILITY COMPANY

(a) EN-SIM Partnership, LLP ("Entity") is the owner of the following property:

(b) Parcel No. 2701-324-00-037 (746 23 1/2 Road) & Parcel No. 2701-321-00-036 (no assigned address)

A copy of the deed(s) evidencing the owner's interest in the property is attached. Any documents conveying any interest in the property to someone else by the owner are also attached.

I am the (c) Partner for the Entity. I have the legal authority to bind the Entity regarding obligations and this property. I have attached the most recent recorded Statement of Authority of the Entity.

(•) My legal authority to bind the Entity both financially and concerning this property is unlimited.

( ) My legal authority to bind the Entity financially and/or concerning this property is limited as follows:

(•) The Entity is the sole owner of the property.

( ) The Entity owns the property with other(s). The other owners of the property are:

On behalf of Entity, I have reviewed the application for the (d) Rezone

I have the following knowledge or evidence of a possible boundary conflict affecting the property:

(e) N/A

I understand the continuing duty of the Entity to inform the City planner of any changes regarding my authority to bind the Entity and/or regarding ownership, easement, right-of-way, encroachment, lienholder and any other interest in the land.

I swear under penalty of perjury that the information in this Ownership Statement is true, complete and correct.

Signature of Entity representative: Douglas S. Simons Jamee E. Simons

Printed name of person signing: Douglas S. Simons/Partner & Jamee E. Simons/Partner

State of Colorado)

County of Mesa) ss.

Subscribed and sworn to before me on this 10th day of DECEMBER, 2018

by Douglas S. Simons & Jamee E. Simons

Witness my hand and seal.

My Notary Commission expires on AUGUST 14, 2021

CAROLYN MARIE FUTCH
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID #20134050887
My Commission Expires August 14, 2021

Carolyn Marie Futch
Notary Public Signature

904483

BOOK3055 PAGE258

STATEMENT OF AUTHORITY

C.R.S. Section 38-30-172

2049690 04/08/02 1251PM
MONIKA TODD CLK&REC MESA COUNTY CO
RECFEE $5.00

1. This Statement of Authority relates to an entity [1] named EN-SIM PARTNERSHIP, LLP.
2. The type of entity is a:

[ ] corporation	[X] registered limited liability partnership
[ ] nonprofit corporation	[ ] registered limited liability limited partnership
[ ] limited liability company	[ ] limited partnership association
[] general partnership	[ ] government or governmental subdivision or agency
[ ] limited partnership	
[ ] _____	

3. The entity is formed under the laws of Colorado.
4. The mailing address for the entity is 200 South 7th Street, Grand Junction, Colorado 81501.
5. The [X] name and [X] position of each person authorized to execute instruments conveying, encumbering, or otherwise affecting title to real property on behalf of the entity are DOUGLAS S. SIMONS and JAMEE E. SIMONS, constituting all of the partners of the partnership.

6.[2] The authority of the forgoing persons to bind the entity is [X] not limited.

7. Other matters concerning the manner in which the entity deals with interests in real property: N/A

8.[3] This Statement of Authority is executed on behalf of the entity pursuant to the provisions of Section 38-30-172, C.R.S.

Executed this 5th day of April, 2002.

EN-SIM PARTNERSHIP, LLP

By D S Simons
Douglas S. Simons

By Jamee E Simons
Jamee E. Simons

State of Colorado)
) ss.
County of Mesa)

The foregoing instrument was acknowledged before me this 5th day of April, 2002, by DOUGLAS S. SIMONS and JAMEE E. SIMONS.

Witness my hand and official seal
My commission expires: 4/7/2005

NOTARY PUBLIC
G. DALE WILLIAMS
STATE OF COLORADO

G. Dale Williams
Notary Public

[1] This form should not be used unless the entity is capable of holding title to real property.
[2] Any limitation shall be prima facie evidence that no such limitation exists.
[3] The Statement of Authority must be recorded to obtain the benefits of the statute.

I:\forms\stmt of auth

November 28, 2018

City of Grand Junction
Andrew Gingrich, Associate Planner
Community Development Dept.
250 N 5th Street
Grand Junction, CO 81501

Neighborhood Meeting - Rezone
RE: RV Resort at 746 23 ½ Rd
Date: Tuesday, November 27, 2018
Time: 5:30 – 6:30 pm
Location: Doubletree Hotel

Dear Mr. Gingrich:

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Ms. Cox explained that the applicant would like to rezone the subject property from the current MU (Mixed Used) zone district to the C2 (General Commercial) zone district in anticipation of future development. She noted that the 24 Road Corridor Design Standards would also apply to the property. Ms. Cox noted that the Comprehensive Plan showed the property as Commercial-Industrial on the Future Land Use map and that the C2 zone district implemented the Comprehensive Plan.

During the meeting, Ms. Cox explained that there were several opportunities for citizen input and comments on the proposed development application, including the following:

1. Written comments could be submitted during the Neighborhood Meeting
2. After the application was submitted, comments could be sent to the City
3. Planning Commission public hearing
4. City Council public hearing

The meeting was attended by twelve citizens with several questions and comments made. Information about the City's review process was addressed by Mr. Andrew Gingrich. The following is a synopsis of the primary issues and questions posed by the meeting attendees.

1. Drainage issues needed to be addressed with development of the site on 23 ½ Road and 24 ¾ Road.
2. Heavy truck traffic on 23 ½ Road by existing businesses.
3. The MU is a terrible zone and never should have been started.
4. Did not want property taxes to go up on adjacent properties after the rezone.
5. Concern that notice for the Neighborhood Meeting said there would be an RV park on the property and that's not what was being discussed. Only the rezone was being discussed at the Neighborhood Meeting.
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8. What were examples of allowed uses in the MU and C2 zone districts?
9. Would there be access to the Interstate?
10. More development in this area was good energy.
11. Concerns with drivers hauling large campers/RVs on the 23 ½ Road.
12. Were residents voting on the rezone at the meeting tonight?

Ms. Cox addressed the questions with additional information and explained that a separate application would be submitted to the City at the time of development of the site. Property owners located within 500' of the site would be notified when the application was received by the City. With no further questions, Ms. Cox thanked those who attended and called the meeting to a close at 6:15 pm.

Upon your review of the meeting notes, should you have any questions or amendments, please do not hesitate to contact me at 970-245-9051.

Sincerely,



Robert W. Jones II, P.E.
Vortex Engineering & Architecture, Inc.

Cc: File

Comment Sheet
Neighborhood Meeting – 746 23 ½ Road - Rezone
Tuesday, November 27, 2018

Please notify John Fitzpatrick when the City Planner will be doing the rezoning application is submitted and who will be in charge of the City.

Thank you

John Fitzpatrick

(970) 243 5975

746 23 ½ Road Rezone
Neighborhood Meeting Sign In Sheet
Tuesday, November 27, 2018

	Full Name (Printed)	Address	City	Zip
1	Jennifer Kristen	2394 Patterson Rd, Suite 201	GJ	81505
2	Eddie Fitzpatrick	738 23½ Rd	GJ	81505
3	LOIS DUNN	PO BOX 1889	GJ	81502
4	Sam Susuras	P.O. Box 1330	GJ	81502
5	Craig Helm	Glenwood Springs		81601
6		738 23½ Rd	GJ	81505
7	ANDREW GINGERICH	CITY OF GJ		
8	ROCKY ARNOTT	2669 PARADISE DR GJ	GJ	81506
9	Jovad Usher			
10	Joe E SEGREST Jessica	821 27 1/4 RD GJ CO 81506 15967 BULL MESA RD CEDARDALE CO 81413	PHONE - Jessica 970 255 8363 PHONE - Joe 970 856-1038	
11	Dale Beede	2689 Lookout Lane, GJ 81503	GJ	81503
12	Luisa Cox - Vortex Eng	2394 Patterson Rd, Suite 201	GJ	81505
13				
14				
15				

Neighborhood Meeting 11/27/18
RV Park - 744 23 1/2 Road

Started 5:30 called at 6:15

Lisa Cox gave overview of project. MU to C2 Rezone. 24 Road Corridor Design Standards apply. She commented that there are several opportunities for Citizen input

Andrew Gingrich w/ City addressed the process of the City and provided information

Concerns/Questions
- Drainage issues
- Heavy truck/vehicle access at 23 1/2 Rd
- taxes go up?
- 500' notice is no sufficient due to the surrounding area
- Where can find city code
- ex: of allowed uses in C2 code
- access to interstate

746 23 1/2 Road



N

0 0.1 0.2 mi

Printed: 11/27/2018

1 inch = 376 feet

CITY OF Grand Junction COLORADO
GEOGRAPHIC INFORMATION SYSTEM

746 23 1/2 Road



N

0 0.15 0.3 mi

Date: 11/27/2018

1 inch = 376 feet

CITY OF Grand Junction COLORADO
GEOGRAPHIC INFORMATION SYSTEM

MESA COUNTY CERTIFICATE OF TAXES DUE

Account Number R017818
Parcel 270132400037

Certificate Number 72414
Acres 19.000
Order Number 37300
Vendor ID LAND

Assessed To

EN-SIM PARTNERSHIP LLP
653 ROUND HILL DR
GRAND JUNCTION, CO 81506-1439

LAND TITLE GUARANTEE CO
2454 PATTERSON RD., STE 100
GRAND JUNCTION, CO 81505

Legal Description

N2NW4SE4 SEC 32 1N 1W EXC BEG 2574.83FT W + 1980FT N OF SE COR SEC 32 E 174.24FT N 250FT W 174.24FT S TO BEG

Situs Address

746 23 1/2 RD

Year	Tax	Interest	Fees	Payments	Balance
Tax Charge					
2017	$17,646.60	$0.00	$0.00	($17,646.60)	$0.00
Total Tax Charge					$0.00
Grand Total Due as of 11/01/2018					**$0.00**

Tax Billed at 2017 Rates for Tax Area 10301 - 10301

Authority	Mill Levy	Amount
COLORADO RIVER WATER CONSER	0.2540000	$63.13
MESA CNTY ROAD & BRIDGE-GRA	0.2215000	$55.05
CITY OF GRAND JUNCTION	8.0000000	$1,988.32
GRAND RIVER MOSQUITO CTRL	1.4520000	$360.88
GRAND VALLEY DRAINAGE DIST	1.7440000	$433.45
LIBRARY DISTRICT	3.0210000	$750.84
MESA COUNTY	11.8030000	$2,933.53
COUNTY ROAD & BRIDGE-1/2 LE	0.2215000	$55.05
SCHOOL DIST #51 GEN	29.7630000	$7,397.30
SCHOOL DIST# 51 BOND	10.1400000	$2,520.20
SCHOOL DIST# 51 2017 OVERRI	3.8810000	$964.58
UTE WATER CONSERVANCY	0.5000000	$124.27
Taxes Billed 2017	71.0010000	$17,646.60

Values	Actual	Assessed
SINGLE FAMILY LAND	$39,000	$2,810
SINGLE FAMILY IMP	$68,930	$4,960
SPECIAL PURPOSE - LAND	$830,250	$240,770
Total	$938,180	$248,540

All tax lien sale amounts are subject to change due to endorsement of current taxes by the lienholder or to advertising and distraint warrant fees. Changes may occur and the Treasurer's office will need to be contacted prior to remittance after the following dates: Personal Property and Mobile Homes, Real Property - September 1. Tax lien sale redemption amounts must be paid by cash or cashiers check.

Special taxing districts and the boundaries of such districts may be on file with the board of County Commissioners, the County Clerk, or the County Assessor.

This certificate does not include land or improvements assessed under a separate account number, personal property taxes, transfer tax or misc. tax collected on behalf of other entities, special or local improvement district assessments or mobile homes, unless specifically mentioned.

I, the undersigned, do hereby certify that the entire amount of taxes due upon the above described parcels of real property and all outstanding sales for unpaid taxes as shown by the records in my office from which the same may still be redeemed with the amount required for redemption are as noted herein. In witness whereof, I have hereunto set my hand and seal.

TREASURER, MESA COUNTY, JANICE RICH



Mesa County Treasurer
Dept. 5027 – PO Box 20,000
544 Rood Ave, Room 100
Grand Junction CO 81502-5001

Land Title Guarantee Company
Customer Distribution

PREVENT FRAUD - Please remember to call a member of our closing team when initiating a wire transfer or providing wiring instructions.

Order Number: **GJC65037300-2** Date: **11/07/2018**

Property Address: **746 23 1/2 RD, GRAND JUNCTION, CO 81505**

PLEASE CONTACT YOUR CLOSER OR CLOSER'S ASSISTANT FOR WIRE TRANSFER INSTRUCTIONS

For Closing Assistance
Jennifer Brownell
2454 PATTERSON RD #100
GRAND JUNCTION, CO 81505
(970) 248-3899 (Work)
(800) 820-8423 (Work Fax)
jbrownell@ltgc.com
Contact License: CO74745
Company License: CO68747

Closer's Assistant
Kimberly Alirez
2454 PATTERSON RD #100
GRAND JUNCTION, CO 81505
(970) 245-0550 (Work)
(800) 830-8638 (Work Fax)
kalirez@ltgc.com
Company License: CO68747

For Title Assistance
Mesa County Title Team
2454 PATTERSON RD #100
GRAND JUNCTION, CO 81505
(970) 245-0550 (Work)
(970) 245-0089 (Work Fax)
gjresponse@ltgc.com

Buyer/Borrower
WESTERN SLOPE PROPERTIES LLC OR ASSIGNS
Attention: CRAIG HELM
2700 GILSTRAP COURT
SUITE 300
GLENWOOD SPRINGS, CO 81601
(970) 948-0900 (Cell)
craig.helm@helmgroup.com
Delivered via: Delivered by Realtor

Agent for Seller
RE/MAX 4000 INC
Attention: BRADNEY HIGGINBOTHAM
120 W PARK DRIVE #200
GRAND JUNCTION, CO 81505
(970) 241-4000 (Work)
(970) 261-3058 (Home)
(970) 241-4015 (Work Fax)
brad@gjproperties.com
Delivered via: Courier

Seller/Owner
EN-SIM PATRTNERSHIP LLP
Attention: DOUGLAS S SIMONS
Delivered via: Delivered by Realtor

Agent for Seller
RE/MAX 4000 INC
Attention: RAY RICKARD
120 W PARK DRIVE #200
GRAND JUNCTION, CO 81505
(970) 241-4000 (Work)
(970) 250-1128 (Home)
(970) 241-4015 (Work Fax)
ray@gjproperties.com
Delivered via: Courier

Agent for Buyer
SADLER REAL ESTATE INC
Attention: CRAIG HELM
2700 GILSTRAP COURT #300
GLENWOOD SPRINGS, CO 81601
(970) 948-0900 (Work)
craig.helm@helmgroup.com
Delivered via: Electronic Mail

Land Title Guarantee Company
Estimate of Title Fees

Order Number: **GJC65037300-2** Date: **11/07/2018**

Property Address: **746 23 1/2 RD, GRAND JUNCTION, CO 81505**

Parties: **WESTERN SLOPE PROPERTIES, LLC, A COLORADO LIMITED LIABILITY COMPANY**

EN-SIM PARTNERSHIP, L.L.P., A COLORADO LIMITED LIABILITY PARTNERSHIP

Visit Land Title's Website at **www.ltgc.com** for directions to any of our offices.

Estimate of Title insurance Fees	
"ALTA" Owner's Policy 06-17-06 Reissue Rate	$1,486.00
Deletion of Standard Exception(s)	$100.00
Tax Certificate	$52.00
	Total $1,638.00
If Land Title Guarantee Company will be closing this transaction, the fees listed above will be collected at closing.	
Thank you for your order!	

Note: The documents linked in this commitment should be reviewed carefully. These documents, such as covenants conditions and restrictions, may affect the title, ownership and use of the property. You may wish to engage legal assistance in order to fully understand and be aware of the implications of the effect of these documents on your property.

Chain of Title Documents:

Mesa county recorded 10/27/2017 under reception no. 2819187

Mesa county recorded 10/27/2017 under reception no. 2819186

Mesa county recorded 10/24/2017 under reception no. 2818806

Mesa county recorded 08/15/2017 under reception no. 2810867

Mesa county recorded 05/13/2015 under reception no. 2723763 at book 5723 page 602

Mesa county recorded 01/20/2010 under reception no. 2520017 at book 4968 page 737

Mesa county recorded 01/05/2009 under reception no. 2470746 at book 4773 page 203

Mesa county recorded 09/05/2002 under reception no. 2074764 at book 3148 page 26

Mesa county recorded 04/08/2002 under reception no. 2049690 at book 3055 page 258

ALTA COMMITMENT

Old Republic National Title Insurance Company

Schedule A

Order Number: GJC65037300-2

Property Address:

746 23 1/2 RD, GRAND JUNCTION, CO 81505

1. **Effective Date:**

   10/17/2018 at 5:00 P.M.

2. **Policy to be Issued and Proposed Insured:**

   "ALTA" Owner's Policy 06-17-06 Reissue Rate $1,335,000.00
   Proposed Insured:
   WESTERN SLOPE PROPERTIES, LLC, A COLORADO LIMITED
   LIABILITY COMPANY

3. **The estate or interest in the land described or referred to in this Commitment and covered herein is:**

   A Fee Simple

4. **Title to the estate or interest covered herein is at the effective date hereof vested in:**

   EN-SIM PARTNERSHIP, L.L.P., A COLORADO LIMITED LIABILITY PARTNERSHIP

5. **The Land referred to in this Commitment is described as follows:**

   THE N½ NW¼ SE¼ OF SECTION 32, TOWNSHIP 1 NORTH, RANGE 1 WEST OF THE UTE MERIDIAN; EXCEPT THE FOLLOWING PARCEL TO WIT:

   BEGINNING AT A POINT WHICH IS 2,574.82 FEET WEST AND 1,980 FEET NORTH OF THE SOUTHEAST CORNER OF SAID SECTION 32;
   THENCE EAST 174.24 FEET;
   THENCE NORTH 250 FEET;
   THENCE WEST 174.24 FEET;
   THENCE SOUTH 250 FEET TO THE POINT OF BEGINNING.

   NOTE: THE ABOVE LEGAL DESCRIPTION IS REAL PROPERTY ONLY AND DOES NOT INCLUDE MANUFACTURED HOUSING.

   PARCEL NO. 2:

   ALL THAT PART OF THE S½ SW¼ NE¼ OF SECTION 32, TOWNSHIP 1 NORTH, RANGE 2 WEST OF THE UTE MERIDIAN LYING SOUTH OF THE RIGHT OF WAY OF INTERSTATE 70,

   ALL IN COUNTY OF MESA, STATE OF COLORADO.

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ALTA COMMITMENT

Old Republic National Title Insurance Company

Schedule B, Part I

(Requirements)

Order Number: GJC65037300-2

All of the following Requirements must be met:

This proposed Insured must notify the Company in writing of the name of any party not referred to in this Commitment who will obtain an interest in the Land or who will make a loan on the Land. The Company may then make additional Requirements or Exceptions.

Pay the agreed amount for the estate or interest to be insured.

Pay the premiums, fees, and charges for the Policy to the Company.

Documents satisfactory to the Company that convey the Title or create the Mortgage to be insured, or both, must be properly authorized, executed, delivered, and recorded in the Public Records.

1. (THIS ITEM WAS INTENTIONALLY DELETED)
2. AN IMPROVEMENT LOCATION CERTIFICATE/SURVEY FOR THE SUBJECT PROPERTY WAS PREPARED BY D H SURVEYS INC., JOB NO. 639-02-02, DATED SEPTEMBER 23, 2003, THAT IS ACCEPTABLE TO THE COMPANY.

   A SURVEY AFFIDAVIT, EXECUTED BY EN-SIM PARTNERSHIP, L.L.P., A COLORADO LIMITED LIABILITY PARTNERSHIP, IS NECESSARY INDICATING THAT THERE HAVE BEEN NO NEW IMPROVEMENTS, EASEMENTS OR BOUNDARY CHANGES SINCE THE DATE OF SAID IMPROVEMENT LOCATION CERTIFICATE/SURVEY AND THAT THE IMPROVEMENTS SHOWN ON SAID IMPROVEMENT LOCATION CERTIFICATE/SURVEY HAVE NOT BEEN ALTERED SINCE THE DATE OF SAID IMPROVEMENT LOCATION CERTIFICATE/SURVEY.
3. RELEASE OF DEED OF TRUST DATED OCTOBER 27, 2017 FROM EN-SIM PARTNERSHIP, L.L.P., A COLORADO LIMITED LIABILITY PARTNERSHIP, AND DOUGLAS S. SIMONS AND JAMEE E. SIMONS, INDIVIDUALLY, TO THE PUBLIC TRUSTEE OF MESA COUNTY FOR THE USE OF ELIZABETH WOOLARD TO SECURE THE SUM OF $800,000.00 RECORDED OCTOBER 27, 2017 UNDER RECEPTION NO. **2819188**. ASSIGNMENT TO HOME LOAN STATE BANK WAS RECORDED OCTOBER 27, 2017 UNDER RECEPTION NO. **2819217**.
4. WRITTEN CONFIRMATION THAT THE INFORMATION CONTAINED IN STATEMENT OF AUTHORITY FOR EN-SIM PARTNERSHIP, L.L.P. RECORDED APRIL 08, 2002 AT RECEPTION NO. **2049690** IN BOOK 3055 AT PAGE **258** IS CURRENT.

   NOTE: SAID INSTRUMENT DISCLOSES DOUGLAS S. SIMONS AND JAMEE E. SIMONS AS THE PARTNERS AUTHORIZED TO EXECUTE INSTRUMENTS CONVEYING, ENCUMBERING OR OTHERWISE AFFECTING TITLE TO REAL PROPERTY ON BEHALF OF SAID ENTITY. IF THIS INFORMATION IS NOT ACCURATE, A CURRENT STATEMENT OF AUTHORITY MUST BE RECORDED.
5. A FULL COPY OF THE FULLY EXECUTED OPERATING AGREEMENT AND ANY AND ALL AMENDMENTS THERETO FOR WESTERN SLOPE PROPERTIES, LLC MUST BE FURNISHED TO LAND TITLE GUARANTEE COMPANY. SAID AGREEMENT MUST DISCLOSE WHO MAY CONVEY, ACQUIRE, ENCUMBER, LEASE OR OTHERWISE DEAL WITH INTERESTS IN REAL PROPERTY FOR SAID ENTITY.

   NOTE: ADDITIONAL REQUIREMENTS MAY BE NECESSARY UPON REVIEW OF THIS DOCUMENTATION.

ALTA COMMITMENT

Old Republic National Title Insurance Company

Schedule B, Part I

(Requirements)

Order Number: GJC65037300-2

All of the following Requirements must be met:

6. DULY EXECUTED AND ACKNOWLEDGED STATEMENT OF AUTHORITY SETTING FORTH THE NAME OF WESTERN SLOPE PROPERTIES, LLC AS A LLV. THE STATEMENT OF AUTHORITY MUST STATE UNDER WHICH LAWS THE ENTITY WAS CREATED, THE MAILING ADDRESS OF THE ENTITY, AND THE NAME AND POSITION OF THE PERSON(S) AUTHORIZED TO EXECUTE INSTRUMENTS CONVEYING, ENCUMBERING, OR OTHERWISE AFFECTING TITLE TO REAL PROPERTY ON BEHALF OF THE ENTITY AND OTHERWISE COMPLYING WITH THE PROVISIONS OF SECTION 38-30-172, CRS.

   NOTE: THE STATEMENT OF AUTHORITY MUST BE RECORDED WITH THE CLERK AND RECORDER.

7. WARRANTY DEED FROM EN-SIM PARTNERSHIP, L.L.P., A COLORADO LIMITED LIABILITY PARTNERSHIP, TO WESTERN SLOPE PROPERTIES, LLC, A COLORADO LIMITED LIABILITY COMPANY, CONVEYING SUBJECT PROPERTY.

   REQUIREMENTS TO DELETE THE PRE-PRINTED EXCEPTIONS IN THE OWNER'S POLICY TO BE ISSUED

   A. UPON RECEIPT BY THE COMPANY OF A SURVEY AFFIDAVIT, EXECUTED BY EN-SIM PARTNERSHIP, L.L.P., A COLORADO LIMITED LIABILITY PARTNERSHIP; AND A SATISFACTORY FINAL AFFIDAVIT AND AGREEMENT FROM THE SELLER AND PROPOSED INSURED, ITEMS 1-4 OF THE PRE-PRINTED EXCEPTIONS WILL BE DELETED. ANY ADVERSE MATTERS DISCLOSED BY THE FINAL AFFIDAVIT AND AGREEMENT WILL BE ADDED AS EXCEPTIONS.

   B. IF LAND TITLE GUARANTEE CONDUCTS THE CLOSING OF THE CONTEMPLATED TRANSACTIONS AND RECORDS THE DOCUMENTS IN CONNECTION THEREWITH, ITEM NO. 5 OF THE PRE-PRINTED EXCEPTIONS WILL BE DELETED.

   C. UPON RECEIPT OF PROOF OF PAYMENT OF ALL PRIOR YEARS' TAXES AND ASSESSMENTS, ITEM NO. 6 OF THE PRE-PRINTED EXCEPTIONS WILL BE AMENDED TO READ:

   TAXES AND ASSESSMENTS FOR THE YEAR 2019 AND SUBSEQUENT YEARS.

ALTA COMMITMENT

Old Republic National Title Insurance Company

Schedule B, Part II

(Exceptions)

Order Number: GJC65037300-2

This commitment does not republish any covenants, condition, restriction, or limitation contained in any document referred to in this commitment to the extent that the specific covenant, conditions, restriction, or limitation violates state or federal law based on race, color, religion, sex, sexual orientation, gender identity, handicap, familial status, or national origin.

1. **Any facts, rights, interests, or claims thereof, not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.**
2. **Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.**
3. **Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.**
4. **Any lien, or right to a lien, for services, labor or material heretofore or hereafter furnished, imposed by law and not shown by the Public Records.**
5. **Defects, liens, encumbrances, adverse claims or other matters, if any, created, first appearing in the public records or attaching subsequent to the effective date hereof but prior to the date of the proposed insured acquires of record for value the estate or interest or mortgage thereon covered by this Commitment.**
6. **(a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.**
7. **(a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water.**
8. RIGHT OF THE PROPRIETOR OF A VEIN OR LODE TO EXTRACT AND REMOVE HIS ORE THEREFROM SHOULD THE SAME BE FOUND TO PENETRATE OR INTERSECT THE PREMISES HEREBY GRANTED AS RESERVED IN UNITED STATES PATENTS RECORDED DECEMBER 16, 1891 IN BOOK 11 AT PAGE 133 UNDER RECEPTION NO. 12846 (AFFECTS NE¼ OF SECTION 32, TOWNSHIP 1 NORTH, RANGE 1 WEST OF THE UTE MERIDIAN) AND JUNE 24, 1908 IN BOOK 70 AT PAGE 451 UNDER RECEPTION NO. 76762 (AFFECTS SE¼ OF SAID SECTION 32).
9. ALL THE RIGHT, TITLE AND INTEREST OF THE GRANTOR BY VIRTUE OF ANY CONTRACTS OR DEEDS HERETOFORE MADE WITH AND TO SAID GRANTOR OR ITS GRANTORS BY THE GRAND RIVER DITCH COMPANY, THE MESA COUNTY DITCH COMPANY, THE PIONEER EXTENSION DITCH COMPANY, THE INDEPENDENT RANCHMEN'S DITCH ASSOCIATION, OR THE GRAND VALLEY CANAL COMPANY, TO CLAIM, OBTAIN OR USE WATER, FROM THE CANAL OR CANALS OF SAID COMPANIES, FOR THE PURPOSE OF IRRIGATING OR USING WATER ON THE SUBJECT PROPERTY; TOGETHER WITH ALL THE WATER RIGHTS, PRIVILEGES OR EASEMENTS CONVEYED BY SAID CONTRACTS OR DEEDS TO SAID GRANTOR OR ITS GRANTORS, AS CONVEYED BY WILLIAM NISHWITZ TO THE GRAND VALLEY IRRIGATION COMPANY, ITS SUCCESSORS OR ASSIGNS, IN INSTRUMENT RECORDED OCTOBER 8, 1894 IN BOOK 48 AT PAGE 80 UNDER RECEPTION NO. 19238.
10. RIGHT-OF-WAY FOR 23½ ROAD, AND RIGHTS INCIDENTAL THERETO, AS DISCLOSED IN THE RECORDS OF THE OFFICE OF THE MESA COUNTY ASSESSOR.

ALTA COMMITMENT

Old Republic National Title Insurance Company

Schedule B, Part II

(Exceptions)

Order Number: GJC65037300-2

11. TERMS, CONDITIONS, STIPULATIONS, OBLIGATIONS AND PROVISIONS OF PERMANENT EASEMENT, GRANTED TO THE DEPARTMENT OF HIGHWAYS, STATE OF COLORADO, RECORDED DECEMBER 12, 1963, IN BOOK 860 AT PAGE 338 UNDER RECEPTION NO. 854353. (AFFECTS PARCEL NO. 2)

12. EACH AND EVERY RIGHT OR RIGHTS OF ACCESS TO AND FROM ANY PART OF THE RIGHT-OF-WAY FOR INTERSTATE 70, A FREEWAY ESTABLISHED ACCORDING TO THE LAWS OF THE STATE OF COLORADO, AND FROM AND TO ANY PART OF THE SAID REAL PROPERTY OF THE GRANTOR OR GRANTORS ABUTTING UPON SAID HIGHWAY, ALONG OR ACROSS THE ACCESS LINE OR LINES DESCRIBED IN INSTRUMENT RECORDED DECEMBER 12, 1963 IN BOOK 860 AT PAGE 339 UNDER RECEPTION NO. 854354. (AFFECTS PARCEL NO. 2)

13. TERMS, CONDITIONS, STIPULATIONS, OBLIGATIONS AND PROVISIONS OF GRANT OF EASEMENT, TO THE CITY OF GRAND JUNCTION, A COLORADO HOME RULE MUNICIPALITY, RECORDED SEPTEMBER 07, 1993 IN BOOK 2005 AT PAGE 426 UNDER RECEPTION NO. 1652138.

14. ANY FACTS, RIGHTS, INTERESTS OR CLAIMS WHICH MAY EXIST OR ARISE BY REASON OF THE FOLLOWING FACTS SHOWN ON IMPROVEMENT SURVEY PLAT CERTIFIED SEPTEMBER 23, 2003 PREPARED BY D H SURVEYS INC., JOB #639-02-02, SAID DOCUMENT STORED AS OUR ESI 36423012 , INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:

    A) THE FACT OF APPARENT EASEMENTS FOR DRAIN DITCH ALONG THE WEST AND EAST BOUNDARIES;
    B) THE FACT OF ELECTRIC LINE ALONG THE WEST BOUNDARY;
    C) THE FACT OF TELEPHONE PEDESTAL IN THE NORTHWESTERLY PORTION;
    D) THE FACT OF WATER LINE IN THE NORTHWESTERLY PORTION;
    E) THE FACT OF ENCROACHMENT OF SHED FROM THE EXCEPTION PARCEL IN THE SOUTHWESTERLY PORTION OF THE SUBJECT PROPERTY.

15. (THIS ITEM WAS INTENTIONALLY DELETED)

16. ANY AND ALL UNRECORDED LEASES AND/OR TENANCIES IN EXISTENCE.

LAND TITLE GUARANTEE COMPANY
DISCLOSURE STATEMENTS

Note: Pursuant to CRS 10-11-122, notice is hereby given that:

(A) The Subject real property may be located in a special taxing district.

(B) A certificate of taxes due listing each taxing jurisdiction will be obtained from the county treasurer of the county in which the real property is located or that county treasurer's authorized agent unless the proposed insured provides written instructions to the contrary. (for an Owner's Policy of Title Insurance pertaining to a sale of residential real property).

(C) The information regarding special districts and the boundaries of such districts may be obtained from the Board of County Commissioners, the County Clerk and Recorder, or the County Assessor.

Note: Effective September 1, 1997, CRS 30-10-406 requires that all documents received for recording or filing in the clerk and recorder's office shall contain a top margin of at least one inch and a left, right and bottom margin of at least one half of an inch. The clerk and recorder may refuse to record or file any document that does not conform, except that, the requirement for the top margin shall not apply to documents using forms on which space is provided for recording or filing information at the top margin of the document.

Note: Colorado Division of Insurance Regulations 8-1-2 requires that "Every title entity shall be responsible for all matters which appear of record prior to the time of recording whenever the title entity conducts the closing and is responsible for recording or filing of legal documents resulting from the transaction which was closed". Provided that Land Title Guarantee Company conducts the closing of the insured transaction and is responsible for recording the legal documents from the transaction, exception number 5 will not appear on the Owner's Title Policy and the Lenders Policy when issued.

Note: Affirmative mechanic's lien protection for the Owner may be available (typically by deletion of Exception no. 4 of Schedule B, Section 2 of the Commitment from the Owner's Policy to be issued) upon compliance with the following conditions:

(A) The land described in Schedule A of this commitment must be a single family residence which includes a condominium or townhouse unit.

(B) No labor or materials have been furnished by mechanics or material-men for purposes of construction on the land described in Schedule A of this Commitment within the past 6 months.

(C) The Company must receive an appropriate affidavit indemnifying the Company against un-filed mechanic's and material-men's liens.

(D) The Company must receive payment of the appropriate premium.

(E) If there has been construction, improvements or major repairs undertaken on the property to be purchased within six months prior to the Date of Commitment, the requirements to obtain coverage for unrecorded liens will include: disclosure of certain construction information; financial information as to the seller, the builder and or the contractor; payment of the appropriate premium fully executed Indemnity Agreements satisfactory to the company, and, any additional requirements as may be necessary after an examination of the aforesaid information by the Company.

No coverage will be given under any circumstances for labor or material for which the insured has contracted for or agreed to pay.

Note: Pursuant to CRS 10-11-123, notice is hereby given:

This notice applies to owner's policy commitments disclosing that a mineral estate has been severed from the surface estate, in Schedule B-2.

(A) That there is recorded evidence that a mineral estate has been severed, leased, or otherwise conveyed from the surface estate and that there is substantial likelihood that a third party holds some or all interest in oil, gas, other minerals, or geothermal energy in the property; and

(B) That such mineral estate may include the right to enter and use the property without the surface owner's permission.

Note: Pursuant to CRS 10-1-128(6)(a), It is unlawful to knowingly provide false, incomplete, or misleading facts or information to an insurance company for the purpose of defrauding or attempting to defraud the company. Penalties may include imprisonment, fines, denial of insurance, and civil damages. Any insurance company or agent of an insurance company who knowingly provides false, incomplete, or misleading facts or information to a policyholder or claimant for the purpose of defrauding or attempting to defraud the policyholder or claimant with regard to a settlement or award payable from insurance proceeds shall be reported to the Colorado Division of Insurance within the Department of Regulatory Agencies.

Note: Pursuant to Colorado Division of Insurance Regulations 8-1-3, notice is hereby given of the availability of a closing protection letter for the lender, purchaser, lessee or seller in connection with this transaction.

JOINT NOTICE OF PRIVACY POLICY OF LAND TITLE GUARANTEE COMPANY, LAND TITLE GUARANTEE COMPANY OF SUMMIT COUNTY LAND TITLE INSURANCE CORPORATION AND OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY

This Statement is provided to you as a customer of Land Title Guarantee Company as agent for Land Title Insurance Corporation and Old Republic National Title Insurance Company.

We want you to know that we recognize and respect your privacy expectations and the requirements of federal and state privacy laws. Information security is one of our highest priorities. We recognize that maintaining your trust and confidence is the bedrock of our business. We maintain and regularly review internal and external safeguards against unauthorized access to non-public personal information ("Personal Information").

In the course of our business, we may collect Personal Information about you from:

- applications or other forms we receive from you, including communications sent through TMX, our web-based transaction management system;
- your transactions with, or from the services being performed by us, our affiliates, or others;
- a consumer reporting agency, if such information is provided to us in connection with your transaction;

  and
- The public records maintained by governmental entities that we either obtain directly from those entities, or from our affiliates and non-affiliates.

Our policies regarding the protection of the confidentiality and security of your Personal Information are as follows:

- We restrict access to all Personal Information about you to those employees who need to know that information in order to provide products and services to you.
- We maintain physical, electronic and procedural safeguards that comply with federal standards to protect your Personal Information from unauthorized access or intrusion.
- Employees who violate our strict policies and procedures regarding privacy are subject to disciplinary action.
- We regularly assess security standards and procedures to protect against unauthorized access to Personal Information.

WE DO NOT DISCLOSE ANY PERSONAL INFORMATION ABOUT YOU WITH ANYONE FOR ANY PURPOSE THAT IS NOT PERMITTED BY LAW.

Consistent with applicable privacy laws, there are some situations in which Personal Information may be disclosed. We may disclose your Personal Information when you direct or give us permission; when we are required by law to do so, for example, if we are served a subpoena; or when we suspect fraudulent or criminal activities. We also may disclose your Personal Information when otherwise permitted by applicable privacy laws such as, for example, when disclosure is needed to enforce our rights arising out of any agreement, transaction or relationship with you.

Our policy regarding dispute resolution is as follows: Any controversy or claim arising out of or relating to our privacy policy, or the breach thereof, shall be settled by arbitration in accordance with the rules of the American Arbitration Association, and judgment upon the award rendered by the arbitrator(s) may be entered in any court having jurisdiction thereof.

Commitment For Title Insurance
Issued by Old Republic National Title Insurance Corporation

NOTICE

IMPORTANT—READ CAREFULLY: THIS COMMITMENT IS AN OFFER TO ISSUE ONE OR MORE TITLE INSURANCE POLICIES. ALL CLAIMS OR REMEDIES SOUGHT AGAINST THE COMPANY INVOLVING THE CONTENT OF THIS COMMITMENT OR THE POLICY MUST BE BASED SOLELY IN CONTRACT.

THIS COMMITMENT IS NOT AN ABSTRACT OF TITLE, REPORT OF THE CONDITION OF TITLE, LEGAL OPINION, OPINION OF TITLE, OR OTHER REPRESENTATION OF THE STATUS OF TITLE. THE PROCEDURES USED BY THE COMPANY TO DETERMINE INSURABILITY OF THE TITLE, INCLUDING ANY SEARCH AND EXAMINATION, ARE PROPRIETARY TO THE COMPANY, WERE PERFORMED SOLELY FOR THE BENEFIT OF THE COMPANY, AND CREATE NO EXTRACONTRACTUAL LIABILITY TO ANY PERSON, INCLUDING A PROPOSED INSURED.

THE COMPANY'S OBLIGATION UNDER THIS COMMITMENT IS TO ISSUE A POLICY TO A PROPOSED INSURED IDENTIFIED IN SCHEDULE A IN ACCORDANCE WITH THE TERMS AND PROVISIONS OF THIS COMMITMENT. THE COMPANY HAS NO LIABILITY OR OBLIGATION INVOLVING THE CONTENT OF THIS COMMITMENT TO ANY OTHER PERSON. .

COMMITMENT TO ISSUE POLICY

Subject to the Notice; Schedule B, Part I—Requirements; Schedule B, Part II—Exceptions; and the Commitment Conditions, Old Republic National Title Insurance Company, a Minnesota corporation (the "Company"), commits to issue the Policy according to the terms and provisions of this Commitment. This Commitment is effective as of the Commitment Date shown in Schedule A for each Policy described in Schedule A, only when the Company has entered in Schedule A both the specified dollar amount as the Proposed Policy Amount and the name of the Proposed Insured. If all of the Schedule B, Part I—Requirements have not been met within 6 months after the Commitment Date, this Commitment terminates and the Company's liability and obligation end.

COMMITMENT CONDITIONS

1. DEFINITIONS
   (a) "Knowledge" or "Known": Actual or imputed knowledge, but not constructive notice imparted by the Public Records.
   (b) "Land": The land described in Schedule A and affixed improvements that by law constitute real property. The term "Land" does not include any property beyond the lines of the area described in Schedule A, nor any right, title, interest, estate, or easement in abutting streets, roads, avenues, alleys, lanes, ways, or waterways, but this does not modify or limit the extent that a right of access to and from the Land is to be insured by the Policy.
   (c) "Mortgage": A mortgage, deed of trust, or other security instrument, including one evidenced by electronic means authorized by law.
   (d) "Policy": Each contract of title insurance, in a form adopted by the American Land Title Association, issued or to be issued by the Company pursuant to this Commitment.
   (e) "Proposed Insured": Each person identified in Schedule A as the Proposed Insured of each Policy to be issued pursuant to this Commitment.
   (f) "Proposed Policy Amount": Each dollar amount specified in Schedule A as the Proposed Policy Amount of each Policy to be issued pursuant to this Commitment.
   (g) "Public Records": Records established under state statutes at the Commitment Date for the purpose of imparting constructive notice of matters relating to real property to purchasers for value and without Knowledge.
   (h) "Title": The estate or interest described in Schedule A.

2. If all of the Schedule B, Part I—Requirements have not been met within the time period specified in the Commitment to Issue Policy, Comitment terminates and the Company's liability and obligation end.

3. The Company's liability and obligation is limited by and this Commitment is not valid without:
   (a) the Notice;
   (b) the Commitment to Issue Policy;
   (c) the Commitment Conditions;
   (d) Schedule A;
   (e) Schedule B, Part I—Requirements; and
   (f) Schedule B, Part II—Exceptions; and
   (g) a counter-signature by the Company or its issuing agent that may be in electronic form.

4. **COMPANY'S RIGHT TO AMEND**

   The Company may amend this Commitment at any time. If the Company amends this Commitment to add a defect, lien, encumbrance, adverse claim, or other matter recorded in the Public Records prior to the Commitment Date, any liability of the Company is limited by Commitment Condition 5. The Company shall not be liable for any other amendment to this Commitment.

5. **LIMITATIONS OF LIABILITY**
   (a) The Company's liability under Commitment Condition 4 is limited to the Proposed Insured's actual expense incurred in the interval between the Company's delivery to the Proposed Insured of the Commitment and the delivery of the amended Commitment, resulting from the Proposed Insured's good faith reliance to:
      i. comply with the Schedule B, Part I—Requirements;
      ii. eliminate, with the Company's written consent, any Schedule B, Part II—Exceptions; or
      iii. acquire the Title or create the Mortgage covered by this Commitment.
   (b) The Company shall not be liable under Commitment Condition 5(a) if the Proposed Insured requested the amendment or had Knowledge of the matter and did not notify the Company about it in writing.
   (c) The Company will only have liability under Commitment Condition 4 if the Proposed Insured would not have incurred the expense had the Commitment included the added matter when the Commitment was first delivered to the Proposed Insured.
   (d) The Company's liability shall not exceed the lesser of the Proposed Insured's actual expense incurred in good faith and described in Commitment Conditions 5(a)(i) through 5(a)(iii) or the Proposed Policy Amount.

(e) The Company shall not be liable for the content of the Transaction Identification Data, if any.
(f) In no event shall the Company be obligated to issue the Policy referred to in this Commitment unless all of the Schedule B, Part I—Requirements have been met to the satisfaction of the Company.
(g) In any event, the Company's liability is limited by the terms and provisions of the Policy.

6. **LIABILITY OF THE COMPANY MUST BE BASED ON THIS COMMITMENT**
(a) Only a Proposed Insured identified in Schedule A, and no other person, may make a claim under this Commitment.
(b) Any claim must be based in contract and must be restricted solely to the terms and provisions of this Commitment.
(c) Until the Policy is issued, this Commitment, as last revised, is the exclusive and entire agreement between the parties with respect to the subject matter of this Commitment and supersedes all prior commitment negotiations, representations, and proposals of any kind, whether written or oral, express or implied, relating to the subject matter of this Commitment.
(d) The deletion or modification of any Schedule B, Part II—Exception does not constitute an agreement or obligation to provide coverage beyond the terms and provisions of this Commitment or the Policy.
(e) Any amendment or endorsement to this Commitment must be in writing and authenticated by a person authorized by the Company.
(f) When the Policy is issued, all liability and obligation under this Commitment will end and the Company's only liability will be under the Policy.

7. **IF THIS COMMITMENT HAS BEEN ISSUED BY AN ISSUING AGENT**

The issuing agent is the Company's agent only for the limited purpose of issuing title insurance commitments and policies. The issuing agent is not the Company's agent for the purpose of providing closing or settlement services.

8. **PRO-FORMA POLICY**

The Company may provide, at the request of a Proposed Insured, a pro-forma policy illustrating the coverage that the Company may provide. A pro-forma policy neither reflects the status of Title at the time that the pro-forma policy is delivered to a Proposed Insured, nor is it a commitment to insure.

9. **ARBITRATION**

The Policy contains an arbitration clause. All arbitrable matters when the Proposed Policy Amount is $2,000,000 or less shall be arbitrated at the option of either the Company or the Proposed Insured as the exclusive remedy of the parties. A Proposed Insured may review a copy of the arbitration rules at http://www.alta.org/arbitration.

IN WITNESS WHEREOF, Land Title Insurance Corporation has caused its corporate name and seal to be affixed by its duly authorized officers on the date shown in Schedule A to be valid when countersigned by a validating officer or other authorized signatory.

Issued by:
Land Title Guarantee Company
3033 East First Avenue Suite 600
Denver, Colorado 80206
303-321-1880

President

Old Republic National Title Insurance Company, a Stock Company
400 Second Avenue South
Minneapolis, Minnesota 55401
(612)371-1111

Mark Bilbrey, President

Rande Yeager, Secretary

This page is only a part of a 2016 ALTA® Commitment for Title Insurance issued by Land Title Insurance Corporation. This Commitment is not valid without the Notice; the Commitment to Issue Policy; the Commitment Conditions; Schedule A; Schedule B, Part I—Requirements; and Schedule B, Part II—Exceptions; and a counter-signature by the Company or its issuing agent that may be in electronic form.

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VORTEX
ENGINEERING & ARCHITECTURE, INC.

LETTER OF TRANSMITTAL

VIA: Email

December 10, 2018

City of Grand Junction
Attn: Andrew Gingrich
250 N. 5th Street
Grand Junction, CO 81501

Re: Rezone Submittal Documents
RV Park
746 23 ½ Road
Grand Junction, CO
VEAI#: F18-095

WE ARE SENDING YOU ☐ **Shop drawings** ☐ **Copy of letter** ☒ **Attached** ☐ **Prints** ☐ **Change order**

Copies	Revision	Revision Date	Pages or Sheet No.	Description
One (1)			1 page	Copy of the Rezone Submittal Checklist
One (1)			1 page	Copy of the Executed Development Application
One (1)			2 pages	Copy of the Executed Ownership Statement
One (1)			2 pages	Copy of the Executed Industrial Pretreatment Survey
One (1)			7 pages	Copy of the Neighborhood Meeting Notes
One (1)			13 pages	Copy of the Title Commitment, prepared by Land Title Guarantee Co., dated 11/07/18

These Are Transmitted: ☐ For approval ☐ For your review and approval ☐ As requested
☒ For review and signature ☐ Approved as submitted ☐ Approved as noted

REMARKS:

Dear Andrew,

The above-mentioned documents are provided for your review and approval of the RV Park Rezone located at 746 23 ½ Road.

Should you have any questions or require additional information, please don't hesitate to contact me at (970) 245-9051 or by email at rjones@vortexeng.us. Thank you.

Sincerely,
Vortex Engineering & Architecture, Inc.



Robert W. Jones II, P.E.

cc: File

EXHIBIT LIST

746 23 ½ ROAD RV RESORT – REQUEST FOR REZONE TO C-2 (GENERAL COMMERICAL)
FILE NO. RZN-2018-785

Exhibit Item #	Description
1	Staff Report dated February 12, 2019
2	Site Future Land Use Map
3	Site Vicinity Map
4	Site Zoning Map
5	Development Application Binder dated December 10, 2018
6	Staff Presentation dated February 12, 2019
7	Proposed City Zoning Ordinance

Grand Junction City Council

Regular Session

Item #2.a.vii.

Meeting Date: February 20, 2019

Presented By: Tom Dixon, Planner

Department: Community Development

Submitted By: Tom Dixon

Information

SUBJECT:

Introduction of an Ordinance Vacating a Portion of the Kimball Avenue Right-of-Way and a Portion of a Multi-Purpose Easement, along Properties Located at 1015 and 1101 Kimball Avenue and Set a Public Hearing for March 6, 2019

RECOMMENDATION:

The Planning Commission heard this at their February 12, 2019 meeting at recommended approval (5-0).

EXECUTIVE SUMMARY:

The Applicant, Southside Leasing, LLC is requesting the vacation of a four foot portion of Kimball Avenue and the vacation of the existing multi-purpose easement. The right-of-way (ROW) of Kimball Avenue consists of a 55-foot ROW dedication. The property line that would be re-located is on the north side of the two lots that compose this site of which the westerly lot is currently undeveloped and addressed as 1015 Kimball Avenue and the easterly parcel being addressed as 1101 Kimball Avenue and contains the historic Sugar Beet Factory. The resulting vacation, as proposed, would create a 51-foot wide right-of-way and an 8-foot-wide MPE for approximately 1,177 feet of the length of the properties. Kimball Avenue is designated a local street.

