County of Bernalillo

State of New Mexico

2400 BROADWAY, S.E.
ALBUQUERQUE, NEW MEXICO 87102
PUBLIC WORKS (505) 848-1500

November 30, 2000

Levi Valdez, PE
1428 Lafayette NE
Albuquerque, NM 87106

Re: Grading and Drainage Plan for Northerly 3 Acres of Parcel D, Lands of Marian G. Malcolm, Canon de Carnue Grant (L24/D4) (PWDN 152) Engineer's Stamp dated 10-31-00

Dear Mr. Valdez,

Based upon the information provided in your submittal dated 11-6-00, the above referenced plan is approved for Grading Permit. Prior to Building Permit, an updated drainage plan will be required.

If you have any questions, you can contact me at 924-3986.

Sincerely,

Bradley L. Bingham

Bradley L. Bingham, PE
City/County Floodplain Administrator (Acting)

C: Lynn Mazur, AMAFCA
David Lorenzo, BCPW
file

BERNALILLO COUNTY

PWD SUBMITTAL

FP

Use for all PWD applications EXCEPT Street Excavation

☐ NEW SUBMITTAL
☒ RESUBMITTAL
☐ FINAL SIGNOFF

TODAY'S DATE: 10-31-00

RWEP 1831

BRAD BINGHAM

CASE NO: PWDN 152

OWNER

OWNER: FELIX RABADI — PHONE: 266-2221
MAILING ADDRESS: 118 WYOMING BLVD. S.E. — CITY: ALBUQ. — ZIP: 87123

AGENT

AGENT / CONTRACTOR: LEVI J. VALDEZ, P.E. — PHONE: 505-265-9612
MAILING ADDRESS: 1428 LAFAYETTE DR. N.E. — CITY: ALBUQ — ZIP: 87106
STATE LICENSE NO. — EXP DATE — VOLUME — CLASS
ARCHITECT/ENGINEER — LICENSE NO. N.M.P.E. 5693 — PHONE: 265-9612

SITE INFORMATION

SITE ADDRESS / DIRECTIONS: INTERSTATE HWY. 40 SOUTH FRONTAGE ROAD AT CARNUEL EXIT. — ZONE ATLAS NO.: L-24

LEGAL DESCRIPTION: NORTHERLY 3.0 ± ACRES OF PARCEL "D", LANDS OF MARIAN G. MALCOLM, CAÑON DE CARNUE GRANT — LOT SIZE: 3.0 ACRES ±

EXISTING BUILDING(S) AND USE: NONE EXISTING — PROPOSED BUILDING(S): PROPOSED GRADING ONLY, NO BUILDINGS PROPOSED.

U-D #: 1-024-055-230-645-201-40

TYPE OF SUBMITTAL

- ☐ REPLAT
- ☐ MINOR SUBDIVISION
- ☐ MAJOR SUBDIVISION
- ☐ CONSTRUCTION DRAWINGS
- ☑ GRADING & DRAINAGE PLAN
- ☐ AS-CONSTRUCTED GRADING & DRAINAGE PLAN
- ☐ VARIANCE REQUEST
- ☐ LAND DIVISION
- ☐ TRAFFIC IMPACT ANALYSIS / TRAFFIC STUDY
- ☐ INFRASTRUCTURE LIST / DESIGN REVIEW
- ☐ SPECIAL USE PERMIT
- ☐ BARRICADING PERMIT
- ☐ BUILDING PERMIT
- ☐ INSPECTION
- ☐ OTHER (Specify):

RECEIVED
NOV 06 2000
HYDROLOGY SECTION

The issuance of a permit or a review or approval of plan specifications, computations, and shop drawings, shall not be interpreted to be a permit for, or an approval of any variance or violation of any of the provisions of any COUNTY or STATE codes, ordinances, standards, or policies. Nor shall such issuance of a permit or approval of plans, specifications, computations, and shop drawings prevent any authorized COUNTY representative or COUNTY inspector form thereafter requiring the correction of errors in said plans, specifications, computations, or shop drawings or from stopping construction operations which are being carried on thereunder when in violation of any COUNTY or STATE codes, ordinances, standards, or policies.

