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File 1994-0004

Name: Alpine Village -Final Plat / Plan -SW Corner of 27 Road & G Road

P **S** A few items are denoted with an asterisk (*), which means they are to be scanned for permanent record on the ISYS retrieval system. In some instances, items are found on the list but are not present in the scanned electronic development file because they are already scanned elsewhere on the system. These scanned documents are denoted with (**) and will be found on the ISYS query system in their designated categories.

r **e** Documents specific to certain files, not found in the standard checklist materials, are listed at the bottom of the page.

s **e** Remaining items, (not selected for scanning), will be listed and marked present. This index can serve as a quick guide for the contents of each file.

n **e**

d

X	X	Table of Contents
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X		Reduction of assessor's map.
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X	X	*Mailing list to adjacent property owners
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X		Legal description
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		*Summary sheet of final conditions

DOCUMENT DESCRIPTION:

X		Declaration of Covenants – Bk 2089 / Pg 771	X		E-mails
X	X	Planning Commission Minutes – Approved - **	X		Notes to file
X	X	Correspondence	X	X	Landscape Plan
X	X	DIA – not signed – SCANNED WITH FILE	X	X	Plat Plan
X	X	Staff Analysis/Staff Review	X	X	Replat of Lot 10 of Alpine Meadows – Historical GIS Maps
X		Notice of Public Hearing Mail-out – 2/1/94	X	X	Pavement Report
X		Chicago Title Ins. Co. - Owner's Policy	X		Street Plan - signed
X	X	Trapezoidal Channel – Uniform flow – Exhibit III	X		Sewer & Water Plan
X	X	Alpine Village Illustration – typical turning lane movement @ Private Drive – Josilyn Place	X		Sewer Details/Domestic Water Line Details
X		Certification of Plat – 7/18/94	X		Landscape Plan/Street Plan / Street Details/Grading Plan/Sewer Water Plan/
X	X	Drainage Plan – to be scanned			



DEVELOPMENT APPLICATION
 Community Development Department
 250 North 5th Street Grand Junction, CO 81501
 (303) 244-1430

Receipt 874
 Date 1-4-94
 Rec'd By mf
 File No. 494

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We, the undersigned, being the owners of property situated in Mesa County, State of Colorado, as described herein do hereby petition this:

PETITION	PHASE	SIZE	LOCATION	ZONE	LAND USE
<input checked="" type="checkbox"/> Subdivision Plat/Plan	<input type="checkbox"/> Minor <input checked="" type="checkbox"/> Major <input type="checkbox"/> Resub		SW CORNER OF 27 ROAD H ROAD	PR	
<input type="checkbox"/> Rezone				From: To:	
<input checked="" type="checkbox"/> Planned Development	<input type="checkbox"/> ODP <input type="checkbox"/> Prelim <input checked="" type="checkbox"/> Final				
<input type="checkbox"/> Conditional Use					
<input type="checkbox"/> Zone of Annex					
<input type="checkbox"/> Text Amendment					
<input type="checkbox"/> Special Use					
<input type="checkbox"/> Vacation					<input type="checkbox"/> Right-of-Way <input type="checkbox"/> Easement

<input checked="" type="checkbox"/> PROPERTY OWNER	<input checked="" type="checkbox"/> DEVELOPER	<input checked="" type="checkbox"/> REPRESENTATIVE
<u>ALPINE, C.M. Inc. c/o Rob Griffin</u>	<u>Thomas A. Logue</u>	
Name	Name	Name
<u>1111 South 12th Street</u>	<u>227 So. 9th Street</u>	
Address	Address	Address
<u>Grand Jet. CO. 81501</u>	<u>Grand Jet. CO. 81501</u>	
City/State/Zip	City/State/Zip	City/State/Zip
<u>245-2505</u>	<u>245-4099</u>	
Business Phone No.	Business Phone No.	Business Phone No.

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 hearings. In the event that the petitioner is not represented, the item will be dropped from the agenda, and an additional fee charged to cover rescheduling expenses before it can again be placed on the agenda.

<u>Thomas A. Logue</u>	<u>12/30/93</u>
Signature of Person Completing Application	Date
<u>Robert A. Griffin</u>	
Signature of Property Owner(s) - Attach Additional Sheets if Necessary	

RE-APPLICATION CONFERENCE

Date: 12-2-93
Conference Attendance: Rob Griffin, Tom Logue, Dave Thornton, Don Newton, Jody Alaska
Proposal: FINAL PIAT
Location: SW CORNER 27 Rd & H ROAD

Tax Parcel Number: 2701-351-50-001
Review Fee: \$ 795.00
(Fee is due at the time of submittal, Make check payable to the City of Grand Junction.)

Additional ROW required? N/A
Adjacent road improvements required?
Area identified as a need in the Master Plan of Parks and Recreation? N/A
Parks and Open Space fees required? Yes Estimated Amount: 225.00 per unit
Recording fees required? Yes Estimated Amount:
Half street improvement fees required? Yes Estimated Amount:
Revocable Permit required? N/A
State Highway Access Permit required? N/A

Applicable Plans, Policies and Guidelines
Located in identified floodplain? FIRM panel #
Located in other geohazard area?
Located in established Airport Zone? Clear Zone, Critical Zone, Area of Influence? Area of Influence
Avigation Easement required? Yes

While all factors in a development proposal require careful thought, preparation and design, the following "checked" items are brought to the petitioner's attention as needing special attention or consideration. Other items of special concern may be identified during the review process.

- Access/Parking, Drainage, Floodplain/Wetlands Mitigation, Other, Screening/Buffering, Landscaping, Availability of Utilities, Land Use Compatibility, Traffic Generation, Geologic Hazards/Soils

Related Files:

It is recommended that the applicant inform the neighboring property owners and tenants of the proposal prior to the public hearing and preferably prior to submittal to the City.

PRE-APPLICATION CONFERENCE

WE RECOGNIZE that we, ourselves, or our representative(s) must be present at all hearings relative to this proposal and it is our responsibility to know when and where those hearings are.

In the event that the petitioner is not represented, the proposed item will be dropped from the agenda, and an additional fee shall be charged to cover rescheduling expenses. Such fee must be paid before the proposed item can again be placed on the agenda. Any changes to the approved plan will require a re-review and approval by the Community Development Department prior to those changes being accepted.

WE UNDERSTAND that incomplete submittals will not be accepted and submittals with insufficient information, identified in the review process, which has not been addressed by the applicant, may be withdrawn from the agenda.

WE FURTHER UNDERSTAND that failure to meet any deadlines as identified by the Community Development Department for the review process may result in the project not being scheduled for hearing or being pulled from the agenda.

Signatures of Petitioner(s) and Representative(s)

Donald R. Coatney
2697 Mazatlan Dr.
City 81506

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City 81506

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City 81506

Edward L. Boxer
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4 94

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Dale E. Jones
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City 81506

Jerrold L. Rose
2687 Mazatlan Dr.
City 81506

FINAL DRAINAGE REPORT FOR:

ALPINE VILLAGE

grand junction, colorado

DECEMBER, 1993

Original
Do NOT Remove
From Office ✓

4 94

Alpine, C.M., Inc.
1111 South 12th. Street, Grand Junction, CO 81501
(303) 245 - 2505

Prepared By: _____

Monty D. Stroup

"I hereby certify that this report for the final drainage design of ALPINE VILLAGE was prepared under my direct supervision."

Reviewed By: _____

Phillip M. Hart, P.E.

Colorado Reg. No. 19346

INTRODUCTION

In addition to the data contained herein, the reader is encouraged to study Drainage Reports prepared for Alpine Meadows and Sedona Subdivision. These reports are on file with the City of Grand Junction Development and Engineering Departments. This report was prepared in accordance with *Interim Outline of Grading and Drainage Criteria, City of Grand Junction*, (Reference 1).

A. Property Location

Alpine Village formerly known as Lot 10 Alpine II Subdivision, contains approximately 3.1 acres. The subject property is located in the North Grand Junction area, SW of 27 Road (12th. Sreet) and H Road. The property is located in part of the NE 1/4 of Section 35, Township One North, Range One West, of the Ute Meridian.

Platted subdivisions within the area include:

SURROUNDING SUBDIVISION CHART	
SUBDIVISION NAME	ZONING
Paradise Hills, 1 - 7	R-2
Garrison Ranch	AFT
Alpine Meadows, 1 & 2	PR 4.2
Skyline Subdivision	R-1-B
Sedona Subdivision	PR 4.5

B. Description of Property

The site is vacant of any structures. Even though irrigation water is available, the site is in a fallow state. Recent agricultural production has not occurred.

The Soil Conservation Service (SCS) identified single soil type within the boundary of the property, Fruita Very Fine Sandy Loam (Fp). Even though this soil type is a Class I soil for agricultural production, cultivation of crops is limited due to the availability of irrigation water. The SCS has not identified any limitations for this soil type.

II. Drainage Basins and Sub-Basins

A. Major Basin Description:

Alpine Village is located approximately 4000 feet east of and is ultimately tributary to Leach Creek as defined in and shown on the detailed drainage study entitled "Flood Hazard Information, Colorado River and Tributaries" (Reference 3, Exhibit II-1.1).

The proposed project is defined as being in Zone X and is not within the 100 year flood plain as shown on the "Flood Insurance Rate Map, Mesa County Colorado" (Reference 4, Exhibit II-2.0).

Irrigation facilities include an existing irrigation and drainage ditch which defines the south boundary of the site flowing from the southeast to the northwest towards H Road and ultimately to Leach Creek. The existing ditch is accessible and accommodated by a recorded 50 foot wide easement.

B. Sub-Basin Description:

Historically the property drains in a sheetflow fashion from the northeast to the southwest at approximately 1.7% slope, discharging to the existing irrigation and drainage ditch as defined above.

As the property is bounded to the north by H Road and to the east by 27 Road off-site

flows are intercepted and directed away from the property along roadside swales and are not a factor in the drainage analysis and facility design.

III. Drainage Criteria

A. Regulations:

The "Interim Outline of Grading and Drainage Criteria" (Reference 1) is used as the basis for analysis and facility design.

B. Development Criteria Reference and Constraints:

The existing irrigation ditch to the south is to be reconstructed as an underground facility at a future date, thus discharge of developed flows to the ditch is not possible. Storm water runoff is to be routed to the existing detention pond "C" as defined in the Alpine Meadows Drainage Report.

C. Hydrological Criteria:

As the project is a single residential development containing approximately 3.1 acres the "Rational Method" shall be used to calculate historic and developed flow rates. The minor storm shall be the 2 year frequency rainfall event and the major storm shall be 100 year frequency rainfall event.

Detention requirements shall be based on the minor storm event. Theoretical release rates have been calculated however they are governed by existing conditions within Alpine Meadows at detention pond "C" (Reference 6).

Runoff Coefficients to be used in the computations shall be based on the most recent City of Grand Junction criteria as defined in Reference 1 and shown on Exhibit III-1.0. The Soil Conservation Service defines site soils as being (Fp) Fruita very fine sandy loam, 0 to 2 percent slopes (Reference 5, Exhibit III-1.1). This soil falls within the Hydrologic Soil Group B which are well drained. Based on this information a "C" value of 0.55 shall be used for the minor storm event and 0.70 for the major storm event.

As the project is located within the Grand Junction Urbanized area (Exhibit III-2.0) the Intensity Duration Frequency Curves (IDFC) shown on Exhibit III-2.1 shall be used for design and analysis.

Times of Concentration shall be calculated based on the Average Velocities For Overland Flow and the Overland Flow Curves as provided in Reference 2 and shown on Exhibits III-3.0 and 3.1.

Because off-site flows are intercepted and directed away from the project site by existing roadways, compliance with off-site drainage considerations is mitigated.

D. Hydraulic Criteria:

Detention requirements, roadway and swale capacities were calculated using City of Grand Junction Criteria.

IV. Drainage Facility Design

A. General Concept:

Based on the proposed land use plan significant changes to the existing drainage patterns are not anticipated. The proposed roadway alignments and lot grading divides the site into

3 sub-basins labeled A1 thru A3. The proposed drainage patterns shall continue to direct runoff from the northeast to the southwest discharging to Jordanna Road and ultimately to detention pond "C" within Alpine Meadows Subdivision to the south.

B. Specific Details:

This Final Drainage Report defines flow rates from on-site and off-site developed sub-basins and the facilities required to convey and discharge the runoff safely to the existing detention pond "C" within Alpine Meadows Subdivision.

The concept is to route developed flows to the existing local detention pond "C" located along the south R.O.W. of Amber Way as shown on the "Final Drainage Plan".

Runoff from the site shall be directed via proposed lot grading and roadway alignments to detention pond "C" and subsequently discharged to the existing 18-inch and 24-inch storm sewer constructed as part of the Alpine Meadows Subdivision. Discharge from the pond is regulated by a single stage release structure designed to release a maximum of 4.00 CFS at a depth of 2.89-feet. The release structure consists of a storm sewer manhole with a grated lid having a open area of 0.50 square feet constructed at an elevation of 36.61 (Reference 6).

The detention pond and release structure were designed prior to City annexation of the subject property. Based on Mesa County criteria the pond was designed to provide adequate storage, freeboard and elevation grade to safely control the 10 year and 100 year storm events and associated developed flows.

The local drainage system consists of rear yard swales, driveway culverts, curb and gutter, V-pans and flow through curb openings as shown on the "Final Drainage Plan". Alpine Court shall be a be a 44 foot R.O.W. section with a roll over curb and gutter section. Flow

from sub-basins A1, A2 and A3 shall combine with offsite sub-basins OF1, OF2 and OF3 and are routed south to detention pond "C". A flow through curb opening is to be installed in Alpine Court to convey street flows to a proposed 4-foot concrete valley pan. The valley pan shall subsequently discharge to Jordanna Road. A flow through curb opening shall be constructed where the valley pan intersects Jordanna Road.

IV. Conclusion

Street capacities within Alpine Court and Jordanna Road are sufficient to convey the minor and major storm events. Ponding of storm water has been noted at the low point in Amber Way. It is noted that the existing flow through curb opening should be increased to 4.0 feet in width. The calculated requirements for storage volumes for on-site and off-site sub-basins is 8,422 cubic feet during the 2 year event and 13,580 cubic feet during the 100 year storm event. Detention pond "C" has a calculated maximum capacity of 16,031 cubic feet at a depth of 2.89 feet.

This Final Drainage Study has been prepared to address site specific drainage concerns in accordance with the requirements of City of Grand Junction, Colorado. The Appendix of this report includes criteria, exhibits, tables and design nomographs used in the analysis and facility design.

V. References

1. Interim Outline of Grading and Drainage Criteria, City of Grand Junction, Colorado, July 1992.
2. Mesa County Storm Drainage Criteria Manual, Final Draft, Mesa County, Colorado, March 1992.
3. Flood Hazard Information, Colorado River and Tributaries, Grand Junction, Colorado, prepared for the City of Grand Junction and Mesa County, by The Department Of The Army, Sacramento District, Corps Of Engineers, Sacramento, California, November, 1976.
4. Flood Insurance Rate Map, Mesa County, Colorado, (Unincorporated Areas), Community Panel Number 080115 0460 B, Federal Emergency Management Agency, Map Revised July 15th, 1992.
5. Soil Survey, Grand Junction Area, Colorado, Series 1940, No. 19, U.S. Department of Agriculture, issued November, 1955.
6. Alpine Meadows Drainage Report, prepared by Armstrong Consultants, Inc., December, 1992.
7. Flowmaster I, Version 3.16, Haestad Methods, Inc., Copyright 1990.

APPENDIX

Colorado Water Conservation Board
FLOODPLAIN INFORMATION INDEX

DETAILED

Community	Stream	Studied Miles	Updated Miles	Study Director	Report Title	Engineer	Compl. Date	Desig. Date	Des No.
Collbran	Grove Creek	0.4	0.0	FIA	Flood Insurance Study	Meur, Seraf. & Meur	10-00-81	06-03-82	190
Collbran	Plateau Creek	0.5	0.0	FIA	Flood Insurance Study	Meur, Seraf. & Meur	10-00-81	06-03-82	190
DeBeque	Roan Creek	0.5	0.0	CWCB	Flood Plain Management Study	USDA, SCS	08-00-85	11-07-85	244
DeBeque	Roan Creek	5.2	0.0	CWCB	Floodplain Management Study	USDA, SCS	08-00-85	11-07-85	244
Fruita	Colorado River	0.5	0.0	County/CWCB	Flood Hazard Information	USACB, Sacramento	11-00-78	09-23-77	78
Fruita	Little Salt Wash	1.0	0.0	FIA	Flood Insurance Study	Meur, Seraf. & Meur	06-00-81		0
Grand Junction	Colorado River	2.2	1.5	FIA	Flood Insurance Study	Meur, Seraf. & Meur	07-00-82	01-07-83	208
Grand Junction	Colorado River	0.0	1.5	County/CWCB	Flood Hazard Information	USACB, Sacramento	11-00-76	09-23-77	79
Grand Junction	Indian Wash	2.3	0.0	FIA	Flood Insurance Study	Meur, Seraf. & Meur	07-00-82	01-07-83	208
Grand Junction	Leach Creek Channel	9.4	0.0	FIA	Flood Insurance Study	Meur, Seraf. & Meur	07-00-82	01-07-83	208
Palisade	Colorado River	1.8	0.0	County/CWCB	Flood Hazard Information	USACB, Sacramento	11-00-78	09-23-77	80
Parachute	Parachute Creek	7.5	0.0	CWCB	Floodplain Management Study	USDA, SCS	08-00-85	11-07-85	244
Parachute	Parachute Creek	0.6	0.0	CWCB	Flood Plain Management Study	USDA, SCS	08-00-85	11-07-85	244
Unincorporated Areas	Big Salt Wash	2.5	0.0	County/CWCB	Flood Hazard Information	USACB, Sacramento	11-00-78	09-23-77	78
Unincorporated Areas	Colorado River	0.0	11.5	County/CWCB	Flood Hazard Information	USACB, Sacramento	11-00-76	09-23-77	79
Unincorporated Areas	Colorado River	11.5	0.0	WRPC	Flood Plain Information	USACB, Sacramento	03-00-73	10-31-73	25
Unincorporated Areas	Colorado River	0.8	11.5	FIA	Flood Insurance Study	USACB, Sacramento	01-00-78	05-12-78	106
Unincorporated Areas	Colorado River	10.5	0.0	County/CWCB	Flood Hazard Information	USACB, Sacramento	11-00-78	09-23-77	78
Unincorporated Areas	Colorado River	10.5	12.3	FIA	Flood Insurance Study	USACB, Sacramento	12-04-85		0
Unincorporated Areas	Gunnison River	2.4	0.0	WRPC	Flood Plain Information	USACB, Sacramento	03-00-73	10-31-73	25
Unincorporated Areas	Horizon Drive Channel	0.0	2.8	FIA	Flood Insurance Study	USACB, Sacramento	01-00-78	05-12-78	106
Unincorporated Areas	Horizon Drive Channel	2.8	0.0	County/CWCB	Flood Hazard Information	USACB, Sacramento	11-00-76	09-23-77	79
Unincorporated Areas	Horizon Drive Channel	10.5	2.8	FIA	Flood Insurance Study	USACB, Sacramento	12-04-85		0
Unincorporated Areas	Leach Creek	0.0	4.3	FIA	Flood Insurance Study	USACB, Sacramento	01-00-78	05-12-78	106
Unincorporated Areas	Leach Creek	4.3	0.0	County/CWCB	Flood Hazard Information	USACB, Sacramento	11-00-76	09-23-77	79
Unincorporated Areas	Leach Creek	10.5	4.3	FIA	Flood Insurance Study	USACB, Sacramento	12-04-85		0
Unincorporated Areas	Lewis Wash	3.4	0.0	County/CWCB	Flood Hazard Information	USACB, Sacramento	11-00-76	09-23-77	79
Unincorporated Areas	Little Salt Wash	2.2	0.0	County/CWCB	Flood Hazard Information	USACB, Sacramento	11-00-78	09-23-77	78
Unincorporated Areas	Parachute Creek	7.1	0.0	CWCB	Flood Plain Management Study	USDA, SCS	08-00-85	11-07-85	244
Unincorporated Areas	Reed Wash	1.0	0.0	County/CWCB	Flood Hazard Information	USACB, Sacramento	11-00-78	09-23-77	78
Unincorporated Areas	Roan Creek	4.7	0.0	CWCB	Flood Plain Management Study	USDA, SCS	08-00-85	11-07-85	244
Unincorporated Areas	West Creek	0.8	0.0	FIA	Flood Insurance Study	USACB, Sacramento	01-00-78		0
Unincorporated Areas	West Creek	10.5	0.8	FIA	Flood Insurance Study	USACB, Sacramento	12-04-85		0

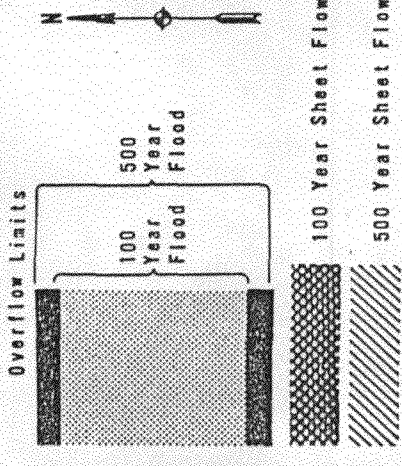
STORM DRAINAGE CRITERIAL MANUAL

MESA COUNTY

TABLE 201d

EXHIBIT II-1.0

LEGEND



22+00

Distance in thousands of feet upstream from mouth along tributary streams.

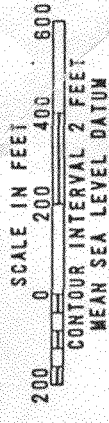
NOTES

Map based on April 1975 orthophoto map provided by the U.S. Bureau of Reclamation. Minor additions and adjustments made by Corps of Engineers.

Sheet number agrees with sheet number shown on Bureau of Reclamation maps.

Limits of overflow shown may vary from actual locations on the ground because of accuracy of available topography.

Areas outside the overflow limits shown may be subject to flooding from local runoff.



