Table of Contents

File FPP-1996-154 Name: Pheasant Ridge Estates – NW of 28 Rd. & F Rd.-Final Plat Plan

Present	Scanned	
		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. Documents specific to certain files, not found in the standard checklist materials, are listed at the bottom of the page. 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.
X	X	**Table of Contents**
		***Review Sheet Summary**
X	X	***Application form**
		Review Sheets
		Receipts for fees paid for anything
X	X	***Submittal checklist**
X	X	***General project report**
		Reduced copy of final plans or drawings
		Reduction of assessor's map.
		Evidence of title, deeds, easements
X	X	***Mailing list to adjacent property owners**
		Public notice cards
		Record of certified mail
		Legal description
		Appraisal of raw land
		Reduction of any maps – final copy
		***Final reports for drainage and soils (geotechnical reports)**
		Other bound or non-bound reports
		Traffic studies
X	X	***Review Comments**
X	X	***Petitioner's response to comments**
X	X	***Staff Reports**
		***Planning Commission staff report and exhibits**
		***City Council staff report and exhibits**
		***Summary sheet of final conditions**

DOCUMENT DESCRIPTION:

X	X	Correspondence	X	X	Storm Water Management Plan – 6/27/96
X		Treasurer's Certificate of Taxes Due – 6/27/96	X	X	Geotechnical Investigation – 6/28/96
X	X	City Council Minutes – 9/18/96, 10/2/96, - **	X	X	Declaration of Covenants, Conditions, and Restrictions - Bk 2339 / Pg 162
			X		Avigation Easement – Delivered to Walker Field Airport – Bk 2339 / pg 176
X		Commitment for Title Ins. – United General Title Ins. Co.	X	X	Final Drainage Report – 8/18/96
X		Planning Commission – Notice of Public Hearing – sent 8/28/96	X	X	Resolution No. 89-96 - ** - Bk 2267 / pg 693
X		Statutory Deed – Bk 2245 / Pg 377 – not conveyed to City	X		General Legend and Construction Notes
X		Posting of Public Notice Signs – signed 8/23/96	X		Stormwater Management Plan
X	X	Planning Commission Minute – 9/3/96 - **	X		Utility Composite and Water Plan
X	X	Utilities Coordinating Committee approval – 9/11/96	X		Grading, Drainage, Irrigation Plan
X		Articles of Incorporation for a Nonprofit Corporation	X		Springside Court Plan and Profile
X	X	Ordinance No. 2944, 2950,3016 - **	X		Pheasant Trail Court Plan and Profile
X	X	Contract Proposal – 2/4/97	X		Sanitary Sewer Plan and Profile Line E
X	X	Certification of Plat – 7/3/97	X		Sanitary Sewer Plan and Profile Line A

X		Sanitary Sewer Plan and Profile Line B	X		Standard Concrete Details
X		Standard Utilities Locations and Multi-Purpose Easement Details	X		Accessible Ramp and Parking Stall Details
X		Standard Sanitary Sewer Details – Exhibit I	X		Standard Sanitary Sewer Details – Exhibit F
X		Standard Sanitary Sewer Details – Exhibit H			

DEVELOPMENT APPLICATION

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

Receipt _____
Date _____
Rec'd By _____

File No. _____

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
☒ Subdivision Plat/Plan	☐ Minor ☒ Major ☐ Resub	6.3acres	NW corner 28th&Patterson	PD-8	Residential
☐ Rezone				From: To:	
☐ Planned Development	☐ ODP ☐ Prelim ☐ Final				
☐ Conditional Use					
☐ Zone of Annex					
☐ Variance					
☐ Special Use					
☐ Vacation					☐ Right-of Way ☐ Easement
☐ Revocable Permit					

☒ PROPERTY OWNER	☐ DEVELOPER	☒ REPRESENTATIVE
Ed Lenhart		Marc Maurer
Name	Name	Name
Just Companies, Inc. 826 21 1/2 Road		Genesis Design P.O. Box 1851
Address	Address	Address
Grand Junction, CO 81505		Grand Junction, CO 81502
City/State/Zip	City/State/Zip	City/State/Zip
(970) 245-9316		(970) 245-6093
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 required 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.

Signature of Person Completing Application — Date

Just Companies Inc. by Edward Lenhart, Pres

Signature of Property Owner(s) - attach additional sheets if necessary — Date

SUBMITTAL CHECKLIST

MAJOR SUBDIVISION: FINAL PLAN/PLAT & Vacation

Location: 78 & E Rds Project Name: Pheasant Ridge Estates

Date Received 7-1-96

Receipt # 4247

File # FPP-96-154

DESCRIPTION	SSID REFERENCE	● City Community Development	● City Dev. Eng.	● City Utility Eng.	● City Property Agent	● City Parks/Recreation	● City Fire Department	● City Attorney	● City G.J.P.C. (8 sets)	○ City Downtown Dev. Auth.	● City Police	○ County Planning	○ County Building Department	~~● County Surveyor~~	● Walker Field	● School Dist. #51	● Irrigation District GVWUA	○ Drainage District	● Water District Ute	○ Sewer District	● U.S. West	● Public Service	○ GVRP	○ CDOT	○ Corps of Engineers	○ Colorado Geologic Survey	● U.S. Postal Service	~~● Persigo WWTF~~	● TCI Cable			TOTAL REQ'D.
● Application Fee $845	VII-1	1																														
● Submittal Checklist*	VII-3	1																														
● Review Agency Cover Sheet*	VII-3	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
● Application Form*	VII-1	1	1	1	1	1	1	1	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
● Reduction of Assessor's Map	VII-1	1	1	1	1	1	1	1	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
● Evidence of Title	VII-2	1			1			1																								
○ Appraisal of Raw Land	VII-1	1			1	1																										
● Names and Addresses*	VII-2	1																														
● Legal Description* - site + Vacations	VII-2	1			1																											
○ Deeds	VII-1	1			1			1																								
○ Easements	VII-2	1	1	1	1			1													1	1	1						1			
● Avigation Easement	VII-1	1			1			1							1																	
○ ROW	VII-2	1	1	1	1			1													1	1	1						1			
● Covenants, Conditions & Restrictions	VII-1	1	1					1																								
○ Common Space Agreements	VII-1	1	1					1																								
● County Treasurer's Tax Cert.	VII-1	1																														
● Improvements Agreement/Guarantee*	VII-2	1	1	1				1																								
○ CDOT Access Permit	VII-3	1	1																													
○ 404 Permit	VII-3	1	1																													
○ Floodplain Permit*	VII-4	1	1																													
● General Project Report	X-7	1	1	1	1	1	1	1	8	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1			1
● Composite Plan	IX-10	1	2	1	1																											
● 11"x17" Reduction Composite Plan	IX-10	1				1	1	1	8	1	1	1	1				1	1	1	1	1	1	1	1	1	1		1	1			1
● Final Plat	IX-15	1	2	1	1	1	1	1	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
● 11"X17" Reduction of Final Plat	IX-15	1							8	1	1	1			1	1	1	1	1	1	1	1	1				1		1			1
● Cover Sheet	IX-11	1	2																													
● Grading & Stormwater Mgmt Plan	IX-17	1	2															1							1	1			1			
● Storm Drainage Plan and Profile	IX-30	1	2															1			1	1	1						1			
● Water and Sewer Plan and Profile	IX-34	1	2	1			1												1	1	1	1	1					1	1			
● Roadway Plan and Profile	IX-28	1	2															1														
● Road Cross-sections	IX-27	1	2																													
● Detail Sheet	IX-12	1	2																													
● Landscape Plan	IX-20	2	1	1					8																							
● Geotechnical Report	X-8	1	1																							1						
○ Phase I & II Environmental Report	X-10,11	1	1																													
● Final Drainage Report	X-5,6	1	2															1														
○ Stormwater Management Plan	X-14	1	2															1							1							
○ Sewer System Design Report	X-13	1	2	1																1												
○ Water System Design Report	X-16	1	2	1															1													
○ Traffic Impact Study	X-15	1	2																					1								
● Site Plan & 1-11x17 reduction	IX-29	1	2	1	1		1		8																							

NOTES: * An asterisk in the item description column indicates that a form is supplied by the City.

PRE-APPLICATION CONFERENCE

Date: 6/21/96
Conference Attendance: Mark Maurer
Proposal: Final Plan/Plat & R.O.W. & easement vacations
Location: 28 & F Rds

Tax Parcel Number: _____
Review Fee: #740 + $105 ($15/ac) = $845
(Fee is due at the time of submittal. Make check payable to the City of Grand Junction.)

Additional ROW required? _____
Adjacent road improvements required? _____
Area identified as a need ~~in the Master~~ Plan of Parks and Recreation? _____
Parks and Open Space fees required? _____ Estimated Amount: _____
Recording fees required? _____ Estimated Amount: _____
Half street improvement fees/TCP required? _____ Estimated Amount: _____
Revocable Permit required? _____
State Highway Access Permit required? _____
On-site detention/retention or Drainage fee required? _____

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? _____
Avigation Easement required? _____

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	O Screening/Buffering	☒ Land Use Compatibility
O Drainage	☒ Landscaping	O Traffic Generation
O Floodplain/Wetlands Mitigation	O Availability of Utilities	O Geologic Hazards/Soils

O Other _____
Related Files: PP 96-132

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.

X _____ X _____
Signature(s) of Petitioner(s) Signature(s) of Representative(s)

Mildred Shaw
2778 Patterson Road
Grand Junction, CO
81506

John Branagh
4432 Piedmont Avenue
Oakland, CA 94611

H. Joe Kendrick
2401 Pheasant Run Circle
Grand Junction, CO
81506-

Charles Currier
2750 Beechwood Street
Grand Junction, CO
81506

Gerald Clawson
2315 Pheasant Run Circle
Grand Junction, CO
81506

Mary Lou Jones
4304 Beaufort Hunt Drive
Harrisburg, PA 17110

Phyllis Boler
2311 Pheasant Run Circle
Grand Junction, CO
81506

Ronald McDonald
2427 Pheasant Run Circle
Grand Junction, CO
81506

Just Companies
826 21 1/2 Road
Grand Junction, CO
81505

Inez Hyatt
2740 Beechwood Street
Grand Junction, CO
81506

John Hampton
2313 Pheasant Run Circle
Grand Junction, CO
81506

Frank Goff
2501 Pheasant Run Circle
Grand Junction, CO
81506

Paul Ridings
2130 Barberry Avenue
Grand Junction, CO
81506

Nona Howard
2419 Pheasant Run Circle
Grand Junction, CO
81506

City of Grand Junction
250 North 5th Street
Grand Junction, CO
81501

Timothy Gasperini
2325 Pheasant Run Circle
Grand Junction, CO
81506

Thompson- Langford
Corp.
529 25 1/2 Rd. #B210
Grand Junction, CO
81505

City of Grand Junction
Community Development Dept.
250 N 5th St.
Grand Junction, CO 81501

Lawrence Putz
2120 Barberry Avenue
Grand Junction, CO
81506

Gene Taylor
633 Fletcher Lane
Grand Junction, CO
81505

Kenneth Porter
2720 Beechwood Street
Grand Junction, CO
81506

John Varga
2307 Pheasant Run Circle
Grand Junction, CO
81506

James Zimmerman
5073 N Lariat Drive
Castle Rock, CO 80104

Gilbert Minard
256 Window Rock Court
Grand Junction, CO
81503

Raymond Williams
102 Santa Fe Drive
Grand Junction, CO
81501

Marc Maurer
P.O. Box 1851
Grand Junction, CO
81502

JUST COMPANIES, INC.

CONSTRUCTION
826 21 1/2 ROAD
GRAND JUNCTION, CO 81505

Telephone 970-245-9316
Fax 970-256-9717

January 16, 1996

Mr. Ray Rickard
Hill & Holmes Real Estate
1204 N. 7Th. Street
Grand Junction, CO 81501

RE: Right-Of-Use On Springside Court.

Dear Mr. Rickard:

It is agreed between Just Companies Inc.,owner of a parcel of land described as Lot 1 Pheasant Run Condos Sec 1 IS IW Exc That Pt Beg SE Cor SD Sec 1 N 89 Deg 46' W 603 Ft S 89 Deg 46' E 603 Ft S 480 Ft to Beg. North of F. Road, Grand Junction, CO 81506 andRay Rickard and Ronald Vincent owners of the parcel of land described as Lot 1, Pheasant Run Condos, Beg at theSE corner of Sec 1, Township1 S, Range 1 W of the Ute Merdian: thence North 89 Deg.46' W 603 Ft, N480 Ft, S 89 Deg 46' E 603 Ft,.S 480 Ft to Pt Beg, except Spring Valley Townhome Condominiums, that the first company to develop their property adjoining Springside Court. has the permission of the subsequent party to put a culdesac acceptable to the City of Grand Junction, made of 3/4" road base, in on the other's property for the expressed purpose of use as a temporary turn around for the extension of the Springide Court..

It is the intent of this agreement that at the time of development of the property with the culdesac.and completion of Springside Court., by all subsequent parties that all rights and privileges to the culdesac be terminated.

All material to construct the culdesac will become part of the property that it is constructed on and the cost of the construction of the culdesac will be the sole responsibility of the constructing party.

Edison S. Lenhart
President
Just Companies, Inc.
1/17/97
Date

Ray Rickard
1/27/97
Date

Richard Vincent
1/27/97
Date

PHEASANT RIDGE ESTATES

Western half of a site commonly known as "Spring Valley Townhome Condos"

GENERAL PROJECT REPORT:

7•1•96

1.0 **PROJECT DESCRIPTION:**

APPROVAL of a residential SUBDIVISION FINAL PLAN on 6.35 ACRES currently zoned PD-8 (no change anticipated in zoning) and a VACATION OF AN EXISTING PLATTED ROAD (road has not been built) and VACATION OF AN EXISTING SEWER EASEMENT.

The development is an infill neighborhood on a site located approximately on the western half of a site commonly known as "Spring Valley Townhome Condos" situated north of Patterson (F) Road and west of 28 Road, Grand Junction, Mesa County, Colorado. No phasing of the project is anticipated.

The project consists of two looped cul-de-sac roads serving all but eight of the Dwelling Units. One road accesses Patterson Road on the South of the project, the other access the adjacent property to the East. Shared private drives access the remaining units. All streets that are expected to be maintained by the City of Grand Junction are to current City road standards. Shared private drives provide for a 20' paved mat with a concrete drainage pan on one side of the paved surface to a total width of 23'. All off street parking will occur on each lot to a maximum of four vehicles. City streets have been designed to provide overflow parking. Shared private drives will be restricted from overflow parking.

A great deal of consideration has been given to the character of this project and extensive landscaping is provided for the Patterson Road frontage, a central landscape feature, and pocket park. Pedestrian circulation has been provided for throughout the project and connected with the City park to the North as well as the property to the East.

2.0 **PUBLIC BENEFIT:**

Appropriate planning and design helps to provide identity and meaning to a community. An important tenant of this project is the principle of planning for a sustainable future in an attempt to provide identity and meaning both now and for years to come. Sustainability brings with it the notion of providing for future generations. This translates into energy and resource conservation and providing for enhanced human health.

This project attempts to interpret this principle of planning for a sustainable future by identifying and designing to the following concepts....

- Infill PUD Neighborhood
- Market Niche

  Move-up home buyers and retirees, sales prices starting in low $110's
- Neighborhood Character and Identity

  Custom designed residences with courtyard entries and/or porches will be encouraged using Architectural Design Guidelines and "Pattern Book" for architectural elements. Thoughtful streetscape design utilizing street trees and deemphasizing garage entries has also been addressed in the Guidelines.
- Amenities

  Resident's park provides a safe access for children and adults to the City Park adjacent to the North of the Site and sports decorative landscaping and a picnic area with shade trees, decorative plantings and a grassy area for children of all ages to enjoy.

PHEASANT RIDGE ESTATES

Western half of a site commonly known as "Spring Valley Townhome Condos"

- On Site Rainwater Detention as Usable Park Space
- Home Owner's Association

  Maintaining architectural standards, common open space , front yards and the private shared drives
- Xeriscape

  Low water use landscape with water conserving irrigation technology

3.0 SITE DATA:

ELEMENT	SSIDS/CODE REF	COMMENTS
Owner		Just Companies, Inc. Grand Junction, Colorado
Property Location	X-07/A.1	West 1/2 of Lot; Spring Valley Townhome Condos - See Diagram 1
Site Area	X-07/A.2	6.35 Acres - Gross Area
Underlying Zone	X-07/C.2	No change from present PD - 8 zoning
Density		5.82 DU/A - Gross density
Average Lot Size		5370 gsf; Single family lots for attached/detached units
Surrounding Uses	X-07/C.2	Residential: Single family detached, Single family attached - See Diagram 1
Proposed Use	X-07/A.3, C.2	Residential: Single family detached, Single family attached - See Diagram 2
Character		Residential - See Diagrams 2 & 3
S.F. detached units	X-07/C.6	25
S. F. attached units	X-07/C.6	12
Units sizes		1050 to 1600 gsf - Approximate range
Setbacks		Front Yard - 20' min. Rear Yard - 15' min. Side Yards - 5' Side Yards - 0' (Attached units)
Site Access	X-07/C.3	S.F. detached units accessed by paved internal road w/ curb, gutter, and side walk via Patterson Road returning to Springside Court with two looped cul-de-sacs serving 29 units; Single family attached units shared private drives serving 8 units maintained by HOA - See Diagram 2

3.0 SITE DATA: (Continued)

ELEMENT	SSIDS/CODE REF	COMMENTS
Buffers	X-07/B	Minimum buffering techniques shall include 30' min. setback from Patterson Road, with decorative fencing and landscape to a minimum height of 6'; 15' min. setbacks at adjacent properties to the East and West with a 25' min. easement against the adjacent properties to the North - See Diagram 2
Open Space	GJCode 5.4.5	.41 Acres - Provided, Maint'd by HOA
Drainage	X-07/C.4	Detention Pond - Located on site in western neighborhood park; release at historical rate
Irrigation	X-07/C.4	Existing irrigation lines will be used to provide for park and open space irrigation requirements that are maintained by Home Owners Association and each individual lot .
Fire flow	X-07/C.4	3 New hydrants on site
Potable Water	X-07/C.4	Ute Water - Available
Sewer	X-07/C.4	City - Grand Junction - Available
Electric/Gas	X-07/C.4	Public Service - Available
Telephone	X-07/C.4	US West - Available
Cable	X-07/C.4	TCI Cablevision - Available
Solid Waste	X-07/C.4	Curb Side Individual Collection
Postal Delivery	X-07/C.6	All Units - Central Mailbox, Three total - See Diagram 2
Parking	GJCode 5.5.1.H.2	Single Family Units Four spaces each - off road Typical garage = 2 cars; Drive = 2 cars Single Family Attached Units Two spaces each Typical garage = 1 car; Drive = 1 car
Public Benefit	X-07/B	Neighborhood pocket park Picnic Area Open grassy area Architectural Standards for Housing Design and Site Development Thoughtfully Designed Streetscape - See Diagrams 2 & 3
Pedestrian Access/ Safety	X-07/B	New attached sidewalks along both sides of the roads. Internal pedestrian safe zone connecting park in Spring Valley with Patterson and 28 Roads. - See Diagram 2

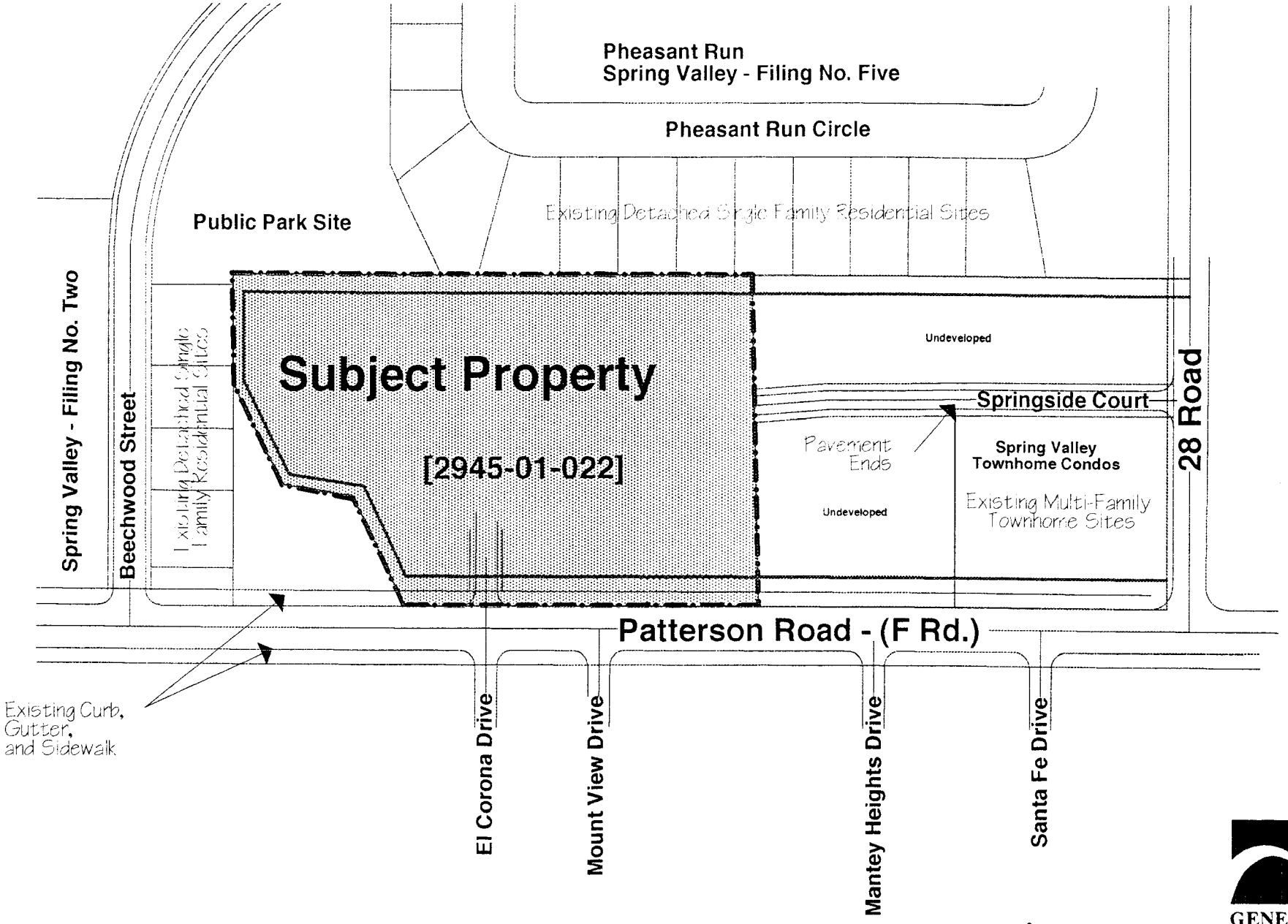
3.0 SITE DATA: (Continued)

ELEMENT	SSIDS/CODE REF	COMMENTS
Landscape	CJ Code 7.4.3	Roadway landscape shall conform to Roadway Landscape Guidelines for the City of Grand Junction. Xeriscape principles have been used to select street trees and decorative plantings as indicated on the landscape plan provided by our landscape professional based on the plant's ability to withstand climatic and urban conditions, their costs, benefits and desirability as landscape plants. - See Landscape Plan
Site Impact	X-07/C.8	Site impacts will be minimized to regrading for adequate drainage and installation of infrastructure. Where possible mature vegetation will be protected. There are no known geological hazards.
Hours of operation	X-07/C.9	N/A.
Number of employees	X-07/C.10	N/A.
Neighborhood identification	X-07/C.11	Entry feature signage will be provided using a professionally designed logo and raised lettering to identify the neighborhood and will be erected at the corner of the entry street and Patterson Road also at the internal crossroads in an open space area set aside for this purpose. Landscape with special plantings has provided a picturesque backdrop to the signage. Street signage shall comply with City regulations.
Development schedule/phasing	X-07/D	Site preparation and construction will commence upon granting of approvals and permits. Building construction schedules will depend on the Lot Owners after purchase of the Lot. We do not anticipate phasing this project.

Respectfully Submitted,

Marc E. Maurer, M. Arch., NCARB
ARCHITECT

Genesis Designs: Architecture and Planning
P.O. Box 1851 Grand Junction, Colorado 81502
9 7 0 • 2 4 5 • 6 0 9 3