☐ Owner ☑ Agent ☐ Contractor — Signature: Levi J. Valdez — Date: 10-31-00

COUNTY

BERNALILLO COUNTY USE ONLY

C/R's:

TOTAL FEE:
Receipt No:
Received By:

Tijeras Arroyo
Worksheet for Irregular Channel

SECTION "A"

Project Description	
Project File	c:\haestad\fmw\montoya.fm2
Worksheet	Section 'A'
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Input Data				
Channel Slope	0.016000 ft/ft			
Elevation range: 5,696.30 ft to 5,725.00 ft.				
Station (ft)	Elevation (ft)	Start Station	End Station	Roughness
0.00	5,710.00	0.00	240.00	0.055
47.00	5,705.00			
93.00	5,700.00			
126.00	5,697.00			
150.00	5,696.30			
164.00	5,697.00			
184.00	5,700.00			
198.00	5,705.00			
207.00	5,710.00			
213.00	5,715.00			
229.00	5,720.00			
240.00	5,725.00			
Discharge	18,000.00 cfs			

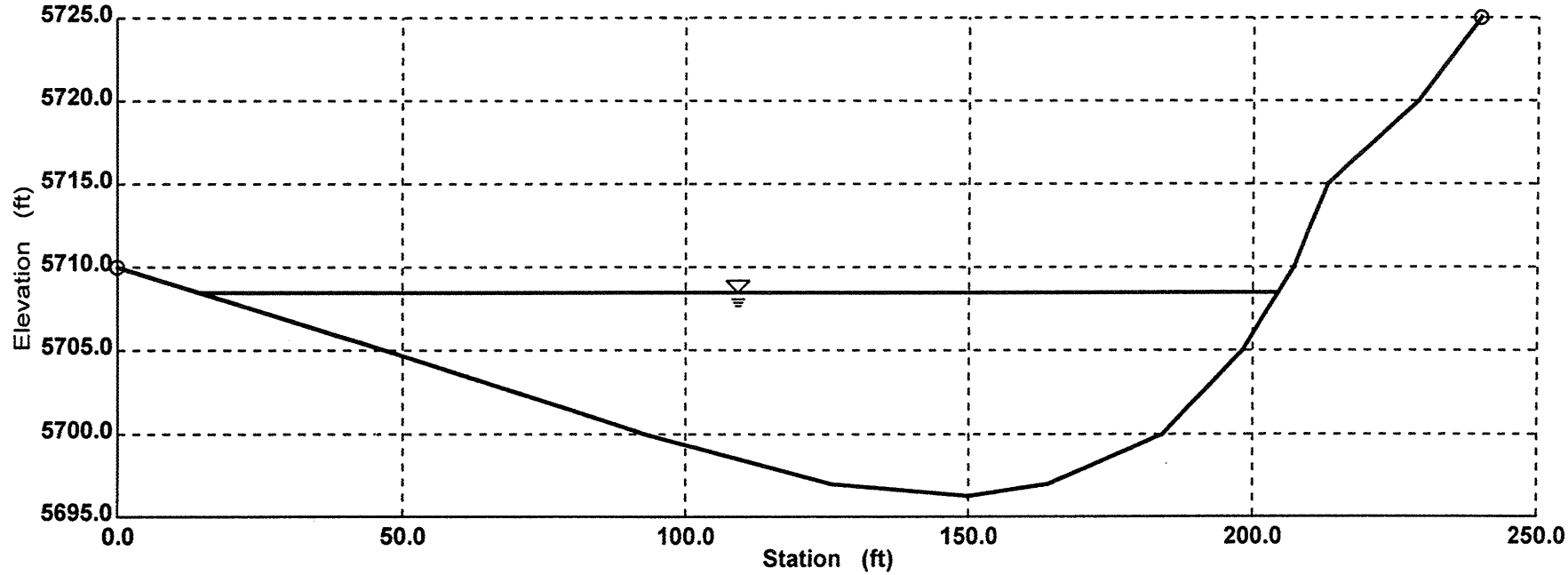
Results		
Wtd. Mannings Coefficient	0.055	
Water Surface Elevation	5,708.46	ft
Flow Area	1,401.53	ft²
Wetted Perimeter	192.37	ft
Top Width	189.77	ft
Height	12.16	ft
Critical Depth	5,707.45	ft
Critical Slope	0.023651	ft/ft
Velocity	12.84	ft/s
Velocity Head	2.56	ft
Specific Energy	5,711.02	ft
Froude Number	0.83	
Flow is subcritical.		