BACKGROUND OR DETAILED INFORMATION:

The subject site adjoining this portion of Kimball Avenue is developed with a brick structure known as the Sugar Beet Factory building which was constructed in 1900. Its historic use has been a warehouse function of various types including its obvious past use to store, package, and ship out sugar beets when that crop was a major

agricultural product in the Grand Valley. Although the building has endured periods of vacancy or underutilization, it has recently been used for an active warehouse function.

The Applicant has requested the City to allow a partial right-of-way and easement vacation of its frontage along Kimball Avenue in order to increase the size of developable property. The existing right-of-way width and MPE are described to be more than what is needed to serve a public street purpose and utility easement in this area.

The north property line for the two parcels (1015 and 1101 Kimball Avenue) extends in a straight line for 1,177 feet at which point it makes a slight deviation for another 91.5 feet or so in a slightly southwesterly direction. This 91.5-foot portion of ROW deviates in width due to ROW adjustments and acquisitions needed for the alignment of the Riverside Parkway in or around 2010. This 91.5 feet length of right-of-way is not included in the request for vacation; the requested vacation for both the right of way and MPE are only for the linear 1,177-foot length. The parkway borders the two properties to the south.

Local street rights-of-way may be reduced when warranted based on volume of use, type of traffic, existing improvements, zoning designations, character of area, and other factors, pursuant to the Transportation Engineering Design Standards (TEDS) manual. The Applicant petitioned for consideration for an Alternate Street Standard in September, 2018. The Alternate Street Committee approved the request to reduce the street width from 55 feet to 51 feet and to vacate the entire 14-foot wide multi-purpose easement. However, comments came back after the committee decision from CenturyLink noting existing facilities in the MPE and the need to retain an 8-wide portion of the MPE but that the additional six feet of MPE was not needed (see attached letter). In addition, the Committee required that the asphalt road surface be extended be one foot on the south side as a condition of the Alternative Streets approval; an improvement that will be required as part of any future development being reviewed under the City's Site Plan review process.

To date, CenturyLink's facility has not been located with the MPE. Staff recommends any vacation of the MPE be conditioned upon the location of the CenturyLink facility and assurance that the facility be located within the remaining portion of the MPE.

The result of these requested vacations, to summarize, is to: 1) vacate 4 feet of ROW, 2) vacate 14 feet of MPE, 3) create a new MPE of at least 8 feet abutting the new southern edge of Kimball Avenue ROW encompassing CenturyLink future utility needs, as illustrated in Exhibit A.

NOTIFICATION REQUIREMENTS:
A Neighborhood Meeting was held on July 30, 2018 consistent with the requirements of

Section 21.02.080 (e) of the Zoning and Development Code. A representative for the property owner, a consultant, and a City of Grand Junction Community Development Department were present, however, no citizens attended the meeting.

Notice was completed consistent with the provisions in Section 21.02.080 (g) of the City's Zoning and Development Code. Mailed notice of the application submittal in the form of notification cards was sent to surrounding property owners within 500 feet of the subject property and the subject property was posted with an application sign on January 21, 2019. The notice of this public hearing was published January 30, 2019 in the Grand Junction Daily Sentinel.

ANALYSIS:

Pursuant to Section 21.02.100 of the Zoning and Development Code, the vacation of a public right-of-way or easement shall conform to the following:

1) The Comprehensive Plan, Grand Valley Circulation Plan, and other adopted plans and policies of the City.

The following Comprehensive Plan goal and policy is relevant to this request:

Goal 6: Land use decisions will encourage preservation of existing buildings and their appropriate reuse.

Policy A. In making land use and development decisions, the City and County will balance the needs of the community.

The requested right-of-way and easement vacations, which is a reduction rather than elimination of these dedications, was reviewed and approved by the Alternative Street Committee which approved an asphalt width of 33 feet and a right-of-way width of 51 feet. Granting the right-of-way vacation would not compromise public safety or circulation and could provide greater flexibility for future development on the affected properties resulting in a desirable outcome for both public and private sector needs. This flexibility promotes balancing the needs of both the City and the private property owner and is consistent with the Goal 6, Policy A of the Comprehensive Plan. As such, Staff finds the requested vacation of excess width for the street right-of-way supports this policy. However, a MPE should only be reduced to eight (8) so that it can accommodate existing as well as future utilities.

The limited vacation of the right-of-way of four (4) feet and the reduction of the 14-foot MPE to 8 feet would be in satisfaction of this criterion.

2) No parcel shall be landlocked as a result of the vacation.

The request for a limited vacation will not compromise access to or landlock any properties.

Staff finds this criterion has been met.

3) Access to any parcel shall not be restricted to the point where access is unreasonable, economically prohibitive or reduces or devalues any property affected by the proposed vacation.

No restriction of access will result if this vacation request be granted
Staff finds this criterion has been met.

4) There shall be no adverse impacts on the health, safety, and/or welfare of the general community and the quality of public facilities and services provided to any parcel of land shall not be reduced (e.g. police/fire protection and utility services).

The vacation requests were referred to all of the potentially affected utility providers including Charter, Century Link, Grand Valley Power and Xcel Energy. All comments came back as either “No comments” or “No objections” except from Century Link. A letter dated 7/17/2018 states that Century Link needs to retain eight feet of the multi-purpose easement width for future needs. With a subsequent utility locate request, it has been determined that no facilities (including any belonging to CenturyLink) exist within the existing multipurpose easement. If granted, the 8-foot wide MPE would touch the new right-of-way line in the same manner as the two meet currently.

In addition, planning, transportation, fire department and engineering staff reviewed the alternative streets request to vacate four feet of the right-of-way and narrow the street width from 55 to 51 feet and found this to be an acceptable situation that would not negatively impact the transportation needs of the community. The remaining right-of-way width can sufficiently accommodate two lanes of travel, sidewalk on both sides and on-street parking on one side of the street. Staff believes no adverse impacts on the health, safety, and/or welfare of the general community would occur with the granting of the right-of-way request and the MPE, as modified.

Staff finds that this criterion is satisfied with conditions as provided in the Staff recommendation.

5) The provision of adequate public facilities and services shall not be inhibited to any property as required in Chapter 21.06 of the Grand Junction Municipal Code.

With the preservation of eight feet of multi-purpose easement, future public and/or utility facilities will retain the ability to use the MPE. A sidewalk is located on the north

side of Kimball Avenue so that pedestrians will continue to have safe mobility in this area of Grand Junction and if and when the property to the south redevelops, sufficient width has been retained to allow for sidewalks on the south side of Kimball Avenue as well. Staff has not identified any deleterious impacts associated with the right-of-way and modified MPE vacation request.

Staff finds this criterion is satisfied.

6) The proposal shall provide benefits to the City such as reduced maintenance requirements, improved traffic circulation, etc.

The area around the Sugar Beet Factory building is general commercial and light industrial in nature and traffic in the area is used by large, slow-moving tractor trailers and other heavy transport vehicles. The granting of the reduction in the street right-of-way would allow a slight enlargement of the two properties flanking the south side of Kimball Avenue (approximately 4,708 square feet), would retain sufficient right-of-way width for the continued maneuvering of industrial traffic, and would allow a reduction, albeit by only a slight amount, the area of public street the City is responsible to maintain.

Staff finds that this criterion has been satisfied.

PLANNING COMMISSION RECOMMENDATION AND FINDINGS OF FACT:

After reviewing VAC-2018-704, a request to 1) vacate a four-foot portion of the public right-of-way, 2) vacate the 14-foot wide multi-purpose easement (MPE), and 3) create a new multi-purpose easement with a minimum width of eight feet along the south side of the new edge of right-of-way for Kimball Avenue starting from the easterly edge of the South 12th Street alignment and extending 1,177 linear feet to its westerly terminus point , the Planning Commission recommended approval of the request with the following finds of fact:

1. The vacation requests conform with Section 21.02.100 (c) of the Grand Junction Zoning and Development Code.

And with the following condition:

1. The existing 14-foot wide multi-purpose easement shall be eliminated and a new multi-purpose easement shall be dedicated from the new edge of Kimball Avenue southward for 8 feet.

FISCAL IMPACT:

This land use action does not have any direct fiscal impact. Subsequent action such

as future development and related construction may have direct fiscal impact and will depend on the type of use.

SUGGESTED MOTION:

I move to introduce an ordinance vacating a four foot portion of the Kimball Avenue public right-of-way and reduce the 14-wide Multi-Purpose (MGE) to eight (8) feet and set a public hearing for March 6, 2019.

Attachments

1. Kimball Ave vacation attached exhibits
2. Kimball Ave vacations application
3. Kimball Avenue ordinance

Attachments:

1. Site and Vicinity Map
2. Proposed Vacation Area Map
3. Exhibit A
4. Photo 1
5. Photo 2
6. Photo 3
7. Photo 4
8. Photo 5
9. Letter dated 7/17/2018 from Century Link
10. Letter from the Alternative Street Committee
11. E-mail from CenturyLink Quest dated 2/8/2019

Site and Vicinity Map



Proposed Vacation Area Map



EXHIBIT A

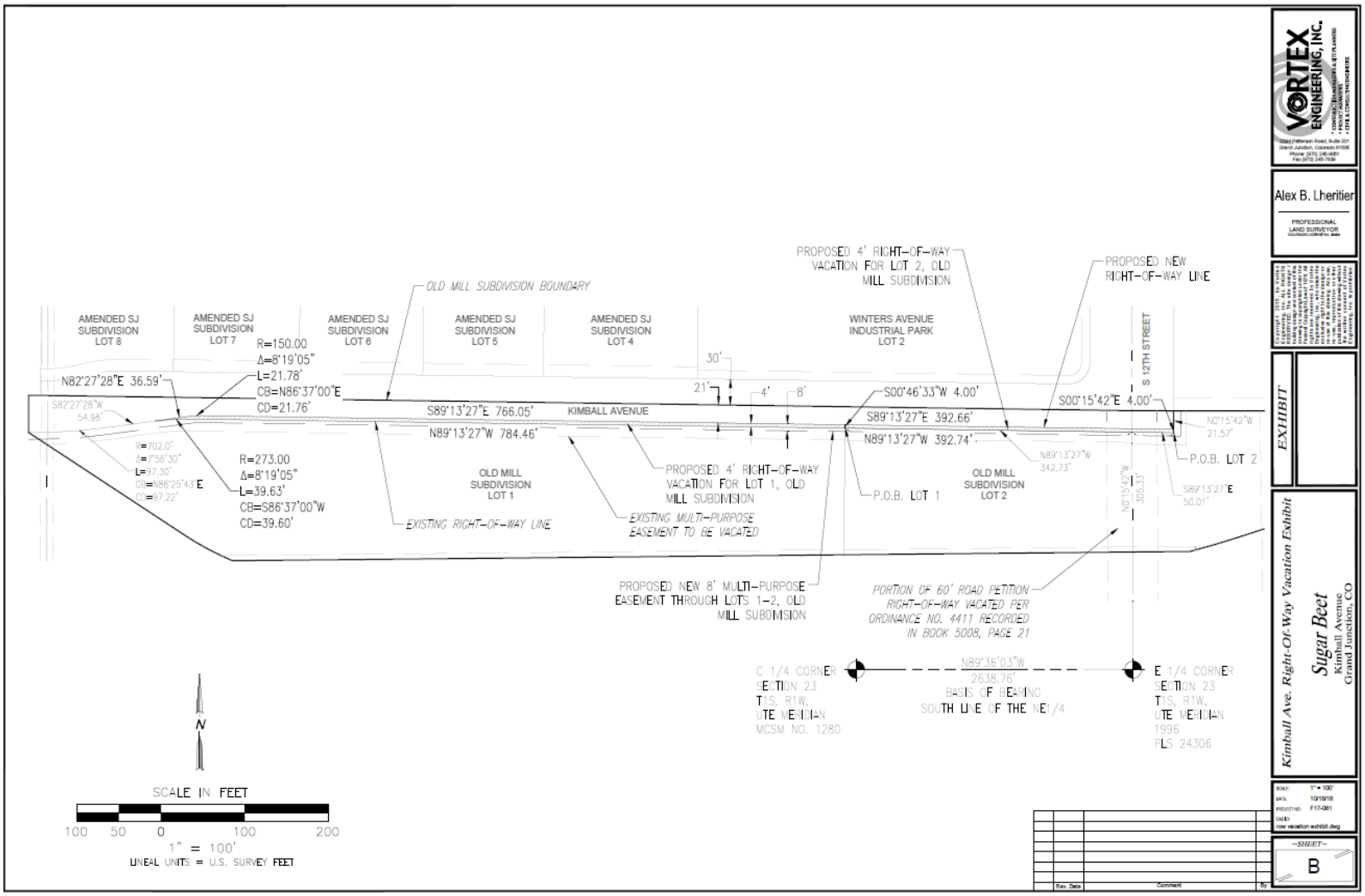

OLD MILL SUBDIVISION BOUNDARY
PROPOSED 4' RIGHT-OF-WAY VACATION FOR LOT 2, OLD MILL SUBDIVISION
PROPOSED NEW RIGHT-OF-WAY LINE
AMENDED SJ SUBDIVISION LOT 8
AMENDED SJ SUBDIVISION LOT 7
AMENDED SJ SUBDIVISION LOT 6
AMENDED SJ SUBDIVISION LOT 5
AMENDED SJ SUBDIVISION LOT 4
WINTERS AVENUE INDUSTRIAL PARK LOT 2
S 12TH STREET
R=150.00
Δ=8°19'05"
L=21.78'
CB=N86°37'00"E
CD=21.76'
N82°27'28"E 36.59'
S82°27'28"W 54.98'
R=702.0'
Δ=1°56'30"
L=47.30'
CB=N86°25'43"E
CD=97.22'
R=273.00
Δ=8°19'05"
L=39.63'
CB=S86°37'00"W
CD=39.60'
S89°13'27"E 766.05'
N89°13'27"W 784.46'
KIMBALL AVENUE
30'
21'
4'
8'
S00°46'33"W 4.00'
S89°13'27"E 392.66'
N89°13'27"W 392.74'
S00°15'42"E 4.00'
N89°13'27"W 342.73'
N0°15'42"W 21.57'
P.O.B. LOT 2
S89°13'27"E 50.01'
N0°15'42"W 365.33'
OLD MILL SUBDIVISION LOT 1
OLD MILL SUBDIVISION LOT 2
P.O.B. LOT 1
EXISTING RIGHT-OF-WAY LINE
EXISTING MULTI-PURPOSE EASEMENT TO BE VACATED
PROPOSED 4' RIGHT-OF-WAY VACATION FOR LOT 1, OLD MILL SUBDIVISION
PROPOSED NEW 8' MULTI-PURPOSE EASEMENT THROUGH LOTS 1-2, OLD MILL SUBDIVISION
PORTION OF 60' ROAD PETITION RIGHT-OF-WAY VACATED PER ORDINANCE NO. 4411 RECORDED IN BOOK 5008, PAGE 21
C 1/4 CORNER SECTION 23 T1S, R1W, UTE MERIDIAN MCSM NO. 1280
N89°36'03"W 2638.78'
BASIS OF BEARING SOUTH LINE OF THE NE1/4
E 1/4 CORNER SECTION 23 T1S, R1W, UTE MERIDIAN 1996 PLS 24306
N
SCALE IN FEET
100 50 0 100 200
1" = 100'
LINEAL UNITS = U.S. SURVEY FEET
VORTEX ENGINEERING, INC.
Alex B. Lheritier
PROFESSIONAL LAND SURVEYOR
EXHIBIT
Kimball Ave. Right-Of-Way Vacation Exhibit
Sugar Beet
Kimball Avenue
Grand Junction, CO
SHEET
B



Photo 1 – Sugar Beet Factory building



Photo 2 – Right-of-way next to Sugar Beet building



Photo 3 – Sidewalk along north side of Kimball Avenue



Photo 4 – The right-of-way alignment deviation on Kimball Avenue



Photo 5 –Kimball Avenue looking east from South 9th Street

CenturyLink
Network Real Estate
5025 N. Black Canyon Hwy
Phoenix, AZ 85015

7/17/2018

STIPULATION

Joel Soronen
WESTERN LAND DEVELOPMENT LLC
706 South Ninth Street, Suite 1
Grand Junction, CO 81501

RE: Proposed release of Variable Width Multi-Purpose Easement along the northern portions of Lot 1 and Lot 2, Plat OLD MILL SUBDIVISION, recorded on May 5, 2010 at Reception No. 2532046, as it adjoins the southerly right-of-way of Kimball Avenue, terminating at the eastern portion of the vacated right-of-way of 12th Street at Lot 2, lying within the Southeast Quarter of the Northeast Quarter of Section 23, and the Southwest Quarter of the Northwest Quarter of Section 24, Township 1 South, Range 1 West, Ute Meridian, City of Grand Junction, County of Mesa, State of Colorado
PROJECT ADDRESS: 1015 Kimball Avenue
APN: 2945-231-39-001

To Whom It May Concern:

QWEST CORPORATION d/b/a CENTURYLINK QC has reviewed the request for subject release and has determined that it can release the variable width multi-purpose easement proposed for vacation, as highlighted on the attached, as long as **an 8' PUE is retained**. This Public Utility Easement will serve CenturyLink's current and future needs.

If it is necessary to relocate any of the facilities, please contact CenturyLink field engineer, Chris Johnson at Chris.Johnson5@CenturyLink.com or 970-244-4311. The Applicant will relocate the facilities at Applicant's expense and within guidelines set by CenturyLink and all regulating entities. All relocations will be done under the supervision of a CenturyLink Inspector.

This release of easement response is submitted with the **8' PUE STIPULATION.**

It is the intent and understanding of CenturyLink that this vacation shall not reduce our rights to any other existing easement or rights we have on these sites.

If you have questions or concerns, please call Pamela Haines at 206-714-6291.

Sincerely yours,

Karen Caime

Karen Caime
Right of Way Agent
Qwest Corporation d/b/a CENTURYLINK QC

APN: 2945-231-39-001; LeaseNet No. P801633
WC: Grand Junction; WCE: Chris Johnson

Attachment 9 – Letter from CenturyLink

CITY OF Grand Junction COLORADO

COMMUNITY DEVELOPMENT

September 12, 2018

Bryan Wiman
Southside Leasing, LLC
1101 Kimball
Grand Junction, CO 81501

Re: 1101 Kimball Alternative Street Request

The Alternative Street Committee has approved the request with the condition the asphalt and right of way be widened by 1', to 33' and 51' respectively, to allow parking on both sides of the street.

If you have any questions, please feel free to contact me at 256-4034.

Sincerely,

Rick Dorris

Digitally signed by Rick Dorris
DN: cn=Rick Dorris, o=City of Grand Junction, CO, ou=Public Works, email=rickdo@gjcity.org, c=US
Date: 2018.09.12 08:39:59 -06'00'

Rick Dorris, PE, CFM
Development Engineer

Cc: Kathy Portner
Brian Rusche
David Chase

Attachment 10 – Approval letter from the Alternative Street Committee

Attachment 11

-----Original Message-----
From: cl_irth_comm@irth.com <cl_irth_comm@irth.com>
Sent: Friday, February 8, 2019 12:50 PM
To: Jennifer Christensen <jchristensen@vortexeng.us>
Subject: Ticket A903900445 - Qwest local network notification

To: SOUTHSIDE LEASING, LLC Attn: JENNIFER CHRISTENSEN
Voice: 9702459051 Fax:
Re: Qwest local network notification

This is an important message from CenturyLink replying to your request to locate our underground facilities in an area described on the one call center ticket. If you have any questions please call Qwest at 1-800-283-4237

Ticket: A903900445
County: MESA Place: GRAND JCT
Address: 1101 KIMBALL AVE

QLNCC00:
The described dig area of your locate request has been checked and is clear for CenturyLink Local Network. If you have any questions please call CenturyLink at 1-800-283-4237.

Qwest

Attachment 11 – Letter from CenturyLink / Quest

Grand Junction
COLORADO
PUBLIC WORKS & PLANNING

Development Application

We, the undersigned, being the owner's of the property adjacent to or situated in the City of Grand Junction, Mesa County, State of Colorado, as described herein do petition this:

Petition For: Vacation - Easement

Please fill in blanks below only for Zone of Annexation, Rezones, and Comprehensive Plan Amendments:

Existing Land Use Designation
Existing Zoning
Proposed Land Use Designation
Proposed Zoning

Property Information

Site Location: 1101 Kimball Avenue
Site Acreage:
Site Tax No(s): 2945-231-39-002 & 2945-231-39-001 (no assigned addr
Site Zoning:
Project Description: ROW/Easement Vacation

Property Owner Information

Name: City of Grand Junction
Street Address: 250 N. 5th Street
City/State/Zip: Grand Jct., CO 81501
Business Phone #:
E-Mail:
Fax #:
Contact Person:
Contact Phone #:

Applicant Information

Name: Southside Leasing, LLC
Street Address: 708 South 9th Street
City/State/Zip: Grand Jct., CO 81501
Business Phone #: (970) 250-7354
E-Mail: bow.wiman@gmail.com
Fax #:
Contact Person: Bryan Wiman
Contact Phone #: (970) 250-7354

Representative Information

Name: Vortex Engineering, Inc.
Street Address: 2394 Patterson Rd, Ste
City/State/Zip: Grand Jct., CO 81505
Business Phone #: (970) 245-9051
E-Mail: rjones@vortexeng.us
Fax #: (970) 245-7639
Contact Person: Robert W. Jones, II
Contact Phone #: (970) 245-9051

NOTE: Legal property owner is owner of record on date of submittal.

We hereby acknowledge that we have familiarized ourselves with the rules and regulations with respect to the preparation of this submittal, that the foregoing information is true and complete to the best of our knowledge, and that we assume the responsibility to monitor the status of the application and the review comments. We recognize that we or our representative(s) must be present at all required hearings. In the event that the petitioner is not represented, the item may be dropped from the agenda and an additional fee may be charged to cover rescheduling expenses before it can again be placed on the agenda.

Signature of Person Completing the Application
Date 11/07/18

Signature of Legal Property Owner
Date 11-7-18

VORTEX ENGINEERING, INC.

Project Narrative
for the
Sugar Beet Right-of-Way Vacation

Date:	November 7, 2018
Prepared by:	Robert W. Jones, II, PE Vortex Engineering & Architecture, Inc. 2394 Patterson Road, Ste. 201 Grand Junction, CO 81505 970-245-9051 VEI # F17-081
Submitted to:	City of Grand Junction Community Development Department 250 N. 5th Street Grand Junction, CO 81501
Type of Design:	Right-of-Way Vacation
Applicant:	Southside Leasing, LLC 706 S. 9th Street, Ste 1 Grand Junction, CO 81501
Property Address:	1101 Kimball Avenue Grand Junction, CO 81501
Tax Schedule No.:	2945-231-39-002 2945-231-39-001 (no assigned address)

I. Project Description

The subject right-of-way is located in the City of Grand Junction, Colorado, and is located on the north property line of a parcel with no assigned address and 1101 Kimball Avenue. The parcels are part of the Old Mill Subdivision which is bordered by S. 9th Street on the west, Kimball Avenue on the north and Riverside Parkway on the South.



In anticipation of future development, the property owner of 1101 Kimball Avenue is petitioning the City of Grand Junction to vacate a 4' portion of the existing surplus Kimball Avenue right-of-way. An 8' multi-purpose easement along the south side of Kimball Avenue will be established as part of the vacation process to ensure adequate provision of utilities.

The existing right-of-way for Kimball Avenue is 55' with a 14' multi-purpose easement (except where the easement narrows to approximately 12' on the east end of Lot 2). The request to vacate 4' of the existing right-of-way will result in a total right-of-way of 51' which City staff has determined to be sufficient for the needs of the general public. Vacation of the surplus Kimball Avenue right-of-way will also result in an 8' multi-purpose easement along the 51' right-of-way which City staff has also determined to be sufficient.

Legal Description of surplus Kimball Avenue right-of-way to be added to Lot 1, Old Mill Subdivision:

Commencing at the E1/4 of Section 23, Township 1 South, Range 1 West, Ute Meridian, from which the C1/4 of Section 23 bears N89°36'03"W 2638.76 feet; running thence N00°15'42"W 305.33 feet to the existing south right-of-way line of Kimball Avenue; thence N89°13'27"W 342.73 feet to the NE corner of Lot 1, Old Mill Subdivision, and the Point of Beginning.

Running thence along the existing southerly right-of-way of Kimball Avenue the following two (2) courses: (1) N89°13'27"W 784.46 feet to a point of curve; (2) thence along said curve to the left 39.63 feet (R=273.00 feet, Delta=8°19'05", Chord Bears S86°37'00"W 39.60 feet); thence N82°27'28"E 36.59 feet to a point of curve; thence along said curve 21.78 feet (R= 150.00 feet, Delta=8°19'05", Chord Bears N86°37'00"E 21.76 feet); thence S89°13'27"E 766.05 feet; thence S00°46'33"W to the existing NE corner of Lot 1, Old Mill Subdivision, and the Point of Beginning.

Parcel contains 3169 sq. ft. (0.073 acres).

and

Legal Description of surplus Kimball Avenue right-of-way to be added to Lot 2, Old Mill Subdivision:

Commencing at the E1/4 of Section 23, Township 1 South, Range 1 West, Ute Meridian, from which the C1/4 of Section 23 bears N89°36'03"W 2638.76 feet; running thence N00°15'42"W 305.33 feet to the existing south right-of-way line of Kimball Avenue; thence S89°13'27"E 50.01 feet to the intersection of the southerly right-of-way of Kimball Avenue and the easterly right-of-way of S 12th Street, and the Point of Beginning.

Running thence along the existing southerly right-of-way of Kimball Avenue N89°13'27"W 392.74 feet to the existing NW corner of Lot 2, Old Mill Subdivision; thence N00°46'33"E 4.00 feet; thence S89°13'27"E 392.66 feet to the existing easterly right-of-way of S 12th Street; thence along said easterly right-of-way S00°15'42"E 4.00 feet to the existing southerly right-of-way of Kimball Avenue and the Point of Beginning.

Parcel contains 1571 sq. ft. (0.036 acres).

II. **Neighborhood Meeting**

A Neighborhood Meeting was held on July 30, 2018 at 1101 Kimball Avenue, for the purposes of discussing a proposed right-of-way (ROW) vacation request along the south side of Kimball Avenue. In attendance were Bryan Wiman, representing Southside Leasing, LLC (the owner), Kathy Portner with the City of Grand Junction Community Development Department, and Brian Rusche, Principal with Purposeful Planning, LLC, acting as owner's representative. No neighbors or other interested parties were in attendance. Information was available in the form of a FAQ sheet and drawing representing the proposed street section for Kimball Avenue as a result of the request to vacate 4' of the existing right-of-way.

Vortex Engineering, Inc. is now representing Mr. Wyman and has verified with Kathy Portner that a new Neighborhood Meeting is not required. This application is within the 180 days of the neighborhood meeting.

Approval Criteria

The applicant must comply with the provisions of Section 21.02.100, Vacation of Public Right-of-Way.

Section 21.02.100, Vacation of Right-of-Way states:

a) **Purpose.** The purpose of this section is to permit the vacation of surplus rights-of-way and/or easements.

b) **Applicability.** Applications for vacation of any street, alley, easement or other public reservation may be made by the City or by any owner of property on which the street, alley or public reservation lies or adjoins.

c) **Approval Criteria.** The vacation of the right-of-way or easement shall conform to the following:

1) The Comprehensive Plan, Grand Junction Circulation Plan and other adopted plans and policies of the City;
Response: The purpose of the request to vacate surplus right-of-way on Kimball Avenue is to facilitate development of two parcels located on Kimball Avenue. This request supports several Key Concepts of the Comprehensive Plan such as encouraging infill development, locating compact growth concentrated in the City Center and providing a transition between densities and providing mixed uses.

The request to vacate surplus right-of-way will not diminish the public's use of the street or the City's ability to maintain the street. There are no negative impacts anticipated with circulation or other transportation related concerns with the request to vacate the surplus right-of-way.

This critierion has been MET.

2) No parcel shall be landlocked as a result of the vacation;
Response: There are no parcels that will be landlocked as a result of vacating a portion of Kimball Avenue right-of-way as noted on the Exhibit depicting the area to be vacated.

This criterion has been MET.

3) Access to any parcel shall not be restricted to the point where access is unreasonable, economically prohibitive or reduces or devalues any property affected by the proposed vacation;
Response: Vacation of the existing surplus right-of-way will not restrict access to any parcel. The only parcels that will be impacted will be Lots 1 and 2 of the Old Mill Subdivision, which are located on the south side of Kimball Avenue. Property located on the north side of Kimball Avenue shall not be impacted by the request to vacate the surplus right-of-way.
This criterion has been MET.

4) There shall be no adverse impacts on the health, safety, and/or welfare of the general community, and the quality of public facilities and services provided to any parcel of land shall not be reduced (e.g., police/fire protection and utility services);
Response: There are two public services that will be impacted by this request: CenturyLink and Excel Energy. Both CenturyLink and Excel Energy provided letters stating that they had no objections to the proposed right-of-way vacation.

The applicant does not anticipate any adverse impacts on the health, safety, and/or welfare of the general community.

This criterion has been MET.

5) The provision of adequate public facilities and services shall not be inhibited to any property as required in Chapter 21.06 GJMC; and
Response: Public facilities and services shall not be inhibited in any way by the request to vacate the surplus right-of-way. City staff has determined what the sufficient required right-of-way should be (51' for this portion of Kimball Avenue) that is necessary for public use and maintenance of the street. An adequate multi-purpose easement shall be established to ensure that the provision of public facilities and services is not inhibited as required by Sec. 21.06 of the GJMC.

This criterion has been MET.

6) The proposal shall provide benefits to the City such as reduced maintenance requirements, improved traffic circulation, etc.
Response: The request to vacate supports a number of the Key Concepts and goals of the Comprehensive Plan. Vacation of the surplus right-of-way will reduce maintenance costs to the City and will facilitate development of two parcels that will provide jobs and property and sales taxes to the City.

This criterion has been MET.

III. Conclusion

After demonstrating how the request to vacate 4' of existing surplus right-of-way on Kimball Avenue meets the criteria of Section 21.02.100 of the Grand Junction Municipal Code, the applicant respectfully requests approval.

IV. Limitation/Restrictions

This report is a site-specific report and is applicable only for the client for whom our work was performed. The review and use of this report by the City of Grand Junction, affiliates, and review agencies is fully permitted and requires no other form of authorization. Use of this report under other circumstances is not an appropriate application of this document. This report is a product of Vortex Engineering & Architecture, Inc. and is to be taken in its entirety. Excerpts from this report that are taken out of context may not convey the true intent of the report. It is the owner's and owner's agent's responsibility to read this report and become familiar with recommendations and findings contained herein. Should any discrepancies be found, they must be reported to the preparing engineer within 5 days.

The recommendations and findings outlined in this report are based on: 1) The site visit and discussion with the owner, 2) the site conditions disclosed at the specific time of the site investigation of reference, 3) various conversations with planners and utility companies, and 4) a general review of the zoning and transportation manuals. Vortex Engineering & Architecture, Inc. assumes no liability for the accuracy or completeness of information furnished by the client or municipality/agency personnel. Site conditions are subject to external environmental effects and may change over time. Use of this report under different site conditions is inappropriate. If it becomes apparent that current site conditions vary from those reported, the design engineering should be contacted to develop any required report modifications. Vortex Engineering & Architecture, Inc. is not responsible and accepts no liability for any variation of assumed information.

Vortex Engineering & Architecture, Inc. represents this report has been prepared within the limits prescribed by the owner and in accordance with the current accepted practice of the civil engineering profession in the area. No warranty or representation either expressed or implied is included or intended in this report or in any of our contracts.

CITY OF GRAND JUNCTION, COLORADO

ORDINANCE NO. _____

AN ORDINANCE VACATING A FOUR-FOOT PORTION OF THE KIMBALL AVENUE PUBLIC RIGHT-OF-WAY AND REDUCING THE 14-FOOT WIDE MULTI-PURPOSE EASEMENT TO EIGHT (8) FEET

Recitals

The right-of-way and multi-purpose easement vacation of Kimball Avenue consists of a 1) vacate a four-foot portion of the public right-of-way, 2) vacate the existing 14-foot wide multi-purpose easement (MPE), and 3) dedicate a new multi-purpose easement with a minimum width of eight feet on the south side of the new right of way for Kimball Avenue starting from the easterly edge of the South 12th Street alignment and extending approximately 1,177 feet to the west.

The vacations impact properties addressed as 1015 & 1101 Kimball Avenue; the historic Sugar Beet Factory is located on the latter property.

After public notice and public hearing as required by the Grand Junction Zoning and Development Code, a recommendation of approval by the Planning Commission, the Grand Junction City Council finds that the request to vacate a four-foot portion of the public right-of-way, a reduction of the 14-foot wide multi-purpose easement (MPE) to eight (8) feet, a re-dedication of a new 8-foot wide MGE on the south side of Kimball Avenue starting from the easterly edge of the South 12th Street alignment and extending 1,177 feet to the west is consistent with the Comprehensive Plan, the Grand Valley Circulation Plan and Section 21.02.100 of the Grand Junction Municipal Code.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF GRAND JUNCTION THAT:

The following Right-of-Way (ROW) and multi-purpose easement (MGE) to be Vacated and an eight (8)-foot wide MPE to be re-dedicated directly south of the new ROW line – as depicted in Exhibit A and the vacations described as:

LOT 1 – 1015 Kimball Avenue

Kimball Avenue Right-of-way Vacation to Lot 1, Old Mill Subdivision
Beginning at the NE corner of Lot 1, Old Mill Subdivision, as same is recorded in Book 5008, Pages 27&28, Public Records of Mesa County, Colorado:
Running thence along the existing northerly line of said Lot 1 the following two (2) courses: (1) N89°13’27”W 784.46 feet to a point of curve; (2) thence along said curve to the left 39.63 feet (R=273.00 feet, Delta=8°19’05”, Chord Bears S86°37’00”W 39.60 feet); thence N82°27’28”E 36.59 feet to a point of curve; thence along said curve 21.78 feet (R= 150.00 feet, Delta=8°19’05”, Chord Bears N86°37’00”E 21.76 feet); thence S89°13’27”E 766.05 feet, said line being 4.00 feet north of and parallel with the existing north line of said Lot 1; thence S00°46’33”W 4.00 feet to the existing NE corner of said Lot 1 and the Point of Beginning.
Parcel contains 3169 sq. ft. (0.073 acres).

LOT 2- 1101 Kimball Avenue

Kimball Avenue Right-of-way Vacation to Lot 2, Old Mill Subdivision
Beginning at the NW corner of Lot 2, Old Mill Subdivision, as same is recorded in Book 5008, Pages 27&28, Public Records of Mesa County, Colorado:
Running thence N00°46'33" E 4.00 feet; thence S89°13'27" E 392.66 feet to the existing easterly right-of-way of S 12th Street, said line being 4.00 feet north of and parallel with the existing north line of said Lot 2; thence along said easterly right-of-way of S 12th Street S00°15'42" E 4.00 feet to the existing north line of said Lot 2; thence along the existing north line of said Lot 2 N89°13'27"W 392.74 feet to the existing NW corner of Lot 2 and the Point of Beginning.

Introduced on first reading this 20th day of February, 2019 and ordered published in pamphlet form.

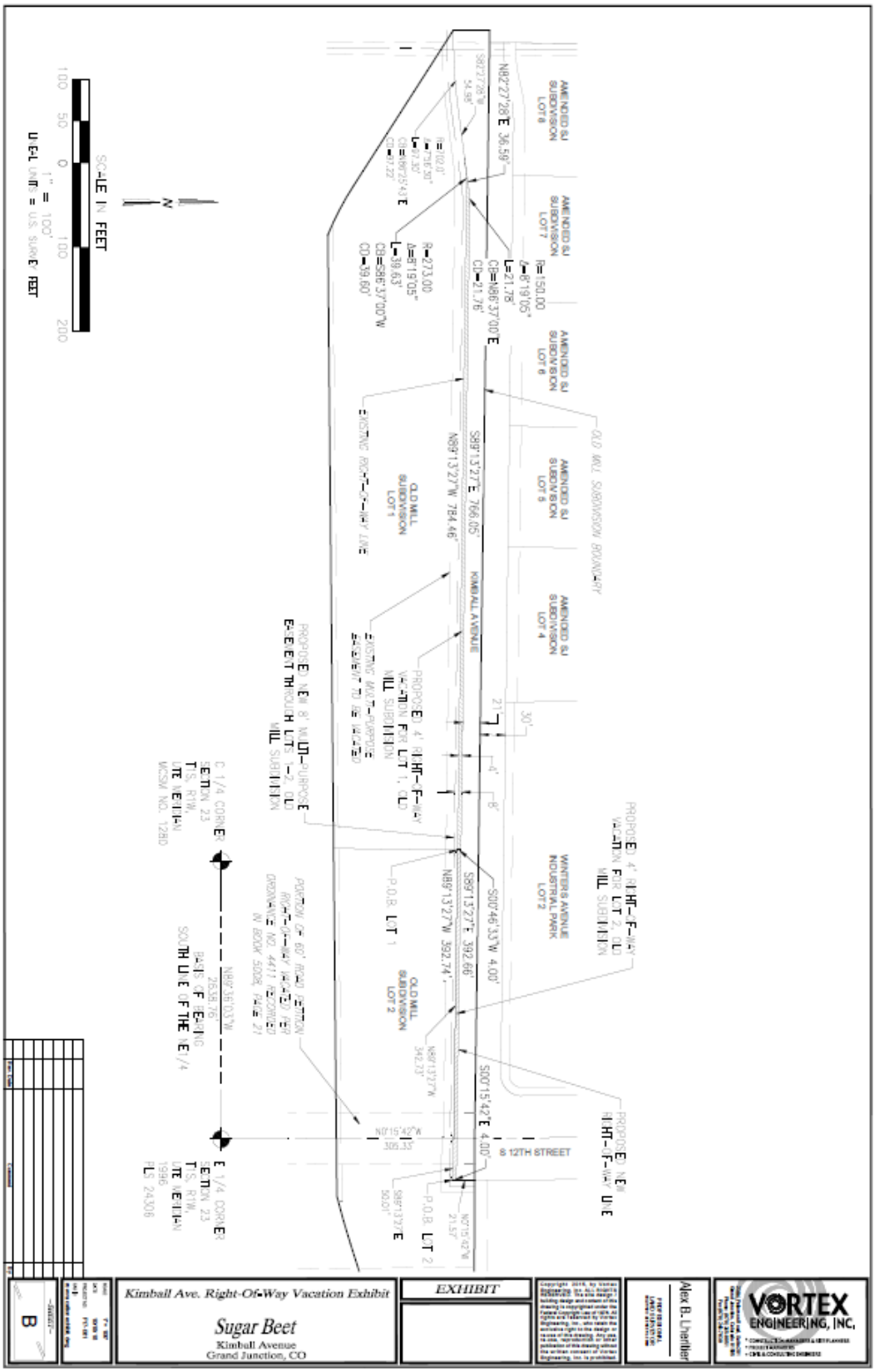
Adopted on second reading this 6th day of March, 2019 and ordered published in pamphlet form.

ATTEST:

_____ _____

City Clerk Mayor

EXHIBIT A


Kimball Ave. Right-Of-Way Vacation Exhibit
Sugar Beet
Kimball Avenue
Grand Junction, CO
EXHIBIT
VORTEX ENGINEERING, INC.
Alex B. Lhenliker
S 12TH STREET
KIMBALL AVENUE
OLD MILL SUBDIVISION BOUNDARY
PROPOSED 4' RIGHT-OF-WAY VACATION FOR LOT 2, OLD MILL SUBDIVISION
PROPOSED NEW 8' MULTI-PURPOSE EASEMENT THROUGH LOTS 1 & 2, OLD MILL SUBDIVISION
EXISTING MULTI-PURPOSE EASEMENT TO BE VACATED
EXISTING RIGHT-OF-WAY LINE
AMENDED SJ SUBDIVISION LOT 8
AMENDED SJ SUBDIVISION LOT 7
AMENDED SJ SUBDIVISION LOT 6
AMENDED SJ SUBDIVISION LOT 5
AMENDED SJ SUBDIVISION LOT 4
OLD MILL SUBDIVISION LOT 1
OLD MILL SUBDIVISION LOT 2
WINTER'S AVENUE INDUSTRIAL PARK LOT 2
N82°27'28"E 36.59'
S82°27'28"W 54.98'
R=150.00'
Δ=6°19'05"
L=21.78'
CB=N86°37'00"E
CD=21.76'
R=273.00'
Δ=8°19'05"
L=39.63'
CB=S86°37'00"W
CD=39.60'
S89°13'27"E 766.05'
N89°13'27"W 784.46'
S89°13'27"E 392.66'
N89°13'27"W 392.74'
S00°46'33"W 4.00'
S00°15'42"E 4.00'
N00°15'42"W 305.33'
N89°56'03"W 2638.76'
BASIS OF BEARING (RIGHT-OF-WAY MONUMENTED AND RECORDED AS SHOWN ON BOOK 5008, PAGE 21)
SOUTH LINE OF THE NE1/4
C 1/4 CORNER SECTION 23 T1S, R1W, UTE MERIDIAN MCSM NO. 1280
E 1/4 CORNER SECTION 23 T1S, R1W, UTE MERIDIAN 1996 PLS 24306
P.O.B. LOT 1
P.O.B. LOT 2
PORTION OF 60' ROAD DEDICATION (RIGHT-OF-WAY MONUMENTED AND RECORDED AS SHOWN ON BOOK 5008, PAGE 21)
SCALE IN FEET
1" = 100'
U.S. SURVEY FEET
B

Grand Junction City Council

Regular Session

Item #2.a.viii.

Meeting Date: February 20, 2019

Presented By: Tom Dixon, Planner

Department: Community Development

Submitted By: Tom Dixon

Information

SUBJECT:

Introduction of a Proposed Ordinance Rezoning Two Properties from R-16 (Residential 12-16 du/ac) to R-24 (Residential 24+ du/ac) Located at 1213 North 15th Street and 1420 Glenwood Avenue and Set a Public Hearing for March 6, 2019

RECOMMENDATION:

Planning Commission recommended approval at their January 22, 2019 hearing (5-0).

EXECUTIVE SUMMARY:

The Applicant, W&C Stocker Family Trust, is requesting the rezone of the combined 0.62-acre properties (total) located at 1213 North 15th Street and 1420 Glenwood Avenue from the R-16 (Residential, 12-16 du/ac) to the R-24 (Residential, 24+ du/ac) zone district in anticipation of future multi-family residential development. The requested R-24 zone district is consistent with the Comprehensive Plan Future Land Use designation of Village Center.

BACKGROUND OR DETAILED INFORMATION:

The subject properties are located at 1213 North 15th Street and 1420 Glenwood Avenue. Each of the two properties is presently developed with an older stock single-family residence; in addition, the 1213 North 15th Street property contains an old, partly re-furbished barn structure which is located near the Glenwood Avenue frontage. Both the residence and barn on the 1213 North 15th property were constructed in 1913; the house at 1420 Glenwood was built in 1950. The development plan, provided that the rezone request is granted, is to demolish all structures to allow for the construction of a new multi-family development.

In the vicinity surrounding the subject properties to the east, north, and west is both single-family and multi-family residential development. To the south is commercial development predominantly oriented toward North Avenue and its business-focused corridor. An R-16 zone district is in place for the area to the east, north, and west while a transition to C-1 (Commercial) occurs south of Glenwood Avenue to North Avenue. The North Avenue Overlay Zone abuts North Avenue and on some properties extends to Glenwood Avenue, but does not extend north of Glenwood Avenue to this site.

The Village Center Employment overlay is a mixed use designation for residential, service, park and retail. It is intended to be at a smaller scale (1 – 5 stories and smaller land area) than Downtown Mixed Use.

ANALYSIS

Pursuant to Section 21.02.140 of the Grand Junction Zoning and Development Code, the City may rezone property if the proposed changes are consistent with the vision, goals and policies of the Comprehensive Plan and must meet one or more of the following criteria:

(1) Subsequent events have invalidated the original premise and findings; and/or

The Comprehensive Plan includes a Future Land Use Map which identifies these two properties designated as Village Center. Both the Applicant's proposed zoning of R-24 as well as the existing designation of R-16, implements the Future Land Use Map designation of Village Center. The existing zoning of R-16 continues to be a valid zone district under the Comprehensive Plan as does the proposed R-24.

Since the adoption of the Village Center designation more than seven years ago there have been incremental improvements to the North Avenue corridor and to the surrounding residential neighborhood largely due to the implementation of the North Avenue Overlay Zone. Staff recognizes these changes in aggregate as a subsequent event(s) that work to invalidate the original premise of the existing zoning (R-16). However, changes in the area, such as improvements that include a 16-unit apartment building constructed in 2012 directly across the street from the residence at 1213 North 15th and a Taco John's drive through restaurant built in 2014 and located at 1430 North Avenue, illustrate that transition of the area has been slow.

Staff finds that, despite positive changes and the ability to increase densities through rezones that are supported by the Future Land Use Map, the original premises and findings of the current R-16 are not necessarily invalidated.

Therefore, this criterion has not been satisfied by the proposed rezone nor by the

Village Center designation.

(2) The character and/or condition of the area has changed such that the amendment is consistent with the Plan; and/or

The City has seen the land use character within the immediate vicinity of the proposed rezone incorporate some gradual yet steady improvements since the adoption of the North Avenue Corridor Plan and Zoning Overlay over seven years ago. New or redeveloped sites one block to the south along North Avenue and the City's sidewalk and streetscape improvements along North Avenue between 12th Street and 23rd Street are upgrades to the commercial neighborhood. In residential areas north of Glenwood Avenue, there are scattered sites being redeveloped with higher densities which is in contrast to a number of properties (including the subject ones) that are suffering from upkeep and other issues having the effect of eroding property values and creating an undesirable impact upon the neighborhood. The prospect to up-zone property through owner initiation provides expanded opportunities and incentives to continue and, perhaps, even increase the timing of enhanced neighborhood change.

The proposed rezone will support the City's objective to make progressive improvements to the neighborhood with the intention of changing the character and conditions of the area while combating or reducing potential urban blight and reduction of property values. Likewise, the rezone to R-24 will provide an opportunity to upgrade this visible corner of the neighborhood and support the North Avenue and North 12th Street businesses.

Based on the existing character and the condition of these depressed properties, as well as new development that has occurred on selected sites in the neighborhood, staff finds that both the condition and the character have changed such that this amendment is consistent with the Plan and therefore this criterion has been met.

(3) Public and community facilities are adequate to serve the type and scope of land use proposed; and/or

The subject properties are within a fully urbanized area of the City of Grand Junction and adequate public and community facilities and services are available and sufficient to serve the anticipated re-development. The properties are currently served by City water and sewer, Xcel Energy electricity and natural gas, and cable network links. Access to nearby commercial facilities, retail, offices, and restaurants along North Avenue and the proximity of Colorado Mesa University and the North 12th Street mixed-use corridor are within three or four blocks. In addition, Grand Valley Transit provides bus service along both directions of North Avenue with stops just west of North 14th Street.

Based on the provision and concurrency of public utilities and community facilities to serve the rezone request, staff finds that this criterion has been met.

(4) An inadequate supply of suitably designated land is available in the community, as defined by the presiding body, to accommodate the proposed land use; and/or

By virtue of designating this area as appropriate for higher residential density and greater commercial and residential intensity, the presiding bodies that adopted the Comprehensive Plan and the Future Land Use Map acknowledged that there was an inadequate supply of suitably designated land to accomplish the goals and objectives in supporting the designation of Village Center. Otherwise, there would not have been a basis for zoning classifications that provided greater incentives of use.

In the neighborhood for this proposed rezone, there is presently an absence of R-24 zoning that is needed to provide additional development incentives and opportunities to create timely upgrades to the area and to create the desired higher density residential units to expand housing options. Therefore, the proposed rezone appears to be a reasonable request in response to the need and desire to increase the supply of suitably designated higher density residential land within the City and in particular the City Center as called out in the Comprehensive Plan.

Based on these considerations, this criterion is deemed to be sufficiently satisfied.

(5) The community or area, as defined by the presiding body, will derive benefits from the proposed amendment.

The community will derive benefits from the proposed rezone by creating an opportunity for the land to be developed with greater density which is a reflection of the transition occurring in neighborhoods to the east of Colorado Mesa University.

The Future Land Use designation of Village Center contemplates a mix of employment, residential, service, park and retail uses at higher densities and intensities of development that should result in community benefits which is equally or better implemented by the R-24 than the R-16 zone district. Therefore, staff finds that this criterion is satisfied.

This rezone request is consistent with the following vision, goals and/or policies of the Comprehensive Plan:

Goal 3: The Comprehensive Plan will create ordered and balanced growth and spread future growth throughout the community.

Policy A: To create large and small “centers” throughout the community that provide

services and commercial areas.