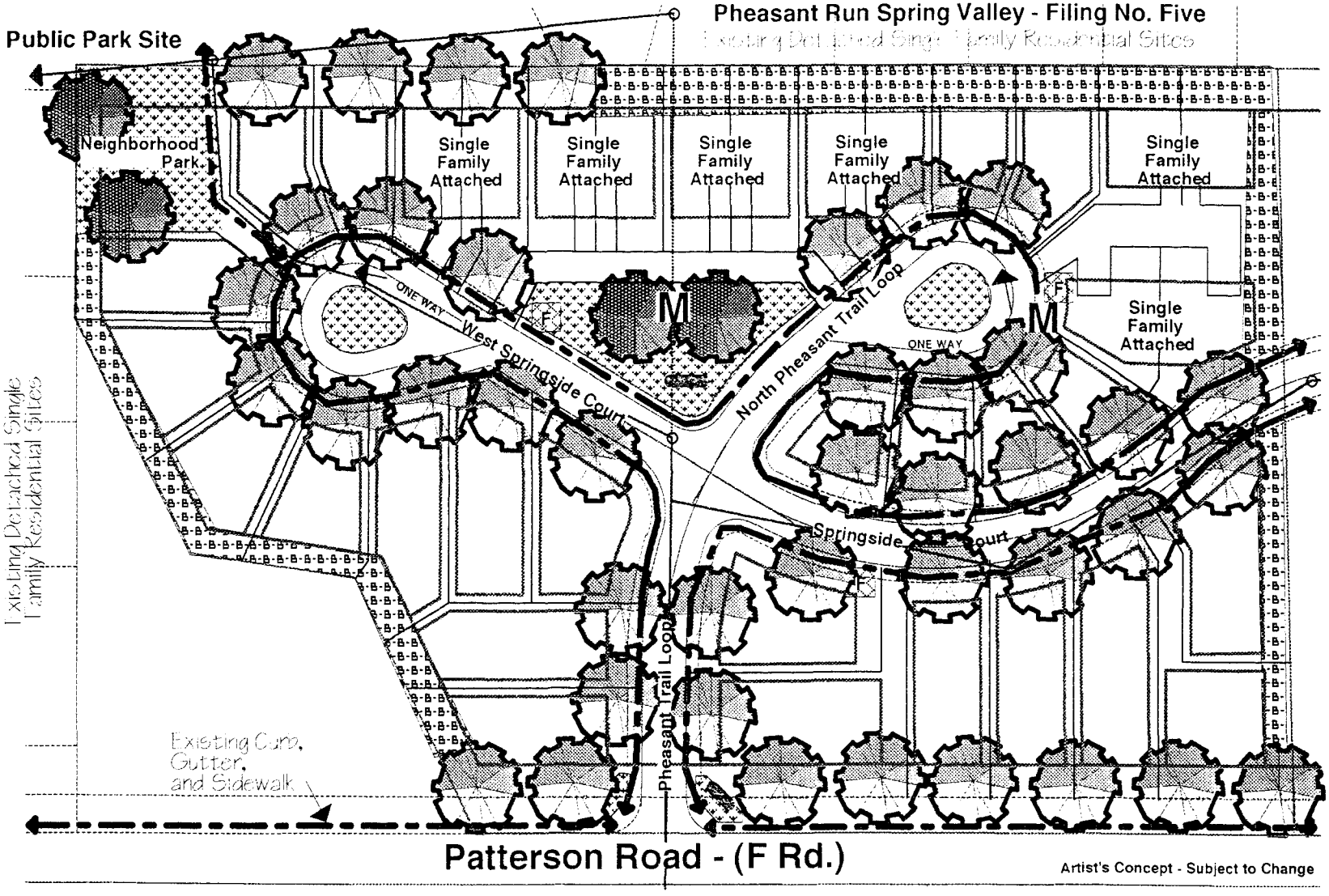


PHEASANT RIDGE ESTATES

Context - Diagram #1

NOT TO SCALE 5·30·96 ©

GENESIS DESIGNS
ARCHITECTURE AND PLANNING
970·245·6094
P.O. BOX 1851
GRAND JUNCTION
COLORADO
81502



PHEASANT RIDGE ESTATES

Site Elements - Diagram #2

NOT TO SCALE 5-30-96 ©

Pedestrian Access

Fire Hydrant

Buffer

Neighborhood Identification Sign

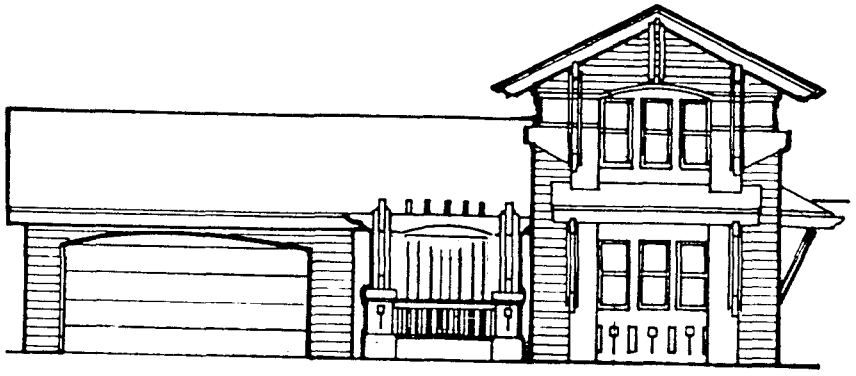
Landscape Feature

Central Mailbox

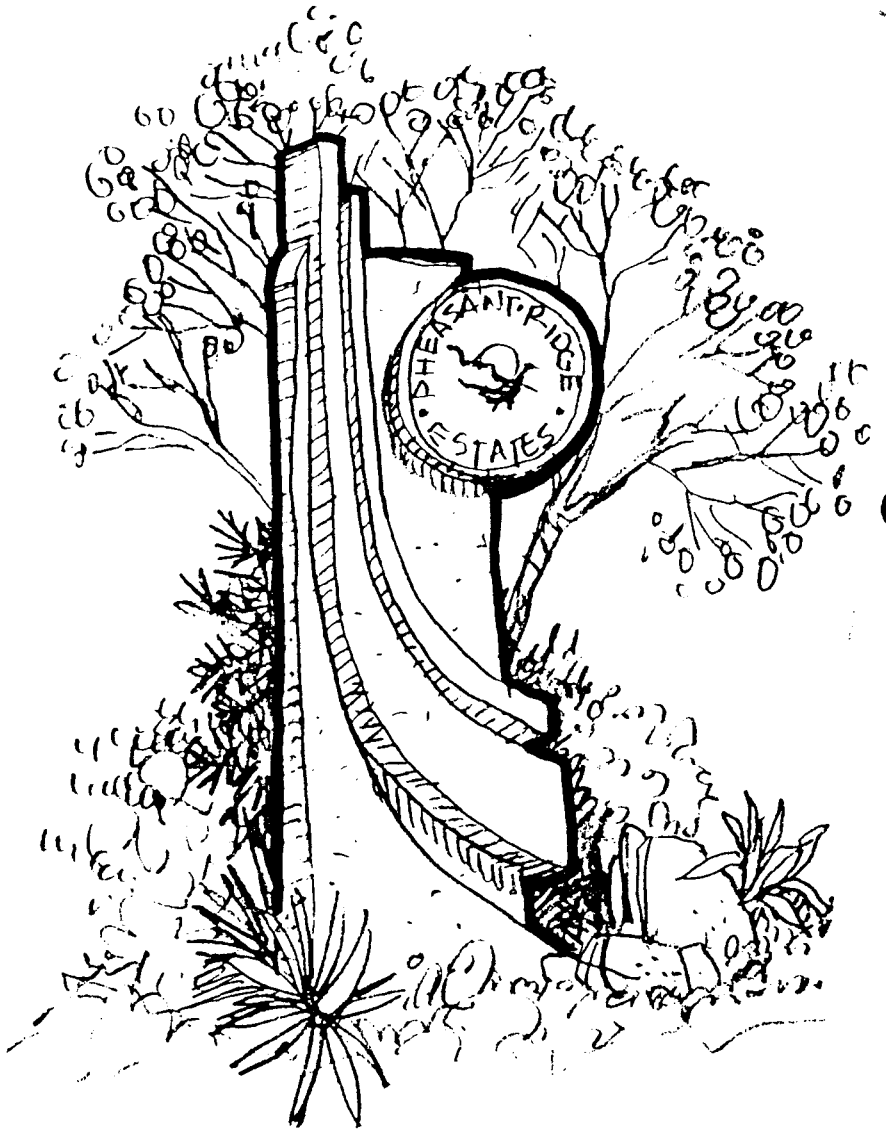
Special Landscape Feature

Street Trees

GENESIS DESIGNS
ARCHITECTURE AND PLANNING
970-245-6053
P.O. BOX 1851
GRAND JUNCTION
COLORADO
81502



ARCHITECTURAL
CONCEPTS
VARIOUS UNITS



NEIGHBORHOOD
IDENTIFICATION
FEATURE

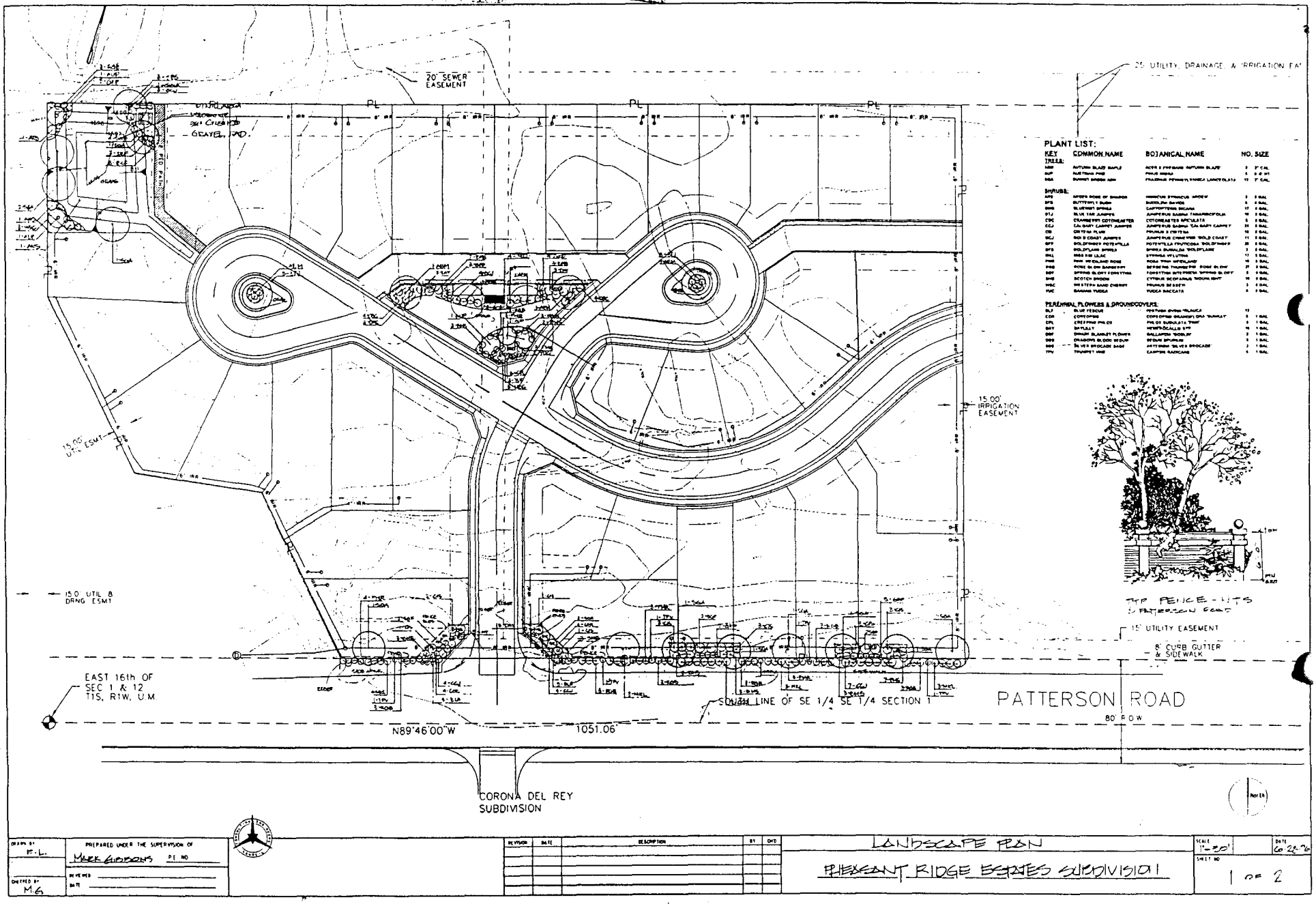
Artist's Concept - Subject to Change

PHEASANT RIDGE ESTATES

Housing Character Studies - Diagram #3

NOT TO SCALE 5-30-96 ©

GENESIS
DESIGNS
ARCHITECTURE
AND PLANNING
970-245-6023
P.O. BOX 1851
GRAND JUNCTION
COLORADO
81502



TYP FENCE - LITS & PATTERSON ROAD

PREPARED UNDER THE SUPERVISION OF
MARK GIBBONS P.E. NO.
REVIEWED
DATE
DRAWN BY P.L.
CHECKED BY M.G.

REVISION	DATE	DESCRIPTION	BY	CHD

LANDSCAPE PLAN

PHEASANT RIDGE ESTATES SUBDIVISION

SCALE 1"=30'
DATE 6-28-96
SHEET NO 1 OF 2

8 OF 8

REVIEW COMMENTS

FILE #FPP-96-154 **TITLE HEADING:** Pheasant Ridge Estates

LOCATION: W of NW corner of 28 & Patterson Roads

PETITIONER: Just Companies

PETITIONER'S ADDRESS/TELEPHONE: 826 21 ½ Road
Grand Junction, CO 81505
245-9316

PETITIONER'S REPRESENTATIVE: Ed Lenhart

STAFF REPRESENTATIVE: Kristen Ashbeck

NOTE: THE PETITIONER IS REQUIRED TO SUBMIT FOUR (4) COPIES OF WRITTEN RESPONSE AND REVISED DRAWINGS ADDRESSING ALL REVIEW COMMENTS ON OR BEFORE 5:00 P.M., JULY 26, 1996.

CITY COMMUNITY DEVELOPMENT **7/17/96**
Kristen Ashbeck **244-1437**

FINAL PLAT

1. "Access Easement" to be vacated is a public right-of-way not easement. Note need to provide blanks to fill in Ordinance number and Book and Page of vacation.
2. Note on utility easement to be vacated also needs to include blanks to fill in Ordinance number and Book and Page of vacation.

PLANS

1. A Site Plan (Final Plan) was required but not included with the Final submittal. The Plan is required to be recorded with the Plat. At a minimum, the Plan is to show setbacks (building envelopes) on each lot, provide a table listing setbacks, easements, rights-of-way, decorative fencing, entry signage, and other basic elements of the plan. Utility information is not necessary. The table listing the setbacks must specify which lots have the 0' setback.
2. A separate plan is needed to demonstrate parking availability as requested by Planning Commission. The plan should show building footprints and driveways on each lot.
3. The cross-section for the street around landscape islands does not match with how it is portrayed on the plans. There appears to be a sidewalk around the landscape island that is not necessary. Eliminate the sidewalk and dedicate the island up to the curb as private open space. This will allow for a larger landscape island. Provide a detail (cross-section) of the island.
4. The utility and drainage easement along Patterson Road should be dedicated for access for homeowners' association to construct the entry signage and fence and install landscaping and then maintain these improvements. These improvements should not be left to individual lot owners to maintain. A better solution would be to dedicate this area as common open space.
5. A temporary cul-de-sac at the east end of Springside Court is required.
6. Some areas of landscaping plan are illegible. Please revise for clarity.

OTHER

1. No evidence provided that easement from the City has been obtained for stormwater discharge. Drainage plan cannot be approved unless/until this is obtained.
2. Is Just Companies current property owner? Deed provided is not recorded version.
3. If available, please submit a copy of the proposed architectural and landscape guidelines.
4. All landscaping and amenties shown on the landscape plan must be included in the Improvements Agreement and Guarantee.

CITY DEVELOPMENT ENGINEER **7/19/96**
Jody Kliska **244-1590**

1. On the plat, tract E should have an ingress/egress easement, not an access easement.
2. If there is no sidewalk around the landscape island, then only 1' behind the curb is reuqired for right of way, not 6'.
3. The geotechnical report indicates a pavement structural section of 3" asphalt, 10" base. The plans indicate a structural section of 3 on 7.
4. Is there a recommended structural section for the private drives? The plans indicate as per design.
5. Is the intersection of Pheasant Trail Court with Patterson Road to be reconstructed? The plans indicate the beginning stationing at the flowline with Patterson Road.

CITY UTILITY ENGINEER **7/16/96**
Trent Prall **244-1591**

IMPROVEMENTS AGREEMENT:

Unless contractor's bids are submitted, please use $18.00 for 8" sewer mainline. Similarly water mainline should be increased to $20.00. Sewer and water services O.K.

PLANS:

1. It appears that MH A-5 falls within what may be a sidewalk. If this is in fact a sidewalk, the manhole should be placed either in the paved street section or within the landscaped portion of the island.
2. MH A-5 (drop manhole) shall be epoxy coated.
3. PLEASE NOTE: 1996 City of Grand Junction Standard Specifications shall apply for this proposed development. Copies are available for $10 in the Public Works and Utilities office.
4. The portion of the existing sewer to be abandoned is a 12" line with a capacity of 4.2 cfs (assuming N=0.013). The proposed bypass line between MH A4 and MH A6 is an 8" line with a capacity of only 1.55 cfs (assuming N=0.011). In order to maintain the existing capacity of at least 4.0 cfs, increase the pipe size to 10" at 0.238 ft/ft minimum slope or 12" at 0.009 minimum slope. Alternative is to submit calculations that verify proposed lines will accommodate peak flows for entire basin.
5. Please ensure the final plans have the following sewer notes:
   - A. Contractor shall have one signed copy of plans and a copy of the City of Grand Junction's Standard Specifications at the job site at all times.
   - B. All sewer mains shall be PVC SDR 35 (ASTM 3034) unless otherwise noted.
   - C. All sewer mains shall be laid to grade utilizing a pipe laser.
   - D. All service line connections to the new main shall be accomplished with full body wyes or tees. Tapping saddles will not be allowed.
   - E. No 4" services shall be connected directly into manholes.
   - F. The contractor shall notify the City inspection 48 hours prior to commencement of construction.

G. The Contractor is responsible for all required sewer line testing to be completed in the presence of the City Inspector. Pressure testing will be performed after all compaction of street subgrade and prior to street paving. Final lamping will also be accomplished after paving is completed. These tests shall be the basis of acceptance of the sewer line extension.

H. The Contractor shall obtain City of Grand Junction Street Cut Permit for all work within existing City road right-of-way prior to construction.

I. A clay cut-off wall shall be placed 10 feet upstream from all new manholes unless otherwise noted. The cut-off wall shall extend from 6 inches below to 6 inches above granular backfill material and shall be 2 feet wide. If native material is not suitable, the contractor shall import material approved by the engineer.

J. Benchmark _____.

CITY PROPERTY AGENT **7/15/96**
Steve Pace **256-4003**

1. The easements shown to be vacated, cannot be vacated with this plat. they need to be vacated by City Ordiniance, and so noted on the plat.
2. The found pin and caps are not noted; P.L.S. #, etc.
3. The City may require a 14' multi-purpose easement along Patterson Road.
4. All the lots along the north boundary add up to 718.48' instead of 718.51'.
5. The surveyor's statement also needs to state that this plat also conforms to rules and regulations of City of Grand Junction Development Code.
6. The utility easement to be vacated is shown on teh title commitment as a sewer easement.
7. See attached maps for additional minor comments.

CITY FIRE DEPARTMENT **7/12/96**
Hank Masterson **244-1414**

1. No parking will be allowed along either side of the private drives. For the looped cul-de-sacs, parking will be allowed on one side of the street only. Streets must have signage indicating parking restrictions. The private drive serving lot 23 exceeds 150' in length, but fire department access is only required to southeast corner of lot 22, so no turn-arounds will be needed.
2. Four new hydrants are required-as shown on site/composite plan-rather than the three hydrants mentioned in narrative. It will be acceptable to not loop the fire lines, since water line on Patterson is owned by City of Grand Junction, while proposed lines are fed by a Ute Water main.

CITY POLICE DEPARTMENT **7/17/96**
Dave Stassen **244-3587**

No comments.

WALKER FIELD AIRPORT **7/5/96**
Dennis Wiss **244-9100**

The proposed builidng site lies approximately 1-1/2 miles southeast of the approach end of runway 04 and is located inside the Airport's Area of Influence (AOI). Patterson Road being the southernmost edge of the AOI in this area. Since this property does lie within the Airport's AOI it may be subjected to overflight of aircraft and the noise associated with these overflights.

An Avigation Easement is required to be recorded at or before filing of the subdivision plat.

However, a copy of the Avigation Easement has been received by our office.

It is our recommendation that, due to this residcential development's proximity to aircraft flight paths and the airport proper, additional soundproofing insulation - as well as planned landscape features - de designed into each residence and site to help mitigate potential sound-level perceptions.

MESA COUNTY SCHOOL DISTRICT #51 **7/16/96**
Lou Grasso **242-8500**

SCHOOL - CURRENT ENROLLMENT / CAPACITY - IMPACT
Orchard Avenue Elementary - 389 / 375 - 10
East Middle School - 415 / 465 - 5
Grand Junction High School - 1674 / 1630 - 6

GRAND VALLEY WATER USERS **7/17/96**
Richard Proctor **242-5065**

The Grand Valley Water Users Association (Association) has continued to research the issue of the piped drainage ditch channel that is effected by this project. Drain D was tiled and enclosed between 27 1/2 Road and 28 Road by the developers of Spring Valley Subdivision in the late 1970's.

Drain D is at or near the property line between Pheasant Run, Spring Valley - Filing No. 5. Five on the north and Pheasant Ridge Estates (formally Pheasant Run condos) on the south.

In the comments submitted in writing on June 14, 1996 concerning thsi development, the Association believed that the right-of-way for Drain D was shown correctly. However, sufficient right-of-way for Drain D is not shown where the piped Drain D crosses Tract B (the retention pond area), Lot 10, Lot 11, Lot 12 and Lot 13 of Block 1 of said project. Apparently that portion of Drain D was piped outside of the platted right-of-way which was indicated on the filed plat for Pheasant Run Condos.

The piped Drain D runs east and west at or near the common property line where Pheasant Ridge Estates is adjacent to Pheasant Run, Spring Valley - Filing No. 5. However, at a manhole for Drain D located near where the southeast corner of the Spring Valley Park, the southwest corner of Lot 4, Pheasnat Run, Spring Valley - Filing No. 5 and the northeast corner of Lot 13, Block 1, Pheasant Ridge Estates come together, the piepd drain line traverse southwesterly to the northeast corner of Lot 4 Spring Valley - Filing 2 to another manhole located within Tract B of Pheasant Ridge Estates before traversing further west towards 27 1.2 Road.

A map showning the above described portion of Drain D is included. The right-of-way for such portion of Drain D that is located bewteen the marked and shown manholes, will need to be added to the plat plan of Pheasant Ridge Estates.

The proposed plan indicates that sotrm water released for the project's on site detention pond will be released via pipe to an existing Spring Valley Park detnetion pond and then conveyed by existing pipe from teh park into Drain D at the west manhole located in Tract B of the proposed project. Therefore, the developer of the project wil need to obtain a license agreement and approval from the Bureau of Reclamation prior to releasing any sotrm water run-off into Drain D. This condition was discussed in the previous comments that were submitted about this project.

Spring Valley Subdivision developers did tile, enclose and re-align the Drain D drainage channel to accommodate their differing filing plans. Notwithstanding the developers' financial contributions to tile, enclosed and reloccate Drain D, the right-of-way, the function of, and Drain D pipeline is the property of the Grand Valley Project.

The right-of-way for Drain D was granted when the Grand Valley Wter Users Association Subscription For Stock document was signed by early day landowners. Such document was recorded on February 21, 1912, Book 130, Page 282 at the Mesa County Clerk and Recorder's Office.

UTE WATER **7/17/96**
Gary Mathews **242-7491**

1. Move the 8" water line to the east of the manhole located in the northeast street.
2. Water mains shall be c-900, class 150. Installation of pipe fittings, valves and services including testing and disinfection shall be in accordance with Ute Water standards specifications and drawings.
3. Developer will install the meter pits and yokes. Ute will furnish the pits and yokes.
4. Construciton plans required 48 hours before development begins.
5. Policies and fees in effect at the time of application will apply.

U S WEST COMMUNICATIONS **7/12/96**
Max Ward **244-4721**

For timely telephone service, as soon as you have a plat and power drawing for your housing development, please.....

MAIL COPY TO:
U S West Communications
Developer Contact Group
P.O. Box 1720
Denver, CO 80201

AND

CALL THE TOLL-FREE NUMBER FOR:
Developer Contact Group
1-800-526-3557

We need to hear from you at least 60 days prior to trenching.

PUBLIC SERVICE COMPANY **7/10/96**
John Salazar **244-2781**

GAS: No objections.
ELECTRIC: Some of the wtaer meters will have to be relocated at least 10 feet away from the side lot line to make room for trnsformers and/or pedestals.

U. S. POSTAL SERVICE **7/9/96**
Mary Barnett **244-3434**

Maintain centralized delivery. The Post Office provides equipment and maintenance.

TO DATE, NO COMMENTS RECEIVED FROM:
City Parks & Recreation
City Attorney
TCI Cablevision

July 25, 1996

Dale A. & Virginia Rennels
2428 Pheasant Run Circle
Grand Junction, Co. 81506

City of Grand Junction
Community Development Committee and,
Mr. Ed Lenhart - Just Companies, Inc.

Dear Committee and Ed Lenhart:

The suggestions that were made at the meeting July 18, 1996 at our home have been implemented. This is not just what we and the neighbors on our street would like to have been done, but we can live with the voluntary changes. Dale and I will discontinue our appeal as of this date 07-25-96, so long as these changes will be made.

Enclosed is a letter from Edison S. Lenhart, President - Just Companies, Inc. with the changes listed.

Thank You,

Sincerely,

Virginia & Dale A. Rennels

Virginia & Dale A. Rennels

JUST COMPANIES, INC.

CONSTRUCTION
826 21 1/2 ROAD
GRAND JUNCTION, CO 81505

Telephone 970-245-9316
Fax 970-256-9717

July 24, 1996

Virginia Rennels
2428 Pheasant Run Circle
Grand Junction, CO 81506

Dear Ms. Rennels:

I would like to again express my appreciation to you and the other home owners for meeting with me at such short notice.

I have considered the suggestions that were made at the meeting on July 18, 1996. Some of the suggestions have merit and I will implement them. The three things concerning Pheasant Ridge Estates that will be amended are listed below. I do wish to remind you though that these are voluntary changes on my part and are not mandatory as proved by the acceptance of the subdivision by the community development committee.

1. The mail boxes will be moved to the main street and we will look into having two mail cluster locations instead of one.

2. Provision will be made in the covenants for backyards to be landscaped and maintained, and to be under the architectural control committee.

3. One lot will be deleted on the north side of the subdivision. Six lots will share a portion of that lot's dimension. That will make the northwest width 47 feet rather than the 40 feet that was planned and approved.

I believe this project will be an asset not only to Spring Valley, but to the City of Grand Junction. The items referenced above will be done irrespective of your decision to either continue or discontinue your appeal. However, I hope you will decide to drop your appeal.

I would appreciate an expeditious response as to your appeal decision.

Sincerely,

Edison S. Lenhart, President
Just Companies, Inc.

July 29, 1996

Grand Junction Community Development Department
Planning • Zoning • Code Enforcement
250 North Fifth Street
Grand Junction, Colorado 81501-2668
(970) 244-1430 FAX (970) 244-1599

Mr. Ed Lenhart
1132 24 Road
Grand Junction, Colorado 81505

RE: Pheasant Ridge Estates

Dear Ed,

I did receive the enclosed letter from Mr. and Mrs. Rennels last week. Although the item will no longer be scheduled for a City Council hearing, the letter was received too late to be able to place the Final Plan/Plat for Pheasant Ridge Estates on the August Planning Commission agenda. Therefore, I have enclosed a schedule for the September Planning Commission and City Council hearings for your information. In particular, please note the dates for response to comments and posting of the property. You may want to forward this schedule to Marc Maurer and Jim Langford as well.

Please do not hesitate to contact me if you have further questions about this project.

Sincerely,

Kristen

Kristen Ashbeck
Planner

encl

POSTING OF PUBLIC NOTICE SIGNS

The posting of the Public Notice Sign is to make the public aware of development proposals. The requirement and procedure for public notice sign posting are required by the City of Grand Junction Zoning and Development Code.

To expedite the posting of public notice signs the following procedure list has been prepared to help the petitioner in posting the required signs on their properties.

1. All petitioners/representatives will receive a copy of the Development Review Schedule for the month advising them of the date by which the sign needs to be posted. **IF THE SIGN HAS NOT BEEN PICKED UP AND POSTED BY THE REQUIRED DATE, THE PROJECT WILL NOT BE SCHEDULED FOR THE PUBLIC HEARING.**
2. A deposit of $50.00 per sign is required at the time the sign is picked up.
3. You must call for utility locates before posting the sign. Mark the location where you wish to place the sign and call 1-800-922-1987. You must allow two (2) full working days after the call is placed for the locates to be performed.
4. Sign(s) shall be posted in a location, position and direction so that:
   a. It is accessible and readable, and
   b. It may be easily seen by passing motorists and pedestrians.
5. Sign(s) MUST be posted at least **10 days** before the Planning Commission hearing date and, if applicable, shall stay posted until after the City Council Hearing(s).
6. **After the Public Hearing(s) the sign(s) must be taken down and returned to the Community Development Department within FIVE (5) working days to receive a full refund of the sign deposit.** For each working day thereafter the petitioner will be charged a $5.00 late fee. After eight working days Community Development Department staff will retrieve the sign and the sign deposit will be forfeited in its' entirety.

The Community Development Department staff will field check the property to ensure proper posting of the sign. If the sign is not posted, or is not in an appropriate place, the item will be pulled from the public hearing agenda.

I have read the above information and agree to its terms and conditions.

X Sherry Worth for Just Companies, Inc. X 8-20-96

SIGNATURE DATE

FILE #/NAME FPP-96-154 Pheasant Ridge Estates RECEIPT # 4460

PETITIONER/REPRESENTATIVE: Just Companies Inc. PHONE # 245-9316

DATE OF HEARING: 9-3-96 POST SIGN(S) BY: 8-23-96

DATE SIGN(S) PICKED-UP 8-20-96 RETURN SIGN(S) BY:

DATE SIGN(S) RETURNED 10/7/96 RECEIVED BY: SLC

√#40008230

THOMPSON-LANGFORD CORPORATION

Engineering & Land Surveying
529 25 1/2 Road, Suite B 210
Grand Junction, Colorado 81505
Phone: 303-243-6067
FAX 241-2845

August 23, 1996

Kristen Ashbeck
City Community Development
City of Grand Junction
250 Nor. 5th. St.
Grand Junction, CO 81501

Re: Drainage easement across Spring Valley Park

As suggested, I have attached a copy of the easement we need across the Spring Valley Park so that we can install a drainage conduit along with an exhibit showing where this pipe is needed. It is my understanding that these items will be furnished to Tim Woodmanse and he will prepare a "Revocable Permit" to be heard at the same time as the Final Plat hearing.

Respectfully,

Jim Langford

James E. Langford, PE & LS

JEL/iml

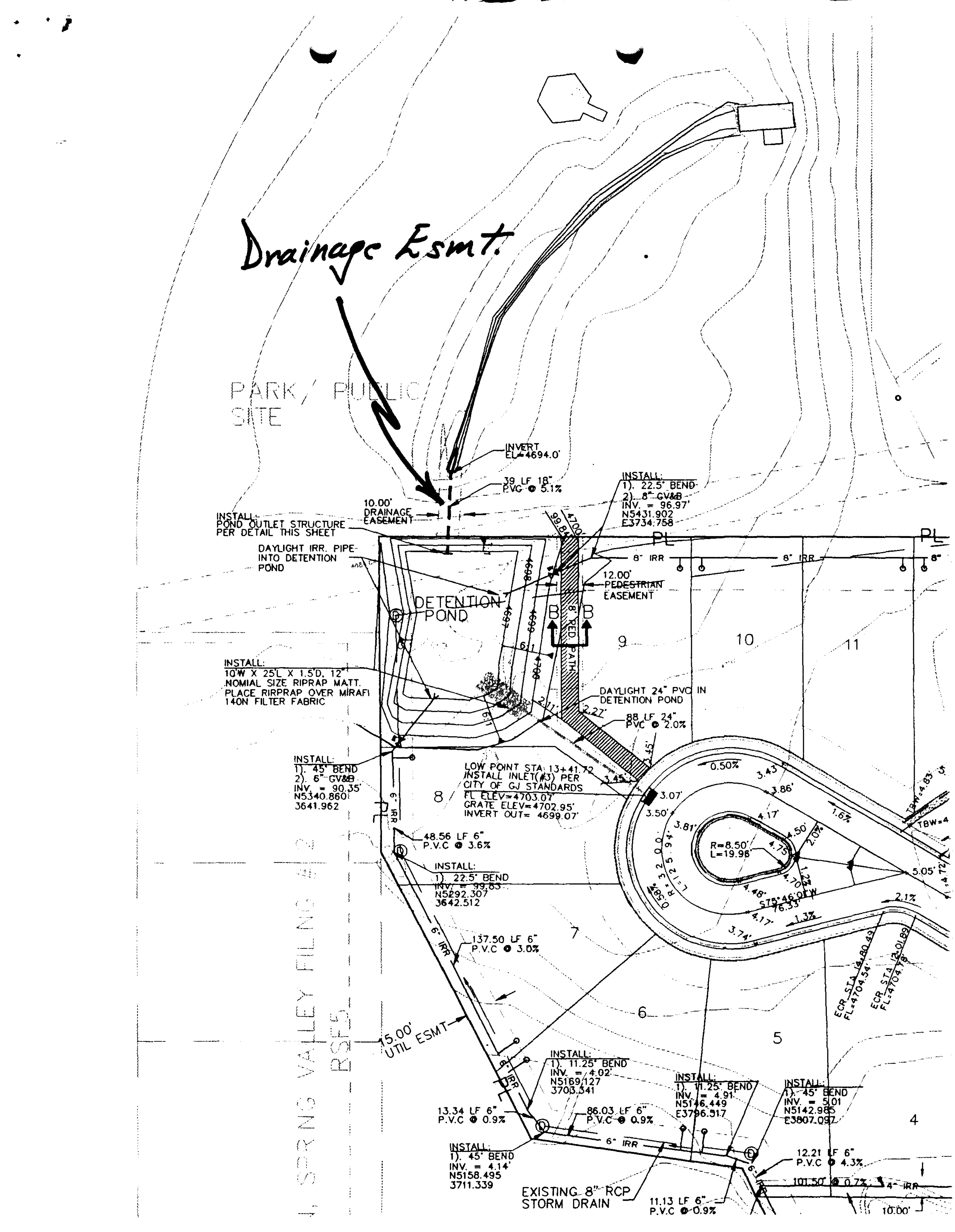
cc: Ed Lenhart, Just Companies, Inc.

DRAINAGE EASEMENT
From Pheasent Ridge Estates across Spring Valley Park

A 10.00 foot wide easement situated in the southeast quarter of the southeast quarter of Section 1, Township 1 South, Range 1 West of the Ute Meridian, City of Grand Junction, County of Mesa, State of Colorado, said easement lying 5.00 feet each side of the following described centerline:

Beginning at a point on the north line of Pheasant Run Condos, a plat on file and recorded in Mesa County, which bears North 03°49'54" East 481.14 feet;
Thence North 02°46'46" East, a distance of 30.04 feet; to the Point of Termination of the easement herein described.

The sidelines of said easement shall be shortened or extended to terminate at the intersecting property lines.


Drainage Esmt.
PARK / PUBLIC SITE
INVERT EL=4694.0'
39 LF 18" PVC @ 5.1%
10.00' DRAINAGE EASEMENT
INSTALL: POND OUTLET STRUCTURE PER DETAIL THIS SHEET
INSTALL: 1). 22.5° BEND 2). 8" GV&B INV. = 96.97' N5431.902 E3734.758
PL
8" IRR
DAYLIGHT IRR. PIPE INTO DETENTION POND
12.00' PEDESTRIAN EASEMENT
DETENTION POND
B
8' PED. PATH
9
10
11
INSTALL: 10'W X 25'L X 1.5'D, 12" NOMIAL SIZE RIPRAP MATT. PLACE RIRPRAP OVER MIRAFI 140N FILTER FABRIC
DAYLIGHT 24" PVC IN DETENTION POND
88 LF 24" PVC @ 2.0%
INSTALL: 1). 45° BEND 2). 6" GV&B INV. = 90.35' N5340.860 3641.962
LOW POINT STA 13+41.72 INSTALL INLET(#3) PER CITY OF GJ STANDARDS FL ELEV=4703.07' GRATE ELEV=4702.95' INVERT OUT= 4699.07'
8
6" IRR
0.50%
R=8.50' L=19.98'
48.56 LF 6" P.V.C @ 3.6%
INSTALL: 1). 22.5° BEND INV. = 99.63 N5292.307 3642.512
S75°46'01"W 76.33'
7
137.50 LF 6" P.V.C @ 3.0%
SPRING VALLEY FILING 2
RSF-5
15.00' UTIL ESMT
6
5
ECR STA 14+80.43 FL=4704.54'
ECR STA 12+01.89 FL=4704.78'
INSTALL: 1). 11.25° BEND INV. = 4.02' N5169.127 3703.341
INSTALL: 1). 11.25° BEND INV. = 4.91 N5146.449 E3796.317
INSTALL: 1). 45° BEND INV. = 5.01 N5142.985 E3807.097
4
13.34 LF 6" P.V.C @ 0.9%
86.03 LF 6" P.V.C @ 0.9%
6" IRR
INSTALL: 1). 45° BEND INV. = 4.14' N5158.495 3711.339
12.21 LF 6" P.V.C @ 4.3%
101.50' @ 0.7%
4" IRR
EXISTING 8" RCP STORM DRAIN
11.13 LF 6" P.V.C @ 0.9%
10.00'

THOMPSON-LANGFORD CORPORATION

Engineering & Land Surveying
529 25 1/2 Road, Suite B 210
Grand Junction, Colorado 81505
Phone: 303-243-6067
FAX 241-2845

August 23, 1996

Richard Proctor, Mgr.
Grand Valley Water Users Association
Grand Valley Project
500 South Tenth Street
Grand Junction, CO 81501-3740

Re: Right of Use Application
Pheasant Ridge Estates
Located near the intersection of 28th and Patterson

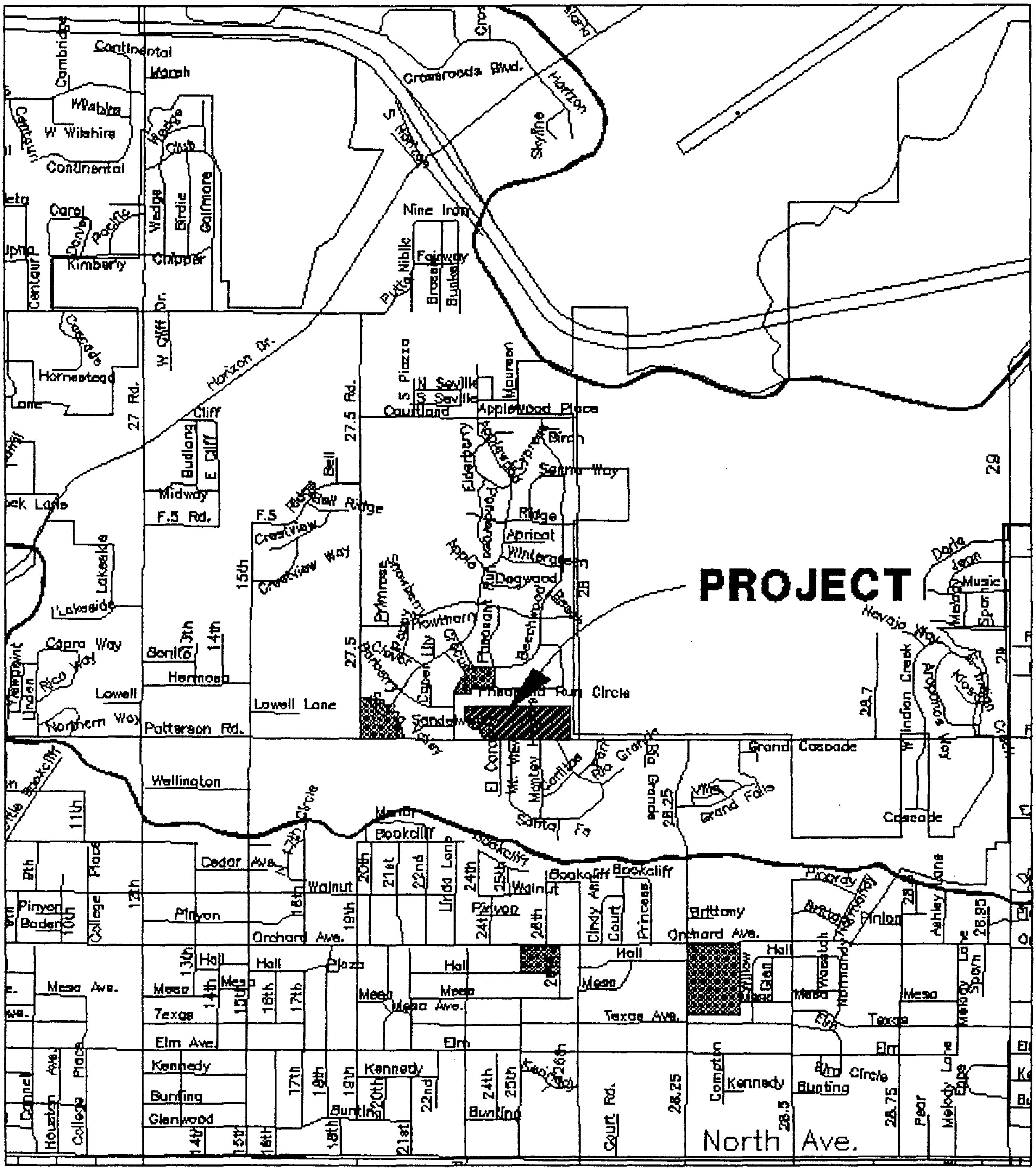
As suggested in your letter dated June 11, 1996, we are hereby making application to discharge our storm drainage into Drain "D". You will find attached the completed application along with a check for $200.00 a vicinity map and five copies of a 11"x17" reduction of the single sheet construction drawing detailing the connection point. I believe this is all that is required, but if I have missed something, please give me a call.