DEPARTMENT OF THE ARMY
SACRAMENTO DISTRICT, CORPS OF ENGINEERS
SACRAMENTO, CALIFORNIA

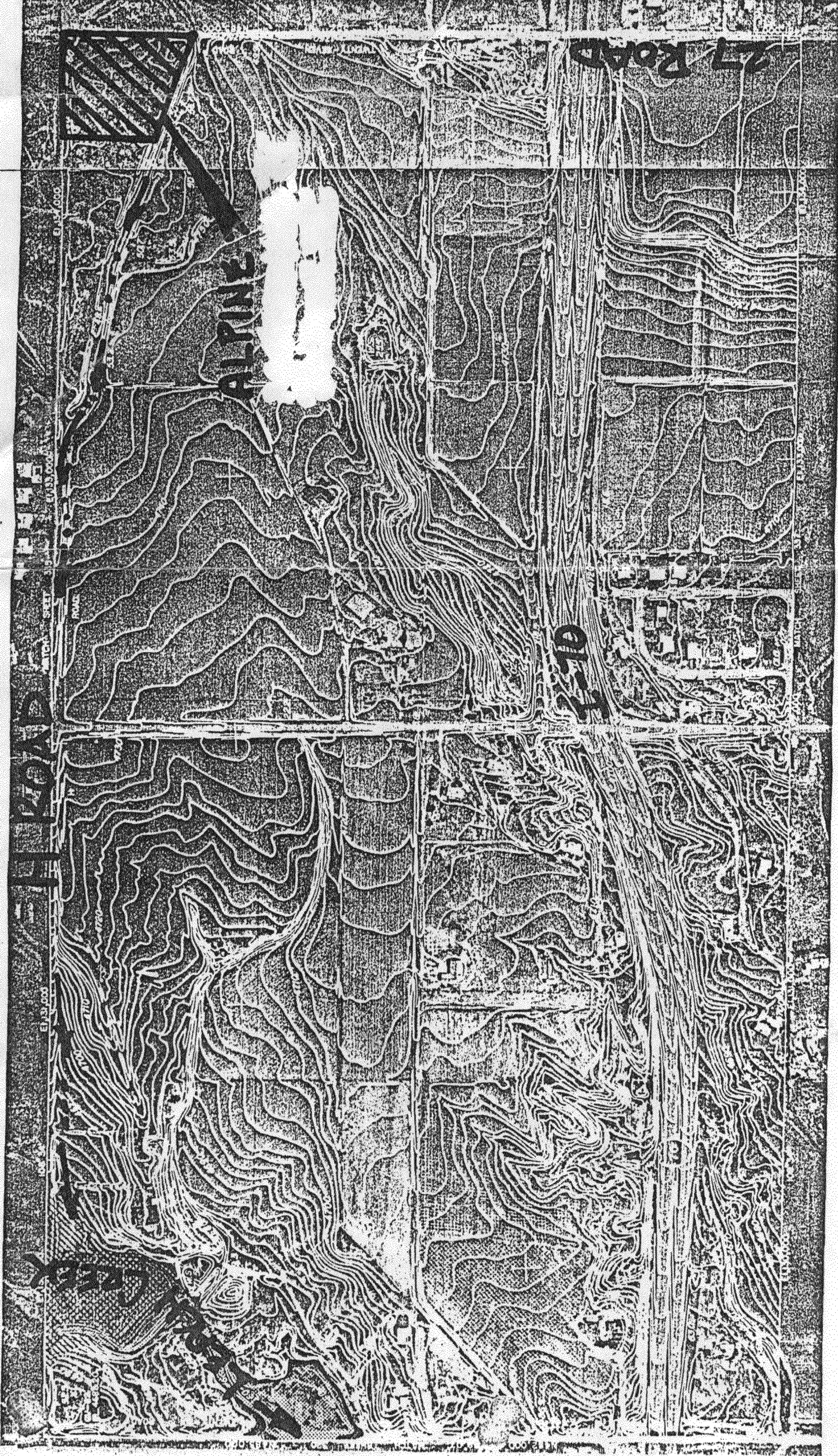
FLOOD HAZARD INFORMATION
COLORADO RIVER AND TRIBUTARIES
GRAND JUNCTION, COLORADO

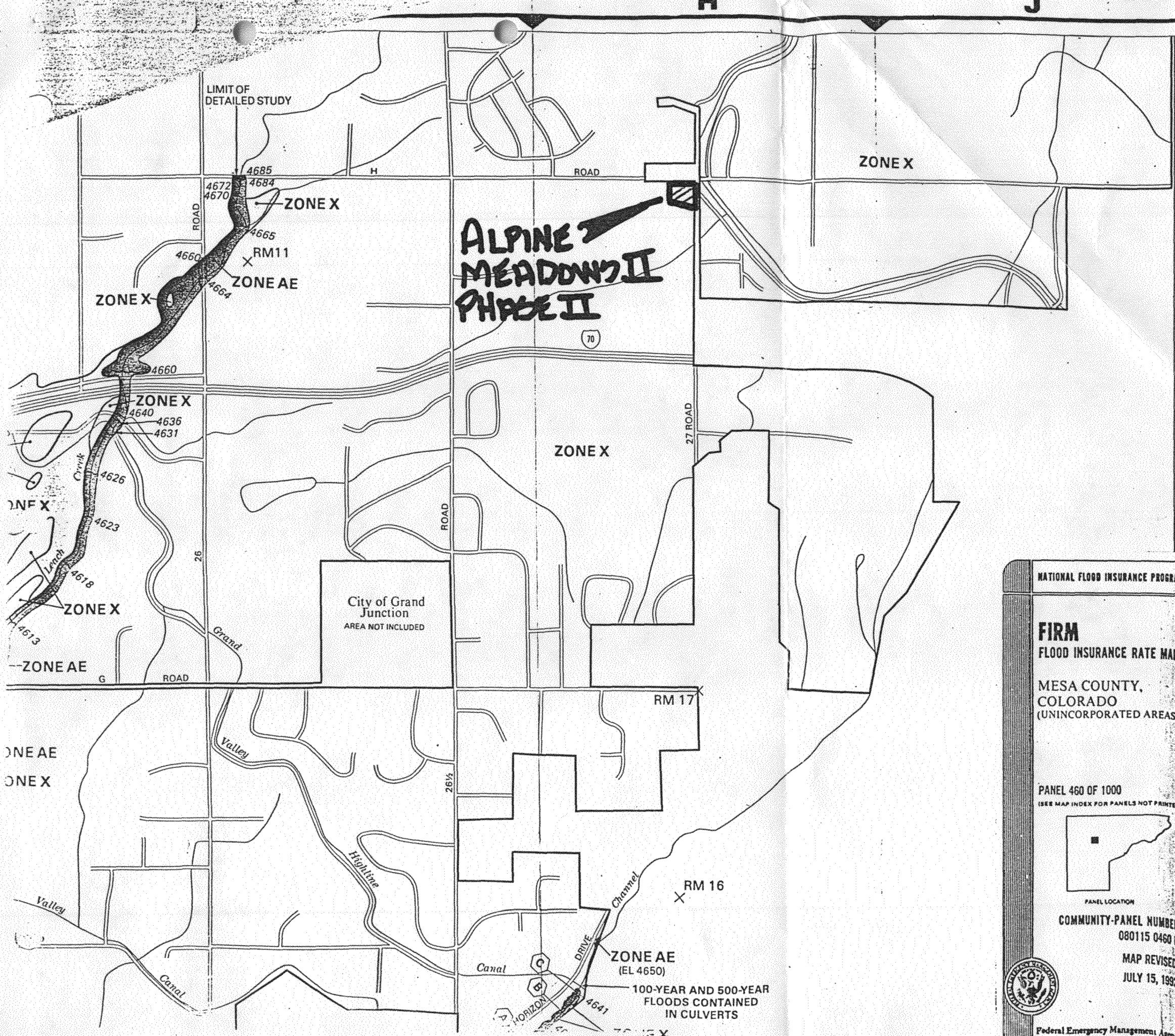
FLOODED AREAS
NOVEMBER 1976

SHEET 336

PLATE 28

EXHIBIT II-1.1





LEGEND

- SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD
 - ZONE A No base flood elevations determined.
 - ZONE AE Base flood elevations determined.
 - ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevations determined.
 - ZONE A0 Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
 - ZONE A99 To be protected from 100-year flood by Federal flood protection system under construction; no base elevations determined.
 - ZONE V Coastal flood with velocity hazard (wave action); no base flood elevations determined.
 - ZONE VE Coastal flood with velocity hazard (wave action); base flood elevations determined.
- FLOODWAY AREAS IN ZONE AE
- OTHER FLOOD AREAS
 - ZONE X Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.
- OTHER AREAS
 - ZONE X Areas determined to be outside 500-year flood plain.
 - ZONE D Areas in which flood hazards are undetermined.
- Flood Boundary
- Floodway Boundary
- Zone D Boundary
- Boundary Dividing Special Flood Hazard Zones, and Boundary Dividing Areas of Different Coastal Base Flood Elevations Within Special Flood Hazard Zones.
- Base Flood Elevation Line; Elevation in Feet*
- Cross Section Line
- Base Flood Elevation in Feet Where Uniform Within Zone*
- Elevation Reference Mark

*Referenced to the National Geodetic Vertical Datum of 1929

NOTES

This map is for use in administering the National Flood Insurance Program; it does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size, or all planimetric features outside Special Flood Hazard Areas.

Areas of special flood hazard (100-year flood) include Zones A, A1-30, AH, AO, A99, V, V1-30 AND VE.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the Federal Emergency Management Agency.

Floodway widths in some areas may be too narrow to show to scale. Floodway widths are provided in the Flood Insurance Study Report.

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

MESA COUNTY,
COLORADO
(UNINCORPORATED AREAS)

PANEL 460 OF 1000
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
080115 0460 B

MAP REVISED:
JULY 15, 1992

Federal Emergency Management Agency

EXHIBIT II-2.0

APPENDIX B

RATIONAL METHOD
RECOMMENDED AVERAGE RUNOFF COEFFICIENTS

Land Use or Surface Characteristics	"C" VALUES			
	2-YR STORM		100-YR STOR	
	A&B*	C&D*	A&B*	C&D*
Undeveloped Areas (Vacant or pre-development analysis condition)	0.10	0.20	0.25	0.35
Residential Areas				
Less than 1/8 acre per unit	0.55	0.65	0.70	0.80
1/8 acre per unit <i>ALPINE VILLAGE</i>	0.50	0.60	0.65	0.75
1/4 acre per unit	0.40	0.50	0.55	0.65
1/3 acre per unit <i>ALPINE</i>	0.35	0.45	0.50	0.60
1/2 acre per unit <i>Meadows</i>	0.30	0.40	0.45	0.55
1 acre per unit <i>FILING 1 AN 2</i>	0.25	0.35	0.40	0.50
Pavement and Roofs	0.90	0.90	0.95	0.95
Gravel and Soil Traffic areas	0.70	0.70	0.85	0.85
Lawns and Green Landscaping	0.15	0.25	0.30	0.40
Gravel and Non-Green Landscaping	0.45	0.50	0.60	0.70
Parks, Cemeteries, Pastures	0.25	0.35	0.40	0.50
Schools	0.45	0.50	0.60	0.70

* Refers to SCS soil hydrologic group classification.

EXHIBIT III-1.0

07'30"

PROJECT SITE

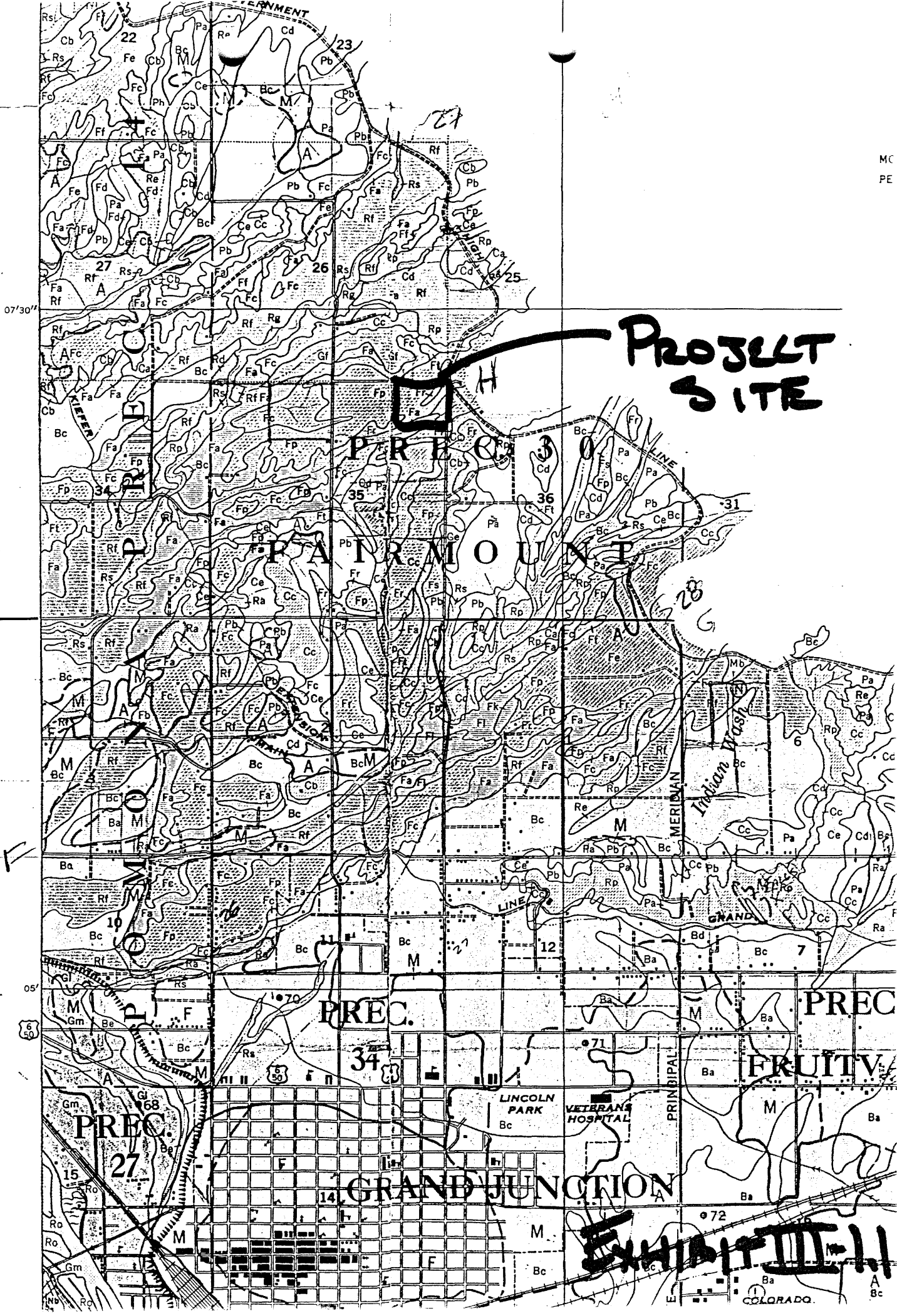
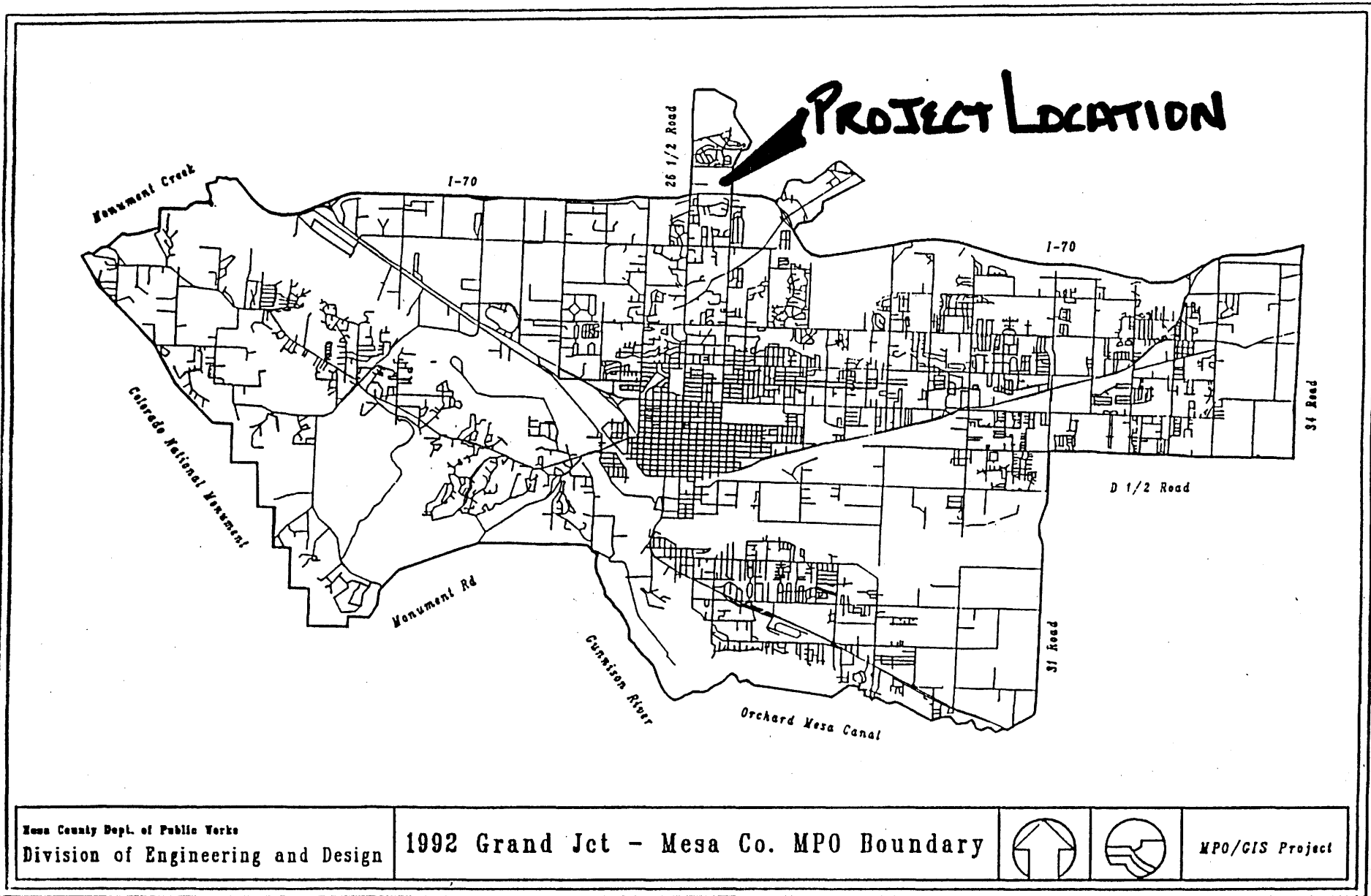


EXHIBIT III-11

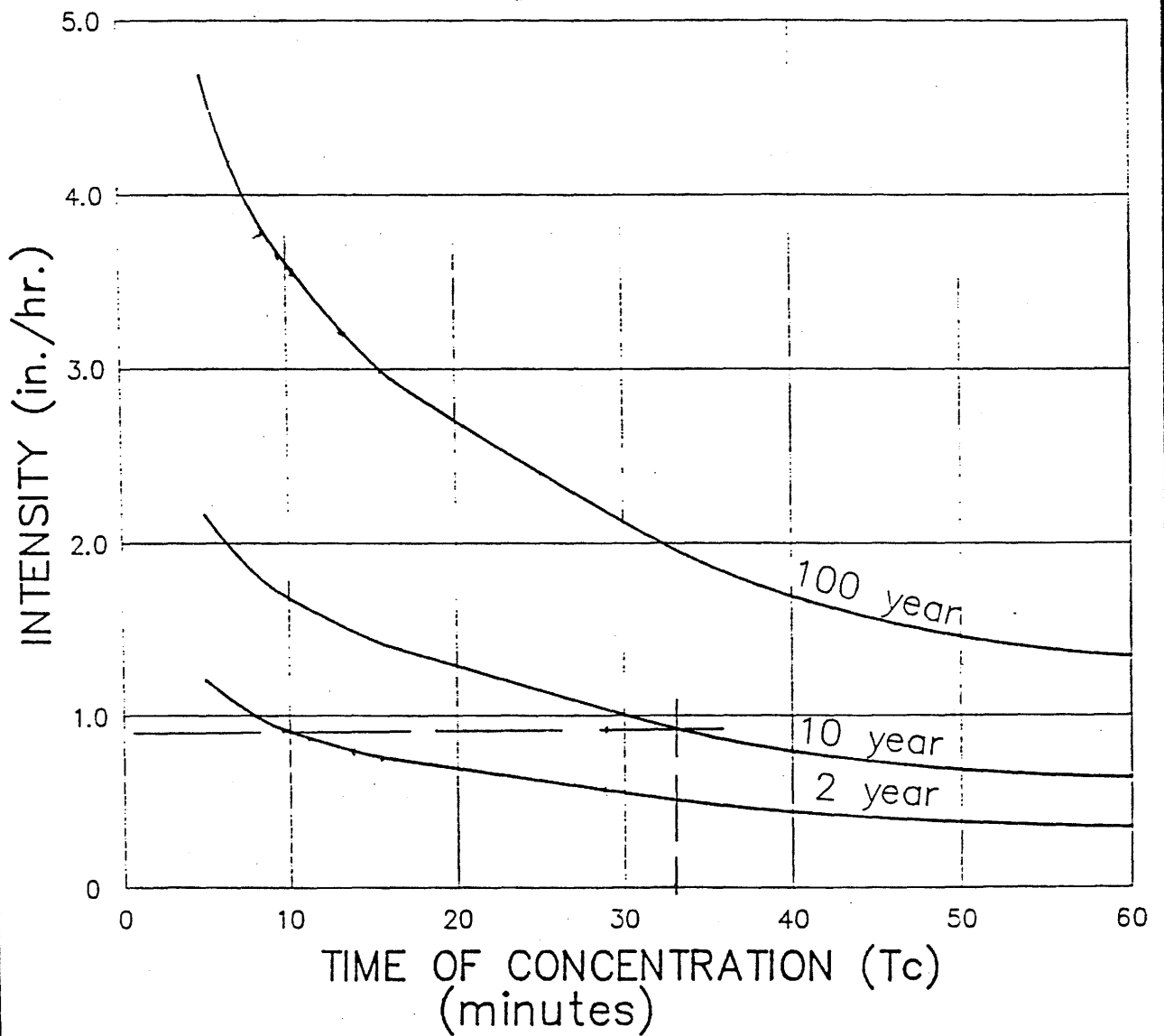
Exhibit III-2.0



Mesa County Dept. of Public Works Division of Engineering and Design	1992 Grand Jct - Mesa Co. MPO Boundary			MPO/GIS Project
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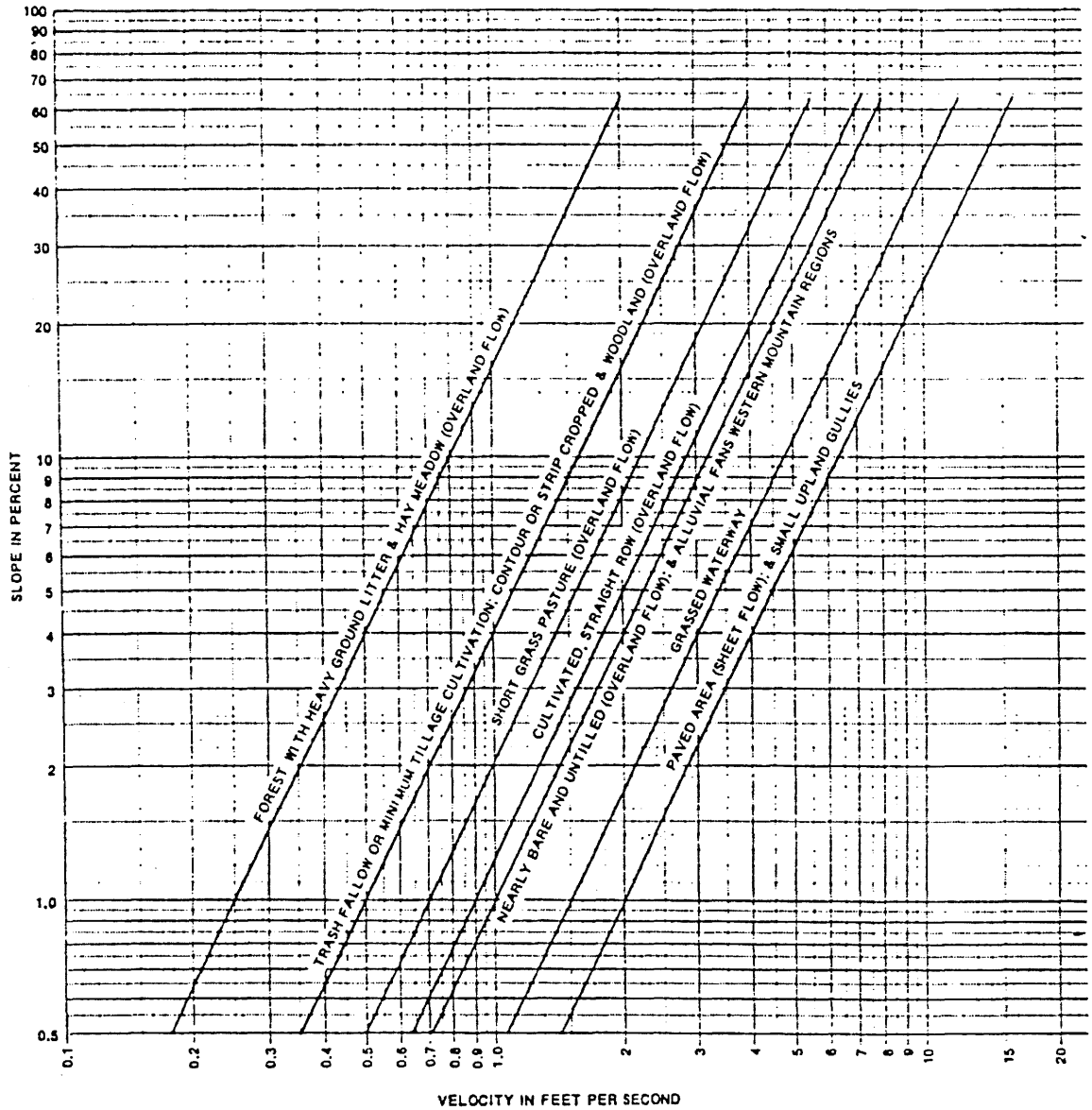
FIG 404