Cross Section
Cross Section for Irregular Channel

SECTION "A"

Project Description	
Project File	c:\haestad\fmw\montoya.fm2
Worksheet	Section 'A'
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Section Data		
Wtd. Mannings Coefficient	0.055	
Channel Slope	0.016000	ft/ft
Water Surface Elevation	5,708.46	ft
Discharge	18,000.00	cfs



Tijeras Arroyo
Worksheet for Irregular Channel
SECTION "B"

Project Description	
Project File	c:\haestad\fmw\montoya.fm2
Worksheet	Section 'B'
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

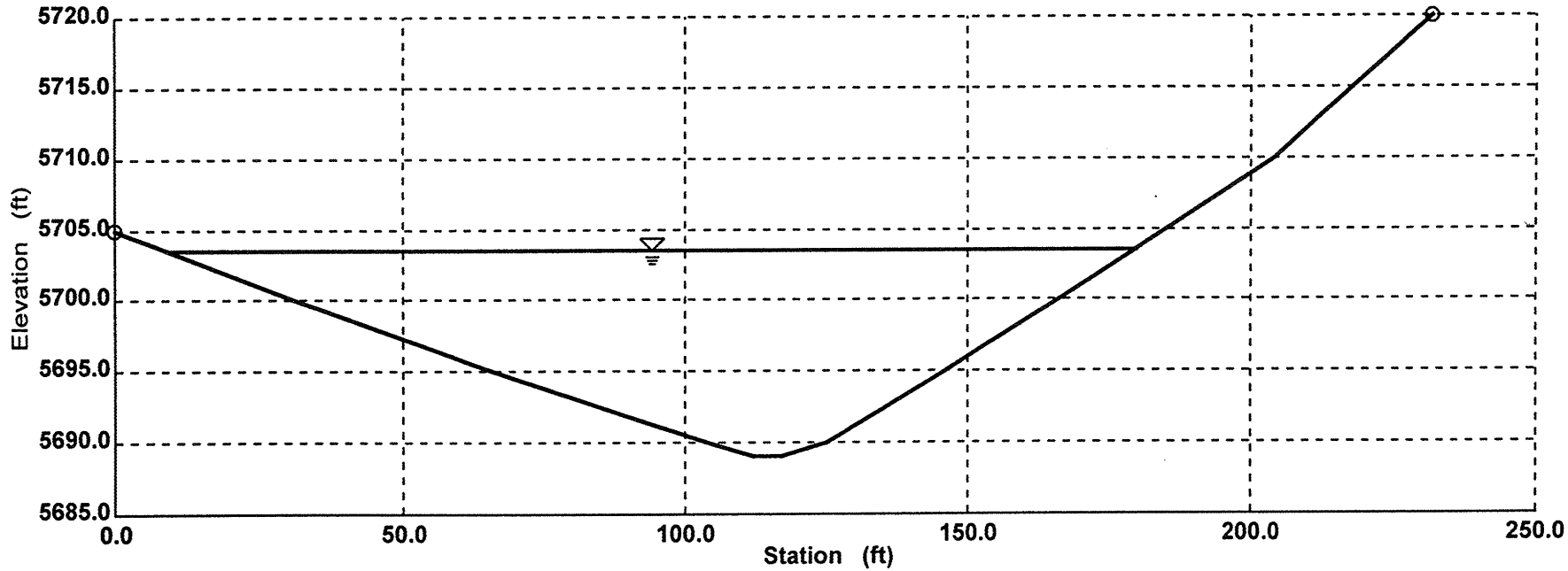
Input Data				
Channel Slope	0.016000 ft/ft			
Elevation range: 5,689.00 ft to 5,720.00 ft.				
Station (ft)	Elevation (ft)	Start Station	End Station	Roughness
0.00	5,705.00	0.00	232.00	0.055
31.00	5,700.00			
66.00	5,695.00			
104.00	5,690.00			
112.00	5,689.00			
117.00	5,689.00			
125.00	5,690.00			
146.00	5,695.00			
166.00	5,700.00			
185.00	5,705.00			
204.00	5,710.00			
218.00	5,715.00			
232.00	5,720.00			
Discharge	18,000.00 cfs			

Results		
Wtd. Mannings Coefficient	0.055	
Water Surface Elevation	5,703.54	ft
Flow Area	1,343.79	ft²
Wetted Perimeter	173.17	ft
Top Width	170.41	ft
Height	14.54	ft
Critical Depth	5,702.50	ft
Critical Slope	0.023177	ft/ft
Velocity	13.39	ft/s
Velocity Head	2.79	ft
Specific Energy	5,706.33	ft
Froude Number	0.84	
Flow is subcritical.		