Respectfully,

James E. Langford, PE & LS

JEL/iml

cc: Ed Lenhart, Just Companies, Inc.


PROJECT
Continental
Marsh
Crossroads Blvd.
Horizon
Skyline
W Wilshire
Nine Iron
Fairway
Chipper
Kimberly
Wedge
Birdie
Golfmore
Horizon Dr.
W Cliff Dr.
Homestead
27 Rd.
27.5 Rd.
S Piazza
N Seville
S Seville
Courtland
Maureen
Applewood Place
Birch
Sierra Way
Ridge
Apricot
Wintergreen
Dogwood
Midway
F.5 Rd.
F.5
Crestview
Crestview Way
Lakeside
15th
13th
14th
Capra Way
Rico Way
Lowell
Hermosa
Lowell Lane
Patterson Rd.
Pheasant Run Circle
Northern Way
29
28.7
Navajo Way
Music
Grand Cascade
Cascade
Wellington
Grand Falls
Santa Fe
Bookcliff
Cedar Ave.
Walnut
Pinyon
Orchard Ave.
Brittany
Hall
Mesa Ave.
Texas
Texas Ave.
Elm Ave.
Kennedy
Bunting
Glenwood
Court Rd.
28.25
Compton
28.5
28.75
North Ave.

UC-313 (07/84)
Bureau of Reclamation
Upper Colorado Region
GJPO (Revised 12/88)

RIGHT OF USE (OUTGRANT) APPLICATION

Part 1 INSTRUCTIONS

A. Applicant, complete in detail the application information requested below (Part 2).

B. Fees and Associated Costs. An initial deposit fee of $200, payable to Bureau of Reclamation (Reclamation), must accompany the initial application. If, after a preliminary review of the application Reclamation determines the granting of a Right-of-Use is incompatible with present or future uses of the land and the Right-of-Use cannot be granted, $150 of the $200 fee will be returned. The remaining $50 of the $200 fee will be retained by Reclamation regardless of its disposition of the Right-of-Use request. No refund will be made for any deposits if the applicant refuses to accept the Right-of-Use after it is offered. Applicants will be required to pay any administrative costs which are in excess of the $200 deposit for the preparation of the Right-of-Use as well as the value to the right granted. If the administrative costs are less than the $200, the unused portion, up to $150 will be returned to the applicant or may be applied to the value of the Rights-of-Use at the discretion of the applicant. This shall apply equally to requested Rights-of-Use which are offered by Reclamation and are rejected by the applicant, as to those which the applicant accepts.

Exception: On/over land where Reclamation holds a "right-of-way/easement" and the underlying fee owner is the applicant, the application fee will be waived. If the applicant is the underlying fee owner please indicate such in 2b below.

C. (1) Plans and Specifications or Drawings. Plans, specifications, and associated drawings must be submitted before the Right-of-Use can be processed. Five complete copies of plans, specifications, and drawings are needed by Reclamation. All drawings must be neat and legible. If plans and specifications or drawings are of large format (size greater than 11" X 17") or consist of more than two pages please submit four copies in microfilm format and one full size paper copy. If not submitted in microfilm format, Reclamation will have the microfilm prepared and the cost applied to the applicant's overall fee.

(2) Environmental Assessment Report and a Cultural Resource Clearance will be required when crossing United States property. Reclamation will provide this service as an administrative cost, if not provided by the applicant.

(3) Other specific information may be requested as necessary. Reclamation will contact the applicant when additional information is required.

If Right-of-Use application is for a bridge or other types of major structures - all plans and specifications must be signed and sealed by a professional engineer licensed by the State where activities are performed.

If you have questions please contact the Bureau of Reclamation, Lands and Recreation Branch, located in Grand Junction, Colorado.

D. Failure to submit the required fee and adequate information will cause delays in preparation time.

E. Submit application and fees to the Managing Entity, who will in turn submit them to Reclamation.

Managing Entity or
Association or
District address:

F. Reclamation may make on-site inspections as activities are progressing. Applicant must contact Reclamation before activities are initiated as called for in the Right-of-Use document.

Part 2 APPLICATION INFORMATION (To be filled out completely by applicant)

1. Right-of-Use document is to be issued to: (check the correct item)

☐ Individual(s) ☐ Company ☐ General Partnership ☐ Limited Partnership

☒ Corporation ☐ Other _____
(Specify)

2. Legal name, address, and telephone number of individual(s) or entity to whom the Right-of-Use document is to be issued. Just Companies Inc.(For the benefit of the Home Owners Association of
826 21 1/2 Rd.,Grand Junction, CO 81505 Pheasant Ridge Subdivision)

2a. Full legal name and title of individual(s) who will sign the Right-of-Use document.
Edison Stephen Lenhart, President

2b. Is the applicant the underlying fee owner (Y or N) ? Y

(Continued on reverse side)

3. Name, address, and telephone number of individual to contact for additional information, if other than stated in No. 2 above.

4. Provide in the space below a detailed description and/or sketch of the proposed use of Reclamation's land, right-of-way, easement, or facility. Include physical data and dimensions such as pipe sizes, line voltages, stationing, etc. (A more detailed drawing or plan may be required, upon request, for attachment to the Right-of-Use document). Please ignore this requirement if detailed plans, specifications, and drawings are being submitted.

(See detailed 11X17 plan attached)

5. Location of proposed use: Section 1 Township 1S Range 1W Meridian Ute. A map or drawing showing the approximate location of the proposed use is required. A 7 1/2 minute Quadrangle Map or a copied portion is preferred.

6. Length of time which use is desired. Permanent years (Reclamation will determine time allowed based on information submitted.)

7. Anticipated date of commencement of installation. Nov. 1996 (Activity cannot commence until Right-of-Use document is signed by the United States.)

8. Anticipated date of completion. Nov. 1997

I certify that the information given in this application is true, complete, and correct to the best of my knowledge and belief and is given in good faith. I also understand that no activity can commence until I receive a Right-of-Use document signed by the United States.

8/23/96
Date

Signature of Applicant

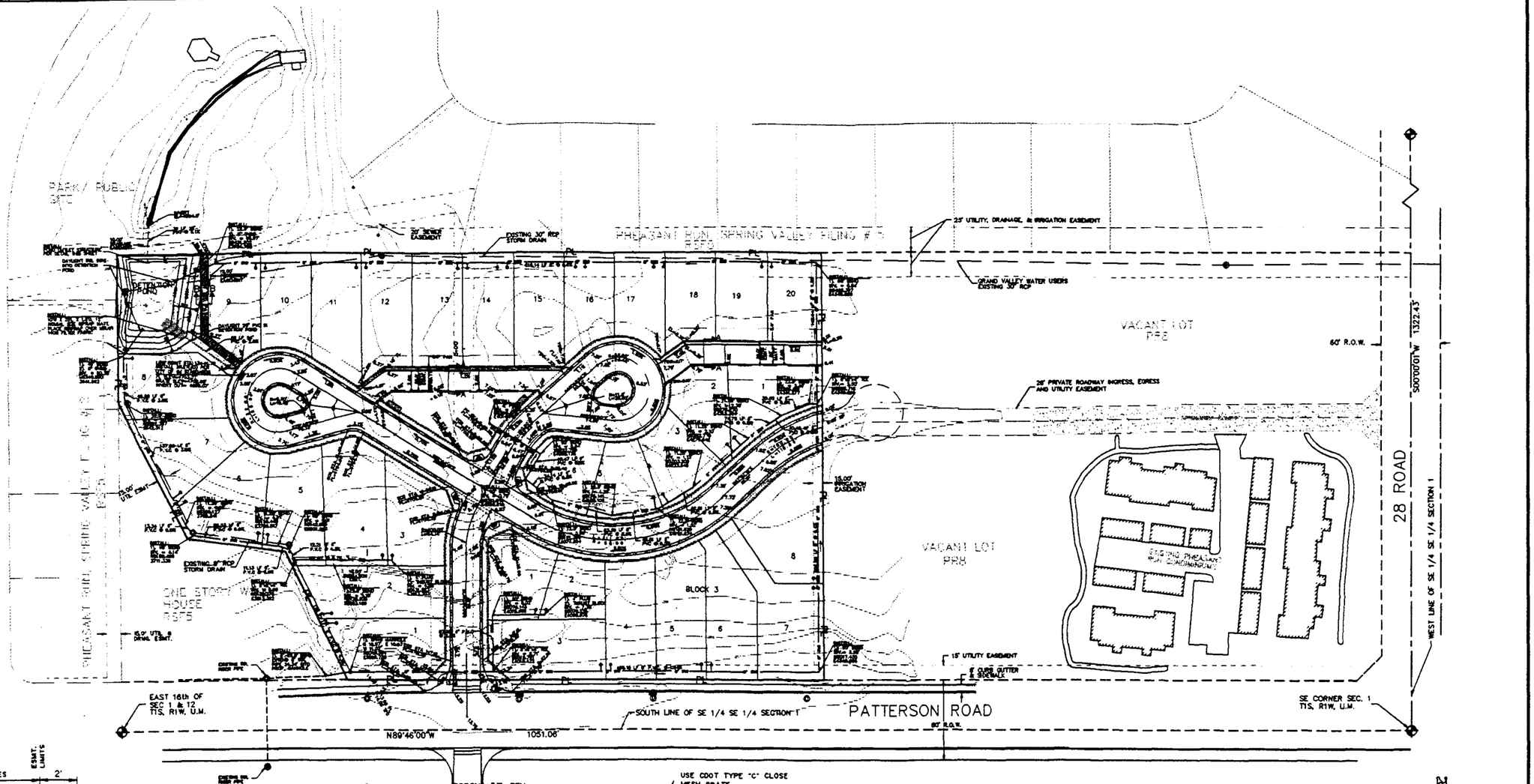
Part 3 MANAGING ENTITY (To be filled out by Managing Entity)

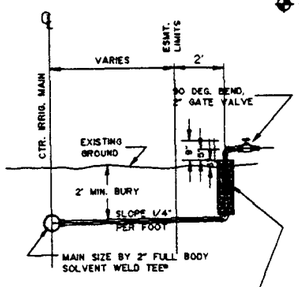
Reclamation will not proceed with preparation of the Right-of-Use document without approval signature.

Date

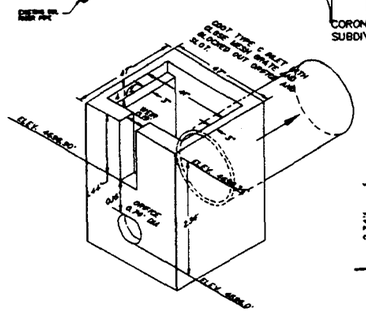
Signature of Approval

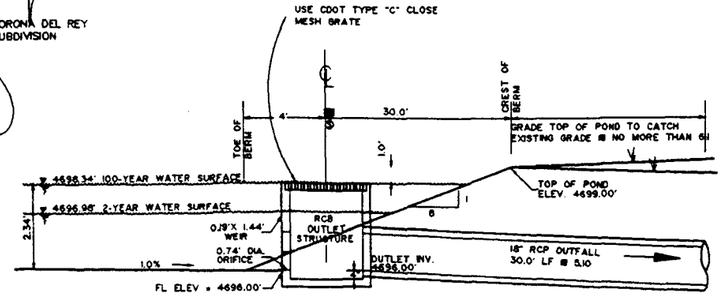
Provide in the space below any comments/recommendations/suggestions which should be considered when processing the Right-of-Use document. Attach supplemental sheet(s) as necessary.

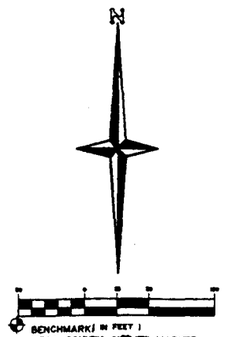




TYPICAL IRRIGATION SERVICE







ORIFICE CONTROLLED OUTLET STRUCTURE

(CDOT TYPE "C" INLET WITH ORIFICE AND SLOT BLOCKED OUT)

NOTE:
SEE CONSTRUCTION NOTES ON GENERAL LEGEND AND CONSTRUCTION NOTES SHEET.

American Consulting Engineers Council Member

DRAWN BY: KWM	PREPARED UNDER THE SUPERVISION OF	THOMPSON-LANGFORD CORP.
DESIGNED BY: KWM	JAMES E. LANGFORD P.E. NO. 14847	529 25 1/2 RD., SUITE B210
CHECKED BY: JEL	REVIEWED	GRAND JUNCTION, COLORADO
	DATE	PH. (303) 243-6067

REVISION	DATE	DESCRIPTION	BY	CHD

JUST COMPANIES, INC. — PHEASANT RIDGE ESTATES

GRADING, DRAINAGE AND IRRIGATION PLAN

SCALE	JOB NO.	DATE
1" = 50'	0263-002	5/13/96

SHEET NO: 5 OF 16

THOMPSON-LANGFORD CORPORATION
ENGINEERING AND LAND SURVEYING
Independence Plaza
529 25 1/2 Rd., Suite B 210
Grand Junction, CO 81505
PH. 243-6067

Petitioner's Response to Review Comments

Ausgust 23, 1996

File #FPP-96-154, Pheasant Ridge Estates

Petitioner:

Ed Lenhart
Just Companies
826 21 1/2 Road
Grand Junction, CO 81505

Petitioner's Representative:

Jim Langford
Thompson Langford Corp.
529 25 1/2 Road, Suite B210
Grand Junction, CO 81505

Staff Representative: Kristen Ashbeck

Please find attached four sets of our revised Final Plat and Plans for Pheasant Ridge Estates. In addition, we offer the following comments to your comments dated July 17, 1996.

CITY COMMUNITY DEVELOPMENT

FINAL PLAN

1. The blanks for the Ordinance to vacate the right-of-way have been added to the plat.

2. The blanks for the Ordinance to vacate the easement have been added to the plat.

PLAN

1. A site plan is attached.

2. A plan demonstrating parking availability is attached.

3. The cross section for the street around the landscape island has been changed to show the right-of-way 1-foot in back of the curb and gutter.

4. The easement along Patterson Road has been changed to read "Utility and Landscape Easement".

5. The existing 25-foot access easement will be bladed and covered with 6-inches of Class-6 aggregate base course.

6. The landscape plans have been reviewed and the illegible area corrected.

OTHER

1. An application for a "Revocable Permit" for the drainage easement needed to allow us to construct the underground conduit from our detention facility to the detention facility in the Spring Valley park is attached.

2. A copy of the recorded Deed is attached

3. Preliminary landscape guidelines are attached.

4. An estimate of the costs for the landscape improvements have been included in the DIA attached.

CITY DEVELOPMENT ENGINEER

1. The easement on Tract E on the plat has been changed to ingress/egress easement.

2. The right-of-way in the landscape islands has been moved to 1-foot behind the back of curb.

3. The pavement section on the plans has been corrected to reflect that recommended in the Geotechnical Report (3"HBP/10"ABC).

4. The pavement section for the private drives has been made the same as for the City streets.

5. The full intersection of Pheasent Trail Court with Patterson Road is to be reconstructed. The plans have been clarified to reflect this.

CITY UTILITY ENGINEER

We have reviewed our unit prices with Trent by phone conference. We have changed our unit pricing to $12.00/LF for 8-inch waterline and $15.00/LF for 8" sewer line. See the revised Subdivision Improvements Agreement attached. Both of these prices are $0.50/LF higher than Ben Dowd is presently charging us in Canyon View.

1. The line which makes MH-A-5 appear to fall in a sidewalk is actually the right-of-way line. There is no sidewalk behind the curb in the landscape medians.

2. A note has been added that MH-A-5 is to be epoxy coated.

3. The new City standards have been noted.

4. The north/south section of the sewer line we are replacing is presently an 8-inch line, therefore we made the bypass an 8-inch line. The east/west section, which runs parallel to the drainage line, is a 12-inch line, but it looks like it may have been designed to this size to

act as a future trunk line. The properties surrounding this section of line have since built out leaving no access to this section, therefore I question the need for increasing the size of the bypass to 12-inch.

5. The notes listed in your review comments have been added to the construction set.

CITY PROPERTY AGENT

1. The blanks needed for showing the Ordinances vacating the easements have been shown on the plat.

2. P.L.S. #'s have been shown on the plat.

3. In discussion with Kristen over the phone, we suggested making the easement along Patterson a "Utility and Landscape Easement". We understood that this would be acceptable and have shown it as such.

4. The overall dimension on the north boundary has been changed to tally with the sum of the lot dimensions.

5. The requested additional language has been added to the Surveyor's Statement.

6. The description of the easement has been changed to be consistent with the Title Commitment.

7. The map was reviewed and the appropriate changes made.

CITY FIRE DEPARTMENT

1. Parking will be restricted to the outside of the cul-de-sacs and will not be permitted on the private drives.

2. The four new hydrants are shown on the proposed plan.

CITY POLICE DEPARTMENT

(no response required)

WALKER FIELD AIRPORT

1. We have contacted Dennis Wiss at the Walker Field Airport Authority to secure a copy of their Avigation Easement. The required documents have been completed and recorded by the owner.

MESA COUNTY SCHOOL DISTRICT

1. The impacts on the various school listed are duly noted.

GRAND VALLEY WATER USERS

1. The easement along the north edge of the property has been modified on the plat to encompass the existing drainage line.

2. The Owner has applied for a licence to discharge into this drainage line.

UTE WATER

1. The 8-inch line has been move to a location east of the manhole as requested.

2. The water mains are being proposed using C-900, Class 150.

3. Meter pits and yokes will be installed at the time of construction.

4. Final construction plans will be provided to Ute Water at least 48 hours prior to start of construction.

5. The owner acknowledges that he will need to comply with Ute policies and fees in effect at the time approval for this development is granted.

U.S. WEST

1. As soon as we have progressed far enough though the Final Plat process that we are comfortable that it will be approved by the City, a copy will be provided to U.S. West .

PUBLIC SERVICE COMPANY

Ute Water District requires that meter pits be placed 5' away from the lot corner.

U.S. Postal Service

Pads for central delivery boxes have been provided as requested.

PC 9/3/96
ROW Vac 1. Approval 4-0
Esse. Vac 2. Approval 4-0
FPP 3. Approval 4-0
per staff recommend.

STAFF REPORT

FILE: FPP-96-154

DATE: August 28, 1996

STAFF: Kristen Ashbeck

REQUEST: Final Plat/Plan Pheasant Ridge Estates
Vacation of Right-of-Way and Easement

LOCATION: West of Northwest Corner 28 and Patterson Roads

APPLICANT: Just Companies / Ed Lenhart

EXECUTIVE SUMMARY:

A request for: 1) Vacation of right-of-way for existing alignment of Springside Court; 2) vacation of sewer easement; and 3) final plat and plan approval for 33 single family detached units on approximately 6.35 acres with an existing zoning of PR-8 (Planned Residential, 8 units per acre).

EXISTING LAND USE: Vacant

PROPOSED LAND USE: Single Family Residential

SURROUNDING LAND USE:
NORTH: Single Family Residential & Public Park - Spring Valley
SOUTH: Single Family Residential - Corona Del Rey & Mantey Heights
EAST: Vacant
WEST: Single Family Residential - Spring Valley

EXISTING ZONING: Planned Residential, 8 units per acre (PR-8)

SURROUNDING ZONING:
NORTH: Residential Single Family, 5 units per acre (RSF-5)
SOUTH: PR-6 and RSF-5
EAST: PR-8
WEST: RSF-5

RELATIONSHIP TO COMPREHENSIVE PLAN:

The Growth Plan proposes this area as Residential Medium High 8-11.9 units per acre.

STAFF ANALYSIS:

Background/Project Summary: This project is located on a vacant parcel of land just west of the northwest corner of the 28 and Patterson Road intersection. The parcel was originally planned with the Spring Valley subdivision to be developed as Pheasant Run condominiums. This portion of that project proposed approximately 50 units. The public right-of-way for Springside Court was platted through the parcel but no further development occurred.

At its July 1996 meeting, the Grand Junction Planning Commission approved a Preliminary Plan for a new proposal for the parcel, Pheasant Ridge Estates, to include 36 single family dwelling units, 12 of which were to be common wall units. The only condition of approval was that the developer demonstrate that a minimum of 8 parking spaces were available on the site since no parking would be allowed on the proposed private shared driveways.

The developer is now requesting Final Plan/Plat approval for Pheasant Ridge Estates with slightly revised plans. The current plan proposes 33 single family detached units (no attached units). The overall density proposed is 5.2 units per acre which is within the existing PR-8 zoning.

Access/Circulation/Parking: Primary access to Pheasant Ridge Estates will be from a single drive off Patterson Road and from Springside Court once the street is completed from 28 Road. The developer is requesting a vacation of the original alignment of Springside Court through this parcel in order to realign it for this proposal. Until it is completed through the vacant parcel to the east, the Pheasant Ridge developer is required to provide a temporary cul-de-sac at the eastern end of Springside Court. The cul-de-sac must be on the Pheasant Ridge property unless an easement from the adjoining property owner is obtained for the portions not in the Springside Court right-of-way. Most of the lots will have frontage on the two proposed public cul-de-sacs. Two proposed private shared drives will access the remaining nine lots.

The Fire Department required, and the developer agreed, that no parking will be allowed on the shared private drives. During review of the Preliminary Plan, staff had concerns that this, in addition to the closely spaced driveways, would result in limited on-street parking for visitors and additional owners' vehicles. A conceptual parking plan has been provided and the developer has made some changes to the plan that impact the parking

(e.g. reducing the number of units and increasing lot sizes along the private drives to allow for all units to have two car garages). Therefore, staff concurs that the developer has demonstrated sufficient parking availability.

Utilities/Drainage: Water is to be provided by Ute Water and sewer service by the City of Grand Junction. Utilities are already available to the site. There is an existing sewer line that runs north-south through the site that will be rerouted at the request of the City Utilities Engineer. The developer is requesting vacation of the existing easement with this Final Plat. The vacation ordinance will be contingent upon the line being relocated.

Stormwater from the proposed Pheasant Ridge Estates will be directed to a proposed detention pond located in the northwest corner of the site. The water will be discharged from the pond at a historic rate to the existing detention pond in Spring Valley Park II just north of the Pheasant Ridge site. The Spring Valley pond has enough capacity to accommodate the discharge volumes from Pheasant Ridge. Concurrent with the vacation requests, the developer will be requesting approval of a Revocable Permit from City Council for the discharge facilities across Spring Valley Park.

As requested by the Grand Valley Water Users Association (GVWUA), the developer has submitted a "Right of Use" application to the US Bureau of Reclamation. Approval of the permit will allow for the additional discharge from the Spring Valley pond into Drain D of the Grand Valley Project which is under the jurisdiction of the Bureau/GVWUA.

Site Amenities: The developer is proposing a landscaped island in the center of each of the public cul-de-sacs, a landscaped common area for an entry feature and centralized mailboxes, and a mini-park within the drainage facility area. All of these area are dedicated as private open space on the Final Plat and a homeowners' association will be formed to be responsible for maintenance of them. In addition, a decorative architectural fence and pockets of landscaping are proposed along the length of the Patterson Road frontage. A detailed landscape plan for these areas has been submitted; however, the Improvements Agreement and Guarantee must be revised to include all of the proposed improvements and amenities.

The developer is also proposing a pedestrian pathway between the end of the Springside Court cul-de-sac and Spring Valley Park. An easement will be dedicated to the public and the developer will be constructing an 8-foot concrete walkway within the easement.

STAFF RECOMMENDATION: Approval of the Final Plan and Plat, vacation of right-of-way and vacation of easement for Pheasant Ridge Estates subject to the following conditions:

1) Address remaining staff comments dated August 28, 1996 (see attached list); and

2) Provide a temporary cul-de-sac for the east end of Springside Court either on the Pheasant Ridge property or obtain easements for such from adjoining property owner. The cul-de-sac must be improved to specifications acceptable to the City Development Engineer and costs included in the Development Improvements Agreement and Guarantee.

SUGGESTED PLANNING COMMISSION MOTIONS:

1. Mr. Chairman, on item FPP-96-154, a request for vacation of a portion of the Springside Court right-of-way, I move that we forward the item to City Council with a recommendation of approval.

2. Mr. Chairman, on item FPP-96-154, a request for vacation of a sewer easement in the vicinity of the northwest corner of the 28 and Patterson Road intersection, I move that we forward the item to City Council with a recommendation of approval.

3. Mr. Chairman, on item PP-96-154, a Final Plan and Plat for Pheasant Ridge Estates, I move that we approve the Final Plan and Plat subject to staff's recommendation.

FPP-96-154 COMMENTS: FINAL PLAT/PLAN - PHEASANT RIDGE ESTATES
August 28, 1996

1. Show temporary cul-de-sac for Springside Court on Final Plat if on site. If off-site-provide easements from adjoing property owner. Include line item in Improvements Agreement and Guarantee for temporary cul-de-sac.

2. Parks & Open Space fees = $225 x 33 lots = $7,425, payable prior to recording Final Plat.

3. Submit copy of recorded avigation easement.

4. Submit signed original of covenants to be recorded with plat.

5. Submit evidence of incorporation of homeowners' association.

6. Stormwater management permit from the Colorado Department of Health will be required for construction activity.

7. Tracts B, C and D on the Final Plat must also be dedicated as multipurpose easements as sewer runs through them.

8. Approval by the Utility Coordinating Committee (UCC) is required. Earliest meeting is September 11, 1996.

9. Add a note to the Final plat and Site Plan stating that there shall be no driveway access to Springside Court for lots within Block 2.

10. A 15-foot rear yard needs to be delineated on Lot 3, Block 3 (N-S property line).

11. Add a signature block for Mesa County Clerk & Recorder on the Site Plan.

September 5, 1996

Grand Junction Community Development Department
Planning • Zoning • Code Enforcement
250 North Fifth Street
Grand Junction, Colorado 81501-2668
(970) 244-1430 FAX (970) 244-1599

Mr. Ed Lenhart
1132 24 Road
Grand Junction, Colorado 81505

RE: FPP 96-154 Pheasant Ridge Estates

Dear Ed,

As you are aware, the Grand Junction Planning Commission, at its September 3, 1996 meeting, approved the Final Plat and Plan for Pheasant Ridge Estates. The approval was subject to the following conditions:

1. Address remaining staff comments dated August 28, 1996 (see enclosed list).

2. Provide a temporary cul-de-sac for the east end of Springside Court either on the Pheasant Ridge property or obtain easements for such from adjoining property owner. The cul-de-sac must be improved to specifications acceptable to the City Development Engineer and costs included in the Development Improvements Agreement and Guarantee.

As a follow-up to the Planning Commission meeting, the vacation of right-of-way and easement and the Revocable Permit for drainage facilities will be scheduled for first reading before the City Council on September 18, 1996. Second reading for public hearing will be scheduled for October 2, 1996.

If you can provide me a revised plat (per comments enclosed), I will schedule this for the September 11, 1996 Utility Coordinating Committee (UCC) meeting.

Please do not hesitate to contact me if you have further questions about this project.

Sincerely,

Kristen

Kristen Ashbeck
Planner

encl

c: Mr. Jim Langford, Thompson-Langford

CITY OF GRAND JUNCTION FILE **#FPP-96-154 FINAL PLAT/PLAN - VACATION OF RIGHT-OF-WAY, AND VACATION OF EASEMENT - PHEASANT RIDGE ESTATES** LOCATED AT W OF NW CORNER OF 28 AND PATTERSON ROADS HAS BEEN REVIEWED AND APPROVED BY THE UTILITY COORDINATING COMMITTEE.

Phil Butland
CHAIRMAN

Sept 11 - 1996
DATE

Laurie: change name of Pheasant Trail to El Corona?

STAFF REPORT

FILE: FPP-96-154

DATE: September 12, 1996

STAFF: Kristen Ashbeck

REQUEST: Vacation of Right-of-Way
Vacation of Sewer Easement
Revocable Permit

LOCATION: West of Northwest Corner 28 and Patterson Roads

APPLICANT: Just Companies / Ed Lenhart

Council Approved 5-1 10/2/96 Reford

EXECUTIVE SUMMARY:

A request for: 1) vacation of right-of-way for existing alignment of Springside Court; 2) vacation of sewer easement; and 3) revocable permit for drainage facilities in Spring Valley Park II.

EXISTING LAND USE: Vacant

PROPOSED LAND USE: Single Family Residential

SURROUNDING LAND USE:
NORTH: Single Family Residential & Public Park - Spring Valley
SOUTH: Single Family Residential - Corona Del Rey & Mantey Heights
EAST: Vacant
WEST: Single Family Residential - Spring Valley

EXISTING ZONING: Planned Residential, 8 units per acre (PR-8)

SURROUNDING ZONING:
NORTH: Residential Single Family, 5 units per acre (RSF-5)
SOUTH: PR-6 and RSF-5
EAST: PR-8
WEST: RSF-5

RELATIONSHIP TO COMPREHENSIVE PLAN:

The Growth Plan proposes this area as Residential Medium High 8-11.9 units per acre.

STAFF ANALYSIS:

Background/Project Summary: This project is located on a vacant parcel of land just west of the ~~northwest corner of the 28 and Patterson Road~~ Spring Valley townhomes intersection. The parcel was originally planned with the Spring Valley subdivision to be developed as ~~Pheasant Run~~ condominiums. ~~This portion of that project proposed approximately 50 units.~~ The public right-of-way for Springside Court was platted through the parcel but no further development occurred.

~~At its September 1996 meeting, the Grand Junction~~ The Planning Commission approved the Final Plan and Plat for ~~a new proposal for the parcel, Pheasant Ridge Estates, to include~~ which proposes 33 single family dwelling units (density of 5.2 units per acre). ~~The Commission also~~ recommended approval of the vacation of the Springside Court right-of-way and vacation of a sewer easement on the parcel.

Access/Circulation/Parking: Primary access to Pheasant Ridge Estates will be from a single drive off Patterson Road and from Springside Court once the street is completed from 28 Road. The developer is requesting a vacation of the original alignment of Springside Court through this parcel in order to realign it for this proposal. Until it is completed through the vacant parcel to the east, the Pheasant Ridge developer is required to provide a temporary cul-de-sac at the eastern end of Springside Court.