INTENSITY DURATION FREQUENCY CURVES
GRAND JUNCTION, COLORADO



MESA COUNTY STORM DRAINAGE CRITERIAL MANUAL

FIGURE 402

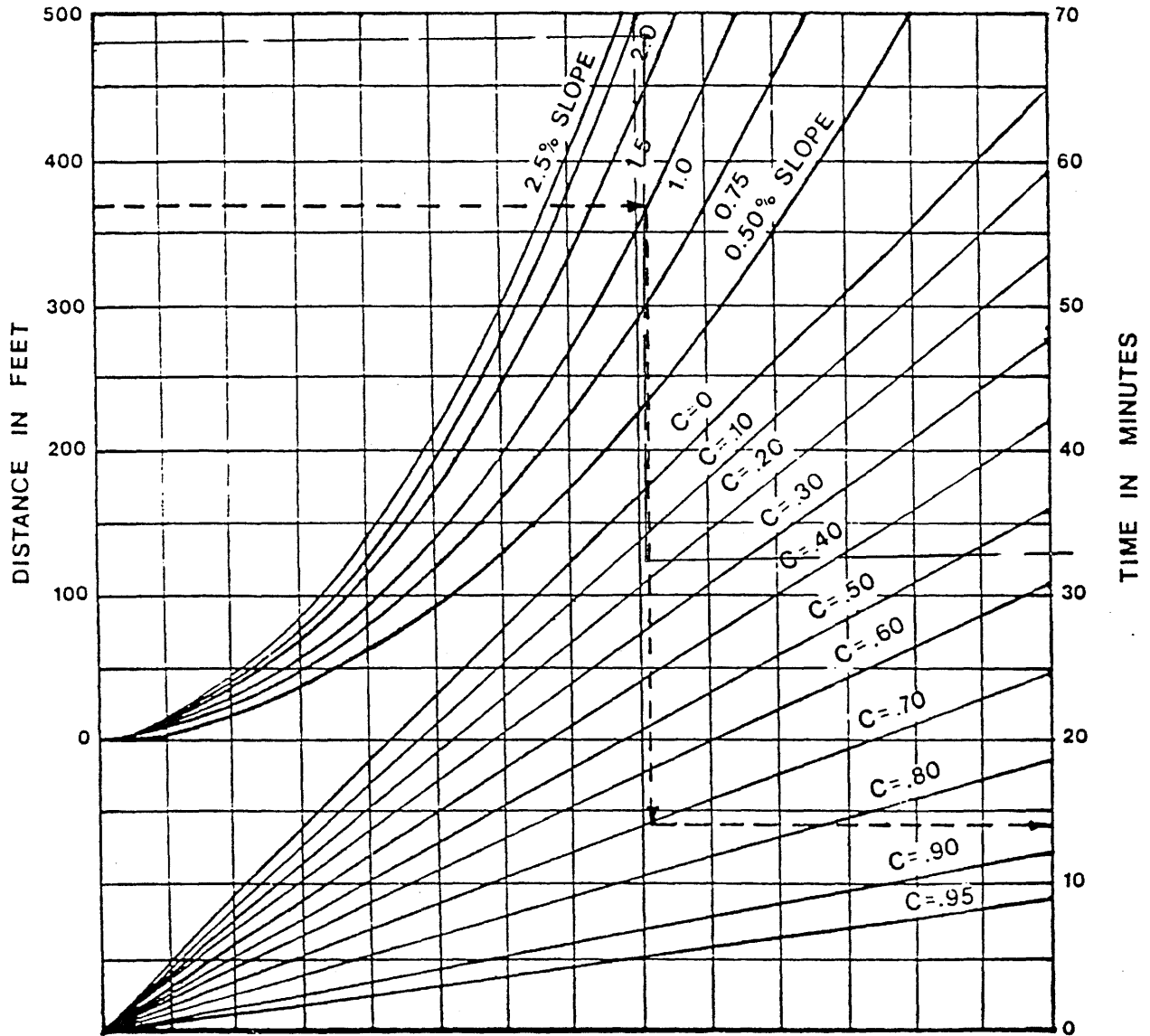


**AVERAGE VELOCITIES
FOR OVERLAND FLOW**

EXHIBIT II-3.0

MESA COUNTY STORM DRAINAGE CRITERIAL MANUAL

FIGURE 403



THE ABOVE CURVES ARE A SOLUTION OF THE FOLLOWING EQUATION:

$$t_c = \frac{1.8(1.1 - C_{10})\sqrt{L}}{\sqrt[3]{S}}$$

where: t_c = initial flow time (min.)
 S = slope of basin (%)
 C_{10} = runoff coefficient for 10 year frequency
 L = length of basin (ft.)

- Notes: 1. The curves are for use with the Rational Method.
2. The curves shall not be used for distances in excess of 500.

OVERLAND FLOW CURVES

EXHIBIT III-3.1

TIME OF CONCENTRATION CALCULATIONS

(2 YEAR STORM EVENT)

PROJECT: ALPINE VILLAGE
 JOB # 93-109
 T A L

(OVERLAND FLOW)
 HISTORIC CONDITION

DATE: 03-Jan-94

SUB-BASIN DATA			INITIAL/OVERLAND TIME (Ti)			TRAVEL TIME TIME (Tt)			INITIAL	Tc CHECK (URBANIZED BASINS)	FINAL Tc	REMARKS		
BASIN	C	AREA AC.	LENGTH FT.	SLOPE %	Ti MIN.	LENGTH FT.	SLOPE %	VEL F.P.S.	Tt MIN.	Tc MIN.	TOTAL LENGTH FT.	Tc = (L/180)+10 MIN.	MIN.	
H1	0.10	14.88	300.0	2.32	23.6	690.00	2.32	2.25	5.11	28.7	990.00	15.50	15.50	OVERLAND FLOW UNDEVELOPED TO POND AREA "C"
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

FORMULAS

$$T_i = 1.8(1.1-C)^{1/2}(L)^{1/3} \quad T_t = \frac{L}{S} \quad (L) \quad 60 \text{ SEC/MIN. (V.F.P.S.)}$$

TIME OF CONCENTRATION CALCULATIONS

(100 YEAR STORM EVENT)

PROJECT: ALPINE VILLAGE
 JOB # 93-109
 T A L

(OVERLAND FLOW)
 HISTORIC CONDITION

DATE: 03-Jan-94

SUB-BASIN DATA			INITIAL/OVERLAND TIME (Ti)			TRAVEL TIME TIME (Tt)			INITIAL	Tc CHECK (URBANIZED BASINS)	FINAL Tc	REMARKS		
BASIN	C	AREA AC.	LENGTH FT.	SLOPE %	Ti MIN.	LENGTH FT.	SLOPE %	VEL F.P.S.	Tt MIN.	Tc MIN.	TOTAL LENGTH FT.	Tc = (L/180)+10 MIN.	MIN.	
H1	0.25	14.88	300.0	2.32	20.0	690.00	2.32	2.25	5.11	25.1	990.00	15.50	15.50	OVERLAND FLOW UNDEVELOPED TO POND AREA "C"
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

FORMULAS

$$T_i = 1.8(1.1-C)^{1/2}(L)^{1/3} \quad T_t = \frac{L}{S} \quad (L) \quad 60 \text{ SEC/MIN. (V.F.P.S.)}$$

EXHIBIT III-A-D

STORM DRAINAGE SYSTEM DESIGN DATA

(2 YEAR STORM EVENT)
HISTORIC CONDITION
CITY OF GRAND JUNCTION, COLORADO

PROJECT: ALPINE VILLAGE
JOB # 93-109

DATE: 03-Jan-94

LOCATION OR NODE	BASINS	LENGTH FEET	INLET TIME min.	FLOW		T C min.	COEFF. "C"	INTENSITY "I"	AREA "A" AC.	DIRECT RUNOFF C.F.S.	OTHER RUNOFF C.F.S.	SUM RUNOFF C.F.S.	STREET			PIPE			REMARKS	
				STREET	PIPE								TIME min.	STREET	DESIGN F.P.S.	VELOC. F.P.S.	STREET	DESIGN F.P.S.		VELOC. F.P.S.
1H	H1					15.50	0.10	0.78	14.88	1.2		1.2								OVERLAND FLOW UNDEVELOPED TO POND AREA "C"

STORM DRAINAGE SYSTEM DESIGN DATA

(100 YEAR STORM EVENT)
HISTORIC CONDITION
CITY OF GRAND JUNCTION, COLORADO

PROJECT: ALPINE VILLAGE
JOB # 93-109

DATE: 03-Jan-94

LOCATION OR NODE	BASINS	LENGTH FEET	INLET TIME min.	FLOW		T C min.	COEFF. "C"	INTENSITY "I"	AREA "A" AC.	DIRECT RUNOFF C.F.S.	OTHER RUNOFF C.F.S.	SUM RUNOFF C.F.S.	STREET			PIPE			REMARKS	
				STREET	PIPE								TIME min.	STREET	DESIGN F.P.S.	VELOC. F.P.S.	STREET	DESIGN F.P.S.		VELOC. F.P.S.
1H	H1					15.50	0.25	2.99	14.88	11.1		11.1								OVERLAND FLOW UNDEVELOPED TO POND AREA "C"

EXHIBIT III.4.1

TIME OF CONCENTRATION CALCULATIONS

(2 YEAR STORM EVENT)

PROJECT: ALPINE VILLAGE
 JOB # 93-109
 T A L

(OVERLAND FLOW)
 DEVELOPED CONDITION

DATE: 03-Jan-94

SUB-BASIN DATA			INITIAL/OVERLAND TIME (Ti)			TRAVEL TIME TIME (Tt)			INITIAL	Tc CHECK (URBANIZED BASINS)	FINAL Tc	REMARKS	
BASIN	C	AREA AC.	LENGTH FT.	SLOPE %	Ti MIN.	LENGTH FT.	SLOPE %	VEL F.P.S.	Tt MIN.	Tc MIN.	TOTAL LENGTH FT.	Tc = (L/180)+10 MIN.	MIN.
A2	0.55	2.05	130.0	3.85	7.20	287.0	1.01	1.94	2.47	9.67	417.00	12.32	9.67
--	--	--	--	--	--	--	--	--	--	--	--	--	--

FORMULAS

$$T_i = 1.8(1.1-C)^{1/2}(L) \quad T_t = \frac{L}{S} \quad (60 \text{ SEC/MIN. (V.F.P.S.)})$$

TIME OF CONCENTRATION CALCULATIONS

(100 YEAR STORM EVENT)

PROJECT: ALPINE VILLAGE
 JOB # 93-109
 T A L

(OVERLAND FLOW)
 DEVELOPED CONDITION

DATE: 03-Jan-94

SUB-BASIN DATA			INITIAL/OVERLAND TIME (Ti)			TRAVEL TIME TIME (Tt)			INITIAL	Tc CHECK (URBANIZED BASINS)	FINAL Tc	REMARKS	
BASIN	C	AREA AC.	LENGTH FT.	SLOPE %	Ti MIN.	LENGTH FT.	SLOPE %	VEL F.P.S.	Tt MIN.	Tc MIN.	TOTAL LENGTH FT.	Tc = (L/180)+10 MIN.	MIN.
A2	0.70	2.05	130.0	3.85	5.24	287.0	1.01	1.94	2.47	7.70	417.00	12.32	7.70
--	--	--	--	--	--	--	--	--	--	--	--	--	--

FORMULAS

$$T_i = 1.8(1.1-C)^{1/2}(L) \quad T_t = \frac{L}{S} \quad (60 \text{ SEC/MIN. (V.F.P.S.)})$$

EXHIBIT III-5.0

STORM DRAINAGE SYSTEM DESIGN DATA

PROJECT: ALPINE VILLAGE
JOB # 93-109

(2 YEAR STORM EVENT)
DEVELOPED CONDITION
CITY OF GRAND JUNCTION, COLORADO

DATE:

03-Jan-94

LOCATION OR NODE	BASINS	LENGTH FEET	INLET TIME min.	FLOW TIME		T C min.	COEFF. "C"	INTENSITY "I"	AREA "A" AC.	DIRECT RUNOFF C.F.S.	OTHER RUNOFF C.F.S.	SUM RUNOFF C.F.S.	STREET SLOPE %		CAPACITY ALLOWED C.F.S.	SLOPE %	PIPE SIZE IN.		CAPACITY ALLOWED C.F.S.	STREET VELOC. F.P.S.		DESIGN VELOC. F.P.S.	PIPE DESIGN VELOC. F.P.S.	REMARKS
				STREET	PIPE								SIZE	SIZE			VELOC.	VELOC.						
1	A2	141.0	9.67 1.52	1.52	11.19	0.50	0.88	2.05	0.9	0.9	0.9	0.9	0.50	5.83	1.55									OVERLAND FLOW TO ALPINE COURT STREET FLOW TO LOW POINT
2	A2 A3 OF1	384.0 V-PAN	11.19 2.66	2.66	13.85	0.48	0.81	3.91	1.5	1.5	1.5	1.5	0.50	1.58 V-PAN	2.41									FLOW THROUGH CURB OPENING
3	A2 A3 OF1 A1 OF2	273.0 200.0 125.0 315.0	13.85 1.42 0.87 0.45 3.39	1.42 0.87 0.45 3.39	19.98	0.43	0.70	13.58	4.1	4.1	4.1	4.1	1.20 1.70 3.78 0.50	12.05 14.34 17.38 11.88 FULL STREET SECTION	3.20 3.81 4.62 1.55									FLOW FROM ALPINE CT OVERLAND FROM LOTS TO V-PAN OVERLAND FROM OFFSITE LOTS TO V-PAN FLOW TO JORDANNA ROAD AND CURB OPENING FLOW FROM ALPINE CT OVERLAND FROM LOTS TO V-PAN FLOW TO JORDANNA ROAD AND ONSITE OVERLAND TO ALPINE MEADOWS 2 STREET FLOW JORDANNA ROAD STREET FLOW JORDANNA ROAD STREET FLOW JORDANNA ROAD STREET FLOW AMBER WAY FLOW TO CURB OPENING IN AMBER WAY
	NODE 3 OF3		19.98		19.98	0.40	0.70	14.88	4.5	4.5	4.5	4.5												FLOW TO POND "C"

EXHIBIT III-5.1

STORM DRAINAGE SYSTEM DESIGN DATA

(100 YEAR STORM EVENT)
DEVELOPED CONDITION
CITY OF GRAND JUNCTION, COLORADO

PROJECT: ALPINE VILLAGE
JOB # 93-109
TAL

DATE:

03-Jan-84

LOCATION OR NODE	BASINS	LENGTH FEET	INLET TIME min.	FLOW TIME		T C min.	COEFF. "C"	INTENSITY "I"	AREA "A" AC.	DIRECT RUNOFF C.F.S.	OTHER RUNOFF C.F.S.	SUM RUNOFF C.F.S.	STREET		PIPE		STREET		PIPE		REMARKS
				STREET	PIPE								DESIGN VELOC. F.P.S.	VELOC. F.P.S.	DESIGN VELOC. F.P.S.	VELOC. F.P.S.					
1	A2	141.0		0.70		7.70 0.70 8.40	0.65	3.80	2.05	5.1		5.1	0.50	51.81	3.34					OVERLAND FLOW TO ALPINE COURT STREET FLOW TO LOW POINT	
2	A2 A3 OF1	384.0 V-PAN		2.13		8.40 2.13 10.53	0.65 0.65 0.55 0.63	3.56	2.05 0.94 0.92 3.91	8.8		8.8	0.50	17.35 V-PAN	3.01						FLOW THROUGH CURB OPENING
3	A2 A3 OF1 A1 OF2	273.0 200.0 125.0 315.0		0.66 0.41 0.21 1.57		10.53 0.66 0.41 0.21 1.57 13.38	0.65 0.65 0.55 0.65 0.55 0.58	3.22	2.05 0.94 0.92 0.56 9.11 13.58	25.4		25.4	1.20 1.70 3.78 0.50	107.01 127.37 154.31 51.81 FULL STREET SECTION	6.91 8.22 9.96 3.34						FLOW FROM ALPINE CT OVERLAND FROM LOTS TO V-PAN FLOW TO JORDANNA ROAD AND CURB OPENING FLOW FROM ALPINE CT OVERLAND FROM LOTS TO V-PAN FLOW TO JORDANNA ROAD AND ONSITE OVERLAND TO ALPINE MEADOWS 2 STREET FLOW JORDANNA ROAD STREET FLOW JORDANNA ROAD STREET FLOW JORDANNA ROAD STREET FLOW AMBER WAY FLOW TO CURB OPENING IN AMBER WAY
	NODE 3 OF3					13.38 13.38 13.38	0.58 0.58 0.55 0.58	3.22	13.58 1.30 14.88	27.8		27.8									FLOW TO POND "C"

EXHIBIT IV-S.2

Table 2: Resistance Factor for Overland Flow.
(SCS 1986 TR-55 & FHWA 1994 HEC-12)

Surface	N value	Source
Asphalt/Concrete	0.05 0.15	a
Bare Packed Soil Free of Stone	0.10	c
Fallow - No Residue	0.008 - 0.012	b
Conventional Tillage - No Residue	0.06 - 0.12	b
Conventional Tillage - With Residue	0.16 - 0.22	b
Chisel Plow - No Residue	0.06 - 0.12	b
Chisel Plow - With Residue	0.10 - 0.16	b
Fall Disking - With Residue	0.30 - 0.50	b
No Till - No Residue	0.04 - 0.10	b
No Till (20-40 percent residue cover)	0.07 - 0.17	b
No Till (60-100 percent residue cover)	0.17 - 0.47	b
Sparse Rangeland with Debris:		
0 Percent Cover	0.09 - 0.34	b
20 Percent Cover	0.05 - 0.25	b
Sparse Vegetation	0.053 - 0.13	f
Short Grass Prairie	0.10 - 0.20	f
Poor Grass Cover On Moderately Rough Bare Surface	0.30	c
Light Turf	0.20	a
Average Grass Cover	0.4	c
Dense Turf	0.17 - 0.80	a,c,e,f
Dense Grass	0.17 - 0.30	d
Bermuda Grass	0.30 - 0.48	d
Dense Shrubbery and Forest Litter	0.4	a

- a) Crawford and Linsley (1966).
- b) Engman (1986).
- c) Hathaway (1945).
- d) Palmer (1946).
- e) Ragan and Duru (1972).
- f) Woolhiser (1975).