Policy B: Create opportunities to reduce the amount of trips generated for shopping and commuting and decrease vehicle miles traveled thus increasing air qualities.

Goal 5: To provide a broader mix of housing types in the community to meet the needs of a variety of incomes, family types and life stages.

Policy A: In making land use and development decisions, the City and County will balance the needs of the community.

Policy B: Encourage mixed-use development and identification of locations for increased density.

Policy C: Increasing the capacity of housing developers to meet housing demand.

STAFF RECOMMENDATION AND FINDINGS OF FACT

After reviewing RZN-2018-724, a request to rezone 0.62 acre from the R-16 (Residential, 12-16 du/ac) to the R-24 (Residential, 24+ du/ac) zone district, staff recommends approval of the request with the following findings of fact:

1. The requested zone is consistent with the goals and policies of the Comprehensive Plan;

2. In accordance with Section 21.02.140 of the Grand Junction Zoning and Development Code, one or more of the criteria have been met.

FISCAL IMPACT:

This land use action does not have any direct fiscal impact. Subsequent action such as future development and related construction may have direct fiscal impact and will depend on the type of use.

SUGGESTED MOTION:

I move to introduce an ordinance zoning properties at 1312 North 15th Street and 1420 Glenwood Avenue from R-16 (Residential 12-16 du/ac) to R-24 (Residential 24+ du/ac) and set a public hearing for March 6, 2019.

Attachments

1. Stocker Suites attachment
2. Stocker Suites application
3. Stocker Suites Zoning Ord

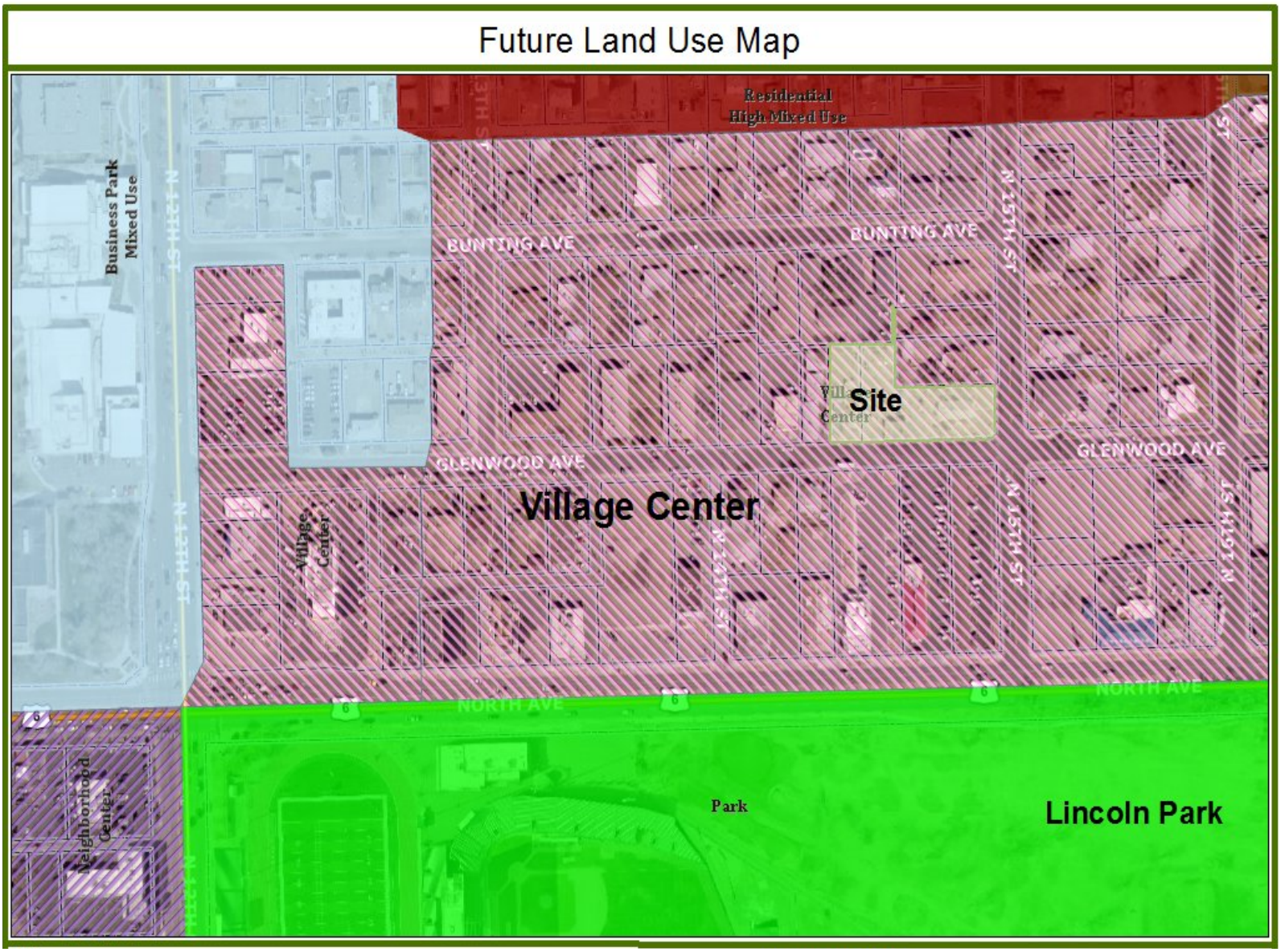
Attachments:

1. Site Location Map
2. Future Land Use Map
3. Existing Zoning Map
4. Site photo 1
5. Site photo 2
6. Site photo 3
7. Site photo 4
8. Site photo 5
9. Site photo 6
10. Site photo 7

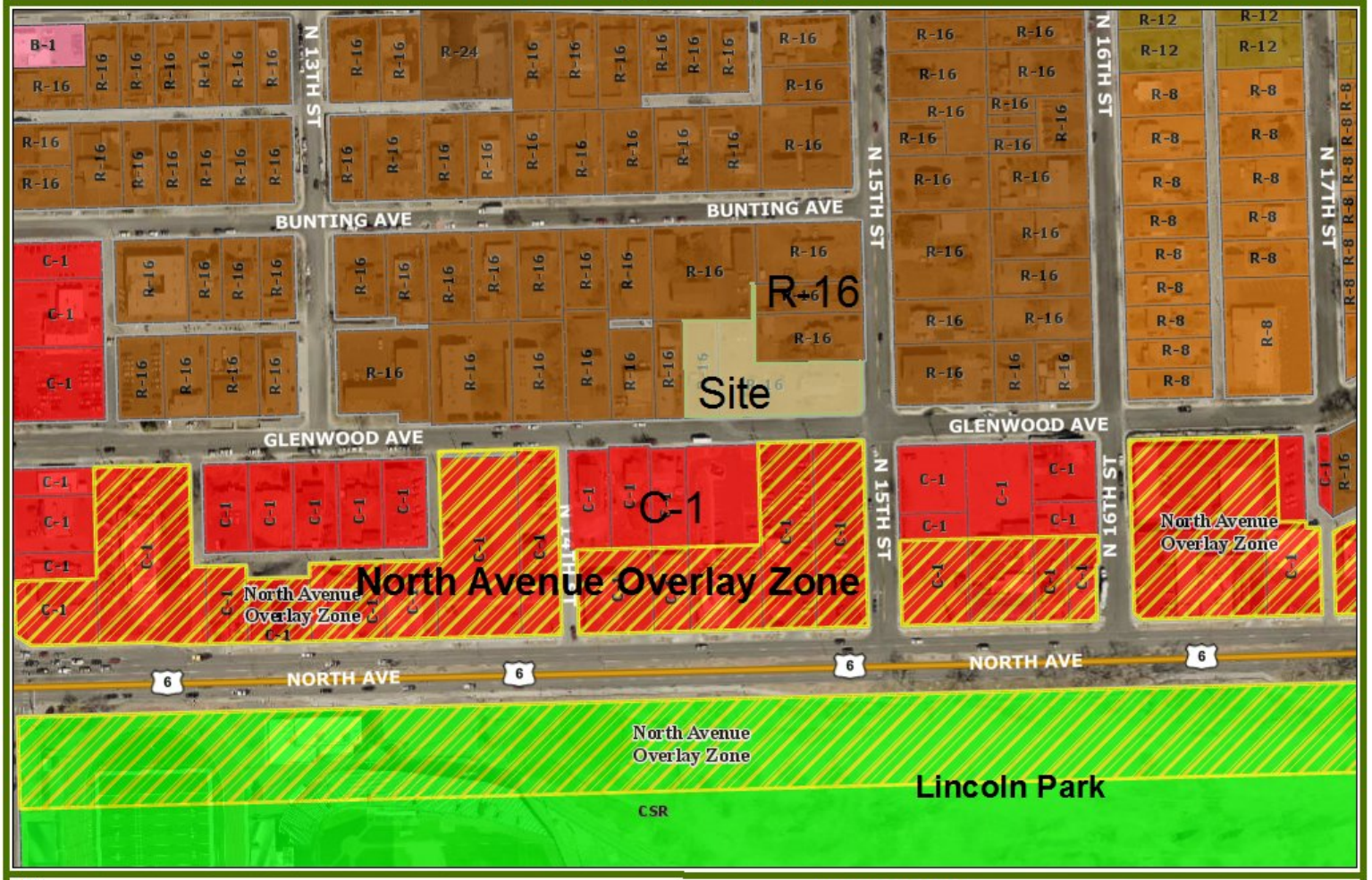
Site Location Map



Future Land Use Map



Existing Zoning Map



N

0 0.05 0.1 mi

Printed: 12/24/2018

1 inch = 188 feet

City of Grand Junction Colorado



Photo 1 - 1213 N. 15th St. looking from SE



Photo 2 – back of 1213 N. 15th St. looking north from Glenwood Ave.



Photo 3 – barn along Glenwood Ave.



Photo 4 – back of barn and auto repair business with entry from Glenwood Ave.



Photo 5 –1420 Glenwood Ave.



Photo 6 – fast food restaurant with ingress/egress across from 1420 Glenwood Ave.



Photo 7 – new multi-family residential across (east) from 1213 N. 12th St.

Grand Junction
COLORADO
PUBLIC WORKS & PLANNING

Development Application

We, the undersigned, being the owner's of the property adjacent to or situated in the City of Grand Junction, Mesa County, State of Colorado, as described herein do petition this:

Petition For: Rezone

Please fill in blanks below only for Zone of Annexation, Rezones, and Comprehensive Plan Amendments:

Existing Land Use Designation: VCMU, 8-24 du/ac
Existing Zoning: R16
Proposed Land Use Designation: VCMU, 8-24 du/ac
Proposed Zoning: R24

Property Information

Site Location: 1213 N. 15th Street & 1420 Glenwood Avenue
Site Acreage: .62
Site Tax No(s): 2945-123-00-091 and -092
Site Zoning: R16
Project Description: Request to Rezone to R24.

Property Owner Information

Name: W&C Stocker Family Trust
Street Address: 1878 K Road
City/State/Zip: Fruita, CO 81521
Business Phone #: (970) 314-1093
E-Mail: stockerheating@gmail.com
Fax #:
Contact Person: Jeff Stocker
Contact Phone #: (970) 314-1093

Applicant Information

Name: Jeff Stocker
Street Address: 1878 K Road
City/State/Zip: Fruita, CO 81521
Business Phone #: (970) 314-1093
E-Mail: stockerheating@gmail.com
Fax #:
Contact Person: Jeff Stocker
Contact Phone #: (970) 314-1093

Representative Information

Name: Vortex Engineering, Inc.
Street Address: 2394 Patterson Rd, Ste
City/State/Zip: Grand Jct, CO 81505
Business Phone #: (970) 245-9051
E-Mail: rjones@vortexengineering.us
Fax #: (970) 245-7639
Contact Person: Robert W. Jones, II
Contact Phone #: (970) 245-9051

NOTE: Legal property owner is owner of record on date of submittal.

We hereby acknowledge that we have familiarized ourselves with the rules and regulations with respect to the preparation of this submittal, that the foregoing information is true and complete to the best of our knowledge, and that we assume the responsibility to monitor the status of the application and the review comments. We recognize that we or our representative(s) must be present at all required hearings. In the event that the petitioner is not represented, the item may be dropped from the agenda and an additional fee may be charged to cover rescheduling expenses before it can again be placed on the agenda.

Signature of Person Completing the Application: [signature] Date: 11/14/18

Signature of Legal Property Owner: [signature] Date: 11/14/18

General Project Report
for
Stocker Suites Rezone Request

Date:	November 20, 2018
Prepared by:	Robert W. Jones II, P.E. Vortex Engineering and Architecture, Inc. 2394 Patterson Road, Suite 201 Grand Junction, CO 81505 (970) 245-9051 VEI# F18-047
Submitted to:	City of Grand Junction 250 N. 5th Street Grand Junction, CO 81501
Type of Design:	Rezone from R16 (Residential, 12-16 du/ac) to R24 (Residential, 16+du/ac)
Property Owner:	W&C Stocker Family Trust 1878 K Road Fruita, CO 81521
Property Address:	1213 N. 15th Street and 1420 Glenwood Avenue Grand Junction, CO 81501
Tax Schedule No:	2945-123-00-091 and -092

1. **Project Intent**

This application is made to request a rezone of approximately .62 acres located at 1213 N. 15th Street and 1420 Glenwood Avenue from R16 (Residential 12-16 du/ac) to R24 (Residential, 16+ du/ac) in anticipation of future multi-family residential development.

2. **Project Background and Description**

The subject properties are located at 1213 N. 15th Street and 1420 Glenwood Avenue and are currently zoned R16 (12-16 du/ac). The applicant would like to rezone to the R24 zone district to construct multi-family dwelling units to be known as Stocker Suites.

The site is made up of two parcels with a total of approximately .62 acres. The site is bounded by residential uses to the north, east and west, commercial uses to the south. There is one single family home located on each of the two parcels with an older barn structure also located on 1213 N. 15th Street. These structures will either be removed or demolished to allow construction of the development.

The applicant would like to construct approximately 15 multi-family dwelling units on the two parcels. The current R16 would allow up to 12 dwelling units; therefore a



The applicant would like to construct a multi-family development that is very similar to what exists in the surrounding area with duplex, triplex and higher density multi-family dwelling units. Existing conditions of the surrounding area are noted on the map below.



Legal Description

The legal description of this site is as follows:

1420 Glenwood Avenue (2945-123-00-091):
BEG S 0DEG01'06SEC W 294.35FT & W 215.03FT FR NE COR LOT 2 GRANDVIEW SUB SEC 12 1S 1W W 50FT N 142.50FT E 50FT S 142.50FT TO POB

1213 N. 15th Street (2945-123-00-092):
BEG S 0DEG01'06SEC W 294.35FT & W 10.84FT FR NE COR LOT 2 GRANDVIEW SUB SEC 12 1S 1W W 204.19FT N 142.50FT E 52FT N 51.85FT E 3FT S 116FT E 155.06FT S 0DEG01'06SEC W 71.84FT S 41DEG55'51SEC W 8.75FT TO BEG

3. Neighborhood Meeting

A Neighborhood Meeting was held on Wednesday, November 14, 2018 at 5:30 pm at the Four Winds Coffee and Tea, located at 1235 Bookcliff Avenue, Grand Junction. The owner's representative provided an overview of the rezone request and a brief overview of the proposed development. Kris Ashbeck, Senior Planner with the City of Grand Junction also attended the meeting to answer questions about the City's rezone review process. A list of all those attending the meeting is attached to this report, as well as the primary issues of concern that were discussed during the meeting.

The meeting was attended by two (2) citizens and comments and questions were addressed by the applicant's representative and Kris Ashbeck from the City of Grand Junction.

Public notice for this application will be provided in accordance with Sec. 21.02.080(g) of the Grand Junction Municipal Code, including posting the subject properties on all public rights-of-way.

4. **Comprehensive Plan**

The Comprehensive Plan's Future Land Use Map shows the subject property as Village Center Mixed Use (VCMU, 8-24 du/ac). The proposed density of the R24 zone district (minimum 16 du/ac) is in keeping with existing land use development patterns of the surrounding neighborhood where up to 31 du/ac exist, and what is anticipated by the Village Center land use classification.

Redevelopment of the existing parcels would be considered an infill development due to the location within the community and the presence of existing utilities to serve the site. The subject property is located within the 201 Sewer Service Boundary and the Urban Development Boundary which is expected to develop and/or redevelop with urban densities and services.

The proposed development meets a number of the goals and policies of the Comprehensive Plan:

Goal 1, Policy D: For development that requires municipal services, those services shall be provided by a municipality or district capable of providing municipal services.
Goal 3: The Comprehensive Plan will create ordered and balanced growth and spread future growth throughout the community.

In addition to the goals and policies, the proposed development also meets the following Guiding Principles of the Comprehensive Plan:

Guiding Principle 2: Sustainable Growth Patterns – Fiscal sustainability where we grow efficiently and cost-effectively. Encourage infill and redevelopment and discourage growth patterns that cause disproportionate increases in cost of services.

Guiding Principle 3: Housing Variety – Allow, encourage more variety of housing types (more than just large lot single family homes) that will better meet the needs of our diverse population – singles, couples, families, those just starting out, children who have left home, retirees, etc.



5. **Zoning and Surrounding Areas**

The applicant is requesting a rezone from the current R16 (Residential 12-16 du/ac) to R24 (Residential, 16+ du/ac) for future multi-family residential development. This request is consistent with, and supports, the Comprehensive Plan's Future Land Use Map classification of Village Center Mixed Use (VCMU, 8-24 du/ac).



Surrounding area zoning and land uses include:

North – R16 (Residential, 12-16 du/ac) with single and multi-family residential land uses
South – Light Commercial (C-1) with commercial land uses
West – R16 (Residential, 12-16 du/ac) with single and multi-family residential land uses
East – R16 (Residential, 12-16 du/ac) with single and multi-family residential land uses

The purpose of the R24 zone district is to provide for high density residential use. This district allows multi-family development within specified densities. R-24 may serve as a transitional district between single-family and trade zones. This district is intended to allow high density residential unit types and densities to provide a balance of housing opportunities in the community. It is appropriate in the Village and Neighborhood Centers.

The area surrounding the subject property is already an area of residential transition between North Avenue located one block to the south which is zoned Light Commercial, C-1, and the area to the north which is a mix of single and multi-family land uses primarily zoned R16.

It should be noted that although the area to the north, east and west of the subject property is zoned R16, there are several properties that are developed at a density higher than 16 dwelling units per acre, which is the maximum density permitted by the R16 zone district. This trend in the existing land use would suggest that a higher density is more desirable and acceptable given the proximity to North Avenue and the C-1 zoning along that corridor. Higher density housing is a logical support for the commercial land uses of the North Avenue corridor.

6. **Utility Providers**

All required and necessary utilities shall be provided concurrent with development of the subject property. Utility providers for the Elevation 4591 development have the capacity and willingness to serve the development. Public facilities such as medical, schools, parks and public safety are available to serve development on this site.

Utility providers for the site are as follows:

Sewer: City of Grand Junction/Persigo Wastewater Treatment Plant
Water: City of Grand Junction Water District
Gas/Electric: Xcel Energy
Drainage: Grand Valley Drainage District
Irrigation: Grand Valley Irrigation Company
Cable: Spectrum

7. **Drainage**

The topography of the site is generally flat with a high point of 4624' at the northeast corner of the property, then gently sloping to the southwest with a low point of 4622'. Stormwater drainage will be addressed under a separate development application at the time of actual construction of the multi-family dwelling units.

8. **Wetlands and Floodplain**

There are no known wetlands or floodplains associated with the subject property. The property is located within Flood Zone X which is outside the .02% annual chance of floodplain.

9. **Approval Criteria**

Section 21.02.140(a), **Approval Criteria.** In order to maintain internal consistency between this code and the zoning maps, map amendments must only occur if:

(1) Subsequent events have invalidated the original premises and findings; and/or

Response: Subsequent events have not invalidated the original premises for the anticipated land development of this area of the community. Both the Growth Plan and subsequent Comprehensive Plan anticipated residential development in this area of the community.

This criterion is not applicable.

(2) The character and/or condition of the area has changed such that the amendment is consistent with the Plan; and/or

Response: The majority of this neighborhood was developed prior to adoption of the current Comprehensive Plan and 2010 Zoning and Development Code. As such, there are pockets of development in the surrounding neighborhood that have been developed at densities that exceed the maximum permitted density for the current R16 zoning. In addition to the existing mix of single and multi-family development, the North Avenue Overlay district was also adopted subsequent to the Comprehensive Plan and 2010 Zoning and Development Code. The North Avenue corridor is zoned Light Commercial, C-I, and permits land uses that are compatible with the proposed R24 zone district.

Another change in this area of the community is reflected in the expansion of the Colorado Mesa University (CMU) campus. Numerous classroom buildings have been constructed on campus in recent years to support the growing study body and curriculum. Many of the CMU students chose to live off-campus which puts growing pressure on the community to provide additional housing units such as those proposed for the subject property should it be rezoned.

The proposed rezone to R24 supports and is consistent with the Village Center Mixed Use land use classification of the Comprehensive Plan.

This criterion has been MET.

(3) Public and community facilities are adequate to serve the type and scope of land use proposed; and/or

Response: All required and necessary utilities shall be constructed concurrent with development of the subject property. Utility providers for the subject property have the capacity and willingness to serve future development. Public facilities such as medical facilities, schools, library and parks are adequate to serve the scope of anticipated residential development and are currently available within walking distance of the subject property.

This criterion has been MET.

(4) An inadequate supply of suitably designated land is available in the community, as defined by the presiding body, to accommodate the proposed land use; and/or

Response: There are very few parcels of land within the community with a zoning of R24 that allows higher density development. The fact that several nearby parcels are developed at a density level that exceeds 16 dwelling units per acre (the maximum density permitted in the R16 zone district) suggests that there is in fact an inadequate supply of land designated for higher residential density.

This criterion has been MET.

(5) The community or area, as defined by the presiding body, will derive benefits from the proposed amendment.

Response: The immediate area, and the community overall, will benefit from the provision of higher density residential development that is constructed near the City Center and so many services within walking distance, including upper level education, medical, recreational and multiple food services. In addition to being in a walkable part of the community, the higher density provides much needed housing and makes more efficient use of the existing infrastructure such as streets, water and sewer lines, sidewalks, etc. More compact development benefits the community as a whole through more efficient use of infrastructure.

This criterion has been MET.

10. Development Schedule

It is anticipated that the request to rezone will be reviewed and scheduled for Planning Commission recommendation to City Council in approximately 8-10 weeks. The proposed residential development will be submitted under a separate land use application upon approval of the rezone request.

11. Conclusion

The request to rezone from R16 (Residential 12-16 du/ac) to R24 (Residential, 16+ du/ac) supports the Comprehensive Plan's Future Land Use Map classification of Village Center Mixed Use. After demonstrating how the requested rezone meets the goals, policies and Guiding Principles of the Comprehensive Plan and the approval criteria of the Zoning and Development Code, we respectfully request approval of the request to rezone to the R24 zone district.

12. Limitations/Restrictions

This report is a site-specific report and is applicable only for the client for whom our work was performed. The review and use of this report by City of Grand Junction, affiliates, and review agencies is fully permitted and requires no other form of authorization. Use of this report under other circumstances is not an appropriate application of this document. This report is a product of Vortex Engineering, Inc. and is to be taken in its entirety. Excerpts from this report when taken out of context may not convey the true intent of the report. It is the owner's and owner's agent's responsibility to read this report and become familiar with recommendations and findings contained herein. Should any discrepancies be found, they must be reported to the preparing engineer within 5 days.

The recommendations and findings outlined in this report are based on: 1) The site visit and discussion with the owner, 2) the site conditions disclosed at the specific time of the site investigation of reference, 3) various conversations with planners and utility companies, and 4) a general review of the zoning and transportation manuals. Vortex Engineering, Inc. assumes no liability for the accuracy or completeness of information furnished by the client or municipality/agency personnel. Site conditions are subject to external environmental effects and may change over time. Use of this report under different site conditions is inappropriate. If it becomes apparent that current site conditions vary from those reported, the design engineering should be contacted to develop any required report modifications. Vortex Engineering, Inc. is not responsible and accepts no liability for any variation of assumed information.

Vortex Engineering, Inc. represents this report has been prepared within the limits prescribed by the owner and in accordance with the current accepted practice of the civil engineering profession in the area. No warranty or representation either expressed or implied is included or intended in this report or in any of our contracts.

Neighborhood Meeting Notes/List of Attendees
November 14, 2018

November 19, 2018

City of Grand Junction
Kris Ashbeck, Senior Planner
250 N. 5th Street
Grand Junction, CO 81501

RE: Neighborhood Meeting - Rezone
Stocker Suites
Date: Wednesday, November 14, 2018
Time: 5:30 p.m. – 6:30 p.m.
Location: Four Winds Coffee & Tea

Dear Ms. Ashbeck:

On Wednesday, November 14, 2018, a Neighborhood Meeting was held from 5:30 – 6:30 pm at the Four Winds Coffee & Tea for the proposed Stocker Suites rezone. An overview of the proposed rezone to R24 was presented by Lisa Cox of Vortex Engineering, Inc., followed by questions from the neighborhood residents.

The meeting was attended by two (2) residents. Comments and concern were voiced during the meeting. No written comments were received.

The following is a synopsis of the questions posed by the neighborhood residents:

- What is the difference between R16 and R24?
- When will demolition begin?
- Concern regarding windows on the north side looking down on other property.
- What is the process?
- Where will access be to the property?
- What will the impact of traffic be?

Lisa Cox with Vortex Engineering, Inc., stated that the property is currently zoned R16 and we are submitting for a R24 zone. She explained that the Comprehensive Plan, which is the City of Grand Junction and Mesa County's long range plan, designates parcels with a range of densities that are implemented by various zone districts and the R24 zone is consistent with the vision of the city.

Kris Ashbeck, Senior Planner with the City of Grand Junction was there to provide information and answer questions specific to City Policies and Procedures. Kris explained that residents will be notified of future applications; however another neighborhood meeting is not required.

At 5:53 p.m. Lisa Cox thanked those who attended the neighborhood meeting and shared their concerns. The meeting was then closed.

Upon your review of the meeting notes, should you have any questions or amendments, please do not hesitate to contact me at 970-245-9051.

Sincerely,

Robert W. Jones II, P.E.
Vortex Engineering & Architecture, Inc.

Cc: File

Stocker Suites Rezone
Neighborhood Meeting Sign In Sheet
November 14, 2018

	Full Name (Printed)	Address	City	Zip
1	Jennifer Rittenhouse	2394 Patterson Rd., Ste 201	GJ, CO	81505
2	Richard Hildebrandt	3274 F 3/10 Rd	Clifton CO	81520
3	Lisa Cox	2394 Patterson Rd; Ste. 201	GJ, CO	81505
4	Matt Tellado	2755 North Ave	GJ CO	81501
5	Wendell Stocker	1878 K Rd	Fruita CO	81521
6	Kristen Ashbeck	City Hall	GJ CO	81501
7	Jeff Stocker	338 Hill Ave	GJ CO	81501
8				
9	858-7784 (Cheryl's phone number)			
10				
11				
12				
13				
14				
15				

11/14/18 @ 5:30 → 5:53
Neighborhood Meting / Stocker Suites

2 Residents present: Matt Tilirde ?
Dick Wagner

Applicants: Cheryl Waddell / Stocker present
Jeff

Kris Ashbeck
Lisa Ox
myself

Lisa explained signs to KA explained meets City's comprehensive plan and is consistent w/ City's vision.

Jeff ~~Stocker~~ Stocker talked about what his plan is

Kris Ashbeck went thru policies & procedures of city

Mr. Wagner was in favor of project as long as the applicant is respectful of his property and his mothers house.

Residents discussed listing of area and meeting was adjourned at 5:53 p.m.

October 30, 2018

VIA: US Mail

Adjacent Property Owner
Grand Junction, CO

RE: Stocker Suites Rezone
1420 Glenwood Ave. & 1213 N. 15 St.
Grand Junction, CO 81501

Dear Property Owner:

The above referenced property will soon be the subject of a Rezone application with the City of Grand Junction's Community Development Department. A Neighborhood Meeting will be held to introduce the proposed rezone to you and to answer any questions that you might have about the project.

A Neighborhood meeting will be held on Wednesday, November 14, 2018 at 5:30 pm at the Four Winds Coffee & Tea, located at 1235 Bookcliff Avenue, Grand Junction.

The Neighborhood Meeting is held to allow the neighborhood an opportunity to understand the rezone request, answer questions and to collect neighbor's thoughts and ideas about the new development. The property owner's representative and a City Planner will be at the meeting to discuss the new development. We hope to see you there too!

Please don't hesitate to contact me at 970-245-9051, or by email at rjones@vortexeng.us should you have any questions about this project.

Sincerely,

Vortex Engineering & Architecture, Inc.

Robert W. Jones, II, P.E.

cc: File

Stocker Suites Location



Attach this form to the name and address list at submittal to ensure credit for payment.

ADJACENT PROPERTY OWNER
NAME & ADDRESS ORDER FORM

[x] Please check if labels are needed for a Neighborhood Meeting. Name & address lists are valid for 6 months only. If the project goes to Planning Commission later than 6 months from submittal, another request for names & addresses must be submitted, along with an additional $50.

TAX PARCEL #: 2945-123-00-091 & 2945-123-00-092

PROPERTY ADDRESS: 1420 Glenwood Avenue & 1213 N 15th Street, Grand Junction, CO 81501

PROPERTY OWNER: Stocker W & C Trust

CONTACT PERSON: Jeff Stocker

MAILING ADDRESS: 1878 K Road
Fruita, CO 81521

APPLICANT: Stocker W & C Trust

CONTACT PERSON: Jeff Stocker

MAILING ADDRESS: 1878 K Road
Fruita, CO 81521

PROJECT REPRESENTATIVE: Vortex Engineering, Inc.

CONTACT PERSON: Jennifer Christensen

MAILING ADDRESS: 2394 Patterson Road, Ste 201
Grand Junction, CO ~~81521~~ 81505-1872

PHONE NUMBER: (970) 245-9051

*This request for labels and/or the name and address list **MUST BE SUBMITTED A MINIMUM OF 2 WEEKS PRIOR** to the Neighborhood Meeting or prior to the submittal of the project.

FEE: $50.00
DATE PAID: _____ **RECEIPT #:** _____

The adjacent property mailing list is created by pulling all property owners within 500 feet and all Homeowners Associations or citizens groups within 1000 feet of all properties involved in the project. The property owner information is put together using the information in the Mesa County Assessor's records and the HOA's and citizens groups on record with the City of Grand Junction Public Works and Planning Department.

1307 LLC
138 VISTA GRANDE RD
GRAND JUNCTION CO 81507-1468

1313 GLENWOOD LLC
2221 IDELLA CT
GRAND JUNCTION CO 81505-7019

1401 GLENWOOD LLC
3131 B RD
GRAND JUNCTION CO 81503-9618

1402 LLC
2439 H RD
GRAND JUNCTION CO 81505-9647

1530 NORTH AVE LLC
120 PONDEROSA DR
RIDGWAY CO 81432-9418

1600 NORTH AVE LLC
1241 GUNNISON AVE
GRAND JUNCTION CO 81501-4448

AESCHLIMANN MARK
PO BOX 9
GRAND JUNCTION CO 81502-0009

ASA CO PROPERTIES LLC
30 N GOULD ST STE R
SHERIDAN WY 82801-6317

BAYLEY DENNIS R
BAYLEY DEBORAH D
311 APPLEWOOD CT
FRUITA CO 81521-8811

BERENTIS CHERYL
2890 ORCHARD AVE
GRAND JUNCTION CO 81501-5375

BERTRAMI MATTHEW A
GALLO DEBORAH ANN
PO BOX 88230
COLORADO SPRINGS CO 80908-8230

BJORK MELISSA A
1312 BUNTING AVE
GRAND JUNCTION CO 81501-4320

BRODAK J&M FAMILY TRUST
360 PIKES PEAK DR
GRAND JUNCTION CO 81507-1740

BURD VICKI M
BURD MONTE L
1302 BUNTING AVE
GRAND JUNCTION CO 81501-4320

CHESKATY RUTH A
1240 N 15TH ST
GRAND JUNCTION CO 81501-4302

CITY OF GRAND JUNCTION
KRISTEN ASHBECK
250 N 5TH ST
GRAND JUNCTION CO 81501-2628

CITY OF GRAND JUNCTION
LINCOLN PARK
1340 GUNNISON AVE
GRAND JUNCTION CO 81501-4403

CLAEYS SUSAN MARIE TRUST
2884 TEXAS AVE
GRAND JUNCTION CO 81501-5015

CLEMENTS PATRICK M
1402 N 15TH ST
GRAND JUNCTION CO 81501-4306

COCHRAN ENTERPRISES LLC
749 W WILSHIRE CT
GRAND JUNCTION CO 81506-1826

COOK JAMES STACEY
2332 W RIDGES BLVD
GRAND JUNCTION CO 81507-1680

COX ROSA E
1304 N 15TH ST
GRAND JUNCTION CO 81501-4304

DAKOTA WEST PROPERTIES LLC
PO BOX 551
FRUITA CO 81521-0551

DARLING ANN
1358 N 15TH ST
GRAND JUNCTION CO 81501-4304

DEROSE MELISSA ANN
1237 N 16TH ST
GRAND JUNCTION CO 81501-4307

DIDONATO RANDY J
DIDONATO CHERYL J
611 N 1ST ST
GRAND JUNCTION CO 81501-2233

DOCKERY ROGER D
DOCKERY TAMMY R
1215 N 16TH ST
GRAND JUNCTION CO 81501-4307

EDENS KAREN L
623 SIERRA CT
GRAND JUNCTION CO 81507-1018

ESPINOZA SI D
ESPINOZA TAWNY C
2609 KELLEY DR
GRAND JUNCTION CO 81506-8381

FAE GRAND JUNCTION LLC
166 E 14000 S STE 210
DRAPER UT 84020-5455

FORTY BELOW LLC
1725 8 RD
MACK CO 81525-9737

GEGENHEIMER GAYLE
GARTETZ HOLLY
PO BOX 232
TUMACACORI AZ 85640-0232

GJRES LLC
549 PINNACLE CT
GRAND JUNCTION CO 81507-1430

GRAND JUNCTION HOUSING AUTHORITY
1011 N 10TH ST
GRAND JUNCTION CO 81501-3166

GRCS PROPERTIES LLC
3662 G 4/10 RD
PALISADE CO 81526-9750

HAMS JEFFREY C
CALVERT JILL
PO BOX 49536
COLORADO SPRINGS CO 80949-9536

HARRISON RYAN T
3334 MUSIC LN
GRAND JUNCTION CO 81506-1918

HARTER AMANDA M
2015 N 8TH ST
GRAND JUNCTION CO 81501-2902

HAYES HENRY HOWARD
HAYES ANN J B
624 30 RD
GRAND JUNCTION CO 81504-5560

HEALD DAVID D
HEALD STEPHANIE
2432 SPANISH BRANCH CT
GRAND JUNCTION CO 81505-9753

HOFFER ANDREW P
HOFFER CATHERYN CHRISTENSEN
1612 GLENWOOD AVE
GRAND JUNCTION CO 81501-4336

JAMES GALE M
JAMES FRANK A
1300 N 16TH ST
GRAND JUNCTION CO 81501-4310

JODAN HOLDINGS LLC
686 39 RD
PALISADE CO 81526-9312

JOHNSON ROBERT L
JOHNSON JACQUELINE V
1611 CREST VIEW CT
GRAND JUNCTION CO 81506-5235

KING MARILYN TRUSTEE
9732 HIBISCUS DR
GARDEN GROVE CA 92841-1717

LIPTON MARGARET J
381 1/2 EXPLORER CT APT B
GRAND JUNCTION CO 81507-2690

LLG FAMILY TRUST
1259 N 16TH ST
GRAND JUNCTION CO 81501-4307

LUSBY ERIC W
2584 PATTERSON RD UNIT 1
GRAND JUNCTION CO 81505-1451

M & W PROPERTIES LLC
1410 NORTH AVE
GRAND JUNCTION CO 81501-6420

MARASCO RAE O TRUST
653 26 1/2 RD
GRAND JUNCTION CO 81506-1444

MARTINEZ DANIEL R
1218 N 15TH ST
GRAND JUNCTION CO 81501-4302

MAZZUCA INVESTMENTS LLC
1340 NORTH AVE
GRAND JUNCTION CO 81501-6419

MCGILL IAN
KUNCIR-MCGILL KRISTA A
1450 BUNTING AVE
GRAND JUNCTION CO 81501-4322

MCGOVERN ENTERPRISES INC PIZZA HUT #771
PO BOX 2438
LIBERAL KS 67905-2438

MOJO PROPERTY MANAGEMENT LLC
1946 STAR CANYON DR
GRAND JUNCTION CO 81507-9528

MORSE LIVING TRUST
1018 TWINING AVE
SAN DIEGO CA 92154-2559

MOUNTAIN PROPERTIES WEST LLC
3755 HORIZON GLEN CT
GRAND JUNCTION CO 81506-5424

NICHOLS JEFFERY B
NICHOLS JENNY L
1315 N 16TH ST
GRAND JUNCTION CO 81501-4309

NIESLANIK MATT
NIESLANIK HEATHER
1445 KENNEDY AVE
GRAND JUNCTION CO 81501-4341

NOBLE MARIA A SERAFINO-
236 GUNNISON AVE UNIT A
GRAND JUNCTION CO 81501-2312

NORTH AVENUE OWNERS ASSOCIATION
POPPY WOODY
1708 NORTH AVE
GRAND JUNCTION CO 81501-6423

ON TRACK INVESTMENTS LLC
965 E OTTLEY AVE
FRUITA CO 81521-2421

PARK DARRIN J
1325 BUNTING AVE
GRAND JUNCTION CO 81501-4319

PELIS PAUL J
6976 PIN OAKS DR
DENVER NC 28037-7610

PERRY DOUGLAS
PERRY VICKI, PERRY CONNIE
2215 OAKRIDGE LN
COLORADO SPRINGS CO 80915-1017

PHOENIX APARTMENTS
HRWC - COLEEN SIMPSON
524 30 RD STE 3
GRAND JUNCTION CO 81504-4437

REAMS LIVING TRUST
899 24 1/2 RD
GRAND JUNCTION CO 81505-9629

RIEVES SARAH KATHLEEN
RIEVES CLARK MICHAEL
307 PARK DR
GLENWOOD SPRINGS CO 81601-4137

RITTWAGER THOMAS MARTIN
1402 BUNTING AVE
GRAND JUNCTION CO 81501-4322

SCHAEFER BRADLEY J
SCHAEFER LESLIE A
726 CENTAURI CT
GRAND JUNCTION CO 81506-1993

SCHMIDT DANIEL L
SCHMIDT PATRICIA M
1236 N 16TH ST
GRAND JUNCTION CO 81501-4308

SMITH CHRISTOPHER MICHAEL
1244 N 16TH ST
GRAND JUNCTION CO 81501-4308

SMITH GREGORY M
SMITH CONSTANCE M
216 ALCOVE DR
GRAND JUNCTION CO 81507-1463

SPARKS JENNIFER J
535 FRUITWOOD DR
GRAND JUNCTION CO 81504-5782

STEVES LESLIE PETER
STEVES SANDRA K
2982 CRAIG ST
GRAND JUNCTION CO 81503-2442

STICKEROD HALEY A
1805 GRAND AVE
GRAND JUNCTION CO 81501-4521

STOCKER W&C TRUST
JEFF STOCKER
1878 K RD
FRUITA CO 81521-9064

SUMMIT PARTNERS - GLENWOOD LLC
2455 HOME RANCH CT
GRAND JUNCTION CO 81505-8646

TAMBURELLO GREGORY J
TAMBURELLO ANNE E
2446 RUBY MESA CT
GRAND JUNCTION CO 81505-8629

TAYLOR RONALD C
TAYLOR J BRETT, TAYLOR K ELAINE
1267 N 15TH ST
GRAND JUNCTION CO 81501-4301

TELINDE MATT
1412 GLENWOOD AVE UNIT 4
GRAND JUNCTION CO 81501-4361

TJH VENTURES LLC
PO BOX 2749
GRAND JUNCTION CO 81502-2749

VENABLE LAURA
545 W GREENWOOD DR
GRAND JUNCTION CO 81507-2517

VORTEX ENGINEERING INC
JENNIFER CHRISTENSEN
2394 PATTERSON RD STE 201
GRAND JUNCTION CO 81505-1472

WACOCOLO LLC
PO BOX 2206
GRAND JUNCTION CO 81502-2206

WAGNER HELEN GERTRUDE
WAGNER JOY B, WAGNER RICHARD H
1215 N 15TH ST
GRAND JUNCTION CO 81501-4301

WATTS ZACHARY M
WATTS DARRIN
1359 BUNTING AVE
GRAND JUNCTION CO 81501-4319

WILSON GREGORY N
1224 N 16TH ST
GRAND JUNCTION CO 81501-4308

WITHERS GARY PATRICK
WITHERS BRENDA F
2700 G RD APT 12D
GRAND JUNCTION CO 81506-1408

ZASTROW STEPHEN P
ZASTROW BRIDGET M
525 REED MESA DR
GRAND JUNCTION CO 81507-1108

ZIEMBA JON PAUL
3332 F 5/8 RD
CLIFTON CO 81520-8117

CITY OF GRAND JUNCTION, COLORADO

ORDINANCE NO.

AN ORDINANCE ZONING PROPERTIES AT 1312 NORTH 15TH STREET AND 1420 GLENWOOD AVENUE FROM R-16 (RESIDENTIAL, 12-16 DU/AC) TO R-24 (RESIDENTIAL, 24+ DU/AC)

Recitals

The property owner has requested a Rezone for 0.625 acre of land from R-16 to the R-24 zone district.

After public notice and public hearing as required by the Grand Junction Municipal Code, the Grand Junction Planning Commission recommended approval of rezoning 1213 North 15th Street and 1420 Glenwood Avenue from the R-16 (Residential, 12-16 du/ac) to the R-24 (Residential, 24+ du/ac) zone district finding that it conforms with the recommended land use category as shown on the future land use map of the Comprehensive Plan and the Comprehensive Plan's goals and policies and is generally compatible with land uses located in the surrounding area. The zone district meets the criteria found in Section 21.02.140 of the Grand Junction Municipal Code.

After public notice and public hearing before the Grand Junction City Council, City Council finds that the R-24 (Residential, 24+ du/ac) zone district is in conformance with the stated criteria of Section 21.02.140 of the Grand Junction Municipal Code.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF GRAND JUNCTION THAT:

The following properties be rezoned R-24 (Residential, 24+ du/ac).

1213 North 15th Street

Commencing at the Northeast Corner of Lot 2 of Grandview Subdivision and assuming the East line of Lot 2 to bear South 00deg.01'06" West with all bearings herein relative thereto; thence South 00deg.01'06" West a distance of 294.35 feet to a point; thence South 90deg.00'00" West a distance of 10.84 feet to the True Point of Beginning; thence South 90deg.00'00" West a distance of 204.19 feet; thence North 00deg.00'00" East a distance of 142.50 feet; thence North 90deg.00'00" East a distance of 52.00 feet; thence North 00deg.00'00" East a distance of 51.85 feet; thence South 90deg.00'00" East a distance of 3.00 feet; thence South 00deg.00'00" East a distance of 116.00 feet; thence North 90deg.00'00" East a distance of 155.06 feet; thence South 00deg.01'06" West a distance of 71.84 feet; thence South 41deg.55'51" West a distance of 8.75 to the True Point of Beginning, Mesa County, Colorado.

1420 Glenwood Avenue

Commencing at the NE Corner of Lot 2 of Grandview Subdivision and assuming the East line of Lot 2 to bear South 00deg.01'06" West with all bearings herein relative thereto; thence South 00deg.01'06" West a distance of 294.35 feet to a point; thence South 90deg.00'00" West a distance of 215.03 feet to the true point of beginning; thence North 90deg.00'00" West a distance of 50.00 feet; thence North 00deg.00'00" East a distance of 142.50 feet; thence North 90deg.00'00" East a distance of 50.00 feet; feet; thence South 00deg.00'00" East a distance of 50.00 feet; thence South 00deg.00'00" East a distance of 142.50 feet to the true point of beginning;

Together with any and all water, water rights, ditch and ditch rights belonging thereto.

CONTAINING 27,225 Square Feet or 0.625 Acre, more or less, as described.

INTRODUCED on first reading the 20th day of February, 2019 and ordered published in pamphlet form.

ADOPTED on second reading the 6th day of March, 2019 and ordered published in pamphlet form.

ATTEST:

_____

President of the Council

_____

City Clerk

Grand Junction City Council

Regular Session

Item #2.a.ix.

Meeting Date: February 20, 2019

Presented By: Jace Hochwalt, Associate Planner

Department: Community Development

Submitted By: Jace Hochwalt, Associate Planner

Information

SUBJECT:

A Resolution Referring a Petition to the City Council for the Annexation of Lands to the City of Grand Junction, Colorado, Setting a Hearing on Such Annexation, Exercising Land Use Control, and Introducing Annexation Ordinance for the Arlington Annexation, which is a Serial Annexation Consisting of Arlington Annexation No. 1 and Arlington Annexation No. 2, Totaling 1.41 acres, Located at 265 Arlington Drive and Set a Public Hearing for April 3, 2019

RECOMMENDATION:

Staff recommends adoption of a resolution referring the petition for the Arlington Annexation, introducing the proposed Ordinance and setting a hearing for April 3, 2019.

EXECUTIVE SUMMARY:

The Applicant, Hammerhead Development, LLC, has requested annexation of their 0.64-acre property located at 265 Arlington Drive. The proposed annexation includes 0.77-acres of adjacent Arlington Drive and Oxford Avenue right-of-way. The subject property currently sits vacant. The Applicant is requesting annexation for future residential subdivision development of the property, which is anticipated to constitute "annexable development" and as such is required to annex in accordance with the Persigo Agreement. Consideration for zoning of this annexation will be heard in a future action.

BACKGROUND OR DETAILED INFORMATION:

The Arlington annexation consists of one 0.64-acre parcel of land and 0.77 acres of

adjacent right of way (total of 1.41 acres of land to be annexed) located at 265 Arlington Drive. The property is currently vacant. The Applicant plans to subdivide the property into three residential lots and is requesting annexation at this time in anticipation of this development. The Applicant is requesting an R-4 (residential with a maximum of 4 units per acre) zone district. Zoning will be considered in a future action and requires review and recommendation by the Planning Commission.

The subject property is directly adjacent to city limits to the south, while other adjacent properties are situated in unincorporated Mesa County. It should be noted that all adjacent improved properties are connected to City sewer services, as a sewer line extends north to south along Arlington Drive. Additionally, the subject property is within the Persigo 201 boundary and is annexable development as defined in the Persigo Agreement. Under the 1998 Persigo Agreement with Mesa County, all proposed development within the Persigo Wastewater Treatment Facility boundary requires annexation by the City. The property owner has signed a petition for annexation of the property.

Staff has found, based on review of the petition and knowledge of applicable state law, including the Municipal Annexation Act Pursuant to C.R.S. 31-12-104, that the Arlington Annexation is eligible to be annexed because of compliance with the following:

a) A proper petition has been signed by more than 50% of the owners and more than 50% of the property described;

b) Not less than one-sixth of the perimeter of the area to be annexed is contiguous with the existing City limits;

c) A community of interest exists between the area to be annexed and the City. This is so in part because the Central Grand Valley is essentially a single demographic and economic unit and occupants of the area can be expected to, and regularly do, use City streets, parks and other urban facilities;

d) The area is or will be urbanized in the near future;

e) The area is capable of being integrated with the City;

f) No land held in identical ownership is being divided by the proposed annexation;

g) No land held in identical ownership comprising 20 contiguous acres or more with an assessed valuation of $200,000 or more for tax purposes is included without the owner’s consent.

The proposed annexation and zoning schedule with a summary is attached.

FISCAL IMPACT:

The provision of municipal services will be consistent with adjacent properties already in the City. Property tax levies and municipal sales/use tax will be collected, as applicable, upon annexation. More specific impacts to various service providers of the City include the following.

Police Department:
In an effort to determine/anticipate what the impact may be to the GJPD in providing police services should the city proceed with this annexation, calls for service during 2017 and 2018 were pulled. A review of that data revealed that there were only 19 calls for service in 2017 and 31 calls for service in 2018 to that surrounding area which is similar in residential density. Based on that information we anticipate that any calls for service by GJPD for this location will equal to 1.2% of an officer. With that said, at this point, we do not anticipate a need for an increase in personnel or equipment in order to provide law enforcement services to this proposed annexation. However, this annexation along with any future annexations/developments will no doubt have an eventual cumulative impact that will require an increase in law enforcement personnel and equipment in order to provide adequate services**.**

Public Works:
Annual Maintenance costs for the 21,200 square feet / 500 linear feet of pavement on Arlington Drive is estimated at approximately $90/year to sweep, stripe and sign, and maintain the 130 ft of storm drain facilities. Street lighting expenses for the three street lights will run $612 per year. Future chipseal costs for this road is estimated at $5,800 and is planned as part of this area's normal chip seal cycle in the next five years. As the existing street includes some curb, gutter, and sidewalk, the only major capital expenses anticipated are a small replacement of concrete and the construction of two curb ramps for less than $10,000.