Utilities/Drainage: Water is to be provided by Ute Water and sewer service by the City of Grand Junction. Utilities are already available to the site. There is an existing sewer line that runs north-south through the site that will be rerouted at the request of the City Utilities Engineer. The developer is requesting vacation of the existing easement with the ordinance being contingent upon the line being relocated.

Stormwater from the proposed Pheasant Ridge Estates will be directed to a proposed detention pond located in the northwest corner of the site. The water will be discharged from the pond at a historic rate to the existing detention pond in Spring Valley Park II just north of the Pheasant Ridge site. The Spring Valley pond has enough capacity to accommodate the discharge volumes from Pheasant Ridge. Concurrent with the vacation requests, the developer is requesting approval of a Revocable Permit from City Council for the discharge facilities across Spring Valley Park II. The facilities include underground piping and rip-rap at the outlet point.

Findings of Review: Section 8-3 of the Zoning and Development Code lists the criteria by which vacations of rights-of-way and easements are reviewed. Staff has the following findings for these vacation of right-of-way and easement requests.

Landlocking. Vacation of the right-of-way will not landlock any parcel of land. A new alignment for the right-of-way will be dedicated with the Final Plat to access the parcels within Pheasant Ridge Estates.

Restrictive Access. The vacation of the right-of-way will not restrict access to any parcel.

Quality of Services. The proposed right-of-way and easement vacations will not have adverse impacts on the health, safety, and/or welfare of the community and does not reduce the quality of public services provided to any parcel of land. A new sewer easement will be dedicated with the Final Plat to provide sewer service through the development.

Adopted Plans and Policies. The width of the right-of-way to be vacated does not meet City street standards. The new right-of-way and street construction will meet all current City standards.

Benefits to City. There will be no effective change to the City--both the sewer easement and the right-of-way will exist once the development is completed--just realigned to conform with current City standards.

Revocable Permit: City Charter gives Council authority to allow private use of public property provided such use is substantiated by resolution. The Revocable Permit essentially gives the adjacent landowners a license to use the public property. The City may revoke the permit and require the landowner to restore the property to its original condition by giving 30 days written notice. The resolution will not be made effective until sufficient evidence that the improvements will be made is provided.

PLANNING COMMISSION RECOMMENDATIONS (9/3/96):

Approval of the vacation of a portion of the Springside Court right-of-way.

Approval of the vacation of a sewer easement in the vicinity of the northwest corner of the 28 Road and Patterson Road intersection.

STAFF RECOMMENDATION: Review and adopt proposed Revocable Permit

CITY OF GRAND JUNCTION, COLORADO

Ordinance No.____
VACATING A PORTION OF THE SPRINGSIDE COURT RIGHT-OF-WAY

Recitals.

The Pheasant Ridge Estates project is located on a vacant parcel of land just west of the northwest corner of the 28 and Patterson road intersection. the parcel was originally planned with the Spring Valley subdivision to be developed as Pheasant Run condominiums. The public right-of-way for Springside Court was platted through the parcel but no further development occurred. The current developer is requesting a vacation of the original alignment of Springside Court in order to realign it for the proposed Pheasant Ridge Estates project.

The Utility Coordinating Committee (UCC) approved this vacation request at its September 11, 1996 meeting.

The Grand Junction Planning Commission, at its September 3, 1996 hearing, recommended approval of the vacation of this right-of-way.

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

A parcel of land situated in Sec 1, T1S, R1W, U.M., City of Grand Junction, County of Mesa, State of Colorado being more particularly described as follows: Beg at a pt which bears N66°41-58"E 782.38ft from the E1/16 cor on the S line of Sec 1, a Mesa County Survey Marker whence the SE cor of Sec 1, a Mesa County Survey Marker, bears S89°46'00"E 1321.57ft with all bearings herein relative thereto; thence S00°00'00"W 29.24ft; thence 17.28ft along the arc of a 136.50ft radius non-tangent curve to the left, through a central angle of 7°15'11", with a chord bearing S61°34'36"W 17.27ft; thence S57°57'00"W tangent to said cure 95.42ft; thence 92.12ft along the arc of a 163.50ft radius tangent curve to the right through a central angle of 32°17'00", with a chord bearing S74°05'30"W 90.91ft; thence N89°46'00"W tangent to said curve 103.73ft; thence 72.59ft along the arc of a 163.50ft radius tangent curve to the right, through a central angle of 25°26'20", with a chord bearing N77°02'50"W 72.00ft; thence N64°19'40"W tangent to said curve 26.77ft; thence 86.99ft along the arc of a 163.50ft radius tangent curve to the right, through a central angle of 30°29'00", with a chord bearing N49°05'10"W 85.97ft; thence N33°50'40"W tangent to said curve 48.22ft; thence 215.61ft along the arc of a 50.00ft radius tangent curve to the right, through a central angle of 247°04'22", with a chord bearing N89°41'31"E 83.35ft; to a pt of reverse curvature; thence 85.13ft along the arc of a 50.00ft radius curve to the left, through a central angle of 97°33'24", with a chord bearing S15°33'00"E 75.22ft; thence S64°19'40"E tangent to said curve 26.77ft; thence 60.60ft along the arc of a 136.50ft radius tangent curve to the left, through a central angle of 25°26'20", with a chord bearing S77°02'50"E 60.11ft; thence S89°46'00"E tangent to said curve 103.73ft; thence 76.91ft along the arc of a 136.50ft radius tangent curve to the left, through a central angle of 32°17'00", with a chord bearing N74°05'30"E 75.90ft; thence N57°57'00"E tangent to said curve 95.42ft; thence 32.97ft along the arc of a 163.50ft radius tangent

curve to the right, through a central angel of 11°33'14", with a chord bearing N63°43'37"E 32.91ft to the POB. Containing 0.507 acres, more or less.

INTRODUCED for FIRST READING and PUBLICATION this 18th day of September, 1996.

PASSED on SECOND READING this 2nd day of October, 1996.

ATTEST:

City Clerk

President of Council

CITY OF GRAND JUNCTION, COLORADO

Ordinance No.____
VACATING A SEWER EASEMENT IN THE VICINITY WEST OF THE NORTHWEST CORNER OF 28 ROAD AND PATTERSON ROAD INTERSECTION

Recitals.

The Pheasant Ridge Estates project is located on a vacant parcel of land just west of the northwest corner of the 28 and Patterson Road intersection. There is an existing sewer line that runs north-south through the site that will be rerouted at the request of the City Utilities Engineer. Thus, the developer is requesting vacation of the existing easement to be effective once the line is relocated.

The Utility Coordinating Committee (UCC) approved this vacation request at its September 11, 1996 meeting.

The Grand Junction Planning Commission, at its September 3, 1996 hearing, recommended approval of the vacation of this sewer easement.

NOW, THEREFORE BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF GRAND JUNCTION THAT THE SEWER EASEMENT DESCRIBED BELOW IS HEREBY APPROVED TO BE VACATED BUT SHALL NOT BE EFFECTIVE UNTIL THAT PORTION OF THE SEWER LINE IS RELOCTED, APPROVED AND ACCEPTED BY THE CITY OF GRAND JUNCTION:

Easement and R-O-W for underground sanitary sewer pipeline as granted to the City of Grand Junction by Wilma F. Shaw, in instrument recorded June 17, 1971, in B-960, P-193, said easement being over the following described property: a 20ft wide permanent easement 10 feet on either side of the following described centerline, said easement being located on the SE1/4 of Sec 1, T1S, R1W, U.M.; Beg at a pt 48ft N and 953ft W of the SE cor of Sec 1, T1S, R1W, U.M., thence S01°10'00"E 451ft, more or less, to a pt on the N R-O-W line of F Road, said pt being the termination point of said easement.

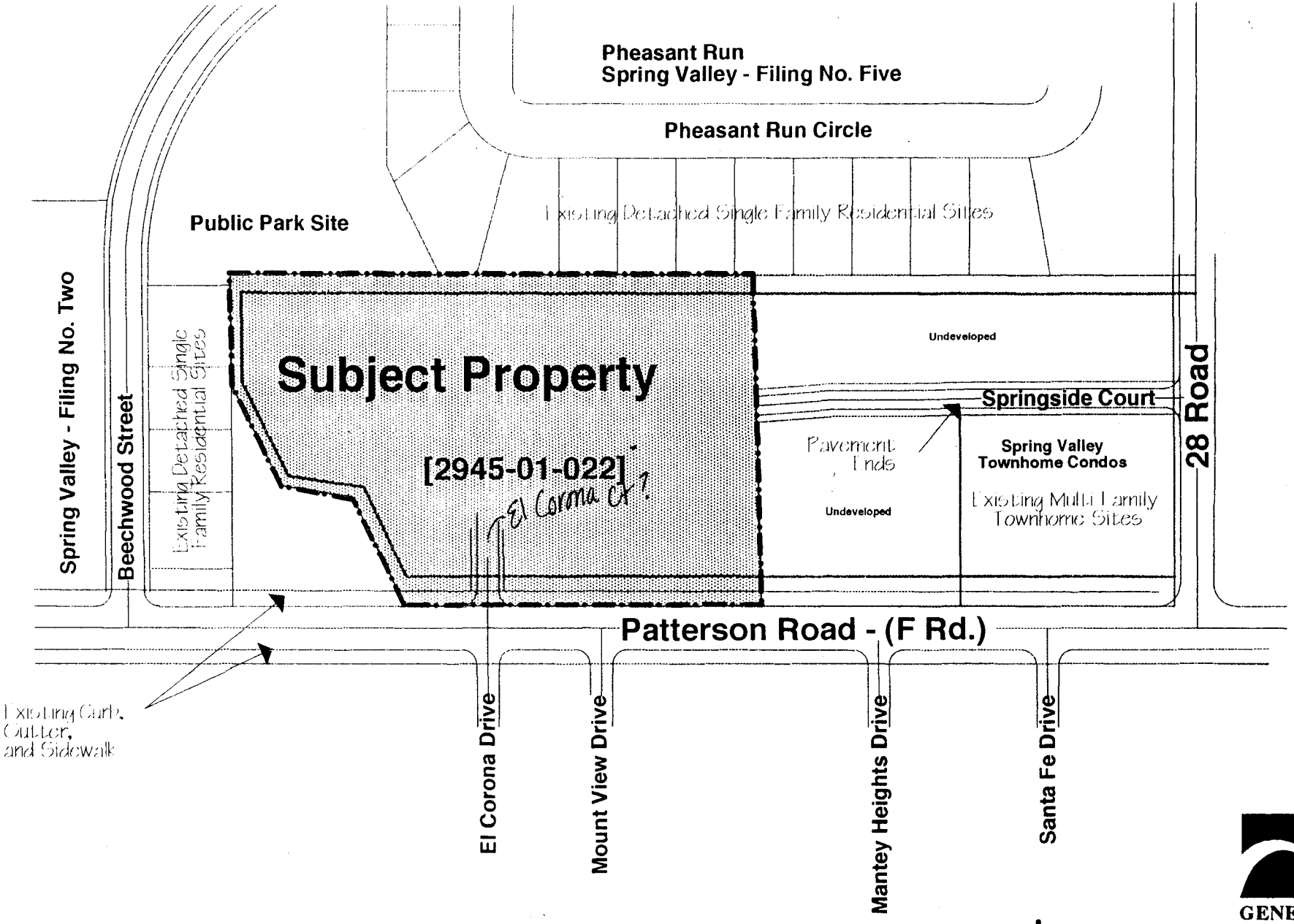
INTRODUCED for FIRST READING and PUBLICATION this 18th day of September, 1996.

PASSED on SECOND READING this 2nd day of October, 1996.

ATTEST:

City Clerk

President of Council

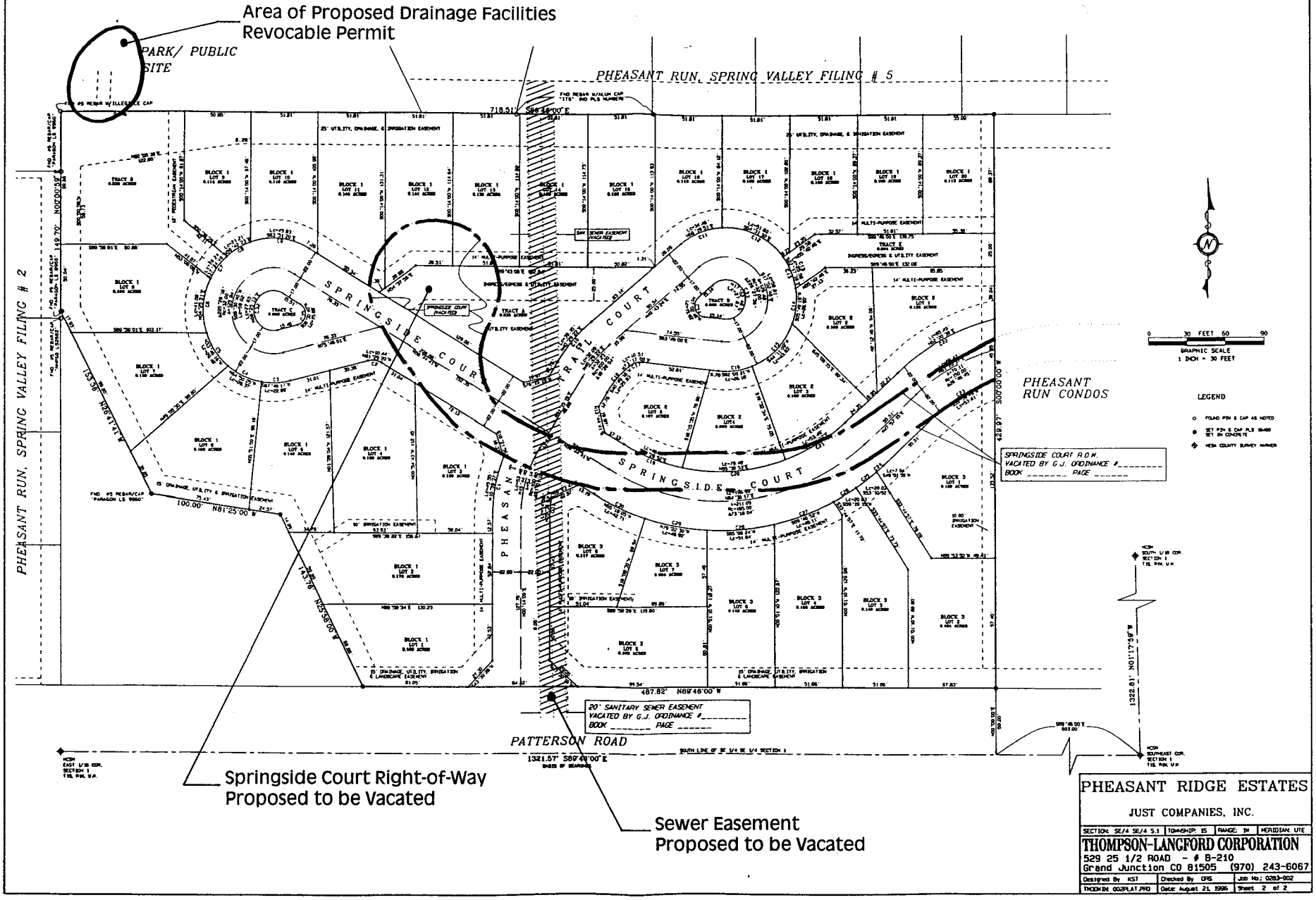


PHEASANT RIDGE ESTATES

Context - Diagram #1

NOT TO SCALE 5-30-96 ©

GENESIS DESIGNS
ARCHITECTURE AND PLANNING
970•245•6093
P.O. BOX 1851
GRAND JUNCTION
COLORADO
81502



PHEASANT RIDGE ESTATES

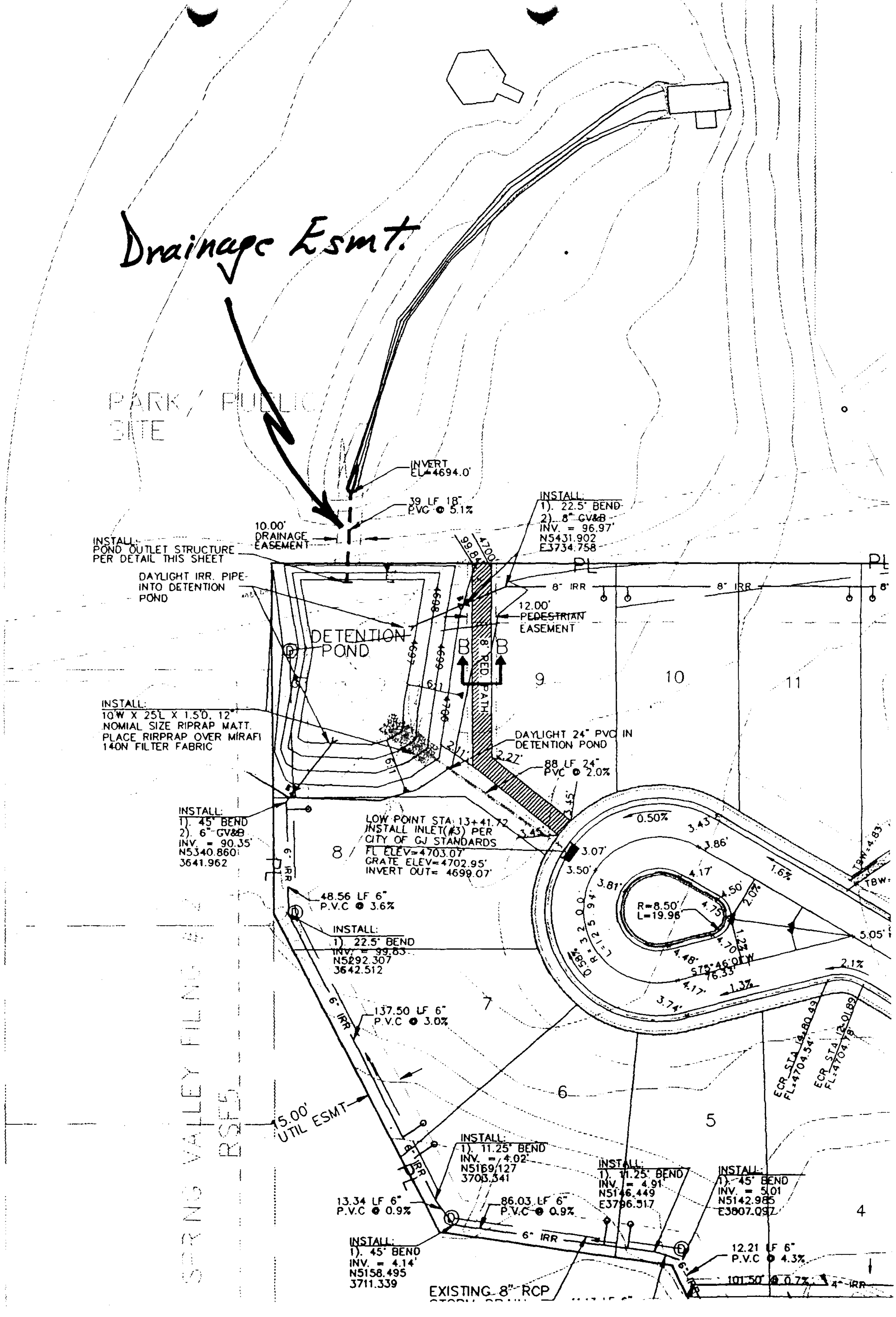
JUST COMPANIES, INC.

SECTION: SE/4 SE/4 S.1	TOWNSHIP: 1S	RANGE: 1W	MERIDIAN: UTE

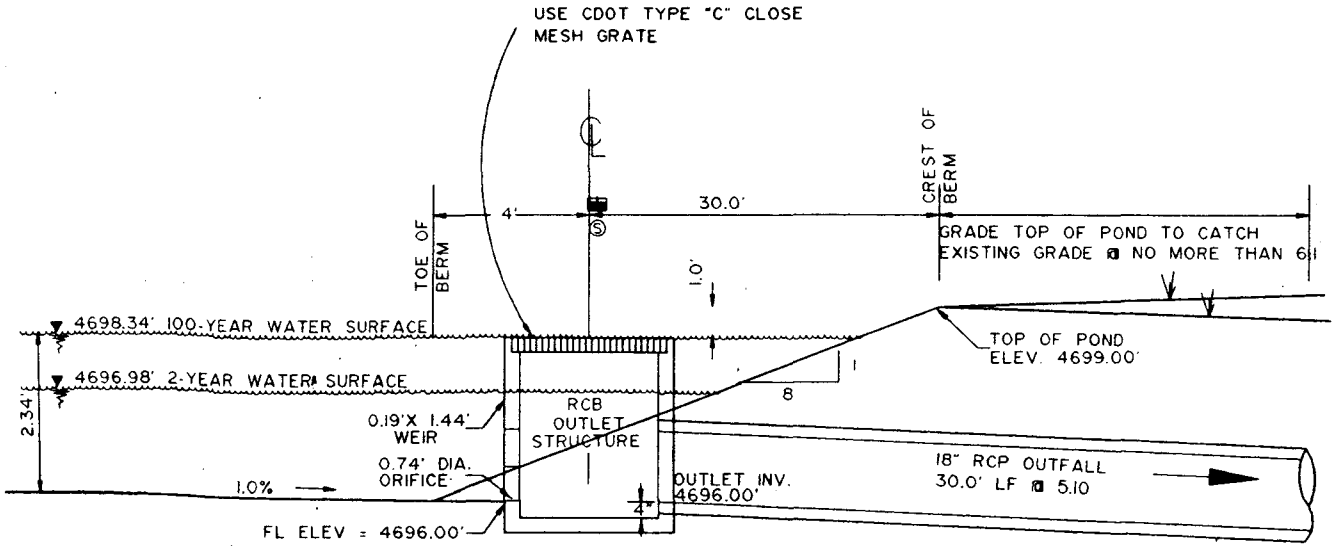
THOMPSON-LANGFORD CORPORATION

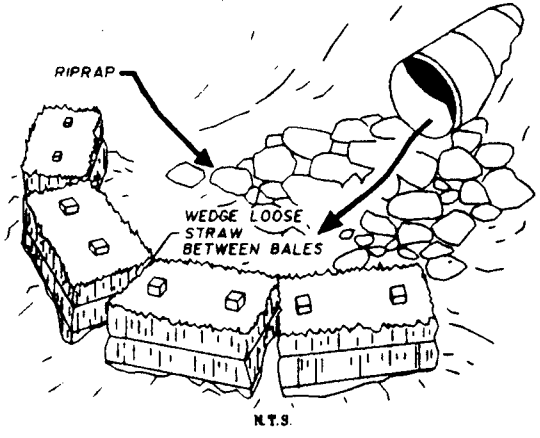
529 25 1/2 ROAD - # B-210
Grand Junction CO 81505 (970) 243-6067

Designed By: KST	Checked By: DRS	Job No.: 0283-002
THOMON 002PLAT.PRO	Date: August 21, 1996	Sheet 2 of 2



Drainage Esmt.
PARK / PUBLIC SITE
INVERT EL=4694.0'
39 LF 18" PVC @ 5.1%
10.00' DRAINAGE EASEMENT
INSTALL POND OUTLET STRUCTURE PER DETAIL THIS SHEET
DAYLIGHT IRR. PIPE INTO DETENTION POND
DETENTION POND
INSTALL: 1). 22.5° BEND 2). 8" GV&B INV. = 96.97' N5431.902 E3734.758
PL
8" IRR
12.00' PEDESTRIAN EASEMENT
8' PED PATH
B
B
9
10
11
INSTALL: 10'W X 25'L X 1.5'D, 12" NOMIAL SIZE RIPRAP MATT. PLACE RIPRAP OVER MIRAFI 140N FILTER FABRIC
DAYLIGHT 24" PVC IN DETENTION POND
88 LF 24" PVC @ 2.0%
INSTALL: 1). 45° BEND 2). 6" GV&B INV. = 90.35' N5340.860 3641.962
LOW POINT STA 13+41.72 INSTALL INLET(#3) PER CITY OF GJ STANDARDS FL ELEV=4703.07' GRATE ELEV=4702.95' INVERT OUT= 4699.07'
8
0.50%
R=8.50' L=19.98'
1.6%
2.1%
1.3%
48.56 LF 6" P.V.C @ 3.6%
INSTALL: 1). 22.5° BEND INV. = 99.83 N5292.307 3642.512
137.50 LF 6" P.V.C @ 3.0%
7
6
5
4
15.00' UTIL ESMT
SPRING VALLEY FILING
RSF-5
6" IRR
INSTALL: 1). 11.25° BEND INV. = 4.02' N5169.127 3703.341
INSTALL: 1). 11.25° BEND INV. = 4.91 N5146.449 E3796.517
INSTALL: 1). 45° BEND INV. = 5.01 N5142.985 E3807.097
13.34 LF 6" P.V.C @ 0.9%
86.03 LF 6" P.V.C @ 0.9%
INSTALL: 1). 45° BEND INV. = 4.14' N5158.495 3711.339
12.21 LF 6" P.V.C @ 4.3%
101.50' @ 0.7%
EXISTING 8" RCP





DETAIL C – CULVERT OUTLET TRAP

Drainage Facilities within
Revocable Permit Area
18" Underground Pipe and Outlet

Area of Proposed Drainage Facilities
Revocable Permit

PARK/ PUBLIC SITE

PHEASANT RUN, SPRING VALLEY FILING # 5

PHEASANT RUN, SPRING VALLEY FILING # 2

PHEASANT RUN CONDOS

SPRINGSIDE COURT

TRAIL COURT

PHEASANT COURT

PATTERSON ROAD

718.51' S89°48'00"E

149.70' N00°00'59"E

153.36' N26°41'41"W

100.00' N81°25'00"W

143.76' N23°58'00"W

487.82' N89°48'00"W

1321.57' S89°48'00"E
BASIS OF BEARINGS

1322.81' N01°17'59"W

428.97' S00°00'00"W

SPRINGSIDE COURT R.O.W.
VACATED BY G.J. ORDINANCE #_____
BOOK _____ PAGE _____

20' SANITARY SEWER EASEMENT
VACATED BY G.J. ORDINANCE #_____
BOOK _____ PAGE _____

Springside Court Right-of-Way
Proposed to be Vacated

Sewer Easement
Proposed to be Vacated

0 30 FEET 60 90
GRAPHIC SCALE
1 INCH = 30 FEET

LEGEND
- ○ FOUND PIN & CAP AS NOTED
- ● SET PIN & CAP PLS 18480 SET IN CONCRETE
- ⊕ MESA COUNTY SURVEY MARKER

PHEASANT RIDGE ESTATES

JUST COMPANIES, INC.

SECTION: SE/4 SE/4 S.1	TOWNSHIP: 1S	RANGE: 1W	MERIDIAN: UTE

THOMPSON-LANGFORD CORPORATION
529 25 1/2 ROAD - # B-210
Grand Junction CO 81505 (970) 243-6067

Designed By KST	Checked By DRS	Job No.: 0283-002
TMDDWIN 002PLAT.PRO	Date: August 21, 1996	Sheet 2 of 2

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

February 6, 1997

Mr. Ed Lenhart
Just Companies
1132 24 Road
Grand Junction, CO 81505

RE: FPP 96-154 Pheasant Ridge Estates

Dear Ed,

As requested, I have reviewed our files and find the following list of items still outstanding. Please provide a set of the revised drawings and documents for review by staff. Once approved, I will let you know what is needed for the final versions.

1. Provide a temporary cul-de-sac for the east end of Springside Court either on the Pheasant Ridge property or obtain easement for such from adjoining property owner. The letter of agreement dated January 16, 1997 will not meet this requirement.

   The cul-de-sac must be improved to specifications acceptable to the City Development Engineer and cost included in the Development Improvements Agreement and Guarantee.

   Be sure all plans reflect the alternative selected, in particular the plat, site plan and road plans.

2. Also add costs of fencing and landscaping along Patterson Road to the Development Improvements Agreement and Guarantee.

3. Parks and Open Space fees = $7,425 payable prior to recording the Final Plat.

4. The covenants are presently being reviewed by the City Attorney. I will advise you of any necessary revisions. None needed per Shaver 3/24/97

5. Submit evidence of incorporation of the homeowners' association (e.g. the page stamped by the Secretary of State).

6. Provide evidence that an application to the Colorado Department of Health for a stormwater management permit has been made.

7. Add a note to the Site Plan stating that there shall be no driveway access to Springside Court for lots within Block 2.

8. Site Plan - Delineate a 15-foot rear yard setback for Lot 3, Block 3 along the north-south property line.

9. Add a signature block for Mesa County Clerk & Recorder on the Site Plan.

10. Fill in the Book & Page of the easement and right-of-way vacations on the Final Plat.

Please do not hesitate to contact me if you have questions regarding the materials requested.

Sincerely,

Kristen Ashbeck
Planner

CITY OF GRAND JUNCTION
250 North 5th Street
Grand Junction, CO 81501-2668
FAX: (970) 244-1599

FACSIMILE

Date: 2/6/97
To: SANDY
Location: JUST COMPANIES

Telephone Number: _____
FAX Number: 256-9717

From: KRIS, COMMUNITY DEV
Telephone Number: (970) _____

Number of Pages Including Cover Sheet: 3

Special Instructions:

_____

_____

_____

If the telecopy you have received is incomplete or illegible, please call _____ at (970) _____.

THOMPSON-LANGFORD CORPORATION

ENGINEERING AND LAND SURVEYING
Independence Plaza
529 25 1/2 Rd., Suite B 210
Grand Junction, CO 81505
PH. 243-6067
FAX 241-2845

Petitioner's Response to Review Comments

April 8, 1997

File #pp-96-132, Pheasant Ridge Estates Subdivision

Petitioner:

Ed Lenhart
Just Companies
826 21 ½ Road
Grand Junction, CO. 81505

Petitioner's Representative:

Jim Langford
Thompson Langford Corporation
529 25 ½ Road, Suite B210
Grand Junction, CO. 891505

Staff Representative:

Kristen Ashbeck
City of Grand Jct.
250 N. 5th Street
81501

The following are responses to review comments regarding Pheasant Ridge Estates Subdivision dated February 5, 1997.

General

1) A 40' diameter temporary cul-de-sac for the east end of Springside Court has been shown on the construction drawings. A 45' diameter easement has been obtained from the adjacent property owner (Springside Townhomes), and the Development Improvements Agreement includes the cost and quantities for the cul-de-sac.
2) The cost for decorative screening (fencing) and landscaping along Patterson Road has been added to the Development Improvements Agreement.

3) Parks and Open Space fees of $7,425.00 will be paid to the City of Grand Junction prior to recording the final plat.
4) No comment.
5) The incorporation of the homeowners association has be completed as is evidenced by the enclosed document that has been stamped by the Secretary of State.
6) A copy of the permit certification obtained under the Colorado Water Quality Control Act (permit # COR-031819) has also been enclosed for your review.
7) Notes were added to the site plan and construction drawings stating that driveway access to Springside Court for lots within Block 2 will be prohibited.
8) A 15' rear yard setback for lot 3 of block 3 along the north south property line has been added to the site plan.
9) A signature block for the Mesa County Clerk and Recorder has been added to the site plan.
10) The book and page for the easement and right of way vacations have been added to the plat.

Thank you for your cooperation in this matter. If you have any questions regarding the materials submitted or our responses to your review comments, please do not hesitate to call.

THOMPSON LANGFORD CORP.

Jim Langford, Petitioner's Representative for
Pheasant Ridge Estates

Spring Valley Homeowners Association

P.O. Box 9164
Grand Junction, CO 81501

June 12, 1997

Ms. Kristen K. Ashbeck, AICP
City of Grand Junction
Community Development Department
250 N. 5th Street
Grand Junction, CO 81501

Gentlemen:

It is my understanding that the "Just Companies" is attempting to record their development, *Pheasant Ridge Estates.* As you know, there is a dispute about a Utility, Drainage and Irrigation easement for Spring Valley.

That easement was originally recorded in 1978 and according to the City of Grand Junction land department they cannot find where it was ever vacated. We in Spring Valley believe that we have rights and interests in that easement for the maintenance of our irrigation pipes that have been installed in it for about 20 years. We would greatly appreciate your suspending any further progress on the recording of the above development until the dispute over the easement and the location of our irrigation pipe has been resolved.

I further understand that a development cannot be recorded unless it is accompanied by a set of engineering drawings that is sealed and signed by a professional engineer. If there is any further activity, or such a set of drawings is submitted, I would appreciate your letting me know.