* Asphalt/Concrete n value for open channel flow 0.01 - 0.016

Source: Army Corps of Engineers, Hydrologic Engineering Center,
Training Course on Advanced HEC-1, July 1990, Day 2, Lecture 2

EXHIBIT III-6.0

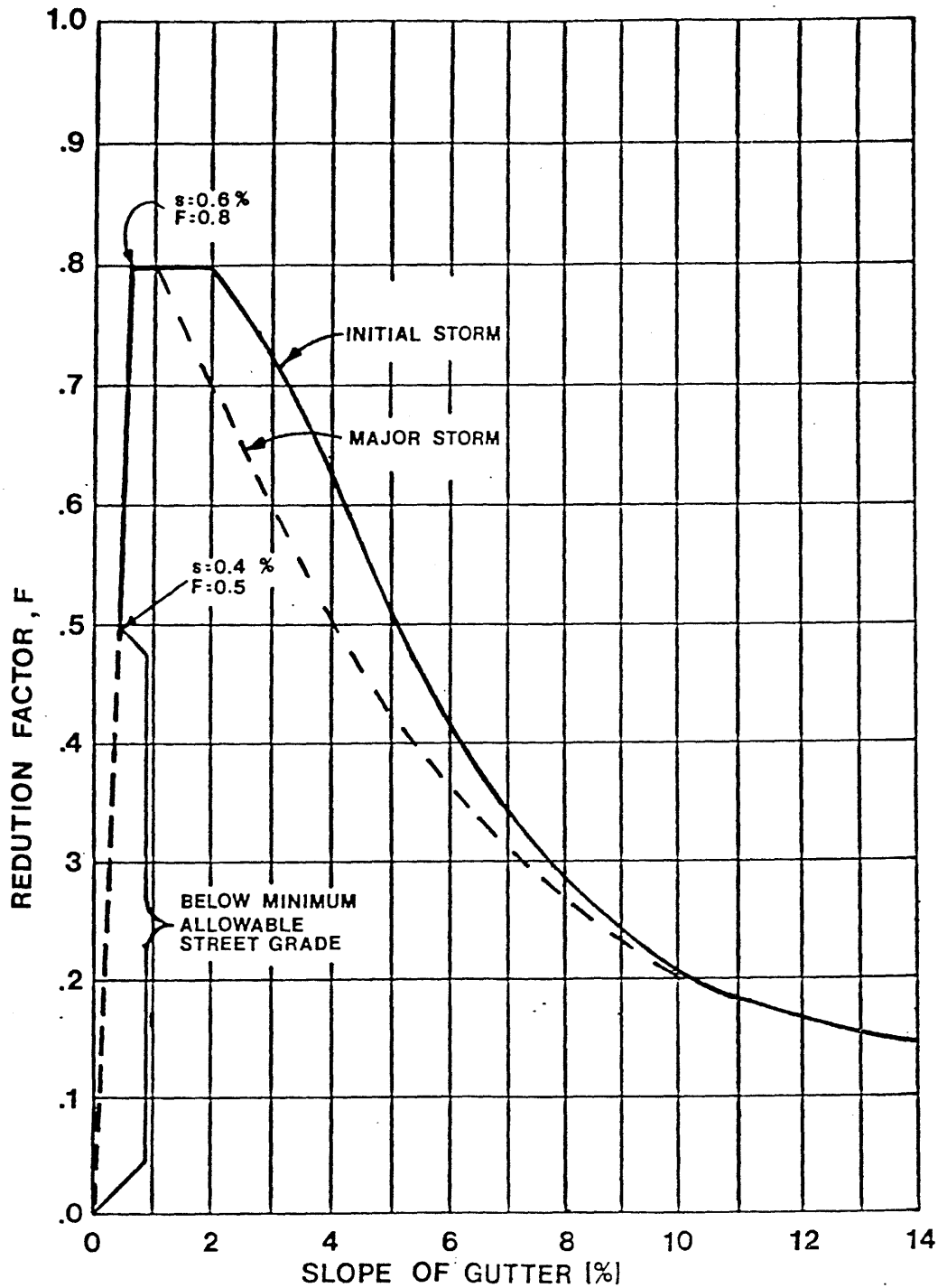
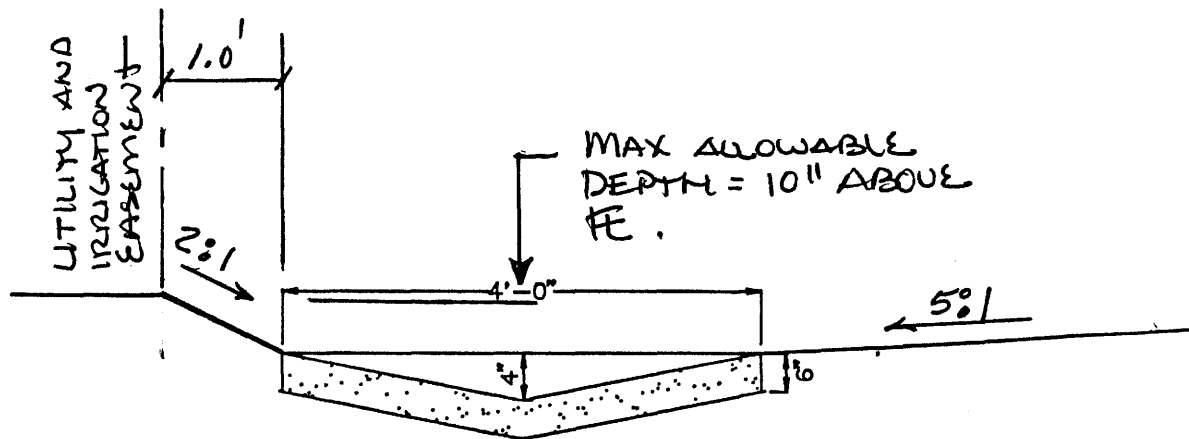


FIGURE 6-2 REDUCTION FACTOR FOR ALLOWABLE GUTTER CAPACITY LOCAL AND COLLECTOR STREETS

APPLY REDUCTION FACTOR FOR APPLICABLE SLOPE TO THE THEORETICAL GUTTER CAPACITY TO OBTAIN ALLOWABLE GUTTER CAPACITY APPROACHING ARTERIAL STREET

EXHIBIT II-6.1



4' GUTTER PAN DETAIL
SECTION A-A
NTS

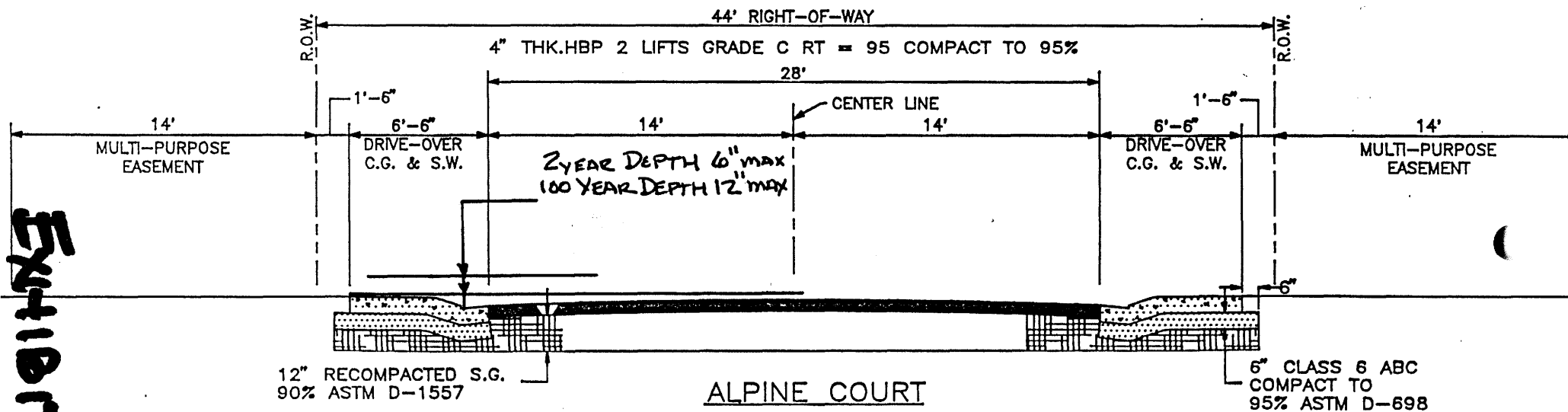


EXHIBIT III-6.2

STREET CARRING CAPACITY (2 YEAR)

PROJECT: ALPINE VILLAGE
 LOCATION: CITY OF GRAND JUNCTION, COLORADO
 DATE: Jan-94

Street Information: R.O.W. Width = 44.00 FT. Flow Area = 3.76 SF.
 Flowline Width = 31.00 FT.
 Classification = URBAN
 Mannings = 0.015
 Max. Depth = 0.42 FT. Above Gutter Flowline
 Str/ X-Slope = 1.00 %
 Gutter Slope = 8.33 % Drive Over Curb, Gutter and Walk
 Sidewalk Slope = 2.08 % 1/4" / FT.
 Roadside Slope = 2.08 % 1/4" / FT.

SLOPE OF STREET %	REDUCTION FACTOR FOR SLOPE	ALLOWABLE CAPACITY C.F.S.	VELOCITY F.P.S.
0.50	0.60	5.83	1.55
0.86	0.80	10.20	2.71
1.00	0.80	11.00	2.93
1.20	0.80	12.05	3.20
1.70	0.80	14.34	3.81
3.78	0.65	17.38	4.62

Formula: $Qa = F \times (1.49/N) \times R^{2/3} \times S^{1/2} \times A$
 F = Reduction Factor For Slope
 N = Mannings Coefficient = 0.0150
 R = Hydraulic Radius = A/WP = 0.2234
 A = Cross Sectional Area Sq.Ft. = 3.760
 WP = Wetted Perimeter Ft. = 16.83
 S = Street Slope FT./FT.

STREET CARRING CAPACITY (100 YEAR)

PROJECT: ALPINE VILLAGE
 LOCATION: CITY OF GRAND JUNCTION, COLORADO
 DATE: Jan-94

Street Information: R.O.W. Width = 44.00 FT. Flow Area = 15.49 SF.
 Flowline Width = 31.00 FT.
 Classification = URBAN
 Mannings = 0.015
 Max. Depth = 1.00 FT. Above Gutter Flowline
 Str/ X-Slope = 1.00 %
 Gutter Slope = 8.33 % Drive Over Curb, Gutter and Walk
 Sidewalk Slope = 2.08 % 1/4" / FT.
 Roadside Slope = 2.08 % 1/4" / FT.

SLOPE OF STREET %	REDUCTION FACTOR FOR SLOPE	ALLOWABLE CAPACITY C.F.S.	VELOCITY F.P.S.
0.50	0.60	51.81	3.34
0.86	0.80	90.59	5.85
1.00	0.80	97.69	6.31
1.20	0.80	107.01	6.91
1.70	0.80	127.37	8.22
3.78	0.65	154.31	9.96

Formula: $Qa = F \times (1.49/N) \times R^{2/3} \times S^{1/2} \times A$
 F = Reduction Factor For Slope
 N = Mannings Coefficient = 0.0150
 R = Hydraulic Radius = A/WP = 0.7070
 A = Cross Sectional Area Sq.Ft. = 15.490
 WP = Wetted Perimeter Ft. = 21.91
 S = Street Slope FT./FT.

EXHIBIT III-6.3

Triangular Channel Analysis & Design
Open Channel - Uniform flow

Worksheet Name: GRASS SWALE

Comment: ALPINE VILLAGE - GRASS SWALE BETWEEN LOTS

Solve For Discharge

Given Input Data:

Left Side Slope..	5.00:1 (H:V)
Right Side Slope.	5.00:1 (H:V)
Manning's n.....	0.030
Channel Slope....	0.0100 ft/ft
Depth.....	0.50 ft

Computed Results:

Discharge.....	2.43 cfs — CAPACITY MAX.
Velocity.....	1.94 fps
Flow Area.....	1.25 sf
Flow Top Width...	5.00 ft
Wetted Perimeter.	5.10 ft
Critical Depth...	0.43 ft
Critical Slope...	0.0225 ft/ft
Froude Number....	0.68 (flow is Subcritical)

Triangular Channel Analysis & Design
Open Channel - Uniform flow

Worksheet Name: V-PAN

Comment: V-PAN TO JORDANNA ROAD

Solve For Discharge

Given Input Data:

Left Side Slope..	6.06:1 (H:V)	
Right Side Slope.	6.06:1 (H:V)	
Manning's n.....	0.013	CONCRETE
Channel Slope....	0.0050 ft/ft	
Depth.....	0.33 ft	

Computed Results:

Discharge.....	1.59 cfs	CAPACITY OF V-PAN
Velocity.....	2.41 fps	
Flow Area.....	0.66 sf	
Flow Top Width...	4.00 ft	
Wetted Perimeter.	4.05 ft	
Critical Depth...	0.34 ft	
Critical Slope...	0.0045 ft/ft	
Froude Number....	1.05 (flow is Supercritical)	

EXHIBIT III-7.1

Trapezoidal Channel Analysis & Design
Open Channel - Uniform flow

Worksheet Name: V-PAN SWALE

Comment: PAN AND DRAINAGE SWALE TO JORDANNA ROAD

Solve For Discharge

Given Input Data:

Bottom Width.....	4.00 ft	
Left Side Slope..	2.00:1 (H:V)	
Right Side Slope.	5.00:1 (H:V)	
Manning's n.....	0.024	————— COMPOSITE
Channel Slope....	0.0050 ft/ft	V-PAN & GRASS CHANNEL
Depth.....	0.83 ft	

Computed Results:

Discharge.....	17.35 cfs	————— CAPACITY MAX.
Velocity.....	3.01 fps	
Flow Area.....	5.76 sf	
Flow Top Width...	9.83 ft	
Wetted Perimeter.	10.11 ft	
Critical Depth...	0.68 ft	
Critical Slope...	0.0110 ft/ft	
Froude Number....	0.69 (flow is Subcritical)	

EXHIBIT III-7.2

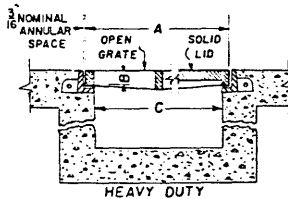
R-4990 Heavy Duty Trench Frames with Grated or Solid Covers

Any of these listed drainage structures can be furnished in Ductile Iron where high strength Gray Iron may not meet your requirements for loading and shock resistance. Ductile Iron has the high corrosion-resistance of Cast Iron and the strength, toughness, ductility and wear-resistance of steel. These advantages permit Ductile Iron to replace more costly materials where strength and wear are important.

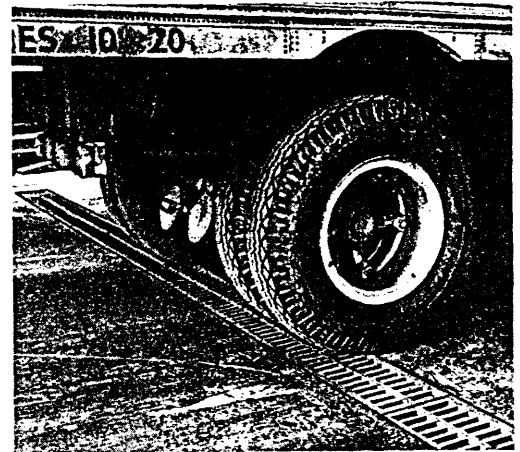
Standard Cover Dimensions

Catalog No.	Dimensions in inches		
	A	B	C
R-4990-A	8	1 3/4	6
R-4990-B	10	1 3/4	8
R-4990-C	12	1 3/4	10
R-4990-D	14	2	12
R-4990-E	17	2	15
R-4990-F	20	2	18
R-4990-G	23	2	21
R-4990-H	26	2	24
R-4990-J	30	2 1/4	27 *
R-4990-K	33	2 1/4	30 *
R-4990-L	36	2 1/2	33 *
R-4990-M	39	2 1/2	36 *
R-4990-N	45	3	42 *
R-4990-O	51	3	48 *

*1/4" Annular spacing



The above schematic drawing identifies basic dimensions only and does not apply to all cover designs. Bar and rib depths, plate thicknesses, and seating widths, may vary on different sizes and styles. If your project has design restrictions, ask for approval drawings.



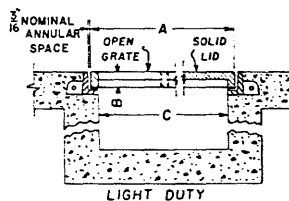
Illustrating heavy duty trench frames and Type A grates to drain loading ramp. Designs in this series are being used successfully in subway construction, intersecting elevated highways and underpasses, airport hangar doors, ramps and other special purposes.

R-4991 Light Duty Trench Frames with Grated or Solid Covers

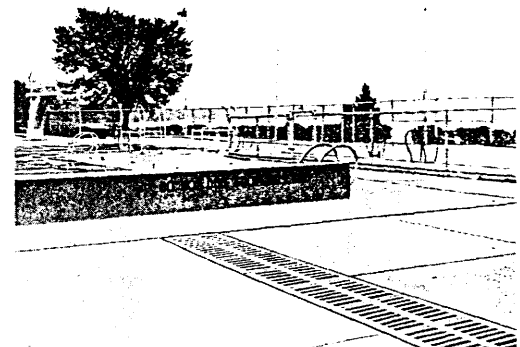
Some specifications require lids or covers in trench drains to be light in weight but capable of supporting heavier loads. When grates and lids in this series are specified in Ductile Iron, strength is increased two to three times without changing weight. If you have a problem involving strength and weight restrictions, send details and we will make recommendations.

Standard Cover Dimensions

Catalog No.	Dimensions in inches		
	A	B	C
R-4991-A	8	1 1/4	6
R-4991-B	10	1 1/4	8
R-4991-C	12	1 1/4	10
R-4991-D	14	1 1/4	12
R-4991-E	17	1 1/4	15
R-4991-F	20	1 1/4	18
R-4991-G	23	1 1/2	21
R-4991-H	26	1 1/2	24
R-4991-J	29	1 1/2	27
R-4991-K	32	1 3/4	30
R-4991-L	35	1 3/4	33
R-4991-M	38	1 3/4	36
R-4991-N	44	2	42
R-4991-O	50	2	48



The above schematic drawing identifies basic dimensions only and does not apply to all cover designs. Bar and rib depths, plate thicknesses, and seating widths, may vary on different sizes and styles. If your project has design restrictions, ask for approval drawings.



Illustrating trench frames with grated covers in the deck area around a municipal pool.

These light duty designs are particularly adaptable for manufacturing plants, service stations, laundries, warehouses, residential driveways, boiler rooms and similar locations.

Read Carefully Before Ordering

The various standard trench drains shown here are available with a number of alternates illustrated on page 247. It is important to examine all of the variables carefully and specify fully your requirements. Your order will be entered correctly and promptly, if it includes this information:

Specify:

1. Complete catalog number.
2. Type of frame section required.
3. Frame end pieces, when required.
4. Type of grate or lid: A, B, C, D, E or F.
5. Length of trench.
6. Bolted covers, solid or grated, when required.
7. Special painting requirements other than asphalt coating.
8. When extremely heavy loading is expected, such as concentrated fork-lift loads, heavy aircraft, etc., redesign may be necessary, depending on the style and size selected.
9. Ductile Iron frames and/or Ductile Iron grates.
10. Special dimensions, such as changes in trench direction, etc. Send details.
11. Pickholes or lift handles if required.
12. If trench drain grates are to be installed in bicycle traffic areas, please advise so that safety standards described on catalog page 87 can be applied.

Rectangular Channel Analysis & Design
Open Channel - Uniform flow

Worksheet Name: CURB OPENNING

Comment: CURB OPENNING IN SUDEWALK - ALPINE COURT

Solve For Discharge

Given Input Data:

Bottom Width.....	1.00 ft
Manning's n.....	0.013
Channel Slope....	0.0208 ft/ft
Depth.....	0.33 ft

Computed Results:

Discharge.....	1.85 cfs
Velocity.....	5.62 fps
Flow Area.....	0.33 sf
Flow Top Width...	1.00 ft
Wetted Perimeter.	1.66 ft
Critical Depth...	0.47 ft
Critical Slope...	0.0077 ft/ft
Froude Number....	1.72 (flow is Supercritical)

EXHIBIT III-8.1

Rectangular Channel Analysis & Design
Open Channel - Uniform flow

Worksheet Name: CURB OPENNING

Comment: CURB OPENNING IN SUDEWALK - JORDANNA ROAD

Solve For Discharge

Given Input Data:

Bottom Width.....	3.00 ft
Manning's n.....	0.013
Channel Slope....	0.0208 ft/ft
Depth.....	0.33 ft

Computed Results:

Discharge.....	6.83 cfs
Velocity.....	6.90 fps
Flow Area.....	0.99 sf
Flow Top Width...	3.00 ft
Wetted Perimeter.	3.66 ft
Critical Depth...	0.54 ft
Critical Slope...	0.0046 ft/ft
Froude Number....	2.12 (flow is Supercritical)

EXHIBIT II-8.2

Rectangular Channel Analysis & Design
Open Channel - Uniform flow

Worksheet Name: CURB OPENNING

Comment: CURB OPENNING IN SUDEWALK - AMBER WAY

Solve For Discharge

Given Input Data:

Bottom Width.....	4.00 ft
Manning's n.....	0.013
Channel Slope....	0.0208 ft/ft
Depth.....	0.33 ft

Computed Results:

Discharge.....	9.39 cfs
Velocity.....	7.11 fps
Flow Area.....	1.32 sf
Flow Top Width...	4.00 ft
Wetted Perimeter.	4.66 ft
Critical Depth...	0.56 ft
Critical Slope...	0.0042 ft/ft
Froude Number....	2.18 (flow is Supercritical)

EXHIBIT II-83

Discharge vs Depth On Grate

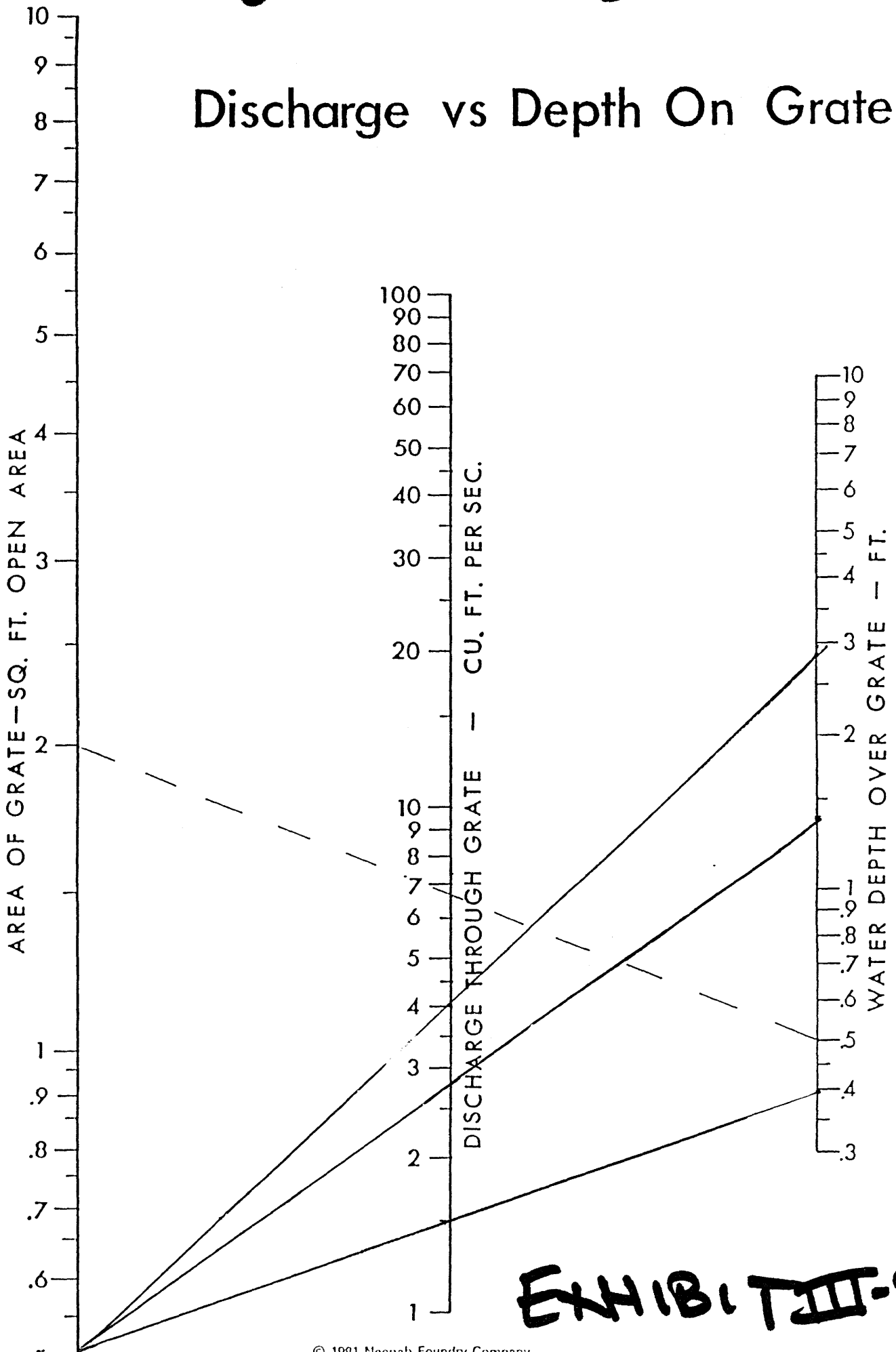


EXHIBIT II-9.0

PROJECT: ALPINE VILLAGE
 LOCATION: CITY OF GRAND JUNCTION. COLORADO
 SUBJECT: REQUIRED DETENTION POND VOLUME
 DATE: 04-Jan-93

FORMULAS PER CITY OF GRAND JUNCTION

$$T_{d2} = (633.4C A / (Q_0 - Q_0 T_c / (81.2C A)))^{.5} - 15.6$$

$$T_{d100} = (2925C A / (Q_0 - Q_0 T_c / (234C A)))^{.5} - 25$$

$$I_{d2} = \text{Intensity at } T_{d2} = 40.6 / (T_{d2} + 15.6)$$

$$I_{d100} = \text{Intensity at } T_{d100} = 117 / (T_{d100} + 25)$$

$$Q_{d2} = C A I_{d2}$$

$$K = T_{c_h} / T_{c_d}$$

$$V = 66(Q_{d2} T_{d2} - Q_0 T_{d2} - Q_0 T_{c_h} + K Q_0 T_{c_h} / 2 + Q_0 T_{c_h}^2 / (2Q_{d2}))$$

WHERE:

Td = Time of Critical Storm Duration. Minutes:
 C = Runoff Coefficient:
 A = Area in Acres:
 Qo = Detention Pond Average Release Rate. CFS:
 Tc = Time of Concentration. Minutes:
 Id = Intensity at Td. Inches Per Hour:
 Qd = Runoff Rate at Td. CFS:
 K = Ratio of Pre and Post- Development Tc:
 V = Storage Volume in CF:

SUBSCRIPTS:

2 = 2 - Year Storm
 100 = 100 - Year Storm
 h = Historic Condition
 d = Developed Condition

REQUIRED 2 YEAR STORAGE VOLUME

Td ₂	Cd	A	Qo	Tc _h	Tc _d	Id ₂	Qd ₂	K	V ₂
43.90	0.43	14.88	1.20	15.50	19.98	0.68	4.37	0.7758	8421.92

REQUIRED 100 YEAR STORAGE VOLUME

Td ₁₀₀	Cd	A	Qo	Tc _h	Tc _d	Id ₁₀₀	Qd ₁₀₀	K	V ₁₀₀
24.55	0.58	14.88	11.10	15.50	13.38	2.36	20.38	1.1584	13579.06

EXHIBIT III-9.1

HYDROLOGIC REPORT

STAGE / STORAGE / DISCHARGE

RESERVOIR NUMBER = 1

RESERVOIR NAME = POND C.....