Cross Section
Cross Section for Irregular Channel
SECTION "B"

Project Description	
Project File	c:\haestad\fmw\montoya.fm2
Worksheet	Section 'B'
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Section Data		
Wtd. Mannings Coefficient	0.055	
Channel Slope	0.016000	ft/ft
Water Surface Elevation	5,703.54	ft
Discharge	18,000.00	cfs



SECTION "C"
Worksheet for Irregular Channel

Project Description	
Project File	c:\haestad\fmw\montoya.fm2
Worksheet	Section C
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

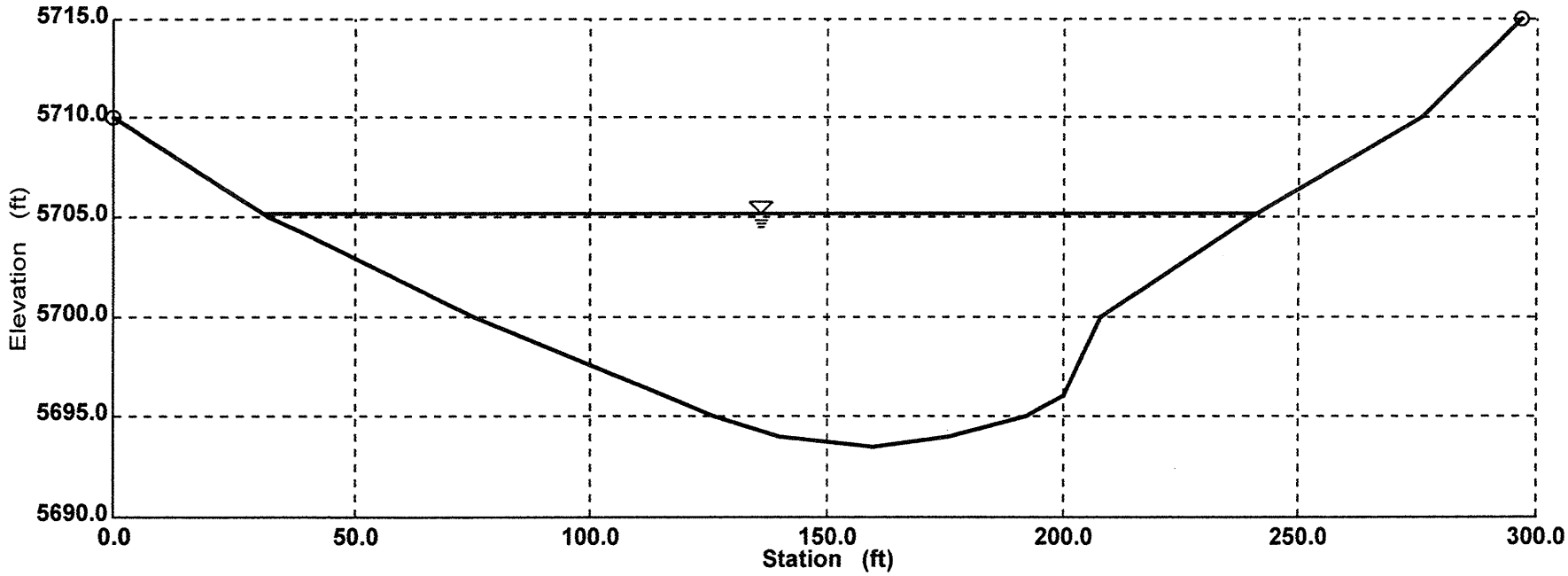
Input Data				
Channel Slope	0.016000 ft/ft			
Elevation range: 5,693.50 ft to 5,715.00 ft.				
Station (ft)	Elevation (ft)	Start Station	End Station	Roughness
0.00	5,710.00	0.00	297.00	0.055
32.00	5,705.00			
75.00	5,700.00			
126.00	5,695.00			
140.00	5,694.00			
160.00	5,693.50			
176.00	5,694.00			
192.00	5,695.00			
200.00	5,696.00			
208.00	5,700.00			
240.00	5,705.00			
276.00	5,710.00			
297.00	5,715.00			
Discharge	18,000.00	cfs		

Results		
Wtd. Mannings Coefficient	0.055	
Water Surface Elevation	5,705.17	ft
Flow Area	1,458.13	ft²
Wetted Perimeter	212.38	ft
Top Width	210.35	ft
Height	11.67	ft
Critical Depth	5,704.16	ft
Critical Slope	0.024034	ft/ft
Velocity	12.34	ft/s
Velocity Head	2.37	ft
Specific Energy	5,707.54	ft
Froude Number	0.83	
Flow is subcritical.		