I do not mean to delay the developer's work, I am just asking you to delay any recording until there is a solution to the easement problem. I am attempting to write a letter to the developer with copies to you, the engineer, and the Grand Valley Water Users Ass'n, but that cannot be completed until we have a board meeting.

Very truly yours,

Judd L Perry

Spring Valley Homeowners Association
Judd L. Perry
Secretary/Treasurer

City of Grand Junction, Colorado
250 North Fifth Street
81501-2668
FAX: (970)244-1599

June 17, 1997

Mr. Ed Lenhart
Just Companies
826 21-1/2 Road
Grand Junction, CO 81505

RE: FPP-1996-154 Pheasant Ridge Estates

Dear Ed,

It has come to our attention that there is some concern by the Spring Valley Homeowners' Association that the construction of the utility infrastructure in the development referenced above involves the need to relocate some of the Association's irrigation lines which are within an easement in the vicinity of the northwest corner of your property. Please be advised that the approval of the construction plans for the Pheasant Ridge project by the City on April 25, 1997 does not constitute approval to relocate private lines such as those owned/maintained by the Spring Valley Homeowners' Association. The City did not approve of such relocation nor will the City approve of such. The approval to proceed with the relocation of these lines can only be granted by the Board of the Spring Valley Homeowners' Association. I would strongly recommend that you contact the Board regarding this issue at your earliest convenience. The Association's representative that has been in contact with the City is Mr. Judd Perry who resides at 2954 Beechwood Street (243-8272).

Please do not hesitate to contact me if you have questions regarding this information.

Sincerely,

Kristen Ashbeck
Planner

c: Judd Perry

A Storm Water Management Plan

for

Pheasant Ridge Subdivision

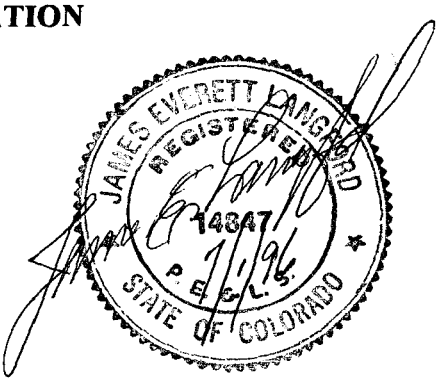
June 27, 1996

Prepared for:

Just Companies Inc.
1716 North 18th St.
Grand Junction, Co.
81501

Prepared by:

THOMPSON-LANGFORD CORPORATION
529 251/2 RD., SUITE B-210
Grand Junction, CO 81505
PH. 243-6067



Job. No 0283-002

TABLE OF CONTENTS

1.0 INTORDUCTION

In order to comply with the provisions of the Colorado Water Quality Control Act (25-8-101 et seq., CRS, 1973 as amended), and the Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.), the Water Quality Control Commission of the Colorado Department of Public Health and the Enviornment (CDPH&E) has initiated regualations and requirments regarding storm water discharges.

Storm water discharge permitts are required for construction acitivities "including clearing, grading and excavating activities except: operations that result in the disturbance of less than five acres of total land area which are not part of a larger common plan of development or sale (Section 6.4.2[5][c][x]).

Therfor, all construction related activities assosiated with the development of *Pheasant Ridge Estates Subdivision* located in Grand Junction, CO., will require a Discharge Permitt for Storm Water Discharges Associated with Construction Activity.

This storm water management plan has been prepared in accordance to the terms and conditions as set forth by the CDPH&E.

2.0 SITE DESCRIPTION

2.1 Site Location

Pheasant Ridge Estates Subdivision is located in Grand Junction, Colorado, immediatly west of the exisiting Spring Valley Townhomes. More specifically, the project is located west of 28 road and north of Patterson road in Sec. 1, T.1S., R.1W., of the U.M. The project is a replat of an earlier filing of Spring Valley Townhomes completed by Paragon Engineering in November of 1980.

Access to the project is currently from an existing curb cut along Patterson Road and from Springside Court. Sprigside Court is also the main entrance into Spring Valley Townhomes.

2.2 Property Description

Pheasant Ridge Estates Subdivision consists of approximately 6.4 acres of previously undeveloped land. The property slopes from southeast to northwest at an average slope of 1%. The site is currently covered with mixture of intermediat wheat grass, native weed species, and small to medium sized Russian Olive trees. Ground cover is approximately 70%.

2.3 Construction Activity/Sequence of Constuction Activities

Construction activities for the poject site will begin with clearing and grubbing of all trees and or brush within the limits of construction. The next step involves overlot grading of the site. After the site is rough graded, the streets are brought to proposed sub-grade elevations. Temporary erosion control facilities will be constructed at this time. After the roadways are borught to sub-grade, they are "box cut" for installation of sewer and water facilities. Once the utilities are backfilled and compacted, the curb and gutter for the subdivision is installed. Public service then installs the remaining utilities including, electric, telephone, gas, and cable television. The asphalt is then laid, and home construction can begin.

Home construction within the project will consits of forming and pouring concrete foundation walls, patios, drives, and sidewalks. Interior and exterior framing, painting, and landscaping. All construction within Pheasant Ridge Estates Subdivision will be completed in one phase.

2.4 Estimated Areas of Disturbance

Land disturbance related to the construction of Pheasant Ridge Estates Subdivision will be confined to the 6.4 acres that encompase the project site. Any land that is disturbed outside of the project site will be brought back to it's "pre-construction" condition.

2.5 Site Runoff Coefficients

Pre and post development runoff coefficients for the project site have been calculated for both the 2-year and the 100-year storms. The pre-construction or historic 2-year runoff coefficient for the project is 0.28. Once the project is "built-out", the 2-year runoff coefficient will approach 0.58. The 100-year pre and post development runoff coefficients are 0.34 and 0.63 respectively. Post development runoff coefficients were calculuated based upon approximately 40% of the total site area being comprised of impervious area (pavement, concrete, buildings), and the remainig 60% pervious area (lawns and green landscaping).

2.6 Soil Erosion Potential

According to the SCS soils maps (a copy of which is included in the appendix), the site falls within the bounds of the Billings Silty Clay Loam group (B_c), hydrologic soil group "C". Sois within the Billings Silty Clay group are characterized as having moderate to high concentrations of salts.

Locally, this soil type is refered to as heavy adobe. Surface runoff from areas of Billings Silty Clay Loam is very slow to slow where the slope is around 1%. Internal drianage within this soil is also very slow. Because of this many areas containing B_c, including this project site, contain subsurface drainage facilities. These subsurface drains collect runoff and seepage flows and carry them offsite to local drainageways. In summary, because of the slow runoff rate and low permeability of areas containing Billings Silty Clay Loam, the potential for erosion within this project is minimal.

2.7 Other Potential Pollution Sources

Other potential pollution sources that may be encountered at the project site include:

- On-site refueling of heavy equipment presents a risk of spilling or releasing fuel onto the ground.
- Spilling of various motor fluids, hydraulic fluids, and grease while performing maintenance on machinery.
- Tracking of soil off-site as vehicles leave the project.
- Emptying and cleaning of concrete trucks.
- Temporary sanitation services provided for construction workers.

2.8 Name and Location of Recieving Waters.

Drainage from the project site has historically drained in a northwesterly direction towards an open swale as evidenced by the 1962 USGS Quadrangle sheet for the Grand Junction area. At some time subsequent to the preperation of this topographic map, the Grand Valley Water Users improved this drainage by placing it underground.

Both drainage and seepage flows are then carried from the project in various storm sewer systems and open canals to the ultimate recieving waters which are the Colorado River.

3.0 Site Map

A site map and stormwater management plan for the project are included in the appendix. The SWMP details the location and type of all erosion control facilities which are to be installed during various phases of the construction activities.

3.0 BEST MANAGEMENT PREACTICES FOR STORM WATER POLLUTION PREVENTION

3.1 Erosion and Sediment Controls

Both strucural and non-structural BMP's (Best Management Practices) have been identified to adress potential soruces of storm water pollutants as discussed in Section 2.0. These various BMP's will be implemented before and during construction activities to ensure that pollution leaving the site will be kept to a minimim. The accompaning SWMP can be modified at any time during the construction process to adress changing site conditions.

3.1.1 Erosion and Sediment Controls

Structural source controls including but not limited to silt fences, detention ponds, erosion control bales, diversion ditches and berms, and seeding and mulching will also be used to limit the amount of sediment and pollutants that leave the project via storm water runoff. As was prevously mentioned, the SWMP included in the appendix identifies the locations where the various sturcutral BMP's are to be placed.

-Detention Pond: An on-site detention pond will be constructed in the northwest corner of the project. The detention pond will serve many purposes, the main one being, to detain runoff from the project and release it off-site at the historic rate. Runoff from the storm sewer system, curb and gutter, and surface flows will be collected in the detention pond. Once in the detention pond, much of the sediment that is being carried in the storm water runoff will "drop out" or settle to the pond bottom. Any remaining runoff will be screened out by hay bales placed in front of the detention pond discharge pipe.

-Hay/Straw Bales: Anchored hay bales are to be used to channel storm water runoff in a desired direction, filter sediment ladden ruoff, or as erosional checks in ditches and swales. The use of erosion bales is reuired at the strom sewer outfall into channel, across the full street ROW at various locations as detailed on the SWMP.

-Silt fences: Silt fences are to be used to decrease the erosive velocity of storm water runoff and to intercept and detain sediment ladden runoff before it has the chance to flow off-site. Silt fences are typically used along the toe of fills, along property lines, and at any place where the groud is sloping away from the project site. The location of all silt fences within the project are detailed on the enclosed SWMP.

-Crushed Rock Construction Staging Pad:

A curshed rock staging area will be constructed at the entrance to the subdivision. The staging area will limit the amount of soil that is carried off of the site by vehicles. All vehicles entering and leaving the site will pass through the staging area. The staging area will be constructed as soon as practicable.

-Temporary diversion ditches and berms: Temporary diversion ditches and berms may be constructed to force runoff away from potential pollution sources such as: Construction materials storage Areas refueling and maintenance areas, and vehicle washdown locations.

3.1.2 Non Structural Source Controls

Some non-structural source controls that may be employed at this location consist of both interim and temporary stabalization and pollution prevention/minimization pracitves and procedures. Examples of non-structural BMP's inlcude the use of erosional matting/mulching, regegatation, seperation and isolation of waste piles, and minimizing the amount of soil that is disturbed.

-Erosional matting/mulching: This practicular BMP involves the application of plant residus or other suitable material to the soil surface. Typically mulching materials used include traw, hay, and wood celloulose fiber. Mulching is used to provide temporary protection for exposed soils against erosion where temporary or permanent seeding opertations are not possible.

-Revegatation: This BMP involves the planting of temporary or permanent vegitation on disturbed surfaces. Disturbed areas not designated for immediate construction (within the following 3 months) or permanent landscaping shold be temporarily revegatated. Int he event that construction activity ceases fro a period of 60 calender days, disturbed area including cut and fill slopes, shall be revegatated with an annual or erennial seed mixture.

-Seperation and Isolation of Wastes: All wastes considered to be potential pollutant sources that are generated during the construction of Pheasant Ridge Estates Subdivision will be properly disposed of.

-Good Housekeeping: Good housekeeping, including, immediately cleaning up spills of fuel or petroleum products, ensuring that waste materials are properly stored and promptly disposed, and placement of portable toilets in low traffic areas.

-Minimizing the Amount of Disturbed Soil: Every effort will be made to minimize the amount and area of soil to be disturbed.

3.2 Materials Handling and Spill Prevention

-Spill prevention and Respons Procedures: Proper training of on-site personal can reduce or prevent the risk of spills while performing routine activities. On-site refueling of heavy equipment poses the greatest risk of release of pollutants to the enviornment. A refueling location should be established that is as far as possible from any existing or proposed drianage facility. If a release does occur, construction personal will take the appropriate steps to minimize the impact of the spill. This can be acomplished by placing sorbent material such as clay, sawdust, straw, kitty litte, or other suitable material on top of the spill.

Releases of pollutants may also occur while equipment is operated during construction. In the event that a releas of fuel, lubricants, or coolants occurs, efforts will be made to stop the release and clean up the contaminants. All contaminated soil and or material shall be stored on site until such time as it can be disposed of in a proper manner. The necessary repairs will be made to the equipment to prevent a continued release of contaminants.

Depending on the nature of the spill and the material involved, Mr Ed Lenhart of Just Companies Inc., shall be notified at (970)245-9316. In the event of a spill or release of petroleum products in an amount equal to or exceeding 25 gallons, the CDPH&E Emergency Management Program Hotline (1-303-756-4455) and the National Response Center (1-800-424-8802) should be contacted.

5.0 FINAL STABILIZATION AND LONGTERM STORM WATER MANAGEMENT

Storm water discharges associated construction activities are considered to no longer exist once the disturbed site has been stabilized. As soon as practicable after construction activities have been completed in a disturbed area, permanent stabilization of the site should commence to prevent further erosion. The long term management controls that will prevent and control storm water pollution at this construction project include the construction of the storm water detention facility at the end of Springside Court; construction of the surface and sub-surface storm water drainage and collection system; grassy/vegetative swales; permanent landscaping of roadways; and construction and landscaping of residential structures on individual building lots. Any covenants, conditions, or restrictions yet to be established for the development may also stipulate landscaping schedules.

6.0 OTHER CONTROLS

Portable Toilet Service/Maintenance

All "porta potties" will be pumped and serviced on a schedule to be established with the subcontractor who provides the service. All porta potties will be located in a safe area away from waterways, and where accidental tipping will not occur.

Solid Waste Disposal

All solid waste (i.e., construction debris) generated during the construction of residential structures shall be containerized in a dumpster. The schedule for disposal and service of the dumpster will be established by the disposal provider. If possible, dumpsters should be covered or tarped when not in use to prevent precipitation from collecting inside the container. If precipitation is allowed to accumulate inside the dumpster, hazardous contaminants may be leached from construction debris and wastes, and may leak from the dumpster onto the ground surface. Dumpsters should be centrally located and away from waterways and drainages.

Dust Suppression

The use of dust suppression water may be necessary to prevent dust during construction activities. However, application of dust suppressant water shall not be excessive resulting in erosional impacts.

7.0 INSPECTION, MAINTENANCE, AND RECORDKEEPING

Preventative maintenance involves the regular inspection and testing of the BMPs and other storm water pollution controls that comprise the storm water pollution prevention system. BMPs and erosional controls shall be inspected for cracks, leaks, or other conditions which could result in breakdowns or system failures, which may ultimately result in discharge of pollutants to storm sewers and surface waters. Adjustments, repairs, and replacement of BMPs and erosional controls will be made as necessary. All structural controls identified in Section 4.1.1 will be inspected and maintained.

The Storm water discharge permit requires that a thorough inspection of the storm water management system be performed at least every 14 days, **and** after any precipitation or snowmelt event that caused surface erosion. The contractor shall be responsible for inspecting the entire site on a bi-weekly basis to ensure compliance, and to identify any existing or potential sedimentation problems. It is recommended that these inspections be documented using a dedicated inspection form. Inspection forms should be kept in a "SWMP Log Book" and maintained for the duration of the construction project. The inspection form to be used is included as Appendix B.

8.0 REFERENCES

1. *Soil Survey of Mesa County Area, Colorado*, U.S. Department of Agriculture Soil Conservation Service, 1978.

2. *Report of Geotechnical Investigation for The Ridges, Filing #6 Subdivision, a Portion of Section 17, T1S, R1W, of the Ute Meridian, Grand Junction, Colorado*, prepared by Western Colorado Testing, Inc., October 24, 1995.

3. *Preliminary Drainage Report, Cobblestone Ridges,* prepared by Thompson-Langford Corporation, September 1995.

4. *Construction Guidance Document: Preparing a Stormwater Management Plan,* prepared by the Colorado Department of Public Health and the Environment, Water Quality Control Commission, 1994.

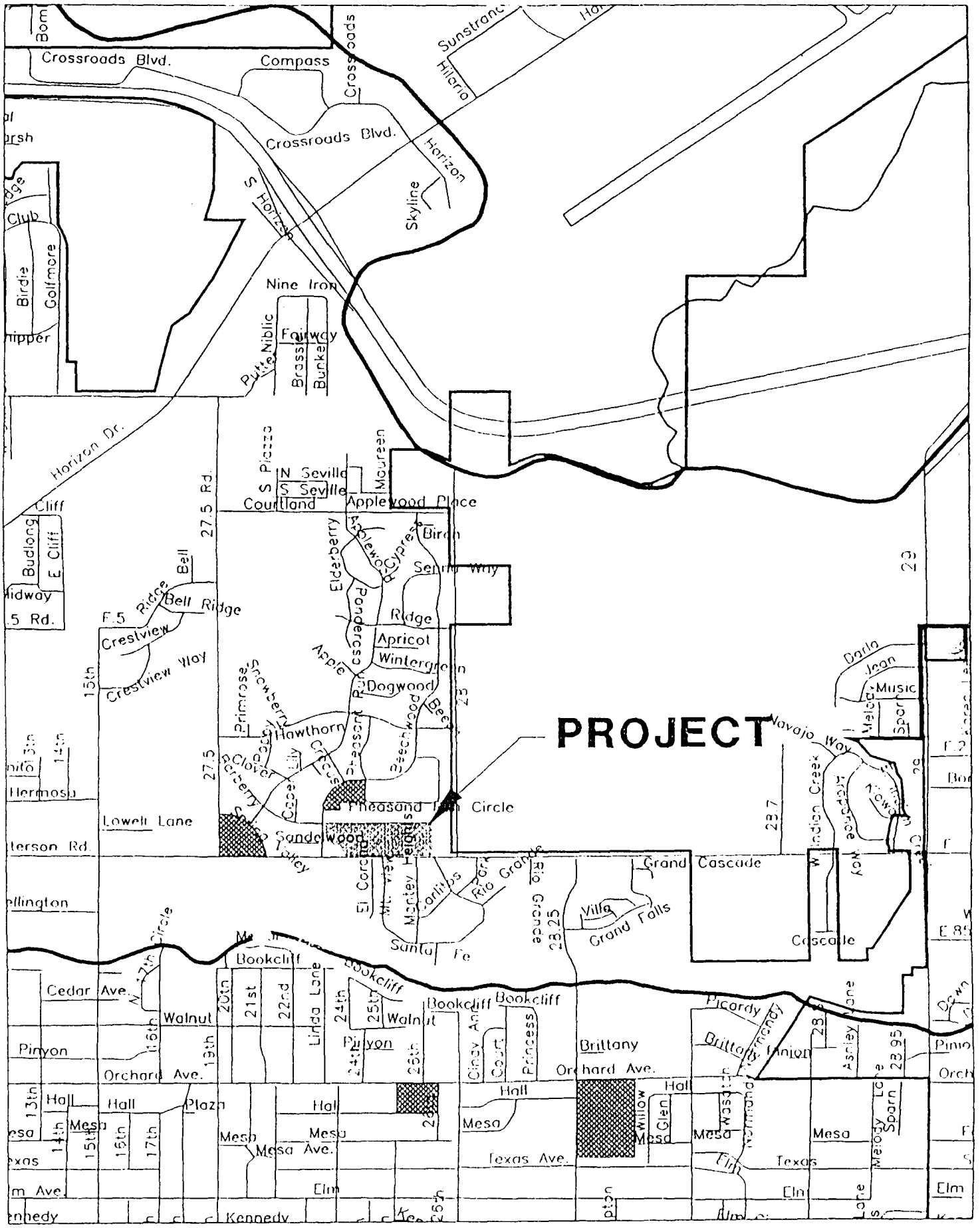
5. *Storm Water Management for Construction Activities, Developing Pollution Prevention Plans and Best Management Practices, Summary Guidance,* prepared by the U.S. Environmental Protection Agency, Office of Water (EN-336), October 1992.

6. *Storm Water Management Manual,* prepared by the City of Grand Junction, 1994.

7. *Urban Storm Drainage Criteria Manual, Volume 3 - Best Management Practices,* prepared by the Urban Drainage and flood Control District, Denver, Colorado, September, 1992.

APPENDIX A

STORM WATER MANAGEMENT PLAN SITE MAP



LOCATION MAP

STORM WATER DISCHARGE PERMIT INSPECTION CHECKLIST

for Construction Activities Associated with Cobblestone Ridges Development,

Grand Junction, CO

The storm water discharge permit requires that a thorough inspection of the storm water management system be performed at least every 14 days, **and** after any precipitation or snow melt event that causes surface erosion. This checklist documents the inspections and maintenance activities that are required under the terms and conditions of the storm water discharge permit.

Date of Inspection: _____

Inspected By: _____

List the storm water management system components (i.e., BMPs) that were inspected and describe their condition (good, fair, poor): _____

_____

_____

_____

If erosional controls and/or equipment are in need of repair, describe the preventive maintenance activities and actions performed: _____

_____

_____

_____

Were any spills, leaks, or overflows of petroleum products or other hazardous substances observed since the last inspection? If so, include time, date, weather conditions at time of release, and the actions taken to clean up the spilled material: _____

_____

_____

_____

Comments: _____

_____

_____

_____

GENERAL PERMIT APPLICATION

FOR AGENCY USE ONLY									
Certification Number									
C	O	R	-	0	3				
Date Received									
Year			Month			Day			

STORMWATER DISCHARGES
ASSOCIATED WITH:

CONSTRUCTION ACTIVITY

(Permit No. COR-030000)

Please print or type. All items must be completed accurately and in their entirety or the application will be deemed incomplete and processing of the permit will not begin until all information is received. Please refer to the instructions for information about the required items. An original signature of the applicant is **required.**

1. **Name and address of the permit applicant**:

Company Name Just Companies, Inc. ICO Mr. Edison Lenhart

Mailing Address 826 21 1/2 Road

City, State and Zip Code Grand Junction, CO 81505

Phone Number (970)245-9316 Who is applying? Owner [XX] Developer [XX] Contractor [ ]

Federal Taxpayer (or Employer) ID#: 8 4- 1 2 5 7 8 0 4

Entity Type: Private [XX] Federal [ ] State [ ] County [ ] City [ ] Other: _____

Local Contact (familiar with facility) Mr. James E. Langford

Title Professional Engineer Phone Number (970) 243-6067

2. **Location of the construction site:**

Street Address Northwest of the intersection of Patterson & 28 Road

City, State and Zip Code Grand Junction, CO 81503

County Mesa Name of plan or development Pheasant Ridge Estates Subdivision

Legal Location (Township, Range, section, 1/4 section): Sec.1,T1S,R1W, of the Ute Meridian

Latitude and Longitude 108°32'08", 39°06'52"

3. **Briefly describe the nature of the construction activity**:

Construction of 36 single family residences. The site will be subject to clearing and grubbing, grading, and excavation associated with the construction of roadways, utilities and landscaping within the subdivision boundaries.

4. **Anticipated construction schedule:**

Commencement date: August 1, 1996 Completion date: January 1, 1997

5. **Area of the construction site:** Total area (acres) 6.4 Acres

Area to undergo disturbance (acres) 6.4 Acres

6. **The name of the receiving stream(s). (If discharge is to a ditch or storm sewer, also include the name of the ultimate receiving water):** Grand Valley Canal, Colorado River

7. **Other environmental permits held for this construction activity (include permit number):**

N/A

8. **Stormwater Management Plan Certification:**

"I certify under penalty of law that a complete Stormwater Management Plan, as described in Appendix A of this application, has been prepared for my facility. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the Stormwater Management Plan is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for falsely certifying the completion of said SWMP, including the possibility of fine and imprisonment for knowing violations."

Just Companies, Inc. by Edison Lenhart July 1, 1996

Signature of Applicant Date Signed

Just Companies, Inc. by Edison Lenhart President

Name (printed) Title

9. **Signature of Applicant (legally responsible person)**

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment."

July 1, 1996

Signature of Applicant Date Signed

Edison Lenhart President

Name (printed) Title

GEOTECHNICAL INVESTIGATION FOR PHEASANT RUN SUBDIVISION A PORTION OF THE SE 1/4, SECTION 1, T1S, R1W, UTE MERIDIAN MESA COUNTY, COLORADO

Prepared For:

Just Company, Inc.
826 21 1/2 Road
Grand Junction, Colorado 81505

Prepared by:

Western Colorado Testing, Inc.
529 25½ Road, Suite B101
Grand Junction, Colorado 81505
(970) 241-7700

June 28, 1996
Job No. 204396

WESTERN
COLORADO
TESTING,
INC.

GEOTECHNICAL INVESTIGATION FOR PHEASANT RUN SUBDIVISION A PORTION OF THE SE 1/4, SECTION 1, T1S, R1W, UTE MERIDIAN MESA COUNTY, COLORADO

Prepared For:

Just Company, Inc.
826 21 1/2 Road
Grand Junction, Colorado 81505

Prepared by:

Western Colorado Testing, Inc.
529 25 1/2 Road, Suite B101
Grand Junction, Colorado 81505
(970) 241-7700

June 28, 1996
Job No. 204396

TABLE OF CONTENTS

INTRODUCTION

This report presents the results of the geotechnical investigation performed at the site of a proposed 36 lot, single family housing project to be located in a portion of the southeast quarter of Section 1, Township 1 South, Range 1 west of the Ute Meridian, Mesa County Colorado. This investigation was authorized by Mr. Edison Lenhart with Just Company, Inc. on June 10, 1996.

Included in this investigation were test borings and a report of our conclusions and recommendations. The scope of our report was limited to the following:

- Evaluating the engineering properties of the subsoils encountered.
- Recommending types and depths of foundation elements.
- Evaluating soil bearing capacity and estimated settlement.
- Presenting recommendations for earthwork and soils related construction with respect to the subsoils encountered.
- Presenting recommended alternative pavement sections.

This report was prepared by the firm of Western Colorado Testing, Inc. (**WCT**) under the supervision of a professional engineer registered in the state of Colorado. Recommendations are based on the applicable standards of the profession at the time of this report within this geographic area. This report has been prepared for the exclusive use of **Just Company, Inc.** for the specific application to the proposed project in accordance with generally accepted geotechnical engineering practices.

The scope of this investigation did not include any environmental assessment for the presence of hazardous or toxic materials in the soil or groundwater on or near this site. If contamination is a concern, it is recommended an environmental assessment be performed.

SITE CONDITIONS

The site is currently vacant with a ground coverage of native grasses, weeds, aspen and cottonwood trees. A considerable amount of fill has been placed through the center of the site. The site slopes to the center with a small drainage way that traverses the site draining to the northwest. At the time of the field investigation water was flowing across the west portion of the site, creating a very soft area. To the east was apartment buildings. To the west and north was residential housing with a small park north of the northwest corner. To the south was Patterson Road and beyond the road was residential housing. The site will need to be graded to provide good surface drainage around and away from the proposed structures. The drainage across the west end will need to be channeled and controlled.

PROPOSED CONSTRUCTION

The proposed construction will consist of single family dwellings. The proposed residences are anticipated to be constructed of conventional wood framing with siding or brick veneer. The structures are planned to be built over reinforced concrete foundations. Light foundation loads are anticipated.

FIELD EXPLORATION

The field investigation was conducted on June 14, 1996. The exploratory program consisted of five (5) soil borings as shown on

the Boring Location Plan (Appendix, Figure 1). Borings were located in the field by pacing distances from features shown on the boring location plan. The location of the borings should be considered accurate only to the degree implied by the method used.

Test borings were advanced to depths of 15 to 30 feet with a truck-mounted Diedrich D-50 soil sampling rig using four inch continuous flight augers. Borings remained open during drilling, and stabilization drilling methods were not required within the depths investigated.

Soil samples were obtained at the sampling intervals shown on the Boring Logs (Appendix, Figures 2 through 6). Recovered samples were placed in bulk sample bags or extracted in the field, sealed in plastic or brass containers, labeled and protected for transportation to the laboratory for testing. Dames and Moore ring barrel and split barrel samples were obtained while performing Standard Penetration Tests (SPT) driven in general accordance with ASTM D-1586, "Penetration Test and Split Barrel Sampling of Soils". The N-Value, reported in blows per foot, equals the number of blows required to drive the sampler over the last 12 inches of the sample interval.

Stratification lines represent the approximate boundary between soil types, and the transition may be gradual.

LABORATORY TESTING

The field boring logs were reviewed to outline the depths, thickness, and extent of the soil strata, and a testing program was established to evaluate the engineering properties of the recovered samples. Specific tests that were performed include moisture contents, density determinations, particle size analysis, Atterberg limits and a swell-consolidation test. These tests were performed in general accordance with current ASTM or state-of-the-art test

procedures. An R-Value test was also performed. The R-Value was determined according to the Colorado Department of Transportation (CDOT) procedures which is a modification to ASTM D-2844. The test results are presented on Figures 7 through 12.

Based on the results of this testing program the field logs were reviewed and supplemented as presented in the Appendix, Figures 2 through 6. These final logs represent our interpretation of the field logs, and reflect the additional information gained in the laboratory testing program.

SUBSURFACE CONDITIONS

As shown on the boring logs, Appendix, Figures 2 through 6, the subsurface conditions encountered at the site are fairly uniform. Generally, the soils encountered in the borings consisted of slightly sandy, silty clay material followed by a sandy clay with an occasional clayey sand layer and overlying weathered shale to shale bedrock. Water was encountered in most of the borings, at the time of drilling, and was measured approximately 48 hours following drilling at depths ranging from 3'-2" to 10'-3".

The surface material in all cases except boring TH-5 was a slightly sandy, silty clay which ranged from slightly moist to wet and was light brown in color. Penetration tests indicate the slightly sandy, silty clay is generally medium stiff to very stiff in the upper approximate 5 feet followed by soft to medium stiff. In boring TH-5 the upper approximate 4 1/2 feet appeared to be fill material consisting of sandy and gravelly clay which was slightly moist, erratically compacted and light brown in color. Below the fill material was the native slightly sandy, silty, clay.

In boring TH-1 and TH-2 a fine to medium grained clayey sand was encountered below the upper slightly sandy, silty clay at depths of 2 and 8 1/2 feet, respectively. In boring TH-1 the sand was

slightly moist and medium dense, while in TH-2 the sand was wet and loose. In borings TH-1 through TH-3 below the clayey sand and upper soils at depths of 8, 9 1/2 and 5 feet respectively was a sandy clay. The sandy clay was slightly moist and stiff in boring TH-1 and was very moist to wet and soft to medium stiff in borings TH-2 and 3. The slightly sandy, silty clay in borings TH-4 and 5 became a little more sandy at depths of 5 and 8 feet, respectively.

Weathered shale or shale bedrock was encountered in all of the borings at depths ranging from 7 to 25 feet deep. The weathered shale was slightly moist and light brown to gray in color. The weathered shale ranged from firm to hard. The shale bedrock material encountered in all borings at depths ranging from 8 to 25 feet was slightly moist and gray in color. Penetration tests indicate the shale bedrock is hard to very hard. The shale bedrock extended to the maximum depth explored, 30 feet.

CONCLUSIONS AND RECOMMENDATIONS

FOUNDATIONS

Based on the subsurface conditions encountered and the nature of the proposed construction, we recommend the residential structures be founded on shallow spread footings bearing on native or new structural fill or drilled piers with grade beams. Habitable space construction below grade is not recommended. The upper clays encountered in the borings are either non-swelling or have a low swell potential at there present moisture contents. Two foundation systems are appropriate for this site. One is a shallow spread footing where there is adequate bearing to a sufficient depth below the footings. The other foundation system is a pier and grade beam type foundation system where the water is high and soft soils exist at bearing depths.

The following design and construction details should be observed for the differing foundation systems.

Spread Footings

- Footings placed on native or new structural fill should be designed for allowable soil bearing pressures on the order of 1,000 to 2,500 pounds per square foot. Footings should extend through all old fill material. Each excavation site should be observed and analyzed individually.

- All footings should be proportioned as much as practicable to minimize differential settlement.

- Structural fill placed for support of footings should consist of a granular, non-expansive, non-free draining, material compacted to a minimum 95% of the maximum Standard Proctor density (ASTM D-698) at a moisture content (±) 2% of optimum. Structural fill should extend down from the bottom of the footings at a one horizontal to one vertical projection. The onsite clays are not suitable for use as non-expansive fill.

- We estimate total settlement for footings designed and constructed as discussed in this section will be on the order of one inch or less, which is generally considered acceptable and was used in our analysis.

- Exterior footings and footings in unheated areas should extend to below the frost depth. The local building codes should be consulted, however we would recommend a minimum depth of 24 inches.