STORAGE VALUES WERE INPUT MANUALLY

DISCHARGE VALUES WERE INPUT MANUALLY

STAGE	ELEVATION	INC STOR cu ft	TOT STOR cu ft	OUTFLOW cfs
0.00	36.61	0	0	0.00
0.39	37.00	726	726	1.50
1.39	38.00	4664	5390	2.75
2.89	39.50	10641	16031	4.00
0.00	0.00	0	0	0.00
0.00	0.00	0	0	0.00
0.00	0.00	0	0	0.00
0.00	0.00	0	0	0.00
0.00	0.00	0	0	0.00
0.00	0.00	0	0	0.00
0.00	0.00	0	0	0.00
0.00	0.00	0	0	0.00

EXHIBIT III-9.2

ALPINE VILLAGE SUBDIVISION

FILE: #4-94

DATE: January 19, 1993

STAFF: Dave Thornton, Community Development Department

ACTION REQUESTED: Request for final plat approval for Alpine Village Subdivision consisting of 16 lots located at the SW corner of 27 Road and H Road.

LOCATION: SW Corner of 27 Road and H Road

APPLICANTS: Alpine C.M.

Representative: Tom Logue

STAFF ANALYSIS:

REVIEW COMMENTS

1. Generally staff is concerned with the proximity of Alpine Court with the intersection of 27 Road and H Road. In looking at the larger picture, access to Alpine Village needs to occur from the south via Jade Lane. The petitioner needs to address this as a preferred alternative and show how access can be accommodated by using Jade Lane thus creating a street that would be called Jade Court.

2. Side yard setbacks of 0 feet with a building separation of 10 feet is not acceptable for single family detached units. This may cause a problem for the property owner building a house between two existing houses. Rear yard setbacks of 0 feet are not acceptable either. What setback is proposed for the front yard setback for the non-garage portion of the structure. Which lots will have attached units? What distances need to be maintained between structures and the irrigation and drainage easements along the South side of this subdivision? To better address setback limitations for individual lots, it can best be shown with building envelopes on a site plan. Building envelopes would eliminate the question of which side of each lot is designated the side yard, the rear yard and the front yard? The site plan is then recorded with the final plat.

3. Open Space fees due in the amount of \$3600.00 shall be paid prior to recording the final plat.

4. All recording costs are the responsibility of the petitioner.

5. Provide detail for the fence and entrance feature/sign on the site plan. The current landscaping plan shows a 6 feet high screen fence described as similar to the fence to the south. This statement is too vague. What size are the ID signs? What will the signs say? Show how the entrance feature/fencing affects site distance.

6. The plat needs to be revised to accommodate the turn-around in tracts A, B & C.

7. Trash pick-up will occur at the street along Alpine Court and not within the auto courts/tracts A, B & C. Please show on the site plan a designated area for residents to put their trash that will not conflict with traffic, pedestrian access, etc.

8. The covenants need to include maintenance responsibilities for tracts A, B & C. Will parking be allowed in the tracts?

9. The plat dedication includes the dedication of all irrigation easements to the homeowners Association for their private irrigation systems. Yet the project report states that domestic water will be used for irrigation purposes. Please revise plat dedication appropriately.

10. Add language to the plat dedication that is described in the covenants relating to Tracts A, B & C ownership and remove "trash collection".

11. Cash escrow for 1/2 street improvements for 27 Road and H Road adjacent to this subdivision and Alpine Meadows II shall be due prior to recording the final plat.

12. Tracts A, B & C driveways shall be constructed with a minimum depth of 6 inches of concrete.

13. To avoid confusion, the name Alpine Court is not appropriate. Please name this something else. Alpine Court would have to be a street that comes off of Alpine Drive.

14. Please identify on the site plan the location where postal boxes will be installed.

15. On the plat, need to provide for dedication of a landscaping easement for the Homeowners Association to plant and maintain landscaping and screening along 27 Road and H Road.

16. Either an improvements agreement and guarantee shall be executed or actual improvements constructed before the final plat will be recorded.

STAFF REVIEW

FILE: #4-94

DATE: January 20, 1993

STAFF: Dave Thornton

ACTION REQUESTED: Request for final plat approval for Alpine Village Subdivision consisting of 16 lots located at the SW corner of 27 Road and H Road.

LOCATION: SW Corner of 27 Road and H Road

APPLICANTS: Alpine C.M.
Representative: Tom Logue

EXECUTIVE SUMMARY: The petitioner is requesting ...

EXISTING LAND USE: Vacant

PROPOSED LAND USE: Residential

SURROUNDING LAND USE:

NORTH -- Residential
EAST -- Vacant
SOUTH -- Residential
WEST -- Residential

EXISTING ZONING: PR-4.2

PROPOSED ZONING: No Change

SURROUNDING ZONING:

NORTH -- RSF-4
EAST --
SOUTH -- PR-4.2
WEST -- PR-4.2

RELATIONSHIP TO COMPREHENSIVE PLAN/POLICIES/GUIDELINES: No Plan exists for this area.

STAFF RECOMMENDATION:

Staff recommends approval subject to the following conditions:

SUGGESTED PLANNING COMMISSION MOTION:

Mr. Chairman, on item #4-94, I move that we forward this on to City Council with the recommendation of approval subject to staff recommendation.



January 11, 1994

Mr. Rob Griffin
Alpine, C.M. Inc.
1111 South 12th Street
Grand Junction, CO 81501

Grand Junction Community Development Department
Planning • Zoning • Code Enforcement
250 North Fifth Street
Grand Junction, Colorado 81501-2668
(303) 244-1430 FAX (303) 244-1599

Dear Mr. Griffin:

City Staff has reviewed the materials submitted for the proposed Alpine Village at H Road and 27 Road (File #4-94). Deficiencies include the absence of an engineering stamp on all construction plans submitted, absence of the Alpine Meadows Drainage report which is referred to and is the basis for the drainage report, and the absence of the plat dedication. Please refer to the attached comments which describes the deficiencies in more detail and discusses issues brought up through a preliminary staff review of this project. We suggest that these changes also be incorporated into the resubmittal of this project.

Section 6-7-4 of the Zoning and Development Code states that "a submittal with insufficient information, identified in the review process, which has not been addressed by the applicant, may be withdrawn from the agenda by the Administrator". Scheduling for the review and required processing of development requests is on a very tight timeline so that applicants can get to a public hearing as soon as possible. There would not be adequate time for us to review revised plans and additional plans now and still meet all the required advertising and notification requirements for the February hearing. Therefore, we cannot schedule your proposal for the February hearing.

For Alpine Village to be scheduled for the March 1, 1993 Planning Commission hearing, all deficiencies as outlined above for Alpine Village must be rectified and resubmitted by February 1, 1994 at 5:00 p.m. to the Community Development Department.

I encourage you to meet with myself and Jody Kliska prior to February 1st to discuss the resubmittal in more detail. If the deficiencies cannot be adequately addressed by February 1st, then the earliest this item could be heard before Planning Commission would be April 5th, 1994 with a resubmittal deadline of March 1st.

Respectfully,

Dave Thornton
Senior Planner

cc: Tom Logue, Representative for the petitioner
Jody Kliska, Development Engineer
File # 4-94

Preliminary Review Comments
FOR ALPINE Village

1/11/94

Plat: Need dedications. Need legal description and submittal of computerized printout of boundaries and closure. Show building setbacks and envelopes.

Landscape Plan: The auto court looks like it poses difficulties to lots 2&3 for access. Do they back over the neighbor's lawn? Back all the way to the street? Some explanation of maneuverability would be helpful.

Street Plan: Several questions arose regarding the proposed v-gutter for conveying drainage. This renders lot 7 virtually useless and lot 4 in the adjacent subdivision will have a similar problem. The drainage report was incomplete as it referred to a report done for the Alpine Meadows subdivision and this was not included. I would like to see some proposed alternatives to the valley gutter, perhaps a pipe. Without the dedications, it is difficult to tell if the easements shown are sufficient. The street profile should have a minimum 1% grade throughout so the street drains. The pavement structure design must be submitted. Compaction of subgrade and base course must meet city standards. The No Outlet sign is MUTCD coded W14-2. ~~Street~~ ^{will} Street lights be required? There should be a horizontal control survey marker set at street intersections.

Street Details: Where is exhibit G?

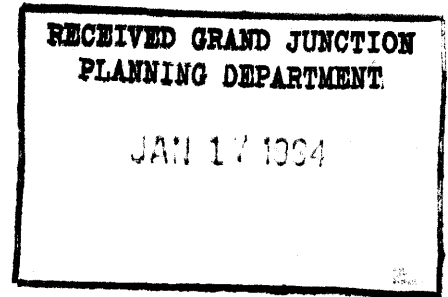
Grading Plan: This is subject to change with revision of drainage.

Sewer and Water Plan: Add a note "All water lines shall be tested in accordance with City Standards prior to street construction. As per the EBID checklist, provide notes regarding service line markers and end points, a note regarding separation of water and sewer mains, call out water and sewer pipe types in notes.



January 17, 1994

Dave Thornton, senior planner
Grand Junction Community Development Dept.
250 North 5th. Street
Grand Junction, CO 81501



RE: ALPINE VILLAGE, File No. 4-94

Dear Mr. Thornton:

In response to the staff's initial review of Alpine Village, Final Plat and Plan, the following is provided:

1. Additional Copies of the Final Plat Dedication Sheet which contains the legal description of the subject property are attached.
2. Two copies of a computerized printout of the subdivision boundary and lot closure.
3. A chart indicating the Minimum Setback Requirements is on the Final Plat.
4. A Plot Plan depicting the location of each building foot print is attached. The plan indicates how traffic movements will occur at the ends of the auto courts.
5. The existing Drainage Report for Alpine Meadows has been previously transmitted to the Development Engineer's office under separate cover.
6. Several alternatives for drainage discharge control were evaluated prior to selection of the submitted plan. The Grand Valley Water Users Assoc. discourages piped discharges into their canal system. Due to the topographic nature of the site it is almost impossible to pipe storm water.
7. In order to reduce the amount of "fill" required to achieve proper lot drainage a minimum street grade of 0.50% was utilized in the street design. In the absence of written City street design criteria, design personnel from our office have been instructed to utilize the County's design criteria, which allows for minimum street grades of 0.50%.
8. Two copies of the structural pavement design are attached.
9. The Street Construction Plans have been modified to represent the City's subgrade and aggregate base course compaction requirements. The "No Outlet" sign identification has been modified as requested. Two Copies of the revised Street Plans are attached.
10. Street lighting will be installed as recommended by the electric supplier for the development.
11. A horizontal survey control marker will be established during the construction phase.

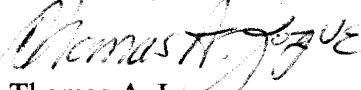
12. Since the proposal does not include the construction of curb returns, Exhibit G was not included with the construction documents.

13. Attached are two copies of the Sewer and Water Plans which have been modified to include the following:

- a. General Note revisions as requested by the City's Development Engineer.
- b. A service line marker detail has been added.

We hope that the accompanying information adequately responds to your requirements. However, if you require any additional information or have any questions do not hesitate to contact our office.

Respectfully,



Thomas A. Logue

xc: Rob Griffin, Alpine C.M., Inc.

Office Memo

January 19, 1994

4-94

REVIEW COMMENTS FOR: Alpine Village

REVIEWED BY: Jody Kliska

Plat:

The five foot drainage easement includes the four-foot valley pan and as drawn appears as though the edge of the pan is at the line drawn for the easement. The drainage easment should include all of the area intended to carry the 100 year storm and this should be delineated on the plat. The plat shows the five foot drainage easement as continuous through the entire site, even to the east of the residential street.

The drainage easement shown on the adjacent subdivision is not recorded on the plat we have on file in the office. Has there been a subsequent replat, or will that be done?

The plot plan showing the building footprints shows the valley pan right at the building foundation. In the drainage report, the swale shown for the valley pan includes a 2:1 slope on the building side and a 5:1 slope on the other side. At the maximum depth shown of 10", this indicates a swale wider than the five foot easement.

In the dedications, tracts A,B, and C indicate easements for use by public services such as postal service, trash collection, fire, police, emergency vehicles. Please indicate on the site plan areas for mailboxes, trash receptacles, and the pavement design for the auto courts.

Site Plan:

Please show a construction detail of the private drives. The pavement design submitted says it is for the main drive areas - does that include the private drives? The private drives need to accommodate the turning manuevers of a passenger car. At turning template for a passenger car is attached.

In the typical section for Alpine Court, what does the note "RT=95 compact to 95% of AASHTO T180" mean? Doesn't pavement normally get compacted to 92-96% of maximum theoretical density in accordance

SECTION III
GRADING

A. ALLOWABLE GRADES

1. ~~Asphalt Pavement - Minimum grades on asphalt pavement shall be 1.0%. A maximum grade on asphalt pavement shall be 8.33%, although a limit of 5.0% is recommended.~~
2. Concrete Pavement - Minimum grades on concrete pavement shall be 0.5%. A maximum grade on concrete pavement shall be 8.33%, although a maximum of 5.0% is recommended.
3. Curb & Gutter - The minimum grades on curb, gutter, and valley pans on sites shall be 0.5%.

B. PLAN REQUIREMENTS

Grading and Drainage Plans shall show the following:

- (i) Existing grades adjacent to proposed facilities and where new facilities tie-in to existing facilities;
- (ii) Proposed grades at all concrete and asphalt angle and curvature points. Where both conditions exist, the grades should show whether it is concrete or asphalt grades such as top of sidewalk and at pavement;
- (iii) Location and grades at all swales, grade breaks, grade changes, etc;
- (iv) Arrows and slopes in % of all grading planes and gutters; and
- (v) Horizontal control must be provided for all proposed facilities for which grades are required. This may be provided by full dimensioning, or by providing coordinates. Use of point numbers may be used in tabular form to provide horizontal coordinates and grades. Horizontal and vertical information on final plans must be "construction ready" in completeness.

with AASHTO T209?

Cross sections for the valley pan need to be submitted showing how the slopes will be accommodated. It appears from the flowline profile the 2:1 slope will catch above the ground.

At the sidewalk opening for the valley pan, show a detail of how the water will be deflected into the pan. How will this work so it does not erode?

Please clarify in more detail why the .5% grade cannot be increased.

Drainage Report:

Please submit the time of concentration calculations for each of the basins. Only A2 and H1 calculations were shown.

Where does the flow from A1 go? It doesn't appear on the spreadsheet calculations that A1 is included in the nodes. Please clarify how the accumulation of cfs works for each of the nodes. Is the flow from A1 intended to go overland or onto the valley pan?

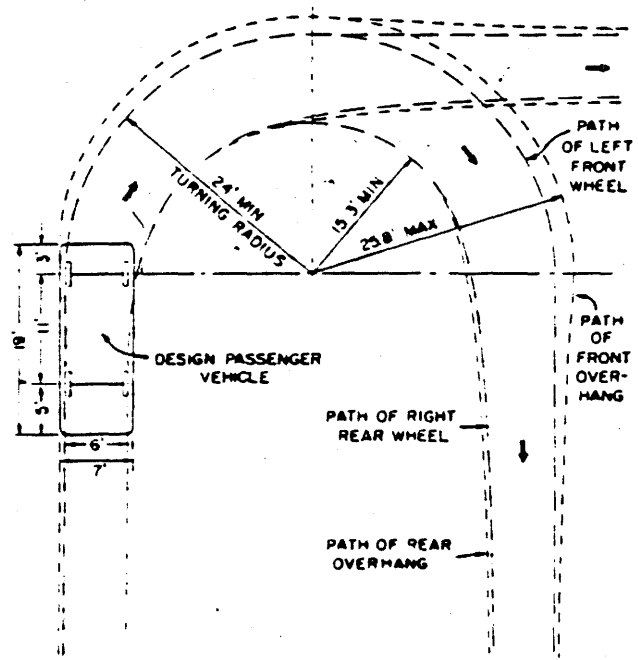
Show the 100 year flow elevation along the valley pan. Also, cross-sections of the pan and grading need to be provided. Can the irrigation and utility easement be modified for drainage, since it appears some drainage will encroach on this easement?

Please verify the detention pond capacity and provide as-builts of the storm sewer system for Alpine Meadows.

Please provide a detail of the water backup at the curb openings. What elevation will it back up to and what properties will be affected? Will the water flow over the curbs and into yards during 100 year storms?

The 2:1 slope will be above the sidewalk elevation at Jordanna Road. What prevents sheet flow across the subdivision?

Clarify where the water will flow at the intersection of Jordanna Road and Amber Way. It looks like most of the water will keep going down Jordanna Way.



P DESIGN VEHICLE

1" = 20'

REVIEW COMMENTS

Page 1 of 2

FILE #4-94

TITLE HEADING: Final Plat/Plan - Alpine Village

LOCATION: SW corner of 12th Street & H Road

PETITIONER: Alpine C.M.
c/o Rob Griffin

PETITIONER'S ADDRESS/TELEPHONE: 1111 South 9th Street
Grand Junction, CO 81501
245-2505

PETITIONER'S REPRESENTATIVE: Thomas A. Logue

STAFF REPRESENTATIVE: David Thornton

NOTE: WRITTEN RESPONSE BY THE PETITIONER TO THE REVIEW COMMENTS IS REQUIRED ON OR BEFORE 5:00 P.M., JANUARY 25, 1994.

GRAND VALLEY RURAL POWER 1/6/94
Perry Rupp 242-0040

None at this time.

PUBLIC SERVICE COMPANY 1/7/94
Dale Clawson 244-2695

ELECTRIC: This is Grand Valley Rural Power service area.
GAS: Tracts A, B and C need to be designated as utility easements.

GRAND JUNCTION POLICE DEPARTMENT 1/13/94
Mark Angelo 244-3587

1. Is there any way to change the access to the south of Amber Way? I feel another access onto H Road will create too many accesses within less than 1/4 mile.
2. Is the existing ditch going to be covered? If not, where is it located in relationship to the cul-de-sac end?
3. Are there going to be improvements made on H Road? I feel there needs to be sidewalks for future pedestrian traffic that may want to get to the new city facility at 26 1/2 & H Roads.
4. The common driveway for lots 1-4; lots 13-16; who's responsibility is it going to be for upkeep? What about parking on the driveway? I can see some hazards with everyone having to back out to get out - they will have to back out into the neighbors driveway to get turned around. Where is company going to park? And if there is a complaint for PD to handle - who can or can't park in the driveway?

U.S. WEST 1/12/94
Leon Peach 244-4964

New or additional telephone facilities necessitated by this project may result in a "contract" and up-front monies required from developer, prior to ordering or placing of said facilities. For more information, please call Leon Peach, 244-4964.

GRAND JUNCTION FIRE DEPARTMENT 1/14/94
George Bennett 244-1400

Adequate access must be provided to lots 2, 3, 6, 7, 11, 14 & 15 for emergency vehicles.

UTE WATER 1/14/94
Gary R. Mathews 242-7491

1. Ute Water has an 18" main line North side of H Road. Sufficient fire flow requirements exist.
2. All fire hydrants are valved at the main line.
3. All water meters will be installed in the 14' multi-purpose easement.
4. The proposed 8" main at the end of Alpine Court will be installed 2-3 foot from curb and gutter and not as shown.
5. As-builts and construction plans are required.
6. Constructions plans must be approved before sign off.
7. Policies and fees in effect at the time of application will apply.

UTILITY ENGINEER 1/18/94
Bill Cheney 244-1590

SEWER

1. An easement is required across the southwest corner of Lot 9 for the proposed sewer line installation and across Lot 9, Filing II.
2. Detail A-A on Sheet 3 shows 2-8" sewer services. Why are those 8" lines instead of 4"?
3. Service saddles are no longer approved for new sewer line installations.
4. Connection to the existing manhole requires a water stop unless a stubout has already been provided.

COMMUNITY DEVELOPMENT DEPARTMENT 1/19/94
David Thornton 244-1447

See attached comments.

CITY DEVELOPMENT ENGINEER 1/19/94
Jody Kliska 244-1591

See attached comments.

RESPONSE TO REVIEW COMMENTS

January 24, 1994

Title: ALPINE VILLAGE, Final Plat/ Plan

File No: 4-94

Location: SW Corner 12th. Street and H Road

RECEIVED GRAND JUNCTION
PLANNING DEPARTMENT

JAN 26 1994

RESPONSE TO GRAND VALLEY RURAL POWER:

Comments do not require a response.

RESPONSE TO PUBLIC SERVICE CO:

The Final Plat has been revised to include the dedication of Tracts A, B, & C as utility easements.

RESPONSE TO POLICE DEPARTMENT:

See Community Development & Development Engineering Department Response.

RESPONSE TO U.S. WEST:

Comments do not require response.

RESPONSE TO FIRE DEPARTMENT:

Parking will not be allowed within the 25 foot wide Private Driveways.
Therefore, adequate access will be provided to each adjacent lot.

RESPONSE TO UTE WATER:

The Water Plans have been revised to reflect the requested changes.

RESPONSE TO CITY UTILITY ENGINEER:

1. A ten foot Utility Easement has been added to the Final Plats across Lot 9 within Alpine Village and Lot 9 within Alpine II, as well as, the Sewer and Water Plan.
2. Section A-A has been modified to reflect 4" service lines.
3. Saddles will not be used for service lines.
4. The connection to the existing manhole will utilize an existing 8" stub.

RESPONSE TO COMMUNITY DEVELOPMENT:

1. The following was considered in the establishment of Alpine Court (now known as) as the primary access to the development:

a) The location of Alpine Court (now known as Josilyn Place) was established during the Preliminary Plan process. Review comments received did not indicate a concern with the location of the street access.

b) The centerline of Josilyn Place is located 220 feet east of 12th. Street. Grand Junction does not have a standard for street intersection separation.

c) North 12th. Street does not, or will never, extend north of H Road. This allows for a free flow traffic condition along H Road. Entry and exits from Alpine Village will not be affected by traffic which normally would be stopped at 12th. Street.

d) Traffic generated by Alpine Village is considered to be "low", less than 160 average daily trips.

2. Building envelopes have been added to the Site Development Plan.
3. Open Space fees, recording costs and road escrow fees will be paid prior to the recording of the Final Plat.
4. Additional fence and sign details have been added to the Site Development Plan.
5. The Final Plat has been modified to reflect the changes to the private drives.
6. Solid waste pick-up points and Postal Box locations are identified on the Site Development Plan.
7. The covenants have been changed to reflect maintenance of Tracts A, B, & C.
8. The Plat Dedication has been modified with the elimination of the Irrigation Easement verbiage. Language has been added relating to Tracts A, B, & C.
9. Driveway construction details have been added to the Site Development Plan.