Cross Section
Cross Section for Irregular Channel

Project Description	
Project File	c:\haestad\fmw\montoya.fm2
Worksheet	Section C
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Section Data		
Wtd. Mannings Coefficient	0.055	
Channel Slope	0.016000	ft/ft
Water Surface Elevation	5,705.17	ft
Discharge	18,000.00	cfs



SECTION "D"
Worksheet for Irregular Channel

Project Description	
Project File	c:\haestad\fmw\montoya.fm2
Worksheet	Section "D"
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Input Data		
Channel Slope	0.016000	ft/ft

Elevation range: 5,686.00 ft to 5,710.00 ft.

Station (ft)	Elevation (ft)	Start Station	End Station	Roughness
0.00	5,710.00	0.00	307.00	0.055
20.00	5,705.00			
38.00	5,700.00			
74.00	5,695.00			
102.00	5,690.00			
143.00	5,687.00			
158.00	5,686.00			
178.00	5,687.00			
190.00	5,688.00			
196.00	5,690.00			
212.00	5,695.00			
232.00	5,700.00			
285.00	5,705.00			
307.00	5,710.00			

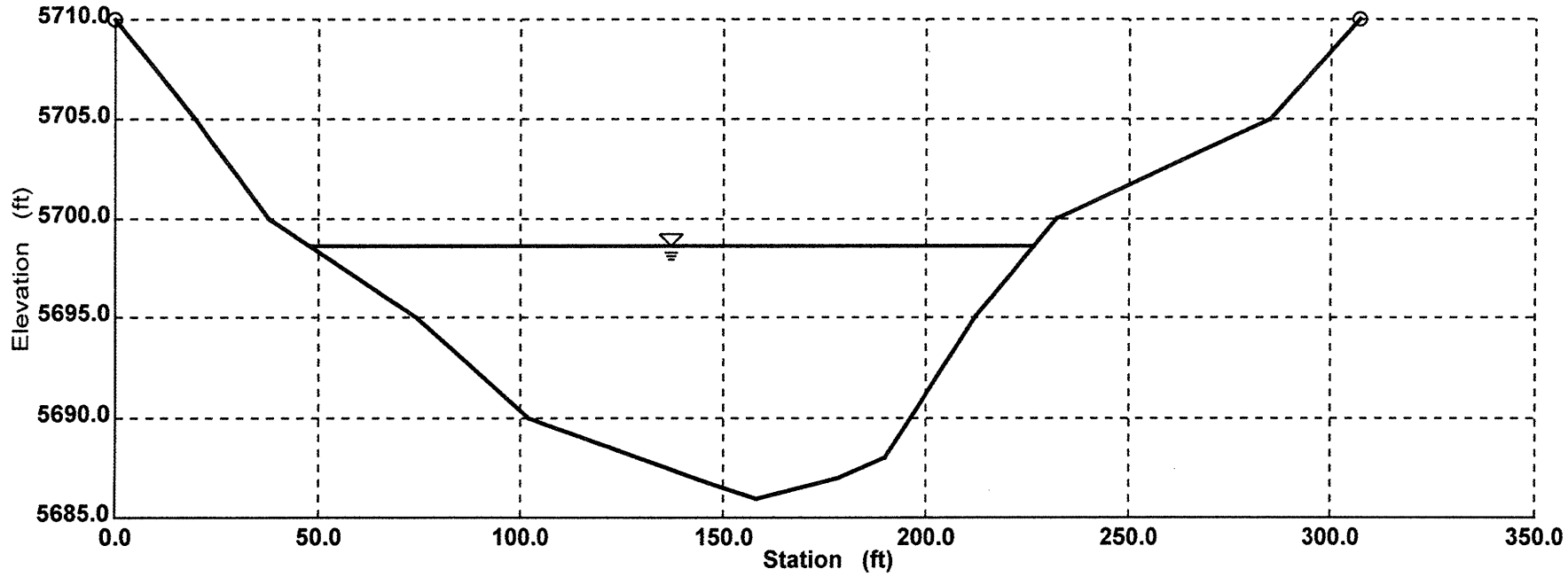
Discharge	18,000.00	cfs

Results		
Wtd. Mannings Coefficient	0.055	
Water Surface Elevation	5,698.58	ft
Flow Area	1,366.48	ft²
Wetted Perimeter	180.57	ft
Top Width	178.14	ft
Height	12.58	ft
Critical Depth	5,697.55	ft
Critical Slope	0.023308	ft/ft
Velocity	13.17	ft/s
Velocity Head	2.70	ft
Specific Energy	5,701.28	ft
Froude Number	0.84	
Flow is subcritical.		