- Continuous foundation walls should be reinforced top and bottom to span an unsupported length of at least twelve (12) feet. A sulfate resistant concrete should be used for all concrete exposed to the on site soils.

- All loose or disturbed material encountered at the foundation bearing level should be removed or replaced with new structural fill.

- A representative of the geotechnical engineer should observe all foundation excavations prior to the placement of fill and/or concrete.

Drilled Pier And Grade Beams

- Drilled piers should be designed for an allowable end bearing pressure of 20,000 pounds per square foot and a skin friction of 2,000 pounds per square foot for the portion of the pier in non-weathered bedrock. Where bedrock is shallow, skin friction should be disregarded along the upper 5 feet of the piers.

- Drilled piers should also be designed for a minimum dead-load pressure of 10,000 pounds per square foot, based on the pier bottom end area. If the minimum dead-load requirement cannot be achieved and the piers are spaced as far apart as practical, the drilled pier length should be extended beyond the minimum bedrock penetration and minimum length to make up the dead-load deficit. This can be accomplished by assuming one half of the skin friction given above acts in the direction to resist uplift caused by swelling material near the top of the drilled piers.

- Piers should penetrate at least 4 feet, into unweathered bedrock and have a minimum length of 12 feet.

- Drilled piers should be reinforced their full length with at least one No. 5 reinforcing rod for each 5 inches of pier diameter.

- A minimum 2-inch void shall be provided beneath the grade beams to concentrate drilled pier loadings and to prevent the

expansive material from exerting uplift forces on the grade beams.

- The minimum spacing requirement between drilled piers should be three diameters from center to center. Drilled piers grouped less than three diameters from center to center should be analyzed on an individual basis to determine the appropriate reduction in end bearing capacity.

- Concrete used in the drilled piers should be a fluid mix with a minimum slump of 4 inches so it will fill the void between reinforcing steel and the pier hole. The concrete should have a minimum 28 day compressive strength of 3,000 psi within the slump range used.

- Drilled pier holes shall be properly cleaned prior to placement of concrete.

- The presence of water in some of the borings indicates casing or dewatering of the piers may be required. The requirements for casing and dewatering can sometimes be reduced by placing concrete immediately upon cleaning and observing the pier holes. In no case should concrete be placed in more than 3 inches of water unless the tremie method is used.

- Care should be taken that the drilled piers are not oversized at the top. Mushroomed drilled pier tops can reduce the effective dead-load pressure on drilled piers.

- Concrete should be placed in drilled piers the same day they are drilled. The presence of water or caving soils may require that concrete be placed immediately after the drilled pier hole is completed. Failure to place concrete the day of drilling will

normally result in a requirement for additional bedrock penetration.

- The pier drilling contractor should mobilize equipment of sufficient size and operating conditions to achieve the required penetration in the hard bedrock.

- A representative of the geotechnical engineer should observe installation of the drilled piers on a full-time basis.

FLOOR SLABS

The natural soils, exclusive of topsoil, are suitable for support of slab-on-grade construction. However the soils have a moderate plasticity and if moisture contents are allowed to fluctuate, the clays may undergo some shrink-swell potential. The only way to prevent damage as a result of slab movement is to construct a structural floor above a well ventilated crawl space.

Slab-on-grade construction may be used provided the risk of distress resulting from floor slab movement is accepted by the owner and the following measures are taken to reduce the effects of movement.

- Floor slabs should be separated from all bearing walls, columns and utility lines with an expansion joint which allows unrestrained vertical movement.

- Interior nonbearing partitions resting on the floor slabs should be provided with slip joints at the bottom so that, if the slab moves, the movement cannot be transmitted to the upper structure. This detail is also important for wallboards, stairways and door frames. Slip joints which will allow at least 1 1/2 inches of vertical movement are recommended.

- Floor slabs should be provided with control joints to reduce damage due to shrinkage cracking. It is recommended control joints be spaced at 12 feet on centers or less.

- The old fill material has erratic compaction, thus we recommend it be removed and replaced with new structural fill.

- The top 6 to 8 inches of subgrade soils should be moisture conditioned to (±)2% of optimum and recompacted to minimum 95% of ASTM D-698. The moisture content should be maintained until the slabs are placed.

- If slabs will have a moisture sensitive covering such as tile, a moisture barrier or capillary relief may be required. A heavy gauge polyethylene sheeting can be used with a 4 inch layer of sand between the slab and sheeting. The sand will mitigate the risk of floor slab curling due to differential curing. An alternate method would be to use a minimum 6 inch layer of gravel below the slab. If used, the gravel should consist of minus 2 inch aggregate with less than 20% passing No. 4 sieve and less than 5% passing the No. 200 sieve.

- The risk of slab movement can be reduced by removing all clay encountered within 2 feet below the slabs and replacing it with structural fill.

- All fill placed below the slabs should consist of non-expansive, non free draining, granular material compacted to at least 95 percent of the maximum standard Proctor density at a moisture content (±)2% of optimum.

PERIMETER DRAIN SYSTEM

Water was encountered at depths that may affect the proposed construction and it has been our experience that local perched water table conditions can develop after construction. The source of water could be from excessive irrigation and poor surface drainage accumulating in backfill areas, with subsequent seepage to foundation depth. For this reason and the low expansion potential of some of the soils a drain system should be provided around exterior foundation walls. The perimeter drain system should be placed at least 4 inches below the footing or grade beam and consist of a perforated 4 inch diameter drain pipe surrounded by at least on pipe diameter of free draining gravel. The gravel should extend up to the top of the footings or a minimum of 8" from the bottom of the grade beams and should be completely wrapped in a geofabric or filter cloth. The drain lines should be graded to "day light" or to a sump where the water can be removed by pumping. A minimum slope of 1 percent should be used for all drain pipe. The gravel used in the drain system should be minus 2 inch material having less than 20 percent passing the No. 4 sieve and less than 5 percent passing the No. 200 sieve.

SURFACE DRAINAGE AND LANDSCAPING

The success of shallow foundation and slab-on-grade floor systems is contingent upon keeping the subgrade soils at a more or less constant moisture content, and by not allowing surface drainage a path to the subsurface. Positive surface drainage away from structures must be maintained at all times. Landscaped areas should be designed and built such that irrigation and other surface water will be collected and carried away from foundation elements.

The final grade of the foundations backfill and any overlying concrete slabs or sidewalks should have a positive slope away from foundation walls on all sides. We recommend a minimum slope of 8 inches in the first 10 feet; however, the slope can be decreased to 3 inches in 10 feet if the ground surface adjacent to foundations is covered with concrete slabs or sidewalks.

Backfill material should be placed near optimum moisture content and compacted to at least 90% of maximum standard Proctor density in landscaped areas and to at least 95% maximum standard Proctor density beneath structural areas (sidewalks, patios, driveways, etc.). All roof downspouts and faucets should discharge well beyond the limits of all backfill. Irrigation within ten (10) feet of foundations should be carefully controlled and minimized.

STREET PAVEMENTS

The pavement section thickness needed at the site is dependent mainly on the subgrade conditions and the traffic loadings. The pavement subgrade soils are indicated to be slightly sandy, silty clays. The clayey soils were tested for Atterberg limits and size distribution with the results used to classify the soil using both the Unified and AASHTO classification systems. The soil was then tested to determine the R-Value according to the Colorado Department of Transportation procedure which is a modification to ASTM D-2844.

An R-Value test was performed on the subsurface soils from boring TH-3. The R-Value test had a result of 12. Based on the test results, design manual procedures, freeze/thaw conditions and experience with similar projects, the following pavement section alternatives are indicated:

PAVEMENT ALTERNATIVE SECTIONS

Pavement Section	Design Criteria					Alternative	Pavement Section-Inches			
	E	S_o	M_R	ΔPSI	SN		HBP	ABC	ASC	Total
Residential	80	0.44	3803	2.5	2.45	A*	6			6
						B*	3	10		13
						C	3	6	5 1/2	14 1/2
						D	3	4	8 1/2	15 1/2

R - Reliability, %
S_o - Deviation
M_R - Resilient Modules (psi)
ΔPSI - Serviceability Loss
* City of Grand Junction minimum sections

SN - Structural Numbers
HBP - Hot Bituminous Pavement
ABC - Aggregate Base Course (Class 6)
ASC - Aggregate Subbase Course (Class 2)

Once the cut and fill operation for the roadways has been determined and/or a better traffic count determined the above section should be re-evaluated prior to construction.

Aggregate base course material should conform with Class 6 (minus 3/4 inch) specifications of the Colorado Department of Transportation (CDOT) and be compacted to a minimum 95% of AASHTO T-180 at (±)2% of optimum moisture content. The aggregate subbase course material should conform with Class 2 CDOT specifications and be compacted to a minimum 90% of AASHTO T-180 at (±)2% of optimum moisture content.

Pavement performance is directly affected by the degree of compaction, uniformity, and the stability of the subgrade. It is recommended that the top 6 to 8 inches of the subgrade be compacted to a minimum of 95% of the maximum dry density as determined by AASHTO T-99 "Standard Proctor Moisture-Density Relationship". The moisture content should also be controlled to between (-)2% and (+)3% of optimum. The final subgrade should be proofrolled immediately prior to placement of the subbase or base course materials to detect any localized areas of instability. Unstable areas should be reworked to provide a uniform subgrade.

It is anticipated that the west cul-de-sac area and possibly other low roadway areas will require over excavation to a minimum depth of 1 1/2 to 2 feet and replaced with pit run. Below the pit run material a filter cloth such as Marifi 500x or equivalent should be placed. Additional geogrid or depth of pit run may be required. It is our understanding the drainage in this area is planned to be channeled or piped which will help to dry up this area. These areas will need to be observed at the time of construction.

Positive drainage should be provided during construction and maintained throughout the life of the pavement. Adequate drainage is essential for continuing performance.

GENERAL

In the event that any changes in the nature, design, or location of the structures are planned, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and conclusions of this report modified or verified in writing.

The analysis and recommendations submitted in this report are based in part upon the data obtained from the five (5) soil borings. The nature and extent of variation between the borings may not become evident until construction. If variations then appear, it will be necessary to reevaluate the recommendations in this report.

It is recommended that the geotechnical engineer be provided the opportunity for general review of the final designs and specifications in order that earthwork and foundation recommendations may be properly interpreted and implemented in the designs and specifications. It is also recommended that the geotechnical engineer be retained to provide continuous engineering services during construction of the foundations, excavations, and earthwork phases of the work. This is to observe compliance with the design concepts, specifications, or recommendations and to modify these recommendations in the event that subsurface conditions differ from those anticipated.

Respectfully Submitted,
WESTERN COLORADO TESTING, INC.

Gary L. Hamacher, P.E.
Senior Geotechnical Engineer

GLH/cc
msa:2043rep.doc

APPENDIX

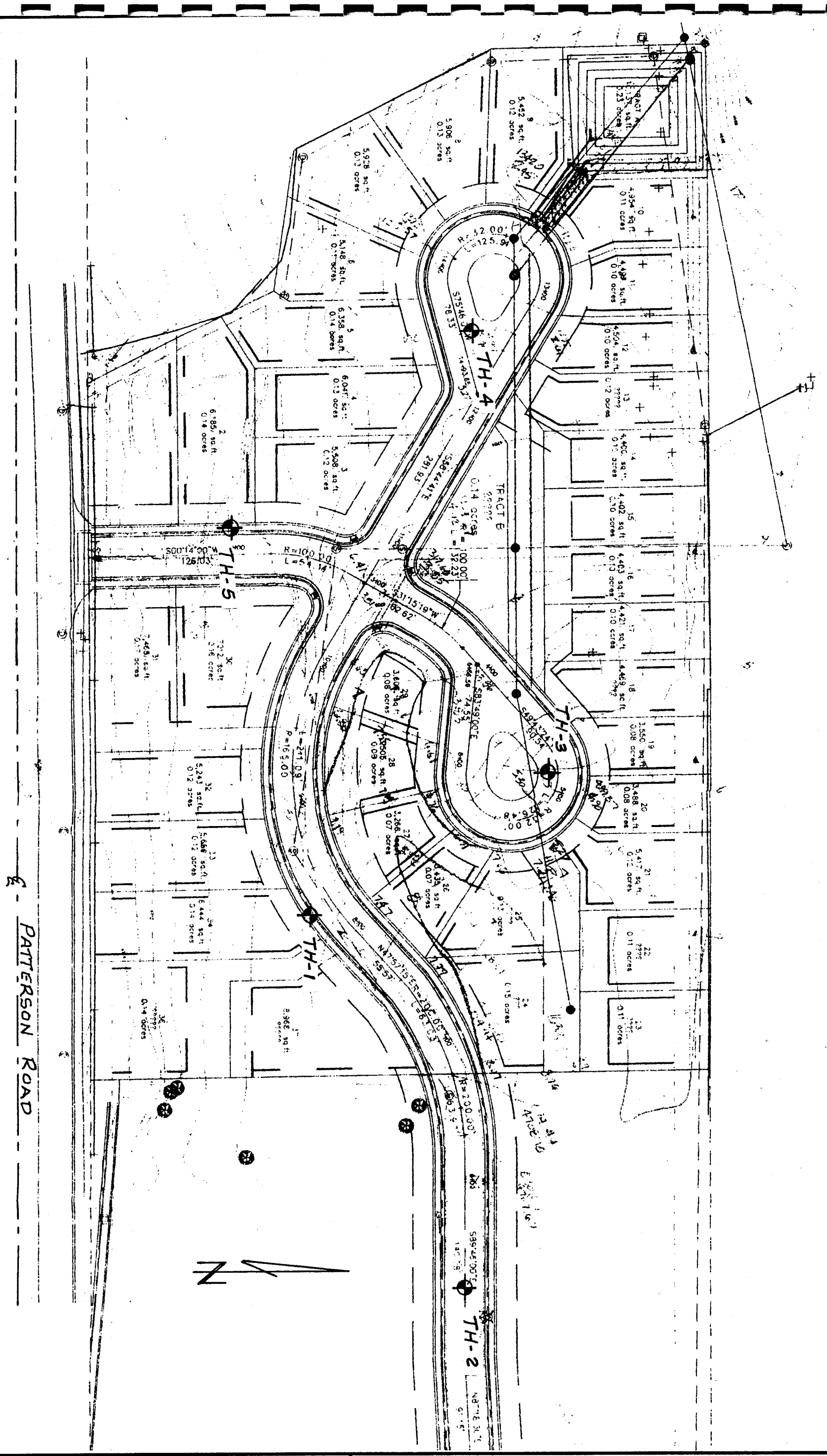


Figure 1

WESTERN COLORADO TESTING, INC.

529 25 12/ Road, Suite B-101
Grand Junction, Colorado 81505

Project: Pheasant Run Subdivision	
Location: Grand Junction, Colorado	
Job No.: 204396	Date: 6-28-96

WESTERN COLORADO TESTING, INC.

Project: Pheasant Run Subdivision
Location: Grand Junction, Colorado
Job No.: 204396 Date 6-28-96

BORING LOG

DRILL HOLE	LOCATION OF DRILL HOLE	DATE DRILLED	ELEVATION	DATUM	DRILLER	LOGGER
TH-1	See Boring Location Plan	6-14-96	-	-	R. Lancaster	K. Alpha

WATER LEVEL OBSERVATIONS				TYPE OF SURFACE	DRILL RIG
				Native grasses & weeds	Diedrich D-50

WHILE DRILLING	END OF DRILLING	48 HOURS AFTER DRILLING	HOURS	DRILLING METHOD	TOTAL DEPTH
None	-	10'-3"	-	4" Cont. Flight Auger	15'

DEPTH FT	SAMPLE DATA			SOIL DESCRIPTION				LABORATORY DATA				DEPTH FT
	SAMPLE NO. & TYPE	"N" BLOWS FT	% REC	COLOR	MOIST	CONS.	GEOLOGIC DESCRIPTION & OTHER REMARKS	% MC	DRY DENS pcf	qu tst	CLASS	
	B-1			light brown	dry to slightly moist	stiff	CLAY, silty, slightly sandy					
	D-1	11	50	light brown	slightly moist	medium dense	SAND, fine grained, clayey & silty	11.3	91.9			
	B-1											
5				light brown	slightly moist	stiff	CLAY, silty, sandy fine grained calcareous					5
	C-1	21	60	lt. brown to gray	sl. moist	firm	WEATHERED SHALE, calcareous					
				gray	sl. moist	medium hard to hard	SHALE BEDROCK, calcareous, fractured					
10						hard						10
	C-2	90	50									
15												15
							B.O.H. @ 15'					
20												20
25												25

msa:jobs\2043fg2.doc

Figure 2

WESTERN COLORADO TESTING, INC.

Project: Pheasant Run Subdivision
Location: Grand Junction, Colorado
Job No.: 204396 Date 6-28-96

BORING LOG

DRILL HOLE	LOCATION OF DRILL HOLE	DATE DRILLED	ELEVATION	DATUM	DRILLER	LOGGER
TH-2	See Boring Location Plan	6-14-96	-	-	R. Lancaster	K. Alpha

WATER LEVEL OBSERVATIONS				TYPE OF SURFACE	DRILL RIG
				Native grasses & weeds	Diedrich D-50
WHILE DRILLING	END OF DRILLING	48 HOURS AFTER DRILLING	HOURS	DRILLING METHOD	TOTAL DEPTH
5'	-	Caved @ 6'-6"	-	4" Cont. Flight Auger	30'

DEPTH FT	SAMPLE DATA			SOIL DESCRIPTION				LABORATORY DATA				DEPTH FT
	SAMPLE NO. & TYPE	"N" BLOWS FT	% REC	COLOR	MOIST	CONS.	GEOLOGIC DESCRIPTION & OTHER REMARKS	% MC	DRY DENS pcf	qu tst	CLASS	
	B-1			light brown	slightly moist	medium stiff	CLAY, silty, slightly sandy, occasional gravel piece				LL=33 PI=17 CL	
					moist							
	C-1	6	25					9.4	91.2			
	B-1											
5					very moist to wet	soft to medium stiff						5
					wet							
	D-1	5	100									
				brown	wet	loose	SAND, fine to medium grained, clayey					
10				light brown	wet	soft to medium stiff	CLAY, silty & sand (fine to medium grained)					10
15												15
20												20
25							continued					25

Figure 3

msa:jobs\2043fg3.doc

WESTERN COLORADO TESTING, INC.

Project: Pheasant Run Subdivision
Location: Grand Junction, Colorado
Job No.: 204396 Date 6-28-96

BORING LOG

DRILL HOLE	LOCATION OF DRILL HOLE	DATE DRILLED	ELEVATION	DATUM	DRILLER	LOGGER
TH-2	See Boring Location Plan	-	-	-	R. Lancaster	K. Alpha

DEPTH FT	SAMPLE DATA			SOIL DESCRIPTION				LABORATORY DATA				DEPTH FT
	SAMPLE NO. & TYPE	"N" BLOWS FT	% REC	COLOR	MOIST	CONS.	GEOLOGIC DESCRIPTION & OTHER REMARKS	% MC	DRY DENS pcf	qu tst	CLASS	
				gray	slightly moist	very hard	SHALE BEDROCK, calcareous, fractured					
30	D-2	50/3"	NR									30
							B.O.H. @ 30'-3"					
35							NR = No Recovery					35
40												40
45												45
50												50
55												

Figure 3A

msa:jbs\2043fg3a.doc

WESTERN COLORADO TESTING, INC.

Project: Pheasant Run Subdivision
Location: Grand Junction, Colorado
Job No.: 204396 Date 6-28-96

BORING LOG

DRILL HOLE	LOCATION OF DRILL HOLE	DATE DRILLED	ELEVATION	DATUM	DRILLER	LOGGER
TH-3	See Boring Location Plan	6-14-96	-	-	R. Lancaster	K. Alpha

WATER LEVEL OBSERVATIONS				TYPE OF SURFACE	DRILL RIG
				Native grasses & weeds	Diedrich D-50
WHILE DRILLING	**END OF DRILLING**	**48 HOURS AFTER DRILLING**	**HOURS**	**DRILLING METHOD**	**TOTAL DEPTH**
5'	-	9'-2"	-	4" Cont. Flight Auger	16'

DEPTH FT	SAMPLE DATA			SOIL DESCRIPTION				LABORATORY DATA				DEPTH FT
	SAMPLE NO. & TYPE	"N" BLOWS FT	% REC	COLOR	MOIST	CONS.	GEOLOGIC DESCRIPTION & OTHER REMARKS	% MC	DRY DENS pcf	qu tst	CLASS	
	B-1			light brown	slightly moist	stiff	CLAY, silty, slight sandy					
	D-1	19	50			very stiff	more sand @ 3'				LL=35 PI=17 CL	
	B-1											
5												5
				light brown	very moist to wet	soft to medium stiff	CLAY, sandy (fine to medium grained) occasional gravel piece					
	C-1	4	50									
					wet							
10												10
				gray	slightly moist	medium hard	WEAHTERED SHALE, calcareous, fractured					
15												15
	C-2	42/6" 50/4"										
				gray	sl. moist	v. hard	SHALE BEDROCK, calc,frac					
							B.O.H. @ 16'					
20												20
25												25

Figure 4

msa:jobs\2043fg4.doc

WESTERN COLORADO TESTING, INC.

Project: Pheasant Run Subdivision
Location: Grand Junction, Colorado
Job No.: 204396 Date 6-28-96

BORING LOG

DRILL HOLE	LOCATION OF DRILL HOLE	DATE DRILLED	ELEVATION	DATUM	DRILLER	LOGGER
TH-4	See Boring Location Plan	6-14-96	-	-	R. Lancaster	K. Alpha

WATER LEVEL OBSERVATIONS				TYPE OF SURFACE	DRILL RIG
				Native grasses & Aspen trees	Diedrich D-50
WHILE DRILLING	**END OF DRILLING**	**48 HOURS AFTER DRILLING**	**HOURS**	**DRILLING METHOD**	**TOTAL DEPTH**
2'	-	Caved @ 3'-2"	-	4" Cont. Flight Auger	23'-9"

DEPTH FT	SAMPLE DATA			SOIL DESCRIPTION				LABORATORY DATA				DEPTH FT
	SAMPLE NO. & TYPE	"N" BLOWS FT	% REC	COLOR	MOIST	CONS.	GEOLOGIC DESCRIPTION & OTHER REMARKS	% MC	DRY DENS pcf	qu tst	CLASS	
				light brown	sl. moist	soft to m. stiff	CLAY, silty, slightly sandy (fine grained)					
					moist	soft						
					v. moist to wet							
	C-1	3	75		wet			21.4	101.1			
5							(fine to medium grained @ 5')					5
	D-1	2	NR									
10												10
15												15
20				gray	slightly moist	very hard	SHALE BEDROCK, calcareous, fractured					20
	D-2	41/6" 50/3"	20									
25							B.O.H. @ 23'-9" NR = No Recovery					25

Figure 5

msa:jobs\2043fg5.doc

WESTERN COLORADO TESTING, INC.

Project: Pheasant Run Subdivision
Location: Grand Junction, Colorado
Job No.: 204396 Date 6-28-96

BORING LOG

DRILL HOLE	LOCATION OF DRILL HOLE	DATE DRILLED	ELEVATION	DATUM	DRILLER	LOGGER
TH-5	See Boring Location Plan	6-14-96	-	-	R. Lancaster	K. Alpha

WATER LEVEL OBSERVATIONS				TYPE OF SURFACE	DRILL RIG
				Native grasses, weeds & trees	Diedrich D-50

WHILE DRILLING	END OF DRILLING	48 HOURS AFTER DRILLING	HOURS	DRILLING METHOD	TOTAL DEPTH
None	-	Backfilled	-	4" Cont. Flight Auger	21'

DEPTH FT	SAMPLE DATA			SOIL DESCRIPTION				LABORATORY DATA				DEPTH FT
	SAMPLE NO. & TYPE	"N" BLOWS FT	% REC	COLOR	MOIST	CONS.	GEOLOGIC DESCRIPTION & OTHER REMARKS	% MC	DRY DENS pcf	qu tst	CLASS	
	B-1			light brown	slightly moist	very stiff	FILL - clay, sandy & gravelly					
	D-1	32	50									
5				light brown	moist	stiff	CLAY, silty, slightly sandy					5
	D-2	10	10		slightly moist		some gravel below 8'					
10												10
15				gray	slightly moist	hard	WEATHERED SHALE, calcareous, fractured					15
				gray	slightly moist	very hard	SHALE BEDROCK, calcareous, fractured					
20	C-1	42/6" 50/4"	40									20
							B.O.H. @ 21'					
25												25

Figure 6

msa:jobs\2043fg6.doc

WESTERN COLORADO TESTING, INC.

PHYSICAL PROPERTIES OF SOILS

Job No.: 204396

Lab/Invoice No.:

Date of Report: 6-28-96

Reviewed By:

Client: Just Company, Inc. Project: Pheasant Run Subdivision

Location: Grand Junction, Colorado Sampled By: K. Alpha Date: 6-14-96

Type of Material: Clay, silty, slightly sandy Submitted By: K. Alpha Date: 6-14-96

Source of Material: TH-2 @ 0'-5' Authorized By: client Date: 6-10-96

Sieve Analysis, ASTM D422-

Sieve Size	% Passing Accumulative	Specification
3"		
2 1/2"		
2"		
1 1/2"		
1"		
3/4"		
1/2"		
3/8"	100	
1/4"	-	
No. 4	98.9	
8	98.7	
10	98.6	
16	98.4	
30	97.8	
40	97.4	
50	96.8	
100	95.0	
Finer than 200 ASTM D1140-	92.1	

Soil Classification:	Unified CL	AASHTO A-6 (10)
Liquid Limit and Plasticity of Soils: ASTM D424-		LL= 33 PI= 17
Moisture - Density Relations ☐ ASTM D698- ☐ ASTM D1557- Method:		Maximum Dry Density, pcf : Optimum Moisture, % :
Specific Gravity of Soils (minus No. 4 material) ASTM D854-		Specific Gravity:
Resistance 'R' Value of Compacted Soils ASTM D2844-		'R' Value:
Other:		

Copies:

Figure 7

msa:2043fg7.doc

WESTERN COLORADO TESTING, INC.

PHYSICAL PROPERTIES OF SOILS

Job No.: 204396

Lab/Invoice No.:

Date of Report: 6-28-96

Reviewed By:

Client: Just Company, Inc. Project: Pheasant Run Subdivision

Location: Grand Junction, Colorado Sampled By: K. Alpha Date: 6-14-96

Type of Material: Clay, silty, slightly sandy Submitted By: K. Alpha Date: 6-14-96

Source of Material: TH-3 @ 0'-5' Authorized By: Client Date: 6-10-96

Sieve Analysis, ASTM D422-

Sieve Size	% Passing Accumulative	Specification
3"		
2 1/2"		
2"		
1 1/2"		
1"		
3/4"		
1/2"		
3/8"	100	
1/4"	-	
No. 4	99.8	
8	99.5	
10	99.3	
16	98.9	
30	98.1	
40	97.6	
50	97.0	
100	95.2	
Finer than 200 ASTM D1140-	91.7	

Soil Classification:	Unified CL	AASHTO A-6 (10)
Liquid Limit and Plasticity of Soils: ASTM D424-		LL= 35 PI= 17
Moisture - Density Relations ☐ ASTM D698- ☐ ASTM D1557- Method:		Maximum Dry Density, pcf : Optimum Moisture, % :
Specific Gravity of Soils (minus No. 4 material) ASTM D854-		Specific Gravity:
Resistance 'R' Value of Compacted Soils ASTM D2844-		'R' Value: 13
Other:		

Copies:

Figure 8

msa:2043fg8.doc

WESTERN COLORADO TESTING, INC.

PHYSICAL PROPERTIES OF SOILS

Job No.: 204396

Lab/Invoice No.:

Date of Report: 6-28-96

Reviewed By:

Client: Just Company, Inc. Project: Pheasant Run Subdivision

Location: Grand Junction, Colorado Sampled By: K. Alpha Date: 6-14-96

Type of Material: Sand, clayey, some gravel Submitted By: K. Alpha Date: 6-14-96

Source of Material: TH-5 @ 3.0' - 4.0' Authorized By: Client Date: 6-10-96

Sieve Analysis, ASTM D422-

Sieve Size	% Passing Accumulative	Specification
3"		
2 1/2"		
2"		
1 1/2"		
1"		
3/4"	100	
1/2"	95	
3/8"	94	
1/4"	-	
No. 4	85	
8	77	
10	76	
16	72	
30	67	
40	63	
50	59	
100	51	
Finer than 200 ASTM D1140-	44.5	

Soil Classification:

Liquid Limit and Plasticity of Soils: LL=

ASTM D424- PI=

Moisture - Density Relations Maximum Dry Density, pcf :

☐ ASTM D698- ☐ ASTM D1557- Method: Optimum Moisture, % :

Specific Gravity of Soils (minus No. 4 material)

ASTM D854- Specific Gravity:

Resistance 'R' Value of Compacted Soils

ASTM D2844- 'R' Value:

Other:

Copies:

Figure 9

msa:2043fg9.doc

WESTERN COLORADO TESTING, INC.

Job No.: 204396
Client: Just Company, Inc.
Project.: Pheasant Run Subdivision
Location: Grand Junction, Colorado

SUMMARY OF SOIL TESTS

Test Hole No.	Sample No.	Sample Depth (ft)	Sample Dia. (in)	Sample Hgt. (in)	Water Content (%)	Density		R-value	Unconfined Compression		Atterberg Limits			Cons Test	% Pass #200 Sieve	Classification or Remarks
						Wet (pcf)	Dry (pcf)		QU (tsf)	Strain (%)	LL	PL	PI			
TH-1	D-1	2.0-3.0	2.42		11.3	102.3	91.9									
TH-2	B-1	0.0-5.0	Bulk								33	16	17		92.1	CL
TH-2	C-1	3.0-4.0	1.94		9.4	96.1	87.8									
TH-3	B-1	0.0-5.0	Bulk					13			35	18	17		91.7	CL
TH-3	D-1	2.0-3.0	2.42		11.5	111.6	100.1							*		
TH-4	C-1	3.0-4.0	1.94		21.4	122.7	101.1									
TH-5	D-1	3.0-4.0	2.42												44.5	

Figure 12

WESTERN COLORADO TESTING, INC.

Job No. 204396

Lab./Invoice No.