10. Alpine Court has been changed to Josilyn Place.

11. Dedication of a Landscape Easement has been added to the Final Plat.

RESPONSE TO DEVELOPMENT ENGINEER:

PLAT

1. The drainage easement has been changed on the Final Plat for both Alpine II and Alpine Village.

2. Solid waste pick-up points and Postal Box locations are identified on the Site Development Plan.

SITE PLAN

1. Driveway construction details have been added to the Site Development Plan.

2. An Exhibit depicting turning movements of a passenger car at the end of the Private Drives has been transmitted under separate cover.

3. The pavement specification has been changed on the Street Construction Plan, as suggested.

4. New cross sections for the valley pan have been added to the Street Plans.

5. Additional details have been added to the Street Plans for the sidewalk openings.

DRAINAGE REPORT

I. Per our telephone conversation with Ms. Jody Kliska the time of concentration calculations for sub-basins other than A2 and H1 have no impact on routing of flows to detention pond "C" nor the size of the facilities to convey the flows.

II. Sub-basin A1 is routed via overland sheet flow to Alpine Meadows Subdivision to the south and is accounted for at node #3. The accumulation of cfs at each node has been clarified with Ms. Kliska.

III. Cross sections of the proposed 4'-valley pan have been added to Sht. No. ST-1, ST-2 and the drainage plan. The valley pan, drainage easement and swale section have been modified to accommodate the 100 year storm.

IV. The detention pond and outlet works have been field surveyed. The field

notes are being reduced at this time. The pond volume will be verified and so indicated on the drainage plan. A copy of the plan and calculations will be provided as soon as is possible.

V. The curb drain through in Alpine Court (aka Josilyn Place) and Jordanna Road have been increased in size to convey the 100 year storm (calculations are attached). There will be no curb over topping in these areas.

VI. A detail of the V-Pan, sidewalk and swale has been provided on sheet ST-2.

VII. Based on a site inspection by Mr. Don Newton, Ms. Kliska and myself this issue has been clarified.

PROJECT NARATIVE FOR:

ALPINE VILLAGE

DECEMBER, 1993

Original
Do NOT Remove
From Office

4 9 4

Alpine, C.M., Inc.
1111 South 12th. Street, Grand Junction, CO 81501
(303) 245 - 2505



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ALPINE VILLAGE

INTRODUCTION - This development application consists of a request for Final Plat and Plan acceptance by the City of Grand Junction. In November of 1994, the Mesa County Commissioners conditionally accepted the initial development plans for Alpine Meadows II and Alpine Village. The County application consisted of four elements:

1. Replat of an existing subdivision.
2. Official Development Plan (ODP) Application for Alpine Village.
3. The Final Plat Approval for the first phase of development within the overall ODP.
4. Vacation of a portion of Jordanna Road.

Major conditions under which the County accepted the application included:

1. Construction of all improvements to City Standards.
2. Construction of half street improvements for 12th Street and H Road adjoining the development.

Since the County's approval the City has annexed all of the property included within Alpine Village, as well as Alpine Meadows II.

LOCATION - Alpine Village formerly known as La Casa De Domongiez, Filing 2, contains approximately 3.1 acres. The subject property is located in the North Grand Junction area, SW of 27 Road (12th. Street) and H Road. The site is located in part of the NE 1/4 of Section 35, Township One North, Range One West, of the Ute Meridian.

EXISTING LAND USE - The site is vacant of any structures. Even though irrigation water is available, the site is in a fallow state. No recent agricultural production has ever occurred. Topography of the property is considered to be "flat" in nature. The land within Alpine Village slopes towards the southwest at an average rate of less than one percent. The subject property is presently zoned PR-4.

SURROUNDING LAND USE -The surrounding land use in the vicinity of the subject property is considered to be of moderate intensity. Predominate uses include single family dwellings on subdivided tracts. Agricultural production is almost non-existent in the vicinity of Alpine Village. A small canal lateral adjoins the south boundary of the subject property. The attached Location Map depicts the configuration of various properties in the area surrounding Alpine Village. Platted subdivisions within the study area include:

SURROUNDING SUBDIVISION CHART		
SUBDIVISION NAME	ZONING	CITY/ COUNTY
Paradise Hills 1 & 7	R-2	City
Garrison Ranch	AFT	County
Alpine Meadows	PR 4.2	City
Skyline Subdivision	R-1-B	County
Sedona Subdivision	PR 4.5	City

PROPOSED LAND USE - The proposal calls for the future construction of 16 new dwellings on the 3.1 acre site. Typical lot size is 5000 square feet. The proposal allows for the units to have the options of being configured in a "du-plex" fashion.

LAND USE SUMMARY CHART	
USE	AREA IN AC.
AREA IN ROW	0.6
AREA IN LOTS	2.5
TOTAL AREA	3.1
UNITS	16
DENSITY	5.0 du/ac

The accompanying Final Development Plan depicts the relationship of each housing type to the property boundary, roadway access and other features of the proposed development.

MINIMUM BUILDING SETBACKS	
FRONT	20 feet at Garage
SIDE	0 feet (min. 10 ft. bldg. separation)
REAR	0 feet (20 ft. for 12th Street & H Road 15 ft. for Lots 2,3,6, & 7)
Max. Building Height = 25 ft.	

In addition to the individual lot development standards presented herein, strict architectural controls will be adopted to protect the development from undesirable influences. To achieve this, a set of covenants, conditions and restrictions (C.C. & R's) will be adopted to insure ongoing protection to the future residents of Alpine Village and surrounding property owners. The C.C. & R's will also include provisions for maintenance of the grounds and exterior of the units. A copy of the C.C. & R's have been transmitted to the Community Development Department under separate cover.

ACCESS - Primary access to Alpine Village will be from H Road which is designated as a local minor arterial by the City. Review of the accompanying Location Map reveals that access is available to North 12th Street, a major north/south arterial. Interstate 70 is located approximately 1/4 mile south of the site. Jordanna Road which has recently been constructed, serves as a inter-neighborhood connector to the existing Alpine Meadows Subdivision.

Proposed roadway improvements call for the construction of approximately 325 feet of new public street. Streets will be constructed in accordance with the City's current standards for "Local Streets". The street right-of-way will also serve as a utility corridor.

According to the City of Grand Junction, approximately 160 average total daily trips would occur after site development is complete. In 1991 Mesa County measured 1500 average daily trips along H Road adjacent to Alpine Village.

UTILITY SERVICE

DOMESTIC WATER - All lots within Alpine Village will be served by a domestic water distribution system. An existing 18 inch water main is located within H Road and will be used to provide new water service to the lots. The existing water main

is owned and maintained by the Ute Water Conservancy District. The proposal calls for the extension of a new eight inch water main within the development. Sufficient flows and pressure exist to provide adequate water supply at the proposed fire hydrant .

SANITARY SEWER - A new sanitary sewage collection system will be constructed to serve all lots within Alpine Village. Sewer service will be gained from an existing main within Alpine Way in Alpine Meadows Subdivision. All of the sewer generated within the development will flow to an existing Lift Station located within the nearby Sedona Subdivision. It is estimated that peak sewage flows generated by the lots within the development will be 4800 gallons per day.

ELECTRIC, GAS, PHONE & CATV - Electric, gas, and communication lines will be extended to each lot within the development from existing lines located adjacent to the proposed development. Proposed electric, and communication lines will be located in a "common trench" adjacent to the dedicated road right-of-way. The gas main will be located in a separate trench.

IRRIGATION WATER - Due to the nature of the lots within Alpine Village, coupled with the availability of water, irrigation of the landscaped areas around the dwellings will utilize domestic water.

DRAINAGE - A "Final Drainage Report" which evaluates the impacts on existing drainage patterns has been submitted to the City's Engineering Department. Stormwater generated within the development is carried on the ground surface to Jordanna Road and ultimately to existing drainage control facilities within Alpine Meadows and Sedona Subdivision. During the County's review process for the ODP Application it was determined that the Grand Valley Water User's Association can not allow any type of storm water discharge into their lateral. Therefore,

detention of storm water on-site will not be attempted.

SOILS AND GEOLOGY - The Soil Conservation Service (SCS) identified the single soil type within the boundary of the property as Fruita Very Fine Sandy Loam (Fp). Even though this soil type is a Class I soil for agricultural production, cultivation of crops is limited due to the availability of irrigation water. The SCS has not identified any limitations for this soil type.

DEVELOPMENT SCHEDULE - The rate at which development of Alpine Village, will occur is dependent upon the City's future growth and housing needs. It is anticipated that the development of the site will begin immediately upon the City's acceptance of the final plat and construction plans.

STAFF REVIEW

FILE: #4-94

DATE: January 28, 1994

STAFF: Dave Thornton

ACTION REQUESTED: Request for final plat approval for Alpine Village Subdivision consisting of 16 lots located at the SW corner of 27 Road and H Road.

LOCATION: SW Corner of 27 Road and H Road

APPLICANTS: Alpine C.M.
Representative: Tom Logue

EXECUTIVE SUMMARY: The petitioner is requesting final approval of a 16 lot Alpine Village subdivision at the SW corner of 27 Road and H Road. This site was recently annexed into the City as part of the Paradise Hills annexation. The Preliminary Plan for this subdivision was approved by the County Commissioners a couple of months ago prior to annexation.

EXISTING LAND USE: Vacant

PROPOSED LAND USE: Residential

SURROUNDING LAND USE:

NORTH -- Residential
EAST -- Vacant
SOUTH -- Residential
WEST -- Residential

EXISTING ZONING: PR-4.2

PROPOSED ZONING: No Change

SURROUNDING ZONING:

NORTH -- RSF-4
EAST -- R-1-B (County)
SOUTH -- PR-4.2
WEST -- PR-4.2

RELATIONSHIP TO COMPREHENSIVE PLAN/POLICIES/GUIDELINES: No Plan exists for this area.

STAFF ANALYSIS:

This final plat proposal for Alpine Village consists of 16 lots on approximately 3 acres. This is the third phase of the Alpine Meadows development and will be known as Alpine Village. The developer is proposing a slightly different housing concept in this phase than what has been built in the existing Alpine Meadows development. In this proposal 12 of the 16 lots will have private access off of 3 private drives (tracts A, B & C on the plat) or what we refer to as "Auto Courts". This concept is new to this area but has been used in many places around the country successfully.

As proposed on the revised site plan, all units will be single family detached homes. Four homes will share a common driveway. Each of the four properties will have an undivided ownership in the common tract and will be responsible for all future maintenance of the common tract.

All Review Agency comments have been adequately addressed except those identified as conditions of Staff's recommendation for approval.

STAFF RECOMMENDATION:

Staff recommends approval subject to the following conditions:

1. The site plan be revised adding additional information on setbacks from irrigation easements and the minimum distance between buildings.
2. The entrance signs shall not exceed a combined total of 32 square feet.
3. The Restrictive Covenants be revised and approved by staff.
4. The street name Josilyn Place be renamed to Josilyn Court.
5. All technical issues regarding the plat and its dedication be addressed.
6. Comments made by Jody Kliska dated January 28, 1994 be adequately addressed.

SUGGESTED PLANNING COMMISSION MOTION:

Mr. Chairman, on item #4-94, I move that we approve this subject to staff recommendations.

Office Memo

January 28, 1994

TO: David Thornton
FROM: Jody Kliska
REVIEW COMMENTS FOR: Alpine Village
TYPE OF REVIEW: Street Plan

Following are the comments on the street plan for Alpine Village:

Please provide a note or detail for the end of the curb and gutter on Joslyn Place for placement of compacted roadbase material 10 feet long by 6 inches depth graded to drain into the gutters.

On the plats submitted for both Alpine Meadows II and Alpine Village, the external boundaries should be checked by the surveyor. The distances shown for the individual parcels do not add up to the distance shown for the total lengths on the plat.

GRAND JUNCTION PLANNING COMMISSION
Public Hearing February 1, 1994
7:01 p.m. - 8:12 p.m.

I. CALL TO ORDER

The public hearing was called to order by Chairman John Elmer at 7:01 p.m. in the City County Auditorium.

In attendance, representing the City Planning Commission were Chairman John Elmer, Vice Chairman Tom Volkmann, James Anderson, Stephen Laiche, Bob Withers and Jeff Vogel. Ron Halsey was absent.

In attendance, representing the City Community Development Department, were Larry Timm, Director; Kathy Portner, Planning Supervisor; Dave Thornton, Senior Planner; Karl Metzner, Senior Planner; and Kristen Ashbeck, Associate Planner.

Also present were John Shaver, Assistant City Attorney, and Jody Kliska, City Development Engineer.

There were three interested citizens present during the course of the meeting as well as the petitioners and their representatives.

II. CONSIDERATION OF MINUTES

MOTION: (Commissioner Volkmann) "Mr. Chairman, I move that we approve the minutes of the January 4, 1994 meeting as presented."

The motion was seconded by Commissioner Withers.

A vote was called, and the motion passed unanimously by a vote of 6-0.

III. ANNOUNCEMENTS, PRESENTATIONS, AND/OR PRE-SCHEDULED VISITORS

There were no announcements, presentations, or pre-scheduled visitors.

IV. PUBLIC HEARING ON ITEMS FOR FINAL DECISION

1. **#4-94 FINAL PLAN/PLAT ALPINE VILLAGE, SW CORNER OF 27 & H RDS**
Request for approval of the Final Plan/Plat for Alpine Village Subdivision consisting of 16 dwelling units on 3.1 acres.
PETITIONER: Alpine C.M. Inc.
REPRESENTATIVE: Thomas A. Logue
LOCATION: SW corner of 27 Road & H Road

STAFF PRESENTATION

Dave Thornton gave an overview of the request which was for the third phase of the Alpine Meadows development and would be known as Alpine Village. He said zoning for the property is PR-4.2 as is the zoning of surrounding property, including Alpine Meadows, Alpine Meadows II, Sedona I & II, and Garrison Ranch subdivisions. He said that the overall density of the proposal was within the 4.2 dwelling units/acre limit since some of the density had been transferred from the overall development plan approved by the County before annexation. He said that all review agency comments had been adequately addressed.

Mr. Thornton said that staff recommended approval subject to the following conditions:

1. The site plan be revised adding additional information on setbacks from irrigation easements and the minimum distance between buildings.
2. The entrance signs shall not exceed a combined total of 32 square feet.
3. The Restrictive Covenants be revised and approved by staff.
4. The street name "Josilyn Place" be renamed to "Josilyn Court."
5. All technical issues regarding the plat and its dedication be addressed.
6. Comments made by Jody Kliska dated January 28, 1994 be adequately addressed.

QUESTIONS

Commissioner Anderson asked what the zoning is on the east side of 27 Road? Dave Thornton replied that the east side of 27 Road was in the County and was zoned R1B.

Commissioner Withers questioned how the no-parking restrictions would be enforced on Tracts A, B and C. Mr. Thornton replied that there would probably be signing and the restriction would be stated in the covenants.

Commissioner Withers asked if there was a problem with one of the lots having only 20 ft. of frontage. Mr. Thornton said it was acceptable since 20 ft. of frontage was typical for a lot in a residential straight zone.

Chairman Elmer asked if Tracts A, B and C would have joint ownership between the four adjacent properties? Mr. Thornton said that they would and that the covenants would address issues such as maintenance.

Commissioners Withers questioned the addition of the cul-de-sacs; Mr. Thornton replied that they were designed to help the turning radii.

PETITIONER'S PRESENTATION

Tom Logue, representative for the petitioner, said that the petitioner had received the staff report and fully understood the conditions of approval and felt they could be addressed in a timely manner.

Regarding the issue of parking, Mr. Logue said that because of the nature of the lots, a large portion of the frontage on the tracts would be taken up with garages which would discourage parking along the street front. He said that each lot would have a two car garage with space for two cars in the driveway. He said that there was sufficient space for on-street parking along Josilyn Court.

Chairman Elmer asked if the covenants for the project would be similar to those of Alpine Meadows. Mr. Logue said that setbacks were different and maintenance of some of the exterior landscaping was somewhat different; however, the architectural style and character of the homes would be similar and consistent with the area.

Chairman Elmer asked if the preliminary plat approved by the County had 16 lots. Mr. Logue said that the preliminary plat had called for 15 lots but because of the street improvements necessary on a corner lot, economics called for increasing the development by one additional lot. He said the Code allowed a ten percent flexibility and he felt the proposal still met the intent of the original approval.

Chairman Elmer questioned the location of Amber Way. Mr. Logue explained that during the development phase of Alpine Meadows it was decided to dedicate a right-of-way for future access. It was shown incorrectly on the plan as Amber Way and should have been called Alpine Way.

Commissioner Vogel questioned whether the proposal had adequate fire protection, and Mr. Logue said the petitioner was extending an eight inch water main from H Road which would provide an abundant supply of water.

Commissioner Vogel asked if the Fire Department had any concerns with getting to the homes at the end of the private drives. Dave Thornton said he spoke with Fire Department representatives and their comment was that since the drives were only 75 ft. long they could simply pull in and back out.

PUBLIC COMMENT

There was no public comment either for or against the proposal.

QUESTIONS/DISCUSSION

The Commissioners agreed that the proposal seemed straight-forward.

Chairman Elmer asked if standards would be developed for the "Auto Courts." Dave Thornton said that staff would probably wait for the planning consultant to give the department input on the matter.

4-94

MOTION: (Commissioner Anderson) "Mr. Chairman, on item #4-94, I move that we approve this subject to staff recommendations."

Commissioner Laiche seconded the motion.

A vote was called, and the motion passed unanimously by a vote of 6-0.

V. PUBLIC HEARING ON ITEMS FOR RECOMMENDATION TO CITY COUNCIL

1. #3-94 VACATION OF RIGHT-OF-WAY, 4TH STREET, S. OF SOUTH AVENUE
Request for vacation of the 4th Street right-of-way south of South Avenue for approximately 140 feet to the RR right-of-way for the purpose of building an addition to an existing warehouse.

PETITIONER: Central Distributing; John & James Cadez

REPRESENTATIVE: Frank A. Preuss

LOCATION: 4th Street, S of South Avenue

STAFF PRESENTATION

Kristen Ashbeck said that the petitioner's original proposal was to vacate the entire width of 4th Street south of South Avenue. Most review agency comments and surrounding property owners were opposed to that proposal so the petitioner responded by proposing to only vacate the westerly 16 ft. of the right-of-way south of South Avenue to the railroad right-of-way. Ms. Ashbeck said the petitioner's new proposal would leave the street as it was, but then the street would not meet the City's standards which require a 14 ft. multi-purpose easement on either side of the street. The petitioner would be building on top of the multi-purpose easement. She felt the proposal would also need a cul-de-sac rather than having 4th Street dead-end at the railroad right-of-way.

Ms. Ashbeck said that the greatest concern with the proposal related to the Colorado Department of Transportation (CDOT) comments. She said CDOT was in the early stages of designing the 5th Street Viaduct over the railroad tracks. Part of CDOT's preliminary design calls for closing the north bound on-ramp and permanently re-routing north bound traffic to the west. She said the portion of 4th Street in question would become the primary access for most of the parcels south of South Avenue between 4th Street and 6th Street. She said that CDOT recommended that vacation of any part of 4th Street was unacceptable until the viaduct design was finished and the impact on surrounding properties was determined.

Ms. Ashbeck said there were also safety concerns with the proposal as some of the maneuvering of trucks would occur in the 4th Street right-of-way.

Ms. Ashbeck said that in analyzing the criteria in Section 8-3 of the Zoning and Development Code that were to be applied in reviewing a vacation, staff had the following findings:

4-94



September 22, 1994

Mr. Rob Griffin
Alpine C.M., Inc.
1111 South 12th Street
Grand Junction, CO 81501

City of Grand Junction, Colorado
250 North Fifth Street
81501-2668
FAX: (303) 244-1599

Subject: Alpine Village Subdivision

Dear Mr. Griffin:

A final inspection of the streets and drainage facilities in Subdivision was conducted on July 1, 1994. As a result of this inspection, a list of remaining items was given to you for completion. These items were reinspected and found to be satisfactorily completed.

"As Built" record drawings and required test results for the streets and drainage facilities were received on July 21, 1994. These have been reviewed and found to be acceptable.

In light of the above, the streets and drainage improvements are accepted for future maintenance by the City of Grand Junction.

This acceptance is subject to a warranty of all materials and workmanship for a period of one year beginning July 21, 1994.

Thank you for your cooperation in the completion and acceptance of this project.

Sincerely,

A handwritten signature in cursive script that reads "J. Don Newton".

J. Don Newton
City Engineer

cc: Jody Kliska
Doug Cline
Walt Hoyt
~~Kathy Fortner~~

PAVEMENTS

Samples of the surficial native soils at this property that may be required to support pavements have been evaluated using the Hveem-Carmany method to determine their support characteristics. The results of the laboratory testing are as follows:

R = 48
Expansion @ 300 psi = 0.23
Displacement @ 300 psi = 2.84

No estimates of traffic volumes have been provided to Lincoln DeVore. However, we assume that the roads will be classified as residential. The design procedures utilized are those recognized by the Colorado Department of Highways. An 18 kip ESAL of 5, also recommended by the Highway Department, was used for the analysis.

Main Drive Areas:

20-Year Design Life

3 inches of asphaltic concrete pavement
on 6 inches of aggregate base course
on 12 inches of recompacted subgrade soils

Full-Depth Asphalt

4 inches of asphaltic concrete pavement
on 12 inches of recompacted subgrade soils

Rigid Concrete Pavement - 20-Year Design Life

6 inches of rigid concrete pavement
on 12 inches of recompacted subgrade soils

We recommend that the asphaltic concrete pavement have a minimum R_t value of 95, and meet the State of Colorado requirements for a Grade C mix. In addition, the asphaltic concrete pavement should be compacted to a minimum of

95% of its maximum Hveem density. The aggregate base course should meet the requirements of State of Colorado Class 6 material, and have a minimum R value of 78. We recommend that The base course be compacted to a minimum of 95% of its maximum Standard Proctor dry density (ASTM D-698), AASHTO T-99, at a moisture content within + or -2% of optimum moisture. The native subgrade shall be scarified and recompactd to a minimum of 90% of their maximum Modified Proctor day density (ASTM D-1557) at a moisture content within + or -2% of optimum moisture.

ANNEXATION TO DECLARATION OF
COVENANTS, CONDITIONS AND RESTRICTIONS

This Annexation to the Declaration of Covenants, Conditions and Restrictions recorded in Book 1847 at Page 355 of the Mesa County records is executed by ALPINE MEADOWS DEVELOPMENT CORP., a Colorado corporation, hereinafter referred to as "Declarant" and ALPINE HOMEOWNERS' ASSOCIATION, INC., hereinafter referred to as "Association", WITNESSETH:

WHEREAS, Declarant is the owner of certain property in Mesa County, Colorado, which is more particularly described as :

Lots 1, 2, 3, 4, 5, 6, 7, 8, and 9, Alpine Meadows II, a replat of Lots 2-4, Block 1, and Lots 1-3, Block 2, La Casa de Domingues Filing Two

WHEREAS, the Association has conducted a vote of its members pursuant to its Articles of Incorporation and Bylaws and more than two-thirds (2/3) of each class of members has approved and consented to annexation of the real property described above in accordance with Section 4, of the Declaration recorded in Book 1847 at Page 355 of the Mesa County records;

NOW THEREFORE, the Declarant and the Association do hereby declare as follows:

1. The property described hereinabove shall be deemed to have been "brought within the jurisdiction of the Association" in accordance with Article I, Section 3 of the Declaration recorded in Book 1847 at Page 355.