Fire:
The provision of municipal services will be consistent with adjacent properties already in the City. Property tax levies and municipal sales/use tax will be collected, as applicable, upon annexation. Based on the current assessed values of the annexation area, the City property tax revenue is estimated to be $80 annually. If the property develops at the estimated three single family units for an estimated total improvements value of $900,000, the estimated annual property tax revenue (at the current residential assessment rate) would be approximately $518 per year. Sales and use tax revenues will be dependent on construction activity and consumer spending on City taxable items for residential and commercial uses.

Currently the property is in the Grand Junction Rural Fire Protection District (Rural District) which is served by the Grand Junction Fire Department through a contract with the Rural District. The Rural District collects a 5.938 mill levy that generates $59.20 per year in property taxes that are passed on to the City of Grand Junction per the contract. If annexed, the Rural District mill levy will be removed and the City's 8 mills that will generate $80 per year (prior to development) and $518 per year after estimated planned development which will need to pay for not only fire and emergency medical services but also other City services provided to the area. City services as discussed below are supported by a combination of property taxes and sales/use taxes.

No changes in fire protection and emergency medical response are expected due to this annexation. Primary response is from Fire Station 4 at 2884 B ½ Road and response time from the station is within National Fire Protection Association guidelines. The incident load for this development is predicted to be minimal.

Parks:
There are no anticipated impacts to the Parks Department with this proposed annexation. Parks and Recreation fees will be collected with the future subdivision of this property.

Utilities:
Water and sewer services are available to this property. This property is within the Ute Water District service area. An 8-inch water line crosses this property along the northern and western property boundary. The property is currently within the Persigo 201 Sewer Service Area. However, the property does not currently have a sewer connection.

1) Plant Capacity: Based on the Future Land Use (FLU) designation and proposal for 3 dwelling units, the maximum anticipated additional flow associated with 3 equivalent units (EQUs) is about 500 gallons per day. The Persigo wastewater treatment plant has sufficient capacity to accommodate this development. The current capacity of the wastewater treatment plant is 12,500,000 gallons per day. The plant currently only receives approximately 8 million gallons per day. Therefore, the plant has ample capacity to accommodate this additional flow. The property would be assessed the current plant investment fee (PIF) of $4,776 per equivalent unit (2019 rate) or $14,328. This fee is intended to pay the equivalent share of the payments due on bonds for the existing wastewater treatment plant and infrastructure.

2) Ability to Serve Area: An 8-inch sewer main is located along Arlington Drive so the property would have direct access for sewer taps. There is available capacity in this sewer collection system to accommodate future development of this property with 3 dwelling units.

3) Sewer Service Charges: Monthly sewer service rates for single family units are $22.40. These rates have been determined sufficient to cover the cost of service.

SUGGESTED MOTION:

I move to adopt Resolution No. 12-19, a resolution referring a petition to the City Council for the annexation of lands to the City of Grand Junction, Colorado, setting a hearing on such annexation, and exercising Land Use Control, Arlington Annexation, a serial annexation comprising Arlington Annexation No. 1 and Arlington Annexation No. 2, approximately 1.41 acres, located at 265 Arlington Drive, and introduce an ordinance annexing territory to the City of Grand Junction, Colorado, Arlington Annexation, a serial annexation comprising Arlington Annexation No. 1 and Arlington Annexation No. 2, approximately 1.41 acres located at 265 Arlington Drive and set a public hearing for April 3, 2019.

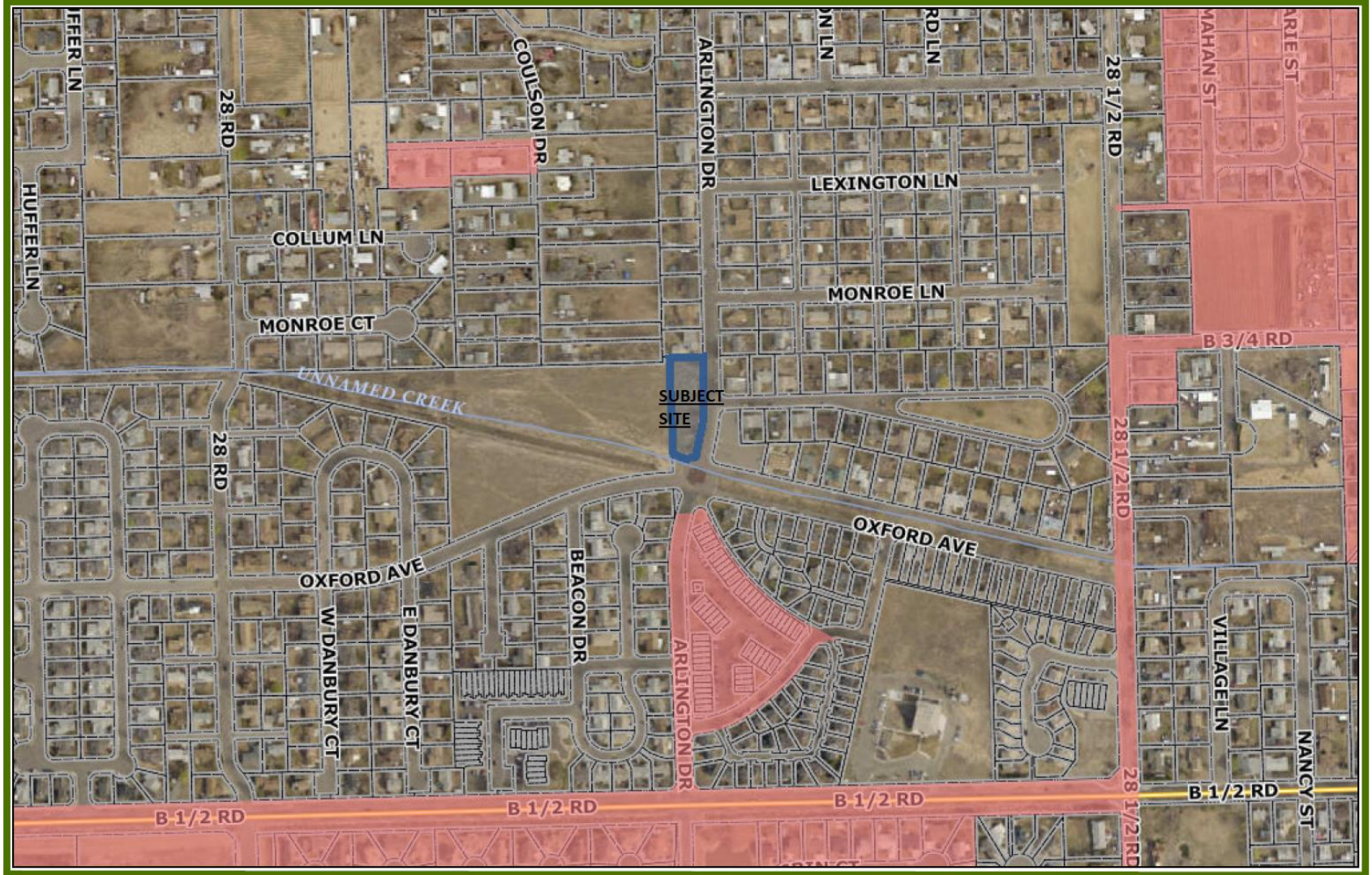
Attachments

1. Arlington Annexation Schedule & Summary
2. Maps and Photos - Arlington Annexation
3. Resolution Referring Petition - Arlington Annexation
4. Ordinance Annexating Arlington Annexation

ARLINGTON ANNEXATION SCHEDULE	
February 20, 2019	Referral of Petition (30 Day Notice), Introduction of a Proposed Ordinance, Exercising Land Use
February 26, 2019	Planning Commission considers Zone of Annexation
March 20, 2019	Introduction of a Proposed Ordinance on Zoning by City Council
April 3, 2019	Acceptance of Petition and Public Hearing on Annexation and Zoning by City Council
May 5, 2019	Effective date of Annexation

ANNEXATION SUMMARY		
File Number:		ANX-2018-777
Location:		265 Arlington Dr.
Tax ID Numbers:		2943-302-28-090
# of Parcels:		1
Existing Population:		0
# of Parcels (owner occupied):		0
# of Dwelling Units:		0
Acres land annexed:		1.41
Developable Acres Remaining:		0.64
Right-of-way in Annexation:		0.77
Previous County Zoning:		RSF-4 (Residential Single Family – Rural)
Proposed City Zoning:		R-4 (Residential – 4 du/ac)
Current Land Use:		Vacant land
Future Land Use:		Residential Medium (4 – 8 du/ac)
Values:	**Assessed:**	$9,970
	Actual:	$34,380
Address Ranges:		265 Arlington Dr.
Special Districts:	**Water:**	Ute Water Conservancy District
	Sewer:	City of Grand Junction
	Fire:	Grand Junction Rural Fire District
	Irrigation/Drainage:	Orchard Mesa Irrigation District/ Orchard Mesa Drainage District
	School:	Grand Junction High School / Orchard Mesa Middle School / Lincoln Orchard Mesa Elementary
	Pest:	Grand River Mosquito Control District

Expanded City Limits Location Map



N

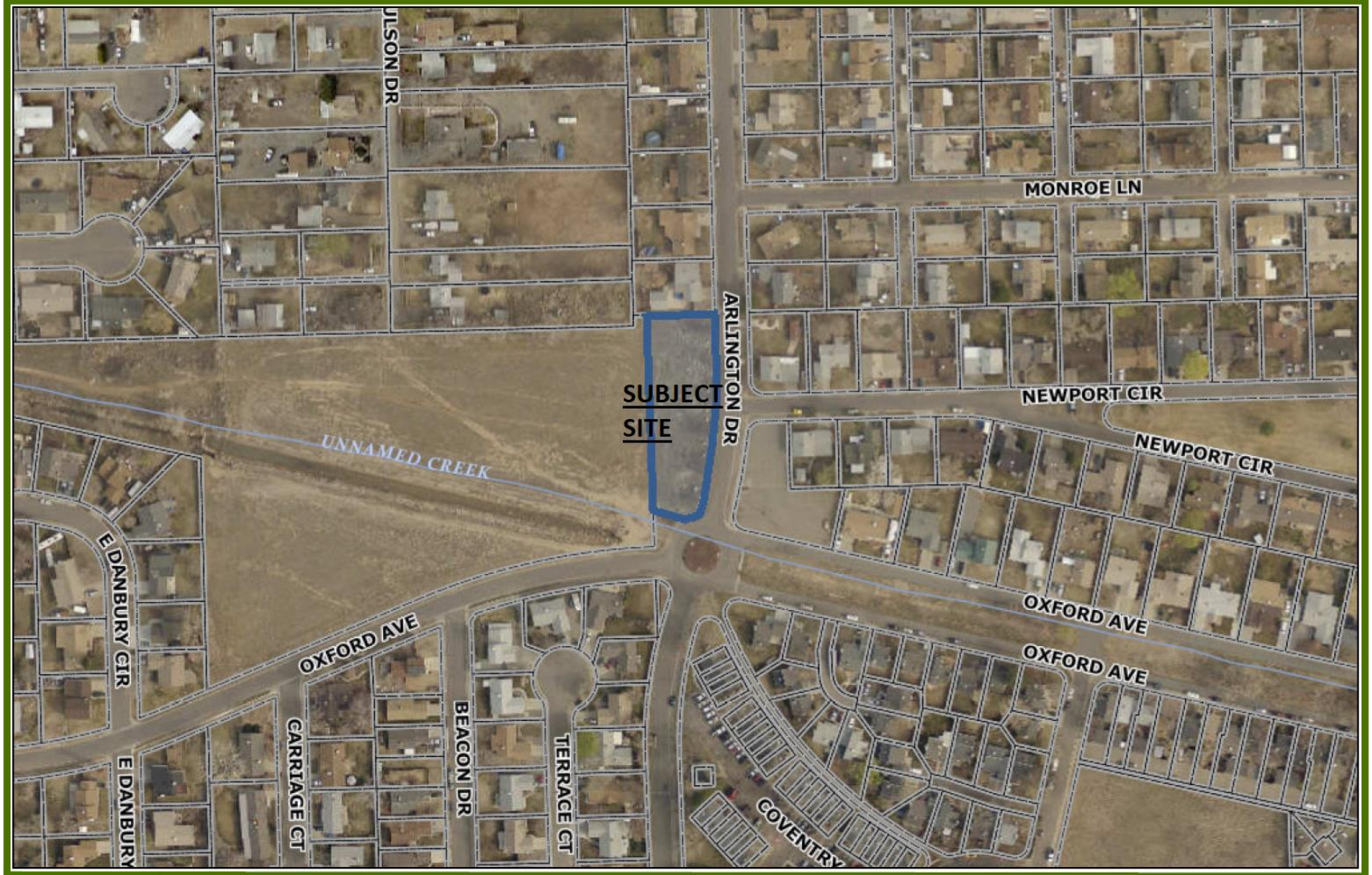
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Printed: 2/4/2019

1 inch = 376 feet

CITY OF Grand Junction COLORADO GEOGRAPHIC INFORMATION SYSTEM

Site Location Map



N

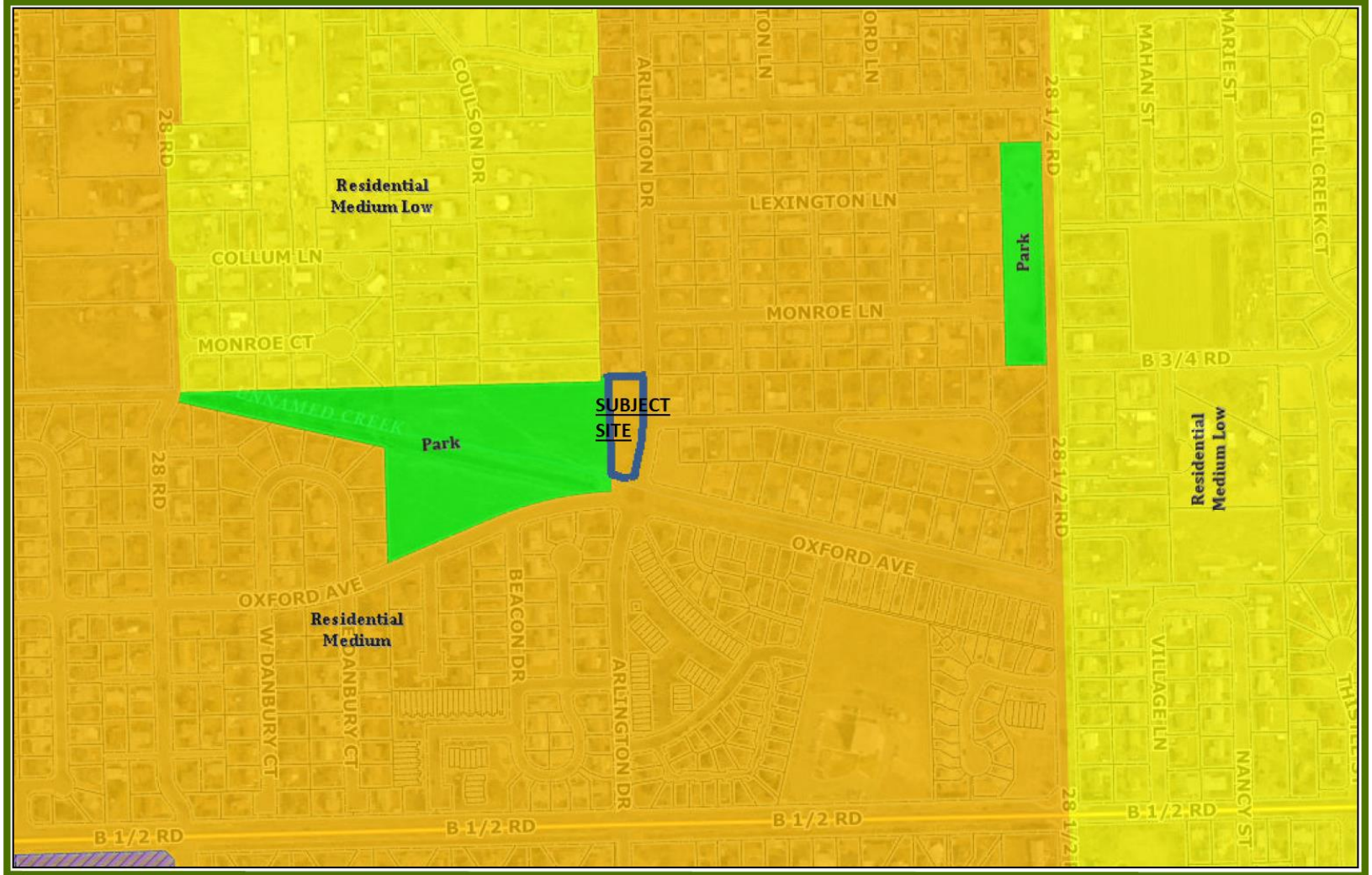
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Printed: 2/4/2019

1 inch = 188 feet

CITY OF Grand Junction COLORADO GEOGRAPHIC INFORMATION SYSTEM

Future Land Use Map



N

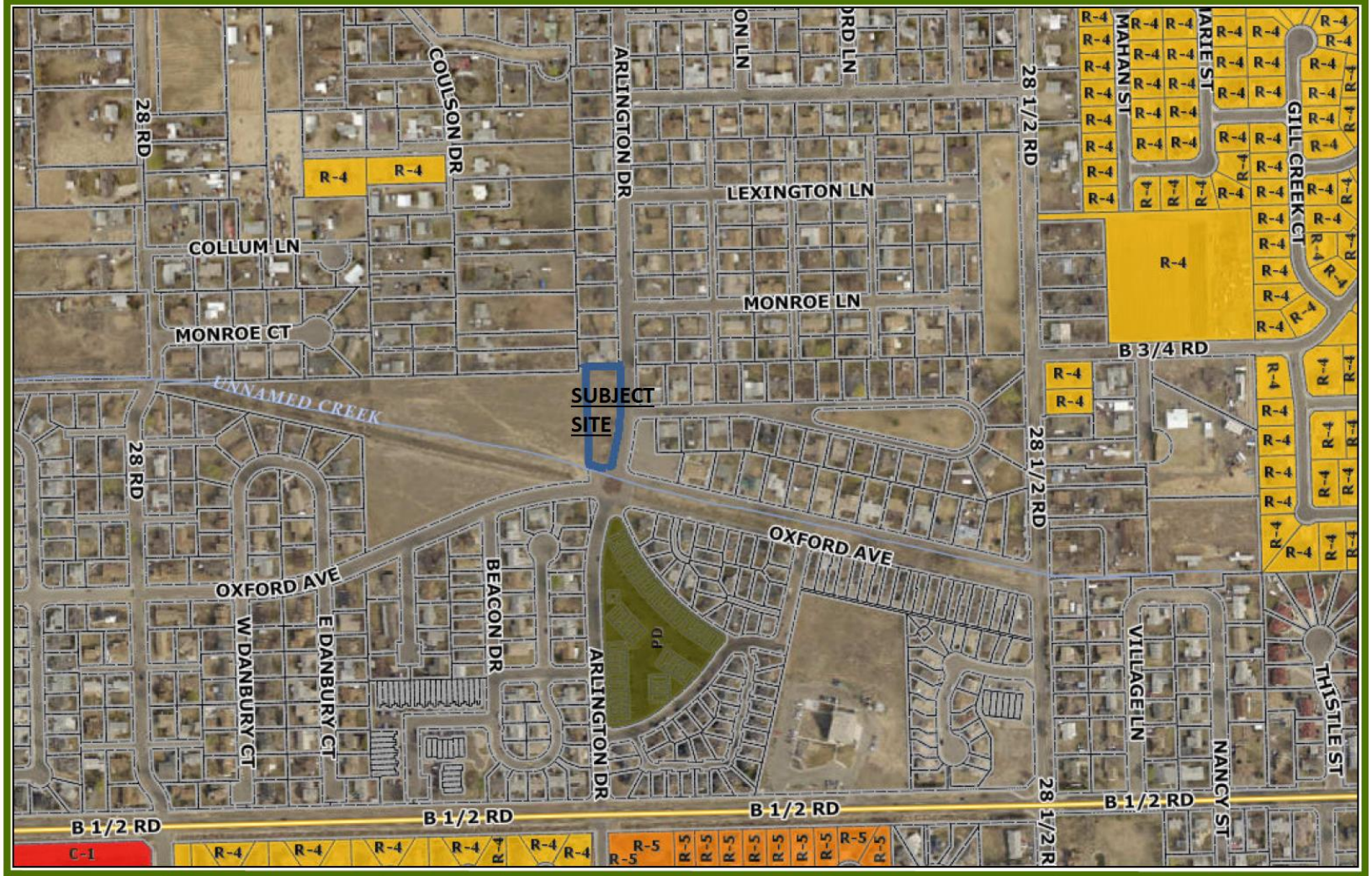
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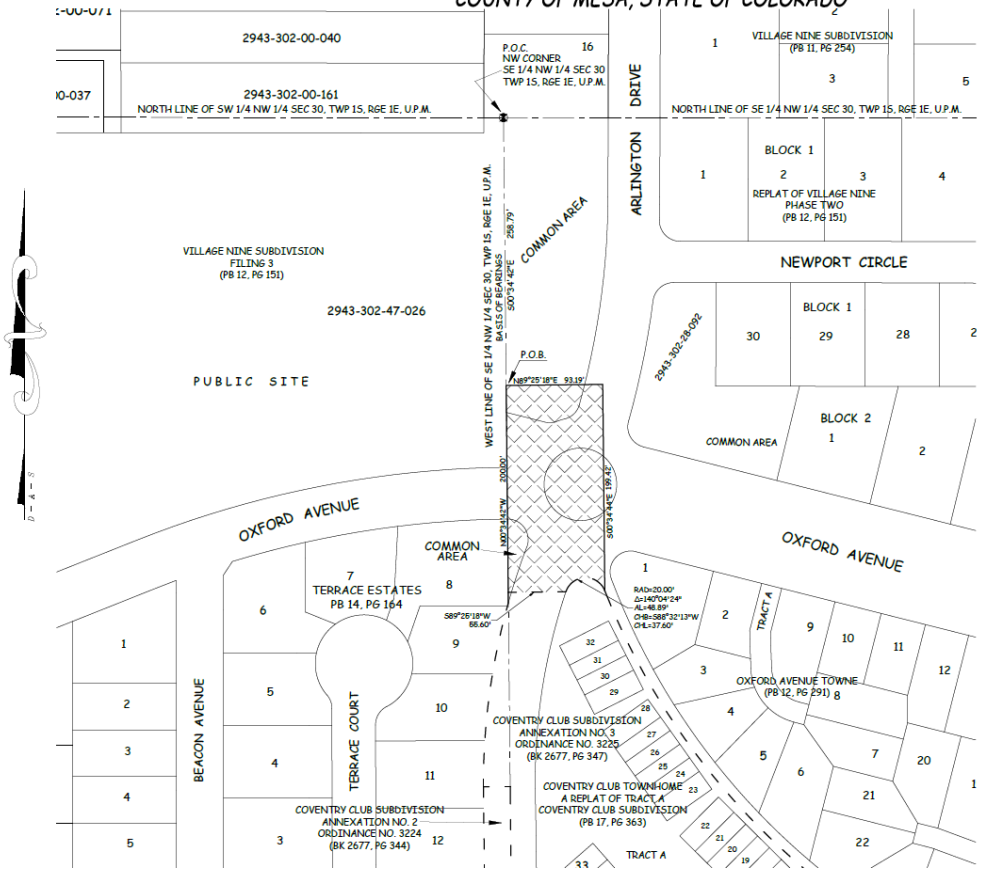
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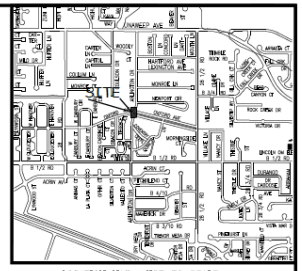
City Zoning Map



ARLINGTON ANNEXATION NO. 1

LYING IN THE SE 1/4 NW 1/4 OF SECTION 30 , TOWNSHIP 1 SOUTH, RANGE 1 EAST UTE PRINCIPAL MERIDIAN COUNTY OF MESA, STATE OF COLORADO





LOCATION MAP NOT-TO-SCALE

DESCRIPTION

A certain parcel of land lying in the Southeast Quarter of the Northwest Quarter (SE 1/4 NW 1/4) of Section 30, Township 1 South, Range 1 East of the Ute Principal Meridian, County of Mesa, State of Colorado and being more particularly described as follows:

COMMENCING at the Northwest corner of the SE 1/4 NW 1/4 of said Section 30 and assuming the West line of the SE 1/4 NW 1/4 of said Section 30 bears S 00°34'42" E with all other bearings contained herein being relative thereto; thence from said Point of Commencement, S 00°34'42" E, along said West line, a distance of 258.79 feet to the POINT OF BEGINNING; thence from said Point of Beginning, N 89°25'18" E, a distance of 93.19 feet; thence S 00°34'44" E, a distance of 199.42 feet to a point being the beginning of a 20.00 foot radius curve, concave South, whose long chord bears S 88°32'13" W with a long chord length of 37.60 feet; thence Westerly along the arc of said curve, thru a central angle of 140°04'24", an arc length of 48.89 feet; thence S 89°25'18" W, a distance of 55.60 feet, more or less, to a point on the West line of the SE 1/4 NW 1/4 of said Section 30; thence N 00°34'42" W, along said West line, a distance of 200.00 feet, more or less, to the Point of Beginning.

ABBREVIATIONS

P.O.C.	POINT OF COMMENCEMENT
P.O.B.	POINT OF BEGINNING
R.O.W.	RIGHT OF WAY
SEC.	SECTION
TWP.	TOWNSHIP
RGE.	RANGE
U.P.M.	UTE PRINCIPAL MERIDIAN
NO.	NUMBER
SQ. FT.	SQUARE FEET
Δ=	CENTRAL ANGLE
RAD	RADIUS
AL	ARC LENGTH
CHL	CHORD LENGTH
CHB	CHORD BEARING
BLK	BLOCK
PB	PLAT BOOK
BK	BOOK
PG	PAGE

The Sketch and Description contained herein have been derived from subdivision plats and deed descriptions as they appear in the office of the Mesa County Clerk and Recorder. This plat does not constitute a legal survey, and is not intended to be used as a means for establishing or verifying property boundary lines.

AREA OF ANNEXATION

ANNEXATION PERIMETER	597.11 FT.
CONTIGUOUS PERIMETER	104.49 FT.
AREA IN SQUARE FEET	18,267***
AREA IN ACRES	0.419

***(15,087 SQ. FT LIES IN PLATTED R/W)

LEGEND

ANNEXATION BOUNDARY

EXISTING CITY LIMITS

GRAPHIC SCALE

0' 50' 100' 150' 200'

(IN FEET)

1 inch = 50 ft.

LINEAL UNITS USED HEREIN = U.S. SURVEY FOOT, AS ESTABLISHED

ORDINANCE NO. ????

EFFECTIVE DATE ????

THIS IS NOT A BOUNDARY SURVEY

PRELIMINARY

PETER T. KRICK, PLS No. 32824
Professional Land Surveyor for the City of Grand Junction

DATE: _____

COLORADO REGISTERED No. 32824 PROFESSIONAL LAND SURVEYOR

Notice:
According to Colorado law you must commence any legal action based upon any defect in this survey within three years after you first discover such defect. In no event may any action based upon any defect in this survey be commenced more than ten years from the date of the certification shown hereon.

DRAWN BY P.T.K. DATE 01-17-2019
DESIGNED BY _____ DATE _____
CHECKED BY P.T.K. DATE _____
APPROVED BY _____ DATE _____

SCALE 1" = 50'

CITY OF Grand Junction COLORADO

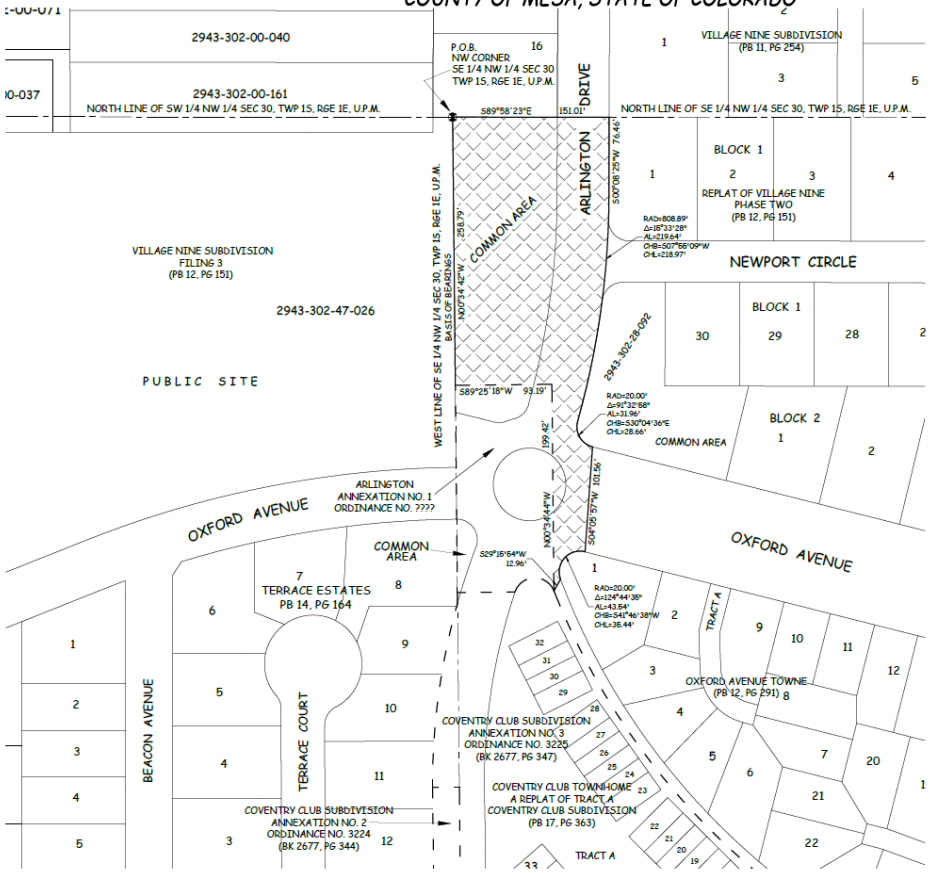
PUBLIC WORKS
ENGINEERING DIVISION
SURVEY DEPARTMENT

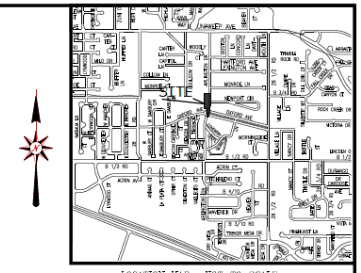
ARLINGTON ANNEXATION NO. 1

1 OF 1

ARLINGTON ANNEXATION NO. 2

LYING IN THE SE 1/4 NW 1/4 OF SECTION 30 , TOWNSHIP 1 SOUTH, RANGE 1 EAST UTE PRINCIPAL MERIDIAN COUNTY OF MESA, STATE OF COLORADO





LOCATION MAP: NOT-TO-SCALE

DESCRIPTION

A certain parcel of land lying in the Southeast Quarter of the Northwest Quarter (SE 1/4 NW 1/4) of Section 30, Township 1 South, Range 1 East of the Ute Principal Meridian, County of Mesa, State of Colorado and being more particularly described as follows:

BEGINNING at the Northwest corner of the SE 1/4 NW 1/4 of said Section 30 and assuming the West line of the SE 1/4 NW 1/4 of said Section 30 bears S 00°34'42" E with all other bearings contained herein being relative thereto; thence from said Point of Beginning, S 89°58'23" E, along the North line of the SE 1/4 NW 1/4 of said Section 30, a distance of 151.01 feet to a point on the East right of way for Arlington Drive, as same is recorded in Plat Book 12, Page 151, Public Records of Mesa County, Colorado; thence S 00°08'25" W, along said East right of way, a distance of 76.46 feet to a point being the beginning of a 808.89 foot radius curve, concave West, whose long chord bears S 07°55'09" W with a long chord length of 218.97 feet; thence Southerly along the arc of said curve, thru a central angle of 15°33'28", an arc length of 219.64 feet to a point being the beginning of a 20.00 foot radius curve, concave Northeast, whose long chord bears S 30°04'36" E, with a long chord length of 28.66 feet; thence Southeasterly along the arc of said curve, thru a central angle of 91°32'58", an arc length of 31.96 feet; thence S 04°05'57" W, a distance of 101.56 feet, more or less, to a point on the South right of way for Oxford Avenue, as same is recorded in Plat Book 12, Page 151, Public Records of Mesa County, Colorado, being the beginning of a 20.00 foot radius curve, concave Southeast, whose long chord bears S 41°46'38" W, with a long chord length of 35.44 feet; thence Southwesterly along the arc of said curve, thru a central angle of 124°44'35", an arc length of 43.54 feet; thence S 29°15'54" W, a distance of 12.96 feet; thence N 00°34'44" W, a distance of 199.42 feet; thence S 89°25'18" W, a distance of 93.19 feet, more or less, to a point on the West line of the SE 1/4 NW 1/4 of said Section 30; thence N 00°34'42" W, along said West line, a distance of 258.79 feet, more or less, to the Point of Beginning.

ABBREVIATIONS

P.O.C.	POINT OF COMMENCEMENT
P.O.B.	POINT OF BEGINNING
R.O.W.	RIGHT OF WAY
SEC.	SECTION
TWP.	TOWNSHIP
RGE.	RANGE
U.P.M.	UTE PRINCIPAL MERIDIAN
NO.	NUMBER
SQ. FT.	SQUARE FEET
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CHB	CHORD BEARING
BLK	BLOCK
PB	PLAT BOOK
BK	BOOK
PG	PAGE

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PRELIMINARY

PETER T. KRICK, PLS No. 32824
Professional Land Surveyor for the City of Grand Junction

DATE: _____

COLORADO REGISTERED No. 32824 PROFESSIONAL LAND SURVEYOR

AREA OF ANNEXATION

ANNEXATION PERIMETER	1,188.54 FT.
CONTIGUOUS PERIMETER	292.61 FT.
AREA IN SQUARE FEET	42,733***
AREA IN ACRES	0.982

***(18,428 SQ. FT LIES IN PLATTED R/W)

LEGEND

ANNEXATION BOUNDARY _____
EXISTING CITY LIMITS – – – – –

GRAPHIC SCALE

50' 0 25' 50' 100'
(IN FEET)
1 inch = 50 ft.

LINEAL UNITS USED HEREIN = U.S. SURVEY FOOT, AS ESTABLISHED

ORDINANCE NO.
????

EFFECTIVE DATE
????

THIS IS NOT A BOUNDARY SURVEY

Notice:
According to Colorado law you must commence any legal action based upon any defect in this survey within three years after you first discover such defect. In no event may any action based upon any defect in this survey be commenced more than ten years from the date of the certification shown hereon.

DRAWN BY	P.T.K.	DATE 01-17-2019
DESIGNED BY		DATE
CHECKED BY	P.T.K.	DATE
APPROVED BY		DATE

SCALE
1" = 50'

CITY OF Grand Junction COLORADO

PUBLIC WORKS
ENGINEERING DIVISION
SURVEY DEPARTMENT

ARLINGTON ANNEXATION NO. 2

1 OF 1

ARLINGTON ANNEXATION – PHOTOS



View from northeast corner of the subject property, looking southwest



View from southwest corner of the subject property, looking north

NOTICE OF HEARING
ON PROPOSED ANNEXATION OF LANDS
TO THE CITY OF GRAND JUNCTION, COLORADO

NOTICE IS HEREBY GIVEN that at a regular meeting of the City Council of the City of Grand Junction, Colorado, held on the 20th day of February 2019, the following Resolution was adopted:

CITY OF GRAND JUNCTION, COLORADO

RESOLUTION NO. ____

A RESOLUTION
REFERRING A PETITION TO THE CITY COUNCIL
FOR THE ANNEXATION OF LANDS
TO THE CITY OF GRAND JUNCTION, COLORADO,
SETTING A HEARING ON SUCH ANNEXATION,
AND EXERCISING LAND USE CONTROL

ARLINGTON ANNEXATION
A SERIAL ANNEXATION COMPRISING ARLINGTON ANNEXATION NO. 1 AND ARLINGTON ANNEXATION NO. 2

APPROXIMATELY 1.41 ACRES LOCATED AT 265 ARLINGTON DRIVE

WHEREAS, on the 20th day of February 2019, a petition was referred to the City Council of the City of Grand Junction, Colorado, for annexation to said City of the following property situate in Mesa County, Colorado, and described as follows:

ARLINGTON ANNEXATION NO. 1

A certain parcel of land lying in the Southeast Quarter of the Northwest Quarter (SE 1/4 NW 1/4) of Section 30, Township 1 South, Range 1 East of the Ute Principal Meridian, County of Mesa, State of Colorado and being more particularly described as follows:

COMMENCING at the Northwest corner of the SE 1/4 NW 1/4 of said Section 30 and assuming the West line of the SE 1/4 NW 1/4 of said Section 30 bears S 00º34'42" E with all other bearings contained herein being relative thereto; thence from said Point of Commencement, S 00º34'42" E, along said West line, a distance of 258.79 feet to the POINT OF BEGINNING; thence from said Point of Beginning, N 89º25'18" E, a distance of 93.19 feet; thence S 00º34'44" E, a distance of 199.42 feet to a point being the beginning of a 20.00 foot radius curve, concave South, whose long chord bears S 88º32'13" W with a long chord length of 37.60 feet; thence Westerly along the arc of said curve, thru a central angle of 140º04'24", an arc length of 48.89 feet; thence S 89º25'18" W, a distance of 55.60 feet, more or less, to a point on the West line of the SE 1/4 NW 1/4 of said Section 30; thence N 00º34'42" W, along said West line, a distance of 200.00 feet, more or less, to the Point of Beginning.

CONTAINING 18,267 Square Feet or 0.419 Acres, more or less, as described.

ARLINGTON ANNEXATION NO. 2

A certain parcel of land lying in the Southeast Quarter of the Northwest Quarter (SE 1/4 NW 1/4) of Section 30, Township 1 South, Range 1 East of the Ute Principal Meridian, County of Mesa, State of Colorado and being more particularly described as follows:

BEGINNING at the Northwest corner of the SE 1/4 NW 1/4 of said Section 30 and assuming the West line of the SE 1/4 NW 1/4 of said Section 30 bears S 00º34'42" E with all other bearings contained herein being relative thereto; thence from said Point of Beginning, S 89º58'23" E, along the North line of the SE 1/4 NW 1/4 of said Section 30, a distance of 151.01 feet to a point on the East right of way for Arlington Drive, as same is recorded in Plat Book 12, Page 151, Public Records of Mesa County, Colorado; thence S 00º08'25" W, along said East right of way, a distance of 76.46 feet to a point being the beginning of a 808.89 foot radius curve, concave West, whose long chord bears S 07º55'09" W with a long chord length of 218.97 feet; thence Southerly along the arc of said curve, thru a central angle of 15º33'28", an arc length of 219.64 feet to a point being the beginning of a 20.00 foot radius curve, concave Northeast, whose long chord bears S 30º04'36" E, with a long chord length of 28.66 feet; thence Southeasterly along the arc of said curve, thru a central angle of 91º32'58", an arc length of 31.96 feet; thence S 04º05'57" W, a distance of 101.56 feet, more or less, to a point on the South right of way for Oxford Avenue, as same is recorded in Plat Book 12, Page 151, Public Records of Mesa County, Colorado, being the beginning of a 20.00 foot radius curve, concave Southeast, whose long chord bears S 41º46'38" W, with a long chord length of 35.44 feet; thence Southwesterly along the arc of said curve, thru a central angle of 124º44'35", an arc length of 43.54 feet; thence S 29º15'54" W, a distance of 12.96 feet; thence N 00º34'44" W, a distance of 199.42 feet; thence S 89º25'18" W, a distance of 93.19 feet, more or less, to a point on the West line of the SE 1/4 NW 1/4 of said Section 30; thence N 00º34'42" W, along said West line, a distance of 258.79 feet, more or less, to the Point of Beginning.

CONTAINING 42,773 Square Feet or 0.982 Acres, more or less, as described.

WHEREAS, the Council has found and determined that the petition complies substantially with the provisions of the Municipal Annexation Act and a hearing should be held to determine whether or not the lands should be annexed to the City by Ordinance;

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF GRAND JUNCTION:

1. That a hearing will be held on the 3rd day of April, 2019, in the City Hall auditorium, located at 250 North 5th Street, City of Grand Junction, Colorado, at 6:00 PM to determine whether one-sixth of the perimeter of the area proposed to be annexed is contiguous with the City; whether a community of interest exists between the territory and the city; whether the territory proposed to be annexed is urban or will be urbanized in the near future; whether the territory is integrated or is capable of being integrated with said City; whether any land in single ownership has been

divided by the proposed annexation without the consent of the landowner; whether any land held in identical ownership comprising more than twenty acres which, together with the buildings and improvements thereon, has an assessed valuation in excess of two hundred thousand dollars is included without the landowner's consent; whether any of the land is now subject to other annexation proceedings; and whether an election is required under the Municipal Annexation Act of 1965.

2. Pursuant to the State's Annexation Act, the City Council determines that the City may now, and hereby does, exercise jurisdiction over land use issues in the said territory. Requests for building permits, subdivision approvals and zoning approvals shall, as of this date, be submitted to the Community Development Department of the City.

ADOPTED the _____ day of _____, 2019.

_____
President of the Council

Attest:

_____
City Clerk

NOTICE IS FURTHER GIVEN that a hearing will be held in accordance with the Resolution on the date and at the time and place set forth in the Resolution.

_____
City Clerk

DATES PUBLISHED
February 22, 2019
March 1, 2019
March 8, 2019
March 15, 2019

CITY OF GRAND JUNCTION, COLORADO

ORDINANCE NO.

AN ORDINANCE ANNEXING TERRITORY TO THE CITY OF GRAND JUNCTION, COLORADO

ARLINGTON ANNEXATION
A SERIAL ANNEXATION COMPRISING ARLINGTON ANNEXATION NO. 1 AND ARLINGTON ANNEXATION NO. 2

APPROXIMATELY 1.41 ACRES LOCATED AT 265 ARLINGTON DRIVE

WHEREAS, on the 20th day of February 2019, the City Council of the City of Grand Junction considered a petition for the annexation of the following described territory to the City of Grand Junction; and

WHEREAS, a hearing on the petition was duly held after proper notice on the 3rd day of April 2019; and

WHEREAS, the City Council determined that said territory was eligible for annexation and that no election was necessary to determine whether such territory should be annexed;

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF GRAND JUNCTION, COLORADO:

That the property situate in Mesa County, Colorado, and described to wit:

ARLINGTON ANNEXATION NO. 1

A certain parcel of land lying in the Southeast Quarter of the Northwest Quarter (SE 1/4 NW 1/4) of Section 30, Township 1 South, Range 1 East of the Ute Principal Meridian, County of Mesa, State of Colorado and being more particularly described as follows:

COMMENCING at the Northwest corner of the SE 1/4 NW 1/4 of said Section 30 and assuming the West line of the SE 1/4 NW 1/4 of said Section 30 bears S 00º34'42" E with all other bearings contained herein being relative thereto; thence from said Point of Commencement, S 00º34'42" E, along said West line, a distance of 258.79 feet to the POINT OF BEGINNING; thence from said Point of Beginning, N 89º25'18" E, a distance of 93.19 feet; thence S 00º34'44" E, a distance of 199.42 feet to a point being the beginning of a 20.00 foot radius curve, concave South, whose long chord bears S 88º32'13" W with a long chord length of 37.60 feet; thence Westerly along the arc of said curve, thru a central angle of 140º04'24", an arc length of 48.89 feet; thence S 89º25'18" W, a distance of 55.60 feet, more or less, to a point on the West line of the SE

1/4 NW 1/4 of said Section 30; thence N 00º34’42” W, along said West line, a distance of 200.00 feet, more or less, to the Point of Beginning.

CONTAINING 18,267 Square Feet or 0.419 Acres, more or less, as described.

ARLINGTON ANNEXATION NO. 2

A certain parcel of land lying in the Southeast Quarter of the Northwest Quarter (SE 1/4 NW 1/4) of Section 30, Township 1 South, Range 1 East of the Ute Principal Meridian, County of Mesa, State of Colorado and being more particularly described as follows:

BEGINNING at the Northwest corner of the SE 1/4 NW 1/4 of said Section 30 and assuming the West line of the SE 1/4 NW 1/4 of said Section 30 bears S 00º34’42” E with all other bearings contained herein being relative thereto; thence from said Point of Beginning, S 89º58’23” E, along the North line of the SE 1/4 NW 1/4 of said Section 30, a distance of 151.01 feet to a point on the East right of way for Arlington Drive, as same is recorded in Plat Book 12, Page 151, Public Records of Mesa County, Colorado; thence S 00º08’25” W, along said East right of way, a distance of 76.46 feet to a point being the beginning of a 808.89 foot radius curve, concave West, whose long chord bears S 07º55’09” W with a long chord length of 218.97 feet; thence Southerly along the arc of said curve, thru a central angle of 15º33’28”, an arc length of 219.64 feet to a point being the beginning of a 20.00 foot radius curve, concave Northeast, whose long chord bears S 30º04’36” E, with a long chord length of 28.66 feet; thence Southeasterly along the arc of said curve, thru a central angle of 91º32’58”, an arc length of 31.96 feet; thence S 04º05’57” W, a distance of 101.56 feet, more or less, to a point on the South right of way for Oxford Avenue, as same is recorded in Plat Book 12, Page 151, Public Records of Mesa County, Colorado, being the beginning of a 20.00 foot radius curve, concave Southeast, whose long chord bears S 41º46’38” W, with a long chord length of 35.44 feet; thence Southwesterly along the arc of said curve, thru a central angle of 124º44’35”, an arc length of 43.54 feet; thence S 29º15’54” W, a distance of 12.96 feet; thence N 00º34’44” W, a distance of 199.42 feet; thence S 89º25’18” W, a distance of 93.19 feet, more or less, to a point on the West line of the SE 1/4 NW 1/4 of said Section 30; thence N 00º34’42” W, along said West line, a distance of 258.79 feet, more or less, to the Point of Beginning.

CONTAINING 42,773 Square Feet or 0.982 Acres, more or less, as described.

be and is hereby annexed to the City of Grand Junction, Colorado.

INTRODUCED on first reading on the 20th day of February 2019 and ordered published in pamphlet form.

ADOPTED on second reading the _____ day of _____, 2019 and ordered published in pamphlet form.

_____
President of the Council

Attest:

_____
City Clerk

Grand Junction City Council

Regular Session

Item #3.a.i.

Meeting Date: February 20, 2019

Presented By: Scott D. Peterson, Senior Planner

Department: Community Development

Submitted By: Scott D. Peterson, Senior Planner

Information

SUBJECT:

Continue the South Twenty Annexation request until the March 6, 2019 City Council Meeting

RECOMMENDATION:

City Staff recommends continuing the public hearing for the South Twenty Annexation, Located at 2335 H Road, until the March 6, 2019 City Council meeting.

EXECUTIVE SUMMARY:

On January 16, 2019, City Council introduced a proposed Annexation Ordinance for the South Twenty Annexation, Located at 2335 H Road and Set a Public Hearing for February 20, 2019. However, City Council at their February 6, 2019 meeting remanded the Zone of Annexation item back to Planning Commission to rehear the item and to provide a new recommendation to City Council in the form of a successful motion. Therefore, due to this delay in hearing the Zone of Annexation request, City Staff is requesting that City Council continue the Annexation Ordinance public hearing originally scheduled for February 20th until the March 6, 2019 meeting so that both the Zone of Annexation Ordinance and Annexation Ordinance can be heard together at the same meeting.

BACKGROUND OR DETAILED INFORMATION:

N/A

FISCAL IMPACT:

N/A.

SUGGESTED MOTION:

I move to continue the public hearing for the South Twenty Annexation, Located at 2335 H Road, to the March 6, 2019 meeting.

Attachments

None

Grand Junction City Council

Regular Session

Item #4.a.

Meeting Date: February 20, 2019

Presented By: Trent Prall, Public Works Director, Jay Valentine, General Services Director

Department: Public Works - Streets

Submitted By: Darren Starr, Streets and Solid Waste Manager

Information

SUBJECT:

Contract to Provide Dump Trucks and Drivers for Spring Cleanup 2019

RECOMMENDATION:

Authorize the Purchasing Division to enter into a contract with Colorado West Contracting, Inc. to provide sixteen dump trucks with drivers for the duration of the two weeks for the City Spring Cleanup Program, for an estimated amount of $117,760.