Date 6-28-96

Reviewed by

RESISTANCE 'R' VALUE AND EXPANSION PRESSURE

Client Just Company, Inc. Project Pheasant Run Subdivision

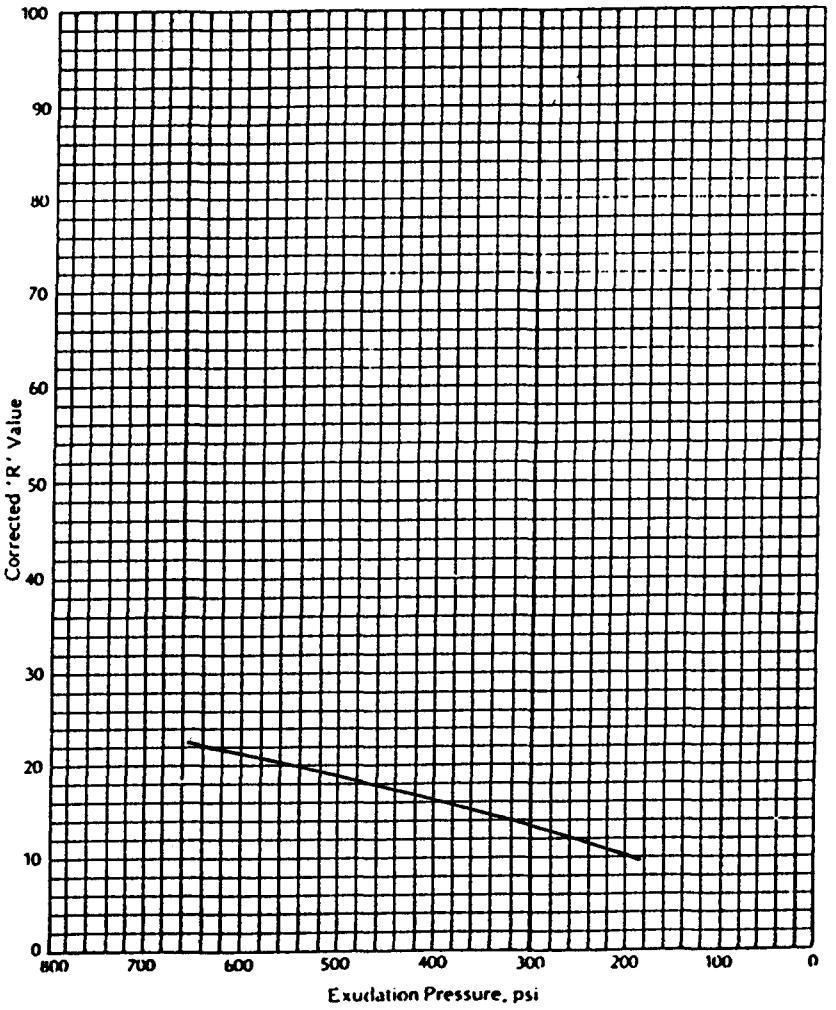
Location Grand Junction, Colorado Sampled By K. Alpha Date 6-14-96

Type of Material CLAY, slightly sandy Submitted By K. Alpha Date 6-14-96

Source of Material TH-3 @ 0.0' - 5.0' Authorized By Client Date 6-10-96

ASTM D2844-	Specimen		
	A	B	C
Compactor Pressure, psi	80	125	195
Exudation Pressure, psi	255	350	633
Moisture at Compaction, %	19.6	17.7	15.9
Dry Density at Compaction, pcf	106.9	110.6	115.6
Corrected 'R' Value	12	15	22
Expansion Dial Read, $x10^{-4}$			
Expansion, psf			
Atterberg Limits, ASTM D424-	LL= 35	PI= 17	

Corrected 'R' Value at 300 psi 13



Sieve Analysis, ASTM D422-

Sieve Size	% Passing Accumulative	Specification	As Tested Grading
3"			
2½"			
2"			
1½"			
1"			
¾"			
½"			
⅜"	100		
¼"	-		
No. 4	99.8		
No. 8	99.5		
No. 10	99.3		
No. 16	98.9		
No. 30	98.1		
No. 40	97.6		
No. 50	97.0		
No. 100	95.2		
Finer than 200 ASTM D1140-	91.7		

Figure 11

SWELL CONSOLIDATION TEST

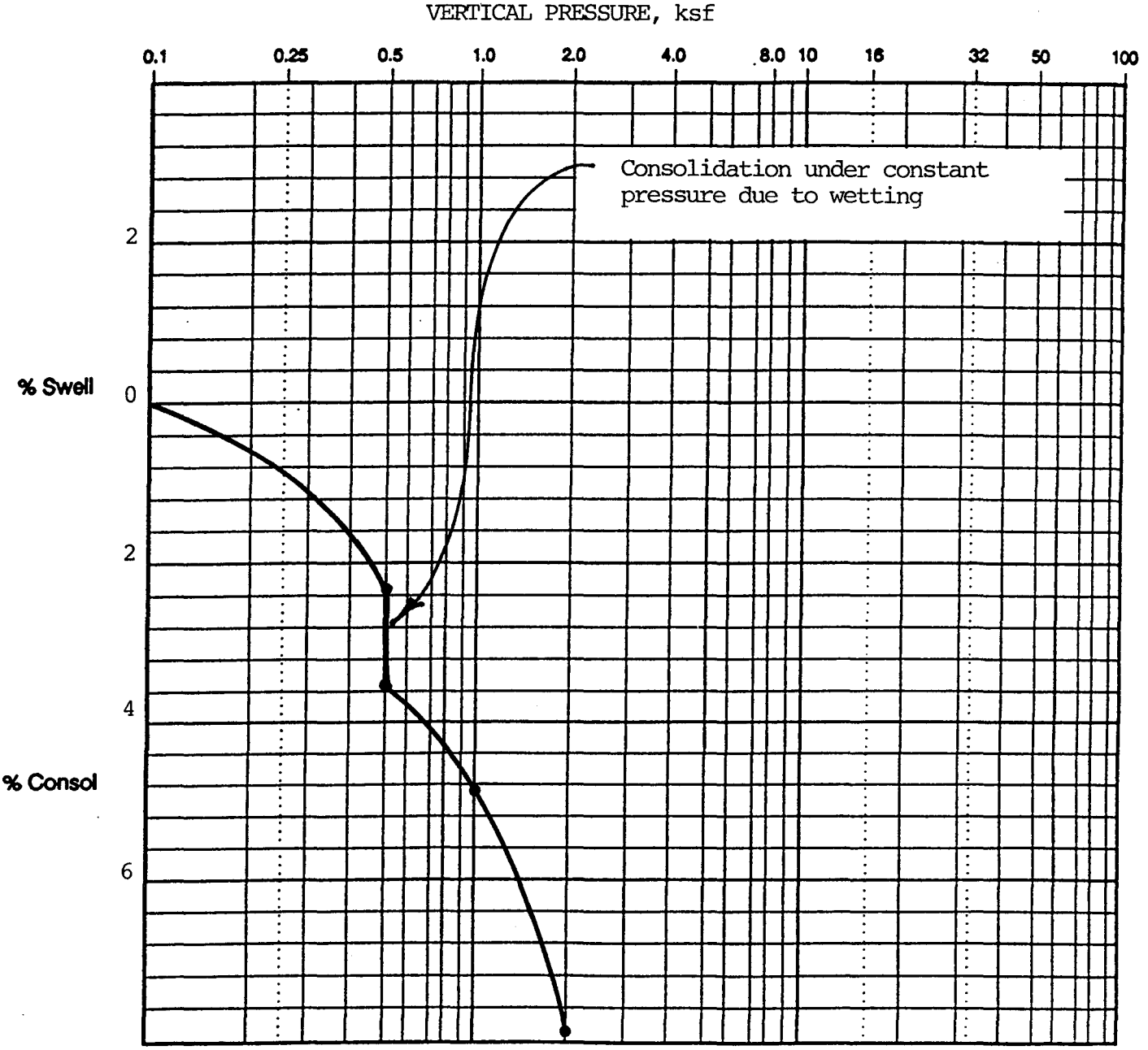
Drill Hole No. TH-3 **Sample No.** D-1 **Sample Depth Interval** 2.0' - 3.0'

Sample Description CLAY, slightly sandy

Initial Water Content 11.5 **Dry Unit Weight** 100.1 **Initial Saturation** _____

Final Water Content 20.9 **Specific Gravity** _____ ☐ **Assumed**

Liquid Limit 35 **Plastic Limit** 18 **Plasticity Index** 17 **Classification** CL



WESTERN COLORADO TESTING, INC. 529 25½ Road, Suite B-101 Grand Junction, CO 81505 (303) 241-7700	**Project** Pheasant Run Subdivision		
	Location Grand Junction, Colorado		
	Job No. 204396	**Date** 6-28-96	

Figure 10

A Final Drainage Report

for

Pheasant Ridge Subdivision

August 18, 1996

Prepared for:

Just Companies Inc.
1716 North 18th St.
Grand Junction, Co.
81501

Prepared by:

THOMPSON-LANGFORD CORPORATION
529 251/2 RD., SUITE B-210
Grand Junction, CO 81505
PH. 243-6067

Job. No 0283-002

8/23/96
Response to Comments

A Final Drainage Report

for

Pheasant Ridge Subdivision

August 18, 1996

Prepared for:

Just Companies Inc.
1716 North 18th St.
Grand Junction, Co.
81501

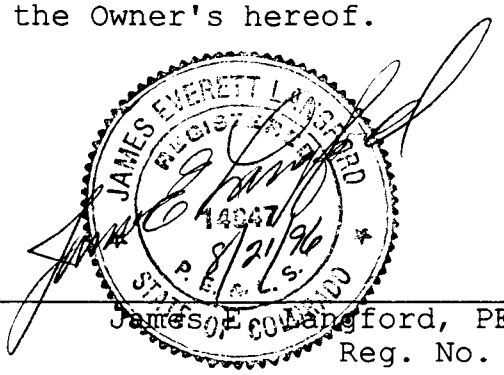
Prepared by:

THOMPSON-LANGFORD CORPORATION
529 251/2 RD., SUITE B-210
Grand Junction, CO 81505
PH. 243-6067

Job. No 0283-002

Engineer's Certification

I hereby certify that this plan and report for the drainage design of Pheasant Ridge Subdivision was prepared under my direct supervision for the Owner's hereof.



James E. Langford, PE & LS
Reg. No. 14847

Prepared By:

Kent W. Marsh, EIT

I. General Location and Description

A. Property location:

1. Pheasant Ridge Subdivision is located in Grand Junction, northwest of the intersection of 28 and Patterson Roads. More specifically, it is located west of the existing Spring Valley Townhome Condiminiums.

2. Sec.1, T.1S., R. 1W., of the U.M.

3. Surrounding developments:
Pheasant Ridge Subdivision is bordered on the north and west by Spring Valley Filings #2 and #5 respectivley, on the east by a vacant lot, and on the south by F Road (Patterson Road).

4. The City of Grand Junction Tax I.D. for the project site is, 2945-014-42-022.

B. Description of Property:

1. 6.4 Ac.

2. Ground Cover:
The site is presently covered with a mixture of Intermediate Wheat Grass, native weed species, and clumps of small to medium size Russian Olive trees. Ground cover is approximately 70%.

3. Soil types:
According to the SCS soils maps (a copy of which is included in the appendix), the site falls within the bounds of the Billings Silty Clay Loam group (B_c), hydrologic soil group "C".

4. Irrigation facilities:
An irrigation pipe exists at the southwest corner of the property, from which drainage has saturated the westerly side of the project. This drainage will become the source of on-site irrigation which will be piped throughout the project, thus drying out the boggy area. In addition, there is an existing 30" concrete drain pipe that runs along the northern boundary of the property. The drain pipe is owned and maintained by the Grand Valley Water Users Assosiation. The pipe drain is used to collect runoff and seepage flows from not only this property, but the property west of 28 road ("Matchett Property") as well.

II. Existing Drianage Conditions

A. Major Basin

Drainage patterns in the major basin area are from the southeast to the northwest towards the Grand Valley Canal. There are no wetlands, canals or ditches on the project site. As was previously mentioned, there is an existing 30" RCP running along the northern boundary of the property that collects runoff and seepage flows from in and around the project site. The project site is not within any determined 100-yr floodplains.

B. Sub-Basin

Historic drainage patterns for the project site are also from the southeast to the northwest. The project site is part of a larger sub-basin (12.1 acres) that is described as Lot 1 in Pheasant Run Condos. Historically the entire 12.1 acres drained towards the existing Spring Valley detention Pond located northwest of the property.

Prior to the development of Spring Valley, the original platting of which included this parcel, the natural surface drainage appears to have been carried in an open swale as evidenced by the 1962 USGS Quadrangle sheet for Grand Junction. In a letter sent to us by the Grand Valley Water Users, we were told that the existing 30" under-drain was installed along this alignment in 1927, well before the preparation of the 1962 USGS map.

III. Proposed Drainage Conditions

A. Changes in Drainage Patterns

Regrading of this 6.4 acre site will result in the creation of a high point near the eastern boundary of the site. This high point will not allow off-site runoff from the remaining 5.73 acres to drain through the project.

It would appear that the historically the surface drainage from this site entered a swale running along the north boundary of the site and was carried west with all other regional drainage to the Colorado River. The Grand Valley Water Users obliterated the historic flow path with their facility and are now denying access to surrounding historic users. Given denial of what we feel is our right to use this drainage, we must now direct our drainage through the developed landscaping of the Spring Valley park and into their detention facility.

Runoff from within the project will flow in a northwesterly direction towards a proposed detention pond located at the northwest corner of the site. Flow from within the project will be routed towards the detention pond via overland flow from the back of the lots to the street, and gutter flow from the street to to the detention pond.

B. Maintenance Issues

Access to the detention pond will be from the westerly cul-de-sac within the project, or through the Spring Valley Park immediately adjacent to and northwest of the project. All other storm sewer facilities will be within public rights-of-way or easements.

IV. Design Criteria and Approach

A. General Considerations

There have been several previous drainage studies completed for the areas in and around the project site. A drainage study was completed for the project site on March 2, 1979 by Paragon Engineering Inc., a copy of which is included in the appendix. In the above mentioned report, it was recommended that the runoff originating from the project be routed to the existing

Spring Valley Detention pond. The pond was shown to have a sufficient capacity to accommodate the entire project as it existed at the present time.

Although we do not propose to detain runoff from our project in the existing Spring Valley Detention pond, we do intend to discharge our historic flow into the Spring Valley detention pond.

B. Hydrology

The 2 year and 100 year storms were used to size the detention pond and design the outlet structure. The Rational Method was used to calculate on-site runoff, while the Modified Rational Method was used to size the detention basin.

On-site inlets, gutters, and valley pans were sized to make certain that they could carry the 2-year event and were adequate to insure that the 100-year event did not spread beyond the back of walks. The analysis and design procedures as outlined in the City of Grand Junction Stormwater Management Manual (SWMM) were used to verify the capacity of the facilities proposed.

C. Hydraulics

Mannings equation was used to size gutters, and storm sewer pipe. Orifice and Weir equations from standard hydraulics texts were used to design the outlet structure for the detention pond. All analysis and design procedures conform to those outlined in the SWMM.

The detention facility was designed to detain both the 2-year and the 100-year storm events. The outlet structure for the detention pond was designed to discharge only the historic flow from both of the above mentioned storms. Drainage calculations are included in the appendix which demonstrate that during the 2-year event, only the historic 2-year flow is discharged from the facility, and during the 100-year event the combination of the flow from the orifice and the weir do not exceed the historic 100-year flow.

V. Results and Conclusions

Runoff Results:

- 2-year historic runoff rate = 1.70 CFS
- 2-year developed runoff rate = 8.96 CFS
- 100-year historic runoff rate = 4.40 CFS
- 100-year developed runoff rate = 23.84 CFS

Detention Facility:

- Storage required for the 2-year event = 2989 CF
- Storage required for the 100-year event = 7316 CF

The outlet structure for the detention pond will consist of a square concrete box with inside dimensions of 4′ x 4′. The concrete box will have both an orifice and a weir cut into the front of it. The orifice is to have a diameter of 0.74′. The bottom of the orifice needs to be placed at the same elevation as the flow line in the bottom of the pond (4696.0′). The weir is to be 0.19′(2-1/4″) wide x 1.44′ deep. The bottom of the weir should be placed at the elevation corresponding to the 2-year storage volume in the pond (4696.98′).

The top of the 4′ x 4′ box is to be covered with a steel grate as detailed in the appendix. The steel grate on the top of the box will serve as an emergency overflow in the event of a storm in excess of the maximum design event. The outfall from our proposed detention pond will be 18″ R.C.P. with a minimum slope of 5.1%.

REFERENCES

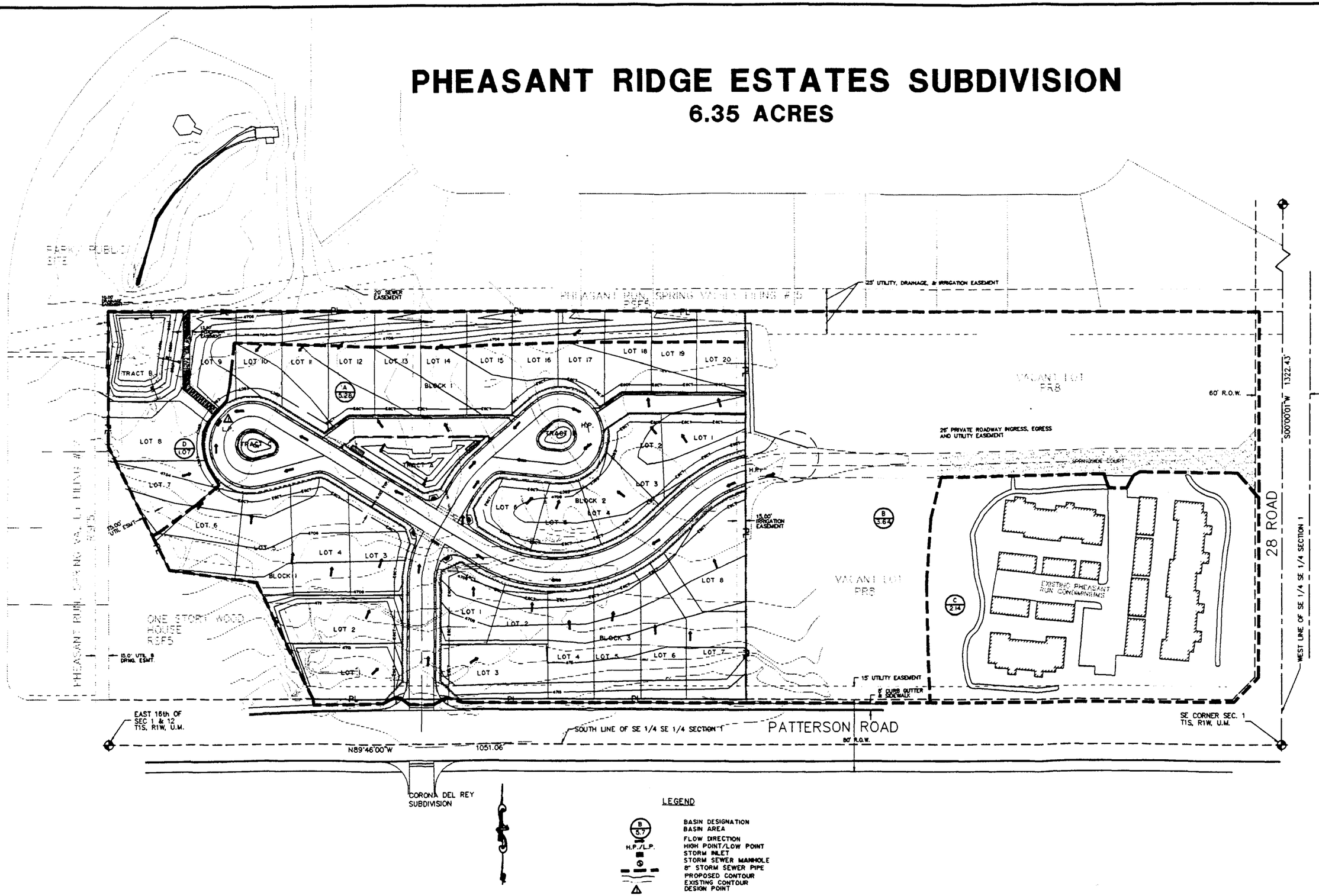
1). The City of Grand Junction, "STORM WATER MANAGEMENT MANUAL" adopted June 1994.

2). "Streeter Fluid Mechanics" , 1971 Mc-Graw-Hill, Inc., New York, NY.

APPENDIX

PHEASANT RIDGE ESTATES SUBDIVISION

6.35 ACRES



LEGEND

- B / 5.7 — BASIN DESIGNATION / BASIN AREA
- H.P./L.P. — FLOW DIRECTION / HIGH POINT/LOW POINT
- STORM INLET
- STORM SEWER MANHOLE
- 8" STORM SEWER PIPE
- PROPOSED CONTOUR
- EXISTING CONTOUR
- DESIGN POINT

- DETERMINE RUNOFF COEFFICIENTS FOR PRE AND POST DEVELOPMENT CONDITIONS.

A. CALCULATE PERCENTAGE OF TOTAL LOT AREA FOR BLDG. ENVELOPE, CONCRETE, & LANDSCAPING.

AVG LOT SIZE = 5,283 FT^2
AVG UNIT SIZE = 1,275 FT^2 = 24.1%
CONC (DRIVES, WALK) = 550 FT^2 = 10.4%
LANDSCAPING = 5,475 FT^2 = 65.5%

(TO BE SAFE USE 60% FOR BLDG & 40% FOR LNDSCP.)

B. POST-DEVELOPMENT (100-YR)

SURFACE TYPE	AREA (FT^2)	RUNOFF COEFF
ASPHALT	44,777.13	0.95
CONCRETE	37,594.46	0.95
BLDGS	47,432.87	0.95
LNDSCAPE	147,011.95	0.34
	276,816.41	0.626

C. PRE-DEVELOPMENT (HISTORIC, 100-YR)

C = 0.34 FOR ENTIRE 276,816.4 FT^2

- DETERMINE TIME OF CONCENTRATION FOR BASIN.

A. FLOW LENGTH = 1345.38 FT

- 358.44' SHALLOW C&G (EX. SPRINGSIDE CT)
- 300.00' OVERLAND
- 658.44' SHALLOW SWALE

B. OVERLAND

$$T_o = 1.8(1.1 - 0.34)\, 300^{0.5} * 1.0^{-0.33}$$

T_o = 24.7 MIN

C. SHALLOW SWALE

$$\frac{658.44 \text{ FT}}{1.0 \frac{\text{FT}}{\text{SEC}} * 60 \frac{\text{SEC}}{\text{MIN}}} = 10.97 \text{ MIN}$$

D. CURB & GUTTER

$$\frac{358.44 \text{ FT}}{5.3 \frac{\text{FT}}{\text{SEC}} * 60 \frac{\text{SEC}}{\text{MIN}}} = \underline{1.13 \text{ MIN}}$$

E. TIME OF CONCENTRATION

$T_c = 24.7 + 10.97 + 1.13$

$\boxed{T_c = 36.80 \text{ MIN}}$

DETERMINE ALLOWABLE RELEASE RATES FOR THE DETENTION POND.

A. RAINFALL INTENSITIES.

- 0.788 IN/HR 2-YR
- 2.04 IN/HR 100-YR

B. $Q_2 = CIA$

$Q_2 = 0.34 * 0.788 * 6.35$

$Q_{2\text{-YR}} = \underline{1.70 \text{ CFS}}$

C. $Q_{100} = CIA$

$= 0.34 * 2.04 * 6.35$

$Q_{100\text{-YR}} = \underline{4.40 \text{ CFS}}$

STAGE - STORAGE , MEKI POND (8/18/96)

ELEV(FT)	AREA(FT^2)	VOLUME(FT^3)	Σ VOLUME(FT^3)
4696	0		
4697	3,642.79	1,821.40	1,821.40
4698	4,676.72	4,159.86	5,981.26
4699	5,799.79	5,238.36	11,219.62

D. 7,316 FT^3 OF STORAGE IS REQ'D FOR THE 100-YR EVENT, SEE PAGE 12 OF 24. THIS CORRESPONDS TO A POND ELEVATION OF 4,698.34'

- DETERMINE NUMBER OF INLETS REQ'D. @ ⚠1 FOR Q_{100}.

A. $Q = CIA$ WHERE $A = 5.28$ ACRES
$C = 0.63$

B. DETERMINE I_{100}

$T_C = T_T + T_O$

$T_O = 1.8(1.1 - C) L^{0.5} S^{-0.33}$
$= 1.8(1.1 - 0.34)\, 187^{0.5} * 3.2^{-0.33}$

$T_O = \underline{12.7 \text{ MIN}}$

C. $T_T = \dfrac{613 \text{ FT}}{1.4 \text{ FT/SEC} * 60} = 7.30 \text{ MIN}$

$T_C = 12.7 \text{ MIN} + 7.30 \text{ MIN} = 19.99 \triangleq 20 \text{ MIN}$ @ ⚠1 FOR BASIN A.

D. DETERMINE I_{100} FROM TABLE "A-1" OF THE SWMM

I_{100} FOR $T_C = 20$ MIN $\Rightarrow$ 2.84 IN/HR.

E. $Q = CIA$

$= 0.63 * 2.84 * 5.28$

$\boxed{Q_{100\,⚠1} = 9.44 \text{ CFS}}$

- FROM PAGE 24 OF 24, THE MAXIMUM INLET CAPACITY @ THE HEAD AVAILABLE IN A LOCAL STREET IS 13.0 CFS. THEREFORE ONLY ONE INLET IS REQ'D @ ⚠1.

- DETERMINE SIZE OF PIPE REQ'D. FROM INLET @ ⚠1 TO THE DETENTION POND (USE 15" MIN.)

$\text{AREA} = \pi(18/12)^2/4 = 1.76$
$n = 0.015$
$S = 0.02 \text{ FT/FT}$
$R_H = \dfrac{\pi(18/12)^2/4}{\pi(18/12)} = 0.373$

$Q = \dfrac{1.49}{0.015} * 1.76 * 0.373^{2/3} * 0.02^{1/2} = 12.81 \text{ CFS}$

* USE A 24" TO BE AT THE SITE SIDE

E. $Q_{100\text{-YR}} = A \frac{1.49}{n} R^{2/3} S^{1/2}$ (PIPE FLOWING FULL)

$$\text{AREA} = \pi(15/12)^2/4 = 1.23 \text{ FT}^2$$
$$n = 0.015$$
$$S = 0.005 \text{ FT/FT}$$
$$R_H = \frac{\pi(15/12)^2/4}{2\pi(15/24)} = 0.313 \text{ FT}$$

$$Q = \frac{1.49}{0.015} * 1.23 * 0.313^{.667} * 0.018^{1/2}$$

$Q_{MAX} = 6.08$ CFS (ONLY NEED 5.57 CFS)

$\Rightarrow$ USE 15" MH RCP @ 0.018 FT/FT BETWEEN INLETS 2 & 3.

F. MAKE SURE 15" RCP WILL TAKE 5.57 CFS W/OUT FLOODING OUT THE INLET. FROM CHART F BUREAU OF PUBLIC ROADS, 1.60' OF HEAD IS REQ'D. & 3.26' IS AVAILABLE

- DETERMINE SIZE OF OUTLET PIPE FOR THE DETENTION POND.

$$Q = \frac{1.49}{n} A R^{2/3} S^{1/2}$$

$$\text{AREA} = \frac{\pi(18)^2}{4} = 1.77 \text{ FT}^2$$
$$n = 0.0150$$
$$S = 0.0184 \text{ FT/FT}$$
$$R_H = \frac{\pi(1.5)^2/4}{\pi(1.5)} = 0.38 \text{ FT}$$

$$Q = \frac{1.49}{0.0150} * 1.77 * 0.38^{2/3} * 0.0184^{1/2}$$

$Q = 12.51$ CFS

* ALL 18" OUTLET PIPE FOR THE DETENTION POND HAS ENOUGH CAPACITY TO DISCHARGE $Q_{100} = 4.40$ CFS.

6/8/96

Two Stage Outfall Calculator

Procedure as described in the City of Grand Junction's Storm Water Management Manual
See Page N-5.

NOTE:
* Enter data from Drainage Study
** Vary this number until the desired result is obtained
X Calculated by spreadsheet (no entry required)

Orifice Flow (2-year event)

*	Water Surf. Elev.	4696.98'	
*	Orifice Invert	4696.00'	
**	Orifice Dia. (d)	0.744	** Vary orifice diameter until 2-year historic flow rate is achieved.
X	Discharge (Qr)	1.7	
*	"Co" Coeff.	0.625	
X	Area =	((3.14159)d^2))/4	= 0.435
X	Discharge =	0.625*A*((64.4*H))^.5	= 1.700

Weir Flow (100-year event)

X	Orifice Discharge	3.335	X Discharge from 2-year orifice @ the 100-yr head
X	Weir discharge =	4.40-3.34=1.06 cfs of additional discharge req'd.	
*	"Cw" Coef.	3.33	
*	Flow Depth (H) =	1.44	
**	Weir Length (L) =	0.185	** Vary length of weir untill 100- year historic flow rate is achieved.
	Weir Discharge Q=Cw*L*H*^1.5 =	1.06	

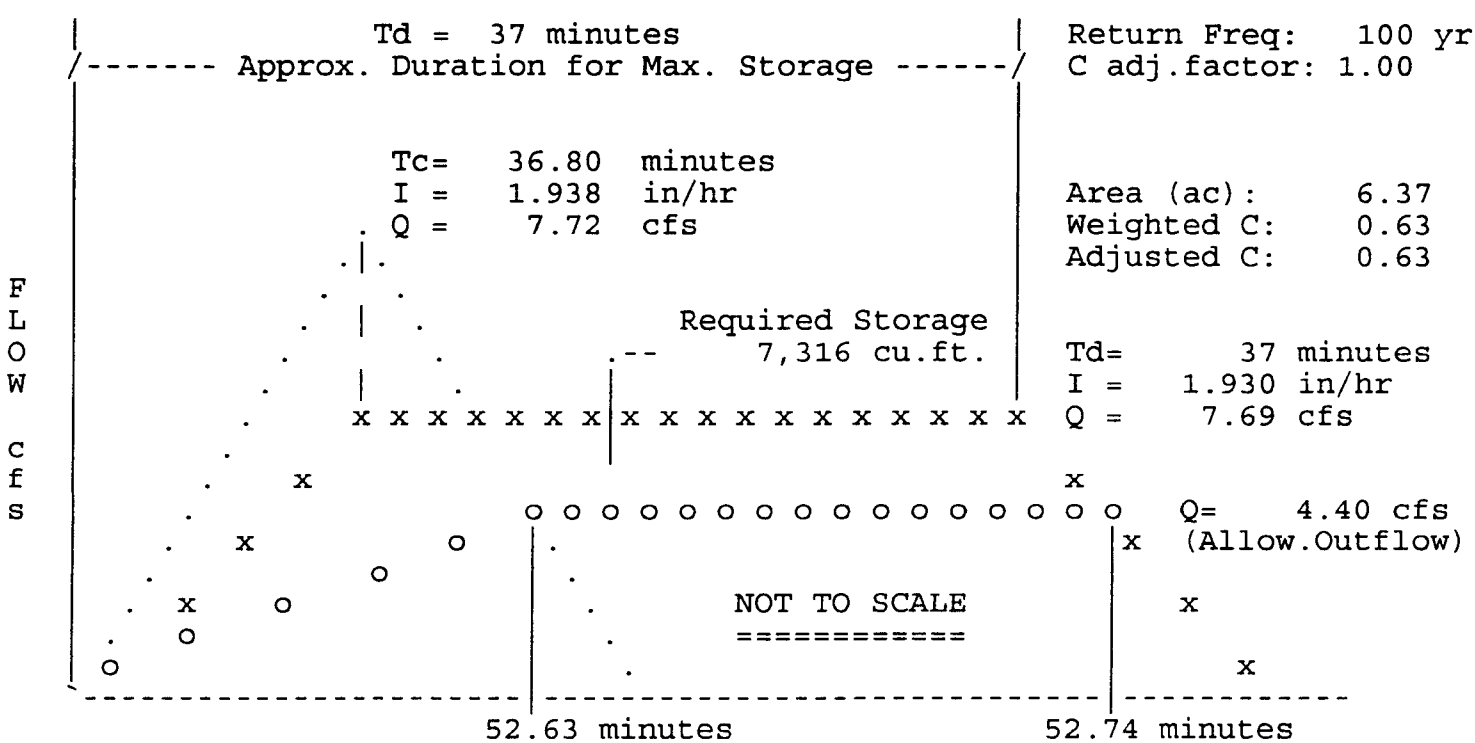
Quick TR-55 Ver.5.46 S/N:
Executed: 11:12:18 06-07-1996

MODIFIED RATIONAL METHOD
---- Graphical Summary for Maximum Required Storage ----

First peak outflow point assumed to occur at Tc hydrograph recession leg.

Pheasant Ridge Estates Subdivision
Detain both the 2-year and the 100-year storm and release at the historic rate.

RETURN FREQUENCY: 100 yr	Allowable Outflow: 4.40 cfs
'C' Adjustment: 1.000	Required Storage: 7,316 cu.ft.
Peak Inflow: 7.69 cfs	Inflow .HYD stored: 100YR .HYD



Quick TR-55 Ver.5.46 S/N:
Executed: 11:12:18 06-07-1996

MODIFIED RATIONAL METHOD
---- Graphical Summary for Maximum Required Storage ----

First peak outflow point assumed to occur at Tc hydrograph recession leg.