2. Each of the terms and provisions of the said Declaration shall be deemed applicable to the owners of lots within the herein described property from this date forth except that with respect to lots within Alpine Meadows II only, Article VI, RESTRICTION AND ARCHITECTURAL CONTROL, Section 1 shall be applied as follows:

The property in said blocks shall be known and described as residential lots. No structures shall be erected, altered, placed or permitted to remain on any residential building lot other than one single-family dwelling, which shall not exceed two and one-half stories in height, and a private garage of size not larger than required to house three (3) automobiles, nor smaller than required to house two (2) automobiles. All residences within the subdivision shall have a ground floor space of not less than 2000 square feet as measured along the outside wall lines of the structure, exclusive of any portion thereof used for a garage or for an outside porch; provided, however, that if a residence shall have a basement or shall be either a bi-level, tri-level or multi-story, the foundation shall enclose a minimum of 1500 square feet, and the structure shall include a minimum living area of 2500 square feet exclusive of open porches and garages. Each residence shall contain at least two fully equipped bathrooms. The following location restrictions shall apply:

(1) No dwelling shall be nearer than 20 feet to the front or rear property line (one side only on corner lots).

(2) No dwelling shall be nearer than 10 feet from each side property line or 15 feet from each side R.O.W. line.

(3) Accessory buildings or out buildings shall not be less than 10 feet from the rear and side property line and not on the front half of the lot.

Residential building lot shall mean a building site for one residential building, whether composed of one specifically numbered Lot in Alpine Meadows II or a combination of contiguous parts of such Lots in a single ownership upon which a single-family residence is built or is to be built.

3. Further, with respect to Alpine Meadows II only, Section 15 and Section 16 in Article VI of said Declaration shall be applied in manner following:

All major roofs on residential structures must maintain a minimum 6:12 pitch with a maximum 12:12 pitch.

All dwellings shall have a minimum of 50% brick, stone or other approved masonry material on the exterior wall of the dwelling facing the front property line exclusive of the area providing entrance to or windows of the dwelling. Samples of all exterior materials, including colors, to be installed on the dwelling shall be submitted to the Architectural Control Committee for approval in order to maintain harmony of external design.

4. From and after date hereof, the owners of lots within Alpine Meadows Subdivision and Alpine Meadows II shall have equal rights, privileges and obligations as members of the Association.

IN WITNESS WHEREOF, the undersigned have hereunto set their hands this 15 day of July, 1994.

ALPINE MEADOWS DEVELOPMENT CORP

ALPINE MEADOWS HOMEOWNERS ASSOCIATION



V. Kevin Nourse, President



Robert L. Griffin, President

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From Office

DEVELOPMENT IMPROVEMENTS AGREEMENT

1. **Parties:** The parties to this Development Improvements Agreement ("the Agreement") are ALPINE C.M., Inc. ("the Developer") and **THE CITY OF GRAND JUNCTION**, Colorado ("the City").

THEREFORE, for valuable consideration, the receipt and adequacy of which is acknowledged, the Parties agree as follows:

2. **Effective Date:** The Effective Date of the Agreement will be the date that this agreement is recorded which is not sooner than recordation of the final plat & plan for ALPINE VILLAGE.

RECITALS

The Developer seeks permission to develop property within the City to be known as ALPINE VILLAGE, which property is more particularly described on Exhibit "A" attached and incorporated by this reference (the "Property"). The City seeks to protect the health, safety and general welfare of the community by requiring the completion of various improvements in the development and limiting the harmful effects of substandard developments. The purpose of this Agreement is to protect the City from the cost of completing necessary improvements itself and is not executed for the benefit of materialmen, laborers, or others providing work, services or material to the development or for the benefit of the purchasers or users of the development. The mutual promises, covenants, and obligations contained in this Agreement are authorized by state law, the Colorado Constitution and the City's land development ordinances.

DEVELOPER'S OBLIGATION

3. **Improvements:** The Developer will design, construct and install, at its own expense, those on-site and off-site improvements listed on Exhibit "B" attached and incorporated by this reference. The Developer agrees to pay the City for inspection services performed by the City, in addition to amounts shown on Exhibit B. The City estimates that \$ 1000⁰⁰ will be required for City inspection of the required improvements. The Developer's obligation to complete the improvements is and will be independent of any obligations of the City contained herein.

4. **Security:** To secure the performance of its obligations under this Agreement (except its obligations for warranty under paragraph 6), the Developer will enter into an agreement which complies with either option identified in paragraph 28, or other written agreement between the City and the Developer.

5. **Standards:** The Developer will construct the Improvements according to the standards and specifications required by the City Engineer or as adopted by the City.

6. **Warranty:** The Developer warrants that the Improvements, each and every one of them, will be free from defects for a period of twelve (12) months from the date that the City Engineer accepts or approves the improvements completed by the Developer.

7. **Commencement and Completion Periods:** The improvements, each and every one of them, will be completed within 18 months from the Effective Date of this Agreement (the "Completion Period").

8. **Compliance with Law:** The developer will comply with all relevant federal, state and local laws, ordinances, and regulations in effect at the time of final approval associated with the development when fulfilling its obligations under this Agreement.

9. **Notice of Defect:** The Developer's Engineer will provide timely notice to the Developer, contractor, issuer of security and the City Engineer whenever inspection reveals, or the Developer's Engineer otherwise has knowledge, that an improvement does not conform to City standards and any specifications approved in the development application or is otherwise defective. The developer will have thirty (30) days from the issuance of such notice to correct or substantially correct the defect.

10. **Acceptance of Improvements:** The City's final acceptance and/or approval of improvements will not be given or obtained until the Developer presents a document or documents, for the benefit of the City, showing that the Developer owns the improvements in fee simple and that there are no liens, encumbrances, or other restrictions on the improvements. Approval and/or Acceptance of any improvements does not constitute a waiver by the City of any rights it may have on account of any defect in or failure of the improvement that is detected or which occurs after the approval and/or acceptance.

11. **Use of Proceeds:** The City will use funds deposited with it or drawn pursuant to any written disbursement agreement entered into between the parties only for the purpose of completing the Improvements or correcting defects in or failure of the Improvements.

12. **Events of Default:** The following conditions, occurrences or actions will constitute a default by the Developer during the Completion Period:

- a. Developer's failure to complete each portion of the Improvements in conformance with the agreed upon time schedule; the City may not declare a default until a fourteen (14) calendar day notice has been given to the Developer;
- b. Developer's failure to demonstrate reasonable intent to correct defective construction of any improvement within the applicable correction period; the City may not declare a default until a fourteen (14) calendar day notice has been given to the Developer;

- c. Developer's insolvency, the appointment of a receiver for the Developer or the filing of a voluntary or involuntary petition in bankruptcy respecting the Developer; in such event the City may immediately declare a default without prior notification to the Developer;
- d. Notification to the City, by any lender with a lien on the property, of a default on an obligation; the City may immediately declare a default without prior notification to the Developer;
- e. Initiation of any foreclosure action of any lien or initiation of mechanics lien(s) procedure(s) against the Property or a portion of the Property or assignment or conveyance of the Property in lieu of foreclosure; the City may immediately declare a default without prior notification to the Developer.

13. Measure of Damages: The measure of damages for breach of this Agreement by the Developer will be the reasonable cost of satisfactorily completing the Improvements plus reasonable City administrative expenses. For improvements upon which construction has not begun, the estimated costs of the Improvements as shown on Exhibit "B" will be prima facie evidence of the minimum cost of completion; however, neither that amount or the amount of a letter of credit, the subdivision improvements disbursement agreement or cash escrow establish the maximum amount of the Developer's liability.

14. City's Rights Upon Default: When any event of default occurs, the City may draw on the letter of credit, escrowed collateral, or proceed to collect any other security to the extent of the face amount of the credit or full amount of escrowed collateral, cash, or security less ninety percent (90%) of the estimated cost (as shown on Exhibit "B") of all improvements previously accepted by the City or may exercise its rights to disbursement of loan proceeds or other funds under the improvements disbursement agreement. The City will have the right to complete improvements itself or it may contract with a third party for completion, and the Developer grants to the City, its successors, assigns, agents, contractors, and employees, a nonexclusive right and easement to enter the Property for the purposes of constructing, reconstructing, maintaining, and repairing such improvements. Alternatively, the City may assign the proceeds of the letter of credit, the improvements disbursement agreement, the escrowed collateral, cash, or other funds or assets to a subsequent developer (or a lender) who has acquired the development by purchase, foreclosure or otherwise who will then have the same rights of completion as the City if and only if the subsequent developer (or lender) agrees in writing to complete the unfinished improvements and provides reasonable security for the obligation. In addition, the City may also enjoin the sale, transfer, or conveyance of lots within the development, until the improvements are completed or accepted. These remedies are cumulative in nature and are in addition to any other remedies the City has at law or in equity.

15. Indemnification: The Developer expressly agrees to indemnify and hold the City, its officers, employees and assigns harmless from and against all claims, costs and liabilities

of every kind and nature, for injury or damage received or sustained by any person or entity in connection with, or on account of the performance of work at the development or the Property pursuant to this Agreement. The Developer further agrees to aid and defend the City in the event that the City is named as a defendant in an action concerning the performance of work pursuant to this Agreement. The Developer further agrees to aid and defend the City in the event that the City is named as a defendant in an action concerning the performance of work pursuant to this Agreement except where such suit is brought by the Developer against the City. The Developer is not an agent or employee of the City.

16. **No Waiver:** No waiver of any provision of this Agreement by the City will be deemed or constitute a waiver of any other provision, nor will it be deemed or constitute a continuing waiver unless expressly provided for by a written amendment to this Agreement signed by both City and Developer; nor will the waiver of any default under this Agreement be deemed a waiver of any subsequent default or defaults of the same type. The City's failure to exercise any right under this Agreement will not constitute the approval of any wrongful act by the Developer or the acceptance of any improvement.

17. **Amendment or Modification:** The parties to this Agreement may amend or modify this Agreement only by written instrument executed on behalf of the City by the City Manager or his designee and by the Developer or his authorized officer. Such amendment or modification will be properly notarized before it may be effective.

18. **Attorney's Fees:** Should either party be required to resort to litigation to enforce the terms of this Agreement, the prevailing party, plaintiff or defendant, will be entitled to costs, including reasonable attorney's fees and expert witness fees, from the opposing party. If the court awards relief to both parties, the attorney's fees may be equitably divided between the parties by the decision maker.

19. **Vested Rights:** The City does not warrant by this Agreement that the Developer is entitled to any other approval(s) required by the City, if any, before the Developer is entitled to commence development or to transfer ownership of property in the development.

20. **Third Party Rights:** No person or entity who or which is not a party to this Agreement will have any right of action under this Agreement.

21. **Time:** For the purpose of computing the Abandonment and Completion Periods, and time periods for City action, such times in which war, civil disasters, or acts of God occur or exist will not be included if such times prevent the Developer or City from performing its obligations under the Agreement.

22. **Severability:** If any part, term, or provision of this Agreement is held by the courts to be illegal or otherwise unenforceable, such illegality or unenforceability will not affect the validity of any other part, term, or provision and the rights of the parties will be construed as if the part, term, or provision was never part of the Agreement.

23. **Benefits:** The benefits of this Agreement to the Developer are personal and may not be assigned without the express written approval of the City. Such approval may not be unreasonably withheld, but any unapproved assignment is void. Notwithstanding the foregoing, the burdens of this Agreement are personal obligations of the Developer and also will be binding on the heirs, successors, and assigns of the Developer, and shall be a covenant(s) running with the Property. There is no prohibition on the right of the City to assign its rights under this Agreement. The City will expressly release the original Developer's guarantee or obligations under the improvements disbursement agreement if it accepts new security from any developer or lender who obtains the Property. However, no other act of the City will constitute a release of the original Developer from his liability under this Agreement.

24. **Notice:** Any notice required or permitted by this Agreement will be deemed effective when personally delivered in writing or three (3) days after notice is deposited with the U.S. Postal Service, postage prepaid, certified, and return receipt requested, and addressed as follows:

If to Developer:

If to City:

City of Grand Junction
Community Development Director
250 N. 5th Street
Grand Junction, Colorado 81501

25. **Recordation:** Developer will pay for any costs to record a copy of this Agreement in the Clerk and Recorder's Office of Mesa County, Colorado.

26. **Immunity:** Nothing contained in this Agreement constitutes a waiver of the City's sovereign immunity under any applicable state law.

27. **Personal Jurisdiction and Venue:** Personal jurisdiction and venue for any civil action commenced by either party to this Agreement whether arising out of or relating to the Agreement, letter of credit, improvements disbursements agreement, or cash escrow agreement or any action to collect security will be deemed to be proper only if such action is commenced in Mesa County. The Developer expressly waives his right to bring such action in or to remove such action to any other court whether state or federal.

28. The improvements guarantee required by the City Code to ensure that the improvements described in the improvements agreement are constructed (to city standards) may be in the form of an agreement: (I) between a bank doing business in Mesa County and the City ~~or as described in (II), below~~. The agreement between a bank and the City

(I) shall provide, among other things, for the bank to guarantee and warrant to the City that it shall:

- a. have available money equal to the estimated costs of the required improvements, in an amount equal to the amount agreed upon in the Improvements Agreement;
- b. only pay such amounts to contractors who have constructed required Improvements;
- c. only pay such amounts after the bank has received the written approval of the City Engineer, or his designee; the City Engineer shall inspect within three (3) working days of request;
- d. in the event the bank disburses without the City Engineer having approved such disbursement, the Bank shall pay, in addition to all other sums it would otherwise be obligated to pay, to the City the amount of the wrongful disbursement if the City Engineer determines that the work is not acceptable, based on the approved plans and specifications. The City shall use such money to cause the work to be constructed in accordance with the approved plans and specifications;

~~II. An alternative agreement may be executed for a development which is expected to require not more than 10 transactions shall contain the following provisions.~~

- a. The Finance Department of the City will act as disbursing agent and will account for disbursements to Developer contractors as required improvements are completed and accepted.
- b. The City will accept a cash deposit from the Developer equal to the City approved estimate of the required improvements, for purposes of securing and guaranteeing the construction of the required sewer, water, streets, and on-site improvements in the development plan. Such deposit(s), currently estimated at approximately \$_____ shall be given to the City's Finance Department, commingled with other funds of the City and specifically invested in the short term market. Interest income shall be allocated to the Developer's escrow account monthly, in the same manner as other short-term investments of the city.
- c. Such interest income shall be used to reimburse the General Fund of the City for accounting and transaction costs incurred in making payments to the appropriate contractors. For purposes of this agreement, the City's costs shall be one hundred dollars (\$100.00) for each check disbursement or other ~~transaction which is made. In any event the amount retained by the City for~~

~~its transaction costs shall not be less than two percent (2%) of the amount deposited. After all required improvements have been made and accepted by the City, any surplus funds remaining in the account (in excess of the two percent minimum or the calculated transaction costs) shall be returned to the developer within thirty (30) days of said acceptance date. Any transaction costs which are not covered by the amount of the deposit plus accrued interest shall be paid to the City by the Developer in like manner within thirty (30) days of completion of the improvements. No guarantee as to the level of interest income or rate of return on the funds so deposited is either implied or made in this agreement; the City agrees only to keep the funds invested as with other City funds.~~

- d. in any event, the Developer promises to construct the required improvements to the satisfaction of the City Engineer, in accordance with the approved plans and specifications.
29. a. Conditions of Acceptance: The City shall have no responsibility or liability with respect to any street, or other improvement(s), notwithstanding the use of the same by the public, unless the street or other improvements shall have been accepted by the City.

Prior to requesting final acceptance of streets, storm drainage facilities, or other required improvements, the Developer shall furnish to the City Engineer as-built drawings in reproducible form and copies of results of all construction control tests required by City specifications.

- b. Phased Development: If the City allows a street to be constructed in stages, the Developer of the first one-half street opened for traffic shall construct the adjacent curb, gutter and sidewalk in the standard location and shall construct the required width of pavement from the edge of gutter on his side of the street to enable an initial two-way traffic operation without on-street parking. That Developer is also responsible for end-transitions, intersection paving, drainage facilities, and adjustments to existing utilities necessary to open the street to traffic.

Attest:

City of Grand Junction
250 North Fifth Street
Grand Junction CO 81501

Stephanie Nye
City Clerk

By: _____
Mark K. Achen
City Manager

Attest:

TYPE LEGAL DESCRIPTION(S) BELOW, USING ADDITIONAL SHEETS AS NECESSARY. USE SINGLE SPACING WITH A ONE INCH MARGIN ON EACH SIDE.

Exhibit A

Lots 1-16, ALPINE VILLAGE, City of Grand Junction, Mesa County Colorado.

IMPROVEMENTS LIST/DETAIL

DATE: Dec. 30, 1993

NAME OF DEVELOPMENT: ALPINE VILLAGE

LOCATION: S.W 12th Street & H Road

PRINTED NAME OF PERSON PREPARING: THOMAS A. LOGUE

	UNITS	TOTAL QTY.	UNIT PRICE	TOTAL AMOUNT
I. SANITARY SEWER				
1. Clearing and grubbing	N.A.			- 0 -
2. Cut and remove asphalt	N.A.			- 0 -
3. PVC sanitary sewer main (incl. trenching, bedding & backfill)	L.F.	418	15 ⁰⁰	6270
4. Sewer Services (incl. trenching, bedding, & backfill)	LF	1030	12 ⁰⁰	12,360
5. Sanitary sewer manhole(s)	EA	3	1200 ⁰⁰	3,600
6. Connection to existing manhole(s)	EA.	1	250 ⁰⁰	250
7. Aggregate Base Course	NA			- 0 -
8. Pavement replacement	N.A.			- 0 -
9. Driveway restoration	N.A.			- 0 -
10. Utility adjustments	N.A.			- 0 -
II. DOMESTIC WATER				
1. Clearing and grubbing	N.A.			- 0 -
2. Cut and remove asphalt	24	LF	20 ⁰⁰	480
3. Water Main (incl. excavation, bedding, backfill, valves and appurtenances)	357	LF	18 ⁰⁰	6426
4. Water services (incl. excavation, bedding, backfill, valves, and appurtenances)	LF	1030	14 ⁰⁰	14,420
5. Connect to existing water line	LS	-		4,000
6. Aggregate Base Course	NA			- 0 -
7. Pavement Replacement	LF	24	10 ⁰⁰	240
8. Utility adjustments	N.A.			- 0 -
III. STREETS				
1. Clearing and grubbing	L.S.			500 ⁰⁰
2. Earthwork, including excavation and embankment construction	CY	595	35 ⁰⁰	2080
3. Utility relocations	N.A.			- 0 -
4. Aggregate sub-base course (square yard)	N.A.			- 0 -
5. Aggregate base course (square yard)	CY	100	165 ⁰⁰	1650
6. Sub-grade stabilization	SY	1785	2 ⁰⁰	3570
7. Asphalt or concrete pavement (square yard)	TON	250	27 ⁰⁰	6750
8. Curb, gutter & sidewalk (linear feet)	LF	688	26 ⁰⁰	17,880
9. Driveway sections (square yard)	N.A.			- 0 -
10. Crosspans & fillets	N.A.			- 0 -
11. Retaining walls/structures	N.A.			- 0 -
12. Storm drainage system	LF	390	4 ⁰⁰	1584

13. Signs and other traffic control devices	EA	4	150 ⁰⁰	600
14. Construction staking	LS.			1500
15. Dust control	N.A.			-0-
16. Street lights (each)	EA	2	750	1500
IV. LANDSCAPING				
1. Design/Architecture	LS			750
2. Earthwork (includes top soil, fine grading, & berming)	LS			2000
3. Hardscape features (includes walls, fencing, and paving)	LF	350	10 ⁰⁰	3500
4. Plant material and planting	LS			5000
5. Irrigation system	LS			5000
6. Other features (incl. statues, water displays, park equipment, and outdoor furniture)	NA			-0-
7. Curbing	NA			-0-
8. Retaining walls and structures	NA			-0-
9. One year maintenance agreement	LS			1000
V. MISCELLANEOUS				
1. Design/Engineering	LS			10,000
2. Surveying	LS			2,000
3. Developer's inspection costs	LS			5,000
4. Quality control testing	LS			3,500
5. Construction traffic control	N.A.			-0-
6. Rights-of-way/Easements	N.A.			-0-
7. City inspection fees	LS			1000
8. Permit fees	LS			100
9. Recording costs	LS			100
10. Bonds	N.A.			-0-
11. Newsletters	N.A.			-0-
12. General Construction Supervision	LS			5000
13. Other _____				
14. Other _____				

TOTAL ESTIMATED COST OF IMPROVEMENTS: \$ 134,710⁰⁰

SIGNATURE OF DEVELOPER

(If corporation, to be signed by President and attested to by Secretary together with the corporate seals.)

DATE

I have reviewed the estimated costs and time schedule shown above and, based on the plan layouts submitted to date and the current costs of construction, I take no exception to the above.

CITY ENGINEER

DATE

COMMUNITY DEVELOPMENT

DATE

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TABLE 4-1
Functional Route Classification

Classification	Function	Typical Percent of Surface Street System Mileage	Continuity	Spacing (miles)	Typical Percent of Surface Street System Vehicle-Miles Carried	Direct Land Access	Minimum Roadway Intersection Spacing	Speed Limit (mph)	Parking	Comments
Freeway and Expressway	Traffic movement	NA*	Continuous	4	NA	None	1 mile	45-55	Prohibited	Supplements capacity of arterial street system and provides high speed mobility
Arterial	Primary Arterial	5-10	Continuous	1-2	40-65	Limited—major generators only	1/2 mile	35-45 in fully developed areas	Prohibited	
	Secondary Arterial	10-20	Continuous	1/2-1	25-40	Restricted—some movements may be prohibited; number and spacing of driveways controlled	1/4 mile	30-35	Generally prohibited	Backbone of street system
	Collector	5-10	Not necessarily continuous; should not extend across arterials	1/2 or less	5-10	Safety controls; limited regulation	300 feet	25-30	Limited	Through traffic should be discouraged
Local	Land access	60-80	None	As needed	10-30	Safety controls only	300 feet	25	Permitted	Through traffic should be discouraged

SOURCE: The Traffic Institute, Northwestern University [29].

*NA = Not applicable.