EXECUTIVE SUMMARY:

This request is for the award of a contract for the rental of 16 dump trucks with drivers to haul debris and refuse to designated collection sites as part of the City's Annual Spring Cleanup Program for 2019.

BACKGROUND OR DETAILED INFORMATION:

Each year the City's Streets Division conducts its Annual City Spring Cleanup Program. The Cleanup program provides hauling and disposal of debris and refuse that citizens wish to dispose of, at no cost to the citizens. The renting of dump trucks with drivers is required to complete the two week cleanup, which runs from April 8, 2019 – April 20, 2019 (with the 1st week being dedicated to the north half of the City and the 2nd week being dedicated to the south half of the City). It is estimated the City will need each truck and driver 80 hours over the two week period for an estimated grand total of 1,280 hours.

A formal Invitation for Bids was issued via BidNet (an on-line site for government

agencies to post solicitations), posted on the City's Purchasing website, sent to the Grand Junction Chamber of Commerce and the Western Colorado Contractors Association, and advertised in The Daily Sentinel. While the amount bid is within the City Manager's purchasing authority, since there was only one bid, City Council approval is required per City Purchasing Policy. One company submitted a formal bid, which was found to be responsive and responsible in the following amount:

FIRM	LOCATION	COST
Colorado West Contracting, Inc.	***Grand Junction, CO***	***$117,760 ($92/hr)***

FISCAL IMPACT:

Budget is $270,180

The estimated expenditures for the Spring Cleanup program is as follows:

Dump Trucks and Drivers (This Action)	**$117,760**
Roll Off Containers	$ 62,000
Skid Steers Loaders	$ 33,180
Landfill Charges	$ 64,356
Total	$ 277,286

SUGGESTED MOTION:

I move to authorize the Purchasing Division to enter into a contract with Colorado West Contracting, Inc. to provide sixteen dump trucks with drivers for the duration of the two weeks for the City Spring Cleanup Program, for $92.00 per hour, an estimated amount of $117,760.

Attachments

None

Grand Junction City Council

Regular Session

Item #5.a.

Meeting Date: February 20, 2019

Presented By: Jace Hochwalt, Associate Planner

Department: Community Development

Submitted By: Jace Hochwalt, Associate Planner

Information

SUBJECT:

A Resolution Vacating a Public Utility Easement on Property Located at 2626 Cottonwood Drive

RECOMMENDATION:

Planning Commission recommended approval of the public utility easement vacation request at its January 22, 2019 meeting.

EXECUTIVE SUMMARY:

The Applicant, Muddy Gap, LLC is requesting the vacation of a public utility easement on the property located at 2626 Cottonwood Drive. There is currently a 15-foot utility easement near the north end of the subject property. Said easement contains no equipment per Grand Valley Power, and there are no objections from the utility providers to vacate the easement.

BACKGROUND OR DETAILED INFORMATION:

BACKGROUND:
The Applicant of the subject property is Muddy Gap, LLC. The property, located at 2626 Cottonwood Drive, is a vacant residential lot platted in the North Rolling Acres subdivision in 1955. The Applicant plans to construct a single family residence and detached shop building on the site. In the planning process, the Applicant discovered there is a 15-foot utility easement that extends east to west in the northern portion of the property (as shown in Attachment #1 at the end of this report). There is no utility equipment in the easement, as confirmed by Grand Valley Power. In addition, Xcel Energy, CenturyLink, and Ute Water have no objection to the utility easement

vacation. As such, the Applicant of the property would like to vacate the easement, as it hinders the development potential of the site.

NOTIFICATION REQUIREMENTS:
Notice was completed consistent with the provisions in Section 21.02.080 (g) of the City's Zoning and Development Code. Mailed notice of the application submittal in the form of notification cards was sent to surrounding property owners within 500 feet of the subject property on January 11, 2019 and the subject property was posted with an application sign on October 31, 2018. The notice of this public hearing was published January 15, 2019 in the Grand Junction Daily Sentinel.

ANALYSIS
Pursuant to Section 21.02.100 of the Zoning and Development Code, the vacation of the utility easement shall conform to the following:

a. The Comprehensive Plan, Grand Valley Circulation Plan, and other adopted plans and policies of the City.

The proposed public utility easement vacation is addressed by the following Goal of the Comprehensive Plan.

Goal 11: Public facilities and services for our citizens will be a priority in planning for growth.

Vacation of this utility easement will have no impact on public facilities or services provided to the general public. Staff therefore finds this request conforms with this criterion.

b. No parcel shall be landlocked as a result of the vacation.

The request to vacate the public utility easement will not render any parcel landlocked. Therefore, staff finds the vacation request meets with this criterion.

c. Access to any parcel shall not be restricted to the point where access is unreasonable, economically prohibitive or reduces or devalues any property affected by the proposed vacation.

No access to any parcel will be restricted by the vacation of this public utility easement. Staff finds this criterion has been met.

d. There shall be no adverse impacts on the health, safety, and/or welfare of the general community and the quality of public facilities and services provided to any parcel of land shall not be reduced (e.g. police/fire protection and utility services).

There is currently no equipment in the utility easement that is being requested to be vacated. Grand Valley Power recently moved power lines near the subject property, and have no plans to utilize the easement in the future. In addition, the application was reviewed by all potentially-affected utilities and there were no concerns raised with the vacation request. As such, staff has found there will be no adverse impacts to the community and no impacts on the public facilities and services that serve this or any adjacent parcel of land and therefore has found this request conforms with this criterion.

e. The provision of adequate public facilities and services shall not be inhibited to any property as required in Chapter 21.06 of the Grand Junction Municipal Code.

Adequate public facilities and services exist for these properties without the need for this public utility easement, as no utilities are located within the easement. No facilities and services will be impacted or inhibited by this request. Staff has therefore found this request to conform with this criterion.

f. The proposal shall provide benefits to the City such as reduced maintenance requirements, improved traffic circulation, etc.

Vacation of this easement will provide benefit to the City by removing an unnecessary encumbrance on the property and allow the area to be used for development of the new use on the property (residential development). Staff finds this request conforms with this criterion.

FISCAL IMPACT:

This land use action does not have a fiscal impact to the City of Grand Junction.

SUGGESTED MOTION:

I move to adopt Resolution No. 13-19, a resolution vacating a utilities easement on property located at 2626 Cottonwood Drive.

Attachments

1. Exhibits and Maps
2. Resolution

Vicinity Map

2626 Cottonwood Drive



N

0 0.05 0.1 mi

Printed: 12/26/2018

1 inch = 188 feet

CITY OF Grand Junction COLORADO
GEOGRAPHIC INFORMATION SYSTEM

Exhibit #2

EXHIBIT A
Utility Easement Vacation

A parcel of land located in Lot 1, North Rolling Acres as shown on plat recorded in Reception Number 645847 of the Mesa County records and in the Southeast Quarter of the Northwest Quarter (SE¼ NW¼) of Section 35, Township 1 North, Range 1 West of the Ute Meridian, in Mesa County, Colorado and more particularly described as follows:

That 15 five foot wide (15.0') Utility Easement running East and West across the Northerly portion of Lot 1, North Rolling Acres, as shown on plat recorded in Reception Number 645847 of the Mesa County records and more particularly described as follows:

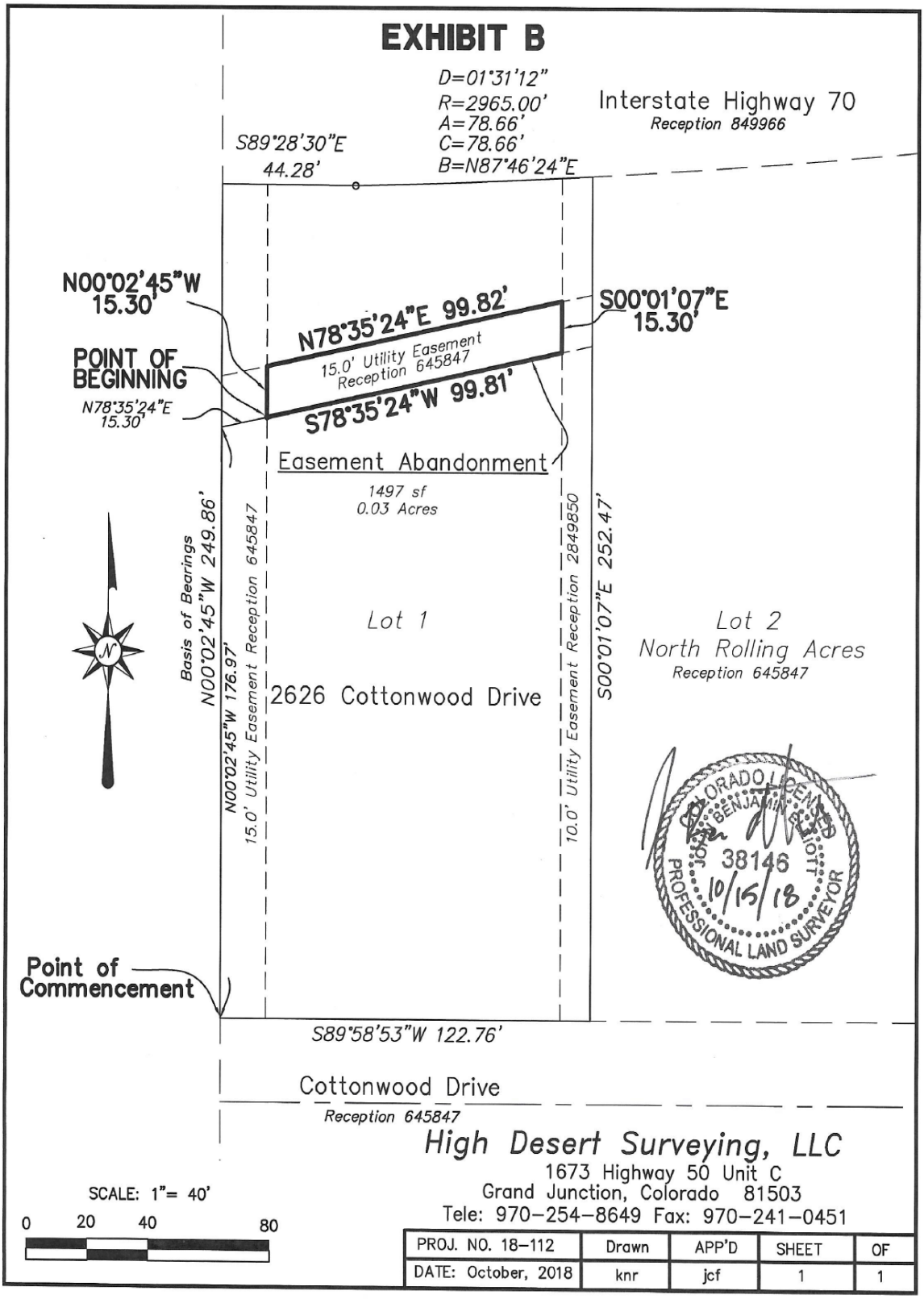
Commencing at the Southwest corner of said Lot 1, North Rolling Hills, whence the Northwest corner of said Lot 1 bears North 00°02'45" West, a distance of 249.86 feet for a basis of bearings, with all bearings contained herein relative thereto; thence North 00°02'45" West, a distance of 176.97 feet; thence North 78°35'24" East, a distance of 15.30 feet to the POINT OF BEGINNING; thence North 00°02'45" West, a distance of 15.30 feet; thence North 78°35'24" East, a distance of 99.82 feet; thence South 00°01'07" East, a distance of 15.30 feet; thence South 78°35'24" West, a distance of 99.81 feet to the POINT OF BEGINNING.

Said parcel containing an area of 1497 Square Feet, 0.03 Acres, as herein described.



18-112 Easement Vacation Exhibit A.doc/knr
Prepared by:
J. Ben Elliott, PLS 38146
High Desert Surveying LLC
1673 Highway 50 Unit C
Grand junction, Colorado 81503

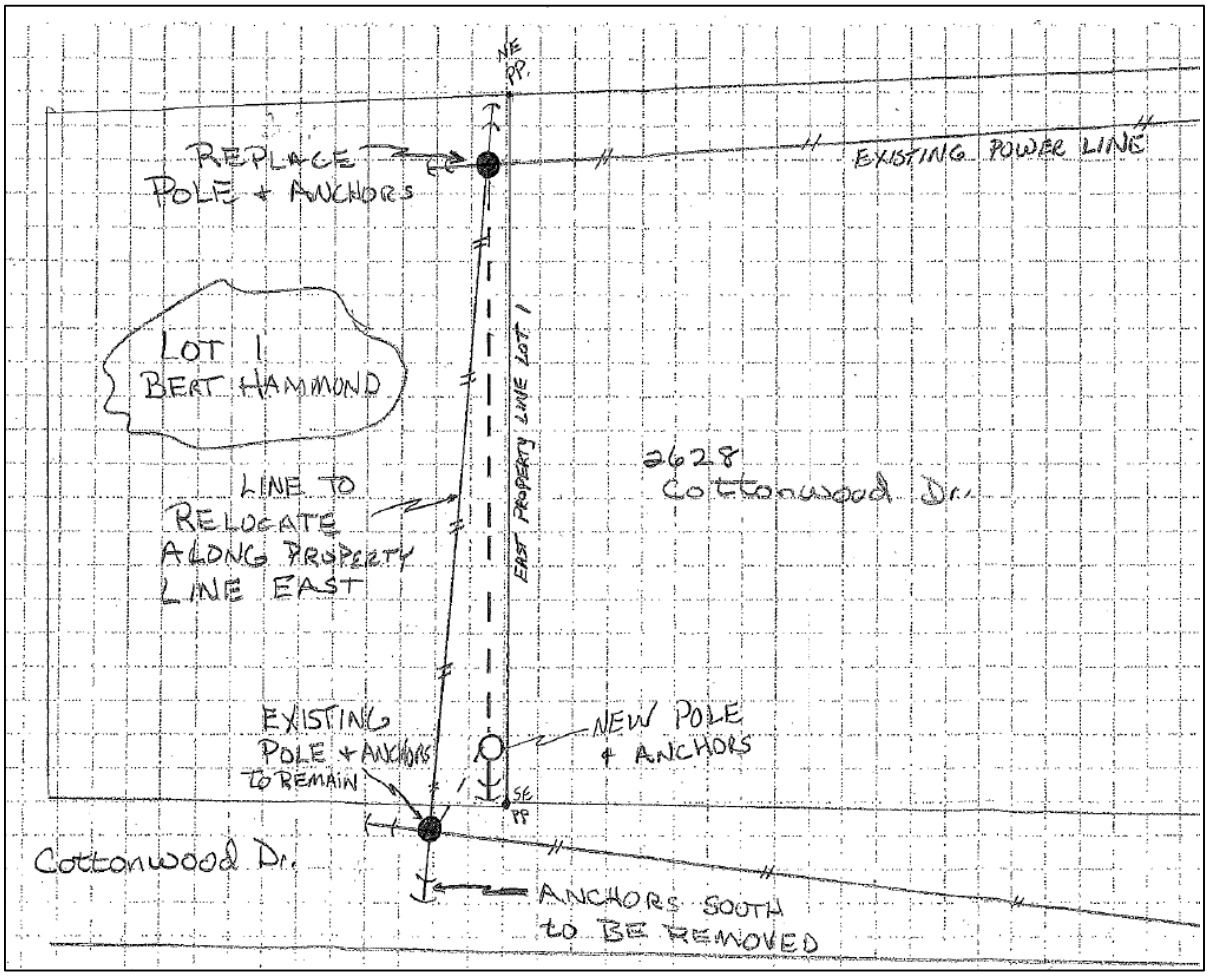
Easement Vacation Exhibit



High Desert Surveying, LLC
1673 Highway 50 Unit C
Grand Junction, Colorado 81503
Tele: 970-254-8649 Fax: 970-241-0451

PROJ. NO. 18-112	Drawn	APP'D	SHEET	OF
DATE: October, 2018	knr	jcf	1	1

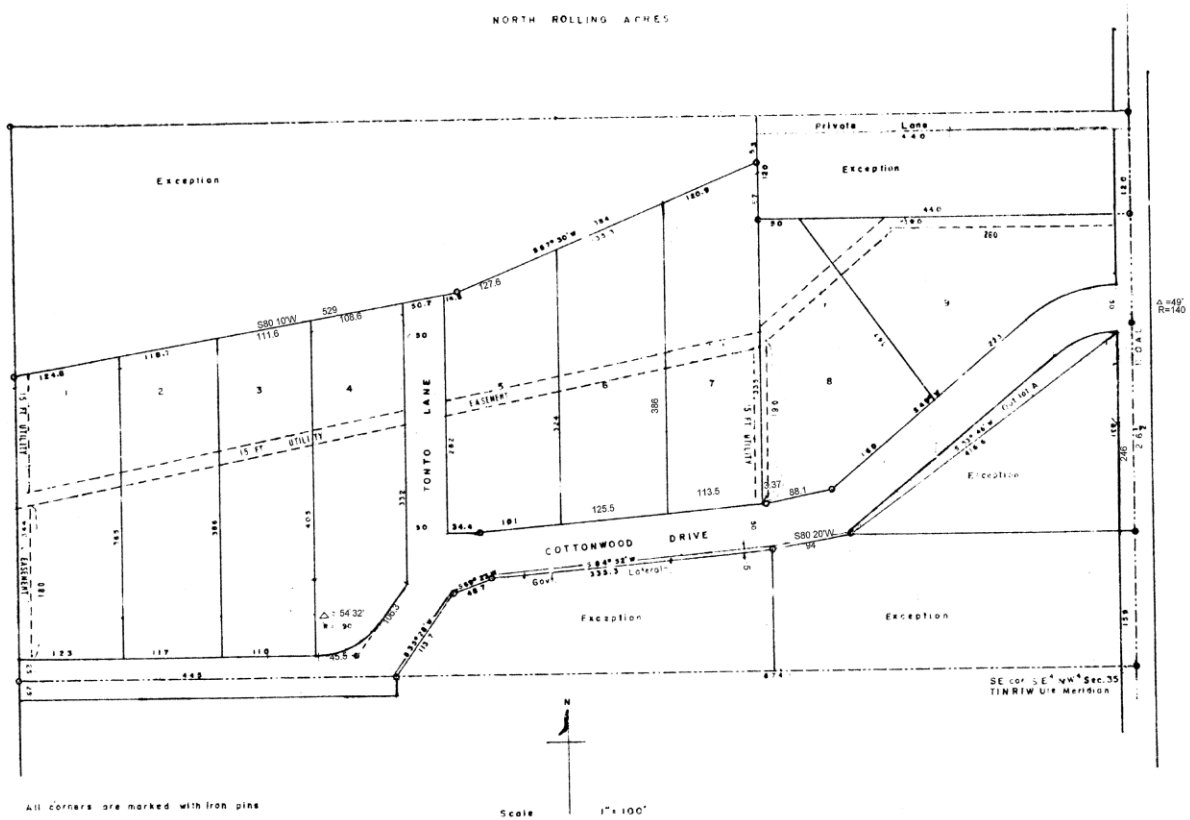
Revised Grand Valley Power Utility Easement Illustration



North Rolling Hills Plat - 1955

MESA COUNTY COLORADO

NORTH ROLLING ACRES



KNOW ALL MEN BY THESE PRESENTS: That the undersigned being the owners of the following described land, beginning at a point 405 feet North of the SE corner of the SE¼ NW¼ Section 35 T1N R1W Ute Meridian, thence along a Government lateral S 53° 46' W 416.6 feet, thence S 80° 20' W 94 feet, thence S 84° 52' W 335.3 feet, thence S 69° 23' W 48.7 feet, thence S 35° 28' W 113.7 feet, to the South line of the SE¼ NW¼ said Section 35, thence West 445 feet to the SW cor. of the said SE¼ NW¼, thence North 303.6 feet, thence N 80° 10' E 529 feet, thence N 67° 30' E 384 feet, thence South 67 feet, thence East 440 feet to the East line of the said SE¼ NW¼, thence South 130 feet to the point of beginning; have caused the same to be surveyed and platted as shown hereon, have named said place North Rolling Acres, and they do hereby dedicate the roads and easements to the use of the public forever. In witness whereof we have hereunto placed our hands.

T. S. Hall

Homer C Biggs and Carrol S Wilcox being the owners of the North 25 feet of the West 445 feet of the NE¼ SW¼ sec. 35 T 1 N R 1 W Ute M do hereby do hereby dedicate said land to the use of the public forever for road purposes

STATE OF COLORADO } SS
County of Mesa }

The foregoing was acknowledged before me by T S Hall and Carrol S Wilcox on the 31st day of Aug A.D.

Notary Public

I hereby certify that this is a true and correct plat of survey of the above described land and of the subdivision of the same

County Surveyor R S

Approved by the Mesa County Planning Commission
30 Aug 1955
Chairman

Approved by the Crest Ridge Planning Commission

Chairman

Approved by the County Commissioners of Mesa County Colorado.

Chairman 8/30/55

Attest

County Clerk

CITY OF GRAND JUNCTION, COLORADO

RESOLUTION NO. _____

A RESOLUTION VACATING A UTILITIES EASEMENT ON PROPERTY LOCATED AT 2626 COTTONWOOD DRIVE

Recitals:

Muddy Gap, LLC is planning to construct a single-family residence and detached shop building on the lot located at 2626 Cottonwood Drive. There is currently a 15-foot utility easement near the north end of the subject property that has been in place since the original plat recording for North Rolling Hills subdivision in 1955. Said easement contains no equipment per Grand Valley Power, and there are no objections from utility providers to vacate the easement. Therefore, the east-west easement is no longer needed and can be vacated.

After public notice and public hearing as required by the Grand Junction Zoning and Development Code, and upon recommendation of approval by the Planning Commission, the Grand Junction City Council finds that the request to vacate the utility easement is consistent with the Comprehensive Plan and Section 21.02.100 of the Grand Junction Municipal Code.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF GRAND JUNCTION THAT THE FOLLOWING DESCRIBED DEDICATED EASEMENT IS VACATED:

EXHIBIT A
Utility Easement Vacation

A parcel of land located in Lot 1, North Rolling Acres as shown on plat recorded in Reception Number 645847 of the Mesa County records and in the Southeast Quarter of the Northwest Quarter (SE¼ NW¼) of Section 35, Township 1 North, Range 1 West of the Ute Meridian, in Mesa County, Colorado and more particularly described as follows:

That 15 five foot wide (15.0') Utility Easement running East and West across the Northerly portion of Lot 1, North Rolling Acres, as shown on plat recorded in Reception Number 645847 of the Mesa County records and more particularly described as follows:

Commencing at the Southwest corner of said Lot 1, North Rolling Hills, whence the Northwest corner of said Lot 1 bears North 00°02'45" West, a distance of 249.86 feet for a basis of bearings, with all bearings contained herein relative thereto; thence North 00°02'45" West, a distance of 176.97 feet; thence North 78°35'24" East, a distance of 15.30 feet to the POINT OF BEGINNING; thence North 00°02'45" West, a distance of 15.30 feet; thence North 78°35'24" East, a distance of 99.82 feet; thence South 00°01'07" East, a distance of 15.30 feet; thence South 78°35'24" West, a distance of 99.81 feet to the POINT OF BEGINNING.

Said parcel containing an area of 1497 Square Feet, 0.03 Acres, as herein described.

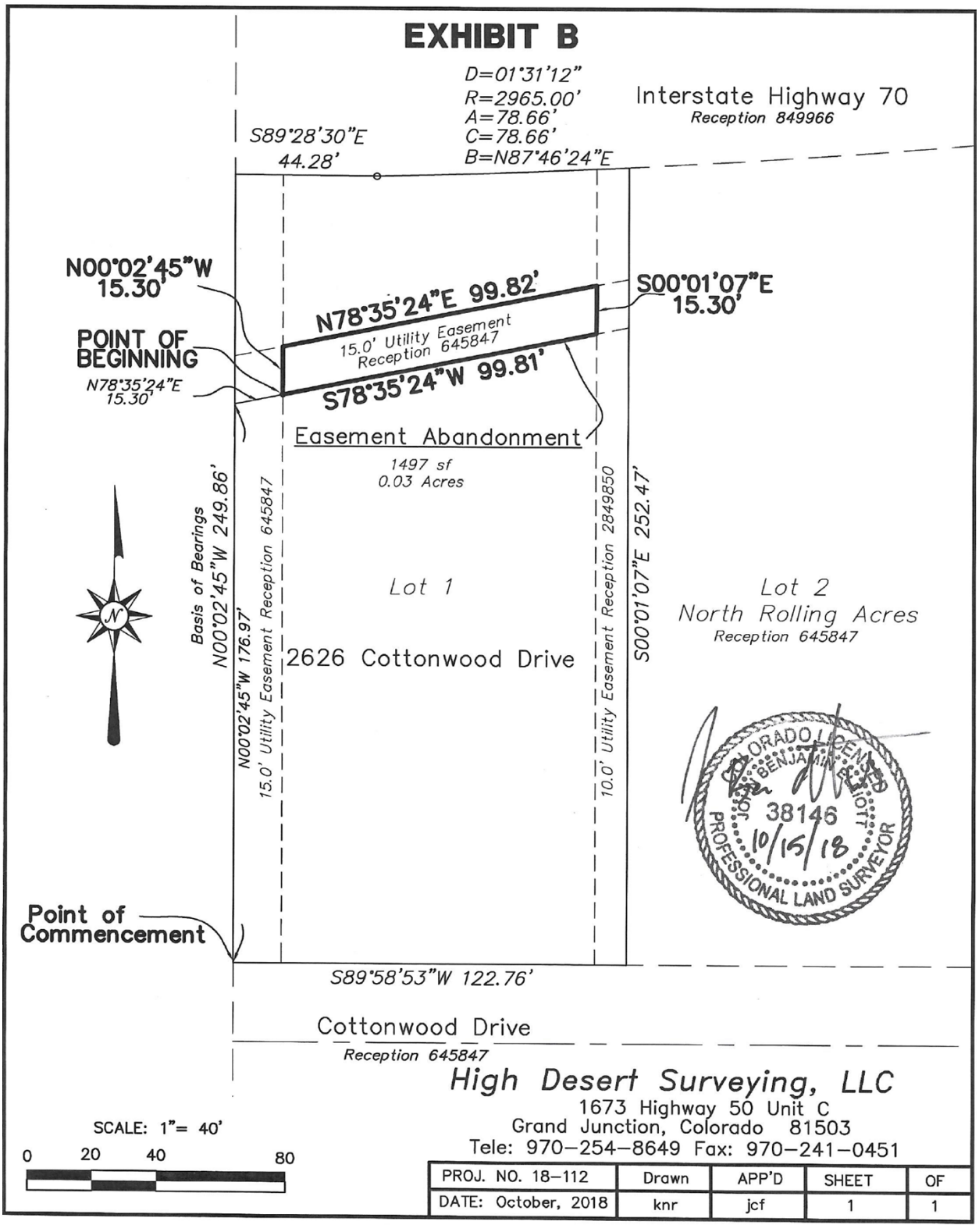
And as depicted on “Exhibit B”.

Approved this 20th day of February, 2019.

ATTEST:

_____	_____
City Clerk	Mayor

EXHIBIT B



SCALE: 1"= 40'

0 20 40 80

High Desert Surveying, LLC
1673 Highway 50 Unit C
Grand Junction, Colorado 81503
Tele: 970-254-8649 Fax: 970-241-0451

PROJ. NO. 18-112	Drawn	APP'D	SHEET	OF
DATE: October, 2018	knr	jcf	1	1

Grand Junction City Council

Regular Session

Item #6.a.

Meeting Date: February 20, 2019

Presented By: Scott D. Peterson, Senior Planner

Department: Community Development

Submitted By: Scott D. Peterson, Senior Planner

Information

SUBJECT:

Consider a Request by GJ Ute LLC, to Accept the Dedication of 8.79-acres of Open Space in the Proposed Emerald Ridge Estates, Filing 1 Subdivision

RECOMMENDATION:

The Parks and Recreation Advisory Board at their February 7, 2019 meeting recommended approval of the request.

EXECUTIVE SUMMARY:

The Applicant, GJ Ute LLC, proposes the City accept dedication of 8.79-acres of open space that is located within and adjacent to Leach Creek within the proposed Emerald Ridge Estates, Filing 1 subdivision (proposed Tract A) located between 26 and 26 ½ Roads and south of H ¾ Road. The property currently has no physical address. The proposed open space is part of the Leach Creek drainage and will provide for a continuation of an east/west off-street trail connection between 26 and 26 ½ Roads for interconnectivity between subdivisions and neighborhoods. The proposed trail connection is identified on the adopted Active Transportation Corridor Circulation Plan.

BACKGROUND OR DETAILED INFORMATION:

A Preliminary Plan for 186 single-family detached lots is currently being reviewed for Emerald Ridge Estates to be constructed within two filings on 90.09 acres in an existing R-2 (Residential – 2 du/ac) zoning district.Phase I is proposed to consist of 98 single-family detached residential lots.

Section 21.06.020 (b) (1) of the Zoning and Development Code states: *"the owner of*

any residential development of 10 or more lots or dwelling units shall dedicate 10% of the gross acreage of the property or the equivalent of 10% of the value of the property. The decision as to whether to accept money or land as required by this section shall be made by the Director." Further, subsection (4) states:"…*The City Council may accept the dedication of land in lieu of payment so long as the fair market value of the land dedicated to the City is not less than 10% of the value of the property."*

As part of the residential development for Filing 1, the Applicant is proposing to provide a tract (Tract A, 8.79-acres) for the area that encompasses Leach Creek drainage, which a portion of traverses the Applicant's property along the south eastern edge. As part of the subdivision's infrastructure improvements, the Applicant will be required to construct a 10-foot wide concrete trail that will connect with the existing 10-foot wide concrete trail located within the adjacent Freedom Heights subdivision to the south.The existing tract of land and trail located within Freedom Heights is presently owned and maintained by the City of Grand Junction and was dedicated and accepted as part of the review of the Freedom Heights Subdivision.

The Community Development Director requested input from the Parks Department, which is typically responsible for maintaining City-owned open space regarding the potential acceptance of open space to be owned and maintained by the City regarding the request to dedicate this tract of land to the City. The Parks and Recreation Advisory Board was asked to provide a recommendation as to whether the City should accept the dedication of open space and it recommended to do so at their February 7, 2019 meeting.

The Public Works Director has also expressed that significant drainage basins would better serve the public if they were in public ownership for purposes of drainage, stormwater management and general maintenance. The Public Works Director also recommends the City accept the open space dedication. Presently, this area of Leach Creek is private property, owned by the Applicant.

Since the proposed land dedication is less than the required 10% value of the property, the Applicant is proposing to do a payment in-lieu for the balance as outlined by the following;

If the City accepts the land dedication of proposed Tract A, the Applicant would owe the remaining $4,983.55 as part of the required 10% Open Space Fee. This in-lieu fee is calculated using the City's codified formula for open space in-lieu fee payment. For this property, the formula is as follows:

$2,050,000.00 appraised value of vacant land for the property resulting in a required 10% in-lieu fee of $205,000.

Value of Tract A (Leach Creek) = $200,016.45 ($22,755 per acre)

$205,000 (10% of appraised value) - $200,016.45 (value of Tract A) = $4,983.55 (remaining in-lieu payment).

FISCAL IMPACT:

In accordance with the Code, payment of a fee in lieu of open space dedication can be considered so long as the fee is at least 10 percent of the appraised value of the property (appraised as vacant land). The required open space fee for the proposed Emerald Ridge Estates property would be $205,000 (10% of the appraised land value of $2,050,000). However, based on the appraisal of $22,755.00 per acre, the value of the 8.79-acres of open space for proposed Tract A is $200,016.45, therefore, if the City Council accepts the open space dedication, the Applicant would still owe the remaining $4,983.55 to the City.

SUGGESTED MOTION:

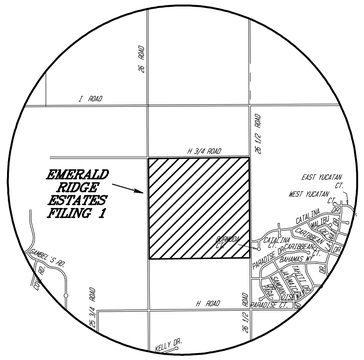
I move to approve the request to accept the dedication of open space land in the Emerald Ridge Estates subdivision, proposed Tract A, 8.79-acres. The Applicant shall also make payment of the remaining $4,983.55 to the City of Grand Junction in compliance with the City's Open Space Dedication In-Lieu Fee.

Attachments

1. Final Subdivision Plat - Emerald Ridge Estates - Filing 1
2. Aerial Photo - Emerald Ridge Estates Land Dedication
3. Site Plan - Proposed Trail Location with Tract A

EMERALD RIDGE ESTATES FILING 1

A Re-plat of Lot 1, Emerald Subdivision, Reception No. _____
A part of S 1/2 NW 1/4 & N 1/2 SW 1/4, SEC. 26, T1N, R1W, U.M.,
City of Grand Junction, Mesa County, Colorado



VICINITY MAP
N.T.S.

TITLE CERTIFICATION

State of Colorado
County of Mesa

We, _____, a title insurance company, as duly licensed in the State of Colorado, hereby certify that we have examined the title to the hereon described property, that we find the title to the property is vested to GJ UTE, LLC; that the current taxes have been paid; that all mortgages not satisfied or released of record or otherwise terminated by law are shown hereon and that there are no other encumbrances of record; that all easements, reservations and right-of-ways of record are shown hereon.

Date: _____ By: _____

CITY APPROVAL

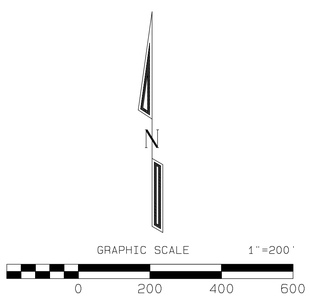
This plat of Emerald Ridge Estates Filing 1 a subdivision of the City of Grand Junction, County of Mesa, State of Colorado, is approved and accepted on the ____ day of _____, 2019 A.D.

_____ _____
City Manager City Mayor

CLERK AND RECORDER'S CERTIFICATE

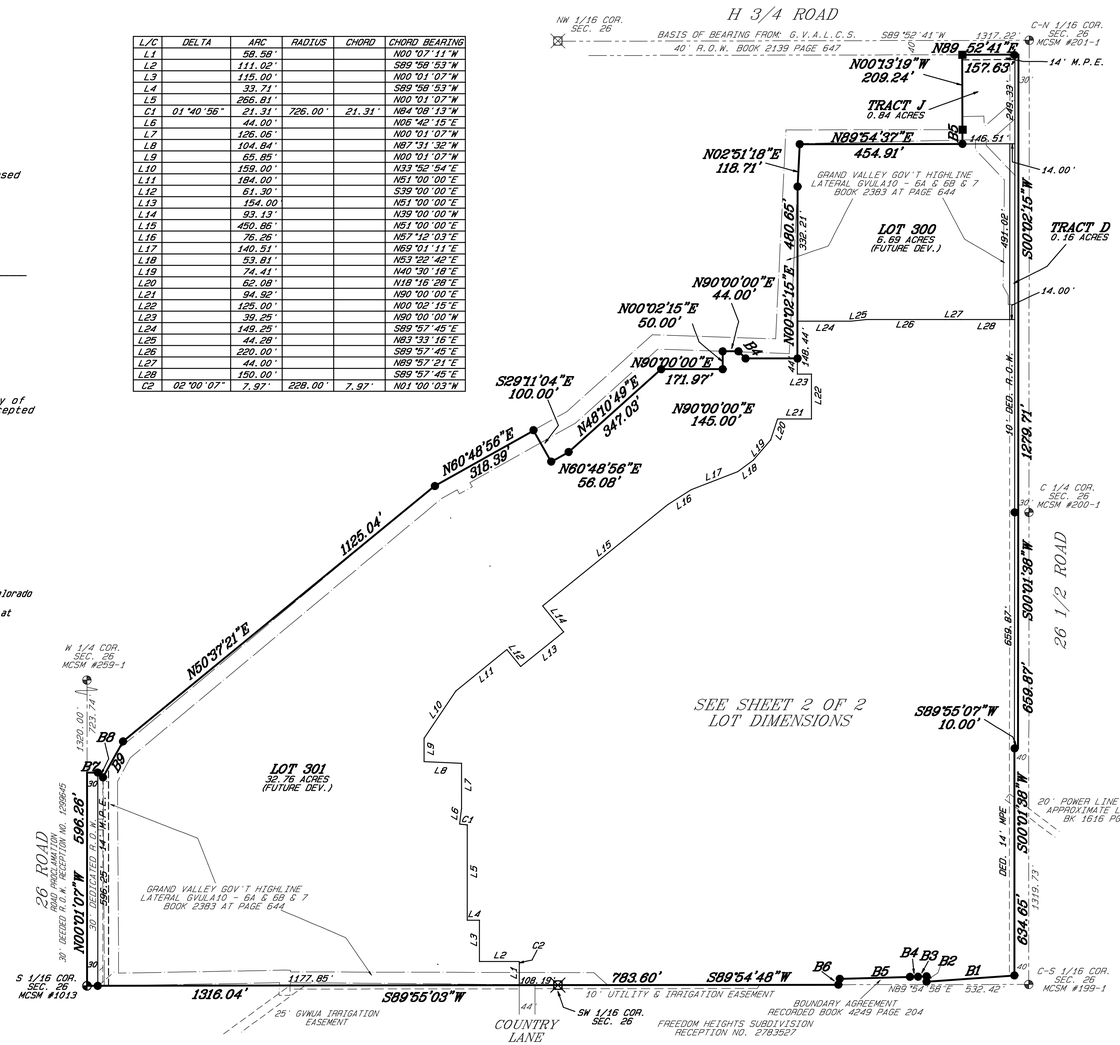
This plat was accepted for filing in the office of the Clerk and Recorder of Mesa County, Colorado at _____ o'clock__M., on this ____ day of _____ 2019 A.D., and was recorded at Reception No. _____, Drawer No. _____, and Fees _____.

_____ _____
Clerk and Recorder Deputy



NOTICE: According to Colorado law you must commence any legal action based upon any defect in the survey within three years after you first discover such defect. In no event may any action based upon any defect in this survey be commenced more than ten years from the date of this certification/statement shown hereon.

L/C	DELTA	ARC	RADIUS	CHORD	CHORD BEARING
L1		58.58'			N00°07'11"W
L2		111.02'			S89°58'53"W
L3		115.00'			N00°01'07"W
L4		33.71'			S89°58'53"W
L5		266.81'			N00°01'07"W
C1	01°40'56"	21.31'	726.00'	21.31'	N84°08'13"W
L6		44.00'			N06°42'15"E
L7		126.06'			N00°01'07"W
L8		104.84'			N87°31'32"W
L9		65.85'			N00°01'07"W
L10		159.00'			N33°52'54"E
L11		184.00'			N51°00'00"E
L12		61.30'			S39°00'00"E
L13		154.00			N51°00'00"E
L14		93.13'			N39°00'00"W
L15		450.86'			N51°00'00"E
L16		76.26'			N57°12'03"E
L17		140.51'			N69°01'11"E
L18		53.81'			N53°22'42"E
L19		74.41'			N40°30'18"E
L20		62.08'			N18°16'28"E
L21		94.92'			N90°00'00"E
L22		125.00'			N00°02'15"E
L23		39.25'			N90°00'00"W
L24		149.26'			S89°57'45"E
L25		44.28'			N83°33'16"E
L26		220.00'			S89°57'45"E
L27		44.00'			N89°57'21"E
L28		150.00'			S89°57'45"E
C2	02°00'07"	7.97'	228.00'	7.97'	N01°00'03"W



LEGEND & ABBREVIATIONS

- FOUND MESA COUNTY SURVEY MARKER
- FOUND B.L.M. ALUMINUM MONUMENT
- FOUND #5 REBAR W/1.5" ALUMINUM CAP STAMPED AES LS 24320
- SET #5 REBAR W/2" ALUMINUM CAP STAMPED D H SURVEYS LS 20677

G.V.A.L.C.S. = GRAND VALLEY AREA LOCAL COORDINATE SYSTEM
P.O.B. = POINT OF BEGINNING
R.O.W. = RIGHT OF WAY
M.P.E. = MULTIPURPOSE EASEMENT

AREA SUMMARY

(SHEET 1 OF 2)

DED. ROADS	= 00.86 AC./01%
TRACTS	= 01.00 AC./01%
LOTS	= 91.80 AC./98%
TOTAL	= 93.50 AC./100%

BOUNDARY DIMENSIONS

LINE	BEARING	DISTANCE
B1	S85°55'46"W	246.52'
B2	N00°01'56"E	15.00'
B3	S86°59'39"W	23.87'
B4	S89°07'14"W	22.44'
B5	S88°22'07"W	196.46'
B6	S13°07'26"W	16.70'
B7	N89°58'53"E	30.00'
B8	S45°01'07"E	20.08'
B9	N29°16'27"E	116.09'

DEDICATION

KNOW ALL MEN BY THESE PRESENTS:
That the undersigned, GJ UTE, LLC is the owner of that real property situate in the S 1/2 NW 1/4 and N 1/2 SW 1/4 of Section 26, Township 1 South, Range 1 West of the Ute Meridian, City of Grand Junction, Mesa County, Colorado; being more particularly described as follows:

Lot 1, Emerald Subdivision, recorded under Reception No. _____.

Said Owner has by these presents laid out, platted and subdivided the above-described real property into Lots as shown hereon, and designated the same as EMERALD RIDGE ESTATES FILING 1, in the City of Grand Junction, County of Mesa, State of Colorado, and does hereby offer the following dedications and grants:

All streets, roads and Rights-of-Way are dedicated to the City of Grand Junction for the use of the public forever.

All Multipurpose Easements are dedicated to the City of Grand Junction as perpetual easements for City approved utilities including the installation, operation, maintenance and repair of said utilities and appurtenances which may include but are not limited to, electric lines, cable TV lines, natural gas pipelines, sanitary sewer lines, storm sewers, water lines, telephone lines, traffic control facilities, street lighting, landscaping, trees and grade structures.

An easement over Tract E is dedicated to the City of Grand Junction as perpetual easements for the inspection, installation, operation, maintenance and repair of detention and drainage facilities and appurtenants thereto. The City of Grand Junction is dedicated reasonable ingress/egress access to the drainage/detention easement areas. The owner(s) and/or the property owner's association, if one exists, is not relieved of its responsibility to inspect, install, operate, maintain, and repair the detention and drainage facilities.

Tract A is dedicated to the City of Grand Junction as Open Space.

A perpetual easement over, on, along, under, through and across Tract H is granted to the City of Grand Junction for the benefit and use of the Persigo 201 Sewer System, its members, employees, agents, contractors and successors in interest, for the installation, operation, maintenance, repair and replacement of sanitary sewer and appurtenant facilities and for the conveyance of sewer waste.

All Irrigation Easements are granted to the Emerald Ridge Estates Homeowners Association Inc. by separate instrument.

Tracts B, C, D, E, F, G, H, I & J are granted to the Emerald Ridge Estates Homeowners Association Inc., by separate instrument.

A Multipurpose Easement over Tracts B, C, D & G is dedicated to the City of Grand Junction.

Owner further certifies that all lienholders, if any, are represented hereon.

_____
Alan Parkerson, Manager
GJ UTE, LLC

STATE OF COLORADO)
) ss
COUNTY OF MESA)

The foregoing instrument was acknowledged before me this ____ day of _____ 2019 A.D. by Alan Parkerson, Manager, GJ UTE, LLC

Witness my hand and official seal: _____
Notary Public

My commission expires: _____

To be completed by the City of Grand Junction personnel. The accuracy of this information is the responsibility of the City of Grand Junction.

Declaration of Covenants, Conditions and Restrictions of the Emerald Ridge Estates Homeowner's Association, Inc. recorded under Reception No. _____

All Tracts, Drainage and Irrigation Easements are conveyed to the Emerald Ridge Estates Homeowner's Association, Inc. recorded under Reception No. _____

SURVEYOR'S STATEMENT

I, Michael W. Drissel, a registered Professional Land Surveyor in the State of Colorado, do hereby state that this survey was performed by me or under my direct responsibility, supervision, and checking. It is based upon my professional knowledge, information and belief according to applicable standards of practice. This is not a guarantee or warranty, either expressed or implied. Title research was supplied by Abstract & Title Company of Mesa County, Inc. in Title Commitment No.??????????

FOR REVIEW

REVISED 11/07/18
REVISED 11/21/18
REVISED 01/03/19

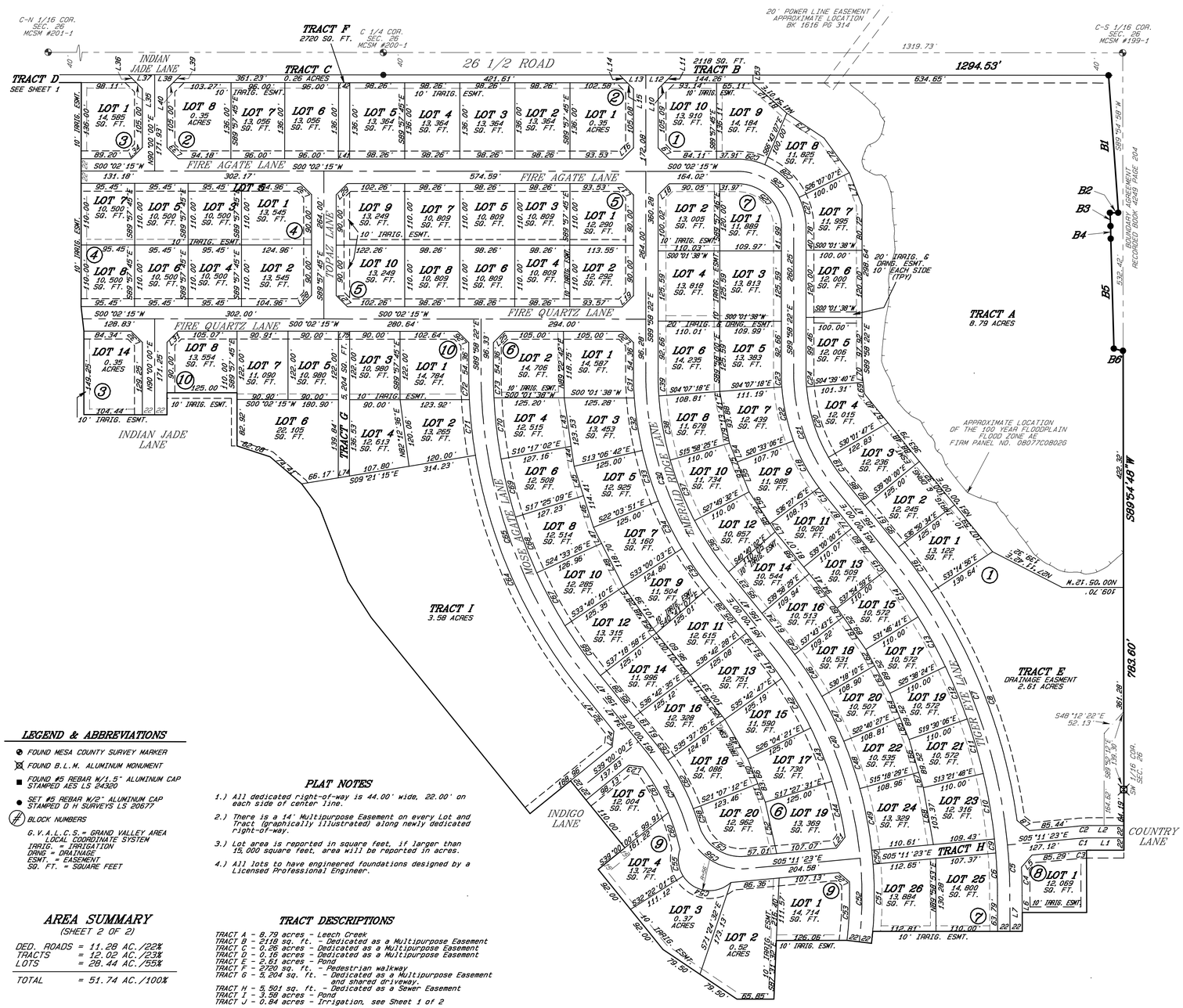
EMERALD RIDGE ESTATES FILING 1
LOCATED IN THE
S1/2 NW 1/4 & N1/2 SW 1/4, SEC. 26, T1N, R1W, U.M.