Cross Section
Cross Section for Irregular Channel

Project Description	
Project File	c:\haestad\fmw\montoya.fm2
Worksheet	Section "D"
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Section Data		
Wtd. Mannings Coefficient	0.055	
Channel Slope	0.016000	ft/ft
Water Surface Elevation	5,698.58	ft
Discharge	18,000.00	cfs



SUSAN

BERNALILLO COUNTY

☑ NEW SUBMITTAL

☐ RESUBMITTAL

☐ FINAL SIGNOFF

PWEP-1580

PWD SUBMITTAL

Use for all PWD applications EXCEPT Street Excavation

TODAY'S DATE: SEPTEMBER 22, 2000 CASE NO: PWDN 152

OWNER

OWNER FELIX RABADI PHONE 266-2221

MAILING ADDRESS 118 WYOMING BLVD. S.E. CITY ALBUQ. ZIP 87123

L-24/D004

AGENT

AGENT / CONTRACTOR LEVI J. VALDEZ, P.E. PHONE 505-265-9612

MAILING ADDRESS 1428 LAFAYETTE DR. N.E. CITY ALBUQ ZIP 87106

STATE LICENSE NO. EXP DATE VOLUME CLASS

ARCHITECT/ENGINEER LICENSE NO. N.M.P.E. 5693 PHONE 265-9612

SITE INFORMATION

SITE ADDRESS / DIRECTIONS INTERSTATE HWY. 40 SOUTH FRONTAGE ROAD AT CARNUEL EXIT. ZONE ATLAS NO.: L-24

LEGAL DESCRIPTION NORTHERLY 3.0± ACRES OF PARCEL "D", LANDS OF MARIAN G. MALCOLM, CAÑON DE CARNUE GRANT LOT SIZE: 3.0 ACRES ±

EXISTING BUILDING(S) AND USE: NONE EXISTING PROPOSED BUILDING(S): PROPOSED GRADING ONLY, NO BUILDINGS PROPOSED.

UPC # 1-024-055-230-645-20111-40

TYPE OF SUBMITTAL

- ☐ REPLAT
- ☐ MINOR SUBDIVISION
- ☐ MAJOR SUBDIVISION
- ☐ CONSTRUCTION DRAWINGS
- ☑ GRADING & DRAINAGE PLAN
- ☐ AS-CONSTRUCTED GRADING & DRAINAGE PLAN
- ☐ VARIANCE REQUEST
- ☐ LAND DIVISION
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- ☐ SPECIAL USE PERMIT
- ☐ BARRICADING PERMIT
- ☐ BUILDING PERMIT
- ☐ INSPECTION
- ☐ OTHER (Specify):

RECEIVED SEP 27 2000 HYDROLOGY SECTION

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☐ Owner ☑ Agent ☐ Contractor Signature Levi J. Valdez Date 09-22-00

BERNALILLO COUNTY USE ONLY

C/R's		
	TOTAL FEE.	
	Receipt No.	
	Received By	

Tijeras Arroyo
Worksheet for Irregular Channel

SECTION "A"

Project Description	
Project File	c:\haestad\fmw\montoya.fm2
Worksheet	Section 'A'
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Input Data				
Channel Slope	0.016000 ft/ft			
Elevation range: 5,696.30 ft to 5,725.00 ft.				
Station (ft)	Elevation (ft)	Start Station	End Station	Roughness
0.00	5,710.00	0.00	240.00	0.055
47.00	5,705.00			
93.00	5,700.00			
126.00	5,697.00			
150.00	5,696.30			
164.00	5,697.00			
184.00	5,700.00			
198.00	5,705.00			
207.00	5,710.00			
213.00	5,715.00			
229.00	5,720.00			
240.00	5,725.00			
Discharge	18,000.00	cfs		