Pheasant Ridge Estates Subdivision
Detain both the 2-year and the 100-year storm and release at the historic rate.

```
**********************************************************************
*  RETURN FREQUENCY:    2 yr     |  Allowable Outflow:     1.70 cfs    *
*  'C' Adjustment: 1.000         |  Required Storage:     2,989 cu.ft. *
*--------------------------------------------------------------------*
*  Peak Inflow:     3.04 cfs        Inflow .HYD stored: 2YR     .HYD   *
**********************************************************************
```

```
   |               Td =  37 minutes                |  Return Freq:     2 yr
   /------- Approx. Duration for Max. Storage ------/  C adj.factor: 1.00
   |                                               |
   |                Tc=   36.80  minutes           |
   |                I =   0.768  in/hr             |  Area (ac):      6.37
   |              . Q =    3.06  cfs               |  Weighted C:     0.63
   |             .|.                               |  Adjusted C:     0.63
F  |            .   .                              |
L  |           .  |  .            Required Storage |
O  |          .       .        .--    2,989 cu.ft. |  Td=       37 minutes
W  |         .    |    .       |                   |  I =    0.764 in/hr
   |        .     x x x x x x x|x x x x x x x x x x x  Q =     3.04 cfs
c  |       .                   |
f  |      .    x                                      x
s  |     .               o o o o o o o o o o o o o o o o o   Q=     1.70 cfs
   |    .   x         o  |.                            |x  (Allow.Outflow)
   |   .         o       | .                           |
   |  .  x    o          |  .       NOT TO SCALE       |   x
   | .   o               |   .      ============       |
   | o                   |    .                        |      x
   `---------------------|-----------------------------|------------
                     53.15 minutes                53.25 minutes
```

Quick TR-55 Ver.5.46 S/N:
Executed: 11:12:18 06-07-1996

MODIFIED RATIONAL METHOD
---- Summary for Single Storm Frequency ----

First peak outflow point assumed to occur at Tc hydrograph recession leg.

Pheasant Ridge Estates Subdivision
Detain both the 2-year and the 100-year storm and release at the historic rate.

RETURN FREQUENCY: 100 yr `C' Adjustment = 1.000 Allowable Q = 4.40 cfs

Hydrograph file duration= 37.00 minutes
Hydrograph file: 100YR .HYD Tc = 36.80 minutes

Weighted `C'	Adjusted 'C'	Duration minutes	Intens. in/hr	Areas acres	Qpeak cfs	VOLUMES Inflow (cu.ft.)	VOLUMES Storage (cu.ft.)
0.625	0.625	37	1.938	6.37	7.72	17,050	7,335
0.625	0.625	37	1.930	6.37	7.69	17,072	7,316
0.625	0.625	40	1.810	6.37	7.21	17,309	6,945
0.625	0.625	50	1.570	6.37	6.26	18,767	6,216
0.625	0.625	60	1.430	6.37	5.70	20,512	5,656
0.625	0.625	120	0.780	6.37	3.11	Qpeak < Qallow	

Storage Maximum

Quick TR-55 Ver.5.46 S/N:
Executed: 11:12:18 06-07-1996

MODIFIED RATIONAL METHOD
---- Summary for Single Storm Frequency ----

First peak outflow point assumed to occur at Tc hydrograph recession leg.

Pheasant Ridge Estates Subdivision
Detain both the 2-year and the 100-year storm and release at the historic rate.

RETURN FREQUENCY: 2 yr `C' Adjustment = 1.000 Allowable Q = 1.70 cfs

Hydrograph file duration= 37.00 minutes
Hydrograph file: 2YR .HYD Tc = 36.80 minutes

Weighted `C'	Adjusted 'C'	Duration minutes	Intens. in/hr	Areas acres	Qpeak cfs	VOLUMES Inflow (cu.ft.)	VOLUMES Storage (cu.ft.)
0.625	0.625	37	0.768	6.37	3.06	6,753	3,000
0.625	0.625	37	0.764	6.37	3.04	6,758	2,989
0.625	0.625	40	0.710	6.37	2.83	6,790	2,794
0.625	0.625	50	0.620	6.37	2.47	7,411	2,560
0.625	0.625	60	0.560	6.37	2.23	8,033	2,299
0.625	0.625	120	0.320	6.37	1.28	Qpeak < Qallow	

********** Storage Maximum **********

Quick TR-55 Ver.5.46 S/N:
Executed: 11:12:18 06-07-1996

****
****
*
*
* MODIFIED RATIONAL METHOD *
* ---- Grand Summary For All Storm Frequencies ---- *
*
*
****
****

First peak outflow point assumed to occur at Tc hydrograph recession leg.

Pheasant Ridge Estates Subdivision
Detain both the 2-year and the 100-year storm and release at the historic rate.

Area = 6.37 acres Tc = 36.80 minutes

Frequency (years)	Adjusted 'C'	Duration minutes	Intens. in/hr	Qpeak cfs	Allowable cfs	VOLUMES Inflow (cu.ft.)	Storage (cu.ft.)
2	0.625	37	0.764	3.04	1.70	6,758	2,989
100	0.625	37	1.930	7.69	4.40	17,072	7,316

Quick TR-55 Ver.5.46 S/N:
Executed: 11:12:18 06-07-1996

Pheasant Ridge Estates Subdivision
Detain both the 2-year and the 100-year storm and release at the historic rate.

* * * * * * SUMMARY OF RATIONAL METHOD PEAK DISCHARGES * * * * * *

Q = adj * C * I * A
Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres
adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 100 years
`C' adjustment, k = 1
Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
pvmt	0.950	1.89						
bldg	0.950	1.09						
lndscp	0.340	3.39						
			36.80	0.625	0.625	1.938	6.37	7.72

Quick TR-55 Ver.5.46 S/N:
Executed: 11:12:18 06-07-1996

Pheasant Ridge Estates Subdivision
Detain both the 2-year and the 100-year storm and release at the historic rate.

* * * * * * SUMMARY OF RATIONAL METHOD PEAK DISCHARGES * * * * * *

Q = adj * C * I * A
Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres
adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 2 years
`C' adjustment, k = 1
Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
pvmt	0.950	1.89						
bldg	0.950	1.09						
lndscp	0.340	3.39						
			36.80	0.625	0.625	0.768	6.37	3.06

Quick TR-55 Ver.5.46 S/N:
Executed: 11:12:18 06-07-1996

Pheasant Ridge Estates Subdivision
Detain both the 2-year and the 100-year storm and release at the historic rate.

**** Modified Rational Hydrograph *****
Weighted C = 0.625 Area= 6.373 acres Tc = 36.80 minutes

Adjusted C = 0.625 Td= 37.00 min. I= 1.93 in/hr Qp= 7.69 cfs

RETURN FREQUENCY: 100 year storm Adj.factor = 1.00
Output file: 100YR .HYD

HYDROGRAPH FOR MAXIMUM STORAGE
For the 100 Year Storm

Time Hours	Time increment = 0.017 Hours Time on left represents time for first Q in each row.						
0.013	0.17	0.38	0.59	0.79	1.00	1.21	1.42
0.130	1.63	1.84	2.05	2.26	2.47	2.67	2.88
0.247	3.09	3.30	3.51	3.72	3.93	4.14	4.35
0.363	4.56	4.76	4.97	5.18	5.39	5.60	5.81
0.480	6.02	6.23	6.44	6.65	6.85	7.06	7.27
0.597	7.48	7.69	7.52	7.31	7.11	6.90	6.69
0.713	6.48	6.27	6.06	5.85	5.64	5.43	5.22
0.830	5.02	4.81	4.60	4.39	4.18	3.97	3.76
0.947	3.55	3.34	3.13	2.93	2.72	2.51	2.30
1.063	2.09	1.88	1.67	1.46	1.25	1.04	0.84
1.180	0.63	0.42	0.21	0.00			

Quick TR-55 Ver.5.46 S/N:
Executed: 11:12:18 06-07-1996

Pheasant Ridge Estates Subdivision
Detain both the 2-year and the 100-year storm and release at the historic rate.

**** Modified Rational Hydrograph *****
Weighted C = 0.625 Area= 6.373 acres Tc = 36.80 minutes

Adjusted C = 0.625 Td= 37.00 min. I= 0.76 in/hr Qp= 3.04 cfs

RETURN FREQUENCY: 2 year storm Adj.factor = 1.00
Output file: 2YR .HYD

HYDROGRAPH FOR MAXIMUM STORAGE
For the 2 Year Storm

Time Hours	Time increment = 0.017 Hours Time on left represents time for first Q in each row.						
0.013	0.07	0.15	0.23	0.31	0.40	0.48	0.56
0.130	0.65	0.73	0.81	0.89	0.98	1.06	1.14
0.247	1.22	1.31	1.39	1.47	1.56	1.64	1.72
0.363	1.80	1.89	1.97	2.05	2.13	2.22	2.30
0.480	2.38	2.47	2.55	2.63	2.71	2.80	2.88
0.597	2.96	3.04	2.98	2.90	2.81	2.73	2.65
0.713	2.56	2.48	2.40	2.32	2.23	2.15	2.07
0.830	1.99	1.90	1.82	1.74	1.65	1.57	1.49
0.947	1.41	1.32	1.24	1.16	1.08	0.99	0.91
1.063	0.83	0.74	0.66	0.58	0.50	0.41	0.33
1.180	0.25	0.17	0.08	0.00			

LAND USE OR SURFACE CHARACTERISTICS	SCS HYDROLOGIC SOIL GROUP (SEE APPENDIX "C" FOR DESCRIPTIONS)											
	A			B			C			D		
	0-2%	2-6%	6%+	0-2%	2-6%	6%+	0-2%	2-6%	6%+	0-2%	2-6%	6%+
UNDEVELOPED AREAS Bare ground	.10 - .20 .14 - .24	.16 - .26 .22 - .32	.25 - .35 .30 - .40	.14 - .22 .20 - .28	.22 - .30 .28 - .36	.30 - .38 .37 - .45	.20 - .28 .26 - .34	.28 - .36 .35 - .43	.36 - .44 .40 - .48	.24 - .32 .30 - .38	.30 - .38 .40 - .48	.40 - .48 .50 - .58
Cultivated/Agricultural	.08 - .18 .14 - .24	.13 - .23 .18 - .28	.16 - .26 .22 - .32	.11 - .19 .16 - .24	.15 - .23 .21 - .29	.21 - .29 .28 - .36	.14 - .22 .20 - .28	.19 - .27 .25 - .33	.26 - .34 .34 - .42	.18 - .26 .24 - .32	.23 - .31 .29 - .37	.31 - .39 .41 - .49
Pasture	.12 - .22 .15 - .25	.20 - .30 .25 - .35	.30 - .40 .37 - .47	.18 - .26 .23 - .31	.28 - .36 .34 - .42	.37 - .45 .45 - .53	.24 - .32 .30 - .38	.34 - .42 .42 - .50	.44 - .52 .52 - .60	.30 - .38 .37 - .45	.40 - .48 .50 - .58	.50 - .58 .62 - .70
Meadow	.10 - .20 .14 - .24	.16 - .26 .22 - .32	.25 - .35 .30 - .40	.14 - .22 .20 - .28	.22 - .30 .28 - .36	.30 - .38 .37 - .45	.20 - .28 .26 - .34	.28 - .36 .35 - .43	.36 - .44 .44 - .52	.24 - .32 .30 - .38	.30 - .38 .40 - .48	.40 - .48 .50 - .58
Forest	.05 - .15 .08 - .18	.08 - .18 .11 - .21	.11 - .21 .14 - .24	.08 - .16 .10 - .18	.11 - .19 .14 - .22	.14 - .22 .18 - .26	.10 - .18 .12 - .20	.13 - .21 .16 - .24	.16 - .24 .20 - .28	.12 - .20 .15 - .23	.16 - .24 .20 - .28	.20 - .28 .25 - .33
RESIDENTIAL AREAS 1/8 acre per unit	.40 - .50 .48 - .58	.43 - .53 .52 - .62	.46 - .56 .55 - .65	.42 - .50 .50 - .58	.45 - .53 .54 - .62	.50 - .58 .59 - .67	.45 - .53 .53 - .61	.48 - .56 .57 - .65	.53 - .61 .64 - .72	.48 - .56 .56 - .64	.51 - .59 .60 - .68	.57 - .65 .69 - .77
1/4 acre per unit	.27 - .37 .35 - .45	.31 - .41 .39 - .49	.34 - .44 .42 - .52	.29 - .37 .38 - .46	.34 - .42 .42 - .50	.38 - .46 .47 - .55	.32 - .40 .41 - .49	.36 - .44 .45 - .53	.41 - .49 .52 - .60	.35 - .43 .43 - .51	.39 - .47 .47 - .55	.45 - .53 .57 - .65
1/3 acre per unit	.22 - .32 .31 - .41	.26 - .36 .35 - .45	.29 - .39 .38 - .48	.25 - .33 .33 - .41	.29 - .37 .38 - .46	.33 - .41 .42 - .50	.28 - .36 .36 - .44	.32 - .40 .41 - .49	.37 - .45 .48 - .56	.31 - .39 .39 - .47	.35 - .43 .43 - .51	.42 - .50 .53 - .61
1/2 acre per unit	.16 - .26 .25 - .35	.20 - .30 .29 - .39	.24 - .34 .32 - .42	.19 - .27 .28 - .36	.23 - .31 .32 - .40	.28 - .36 .36 - .44	.22 - .30 .31 - .39	.27 - .35 .35 - .43	.32 - .40 .42 - .50	.26 - .34 .34 - .42	.30 - .38 .38 - .46	.37 - .45 .48 - .56
1 acre per unit	.14 - .24 .22 - .32	.19 - .29 .26 - .36	.22 - .32 .29 - .39	.17 - .25 .24 - .32	.21 - .29 .28 - .36	.26 - .34 .34 - .42	.20 - .28 .28 - .36	.25 - .33 .32 - .40	.31 - .39 .40 - .48	.24 - .32 .31 - .39	.29 - .37 .35 - .43	.35 - .43 .46 - .54
MISC. SURFACES Pavement and roofs	.93 .95	.94 .96	.95 .97	.93 .95	.94 .96	.95 .97	.93 .95	.94 .96	.95 .97	.93 .95	.94 .96	.95 .97
Traffic areas (soil and gravel)	.55 - .65 .65 - .70	.60 - .70 .70 - .75	.64 - .74 .74 - .79	.60 - .68 .68 - .76	.64 - .72 .72 - .80	.67 - .75 .75 - .83	.64 - .72 .72 - .80	.67 - .75 .75 - .83	.69 - .77 .77 - .85	.72 - .80 .79 - .87	.75 - .83 .82 - .90	.77 - .85 .84 - .92
Green landscaping (lawns, parks)	.10 - .20 .14 - .24	.16 - .26 .22 - .32	.25 - .35 .30 - .40	.14 - .22 .20 - .28	.22 - .30 .28 - .36	.30 - .38 .37 - .45	.20 - .28 .26 - .34	.28 - .36 .35 - .43	.36 - .44 .42 - .52	.24 - .32 .30 - .38	.30 - .38 .40 - .48	.40 - .48 .50 - .58
Non-green and gravel landscaping	.30 - .40 .34 - .44	.36 - .46 .42 - .52	.45 - .55 .50 - .60	.45 - .55 .50 - .60	.42 - .50 .48 - .56	.50 - .58 .57 - .65	.40 - .48 .46 - .54	.48 - .56 .55 - .63	.56 - .64 .64 - .72	.44 - .52 .50 - .58	.50 - .58 .60 - .68	.60 - .68 .70 - .78
Cemeteries, playgrounds	.20 - .30 .24 - .34	.26 - .36 .32 - .42	.35 - .45 .40 - .50	.35 - .45 .40 - .50	.32 - .40 .38 - .46	.40 - .48 .47 - .55	.30 - .38 .36 - .44	.38 - .44 .45 - .53	.46 - .54 .54 - .62	.34 - .42 .40 - .48	.40 - .48 .50 - .58	.50 - .58 .60 - .68

NOTES:
1. Values above and below pertain to the 2-year and 100-year storms, respectively.
2. The range of values provided allows for engineering judgement of site conditions such as basic shape, homogeneity of surface type, surface depression storage, and storm duration. In general, during shorter duration storms (Tc ≤ 10 minutes), infiltration capacity is higher, allowing use of a "C" value in the low range. Conversely, for longer duration storms (Tc) 30 minutes), use a ""C value in the higher range.
3. For residential development at less than 1/8 acre per unit or greater than 1 acre per unit, and also for commercial and industrial areas, use values under MISC SURFACES to estimate "C" value ranges for use.

RATIONAL METHOD RUNOFF COEFFICIENTS
(Modified from Table 4, UC-Davis, which appears to be a modification of work done by Rawls)

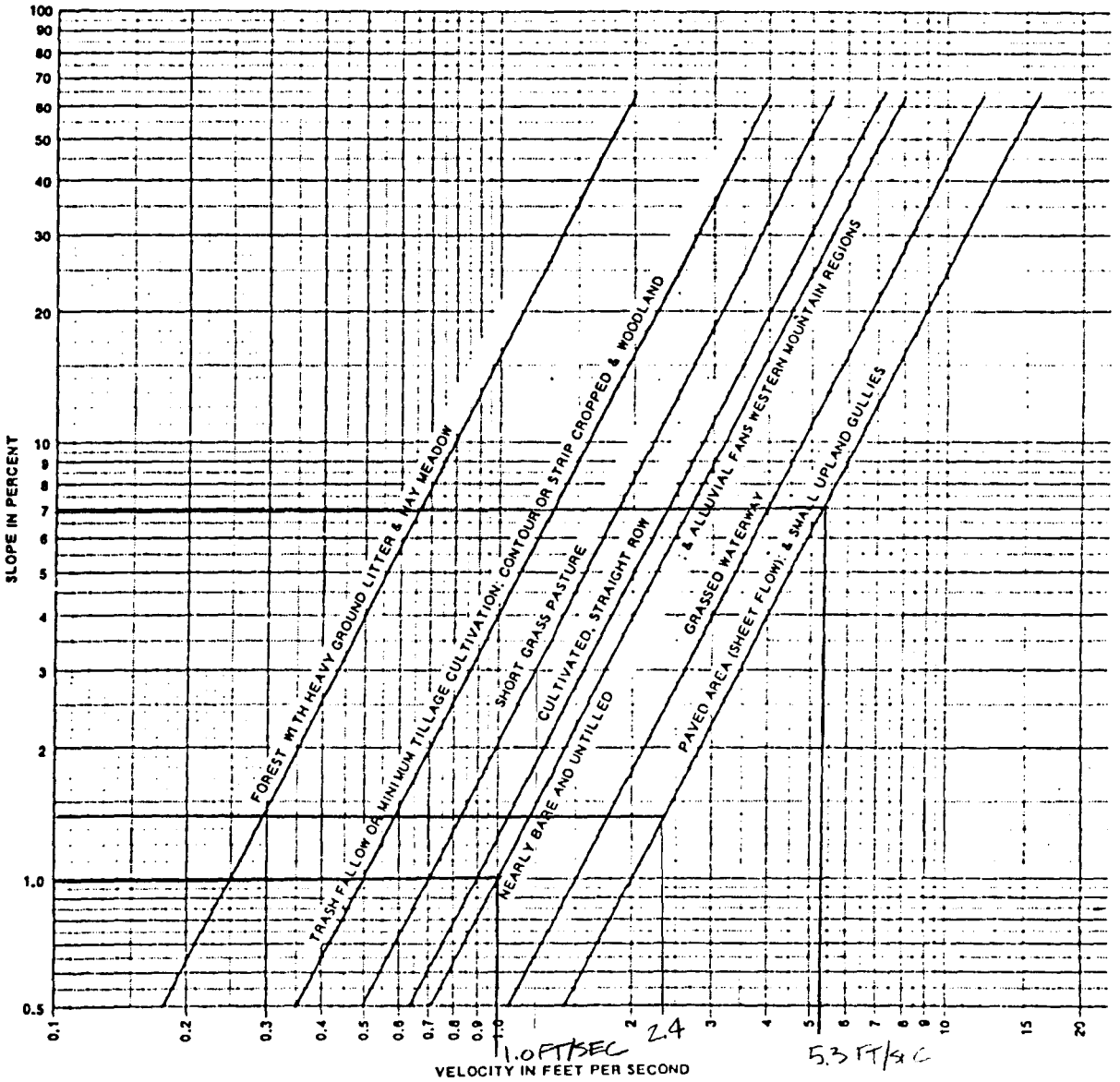
TABLE "B-1"

ROAD TYPE	COMBINATION INLET CAPACITY (CFS)					
	SINGLE		DOUBLE		TRIPLE	
	2-YR	100-YR	2-YR	100-YR	2-YR	100-YR
Urban Residential (local)	6.4	13	9.5	22	12.7	31
Residential Collector, Commercial and Industrial Streets	3.2	13	4.9	22	6.5	31
Collector Streets (3000 - 8000 ADT)	2.7	13	4.0	22	5.3	31
Principal and Minor Arterials	6.0	13	9.0	22	12.0	31

Inlet capacities shown above are based upon: 1) use of non-curved vane grates (similar to HEC-12 P-1 7/8-4 grates; 2) HEC-12 procedures; 3) clogging factors per Section VI; and 4) City/County standard inlets with 2-inch radius on curb face and type C grates. Capacities shown for 2-year storms are based upon depths allowed by maximum street inundation per Figure "G-3". The 100-year capacities are based upon a ponded depth of 1.0 foot. Note that only combination inlets are allowed in sag or sump conditions.

MAXIMUM INLET CAPACITIES: SUMP OR SAG CONDITION — **TABLE "G-1"**

REPRODUCED FROM FIGURE 15.2, SCS 1972



DETERMINATION OF "Ts"	FIGURE "E-3"

TABLE "A-1"
INTENSITY-DURATION-FREQUENCY (IDF) TABLE

Time (min)	2-Year Intensity (in/hr)	100-Year Intensity (in/hr)	Time (min)	2-Year Intensity (in/hr)	100-Year Intensity (in/hr)
5	1.95	4.95	33	0.83	2.15
6	1.83	4.65	34	0.82	2.12
7	1.74	4.40	35	0.81	2.09
8	1.66	4.19	36	0.80	2.06
9	1.59	3.99	37	0.79	2.03
10	1.52	3.80	38	0.78	2.00
11	1.46	3.66	39	0.77	1.97
12	1.41	3.54	40	0.76	1.94
13	1.36	3.43	41	0.75	1.91
14	1.32	3.33	42	0.74	1.88
15	1.28	3.24	43	0.73	1.85
16	1.24	3.15	44	0.72	1.82
17	1.21	3.07	45	0.71	1.79
18	1.17	2.99	46	0.70	1.76
19	1.14	2.91	47	0.69	1.73
20	1.11	2.84	48	0.68	1.70
21	1.08	2.77	49	0.67	1.67
22	1.05	2.70	50	0.66	1.64
23	1.02	2.63	51	0.65	1.61
24	1.00	2.57	52	0.64	1.59
25	0.98	2.51	53	0.63	1.57
26	0.96	2.46	54	0.62	1.55
27	0.94	2.41	55	0.61	1.53
28	0.92	2.36	56	0.60	1.51
29	0.90	2.31	57	0.59	1.49
30	0.88	2.27	58	0.58	1.47
31	0.86	2.23	59	0.57	1.45
32	0.84	2.19	60	0.56	1.43

Source: Mesa County 1991

FACSIMILIE COVER SHEET

JUST COMPANIES INC.
828 21 1/2 ROAD
GRAND JUNCTION, CO 81505

970-245-9316
970-256-9717 (FAX)

SEND TO/: Carrie Askl[illegible]

Attention/ City of GJ

Fax Number: 256-40[illegible]

[redacted]

[illegible]ey

[illegible]'99

☐ **Urgent/** ☐ **Reply ASAP/** ☐ **For your information/**

Total pages, including cover sheet:

[redacted]

COMMENTS/

These calcs were for original modification to orifice plate when they found out they were short on volume. Now, plate needs replaced again & new calcs needed because 2 yr orifice is above invert of V-pan in pond bottom
245-9316

The letter of acceptance has been prepared (attached) & distributed internally to start street maintenance. BUT developer's copy & DIA NOT released until outlet structure is fixed 6/30/99

Would you [illegible] [illegible]nths to the day. (March 19 [illegible]
Anyway Th[illegible] [illegible] reply.
Please let [illegible] [illegible] we need to do.

Thank you

1001

THOMPSON - LANGFORD CORPORATION
ENGINEERS AND LAND SURVEYORS

tlc@tlcwest.com
Facsimile (970) 241-2845
Telephone: (970) 243-6067
529 25 1/2 Rd, Grand Junction, CO 81505

FAX LETTER

March 19, 1999

To: Sandy
Just Companies, Inc.
Atten: Ed Lenhart
FAX 256-9717

Frm: Jim Langford

RE: Pheasant Ridge - Detention Basin

Sandy:

If we lower the orifice by 8", and decrease the size to 0.63', the two year flow will be held to historic as the City requires, and the 100-year event will discharge at 0.23 cfs less than historic. I have no problem with this if the City will accept that. A copy of my calculations are attached.

Jim Langford

STEVE @ 242-8131

3/19/99 3:31 PM

3/19/99

PHEASANT RIDGE, 0283-002
TWO STAGE OUTFALL CALCULATION (Lowering orifice 8" per City GJ)

Procedure as described in the City of Grand Junction's Storm Water Management Manual
See Page N-5

NOTE:
- * Enter data from Drainage Study
- ** Vary this number until the desired result is obtained
- X Calculated by spreadsheet (no entry required)

Orifice Flow (2-year event)

*	Water Surf. El.	4697.74 Ft.	**Based on As-Built Pond	
*	Orifice Invert	4695.68 Ft.	**Minus	
**	Orifice Dia. (d)	0.63 Ft.	**Proposed	
*	Discharge (Qr)	1.70 CFS	2-yr Historic Discharge	
*	"Cd" Coef.	0.63		
X	Area	= (3.1416)d^2/4 =	0.31 SF	Area Provided
X		= Qr/0.82C(2gh)^0.5 =	0.31 SF	Area Needed

Combined Wier Flow and Orifice Flow (100-year event)

*	Water Surf. El.	4698.62	**Proposed
X	Wier Invert El.	4697.74	**Proposed

The 100-year storage elevation is dictated by pond configuration. The elevation of the invert of the wier is set equal to the 2-year storage elevation. The wier width will be calculated such that the discharge when added to the orifice discharge equals the 100-year discharge.

*	Q100 discharge =	4.40 CFS	100-YR Historic Discharge

Wier Flow Equasion

X	Wier discharge =	2.30 CFS	
*	"Cw" Coef.	3.33	
X	Flow Depth (H) =	1.08 Ft.	
**	Wier Length (L)	0.55 Ft.	**Proposed

Q (Wier) = CwLH^1.5 = 2.07 CFS

Q (orifice) = 0.82CoA(2gh)^0.5 = 2.10 CFS

Q= Wier Flow + Orifice Flow

4.17 CFS

accepted

April 12, 1999

Just Companies, Inc.
Attn: Sandy Bowland
826 21½ Road
Grand Junction, CO 81505

City of Grand Junction
Public Works Department
250 North 5TH Street
Grand Junction CO 81501-2668
FAX: (970) 256-4022

RE: Pheasant Ridge Estates Subdivision

Dear Ms. Bowland:

A final inspection of the streets and drainage facilities in Pheasant Ridge Estates was conducted on December 15, 1997 and a follow-up inspection was conducted in September 1998. As a result of these final inspections, a list of items remaining to be completed was given to you and a financial guarantee for their completion was posted with the City. These items were since reinspected and found to be satisfactorily completed.

"As Built" record drawings and required test results for the streets and drainage facilities, including a certification of the detention pond and outlet structure, were received from Thompson-Langford Corporation on December 24, 1998. These documents have been reviewed and found to be acceptable.

In light of the above, the streets, sewer, and drainage improvements within the public right-of-way are eligible to be accepted for future maintenance by the City of Grand Junction one year after the date of substantial completion. The date of substantial completion is February 1, 1999.

Your warranty obligation for all materials and workmanship for a period of one year beginning with the date of substantial completion will expire upon acceptance by the City.

If you are required to replace or correct any defects which are apparent during the period of the warranty, a new acceptance date and extended warranty period will be established by the City.

Thank you for your cooperation in the completion of the work on this project.

Sincerely,

Kerrie Ashbeck, P.E.
City Development Engineer

Sincerely,

Trenton Prall, P.E.
City Utility Engineer

cc: Don Newton
Doug Cline
Walt Hoyt
Jerry-OBrien
Community Development File #FPP-1996-154
Thompson-Langford Corporation

Rick Dorris

City of Grand Junction, Colorado
250 North Fifth Street
81501-2668
FAX: (970)244-1599

September 15, 1999

Just Companies, Inc.
Attn: Sandy Bowland
826 21 ½ Road
Grand Junction, CO 81505

RE: Pheasant Ridge Estates Subdivision

Dear Ms. Bowland:

A final inspection of the streets and drainage facilities in Pheasant Ridge Estates was conducted on December 15, 1997, and a follow-up inspection was conducted in September of 1998. As a result of these final inspections, a list of items remaining to be completed was given to you and your engineer for completion. These items were since reinspected and found to be satisfactorily completed.

"As Built" record drawings and required test results for the streets and drainage facilities have been reviewed and found to be acceptable.

In light of the above, the streets, sewer, and drainage improvements within the public right-of-way are eligible to be accepted for future maintenance by the City of Grand Junction one year after the date of substantial completion. The date of substantial completion is September 14, 1999.

Your warranty obligation for all materials and workmanship for a period of one year beginning with the date of substantial completion will expire upon acceptance by the City.

If you are required to replace or correct any defects which are apparent during the period of the warranty, a new acceptance date and extended warranty period will be established by the City.

Thank you for your cooperation in the completion of the work on this project.

Sincerely,

Rick Dorris

Rick Dorris, P.E.
City Development Engineer

Sincerely,

Trenton Prall, P.E.
City Utility Engineer

cc: Don Newton
Doug Cline
Walt Hoyt

Community Development File #FPP-1996-154
Thompson-Langford Corporation

Memorandum

To: File

CC: Mike McDill, City Engineer

From: Laura C. Lamberty

Date: 9/04/02

Re: File Closeout: FPP-1996-154, Pheasant Ridge Estates

PROJECT DATA: Pheasant Ridge Estates is located west of 28 Road , less than ¼ mile north of Patterson.

Accepted by letter:	4/12/99 (Ashbeck/Prall)
Date of substantial completion:	2/1/99
End of 1 year warranty period:	2/1/00

No record of warranty inspection exists in the file. The subdivision is 100% built out at this time.

The site was inspected by myself on 9/4/02. Public improvements were found to be in good condition with no noted defects.

I recommend closing this file as the maintenance period has expired and no deficiencies were found.

TYPE LEGAL DESCRIPTION BELOW, USING ADDITIONAL SHEETS AS NECESSARY.
USE SINGLE SPACING WITH A ONE (1) INCH MARGIN ON EACH SIDE.

****

Lot 1 in
PHEASANT RUN CONDOS,
EXCEPT Beginning at the Southeast Corner of Section 1,
Township 1 South, Range 1 West, Ute Meridian,
thence North 89°46' West 603 feet,
thence North 480 feet, thence South 89°46' East 603 feet to the East line of said Section 1,
thence South 480 feet to the point of beginning,

Mesa County, Colorado

ROAD VACATION

A parcel of land situated in the of Section 1, Township 1 South, Range 1 West of the Ute Meridian, City of Grand Junction, County of Mesa, State of Colorado, being more particularly described as follows:

Beginning at a point which bears North 66° 41'58"East a distance of 782.38 feet from the east 1/16 corner on the south line of said Section 1, a Mesa County Survey Marker whence the southeast corner of said Section 1, a Mesa County Survey Marker, bears South 89° 46'00"East a distance of 1321.57 feet with all bearings herein relative thereto;
Thence South 00°00'00" West, a distance of 29.24 feet;
Thence 17.28 feet along the arc of a 136.50 foot radius non-tangent curve to the left, through a central angle of 7°15'11", with a chord bearing South 61°34'36" West, a distance of 17.27 feet;
Thence South 57°57'00" West tangent to said curve, a distance of 95.42 feet;
Thence 92.12 feet along the arc of a 163.50 foot radius tangent curve to the right, through a central angle of 32°17'00", with a chord bearing South 74°05'30" West, a distance of 90.91 feet;
Thence North 89°46'00" West tangent to said curve, a distance of 103.73 feet;
Thence 72.59 feet along the arc of a 163.50 foot radius tangent curve to the right, through a central angle of 25°26'20", with a chord bearing North 77°02'50" West, a distance of 72.00 feet;
Thence North 64°19'40" West tangent to said curve, a distance of 26.77 feet;
Thence 86.99 feet along the arc of a 163.50 foot radius tangent curve to the right, through a central angle of 30°29'00", with a chord bearing North 49°05'10" West, a distance of 85.97 feet;
Thence North 33°50'40" West tangent to said curve, a distance of 48.22 feet;
Thence 215.61 feet along the arc of a 50.00 foot radius tangent curve to the right, through a central angle of 247°04'22", with a chord bearing North 89°41'31" East, a distance of 83.35 feet; to a point of reverse curvature;
Thence 85.13 feet along the arc of a 50.00 foot radius curve to the left, through a central angle of 97°33'24", with a chord bearing South 15°33'00"