D H SURVEYS INC.
118 OURAY AVE. - GRAND JUNCTION, CO.
(970) 245-8749

Designed By M.W.D.	Checked By E.E.B.	Job No. 58-05-28	
Drawn By TMODEL	Date AUG. 2018	Sheet 1 OF 2	

EMERALD RIDGE ESTATES FILING 1

A Re-plat of Lot 1, Emerald Subdivision, Reception No. _____
A part of S 1/2 NW 1/4 & N 1/2 SW 1/4, SEC. 26, T1N, R1W, U.M.,
City of Grand Junction, Mesa County, Colorado



L/C	DELTA	ARC/TANG	RADIUS	CHORD	CHORD BEARING
L1		58.51'			N00°00'00"W
C1	5°11'23"	22.64'	250.00'	22.64'	N02°35'42"W
L2		58.51'			N00°00'00"W
C2	5°11'23"	24.64'	272.00'	24.63'	N02°35'42"W
C3	3°11'16"	12.69'	228.00'	12.68'	N03°35'45"W
L5		28.69'			N49°21'41"W
C4	2°56'07"	50.72'	990.00'	50.71'	S88°30'49"W
L6		30.08'			S89°58'53"W
L7		63.79'			N89°58'53"E
C5	5°22'14"	90.74'	968.00'	90.70'	N87°17'45"E
L8		28.79'			N38°47'12"E
C6	4°37'06"	76.25'	946.00'	76.23'	N87°40'20"E
C7	33°36'38"	567.84'	968.00'	559.74'	N67°48'19"E
C8	25°25'59"	439.45'	990.00'	435.85'	N69°28'04"E
C9	1°30'51"	25.00'	946.00'	25.00'	N84°36'21"E
C10	7°12'44"	119.08'	946.00'	119.00'	N80°14'34"E
C11	6°08'18"	101.35'	946.00'	101.30'	N73°34'03"E
C12	6°08'18"	101.35'	946.00'	101.30'	N67°25'45"E
C13	6°08'18"	101.35'	946.00'	101.30'	N61°17'28"E
C14	6°08'18"	101.35'	946.00'	101.30'	N55°09'10"E
C15	1°05'01"	17.89'	946.00'	17.89'	N51°32'31"E
C16	5°45'04"	99.37'	990.00'	99.33'	N53°52'32"E
C17	2°32'15"	15.24'	344.00'	15.23'	N52°16'08"E
C18	15°54'39"	95.53'	344.00'	95.22'	N61°29'34"E
C19	8°58'13"	46.97'	300.00'	46.92'	N55°29'07"E
C20	25°22'06"	132.83'	300.00'	131.75'	N72°39'17"E
C21	39°01'38"	219.33'	322.00'	215.12'	N70°30'49"E
C22	16°29'49"	98.64'	344.00'	98.31'	N77°39'48"E
C23	4°08'57"	24.91'	344.00'	24.91'	N87°57'10"E
C24	4°41'19"	24.55'	300.00'	24.54'	N87°40'59"E
C25	89°59'23"	122.51'	78.00'	110.30'	N45°01'57"E
C26	89°59'23"	157.06'	100.00'	141.41'	N45°01'57"E
C27	26°08'45"	55.67'	122.00'	55.19'	N76°57'16"E
C28	40°58'00"	86.45'	132.00'	84.65'	N43°34'53"E
C29	23°14'38"	49.49'	122.00'	49.15'	N11°39'34"E
L9		28.29'			N45°01'57"E
L10		15.56'			N44°58'22"W
L11		19.80'			N44°58'22"W
L12		47.00'			N00°01'38"E
L13		47.00'			N00°01'38"E
L14		19.91'			N45°01'38"E
L15		15.45'			N45°01'38"E
L16		28.28'			N44°58'03"W
L17		28.29'			S45°01'57"W
L18		28.28'			N44°58'03"W
L19		28.28'			N44°58'03"W
L20		28.28'			S45°01'38"W
C30	39°01'38"	399.16'	586.00'	391.48'	S70°30'49"W
C31	4°11'11"	44.45'	608.00'	44.41'	S87°56'03"W
C32	8°57'09"	95.00'	608.00'	94.90'	S81°21'53"W
C33	8°57'09"	95.00'	608.00'	94.90'	S72°24'44"W
C34	8°57'09"	95.00'	608.00'	94.90'	S63°27'35"W
C35	7°59'01"	84.72'	608.00'	84.65'	S54°59'30"W
C36	11°10'28"	110.00'	564.00'	109.82'	N56°35'14"E
C37	11°51'07"	116.67'	564.00'	116.46'	N68°06'01"E
C38	11°51'07"	116.67'	564.00'	116.46'	N79°57'08"E
C39	4°08'57"	40.84'	564.00'	40.83'	N87°57'10"E
C40	33°32'09"	412.06'	704.00'	406.20'	S67°46'04"W
C41	4°16'49"	51.35'	682.00'	51.33'	S53°09'25"W
C42	8°36'50"	102.53'	682.00'	102.44'	S59°27'14"W
C43	8°36'50"	102.53'	682.00'	102.44'	S68°14'04"W
C44	8°36'50"	102.53'	682.00'	102.44'	S76°50'54"W
L21		24.92'			N51°47'19"W
C45	2°33'03"	32.32'	726.00'	32.32'	S52°16'32"W
C46	7°03'14"	89.38'	726.00'	89.32'	S57°04'40"W
C47	7°01'26"	89.00'	726.00'	88.94'	S64°07'00"W
C48	7°03'48"	89.50'	726.00'	89.44'	S71°09'37"W
C49	8°51'56"	112.34'	726.00'	112.22'	S78°07'29"W
C50	1°58'23"	25.00'	726.00'	25.00'	S84°32'39"W
C51	9°29'29"	120.27'	726.00'	120.13'	N89°43'25"W
C52	12°10'06"	149.51'	704.00'	149.23'	N89°32'48"W
C53	8°48'54"	104.93'	682.00'	104.82'	N87°42'12"W
L22		24.90'			N41°07'13"E
C54	100°16'47"	98.01'	56.00'	85.97'	N07°29'36"E
C55	50°50'15"	49.69'	56.00'	48.07'	N83°03'07"E
C56	78°18'20"	136.67'	100.00'	126.28'	N33°57'47"E
C57	78°18'20"	106.60'	78.00'	98.50'	N33°57'47"E
C58	4°14'09"	31.94'	432.00'	31.93'	N70°59'53"E
C59	22°06'57"	158.26'	410.00'	157.28'	N62°03'29"E
C60	10°11'23"	69.00'	388.00'	68.91'	N72°33'52"E
C61	13°49'58"	93.67'	388.00'	93.45'	N60°33'11"E
C62	12°59'52"	98.00'	432.00'	97.79'	N62°32'52"E
C63	4°52'56"	36.81'	432.00'	36.80'	N53°26'26"E

L/C	DELTA	ARC/TANG	RADIUS	CHORD	CHORD BEARING
L23		24.85'			N06°54'52"E
L24		28.28'			S84°00'00"E
C64	29°38'45"	466.71'	902.00'	461.52'	N65°48'23"E
C65	39°01'39"	599.42'	880.00'	587.90'	N70°30'49"E
C66	7°18'27"	109.43'	858.00'	109.35'	N54°39'13"E
C67	7°08'07"	106.85'	858.00'	106.78'	N61°52'30"E
C68	7°08'16"	106.89'	858.00'	106.83'	N69°00'43"E
C69	7°09'06"	106.85'	858.00'	106.78'	N76°08'55"E
C70	7°20'46"	110.01'	858.00'	109.93'	N83°23'20"E
C71	6°21'07"	100.00'	902.00'	99.95'	N83°49'19"E
C72	3°01'46"	47.69'	902.00'	47.69'	N88°30'45"E
C73	2°57'55"	44.40'	858.00'	44.40'	N88°32'41"E
L25		28.28'			S44°58'22"E
L26		28.27'			N44°59'37"E
L27		28.28'			N45°02'15"E
L28		28.28'			N44°57'45"W
L29		28.28'			N44°57'45"W
L30		28.28'			N45°02'15"E
L31		28.28'			N44°58'53"W
L32		28.29'			N45°01'07"E
L33		28.29'			N45°01'07"E
L34		28.28'			S44°58'53"E
L35		15.56'			N45°01'08"E
L36		19.81'			N45°01'08"E
L37		47.00'			S00°01'38"W
L38		47.00'			S00°03'03"E
L39		19.79'			N44°58'53"W
L40		15.55'			N44°58'52"W
L41		20.00'			S00°02'15"W
L42		20.00'			S00°02'15"W
L43		97.35'			S81°43'20"W
L44		36.18'			S81°43'20"W
L45		55.05'			S72°24'44"W
L46		59.36'			S72°24'44"W
L47		31.91'			S63°09'50"W
L48		86.79'			S63°09'50"W
L49		81.41'			S59°37'14"W
L50		48.09'			S68°14'04"W
L51		35.57'			S68°14'04"W
L52		93.78'			S77°22'14"W
L53		14.00'			S89°58'22"E
L54		36.25'			N68°06'01"E
L55		57.50'			N68°06'01"E
L56		68.29'			N56°47'37"E
L57		16.93'			N56°47'37"E
L58		96.56'			S51°03'01"W
L59		78.93'			S51°03'01"W
L60		18.97'			S55°09'10"W
L61		70.55'			S55°09'10"W
L62		33.04'			S61°17'28"W
L63		86.48'			S61°17'28"W
L64		47.09'			S67°25'45"W
L65		42.43'			S67°25'45"W
L66		61.15'			S73°34'03"W
L67		28.37'			S73°34'03"W
L68		103.37'			S79°51'14"W
L69		20.26'			N83°40'58"E
L70		17.89'			N83°40'58"E
L71		62.19'			N68°36'14"E
L72		76.73'			N53°55'48"E
L73		79.76'			N33°07'48"E
L74		20.27'			S09°21'15"E
L75		20.00'			N00°02'15"E

GRAPHIC SCALE 1"=100'
0 100 200 300
LINEAL UNITS = U.S.SURVEY FEET

LEGEND & ABBREVIATIONS

- FOUND MESA COUNTY SURVEY MARKER
- FOUND B.L.M. ALUMINUM MONUMENT
- FOUND #5 REBAR W/1.5" ALUMINUM CAP STAMPED AES LS 24320
- SET #5 REBAR W/2" ALUMINUM CAP STAMPED D H SURVEYS LS 20677
- (#) BLOCK NUMBERS

G.V.A.L.C.S. = GRAND VALLEY AREA LOCAL COORDINATE SYSTEM
IRRIG. = IRRIGATION
DRNG = DRAINAGE
ESMT. = EASEMENT
SQ. FT. = SQUARE FEET

AREA SUMMARY

(SHEET 2 OF 2)

DED. ROADS	= 11.28 AC.	/22%
TRACTS	= 12.02 AC.	/23%
LOTS	= 28.44 AC.	/55%
TOTAL	= 51.74 AC.	/100%

PLAT NOTES

1.) All dedicated right-of-way is 44.00' wide, 22.00' on each side of center line.

2.) There is a 14' Multipurpose Easement on every Lot and Tract (graphically illustrated) along newly dedicated right-of-way.

3.) Lot area is reported in square feet, if larger than 15,000 square feet, area will be reported in acres.

4.) All lots to have engineered foundations designed by a Licensed Professional Engineer.

TRACT DESCRIPTIONS

TRACT A - 8.79 acres - Leach Creek
TRACT B - 2118 sq. ft. - Dedicated as a Multipurpose Easement
TRACT C - 0.26 acres - Dedicated as a Multipurpose Easement
TRACT D - 0.16 acres - Dedicated as a Multipurpose Easement
TRACT E - 2.61 acres - Pond
TRACT F - 2720 sq. ft. - Pedestrian walkway
TRACT G - 5,204 sq. ft. - Dedicated as a Multipurpose Easement and shared driveway.
TRACT H - 5,501 sq. ft. - Dedicated as a Sewer Easement
TRACT I - 3.59 acres - Pond
TRACT J - 0.84 acres - Irrigation, see Sheet 1 of 2

REVISED 11/07/18
REVISED 11/21/18
REVISED 01/03/19

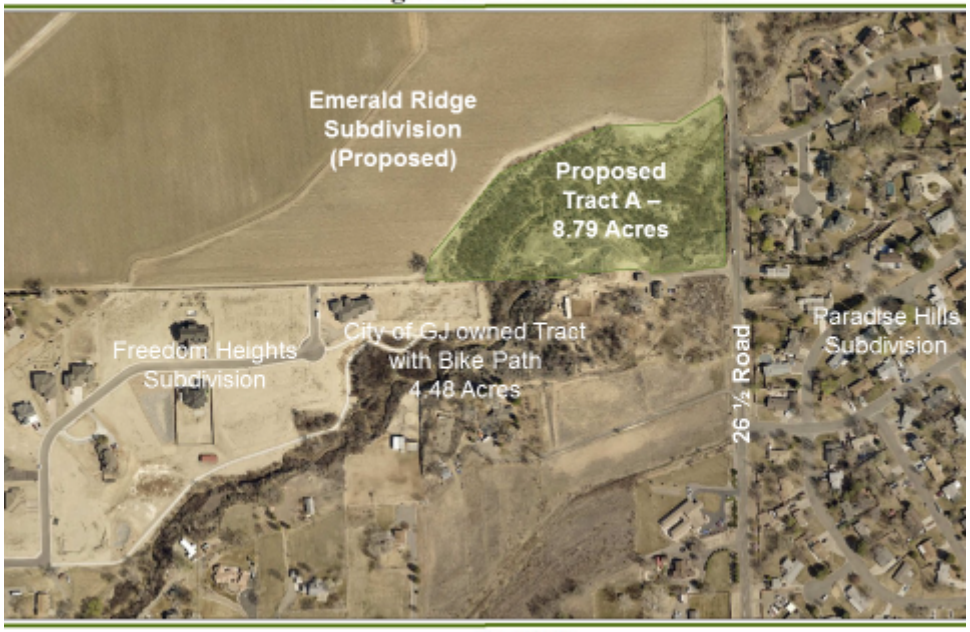
EMERALD RIDGE ESTATES FILING 1

LOCATED IN THE
S1/2 NW 1/4 & N1/2 SW 1/4, SEC. 26, T1N, R1W, U.M.

D H SURVEYS INC.
118 OURAY AVE. - GRAND JUNCTION, CO.
(970) 245-8749

Designed By M.W.D.	Checked By E.E.B.	Job No. 58-05-28	
Drawn By TMODEL	Date AUG. 2018	Sheet 2 OF 2	

Emerald Ridge Estates Land Dedication



Date: 12/20/2018

0.075 0.15

CITY OF Grand Ju

NOTES:

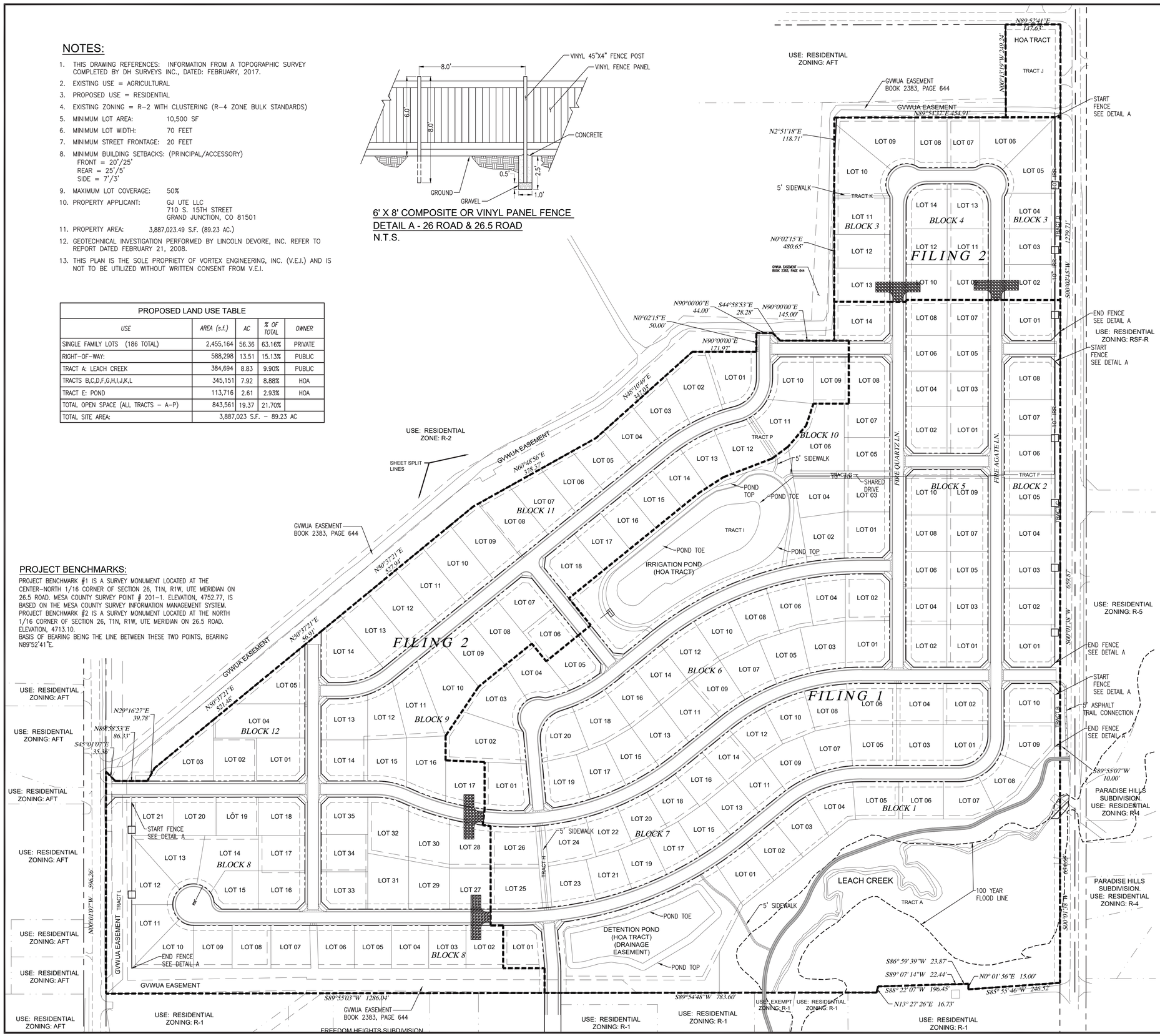
1. THIS DRAWING REFERENCES: INFORMATION FROM A TOPOGRAPHIC SURVEY COMPLETED BY DH SURVEYS INC., DATED: FEBRUARY, 2017.
2. EXISTING USE = AGRICULTURAL
3. PROPOSED USE = RESIDENTIAL
4. EXISTING ZONING = R-2 WITH CLUSTERING (R-4 ZONE BULK STANDARDS)
5. MINIMUM LOT AREA: 10,500 SF
6. MINIMUM LOT WIDTH: 70 FEET
7. MINIMUM STREET FRONTAGE: 20 FEET
8. MINIMUM BUILDING SETBACKS: (PRINCIPAL/ACCESSORY)
   FRONT = 20'/25'
   REAR = 25'/5'
   SIDE = 7'/3'
9. MAXIMUM LOT COVERAGE: 50%
10. PROPERTY APPLICANT: GJ UTE LLC
    710 S. 15TH STREET
    GRAND JUNCTION, CO 81501
11. PROPERTY AREA: 3,887,023.49 S.F. (89.23 AC.)
12. GEOTECHNICAL INVESTIGATION PERFORMED BY LINCOLN DEVORE, INC. REFER TO REPORT DATED FEBRUARY 21, 2008.
13. THIS PLAN IS THE SOLE PROPRIETY OF VORTEX ENGINEERING, INC. (V.E.I.) AND IS NOT TO BE UTILIZED WITHOUT WRITTEN CONSENT FROM V.E.I.

PROPOSED LAND USE TABLE				
USE	*AREA (s.f.)*	*AC*	*% OF TOTAL*	*OWNER*
SINGLE FAMILY LOTS (186 TOTAL)	2,455,164	56.36	63.16%	PRIVATE
RIGHT-OF-WAY:	588,298	13.51	15.13%	PUBLIC
TRACT A: LEACH CREEK	384,694	8.83	9.90%	PUBLIC
TRACTS B,C,D,F,G,H,I,J,K,L	345,151	7.92	8.88%	HOA
TRACT E: POND	113,716	2.61	2.93%	HOA
TOTAL OPEN SPACE (ALL TRACTS – A–P)	843,561	19.37	21.70%	
TOTAL SITE AREA:	3,887,023 S.F. – 89.23 AC			

6' X 8' COMPOSITE OR VINYL PANEL FENCE
DETAIL A - 26 ROAD & 26.5 ROAD
N.T.S.

PROJECT BENCHMARKS:

PROJECT BENCHMARK #1 IS A SURVEY MONUMENT LOCATED AT THE CENTER–NORTH 1/16 CORNER OF SECTION 26, T1N, R1W, UTE MERIDIAN ON 26.5 ROAD. MESA COUNTY SURVEY POINT # 201–1. ELEVATION, 4752.77, IS BASED ON THE MESA COUNTY SURVEY INFORMATION MANAGEMENT SYSTEM. PROJECT BENCHMARK #2 IS A SURVEY MONUMENT LOCATED AT THE NORTH 1/16 CORNER OF SECTION 26, T1N, R1W, UTE MERIDIAN ON 26.5 ROAD. ELEVATION, 4713.10.
BASIS OF BEARING BEING THE LINE BETWEEN THESE TWO POINTS, BEARING N89°52'41"E.



GENERAL NOTES

1. ALL CONSTRUCTION TO CONFORM TO THE CURRENT CITY OF GRAND JUNCTION DEPARTMENT OF PUBLIC WORKS AND PLANNING STANDARDS AND SPECIFICATIONS.
2. CONTRACTOR MUST CONTACT CITY OF GRAND JUNCTION TRAFFIC OPERATIONS SUPERVISOR PRIOR TO CONSTRUCTION OR PLACEMENT OF TRAFFIC CONTROL DEVICES/FEATURES (STRIPING, SIGNALS, MEDIANS, ETC.) FOR CONSTRUCTION IN THE RIGHT-OF-WAY ONLY.
3. GEOTECHNICAL INVESTIGATION PERFORMED BY LINCOLN DEVORE, INC. REFER TO REPORT DATED FEBRUARY 21, 2008 AND UPDATE SUPPLEMENT FROM GEOTECHNICAL ENGINEERING GROUP DATED AUGUST, 2018.
4. LIGHTING TO BE DESIGNED BY UTILITY PROVIDER. (GRAND VALLEY POWER)
5. ALL SANITARY SEWER MANHOLES ARE 48" I.D. UNLESS OTHERWISE INDICATED.FOR STREET SECTIONS SEE C4 SERIES SHEETS.
6. WATER MAIN PIPES ARE 8" C-900 PVC UNLESS OTHERWISE INDICATED.
7. SANITARY SEWER MAINS ARE 8" SDR 35 UNLESS OTHERWISE INDICATED.

UTILITY PROVIDERS INFORMATION		
UTILITY	*PROVIDER*	*PHONE NUMBER*
SANITARY SEWER	CITY OF GRAND JUNCTION	970–244–1554
DRAINAGE	GRAND VALLEY DRAINAGE DISTRICT	970–242–4343
DOMESTIC WATER	UTE WATER CONSERVANCY DISTRICT	970–242–7491
IRRIGATION	GRAND VALLEY WATER USERS ASSOC.	970–242–5065
ELECTRICITY	GRAND VALLEY POWER	970–242–0040
NATURAL GAS	XCEL ENERGY	800–895–4999
TELEPHONE	CENTURYLINK	800–603–6000
CABLE TELEVISION	SPECTRUM	833–780–1880

LOCATION OF UTILITIES SHOWN HEREON WAS PROVIDED BY OTHERS. CONTRACTOR MUST VERIFY LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.

811 Know what's below. Call before you dig.
Colorado 811
1-800-922-1987
co811.org

ACCEPTANCE BLOCK - FILING NO. 1

THE CITY OF GRAND JUNCTION REVIEW CONSTITUTES GENERAL COMPLIANCE WITH THE CITY'S DEVELOPMENT STANDARDS, SUBJECT TO THESE PLANS BEING SEALED, SIGNED, AND DATED BY THE PROFESSIONAL OF RECORD. REVIEW BY THE CITY DOES NOT CONSTITUTE APPROVAL OF THE PLAN DESIGN. THE CITY NEITHER ACCEPTS NOR ASSUMES ANY LIABILITY FOR ERRORS OR OMISSIONS. ERRORS IN THE DESIGN OR CALCULATIONS REMAIN THE RESPONSIBILITY OF THE PROFESSIONAL OF RECORD.

CONSTRUCTION MUST COMMENCE WITHIN ONE YEAR FROM THE DATE OF PLAN SIGNATURE.

CITY DEVELOPMENT ENGINEER DATE

CITY PLANNER DATE

VORTEX ENGINEERING, INC.
• CONSTRUCTION MANAGERS & SITE PLANNERS
• PROJECT MANAGERS
• CIVIL & CONSULTING ENGINEERS
2394 Patterson Road, Suite 201
Grand Junction, CO 81505
Phone: (970) 245-9051
Fax (970) 245-7639

James C. Atkinson
PROFESSIONAL ENGINEER
COLORADO LICENSE No. 18828

COLORADO LICENSED JAMES C. ATKINSON 18828 1-14-19 PROFESSIONAL ENGINEER

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REV.	DATE	COMMENT
1	11/21/18	REVISED PER CITY COMMENT RD. 1, DATED 10/26/18 DLS–VA BY
2	1/10/19	REVISED PER CITY COMMENT RD. 2, DATED 12/21/18 DLS–VA

Site Plan - Overall
Emerald Ridge Estates
Final Plan
26 Road & H 3/4 Road
Grand Junction, Colorado

PROJECT NO: F17-006
DATE: 09/14/18
SCALE: change per sheet
CAD ID: f17-006f-site 2.dwg

~SHEET~
C1.0

SEE SHEET C1.2

SEE SHEET C1.3

LOT 08 16482 SF 0.38 AC
LOT 09 17467 SF 0.40 AC
BLOCK 11
LOT 10 17428 SF 0.40 AC
LOT 07 12795 SF 0.29 AC
LOT 08 14428 SF 0.33 AC
LOT 06 11000 SF 0.25 AC
LOT 09 14428 SF 0.33 AC
LOT 05 12004 SF 0.28 AC
LOT 04 13724 SF 0.32 AC
BLOCK 9
LOT 10 20626 SF 0.47 AC
LOT 03 16298 SF 0.37 AC
LOT 02 22761 SF 0.52 AC
FILING 1
LOT 14920 SF 0.34 AC
LOT 16 11250 SF 0.26 AC
LOT 17 11250 SF 0.26 AC
BLOCK 10
LOT 18 14800 SF 0.34 AC
TRACT I 156058 SF 3.58 AC
IRRIGATION POND TRAIL SEE SHEET C3.7
LOT 02 13265 SF 0.30 AC
LOT 01 14784 SF 0.34 AC
BLOCK 10
LOT 06 12508 SF 0.29 AC
LOT 04 12515 SF 0.29 AC
LOT 02 14706 SF 0.34 AC
LOT 08 12514 SF 0.29 AC
LOT 10 12285 SF 0.28 AC
LOT 12 13315 SF 0.31 AC
BLOCK 6
LOT 03 13453 SF 0.31 AC
LOT 01 14587 SF 0.33 AC
LOT 05 12925 SF 0.30 AC
LOT 07 13160 SF 0.30 AC
LOT 14 11996 SF 0.28 AC
LOT 09 11504 SF 0.26 AC
LOT 16 12328 SF 0.28 AC
LOT 11 12615 SF 0.29 AC
LOT 18 14086 SF 0.32 AC
LOT 20 12962 SF 0.30 AC
LOT 13 12751 SF 0.29 AC
LOT 15 11590 SF 0.27 AC
LOT 17 11730 SF 0.27 AC
LOT 19 13369 SF 0.31 AC
LOT 10 11734 SF 0.27 AC
LOT 08 11678 SF 0.27 AC
LOT 12 10857 SF 0.25 AC
BLOCK 7
LOT 14 10544 SF 0.24 AC
LOT 09 11985 SF 0.28 AC
LOT 16 10513 SF 0.24 AC
LOT 11 10500 SF 0.24 AC
LOT 18 10531 SF 0.24 AC
LOT 13 10509 SF 0.24 AC
LOT 20 10507 SF 0.24 AC
LOT 15 10572 SF 0.24 AC
LOT 22 10535 SF 0.24 AC
LOT 17 10572 SF 0.24 AC
LOT 19 10572 SF 0.24 AC
LOT 21 10572 SF 0.24 AC
LOT 07 12439 SF 0.29 AC
LOT 05 13383 SF 0.31 AC
LOT 03 13813 SF 0.32 AC
LOT 01 11889 SF 0.27 AC
LOT 04 12000 SF 0.28 AC
LOT 05 12000 SF 0.28 AC
LOT 06 12000 SF 0.28 AC
LOT 07 11995 SF 0.28 AC
BLOCK 1
LOT 03 12236 SF 0.28 AC
LOT 02 12245 SF 0.28 AC
LOT 01 13122 SF 0.30 AC
LOT 08 10809 SF 0.25 AC
LOT 07 10809 SF 0.25 AC
LOT 06 10809 SF 0.25 AC
LOT 05 10809 SF 0.25 AC
BLOCK 5
LOT 04 10809 SF 0.25 AC
LOT 03 10809 SF 0.25 AC
LOT 02 12292 SF 0.28 AC
LOT 01 12290 SF 0.28 AC
LOT 04 13364 SF 0.31 AC
LOT 03 13364 SF 0.31 AC
BLOCK 2
LOT 02 13364 SF 0.31 AC
LOT 01 15178 SF 0.35 AC
LOT 06 14235 SF 0.33 AC
LOT 04 13818 SF 0.32 AC
LOT 02 13005 SF 0.30 AC
LOT 10 13910 SF 0.32 AC
LOT 09 14184 SF 0.33 AC
LOT 08 11825 SF 0.27 AC
LOT 28 13256 SF 0.30 AC
LOT 26 13884 SF 0.32 AC
LOT 24 13329 SF 0.31 AC
LOT 22 10535 SF 0.24 AC
LOT 20 10507 SF 0.24 AC
LOT 15 10572 SF 0.24 AC
LOT 17 10572 SF 0.24 AC
LOT 19 10572 SF 0.24 AC
LOT 21 10572 SF 0.24 AC
LOT 23 12316 SF 0.28 AC
LOT 27 12100 SF 0.28 AC
LOT 25 14800 SF 0.34 AC
BLOCK 8
LOT 03 11500 SF 0.26 AC
LOT 02 11500 SF 0.26 AC
LOT 01 12069 SF 0.28 AC
TRACT H
TRACT E 113716 SF 2.61 AC
DRAINAGE EASEMENT
TRACT A 384694 SF 8.83 AC
TRACT B 2 18 SF 0.05 AC
LEACH CREEK TRAIL SEE SHEET C3.6

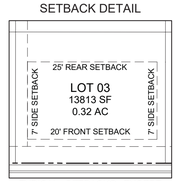
14' MULTI-PURPOSE EASEMENT
10' IRRIGATION EASEMENT
44' ROW
40' R.O.W.

N89°58'22"W 96.33'
S89°58'22"E 96.28'
S89°58'22"E 264.00'
S89°58'22"E 172.08'
S89°58'22"E 260.25'
N0°02'15"E 574.59'
N0°02'15"E 280.64'
N0°02'15"E 294.00'
N0°02'15"E 164.02'
N51°00'00"E 453.31'
N51°00'00"E 134.47'
N51°00'00"E 22.00'
N51°00'00"E 156.47'
N39°00'00"W 377.96'
N5°11'23"W 204.58'
S5°00'00"E 58.51'

UTILITY PROVIDERS INFORMATION

UTILITY	PROVIDER	PHONE NUMBER
SANITARY SEWER	CITY OF GRAND JUNCTION	970-244-1554
DRAINAGE	GRAND VALLEY DRAINAGE DISTRICT	970-242-4343
DOMESTIC WATER	UTE WATER CONSERVANCY DISTRICT	970-242-7491
IRRIGATION	GRAND VALLEY WATER USERS ASSOC.	970-242-5065
ELECTRICITY	GRAND VALLEY POWER	970-242-0040
NATURAL GAS	XCEL ENERGY	800-895-4999
TELEPHONE	CENTURYLINK	800-603-6000
CABLE TELEVISION	SPECTRUM	833-780-1880

SETBACK DETAIL



TYPICAL SETBACKS EXCEPT WHERE MODIFIED BY EASEMENTS

FILING LINE

FENCE (DEVELOPER INSTALLED)

N

SCALE IN FEET
60 30 0 60 120
1" = 60'

ACCEPTANCE BLOCK - FILING NO. 1

THE CITY OF GRAND JUNCTION REVIEW CONSTITUTES GENERAL COMPLIANCE WITH THE CITY'S DEVELOPMENT STANDARDS, SUBJECT TO THESE PLANS BEING SEALED, SIGNED, AND DATED BY THE PROFESSIONAL OF RECORD. REVIEW BY THE CITY DOES NOT CONSTITUTE APPROVAL OF THE PLAN DESIGN. THE CITY NEITHER ACCEPTS NOR ASSUMES ANY LIABILITY FOR ERRORS OR OMISSIONS. ERRORS IN THE DESIGN OR CALCULATIONS REMAIN THE RESPONSIBILITY OF THE PROFESSIONAL OF RECORD.

CONSTRUCTION MUST COMMENCE WITHIN ONE YEAR FROM THE DATE OF PLAN SIGNATURE.

CITY DEVELOPMENT ENGINEER DATE

CITY PLANNER DATE

VORTEX ENGINEERING, INC.
• CONSTRUCTION MANAGERS & SITE PLANNERS
• PROJECT MANAGERS
• CIVIL & CONSULTING ENGINEERS
2394 Patterson Road, Suite 201
Grand Junction, CO 81505
Phone: (970) 245-9051
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James C. Atkinson
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COLORADO LICENSE No. 18828

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REV	DATE	COMMENT
1	11/21/18	REVISED PER CITY COMMENT RD. 1, DATED 10/26/18 DLS-VA
2	1/10/19	REVISED PER CITY COMMENT RD. 2, DATED 12/21/18 DLS-VA

Site Plan - Southeast Quadrant
Emerald Ridge Estates
Final Plan
26 Road & H 3/4 Road
Grand Junction, Colorado

PROJECT NO: F17-006
DATE: 09/14/18
SCALE: change per sheet
CAD ID: f17-006f-site 2.dwg

~SHEET~
C1.1

Grand Junction City Council

Regular Session

Item #7.a.

Meeting Date: February 20, 2019

Presented By: Randi Kim, Utilities Director

Department: Public Works - Utilities

Submitted By: Randi Kim

Information

SUBJECT:

Agreement with Powderhorn Ski Company, LLC. to Lease Water for Snowmaking

RECOMMENDATION:

Adopt Resolution Authorizing an Agreement between Powderhorn Ski Company, LLC and the City of Grand Junction.

EXECUTIVE SUMMARY:

Powderhorn Ski Company, LLC, has requested to lease 140 acre feet of water from the City's Anderson Reservoir No. 2 for the purposes of snowmaking. The term of this Agreement is 40 years, subject to Powderhorn commencing work on required Improvements within 36 months of commencement.

BACKGROUND OR DETAILED INFORMATION:

Powderhorn Ski Company, LLC and the City of Grand Junction entered into an agreement on September 5, 2012 to lease 140 acre feet of water from the City's Somerville Reservoir for the purpose of snowmaking. The agreement required that Powderhorn design and construct Phase I Improvements, which included a pump station at Somerville Reservoir, approximately 13,000 lineal foot pipeline and distribution hydrants, snowmaking distribution line, and associated electrical service. Powderhorn did not commence Phase I Improvement within the agreed upon 72 months from the Commencement Date (September 5, 2018).

Powderhorn expressed interest in entering into a new agreement to lease water for the purpose of snowmaking. Powderhorn and City staff determined that a new alignment

of the pump station and pipeline that would convey water directly from Anderson Reservoir No. 2 would better serve the Powderhorn resort. The new alignment would also eliminate evaporative water losses associated with transferring water via a ditch from Anderson Reservoir No. 1 to Somerville Reservoir, which was the previous plan. The newly proposed pipeline alignment will coincide with the alignment for Powderhorn's proposed trail connector with the Palisade Plunge mountain bike trail, which is expected to result in construction cost savings and minimize environmental impact.

City staff employed a consultant to evaluate whether leasing 140 acre-feet of water on a non-interruptible basis would have an impact on the City's municipal water supply, especially during drought conditions. The consultant modeled this scenario and concluded that the City would still be able to maintain reservoir storage levels to meet the City's municipal water demands.

Powderhorn will be required to pay the cost of design, construction, installation, operation and maintenance of the necessary Improvements including the pump station, pipeline, electrical service, meter(s) and other means of drawing, conveying, consuming and as applicable storing the water.

The proposed project would support Powderhorn's capital improvement plans to enhance the resort's winter experience. The proposed project supports a regional recreational facility and will insure a diversity of recreational experiences to the greater Grand Valley community and our visitors.

FISCAL IMPACT:

The Powderhorn pump station and pipeline would be at the expense of Powderhorn Ski Company. Annual revenue to the Water Enterprise Fund from the lease of water would be at a rate of $168.56 per acre foot for up to 140 acre feet or $23,598.40 per year.

Annually, the cost of water would be adjusted by 50% of the Denver-Aurora-Lakewood CPI/U.

Powderhorn has the option of requesting water to be stored for use in a subsequent dry year. The storage rate is set at $60.00 per acre foot per year. The storage fee will be in addition to the delivery rate of $168.56 per acre foot.

SUGGESTED MOTION:

I move to adopt Resolution No. 14-19, a resolution authorizing an agreement between Powderhorn Ski Company, LLC and the City of Grand Junction for the lease of certain City water for snowmaking.

Attachments

1. Consultant Evaluation of Powderhorn Ski Area delivery contract
2. Powderhorn Supply Line Layout Map
3. Res - Powderhornwaterlease2019
4. AGR-Powderhorn 021119final

DiNatale WATER CONSULTANTS

MEMORANDUM

TO: Randi Kim and Mark Ritterbush (City of Grand Junction)

FROM: Matt Bliss, PE and Chris Newton (DiNatale Water Consultants)

SUBJECT: Update to Evaluation of Powderhorn Ski Area delivery contract

DATE: January 11, 2018 (update from December 14, 2018)

Per your email on October 29, 2018 and phone call on January 10, 2019, we evaluated the ability of Grand Junction (City) to supply water to the Powderhorn ski area (Powderhorn) for snowmaking.

As we understand it, the proposed agreement calls for up to 140 acre-feet (AF) of water to be made available to Powderhorn between October 15 and April 15 of each year on a non-interruptible basis. This water would be pumped from Anderson #1 Reservoir to Powderhorn. Powderhorn will notify the City by April 30 of each year of the amount of water that it will use in the upcoming year. You requested an evaluation to determine if the City could commit to this proposal and if not, under what conditions the City would take exception.

As discussed, we completed the development of the City's RiverWare water supply model of firm yield (model) prior to completing this evaluation. The City's model was developed to determine the amount of water that could be reliability delivered through historical drought conditions while maintaining approximately a year's supply of water in storage. The firm yield was presented as a range between 5,800 AF to 6,275 AF based on uncertainty in some model inputs, such as evaporation rates and inflow above City reservoirs.

We evaluated the effect of the proposed Powderhorn contract with two approaches:

1) Maintaining the 5,800 to 6,275 AF firm yield, adding the Powderhorn contract and evaluating the change in storage

2) Reducing the firm yield and increasing the winter drawdown target such that the storage reliability criteria were satisfied with the Powderhorn contract.

We evaluated these two approaches using the high and average range of evaporation rates used in the firm yield modeling. The high evaporation rate model runs result in evaporation of approximately 1,200 AF of evaporative loss from the Upper Reservoirs, which is higher

than the approximately 1,000 AF observed in 2018. Note that under the high evaporation rate scenario, the Upper Reservoirs fell below 1,800 AF in some years in the baseline simulation, so results show a comparison of the storage amounts with and without the Powderhorn contract even when 1,800 AF was not maintained in Upper Reservoir storage.

Without the Powderhorn contract simulated, the model releases water from the City's Upper Reservoirs to a target of 2,000 AF by the end of October. In addition, one of the City's reliability criteria is that at least 1,800 AF is in storage at the City's Upper Reservoirs at all times. We implemented the Powderhorn contract by creating a new account in the models' Anderson Reservoir No. 1 and 2 reservoir object. On each July 1, the model moves 152 AF of water out of the City's account and into the Powderhorn account in model runs with the baseline evaporation rate, and 161 AF in model runs with the higher evaporation rate. We chose July because this is typically after the end of the runoff when there is this amount of water in storage. We chose to move 152 or 161 AF into the Powderhorn account so that the City could deliver the full 140 AF after evaporative losses were considered through the end of the delivery term, namely the following April. Once the water is moved into the Powderhorn account, it is not included in the Upper Reservoir storage totals for the firm yield reliability criteria, and the model will release water to target 2,000 AF of water in the City's Upper Reservoir accounts by the end of October and evaluates firm yield on 1,800 AF of water in the City's Upper Reservoir accounts.

Model Results

Four scenarios were evaluated to test the two approaches described above, each tested with average evaporation rates and high evaporation rates. **Table 1** summarizes the times and amounts the Powderhorn contract causes the storage levels to fall below the firm yield criteria target levels. **Table 1** indicates that the amount below the targets is typically the approximate magnitude of the amount of water supplied to Powderhorn. This amount is decreased in Scenarios 3 and 4 that have a firm yield reduced by 50 AF. Figures 1 through 4 show the results for the entire study period. The figures show that the results of the Powderhorn contract do not affect the firm yield reliability criteria in most years, but the effects of the Powderhorn contract are evident for several months during and immediately following a drought year. Table 1 also shows the minimum total water in storage (Juniata and Upper Reservoirs) for each scenario and this storage as a percent of the 2013 to 2017 City raw water demands of 5,660 AF.

Figures 1 and 2 show the results for Scenarios 1 and 2 that both maintain the baseline firm yield of 5,800 to 6,275 AF, then compare storage levels in model runs with and without the Powderhorn contract. Figure 1 shows the Scenario 1 model results with average evaporation rates (resulting in 6,275 AF firm yield in the baseline run), and Figure 2 shows the Scenario 2 results with high evaporation rates (resulting in 5,800 AF firm yield in the baseline run)

Figure 1 shows the storage at Juniata Reservoir and the Upper Reservoirs for the baseline model run with average evaporation rates and for the same model run with the Powderhorn contract (Scenario 1). As shown in Figure 1, the Powderhorn contract causes the storage level at Juniata Reservoir to fall below the 90% level after the spring runoff in 1978 and 2003. In addition, the Upper Reservoirs fall below the 1,800 AF mark in 1977, 1990, 2002 and 2012.

Figure 2 shows the storage at Juniata Reservoir and the Upper Reservoirs for the baseline model run with high evaporation rates and for the same model run with the Powderhorn contract (Scenario 2). As shown in Figure 2, the results are similar to discussed above for Scenario 1, but with a larger difference between the target storage level criteria and the simulated storage level. Note that the baseline high evaporation run does not maintain 1,800 AF of storage in the Upper Reservoirs through drought years.

Figures 3 and 4 show the results for Scenarios 3 and 4 that both reduce the baseline firm yield of 5,800 to 6,275 AF to 5,750 and 6,225, and also increase the October storage target in the Upper Reservoirs to 2,060 AF (from 2,000 AF in the baseline) then comparing storage levels in model runs with and without the Powderhorn contract. Figure 3 shows the model results with average evaporation rates, and Figure 4 shows the results with high evaporation rates.

Figure 3 shows the storage at Juniata Reservoir and the Upper Reservoirs for Scenario 3 that has 6,225 AF firm yield (reduced from 6,275 in the baseline), average evaporation rates, and the October storage target at the Upper Reservoirs increased to 2,060 AF (from 2,000 in the baseline) and for the same model run with the Powderhorn contract. As shown in Figure 3, the Juniata reliability criteria are satisfied both without and with the Powderhorn contract. However, the storage in the Upper Reservoirs is 94 AF lower than the baseline model (Scenario 1) in October of 1990, and 2002, which is about 10 AF below the 1,800 AF mark.

Figure 4 shows the storage at Juniata Reservoir and the Upper Reservoirs for Scenario 4 that has 6,225 AF firm yield (reduced from 6,275 in the baseline), high evaporation rates, and the October storage target at the Upper Reservoirs increased to 2,060 AF (from 2,000 in the baseline) and for the same model run with the Powderhorn contract. As shown in Figure 4, the Juniata reliability criteria are satisfied both without and with the Powderhorn contract. However, the storage in the Upper Reservoirs is about 100 AF lower than the baseline model with high evaporation (Scenario 2) in October of 1977, 1990, 2002, and 2012.

Conclusions

In most years, the delivery of water to Powderhorn does not impact the City's reliability criteria for storage in Juniata Reservoir and the Upper Reservoirs. In dry years, the contract

does result in lower storage levels that at times fall below the reliability criteria established through the firm yield modeling project. The difference in storage in these dry years is approximately the amount of the Powderhorn contract.

We evaluated scenarios that reduces the City's firm yield and modifies its Upper Reservoir operations (Scenarios 3 and 4). These scenarios maintain the reliability criteria for firm yield and shows that system firm yield falls by 50 AF and the Upper Reservoir target must be increased to 2,060 AF in October rather than 2,000 AF.

The change in storage between the with and without Powderhorn contract runs were similar for the high evaporation scenarios as compared to the average evaporation scenarios. The primary difference is that high evaporation scenarios have a lower system firm yield (5,800 AF as compared to 6,275 AF) and the Upper Reservoirs fall below 1,800 AF in the without Powderhorn contract model runs as well. As discussed as part of the larger firm yield modeling, this Upper Reservoir storage criteria may be better evaluated in the future using a total system storage criterion rather than a strict reliance on 1,800 AF in the Upper Reservoirs.

The difference in storage in the Upper Reservoirs of approximately 145 AF seen in scenarios 1 and 2 is a difference of 2% of the City's firm yield. A reduction of 50 AF in the system firm yield is a reduction of less than 1%. The City's current raw water demands are 5,660 AF (2013-2017 average), which is approximately 2.5% to 10% below the system firm yield.

Based on the above, the Powderhorn contract will reduce the City's storage levels below firm yield targets in dry years by approximately 145 AF. This effect is partially mitigated by the City's current demands that are less than the firm yield. Depending on the scenario, the minimum amount of water in storage through the study period is reduced from approximately 125% of current annual demand to 121% when the Powderhorn contract is implemented (120% to 116% in the higher evaporation scenarios). Water levels are restored to baseline conditions once a drought ends. Therefore, it is our opinion that addition of the Powderhorn contract results in low additional risk of water supply system failure. The contract will result in lower storage levels through droughts, but total storage levels should remain above a year's supply given the current City demands.

Table 1. Summary of Modeling Results.