Results		
Wtd. Mannings Coefficient	0.055	
Water Surface Elevation	5,708.46	ft
Flow Area	1,401.53	ft²
Wetted Perimeter	192.37	ft
Top Width	189.77	ft
Height	12.16	ft
Critical Depth	5,707.45	ft
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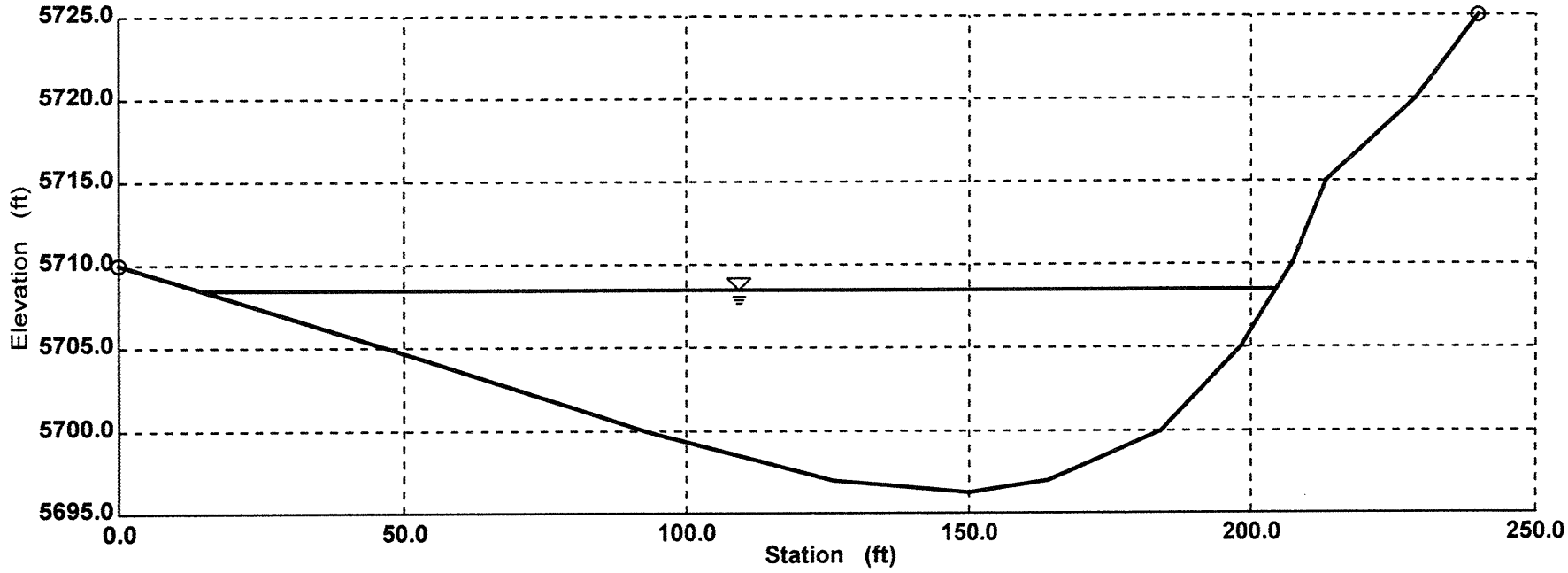
Velocity	12.84	ft/s
Velocity Head	2.56	ft
Specific Energy	5,711.02	ft
Froude Number	0.83	
Flow is subcritical.		

Cross Section
Cross Section for Irregular Channel

SECTION "A"

Project Description	
Project File	c:\haestad\fmw\montoya.fm2
Worksheet	Section 'A'
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Section Data		
Wtd. Mannings Coefficient	0.055	
Channel Slope	0.016000	ft/ft
Water Surface Elevation	5,708.46	ft
Discharge	18,000.00	cfs



Tijeras Arroyo
Worksheet for Irregular Channel
SECTION "B"

Project Description	
Project File	c:\haestad\fmw\montoya.fm2
Worksheet	Section 'B'
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Input Data		
Channel Slope	0.016000	ft/ft
Elevation range: 5,689.00 ft to 5,720.00 ft.		