FILE #4-94

Donald R. Coatney
2697 Mazatlan Drive
Grand Junction, CO 81506

Wayne A. Arnett
2699 Mazatlan Drive
Grand Junction, CO 81506

Downard Oldham
802 Mazatlan Drive
Grand Junction, CO 81506

Bernard M. Long
2690 Mazatlan Drive
Grand Junction, CO 81506

Kenneth R. Wilson
2692 Mazatlan Drive
Grand Junction, CO 81506

Jerald S. Meuwly
2694 Mazatlan Drive
Grand Junction, CO 81506

Robert M. Wilcoxon
2696 Mazatlan Drive
Grand Junction, CO 81506

T.L. Benson
2360 E. Piazza
Grand Junction, CO 81506

Gary R. Morris
2691 Mazatlan Drive
Grand Junction, CO 81506

George W. Goetz
2693 Mazatlan Drive
Grand Junction, CO 81506

Rayburn Favre
2697 Mazatlan Drive
Grand Junction, CO 81506

David L. Weldon
2684 Jentry Court
Grand Junction, CO 81506

Michael James Joyce
2693 Jentry Court
Grand Junction, CO 81506

David L. Lewis
781 Jade Lane
Grand Junction, CO 81506

Roberta Sutherland
2701 "H" Road
Grand Junction, CO 81506

Thomas F. Karsten
794 27 Road
Grand Junction, CO 81506

Craig A. Little
2702 Skyline Drive
Grand Junction, CO 81506

Marilyn Guire
P.O. Box 487
Mant Farm, AZ 86538

Dale E. Jones
821 27 Road
Grand Junction, CO 81506

Robert L. Dorsey
2706 "H" Road
Grand Junction, CO 81506

Thomas A. Logue
227 South 9th Street
Grand Junction, CO 81501

Alpine C.M., Inc.
Rob Griffin
1111 South 12th Street
Grand Junction, CO 81501

City of Grand Junction
Community Development Dept.
250 North 5th Street
Grand Junction, CO 81501

Donald R. Coatney
2697 Mazatlan Dr.
City 81506

~~Michael F. Helt~~
~~2692 E. Carmel Ct.~~
~~City 81506~~

~~Paul E. [redacted]~~
~~809 Lant Dr.~~
~~City 81506~~

Layne A. Arnett
2699 Mazatlan Dr.
City 81506

~~Lawrence F. [redacted]~~
~~2694 E. Carmel Ct.~~
~~City 81506~~

~~Harry N. [redacted]~~
~~807 Lant Dr.~~
~~City 81506~~

~~Paul D. [redacted]~~
~~804 Mazatlan Dr.~~
~~City 81506~~

~~Edward H. [redacted]~~
~~808 Lant Dr.~~
~~City 81506~~

~~Douglas H. [redacted]~~
~~811 LANAT DR.~~
~~City 81506~~

Downard Oldham
802 Mazatlan Dr.
City 81506

~~Tommy D. [redacted]~~
~~2695 E. Carmel Ct.~~
~~City 81506~~

Gary R. Morris
2691 Mazatlan Dr.
City 81506

~~Paul [redacted]~~
~~806 Mazatlan Dr.~~
~~City 81506~~

~~Mad W. [redacted]~~
~~2693 Carmel Ct~~
~~City 81506~~

George W. Goetz
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City 81506

Bernard M. Long
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City 81506

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2697 Mazatlan Dr.
City 81506

Kenneth R. Wilson
2692 Mazatlan Dr.
City 81506

~~Edward S. [redacted]~~
~~2678 Mazatlan Dr.~~
~~City 81506~~

~~Brace Alan F.~~
~~778 Jasmine Ct.~~
~~City 81506~~

Jerald S. Meuwly
2694 Mazatlan Dr.
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~~John M. [redacted]~~
~~2680 Mazatlan Dr.~~
~~City 81506~~

~~Robert S. [redacted]~~
~~777 Jasmine Ct.~~

Robert M. Wilcoxon
2696 Mazatlan Dr.
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~~Charles S. [redacted]~~
~~807 Lopez Ct.~~
~~City 81506~~

~~Santo B. [redacted]~~
~~807 Mazatlan Dr.~~
~~City 81506~~

~~Earl W. [redacted]~~
~~808 Lopez Ct.~~
~~City 81506~~

~~H. [redacted]~~
~~809 Mazatlan Dr.~~

~~Joel [redacted]~~
~~PO Box 278~~

HARLEY RUDESKY

~~780 26 1/2 Road~~

~~City 81506~~

~~Virginia Saccinoli~~

~~78 28 1/2 Road~~

~~City 81506~~

~~W.D. Garris~~

~~PO Box 833~~

~~City 81502~~

~~Georg N. Springer~~

~~PO Box 2753~~

~~City 81502~~

~~David W. Terry~~

~~3120 Beachwood St.~~

~~City 81506~~

~~Henry W. Lambert~~

~~2449 Applewood Pl~~

~~City 81506~~

David L. Weldon

2684 Jentry Ct.

City 81506

~~Betty L. Funk~~

~~PO Box 2912~~

~~City 81502~~

~~Teddy J. Albright~~

~~2976 Walnut Ave.~~

~~City 81504~~

Michael James Joyce

2693 Jentry Ct.

City 81506

~~David H. Schoening~~

~~653 Eastcliff Dr.~~

~~City 81506~~

David L. Lewis

781 Jade Lane

City 81506

Roberta Sutherland

2701 H Road

City 81506

~~Chester D. Howard~~

~~2719 H Road~~

~~City 81506~~

Thomas F. Karsten

794 27 Road

City 81506

Craig A. Little

2702 Skyline Dr.

City 81506

~~I.D. Colter~~

~~2550 I Road~~

~~City 81506~~

~~Donald E. Hockett~~

~~2708 Skyline Dr.~~

~~City 81506~~

~~Normand B. Linder~~

~~2703 Skyline Dr.~~

~~Grand Jct. CO 81506~~

~~Melvin J. Rohn~~

~~2707 Skyline Dr.~~

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~~City 81506~~

~~Roberta K. Brown~~

~~806 Tahiti Dr.~~

~~City 81506~~

~~John G. Daulton~~

~~808 Tahiti Dr.~~

~~City 81506~~

~~Alice W. Bine~~

~~810 Tahiti Dr.~~

~~City 81506~~

~~Auther W. Fash, Jr.~~

~~812 Tahiti Dr.~~

~~City 81506~~

~~Douglas M. S. Perez~~

~~814 Tahiti Dr.~~

~~City 81506~~

~~Walter K. Miller~~

~~2881 Mazatlan Dr.~~

~~City 81506~~

~~Robert K. Brown~~

~~2683 Mazatlan Dr.~~

~~City 81506~~

~~William T. Blahut~~

~~2685 Mazatlan Dr~~

~~City 81506~~

~~Harold J. Rose~~

~~2687 Mazatlan Dr.~~

~~City 81506~~

Trapezoidal Channel Analysis & Design
Open Channel - Uniform flow

Worksheet Name: V-PAN SWALE

Comment: PAN AND DRAINAGE SWALE / SECTION A-A

Solve For Depth

Given Input Data:

Bottom Width..... 4.00 ft
Left Side Slope.. 2.00:1 (H:V)
Right Side Slope. 2.00:1 (H:V)
Manning's n..... 0.024
Channel Slope.... 0.0050 ft/ft
Discharge..... 3.51 cfs

COMPOSITE CONCRETE AND GRASS
FLOW IN SECTION MINUS V-PAN CAPACITY OF 1.59 CFS

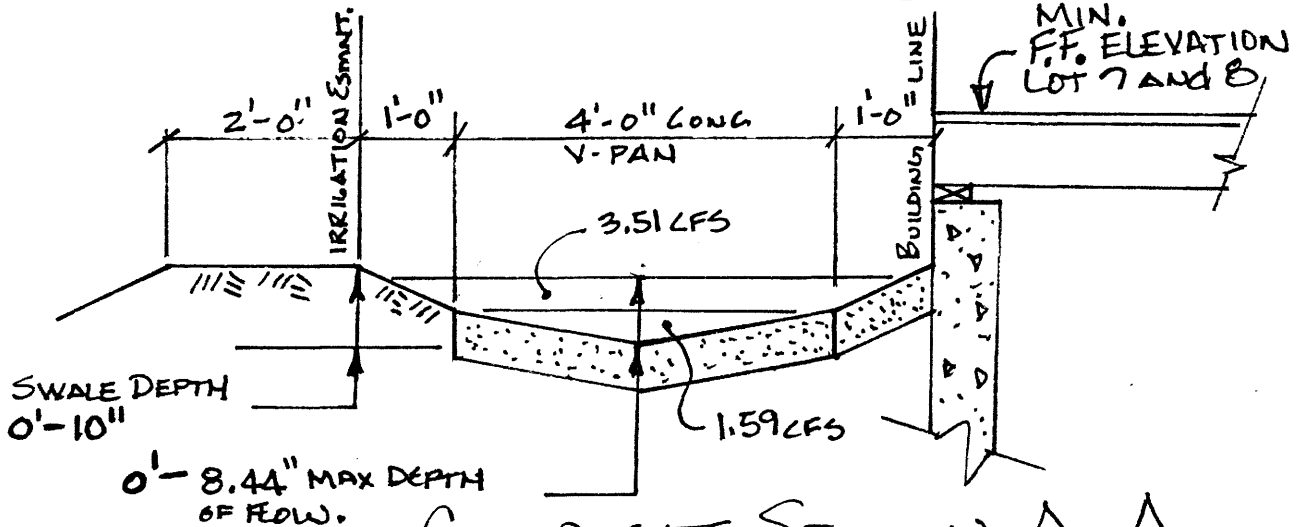
Computed Results:

Depth..... 0.37 ft
Velocity..... 2.00 fps
Flow Area..... 1.75 sf
Flow Top Width... 5.48 ft
Wetted Perimeter. 5.65 ft
Critical Depth... 0.27 ft
Critical Slope... 0.0139 ft/ft
Froude Number.... 0.62 (flow is Subcritical)

DEPTH OF WATER ABOVE LIP OF V-PAN

WITHIN 6'-0" SLOPE SECTION.

TOTAL 100 YEAR FLOW IN SECTION = 3.51 CFS + 1.59 CFS = 5.10 CFS.



Trapezoidal Channel Analysis & Design
Open Channel - Uniform flow

Worksheet Name: V-PAN SWALE

Comment: PAN AND DRAINAGE SWALE / SECTION B-B

Solve For Depth

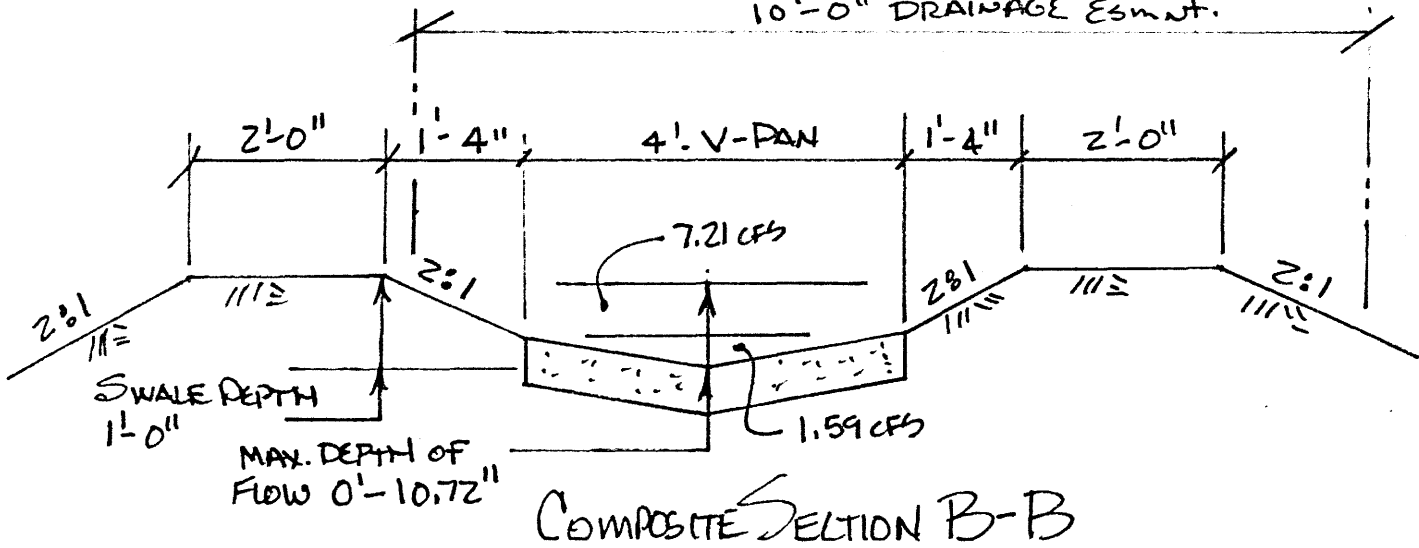
Given Input Data:

Bottom Width.....	4.00 ft	
Left Side Slope..	2.00:1 (H:V)	
Right Side Slope.	2.00:1 (H:V)	
Manning's n.....	0.024	COMPOSITE CONCRETE AND GRASS.
Channel Slope....	0.0050 ft/ft	
Discharge.....	7.21 cfs	FLOW IN SECTION MINUS V-PAN CAPACITY OF 1.59 CFS

Computed Results:

Depth.....	0.56 ft	DEPTH OF WATER ABOVE LIP OF V-PAN
Velocity.....	2.53 fps	
Flow Area.....	2.85 sf	
Flow Top Width...	6.23 ft	WITHIN 10' DRAINAGE EASEMENT
Wetted Perimeter.	6.49 ft	
Critical Depth...	0.43 ft	
Critical Slope...	0.0123 ft/ft	
Froude Number....	0.66 (flow is Subcritical)	

TOTAL 100 YEAR FLOW IN SECTION = 7.21 CFS @ 1.59 CFS = 8.8 CFS
10'-0" DRAINAGE ESMNT.



Open Channel Flow Module. Version 3.16 (c) 1990
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EXHIBIT III-7.3

Rectangular Channel Analysis & Design
Open Channel - Uniform flow

Worksheet Name: CURB OPENNING

Comment: CURB OPENNING IN SUDEWALK - ALPINE COURT

Solve For Discharge

Given Input Data:

Bottom Width.....	3.00 ft - WIDE
Manning's n.....	0.013
Channel Slope....	0.0208 ft/ft
Depth.....	0.33 ft - DEPTH

Computed Results:

Discharge.....	6.83 cfs	} ————— $Q_{100} = 5.1 \text{ CFS}$
Velocity.....	6.90 fps	
Flow Area.....	0.99 sf	
Flow Top Width...	3.00 ft	
Wetted Perimeter.	3.66 ft	
Critical Depth...	0.54 ft	
Critical Slope...	0.0046 ft/ft	
Froude Number....	2.12 (flow is Supercritical)	

EXHIBIT III-8.1

Rectangular Channel Analysis & Design
Open Channel - Uniform flow

Worksheet Name: CURB OPENNING

Comment: CURB OPENNING IN SUDEWALK - JORDANNA ROAD

Solve For Discharge

Given Input Data:

Bottom Width.....	4.00 ft — WIDE
Manning's n.....	0.013
Channel Slope....	0.0208 ft/ft
Depth.....	0.33 ft — DEPTH

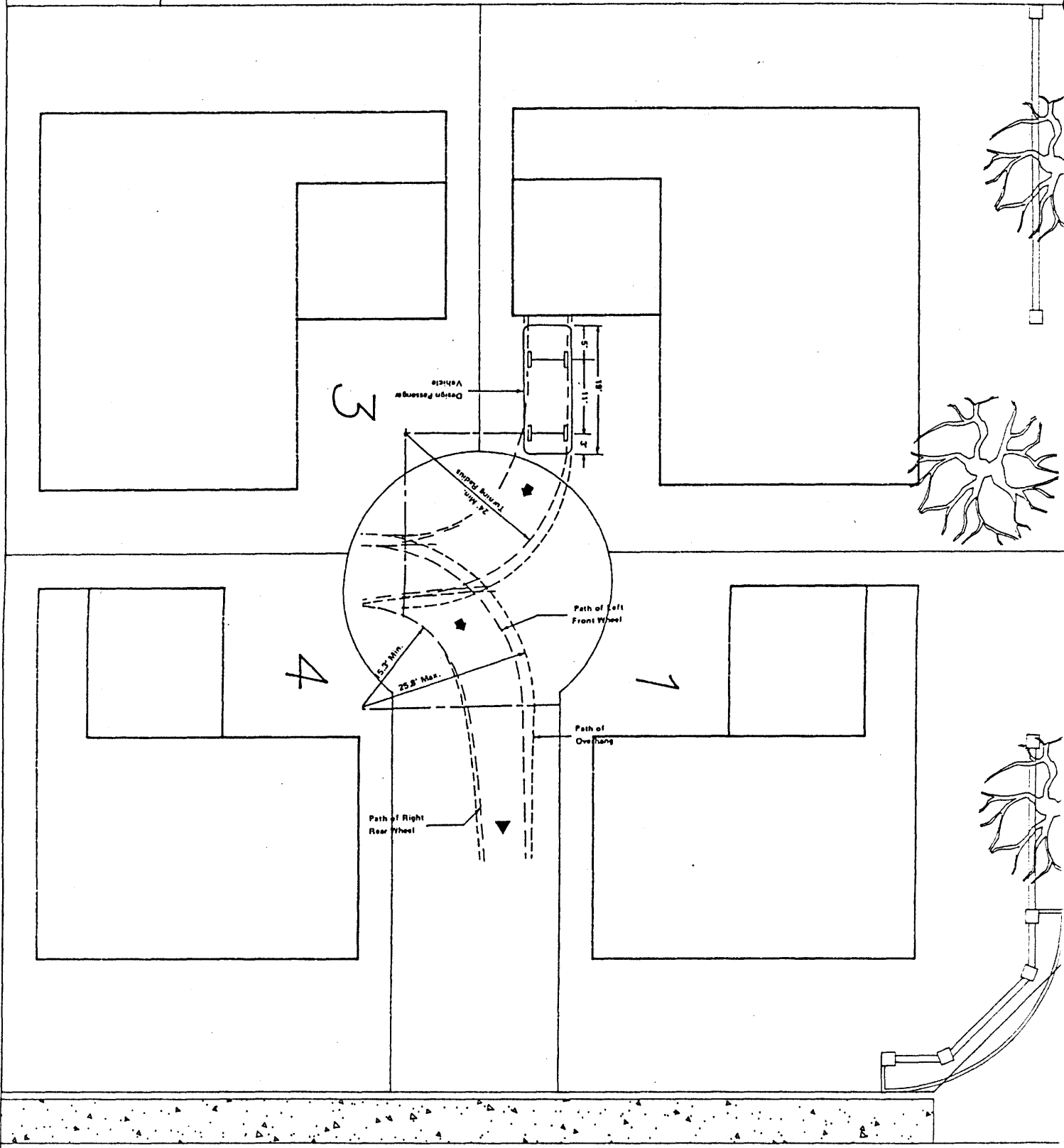
Computed Results:

Discharge.....	9.39 cfs	} — $Q_{100} = 8.8 \text{ CFS}$
Velocity.....	7.11 fps	
Flow Area.....	1.32 sf	
Flow Top Width...	4.00 ft	
Wetted Perimeter.	4.66 ft	
Critical Depth...	0.56 ft	
Critical Slope...	0.0042 ft/ft	
Froude Number....	2.18 (flow is Supercritical)	

EXHIBIT III-8.2

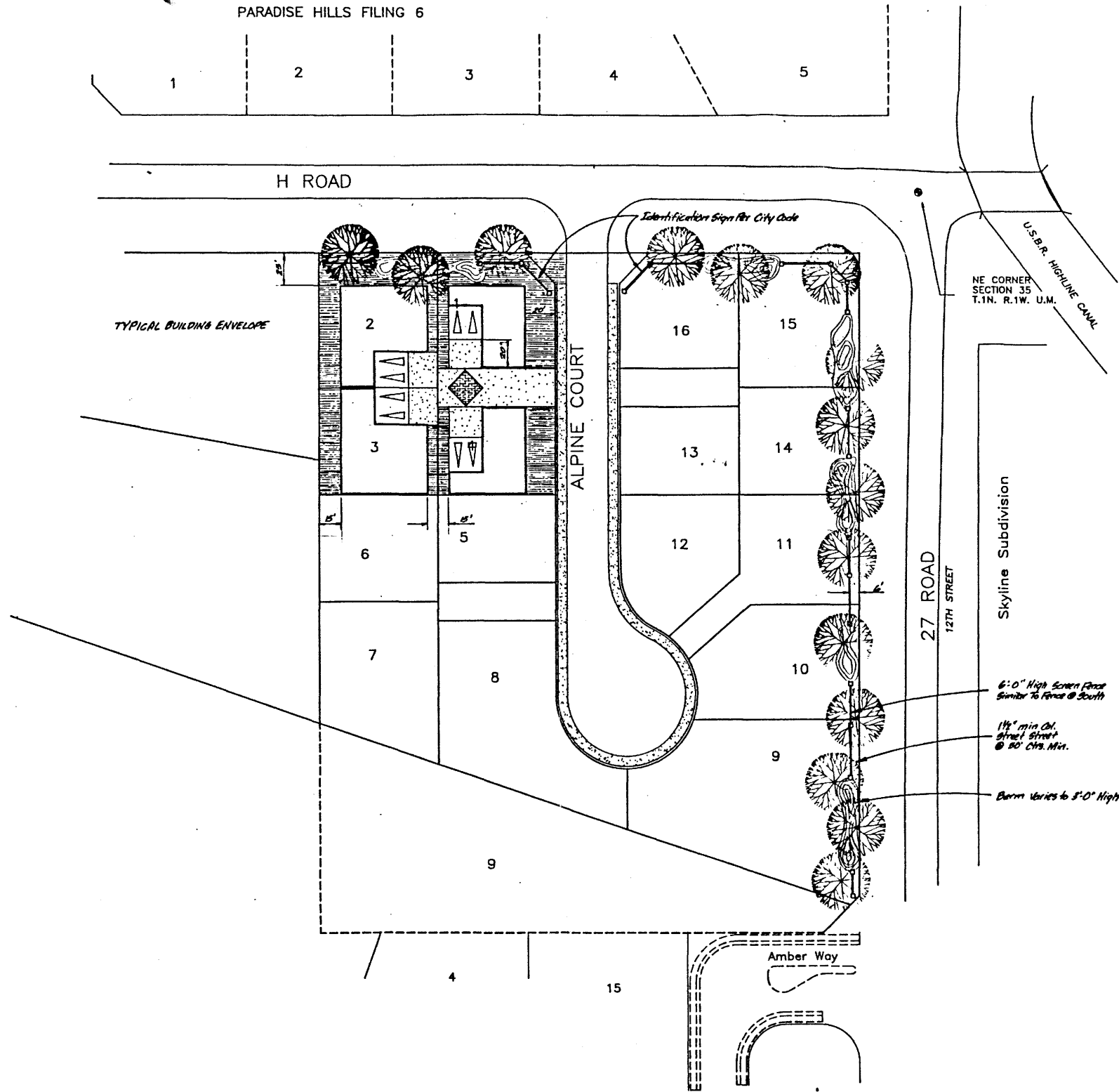
ALPINE VILLAGES - TYP. TURNING MOVEMENT @ PRIVATE DRIVE

SCALE: 1"=20'



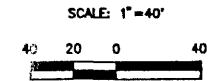
Josilyn Place

PARADISE HILLS FILING 6



LAND USE SUMMARY CHART	
USE	AREA IN AC.
AREA IN ROW	0.6
AREA IN LOTS	2.5
TOTAL AREA	3.1
UNITS	16
DENSITY	5.0 du/ac

MINIMUM BUILDING SETBACKS	
FRONT	20 feet at Garage
SIDE	0 feet (min. 10 ft. bldg. separation)
REAR	0 feet (20 ft. for 12th Street & H Road 15 ft. for Lots 2,3,6, & 7)
Max. Building Height = 25 ft.	



THE BENCHMARK IS THE TOP OF THE N.W. PROPERTY PIN
Benchmark Elev. = 4754.07

LANDSCAPE PLAN	
ALPINE VILLAGE	
TAL THOMAS A. LOGUE LAND DEVELOPMENT CONSULTANT	
PROJECT NO. C:\TAL\ALPINE\93109	SHEET OF
DATE: AUGUST, 1993	LS-1 1