			Juniata less than 90%		Upper Reservoirs less than 1800 AF				Total Storage	
			Jun-78	Apr-03	Oct-77	Oct-90	Oct-02	Oct-12	Minimum Total Storage	Minum Storage as % of 5,660 AF
Scenario 1	Baseline - average evaporation	Baseline	6,652	6,595	1,909	1,880	1,887	1,986	7,076	125%
		Baseline + Powderhorn	6,483	6,519	1,764	1,735	1,742	1,759	6,854	121%
		Difference	-169	-76	-145	-145	-145	-227	-223	-4%
Scenario 2	Baseline - high evaporation	Baseline	6,655	6,592	1,687	1,699	1,667	1,792	6,782	120%
		Baseline + Powderhorn	6,459	6,520	1,539	1,551	1,520	1,644	6,560	116%
		Difference	-196	-72	-148	-148	-148	-148	-222	-4%
Scenario 3	Hybrid - baseline evap; -50AF FY; 2,060 target	Baseline	Juniata never < 90% at end of runoff		*not below 1800 AF*	1,880	1,887	*not below 1800 AF*	7,076	125%
		Baseline + Powderhorn				1,787	1,793		6,975	123%
		Difference				-94	-94		-101	-2%
Scenario 4	Hybrid - baseline evap; -50AF FY; 2,060 target	Baseline	Juniata never < 90% at end of runoff		1,687	1,699	1,667	1,792	6,784	120%
		Baseline + Powderhorn			1,585	1,597	1,565	1,696	6,669	118%
		Difference			-102	-102	-102	-97	-115	-2%

all values in AF

Juniata 90% full is 6,562 AF

Firm yield simulated: Scenario 1 - 6,275 AF; Scenario 2 - 5,800 AF; Scenario 3 - 6,225 AF; Scenario 4 - 5,750 AF

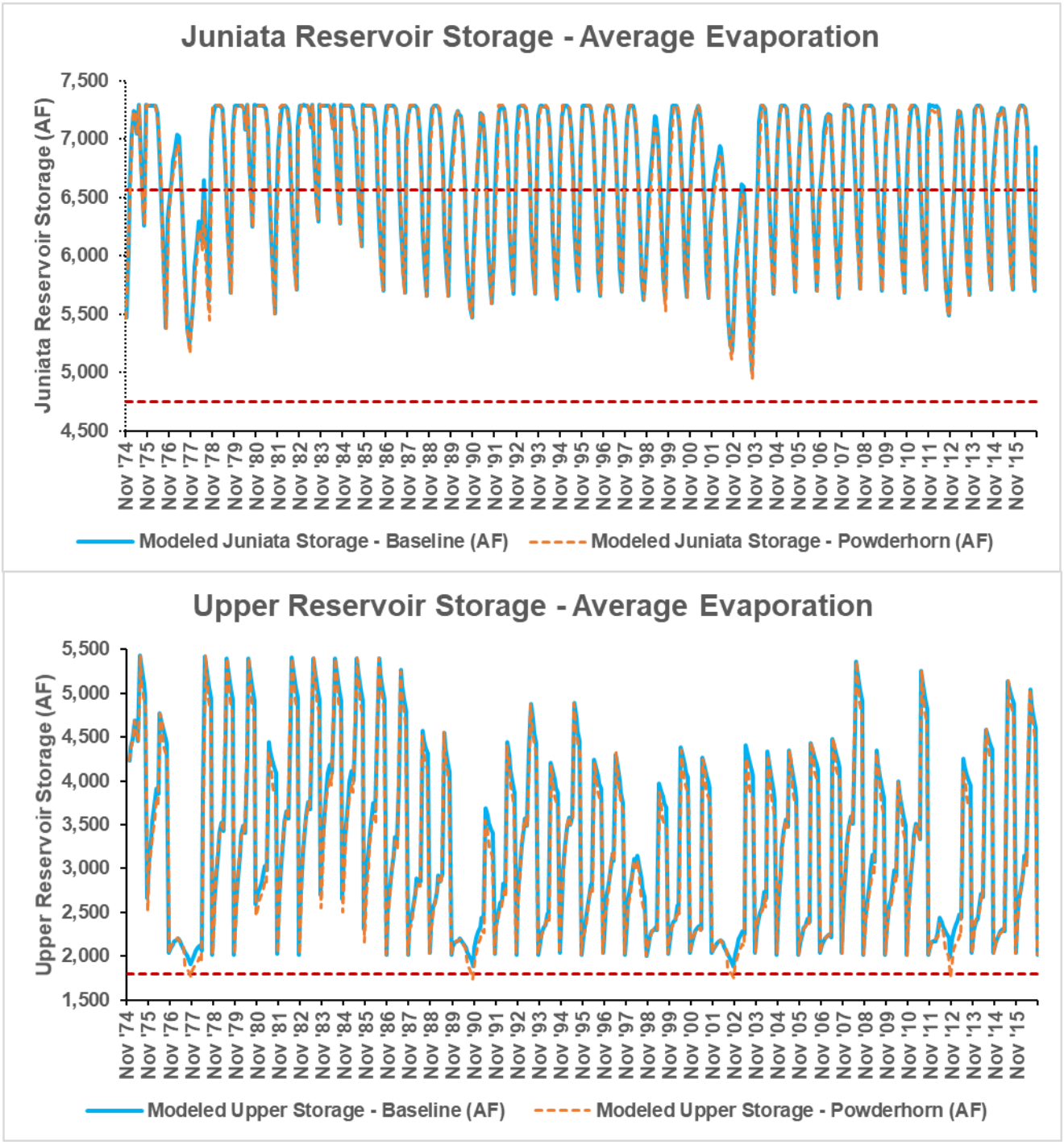


Figure 1. Scenario 1 Storage Levels with and without Powderhorn Contract (average evaporation rate). Baseline Firm Yield Scenario (6,275 AF)

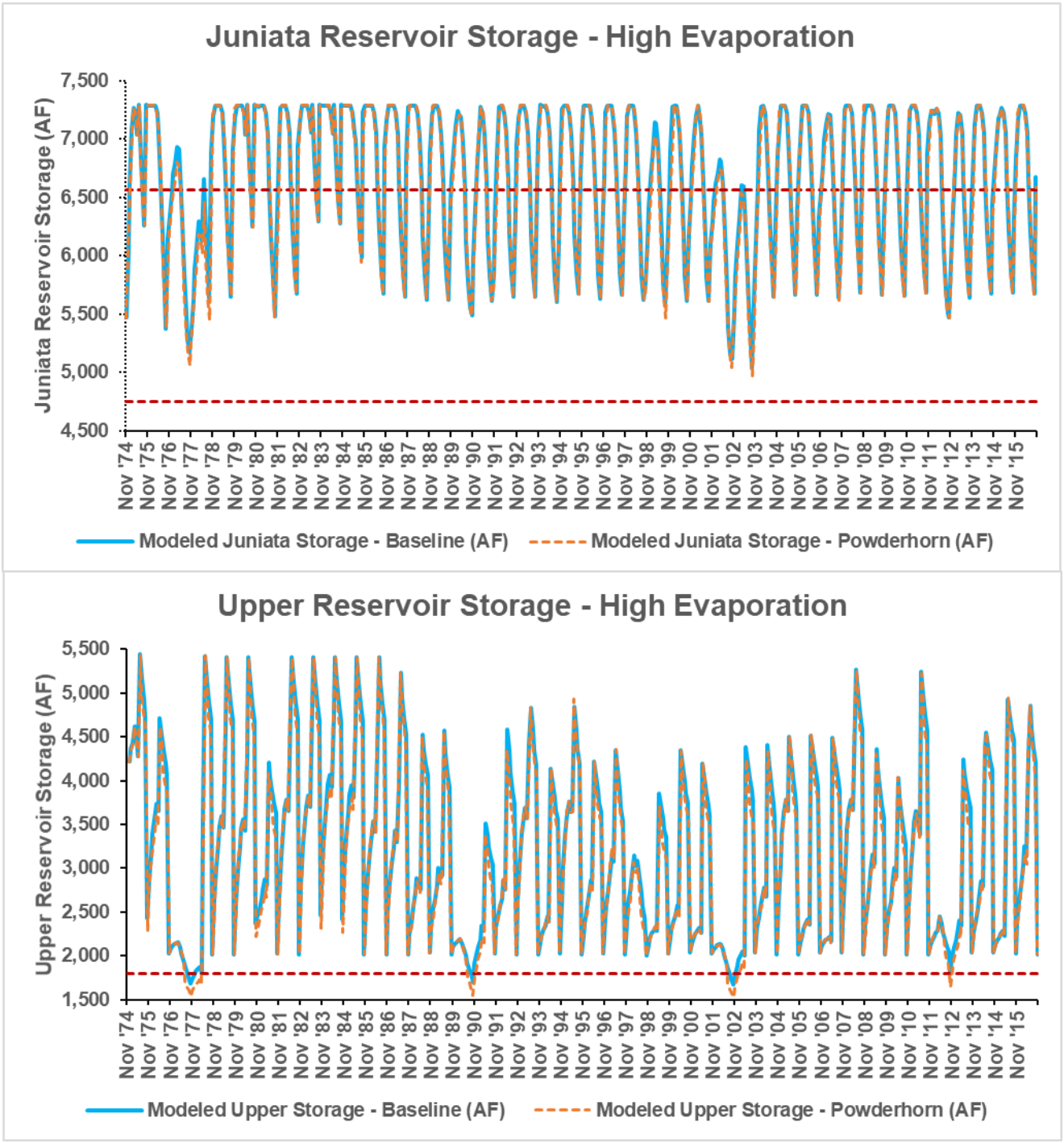


Figure 2. Scenario 2 Storage Levels with and without Powderhorn Contract (high evaporation rate)

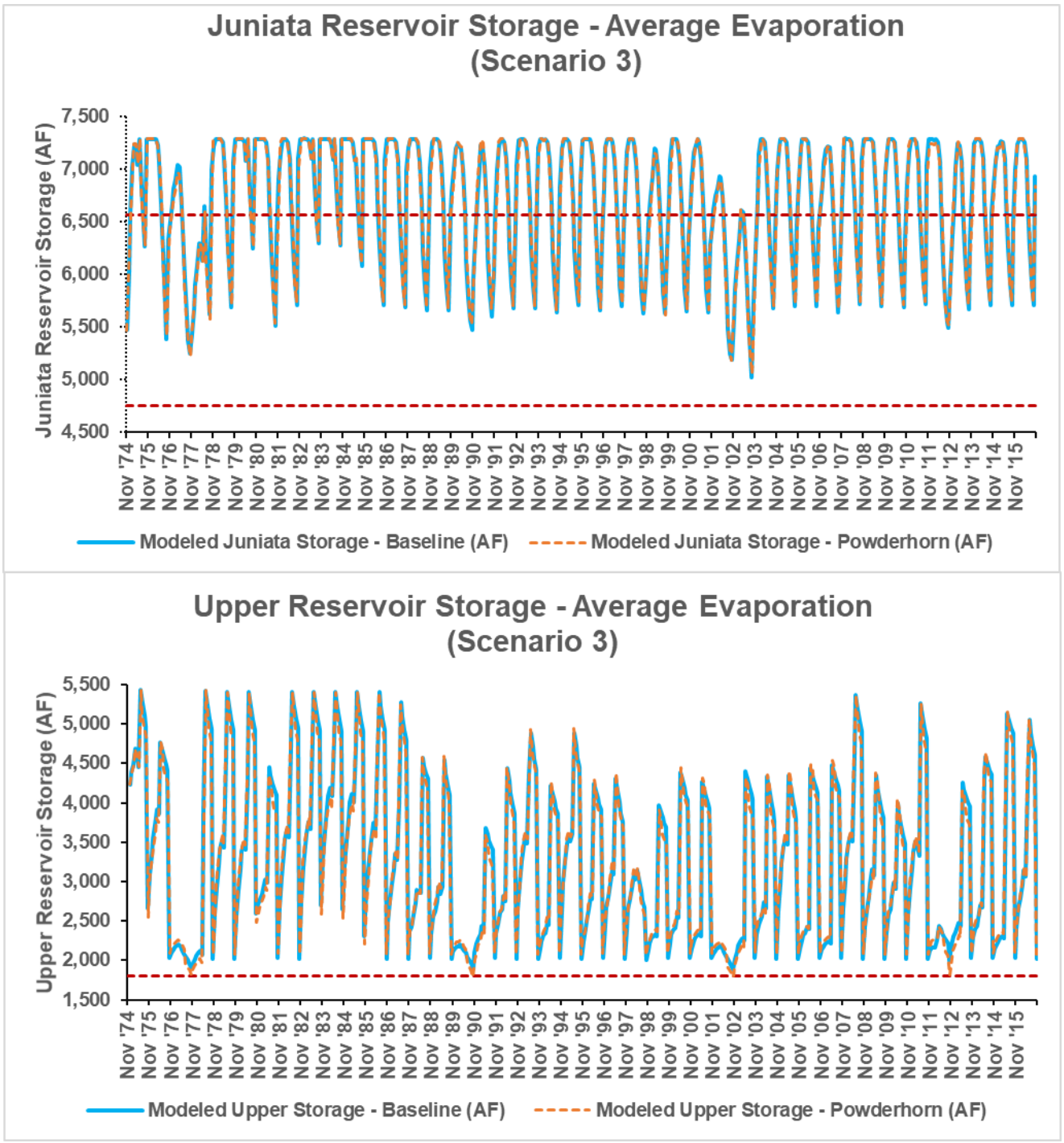


Figure 3. Scenario 3 Storage Levels with and without Powderhorn Contract (average evaporation rate, Firm yield reduced 50 AF to 6,225 AF, winter target at Upper Reservoirs set to 2,060 AF)

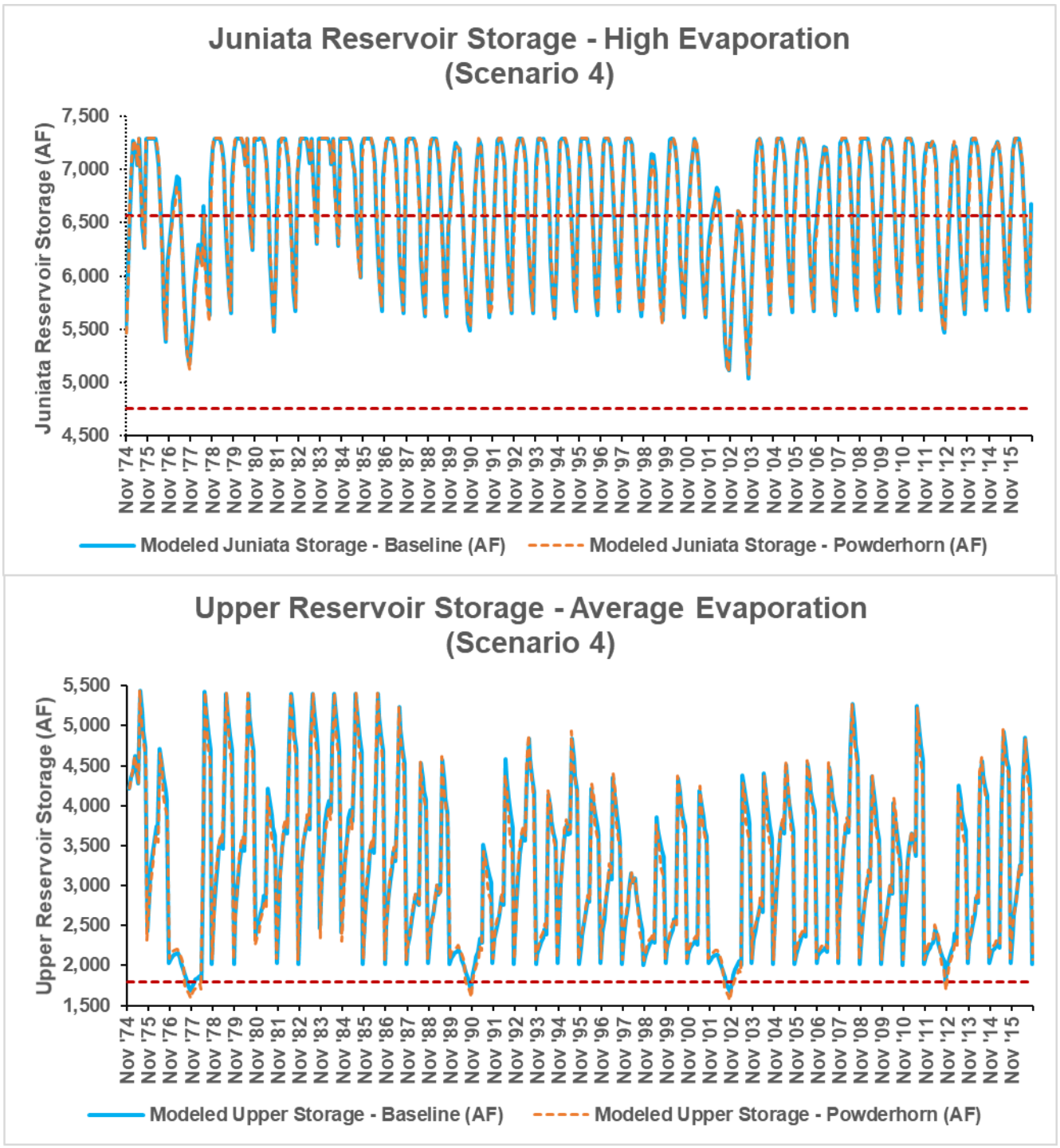
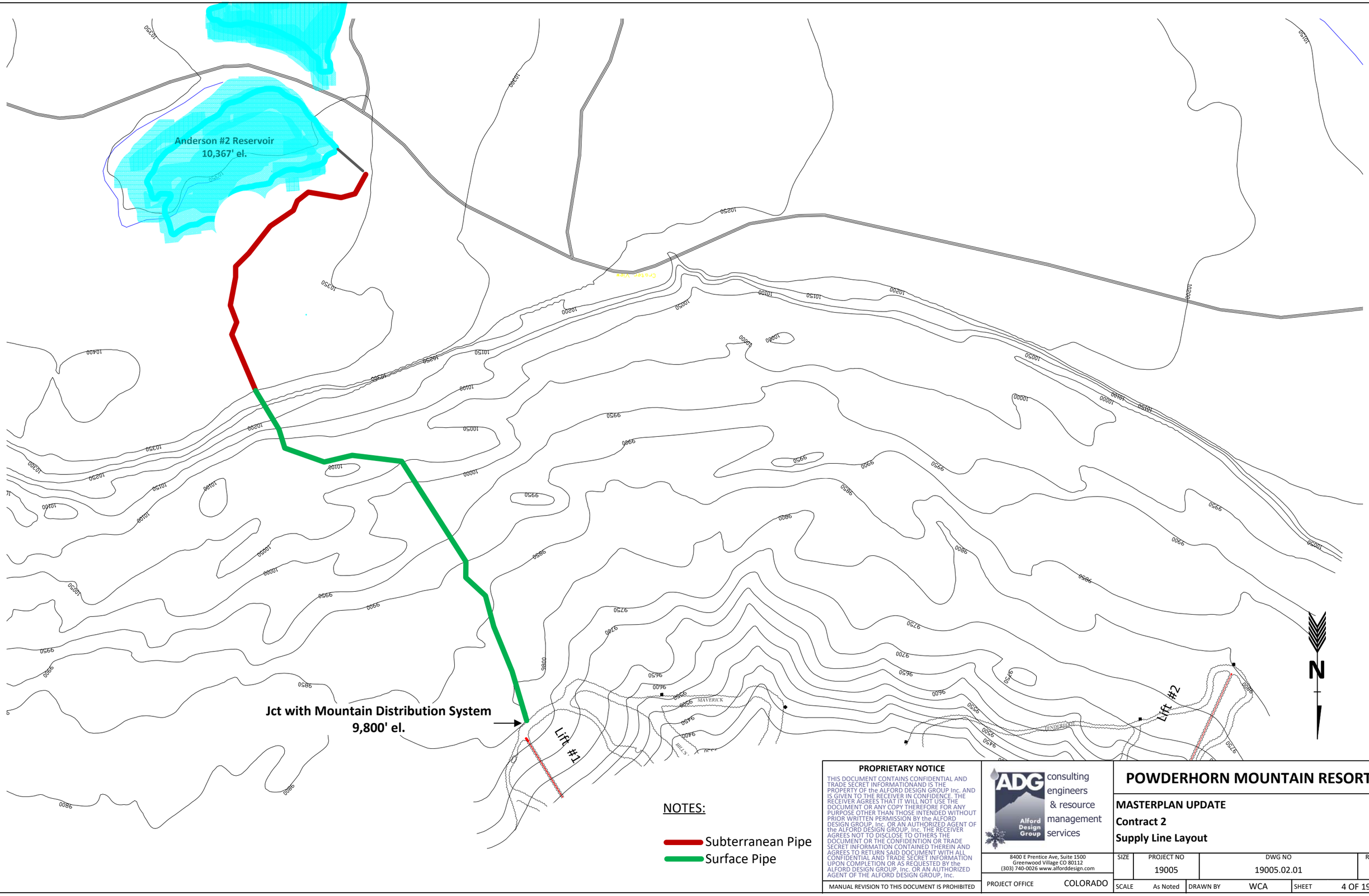


Figure 4. Scenario 4 Storage Levels with and without Powderhorn Contract (high evaporation rate, Firm yield reduced 50 AF to 5,750 AF, winter target at Upper Reservoirs set to 2,060 AF)



NOTES:

Subterranean Pipe

Surface Pipe

PROPRIETARY NOTICE

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MANUAL REVISION TO THIS DOCUMENT IS PROHIBITED

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PROJECT OFFICE COLORADO

POWDERHORN MOUNTAIN RESORT

MASTERPLAN UPDATE

Contract 2

Supply Line Layout

SIZE	PROJECT NO	DWG NO	REV
	19005	19005.02.01	1

SCALE	As Noted	DRAWN BY	WCA	SHEET	4 OF 19

RESOLUTION NO. __-19

A RESOLUTION AUTHORIZING AN AGREEMENT BETWEEN POWDERHORN SKI COMPANY, LLC AND THE CITY OF GRAND JUNCTION FOR THE LEASE OF CERTAIN CITY WATER FOR SNOWMAKING

RECITALS:

On February 20, 2019 the City Council considered a proposed agreement by and between the Powderhorn Ski Company, LLC and the City for the lease of certain City water to Powderhorn for snowmaking. The proposed lease supersedes a similar agreement from 2012 that was for a variety of reasons never carried out.

Powderhorn has recently announced that it has renewed interest in and will make significant investment in snowmaking for the Powderhorn resort. The City's water aggregation system on the slopes of Grand Mesa has sufficient capacity to lease up to 140 acre feet of water for Powderhorn's proposed use. City Utility Director Kim. Water Services Manager Ritterbush, City Manager Caton and City Attorney Shaver have negotiated with Powderhorn and have informally come to terms.

The negotiating team recommends approval of the agreement.

NOW, THEREFORE, BE IT RESOLVED THAT:

The City, by and through the City Council and the signature of its President, does hereby approve, authorize and ratify the terms, covenants, conditions, duties and obligations to be performed by the City and Powderhorn in accordance with the attached agreement and does direct that the City perform under and according to the terms of the agreement.

DATED this 20th day of February 2019.

_____

City Council President *pro tem*

Attest:

_____
Wanda Winkelmann
City Clerk

Agreement

AGREEMENT BETWEEN THE CITY OF GRAND JUNCTION
AND POWDERHORN SKI COMPANY, LLC

This Agreement is made and entered into by and between the City of Grand Junction, hereinafter referred to as the "City" and Powderhorn Ski Company, LLC, hereinafter referred to as "Powderhorn." Collectively the City and Powderhorn may be referred to as the Parties.

A. PURPOSES:

1. Formalize the collaboration and agreement between the Parties for the use by Powderhorn of a maximum of 140, non-interruptible as that concept is defined herein, acre feet per year of the City's municipal water supply for snowmaking, which may be referred to as the Project.

2. Develop and implement a mechanism for continued communication and consultation between the Parties in the processes and practices of drawing and using the water for the Project for the purposes of and in accordance with this Agreement; and

3. The Parties desire to ensure an appropriate level of continued involvement by each party in Project planning and development and compensation to the City.

B. STATEMENT OF MUTUAL BENEFIT AND INTERESTS:

1. The Parties are committed to working together, not as legal partners or joint venturers but as collaborators, to develop the Project that will serve to draw, transport and apply the water, as established by this Agreement, to beneficial use.

2. The Parties recognize and agree that use/development decisions made by one party affect decisions by the other and that in order to accomplish the Purposes of this Agreement, each party will be presumed and reasonably required to act to benefit the other.

3. The Parties further recognize and agree that communication from one party to the other is key to the success of the Project.

C. POWDERHORN SHALL:

1. Use the water supplied pursuant to this Agreement for snowmaking at the Powderhorn ski area. When the approximate locations of the snowmaking equipment are identified, provide a map thereof to the City.

2. Design and construct a pump station, pipeline and other means of drawing and conveying the water from the Anderson Reservoir No. 2. The approximate location of the pump station and pipeline are shown on Attachment A.

3. Pay the cost of construction, installation, operation and maintenance of the necessary pump station, pipeline, electrical service, and other means of drawing, conveying, consuming and as applicable storing the water. Powderhorn shall purchase and pay the cost of installation of a meter(s) that meets City specifications; after installation and acceptance of the meter by the City, the meter shall be and become City property.

4. Powderhorn shall design, construct and install, or cause at its own expense the design, construction and installation of those on-site and off-site improvements necessary or required for the Project. The improvements are set forth in paragraph 6 below (the "Improvements"). The Parties stipulate and agree that the Improvements are not a complete or exhaustive list and shall be amended upon completion of final design.

5. The scope of this Project is such that the City may have to engage independent consultant(s) to adequately provide inspection services; Powderhorn agrees to pay such costs, in addition to all others for which Powderhorn is responsible hereunder; provided, however; inspection service(s) fees shall be reviewed and approved by Powderhorn prior to engagement of consultants. Consultant service(s) shall not start until agreement has been reached on the costs(s) of the

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consultants. The City agrees that it will use consultant services only as reasonably necessary.

6. If Powderhorn desires to obtain the snowmaking water provided hereunder, Powderhorn shall commence work on the below described Improvements within 36 months from the execution date of this Agreement ("Commencement Date"). The deadline will be extended should Powderhorn be delayed by the U.S. Forest Service or other state or federal regulatory agencies by 12 months past the date of final regulatory approval.

    a. Pump station at Anderson Reservoir No. 2, including the connection and valving at the outlet pipe at the base of the dams.

    b. Supply line from Anderson Reservoir No. 2 to the top of chair #1, the Flattop Flyer.

    c. Electrical service from the Grand Valley underground power line running through the U.S. Forest Service managed property, in the same trench as the water line, to the Powderhorn Anderson Reservoir pump house.

    d. Snowmaking distribution line with hydrants from the top of chair #1 down Bill's Run to a connection on the lower mountain to the existing snowmaking system servicing Lower Bill's Run, Lower Peacemaker and the Easy Rider beginner area.

    e. Electrical operating power service along the Bill's Run distribution line including the Easy Rider trails in the beginner area.

7. If Powderhorn commences work on the above described Improvements within 36 months from the Commencement Date, Powderhorn shall complete these Improvements by the end of eighteen months from the Commencement Date; that date is known as the "Completion Date." This time period should account for adverse weather warning of an early winter and still allow enough time the next summer to complete the Project.

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8. Reclaim/revegetate the City-provided temporary construction easement/material storage area upon completion of construction. The City, in consultation with Powderhorn, shall prepare the reclamation/ revegetation plan for Powderhorn's use.

9. At all times use good land stewardship practices, including dust mitigation, erosion control and noxious weed control, on City property that is used by Powderhorn.

10. Notify the City by May 30th of each year, in writing to the person and at the address shown herein, of the acre feet of water that it desires to be stored andit intends to purchase for the Project for the subsequent snowmaking season ("Storage Notice"). In order to ensure availability of water for the Project, Powderhorn may at its option request that the City annually hold up to 140 acre feet of water for Powderhorn's use and benefit.

11. Upon the City's receipt of Powderhorn's Storage Notice by May 30th of each year, the City agrees to store for Powderhorn's use in the subsequent snowmaking season, for a fee of $60.00 per acre foot per year, the amount of water designated by Powderhorn. Stored water, if any, shall be made available for Powderhorn's use for the subsequent snowmaking season as otherwise provided by this Agreement. Powderhorn's failure to notify and/or pay the City the storage fee, shall relieve the City from any obligations to store water for the Project as described in this paragraph.

12. Payments to the City for water stored in accordance with the Storage Notice (as provided in paragraph C-11-13) will be made with the Storage Notice or in any event by May 30th of each year for the amount of water designated by Powderhorn for the snowmaking season to which the Storage Notice pertains. The first payment shall be made in the year the pipeline and pump house are substantially complete and operational.

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13. In addition to the storage fee, pay a per acre foot charge for each and every acre foot of water obtained from the Anderson Reservoirs. The charge per acre foot for the initial year (2019) of the contract will be $168.56. All payments to the City for water used for snowmaking will be made November 1st of each year for the amount of water utilized by Powderhorn. The first year's payment shall be made in the year the pipeline and pump house are substantially complete and operational. Flow meter(s) shall track the water taken from the Anderson Reservoirs to the nearest gallon.

    For each subsequent year, the charges to be paid by Powderhorn for the water obtained from the Anderson Reservoirs shall be adjusted each year by 50% of the Denver-Aurora-Lakewood CPI/U.

D. CITY SHALL:

1. Provide a use easement for the term of this Agreement for the pipe and a temporary construction easement/material storage area for construction staging/construction management ("Easement.") City will also provide a lay down area for construction of the pump house and pipeline which area will be returned to the City in a clean and seeded condition.

    To the extent possible, subject to U.S. Forest Service approval, Powderhorn will design and construct the Easement with the Powderhorn Plunge Connector mountain bike trail. Powderhorn agrees to, during construction and subsequent maintenance of the Easement and infrastructure therein, minimize environmental impact to the surrounding terrain.

2. The water for the Project shall be first made available by the City by October 15 and end on or before April 15 of each year.

3. Volume and dates of availability of water for the Project are assumed and agreed as follows: a) up to 140 acre feet as build out of the snowmaking system; b) build out is not anticipated for ten years; and c) at completion of the first phase of the snowmaking system on or

about November 2019, Powderhorn will require approximately 60 acre feet.

4. Prior to May 30th of each year, the City shall provide an annual reconciliation of the amount of water use paid for (the payment therefor in the previous November) with the actual amount of water consumed during the prior snowmaking season. Such reconciliation shall be made based on the City's flow meter data and will be provided to Powderhorn on or before May 1st of each year. If there is a 1,000 gallon or greater difference between the amount of water consumed by Powderhorn, with consumption determined at meter, and the amount of water paid for by Powderhorn in the previous November, the City will provide a credit for each 1,000 gallon difference against the payment for storage for the subsequent snowmaking season. In the event Powderhorn disputes the City data/reconciliation for any year Powderhorn's remedy shall be prospective in application: Powderhorn may, at its cost, retain a third party testing and verification of the City meter with the results of the testing being provided to the City in the same form as provided to Powderhorn. In the event of a greater than 1,000 gallon discrepancy between the City meter data and the third party verification, City will issue a credit for the difference.

E. BOTH PARTIES SHALL:

1. Cooperate in Project construction decision making especially when the decision(s) has or may have an impact on water quality. That cooperation shall be made and/or given in a manner consistent with the responsibilities and authorities assigned by this Agreement or other applicable law or policy.

2. Work together to achieve maximum benefits from available resources while safeguarding the City's water quantity and quality. Efficiency and effectiveness toward attaining that goal can be made by a reduction in the duplication of effort and working to attain better overall coordination of land and ecosystem management.

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3. Make available, upon request, survey, topography and construction drawings and documentation.

4. During the non-snowmaking months, April 15 through October 15, the Parties may by separate agreement provide for the development of a "pumpback" to, if constructed, provide opportunity to pump water from Powderhorn back to the Anderson Reservoirs, for storage for snowmaking purposes. Any such pumpback would be credited against Powderhorn's non-interruptible reserve. The Parties have not had the opportunity to fully study the pumpback but believe it could benefit them by reducing the amount of water that would need to be reserved for Powderhorn during drought years. The City and Powderhorn agree that the pumpback concept will be studied further and if it is of economic benefit to both entities then this Agreement may be modified to provide a credit against the annual water consumption fee or other mutually agreeable consideration all as determined by separate agreement.

F. IT IS MUTUALLY UNDERSTOOD AND AGREED BY AND BETWEEN THE PARTIES TO:

1. COLORADO OPEN RECORDS ACT (CORA). Any information furnished to the City under or pursuant to this Agreement is subject to disclosure to others under or in accordance with the Open Records Act.

2. NON-EXCLUSIVE USE. This Agreement in no way limits or restricts the City from participating in similar water use projects or activities with other public or private agencies, organizations or persons.

3. COMMENCEMENT/EXPIRATION/TERMINATION. This Agreement takes effect upon the signature of Powderhorn and the City and shall remain in effect for forty (40) years from the date of execution. This Agreement may be extended or amended in writing with assent to the extension or amendment requiring the same approval/formality as was required at the inception of the agreement.

Termination of this Agreement shall occur only for and in the advent of a breach of a material term of this Agreement as the same is defined

herein. Each and every term and condition of sections C, D and E(1), (2) and (3) hereof shall be deemed to be a material term. In the event either party should fail or refuse to perform according to the terms of this Agreement, such party may be declared in default. If a default is declared, notice shall be given by the non-defaulting party to the defaulting party as provided in section 5. After a notice of default is given the defaulting party shall have a reasonable period of time to cure the default. The Parties stipulate and agree for a claimed default that does not credibly present an imminent life, health or safety hazard a reasonable cure period shall be not more than 6 months. In the event the default does credibly present an imminent life, health or safety hazard the cure period shall be as agreed upon by the Parties but in any event not more than 72 hours.

In the event of termination Powderhorn shall be allowed to remove its pump, pump house, pipeline and other Improvements and upon removal shall restore the City property to the condition it existed prior to installation.

4. RESPONSIBILITIES OF PARTIES. Powderhorn and the City and their respective officers, employees and agents shall be responsible for the administration of their activities and the utilization of their resources dedicated to the completion of the Project by and with the expenditure of their own funds. Each party shall carry out its separate activities in a coordinated and mutually beneficial manner.

5. PRINCIPAL CONTACTS. The principal contacts for this instrument are:

City of Grand Junction	Powderhorn
City Manager	General Manager
City of Grand Junction	Powderhorn Ski Co., LLC
250 N. 5th Street	P.O. Box 250
Grand Junction, Colorado 81501	Mesa, Colorado 81643
970-244-1508	970-331-8245

These shall be the persons contracted for purposes of any notice provided for in this Agreement.

6. NON-FUND OBLIGATING DOCUMENT. Nothing in this Agreement shall obligate the City to obligate, appropriate or transfer any funds. Specific work projects or activities that involve the transfer or expenditure of funds will require separate budget approval and be contingent upon the appropriation of funds.

7. AUTHORIZED REPRSENTATIVES. By signature below, the Parties certify that the signatories to the document are authorized to act in all matters related to, arising out of or under this Agreement.

8. ASSIGNABILITY. Powderhorn may assign the rights provided in this Agreement to any successor as owner and/or operator of Powderhorn with the understanding that the new owner or operator must abide by all terms and conditions of this Agreement. Powderhorn shall notify the City in writing of any assignment.

THE PARTIES HERETO have executed this instrument this _____ day of February 2019.

CITY OF GRAND JUNCTION POWDERHORN SKI COMPANY, LLC

_____ _____

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ATTACHMENT A

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Grand Junction City Council

Regular Session

Item #8.a.i.

Meeting Date: February 20, 2019

Presented By: John Shaver, City Attorney

Department: City Attorney

Submitted By: Jamie B. Beard

Information

SUBJECT:

An Ordinance Amending the Municipal Code Regarding Possession or Consumption of Alcohol in Parks and Riverfront Trails, Changing the Hours of Prohibited Park Use, and Including Vaping and the Use of Vape Devices as Prohibited in Workplaces, Public Places, and for Use by Minors

RECOMMENDATION:

Staff recommends adoption of the ordinance.

EXECUTIVE SUMMARY:

In the interest of protecting the health, safety and welfare of citizens, staff has drafted the attached ordinance that proscribes certain activities that may be offensive, harmful or illegal by specifically limiting certain alcohol in certain public places, limiting secondhand exposure to the harmful chemicals created by smoking and the use of electronic smoking devices ("vaporizers" and/or e-cigarettes), and amending park hours.

BACKGROUND OR DETAILED INFORMATION:

Pursuant to Colorado Senate Bill 16-197, 3.2% beer will no longer be sold in Colorado after January 1, 2019. City ordinances currently prohibit consumption of malt, vinous and spirituous liquor alcohol in public places; however, fermented malt beverages (3.2% beer) may be possessed or consumed in public parks and other public places. In order to address the changes in Colorado law, this ordinance clarifies the types of alcohol that will be allowed or disallowed in certain places.

Vaping is a relatively new trend among minors and adults alike and serves as an alternative to smoking traditional cigarettes. Electronic smoking devices (including e-cigarettes) can deliver substances including nicotine, tobacco and marijuana. Studies have shown that e-cigarettes contain high levels of ultra-fine particles associated with respiratory and vascular ailments. In addition, vape substances can include toxic chemicals known to cause cancer. Although the U.S. Surgeon General has said that there is no safe level of secondhand smoke, the effects of secondhand vapor exposure is still unknown.

Vaping is common not only in public places like parks and sidewalks but in and around schools. Current ordinances regulate smoking in public and by minors but do not address vaping. School resource officers have expressed concern regarding enforcement of minors vaping in and around schools. Aside from the negative effects of vaping, much like smoking, it may be displeasing to others.

It has recently been reported by Grand Junction Parks and Recreation staff and law enforcement that there has been an increase in vandalism and damage to property in the City parks. As a result, City staff has reviewed park hours and recommended changes that may help decrease the vandalism.

FISCAL IMPACT:

None directly attributable to the ordinance/its adoption.

SUGGESTED MOTION:

I move to (adopt/deny) Ordinance No. 4832 - an ordinance to amend Chapter 12.04, Chapter 12.06, and Chapter 12.08 of the Grand Junction Municipal Code regarding possession or consumption of alcohol in parks and Riverfront Trails and to change the hours of prohibited park use and to amend Chapters 8.20 and 9.04 to include vaping and the use of vape devices as prohibited in workplaces, public places, and for use by minors on final passage and order final publication in pamphlet form.

Attachments

1. ORD-Smoking - alcohol - parks ordinance - final 121118 (1)

CITY OF GRAND JUNCTION, COLORADO

ORDINANCE NO. _____

AN ORDINANCE TO AMEND CHAPTER 12.04, CHAPTER 12.06, AND CHAPTER 12.08 OF THE GRAND JUNCTION MUNICIPAL CODE REGARDING POSSESSION OR CONSUMPTION OF ALCOHOL IN PARKS AND RIVERFRONT TRAILS AND TO CHANGE THE HOURS OF PROHIBITED PARK USE AND TO AMEND CHAPTERS 8.20 AND 9.04 TO INCLUDE VAPING AND THE USE OF VAPE DEVICES AS PROHIBITED IN WORKPLACES, PUBLIC PLACES, AND FOR USE BY MINORS

RECITALS:

This ordinance regarding possession or consumption of alcohol in parks and Riverfront Trails, to prohibit smoking, including marijuana, and vaping in public places and to amend park hours serves to protect the health, welfare and safety of citizens by proscribing certain activities that are or may be offensive, harmful or illegal. Specifically limiting secondhand exposure to the harmful chemicals created by smoking and the use of electronic smoking devices ("vaporizers" and/or e-cigarettes) as well as affirming that smoking of marijuana is illegal in public and that the public consumption of certain alcohol in certain public places is improper.

Concerning vaping, the U.S. Surgeon General has said there is no safe level of exposure to secondhand smoke and that even brief exposure can be harmful to health. Though much is still unknown about the effects of secondhand vapor exposure, the aerosol emitted by the user of an e-cigarette has been shown to contain high levels of ultra-fine particles associated with respiratory and vascular ailments, as well as toxic chemicals known to cause cancer. As well, vaping much like smoking, may be displeasing to others.

Pursuant to Colorado law (SB 16-197) 3.2% beer (also known as fermented malt beverages) will not be sold in Colorado after January 1, 2019. Current law prohibits public consumption of alcohol in public places; however, fermented malt beverages may by City rule be possessed/consumed in some public parks and places. In order to address the changes in the law, this ordinance addresses the types of alcohol that with passage of the ordinance will be allowed/disallowed.

In the course of preparing updates to the laws regarding smoking/vaping and alcohol in parks, the City staff reviewed park hours and has recommended changes to the same. The City parks have suffered from increased vandalism and it anticipated that modification of the hours parks are open may help to improve the problem.

NOW THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF GRAND JUNCTION THAT:

Chapters 12.04, 12.08, 12.16, 8.20, 9.04, and 12.08 shall be revised as follows (additions are shown in **bold print** and deletions marked with ~~strike through~~ notations):

12.04.050 Drinking alcoholic beverages in parks; use of glass containers ~~in grassed areas~~ prohibited.

(a) It shall be unlawful for any person to possess or drink any spiritous liquors in the City in any park which is either publicly or privately owned and used by the public unless such possession and consumption is pursuant to and in accordance with a special events permit issued in accordance with C.R.S. 44-5-101 *et seq.* or such place is a part of the premises designated under a valid license issued pursuant to state law and the consumption is otherwise lawful; malt and/or vinous liquors may be consumed by persons of lawful age and other applicable law.

(b) It shall be unlawful for any person to possess or drink any malt, vinous, or spiritous liquors in Emerson Park and Hawthorne Park, which are owned by the City and used by the public, unless such possession and consumption is pursuant to and in accordance with a special events permit issued in accordance with C.R.S., 44-5-101 *et seq.* or such place is a part of the premises designated under a valid license issued pursuant to state law and the consumption is otherwise lawful.

(c) No person shall drink from or use glass containers ~~on the grassed areas of~~ in any park.

12.04.015 Hours classification system.

(a) The City Council of the City of Grand Junction hereby establishes the following classifications and hours of prohibited park use for each classification:

(1) ~~Midnight~~ **11:00 P.M.** – 5:00 A.M.: Community, regional and neighborhood parks with formal programmable sports facilities.

(2) ~~10:30~~ **10:00** P.M. – 5:00 A.M.: Neighborhood and mini parks.

(3) 10:00 P.M. – 5:00 A.M.: Open space and undeveloped parks and properties.

(4) 10:00 P.M. – 5:00 A.M.: Cemeteries.

(5) 10:00 P.M. – 5:00 A.M.: School IGA sites (except during school hours).

(b) The City Council of the City of Grand Junction hereby authorizes and directs the City Manager to classify each City park **pursuant to the classifications in section 12.04.015(a)(1-5)** at the time of acquisition, or development, when the principal use or function of the park changes, or as needed to address vandalism or similar operational concerns. The City Manager may defer any such classification decision to the City Council as he deems necessary.

(c) ~~The classification system attached to the ordinance codified in this section is hereby approved~~. The City Manager is hereby delegated the power and duty to amend the classification system as he deems necessary from time to time, by administrative regulation. The City Manager may defer any changes to the ~~attached~~ classification system to the City Council as he deems necessary.

(d) "Community," "regional," "neighborhood," "mini" parks are defined or distinguished by reference to the current City-adopted Parks Master Plan.

(e) All School IGA sites shall be closed to the public during school hours unless attendance is approved for the public at school related activities and/or activities approved by the Mesa County Valley School District that are held on the premises of such site(s).

~~(e)~~ **(f)** This section shall be in full force and effect upon its adoption; however, no criminal charges shall be issued or filed based on any changes from prior practices until adequate notice is posted on the park, open space, cemetery or other site.

12.16.100 Drinking of alcoholic beverages in public ways; use of glass containers ~~in grassed areas~~ prohibited.

(a) It shall be unlawful for any person to possess or drink any malt, vinous, or spirituous liquors in the City, in or on any public street, road, highway, ~~park~~ or public way which is either publicly or privately owned and used by the public, unless such possession and consumption is pursuant to and in accordance with a special events permit issued in accordance with C.R.S. § ~~12-48-101~~ **44-5-101** *et seq.* or such place is a part of the premises designated under a valid license issued pursuant to state law and the consumption is otherwise lawful.

(b) No person shall drink from or use glass containers when consuming alcohol in public places.

~~(b) No person shall drink from or use glass containers on the grassed areas of any park.~~

8.20.020 Smoking in workplaces and public places.

(a) Definitions. The following words and phrases, whenever used in this section, shall have the following meanings:

Bar means an area which is devoted to the serving of alcoholic beverages for consumption by guests on the premises and in which the serving of food is only incidental to the consumption of such beverages.

Bingo hall means any enclosed area used for the management, operation or conduct of a game of bingo by any organization holding a license to manage, operate or conduct games of bingo pursuant to Colorado law and in which food service for consumption on the premises is incidental to the games of bingo.

Bowling alley means a business open to the public which offers the use of bowling lanes, typically equipped with operable automatic pin setting apparatus and in which food service for consumption on the premises is incidental to bowling and related activities.

Business means any sole proprietorship, partnership, joint venture, corporation or other entity formed for profit-making or nonprofit purposes, including retail establishments where goods or services are sold, as well as professional corporations and limited liability companies. *Business* includes entities where legal, accounting, financial, planning, medical, dental, engineering, architectural or other services are delivered.

***Electronic smoking device* means an electric or battery-operated device, which can be used to deliver substances, including but not limited to, nicotine, tobacco, or marijuana, to the person using such device. Electronic smoking devices shall include, without limitation, electronic cigarettes, cigars, cigarillos, pipes, and hookahs.**

Employee means any person whether such person is referred to as an employee, contractor, independent contractor, volunteer or by any other designation who:

(1) Performs any type of work for benefit of another in consideration of direct or indirect wages or profit; or

(2) Provides uncompensated work or services to a business or nonprofit entity.

Employer means any person, partnership, association, corporation, or nonprofit entity that employs one or more persons.

Enclosed area means all space between a floor and ceiling within a structure or building which is closed in on all sides by solid walls, doors or windows which extend from the floor to the ceiling.

Indoor area means any enclosed area or portion thereof. The opening of windows or doors, or the temporary removed of wall panels, does not convert an indoor area to an outdoor area.

***Lighted* means to illuminate by electricity, battery or fire; to ignite by electricity, battery or fire; to burn by electricity, battery or fire; or to emit light by electricity, battery or fire.**

Marijuana (which may alternatively be spelled as "marihuana") shall have the same meaning as set forth in Article XVIII, Section 16 of the Colorado Constitution or as may be more fully defined in any applicable State law or regulation.

Person means a natural person or any entity or business recognized by law or formed to do business of any sort.

Place of employment means any indoor place and any public place or portion thereof under the control of an employer in which employees of the employer perform services for, or on behalf of, the employer.

Private club means any establishment which restricts admission to members of the club and their guests. See *Public place*.

Private function means any activity which is restricted to invited guests in a nonpublic setting and to which the general public is not invited.

Public meetings means any meeting open to the public pursuant to Part 4 of Article 6 of Title 24, C.R.S., or any other applicable law.

Public place means any area to which the public is invited or in which the public is permitted, including but not limited to banks, educational facilities, schools, health facilities, laundromats, parks, trails and public open space, public transportation facilities including bus stations and stops, taxis, shelters, airports, train stations, reception areas, restaurants, retail food production and marketing/grocery establishments, retail service establishments, retail stores, theaters and waiting rooms. A private club is considered a *public place* when functions are held at the club which are open to the general public and are not restricted to the members of the club. A private residence is not a *public place* except during times when it is being used as a child care, adult care or health care facility.

Restaurant means a business in which the principal business is the sale of food or meals prepared on-site, typically for consumption on-site. Examples of restaurants, without limitation, are coffee shops, cafeterias, sandwich stands, private or public school

or other cafeterias, and other eating establishments which give or offer food for sale to the public, guests, or employees, as well as kitchens in which food is prepared on the premises for serving elsewhere, including catering facilities.

Retail tobacco store means a business utilized primarily for the sale of tobacco and accessories and in which the sale of other products is incidental.

Service line means any indoor or outdoor line at which one or more persons are waiting for or receiving service of any kind, whether or not such service involves the exchange of money.

Smoke or *smoking* means **and includes, but is not limited to**:

1) the carrying or possession of a **smoking instrument** ~~a lighted cigarette, lighted cigar or lighted pipe of any kind, and includes lighting of a pipe, cigar, cigarette, tobacco, weed or other combustible plants~~ **in one's mouth for the purpose of inhaling or exhaling smoke or vapor or blowing smoke or vapor rings;**

2) **the placing of a lighted smoking instrument in an ashtray or other receptacle, and allowing smoke or vapor to diffuse in the air;**

3) **the possession, carrying or placing of a lighted smoking instrument in one's hands or any appendage or device and allowing smoke or vapor to diffuse in the air; or**

4) **the inhaling or exhaling of smoke or vapor from a lighted smoking instrument.**

***Smoking instrument* means an instrument of any kind which can be used to deliver substances, including but not limited to nicotine, tobacco, marijuana, or any other substance, or combination thereof, to the person using such instrument. Smoking instrument shall include, without limitation, cigarettes, cigars, cigarillos, pipes and hookahs. Smoking instrument shall specifically include electronic smoking devices.**

Smoke-free means that air in an enclosed area is free from smoke caused by smoking.

Sports arena means sports pavilions, gymnasiums, health spas, boxing arenas, swimming pools, roller and ice rinks, bowling alleys and other similar places where members of the general public assemble either to engage in physical exercise, participate in athletic competition, or witness sports events.

Structure is defined in the International Building Code, including the International Residential Code, ("IBC") as adopted by the City from time to time. The term *structure* includes the term *building*, also defined by the IBC.

Tobacco is defined in § 25-14-203(17), C.R.S.

Work area means an enclosed area in which one or more employees are routinely assigned and perform services for or on behalf of the employer.

(b) Application to City Property**.** All enclosed areas and motor vehicles that are owned or leased by the City shall be subject to the provisions of this section as though such areas and vehicles were public places.

(c) Prohibition of Smoking in Public Places and Indoor Areas.

(1) Except as provided herein, smoking shall be prohibited in all public places and indoor areas within the City, including, but not limited to, the following:

(i) Elevators.

(ii) Restrooms, lobbies, reception areas, hallways and any other common-use areas.

(iii) Buses, taxicabs, other means of public transit while operating within the City limits, and ticket, boarding and waiting areas of public transit systems including stops, bus benches, shelters and depots.

(iv) Service lines.

(v) Retail stores.

(vi) All areas available to and customarily used by the public in all businesses and nonprofit entities patronized by the public, including, but not limited to, professional and other offices, banks, and laundromats.

(vii) Restaurants and bars except that smoking is allowed in outdoor seating areas of restaurants and bars that are not enclosed and are not under a roof or a projection of a roof as defined by the IBC as a *roof assembly*, such as patios, and any person smoking is at least 15 feet from the front or main doorway.

(viii) Aquariums, galleries, libraries, museums and similar facilities.

(ix) Any structure primarily used for exhibiting any motion picture, stage, drama, lecture, musical recital or other similar performance.

(x) Sports arenas whether enclosed or outdoors.

(xi) Public meeting places.

(xii) Health care facilities including hospitals, clinics, therapists' offices and facilities, physical therapy facilities, doctors' offices, dentists' offices and the offices and facilities of other health care providers.

(xiii) Restrooms, lobbies, hallways, and other common areas in public and private buildings including but not limited to apartment buildings, condominiums, trailer parks, retirement facilities, nursing homes, and other multiple-unit residential facilities.

(xiv) Billiard or pool halls.

(xv) Polling places.

(xvi) Facilities in which games of chance are conducted, including but not limited to bingo halls.

(xvii) To the extent not otherwise provided in § 25-14-103.5, C.R.S., public and nonpublic schools.

(xviii) Other educational and vocational institutions.

(xix) Restrooms, lobbies, hallways, and other common areas in hotels and motels, and in at least 75 percent of the sleeping quarters within a hotel or motel that are rented to guests.

(xx) Any place of employment that is not exempted in subsection (f) of this section.

(xxi) The indoor area of a private club. Smoking is allowed in the outdoor areas of a private club, except where otherwise prohibited in this section.

(2) Notwithstanding any other provision of this section, any person or business who controls any business or facility may declare that entire establishment, facility or grounds as smoke-free.

(d) Smoke-Free Workplace**.** In the case of employers who own facilities otherwise exempted by subsection (f) of this section, each such employer shall provide a smoke-

free area for each employee requesting a smoke-free area. Every employee shall have the right to work in a smoke-free area.

(e) Smoke-Free Exits and Entrances**.** Smoking shall not occur in or so close to exterior exits or entrances that the free flow of pedestrian traffic may be affected or so close that the operation of the doors, exits or entrances is affected or diminished. No smoking shall occur within 15 feet of the front or main doorway leading into a building or facility.

(f) Where Indoor Smoking Is Not Prohibited.

(1) Notwithstanding any other provision of this section to the contrary, the following areas shall be exempt from the prohibition contained in subsection (c) of this section:

(i) Private homes and residences; except when used as a child care, adult day care or health care facility.

(ii) Retail tobacco stores.

(iii) Private vehicle, except if the private vehicle is being used for the public transportation of children or as part of health care or day care transportation.

(iv) A hotel or motel room rented to one or more guests if the total percentage of such hotel or motel rooms in such hotel or motel does not exceed 25 percent.

(v) A place of employment that is not open to the public and that is under the control of an employer that employs three or fewer employees.

(vi) A private, nonresidential building on a farm or ranch, as defined in § 39-1-102, C.R.S., that has annual gross income of less than $500,000.

(2) Notwithstanding any other provision of this section, any owner, operator, manager or other person who controls any establishment described in this subsection (f) may declare that entire establishment, facility, or grounds as smoke-free.

(g) Signs**.**

(1) Each owner, operator, manager and other person having control of an enclosed area or public place subject to the provisions hereof shall be jointly and severally responsible to clearly and conspicuously post:

(i) “No Smoking” signs or the international “No Smoking” symbol (consisting of a pictorial representation of a burning cigarette enclosed in a circle with a bar across it) in every public entrance or other areas where smoking is prohibited by this section.

(ii) In public places where smoking is allowed pursuant to this section, a sign with the words “Smoking is Allowed Inside” at each public entrance to, or in a position clearly visible on entering, the enclosed area in which smoking is permitted.

(2) All signs referred to in this subsection (g) shall be a minimum size of 20 square inches and must be placed at a height of between four and six feet above the floor.

(3) All signs at public parks or unenclosed public places shall be visible to persons entering from the primary entrance or shall be posted at reasonable intervals along the property boundary. The primary entrance shall be referred to as the location where a sign identifies the park name, hours it is open to the public and other rules and regulations. For purposes of this section, “reasonable intervals” shall be presumed to be no less than 300 feet.

(h) Optional Prohibitions**.** The owner or manager of any place not specifically listed in subsection (c) of this section, including a place otherwise exempted in subsection (f) of this section, may post signs prohibited smoking or providing smoking and nonsmoking areas. Such posting shall have the effect of including such place, or the designated nonsmoking portion thereof, in the places where smoking is prohibited pursuant to this section.

(i) No Retaliation**.** No person or employer shall discharge, refuse to hire or retaliate in any manner against any employee, applicant for employment, or customer because such employee, applicant, or customer exercises any right to, or complains about the lack of, a smoke-free environment afforded by this chapter.

(j) Violations and Penalties**.**

(1) It shall be unlawful for any person or business that owns, manages, operates or otherwise controls the use of any premises, enclosed area, public place, or place of employment subject to regulation under this section to fail to comply with any of its provisions.

(2) It shall be unlawful for any person to smoke in any area where smoking is prohibited by the provisions of this section.

(3) Each violation of any provision of this section shall be deemed to be a separate violation. Each day shall be treated as a separate violation for continuing violations of subsections (d), (g) and (i) of this section.

(k) Other Applicable Laws**.** This section shall not be interpreted or construed to permit smoking where it is otherwise restricted by other applicable laws.

(l) Severability**.** If any provision, clause, sentence or paragraph of this section or the application thereof to any person or circumstances shall be held invalid, such invalidity shall not affect the other provisions of this section which can be given effect without the invalid provision or application, and to this end the provisions of this section are declared to be severable.

9.04.210 Regulation of tobacco products.

(a) **Definitions.** For the purposes of this section, the following words or phrases shall have the meanings set forth.

(1) *Tobacco product* ~~means any substance containing tobacco leaf, including, but not limited to, cigarettes, cigars, pipe tobacco, snuff, chewing or dipping tobacco.~~ **shall include, but is not limited to, cigars, cigarillos, chewing tobacco, pipe tobacco, roll-your-own tobacco, snus, bidi, snuff, tobacco-containing shisha, and dissolvable tobacco product. Tobacco product shall also include electronic smoking devices that deliver substances to the user by turning liquid into vapor that is inhaled. Electronic smoking devices include but are not limited to electronic cigarettes, cigars, cigarillos, pipes, and hookahs.** This definition does not include any products that the Food and Drug Administration of the United States Department of Health and Human Services has approved as a tobacco use cessation product.

(2) *Smoking* means**, but is not limited to:** ~~the carrying or possession of a lighted cigarette, cigar, pipe, and includes lighting of the same.~~

a) the carrying or possession of a smoking instrument in one's mouth for the purpose of inhaling or exhaling smoke or vapor or blowing smoke or vapor rings:

(b) the placing of a lighted smoking instrument in an ashtray or other receptacle, and allowing smoke or vapor to diffuse in the air;

(c) the possession, carrying or placing of a lighted smoking instrument in one's hands or any appendage or device and allowing smoke or vapor to diffuse in the air; or

(d) the inhaling or exhaling of smoke or vapor from a lighted smoking instrument.

(3) *Self service display* means any retail tobacco display to which customers have direct physical access, including cigarette vending machines.

(4) *Minor* means any person under the age of 18.

(5) *Vending machine* means any mechanical, electric or electronic self-service device which, upon insertion of money, tokens or other form of payment, dispenses a tobacco product.

(6) *Smoking instrument* means an instrument of any kind which can be used to deliver substances, including but not limited to nicotine, tobacco, marijuana, or any other substance, or a combination thereof to the person using the instrument. Smoking instrument shall include, but not limited to, cigarettes, cigars, cigarillos, pipes and hookahs. Smoking instrument shall include electronic smoking devices.

(7) *Lighted* means to illuminate by electricity, battery, or fire; to ignite by electricity, batter or fire; to burn by electricity, battery or fire; or to emit light by electricity, battery or fire.

(8) *Electronic smoking device* means an electric or battery-operated device, which can be used to deliver substances, including but not limited to, nicotine, tobacco, or marijuana, to the person using such device. Electronic smoking devices shall include, without limitation, electronic cigarettes, cigars, cigarillos, pipes, and hookahs. An electronic smoking device includes any component, part or accessory of such device whether or not sold separately, regardless of nicotine content or any other substance intended to be vaporized for human inhalation during the use of the device.

(b) Possession and Use of a Tobacco Products by Minors.

(1) It shall be unlawful for any minor to knowingly possess, consume, or use, either by smoking, ingesting, absorbing, **vaping** or chewing, any tobacco product.

(2) It shall be unlawful for any minor to knowingly obtain or attempt to obtain any tobacco product by misrepresentation of age or by any other method.

(3) It shall be rebuttably presumed that the substance within a package or container is a tobacco product if the package or container has affixed to it a label which identifies the package or container as containing a tobacco product.

(c) Furnishing Tobacco Products Prohibited.

(1) Any person who knowingly furnishes any tobacco product to any minor by gift, sale, or any other means commits a violation hereof.

(2) It shall be an affirmative defense to a prosecution under this section that the person furnishing the tobacco product was presented with and reasonably relied upon a document which identified the person receiving the tobacco product as being 18 years of age or older.

(d) **Vending Machines.** It shall be unlawful for any person to sell a tobacco product by use of a vending machine or other coin-operated machine; except that cigarettes may be sold at retail through vending machines only in:

(1) Factories, businesses, offices, or other places not open to the public; or

(2) Places to which minors are not permitted access.

(e) Retail Sale of Tobacco Products.

(1) It shall be unlawful for any business proprietor, manager, or other person in charge or control of a retail business of any kind to engage, employ or permit any minor to sell any tobacco product from such retail business.

(2) It shall be unlawful for any business proprietor, manager or other person in charge or control of a retail business of any kind to use a self-service display of tobacco products or stock a tobacco product in any way which allows a customer to access such tobacco product without first securing the physical assistance of an adult business employee for each transaction. The provisions of this subsection (e)(2) shall not apply to stores possessing a valid retail liquor store license, as defined by the Colorado Liquor Code, issued by the City and to vending machines meeting the requirements of subsection (d) of this section.

(3) Any person who sells or offers to sell any cigarettes or tobacco products at retail shall display a warning sign, as specified in this subsection.

(4) Said warning sign shall be displayed in a prominent place in the building and on such machine at all times and shall have a minimum height of three inches and a width of six inches, and shall read as follows:

WARNING:

IT IS ILLEGAL FOR ANY PERSON UNDER EIGHTEEN YEARS OF AGE TO PURCHASE OR POSSESS CIGARETTES AND TOBACCO PRODUCTS. UPON CONVICTION A FINE OF UP TO $500 PLUS NOT

MORE THAN 48 HOURS OF USEFUL PUBLIC SERVICE MAY BE IMPOSED.

(f) **Sale of Single Cigarettes Prohibited.** It shall be unlawful for any business proprietor, manager or other person in charge or control of a retail business of any kind to sell or offer to sell single cigarettes or any pack of cigarettes containing fewer than 20 cigarettes.

(g) **False or Altered Identification.** It shall be unlawful for any person under the age of 18 years of age to misrepresent that person's identity or age, or use any false or altered identification for the purpose of purchasing any tobacco product.

(h) **Penalty.** Any person who violates any provision hereof is guilty of a petty offense and upon conviction shall be subject to:

(1) A fine of up to $50.00 for the first offense; a fine of up to $100.00 for the second offense; a fine of up to $500.00 for a third offense; and up to $1,000 for each subsequent offense; and one year in jail;

(2) Except that a minor shall not be subject to any jail time but may be required to pay a fine not to exceed $500.00, as provided, and may be required to perform not more than 48 hours useful public service (which may include educational efforts or programs) or any combination of fine, public service and education.

(i) **Savings Clause.** Should any provision of said ordinance be found by a court of competent jurisdiction to be unconstitutional or otherwise unenforceable, the rest of the provisions hereof shall remain in full force and effect.

12.08.050 Regulations.

(a) The Parks and Recreation Advisory Board shall propose for adoption by the City Council necessary and reasonable rules and regulations applicable to the use of the riverfront trails, those areas adjacent to the trails and the bodies of water which are owned or controlled by the City and/or the Riverfront Commission, which may be accessed from or are near the trails. The City Council may amend or add to those regulations as may be necessary from time to time to carry out the intent of the Parks Board and/or the intent of the Council.

(b) The City Manager shall cause one certified copy of the regulations adopted under this section, together with the most recent amendments thereto, to be filed with the City Clerk. The City Manager shall make available additional copies at the Office of Parks and Recreation for review by the general public.

(c) The adopted regulations shall have the force and effect of law with respect to all persons who use or visit any of the riverfront trails.

(d) The riverfront regulations promulgated hereunder shall include, but not necessarily be limited to, prohibiting motorized vehicles, except wheelchairs and motorized bicycles as otherwise , maintenance of emergency vehicles, on the trails; prohibiting boats, vessels or craft in the waterways; closing the trails at set times; prohibiting glass containers; prohibiting the possession, consumption or use of ~~malt beverages containing more than 3.2 percent alcohol by weight~~, ~~spirituous or vinous liquor~~, requiring animals to be leashed; prohibiting animals or animals of certain species; and allowing camping, vending or commercial activities by permit only.

(e) After review by the Parks and Recreation Advisory Board, but prior to recommendation of adoption by the Board, any and all regulations shall be submitted to the City Council for its comments, consideration and concurrence, if any.

Introduced on first reading the 19th day of December, 2018 and ordered published in pamphlet form.

Adopted on second reading this_____day of_____2019 and ordered published in pamphlet form.

ATTEST: _____
Mayor Pro Tem

_____
Wanda Winkelmann
City Clerk

CITY OF GRAND JUNCTION

PARKS CLASSIFICATION

December 2018

Classification of Each City Park and Hours

During Which Public Use or Access Is Prohibited

11:00 P.M. – 5:00 A.M. Community/Regional & Neighborhood Parks with formal programmable sports facilities.

Park

Canyon View

Columbine

Las Colonias

Lincoln

Matchett

10:00 P.M. – 5:00 A.M. Neighborhood and Mini Parks

Park

Autumn Ridge

Cottonwood Meadows

Darla Jean

Desert Vista

Dixson

Duck Pond Orchard Mesa

Duck Pond Ridges

Eagle Rim

Emerson

Hawthorne

Hidden Valley

Hillcrest

Honeycomb

Lilac

Rocket

Paradise Hills

Pineridge

Riverside

Shadow Lake

Sherwood

Spring Valley I

Spring Valley II

Tot Lot – Ridges

Washington

Westlake, including Skate Park

Whitman

Williams

10:00 P.M. – 5:00 A.M. Open Spaces and Undeveloped Parks

<u>Open Space</u>

Ridges Open Space

<u>Undeveloped</u>

Burkey – North

Burkey – South

Flint Ridge

Horizon

Saccommano

10:00 P.M. – 5:00 A.M. Cemeteries

Site

Crown Point Cemetery

Municipal Cemeteries (Orchard Mesa)

10:00 P.M. – 5:00 A.M. School District IGA Sites
(except during school hours)

Site

Bookcliff Middle School

Chipeta Elementary School

East Middle School

Orchard Mesa Middle School

Pear Park Elementary School

Pomona Elementary School

(including Kronkright Softball Complex)

West Middle School

Wingate Elementary School

Riverside Educational Center
After School Tutoring and Enrichment

Dear Grand Junction City Council Members,

My name is Joy Hudak and I work at the Riverside Educational Center (REC). REC has been serving disadvantaged students in the afterschool hours since 2006. We are now at nine locations and anticipate serving 450 students this academic year.

We appreciate your leadership in the community and noticed the proposal to expand the tobacco and vape free locations in Grand Junction. Research shows local laws requiring public places to be smoke free reduce the number of kids who begin to use tobacco products. Smoke free laws protect the public from the harmful toxins found in secondhand smoke, encourage smokers to quit, and prevent kids from starting to smoke.

We are supportive of the proposed ordinance, but are concerned with the punishment kids can face. We do not support punishing kids who are in the possession of tobacco/tobacco products. Through our programming, we have seen the downhill spiral of students who get in trouble with the law with misdemeanors. The families do not have the resources to pay court fees. Kids lose hope when they are not able to complete their probation and risk further trouble if they don't. The generational poverty cycle repeats as students face trouble with the law and further risk their academic success and opportunities.

There are many evidence-based interventions proven to be effective against youth tobacco use. We ask the City Council to consider one of these interventions. It is critical we focus on reducing the tobacco and vape epidemic our youth are fighting every day without risking their entire future for a poor decision when they are young.

Thank you for your support and please reach out if you have any questions.

Most Sincerely,

Joy Hudak, Executive Director
Riverside Educational Center
PO Box 4367, Grand Jct, CO 81502
(970) 589-5039, joy@rec4kids.com

MESA COUNTY
PUBLIC HEALTH
Working Together for a Healthy Community

P.O. Box 20,000
Grand Junction, CO 81502-5033
(970) 248-6900
www.health.mesacounty.us

Dear Mr. Caton:

Thank you for taking a leadership role to help address the vaping epidemic and prevent an entire generation from a lifetime of nicotine addiction. Mesa County Public Health (MCPH) strongly supports adding vaping and the use of vape devices as prohibited in workplaces and public places in local ordinances 8.20 and 9.04. Thirty-one percent of Mesa County high school students are currently using an e-cigarette or vaping device, and 60 percent say "it's easy" to get e-cigarettes.[1] The vaping epidemic is hitting Colorado and the rest of the United States.

Ensuring that all public places are smoke and vape free goes a long way to helping our youth win the battle against nicotine. Research shows that local laws that require public places to be smoke free reduce youth initiation. The National Cancer Institute monograph from December 2016 affirms that, smoke free laws protect the public from the harmful toxins found in secondhand smoke, encourage smokers to quit and prevent kids from starting to smoke.[2]

Based on conversations we've had with Colorado Department of Public Health and Environment (CDPHE) regarding best practices in other communities, we'd like for you to consider the following changes to the proposed Ordinance.

We recommend that section *9.04.210 (b) Possession and use of tobacco products by minors* be struck from the ordinance.

Often Minor in Possession (MIP) laws are passed with the intention of reducing youth smoking and vaping by making kids more personally responsible for buying and using tobacco and nicotine products. However, MIP laws have not been proven to be an effective strategy for reducing youth tobacco and nicotine use; and some experts argue that these laws could actually detract from more effective enforcement measures and tobacco control efforts.[3] MIP laws also unfairly punish and stigmatize children, many of whom became addicted at a young age as a result of the tobacco industry's aggressive marketing to kids. In this way, MIP laws shift the blame from the tobacco and vape industry's predatory behavior and irresponsible retail practices onto children. MIP laws do not address the reasons WHY youth are using tobacco and vape. Many youth smokers are addicted, making it difficult for them to quit, and some research suggests that penalizing youth could deter them from seeking support for cessation.

Youth access to tobacco-based products can and should be controlled through higher unit prices for tobacco and vape products, expansion of smoke free policies, strong and well-enforced point of sale laws, and comprehensive tobacco prevention and cessation programs. We strongly urge the City Council to look to one of these interventions. It is critical that we focus on interventions that will significantly reduce the tobacco and vape epidemic our youth are fighting every day.

We recommend that language is added to the definition of Tobacco Products in section 9.4.210(a)(1) as follows: *"however, that such term does not include any product that has been approved by the U.S. Food and Drug Administration pursuant to its authority over drugs"*

This change ensures that any electronic smoking device that is used indoors is an F.D.A. approved cessation device. As the language reads now there is concern that *any device that is used for the purpose of helping a person stop smoking* is permitted.

We recommend that you update the reference for the definition of Tobacco from 25.14.203(17) to its current citation of 18.13.121 CRS. We recommend that you utilize standardized, best practice definitions.

Hundreds of communities across the country have taken action at the local level to address tobacco use. This standardization has led to a uniform approach for defining common tobacco control terms. Please see the attached document for the recommended definitions for electronic smoking device, smoking, smoke, and tobacco and nicotine product.

The changes in this ordinance are critical in the battle against nicotine in order to prevent youth use, encourage tobacco users to quit, and protect all Grand Junction residents from exposure to secondhand smoke.

Sincerely,

Jeff Kuhr, PhD
Executive Director
Office: 970-248-6974
Cell: 970-773-4578
Jeff.Kuhr@mesacounty.us

cc: City Council, City Attorney, City Clerk

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[1] Healthy Kids Colorado Survey, 2017.

[2] U.S.National Cancer Institute and World Health Organization, The Economics of Tobacco and Tobacco Control.National Cancer Institute Tobacco Control Monograph 21. NIH Publication No. 16-CA-8029A. Bethesda, MD: U.S.Department of Health and Human Services, National Institutes of Health, National Cancer Institute; and Geneva, CH: World Health Organization; 2016

[3] Wakefield, M, and Giovino, G, "Teen penalties for tobacco possession, use, and purchase: evidence and issues," *Tobacco Control,* 12(SuppII):i6-i13, 2003; Jason, LA, et al., "Youth Tobacco Sales-to-Minors and Possession-Use-Purchase Laws: A Public Health Controversy," *J Drug Education,* 35(4):275-290, 2005e

Tobacco in Mesa County

Tobacco product is defined in Colorado Statute as "*Any product that contains nicotine or tobacco or is derived from tobacco and is intended to be ingested or inhaled by or applied to the skin of an individual.*" This includes traditional tobacco products such as cigarettes, smokeless tobacco like chew, and electronic vapor products. Tobacco continues to be the leading preventable cause of death in the United States, killing a half million people each year. Attitudes about and access to tobacco products impact youth initiation, quit rates, and secondhand smoke exposure. Tobacco use is a community concern that is most effectively impacted by a community response.

Key Takeaways

Traditional Tobacco Use

- A higher percent of adults still smoke cigarettes in Mesa County compared with the state.
- More adult and high school males use smokeless tobacco products compared with the state.
- Mesa County has seen a decrease in pregnant women who report smoking during pregnancy (a trend also seen at the state level).
- In 2017, chronic lower respiratory disease and other diseases of the respiratory system were two of the top ten causes of death in Mesa County.

Vaping

- Electronic vapor products are the second most commonly used substance by high school students.
- Most high school students think vaping is not harmful.
- Youth who vape are four times more likely to smoke cigarettes.

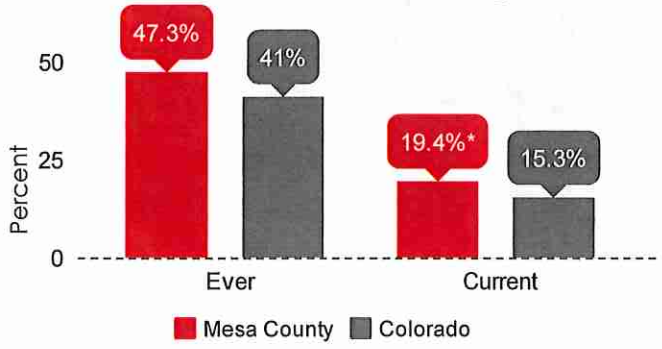
Tobacco Policy

- Most Mesa County students are getting vape products from the Internet or an unspecified source, such as peers.
- Colorado has one of the lowest taxes on cigarettes.
- Nicotine vape products are not taxed in Colorado.

Traditional Tobacco Use

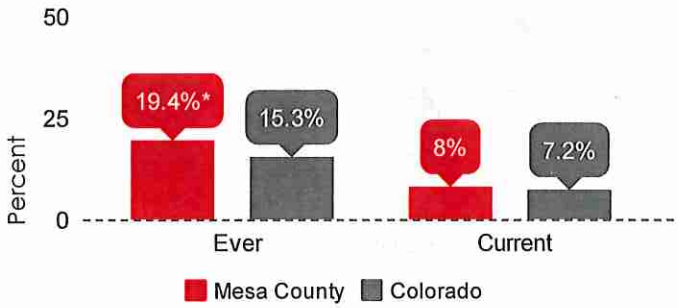
Traditional tobacco products include cigarettes, smokeless tobacco like chew, and cigars. These traditional products kill up to half of their lifetime users. Cigarettes contain approximately 70 cancer-causing chemicals. Smoking harms nearly every organ in the body and causes cancer, heart disease, stroke, lung diseases, diabetes, and chronic obstructive pulmonary disease (COPD). Smoking can also make chronic medical conditions worse. Smokeless tobacco products contain 28 cancer-causing chemicals that have been shown to increase the risk of oral cancer and contain more nicotine than cigarettes. One can of chew is equivalent to three packs of cigarettes.

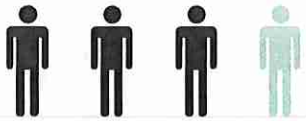
Percent of Adults Who Use Cigarettes in Mesa County and Colorado, 2015-2017 (average)



*Significantly higher than the state

Percent of High School Students Who Use Cigarettes in Mesa County and Colorado, 2017





Only **3** in **4** Mesa County high school students (76%) think youth cigarette use is wrong.*

*Significantly worse than the state (82%)

Death rates:

Chronic lower respiratory disease, 2017

56.5 per 100,000

Colorado: 44.8 per 100,000
Such as chronic obstructive pulmonary disease (COPD).

Lung and bronchus cancer 2013-2015

41.4 per 100,000*

*Significantly higher than the state (28.5 per 100,000)

Percent of Women Smoking During Pregnancy

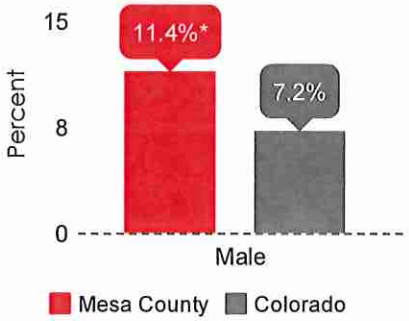


3 in 10 women (31%) smoked during pregnancy, 2004-2008 (average)
Compared to 2 in 10 women (20%) in Colorado.

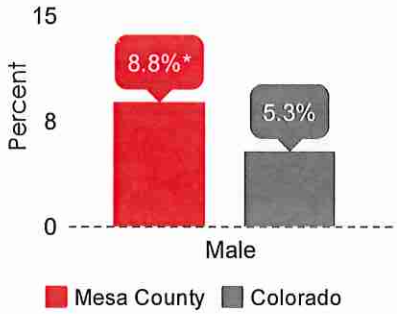


Approximately 1 in 10 women (8%) smoked during pregnancy, 2014-2016 (average)
Compared to 6% of women in Colorado.

Percent of Adults Who Use Smokeless Tobacco in Mesa County and Colorado, 2015-2017 (average)



Percent of High School Students Who Use Smokeless Tobacco in Mesa County and Colorado, 2017



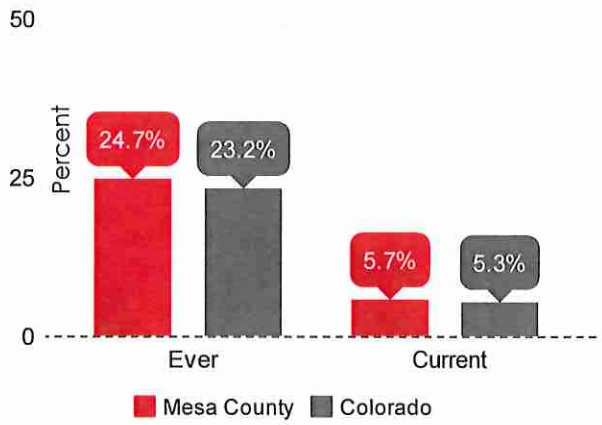
*Significantly higher than the state.
Charts include males only, as men are the primary users of smokeless tobacco

Vaping

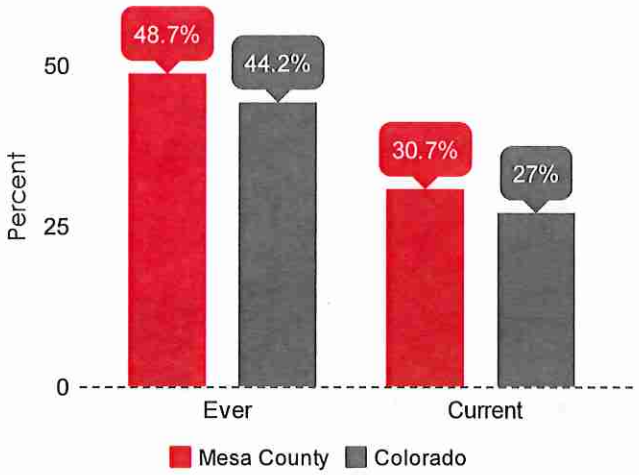
- Many names for electronic vaping products exist, including e-cigarettes, vaporizers, vape pens, mods, tanks, JUULS, and electronic nicotine delivery systems (ENDS).
- Youth who use vape products may be more likely to use traditional tobacco products.
- Vaping devices are becoming more discreet (e.g. being incorporated into the drawstrings of hoodies) and do not have the same strong odor as traditional products.
- Vape devices are not approved as cessation devices by the Food and Drug Administration (FDA).
- No standard regulations exist for vape manufacturers for product design, ingredients, or safety features.

Visit healthymesacounty.org for tips on talking to youth about vaping.

Percent of Adults Who Vape in Mesa County and Colorado, 2016-2017 (average)



Percent of High School Students Who Vape in Mesa County and Colorado, 2017

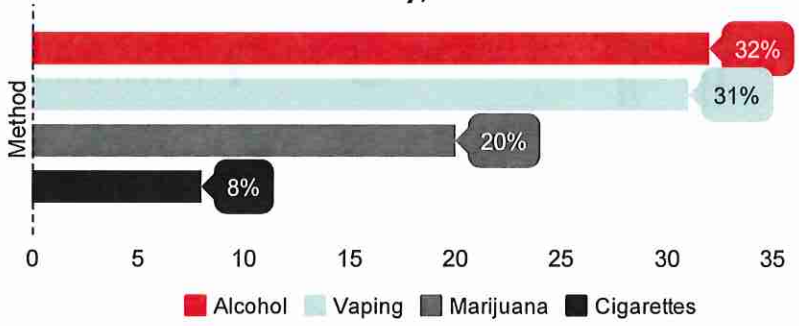


Only 45%

of Mesa County high school students think vape products are harmful.*

*Significantly fewer Mesa County students think vaping is harmful when compared to the state (50%) and compared to the perceived harm of traditional cigarettes (88%)

Reported Current Substance Use by High School Students in Mesa County, 2017



Similar to Colorado high school students.

Tobacco Policy

The benefits of tobacco control policies include:

- Reducing
  - Youth initiation.
  - Tobacco consumption.
  - The number of people using tobacco.
- Increasing the number of tobacco users who quit.
- Supporting smokers trying to quit smoking.

Tobacco Control Act (H.R. 1256)

Prohibits:

- Sales to minors.
- Vending machine sales, except in adult-only facilities.
- Sale of packages of fewer than 20 cigarettes (i.e. a pack of cigarettes).
- Free giveaways of sample cigarettes and brand-name non-tobacco promotional items.

Requires:

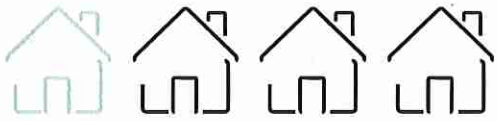
- Tobacco products and advertisements to include a health warning statement.
- Checking photo ID of everyone younger than age 27 who attempts to purchase tobacco products.

Tobacco Retailers

Compliance checks for sales to minors and other federal regulations are conducted by the FDA and Colorado Department of Revenue.

180

tobacco retailers operate in Mesa County.
1.2 retailers per 1,000 population.
1.1 per 1,000 in Colorado.



1 in 4 retailers are within 500 feet of a youth-serving place.*

*Includes child care facilities, schools, parks, community centers, and malls



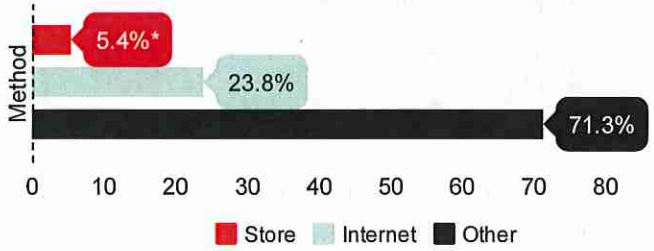
Nearly **1 in 5** retailers in Mesa County sold a tobacco product to a minor during a compliance check in 2018.

56%

of high school students who smoke cigarettes bought them from a gas station, convenience store, grocery store, or drugstore.

Compared to 51% of Colorado high school students

Reported Method of Getting Vape Product by High School Students in Mesa County, 2017



*Significantly lower than the state (24%)
**The leading thought is that "other" is friends, family, and peers



6 in 10 high school students (60%) think it would be easy or very easy to get cigarettes* or vapor products if they wanted.

*Significantly higher than the state (55.5%)

Colorado Clean Indoor Air Act (C.R.S. 25-14)

Prohibits smoking in any indoor area of public places and buildings including:

- Restaurants and bars,
- Retail and commercial establishments,
- Common areas of multiple-unit residential facilities,
- Public and private schools, and
- Places of employment larger than 3 employees.

Places excluded from the law, include:

- Private homes and residences,
- Private automobiles, except when used for public transportation of children or health care,
- A maximum of 25% of rooms at a hotel or motel, and
- Cigar-tobacco bars.

Prohibits smoking within a 15-foot radius outside main or front doorway of any establishment, unless otherwise defined by local law.

Local Smoke-Free Parks

- City of Grand Junction
- Mesa County
- Fruita - Vape-free too



Local Tobacco-Free Hospitals

- St. Mary's Medical Center
- Community Hospital
- Family Health West



Tobacco-Free Schools

- Prohibits any tobacco use on school property by students, staff and the public.
- Tobacco use includes smoking, chewing, and vaping.
- Prohibits student possession of any nicotine or tobacco-containing product.
- No student shall be expelled solely for tobacco use.

Colorado Tobacco Tax

Amendment 35, approved by Colorado voters in 2004, increased taxes on cigarettes and other tobacco products. One-third of the revenue is allocated to tobacco prevention and treatment.

Colorado Cigarette Tax

$0.84

per pack

Average State Cigarette Tax

$1.72

per pack

Snuff, Chewing Tobacco and Cigar tax

40% of the manufacturing price

Nicotine Vape Products

None

Colorado has the **39th lowest** tax on cigarettes in the United States.

Community Efforts

Cessation

Connecting residents with resources to help them quit tobacco.

- Colorado QuitLine at 1-800-QUITNOW

Prevention

Educating policy-makers, youth, retailers, and the public about the harms of tobacco.

Policy

Developing, supporting and enforcing local, state and national tobacco policies:

- Smoke-Free Indoor
- Smoke-Free Outdoor
- Tobacco Retailer Licensing
- Tobacco Price

Recommendations

- Support Tobacco Free Schools through youth, staff and parent education, consistently enforcing the policy, and providing cessation services to tobacco users.
- Increase public awareness and utilization of evidence-based tobacco cessation services through the health neighborhoods (e.g. medical practices, human service agencies).
- Develop and support state and local policies to reduce youth access and exposure to secondhand smoke.
- Educate about tobacco price as effective tobacco prevention and control.

Community Partners

- Primary Care Partners
- St. Mary's Medical Center
- School District 51
- Hilltop
- Community Hospital
- Marillac
- Fruita Youth Initiative

Sources

- Healthy Kids Colorado Survey, 2017
- Behavioral Risk Factor Surveillance System (BRFSS)
- Pregnancy Risk Assessment Monitoring System
- Campaign for Tobacco-Free Kids
- Tobacco Retailer Access Colorado (TRAC)
- Federal Drug Administration (FDA)

Thank you to the partners that participated in the Mesa County Tobacco-Focused Community Assessment: City of Grand Junction, City of Fruita, Grand Junction Housing Authority, School District 51, Community Hospital, St. Mary's Medical Center, Mesa County Administration, Futures Learning Center, and Colorado Mesa University.

Grand Junction City Council

Regular Session

Item #8.a.ii.

Meeting Date: February 20, 2019

Presented By: John Shaver, City Attorney

Department: City Attorney

Submitted By: John Shaver

Information

SUBJECT:

An Ordinance to Amend Chapters 12.04 and 12.08 of the Grand Junction Municipal Code and Section 21.06.010 of the Zoning and Development Code Regarding Camping on Public Property/Public Places

RECOMMENDATION:

Staff recommends adoption of the ordinance.

EXECUTIVE SUMMARY:

An Ordinance to Amend Chapters 12.04 and 12.08 of the Grand Junction Municipal Code and Section 21.06.010 of the Zoning and Development Code Regarding Camping on Public Property/Public Places.

BACKGROUND OR DETAILED INFORMATION:

Chapter 12, Section 4 and 8 of the Grand Junction Municipal Code establish laws, rules and regulations for the City's parks and Riverfront. Section 21.06.010 of the Zoning and Development Code relates to allowed use of public right of way and private parking lot use. These sections are necessary to maintain and promote the public health, safety and welfare while providing effective management of public property within the City.

Camping in public areas like parks, streets and the Riverfront interfere with the rights of others to use those areas for the purposes for which they were intended. The City incurs increased costs for policing, maintenance, sanitation cleanup, animal control as a result of camping in undeveloped areas and without proper facilities for certain uses.

The purpose of this ordinance is to assist in maintaining the City in a clean, sanitary and accessible condition; to protect the health, safety and public welfare of the community; and to preserve, protect and enhance the natural resource of the Colorado and Gunnison Rivers for many recreational and other proper uses. The prohibition of camping is not intended to prohibit ordinary recreational use of the parks such as picnicking, resting, or sleeping in parks during park hours. It is the intention of the ordinance to prohibit use of public property for the purpose of maintaining a temporary place to live.

The City affirms its commitment to protecting the constitutional rights of the homeless. This ordinance recognizes that when overnight shelters are full, a homeless person who has no access to private spaces has no alternative but to sleep in a public space. The City shall not engage in enforcement of this ordinance which might have the effect of criminalizing homelessness or constitute cruel and unusual punishment in violation of the Eighth Amendment when there is no shelter space available. The City and the Grand Junction Police Department, work with other agencies and community groups to provide homeless persons with information as to the availability of shelter or services.

FISCAL IMPACT:

None directly attributable to the ordinance/its adoption.

SUGGESTED MOTION:

I move to (adopt/deny) Ordinance No. 4833, an ordinance to amend Chapters 12.04 and 12.08 of the Grand Junction Municipal Code and Section 21.06.010 of the Zoning and Development Code regarding camping on public property/public places on final passage and order final publication in pamphlet form.

Attachments

1. ORD-Camping to include Riverfront and Zoning Amendments - Revised - 121018 (1)

ORDINANCE NO. _____

AN ORDINANCE TO AMEND CHAPTERS 12.04 AND 12.08 OF THE GRAND JUNCTION MUNICIPAL CODE AND SECTION 21.06.010 THE ZONING AND DEVELOPMENT REGARDING CAMPING ON PUBLIC PROPERTY/PUBLIC PLACES.

RECITALS:

Chapter 12, Sections 4 and 8 of the Grand Junction Municipal Code ("GJMC") establish laws, rules and regulations for the City's parks and Riverfront – those sections are necessary to maintain and promote the public health, safety and welfare, to provide for the continued effective management of public property within the City, and to provide for the continued enjoyment and accessibility of those public places by City residents and the public at large. Section 21.06.010 of the Zoning and Development Code relates to allowed use of public right of way and private parking lot use; the use of public areas, parks, streets and the Riverfront for camping purposes interferes with the rights of others to use those areas for the purposes for which they were intended.
The use of public property for camping causes the City to incur increased costs for policing, maintenance, sanitation pickup and removal, animal control, protection of the environment and other problems which arise from camping in undeveloped areas and without proper facilities for that use.

The purpose of this ordinance is to assist in maintaining the City in a clean, sanitary and accessible condition; to adequately protect the health, safety and public welfare of the community and to preserve, protect and enhance the natural resource of the
Colorado and Gunnison Rivers ("Riverfront") for many recreational and other proper uses. The City Council intends to maintain the use of park property and other public property for their intended uses; however, the prohibition of camping is not intended to prohibit such ordinary recreational use of the parks such as picnicking on a blanket or resting or sleeping in a park during park hours. It is intention of the City Council to prohibit use of public property for the purpose of maintaining a temporary place to live.

Because parks, the Riverfront and other public places have been used by the homeless as camps, the City affirms its commitment to protecting the constitutional rights of the homeless and accordingly this ordinance recognizes that when overnight shelters are full a homeless person who has no access to private spaces has no alternative but to sleep in a public space. Accordingly, the City shall not engage in enforcement of this ordinance which might have the effect of criminalizing homelessness or constitute cruel and unusual punishment in violation of the Eighth Amendment when there is no shelter space available.

The City is committed to safeguarding the rights of all people and in furtherance of this goal works with other agencies and community groups who have an interest in the well- being of homeless persons and when Grand Junction Police Officers contact homeless the officers are encouraged to provide homeless persons with information as to the availability of shelter or other services and to the extent reasonably practicable not

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enforce this ordinance when there is no shelter space available, as the same is defined herein.

NOW THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF GRAND JUNCTION THAT:

Chapters 12.04 and 12.08 shall be revised as follows (additions are shown in bold print and deletions marked with strike through notations):

Definitions.

For the purpose of this Chapter the following terms, phrases, words and their derivations shall have the meaning provided herein:

"Available Overnight Shelter" means a public or private facility, with all necessary or required City occupancy approvals, open to a person(s) or a family experiencing homelessness with an available overnight space to house the person(s) or family at no charge or a nominal charge (presumptively $5.00 or less per person.) Overnight shelter space shall be considered available if the person(s) is not permitted to use otherwise available overnight shelter space due to the person's voluntary actions, including, but not limited to, intoxication, drug use, unruly behavior, or violation of shelter rules.

"Camp" or "Camping" means to set up or to remain in or at an Encampment.

"Encampment" means any place where bedding, sleeping bag(s) or other things used for bedding purposes, or any stove or fire is placed, established or maintained for the purpose of maintaining a place to stay or sleep, whether or not such place incorporates the use of any tent, lean-to, shack, or any other cover, structure or elements of a structure or any vehicle or part thereof. Ordinary use of a park such as resting or sleeping in a park during normal park hours, picnicking on a blanket or using parks for other lawful uses does not constitute Encampment.

"Overnight Use" means the use of public lands and/or trails pursuant to a permit issued by the City Manager or his designee for an event/programming by and through the City Parks Department for an activity authorized to be conducted overnight.

"Parking Strip" means the area between a curb, or a place where a curb would be located if improvements were installed, and where a sidewalk is located or would be installed.

"Personal Property" means any tangible item reasonably recognizable as belonging to a person and having reasonably apparent utility or monetary value.

"Public Property" means any real property, building or structure owned, used or leased by the City or any Department thereof and/or the Downtown Development Authority (DDA) including, but not limited to, any sidewalk, street, parking strip, alley, lane, public right-of-way, park, open space, breezeway, bench, shade shelter, restroom, playground and other similar property.

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"Reasonable Notice" means notice reasonably calculated under all the circumstances to apprise a person that Camping is prohibited at a particular location and, where Personal Property is deposited, affording the person no less than 24 hours to gather his/her Personal Property and depart.

Sleeping on Public Sidewalk, Street, Parking Strip, Alley, Lane or Public Right of Way Without Authorization Prohibited.

Sleeping on a public sidewalk, street, parking strip, alley, lane or public right of way or in any publicly used ingress or egress to Public Property is unsafe as it may obstruct pedestrian and/or vehicular traffic and may place the person sleeping and/or the public in danger of harm. Therefore, except as may be otherwise expressly authorized by the City:

(1) No person may sleep on any public sidewalk, street, parking strip, alley, lane, breezeway or public right-of-way.

(2) No person may sleep in any publicly used ingress or egress to Public Property.

(3) A violation of this section after a request to cease and desist shall be unlawful and shall give rise to any remedy provided by law.

Camping on Public Property Without Authorization Prohibited.

No person may Camp in or upon any Public Property, nor any property owned by other governmental entities that have posted notice prohibiting Camping unless:

(1) The person has the authorization of the owner of the property to Camp at that location; or

(2) ~~Camping~~ An Overnight use is specifically authorized by the issuance of a ~~use~~ permit in accordance with Parks Department regulations ~~GJMC 21.02.120~~; or

(3) Camping is otherwise specifically authorized by GJMC; or

(4) The camper(s) is(are) on Public Property other than a sidewalk, street, parking strip, alleyway, lane, breezeway or public right-of-way, and there is no Available Overnight Shelter; or

(5) Camping is necessary after the formal declaration of an emergency in accordance with City Charter or a declaration of the Governor.

Removal of Unlawful Encampment(s).

Upon discovery of an Encampment(s) on Public Property, removal of the Encampment by the City and/or it authorized agent(s) may occur if:

(1) After Reasonable Notice, the person(s) fails or refuses to remove his/her Personal Property from the location of the Encampment(s); and

(2) Personal property appears to be abandoned; or

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(3) There is reasonable suspicion for law enforcement officers to believe that illegal activity(ies) other than Camping are occurring at the Encampment; or

(4) There is imminent danger to human life, health or safety, including, but not limited to, possible contamination of private or Public Property by unsanitary and/or hazardous conditions and/or materials.

Removal, Disposition and Release of Personal Property.

Upon removal of an Encampment, all debris, including items having no reasonably apparent utility or monetary value and items in an unsanitary condition, may be immediately discarded. All other Personal Property shall be gathered, retained, and released, all in accordance with the Reasonable Notice being provided to the property owner. Unclaimed property may be disposed in accordance with GJMC 2.44.020 *et. seq.*

Enforcement and Mitigation.

By enacting this Chapter, it is neither the City's intent to criminalize homelessness nor violate a homeless person's constitutional rights. Likewise, the City does not propose to prohibit the ordinary use of the parks such as resting or sleeping in a park during normal park hours, picnicking on a blanket or using parks or other Public Property for lawful uses. Enforcement of this Chapter shall be undertaken to avoid such results.

Upon conviction for a violation of this Chapter, in addition to any other factors deemed appropriate by the Prosecutor and the Court, the Court shall consider in mitigation whether or not the person immediately removed all Personal Property and litter, including, but not limited to, bottles, cans and garbage from the encampment after being informed the camping was in violation of the law.

Application to City Property Outside City Limits.

This Chapter applies to Public Property owned by the City that is located outside the City's municipal limits.

Sections 12.08.050, 12.08.140 and 21.06.010 shall be amended as follows with all other provisions of such Chapters and Sections to remain in full force and effect:

12.08.050 Regulations.

(e) The riverfront regulations promulgated hereunder shall include, but not necessarily be limited to, prohibiting motorized vehicles, except wheelchairs, maintenance of emergency vehicles, on the trails; prohibiting boats, vessels or craft in the waterways; closing the trails at set times; prohibiting glass containers; prohibiting the possession, consumption or use of spirituous liquor, requiring animals to be leashed; prohibiting animals or animals of certain species; and allowing ~~camping~~ overnight use in accordance with permit, and vending or commercial activities by permit only.

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12.08.140 Regulations relating to trails, lands and waters.

(b) No person shall:

(7) Camp, park a motor vehicle, trailer or camper on Riverfront lands or trails, with the intention or for the purpose of camping unless**:** ~~such is by the authority of a camping permit issued by the Department of Parks and Recreation of the City of Grand Junction. Possession of a valid camping permit shall authorize the use of the Riverfront lands and trails subject to the terms and conditions imposed thereon by the Director or his designee.~~

~~"Camp" means the use of camping equipment or facilities such as tents, tarpaulins or temporary shelters or the use of temporary cooking and bedding facilities such as open fires, camp stoves and cots, bedrolls, hammocks or sleeping bags.~~

(i) The person has the authorization of the owner of the property to camp at that location; or

(ii) ~~Camping~~ Overnight use is specifically authorized by the issuance of a ~~use~~ permit ~~in accordance with GJMC 21.02.120~~; or

(iii) Camping or overnight use is otherwise specifically authorized by GJMC; or

(iv) There is no Available Overnight Shelter; or

(v) Camping is necessary after the formal declaration of an emergency in accordance with City Charter or a declaration of the Governor.

"Camp" or "Camping" means to set up or to remain in or at an Encampment.

"Encampment" means any place where bedding, sleeping bag(s) or other things used for bedding purposes, or any stove or fire is placed, established or maintained for the purpose of maintaining a place to stay or sleep, whether or not such place incorporates the use of any tent, lean-to, shack, or any other cover, structure or elements of a structure or any vehicle or part thereof. Ordinary use of the trail system such as resting or sleeping on a bench during normal trail hours or using the trails for other lawful uses does not constitute Encampment.

"Available Overnight Shelter" means a public or private facility, with all necessary or required City occupancy approvals, open to a person(s) or a family experiencing homelessness with an available overnight space to house the person(s) or family at no charge or a nominal charge (presumptively $5.00 or less per person.) Overnight shelter space shall be considered available if the person(s) is not permitted to use otherwise available overnight shelter space due to the person's voluntary actions, including, but not limited to, intoxication, drug use, unruly behavior, or violation of shelter rules.

"Overnight Use" means the use of public lands and/or trails pursuant to a special permit where an event is authorized to last overnight.

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21.06.010 Infrastructure standards.

(b)(4)(iv) Public Right-of-Way and Private Parking Lot Use.

(iv) ~~Overnight camping shall not be allowed in a public right-of-way or in any private parking lot made available to the public, unless specifically permitted by the City for such use.~~ Parking of an RV or any vehicle for more than 72 hours shall not be allowed in a public right-of-way or on any vacant lot.

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