Station (ft)	Elevation (ft)	Start Station	End Station	Roughness
0.00	5,705.00	0.00	232.00	0.055
31.00	5,700.00			
66.00	5,695.00			
104.00	5,690.00			
112.00	5,689.00			
117.00	5,689.00			
125.00	5,690.00			
146.00	5,695.00			
166.00	5,700.00			
185.00	5,705.00			
204.00	5,710.00			
218.00	5,715.00			
232.00	5,720.00			

Discharge	18,000.00	cfs

Results		
Wtd. Mannings Coefficient	0.055	
Water Surface Elevation	5,703.54	ft
Flow Area	1,343.79	ft²
Wetted Perimeter	173.17	ft
Top Width	170.41	ft
Height	14.54	ft
Critical Depth	5,702.50	ft
Critical Slope	0.023177	ft/ft
Velocity	13.39	ft/s
Velocity Head	2.79	ft
Specific Energy	5,706.33	ft
Froude Number	0.84	
Flow is subcritical.		

Cross Section
Cross Section for Irregular Channel
SECTION "B"

Project Description	
Project File	c:\haestad\fmw\montoya.fm2
Worksheet	Section 'B'
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Section Data		
Wtd. Mannings Coefficient	0.055	
Channel Slope	0.016000	ft/ft
Water Surface Elevation	5,703.54	ft
Discharge	18,000.00	cfs

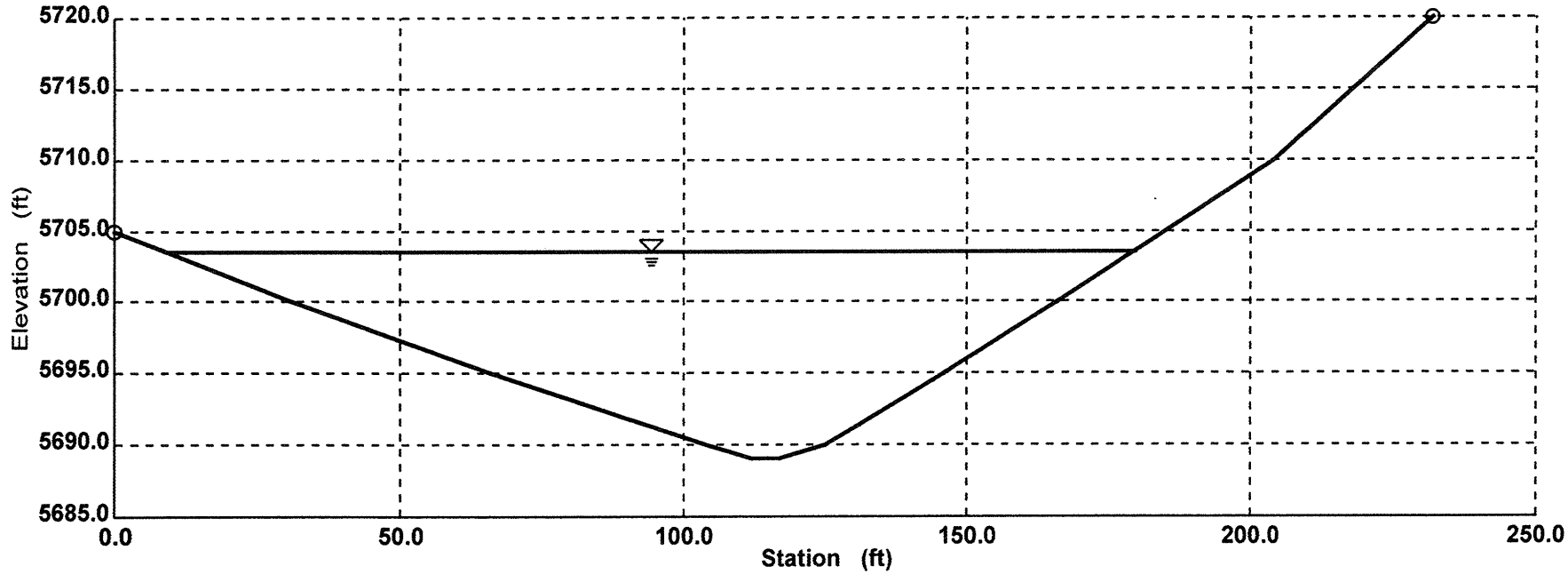
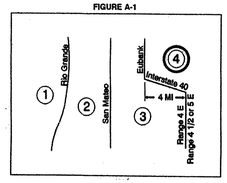


TABLE A-10. PEAK INTENSITY (IN/HR at t_c = 0.2 hour)		
Zone	Intensity	100-YR [2-YR, 10-YR]
1	4.70	[1.84, 3.14]
2	5.05	[2.04, 3.41]
3	5.38	[2.21, 3.65]
④	5.61	[2.34, 3.83]

TABLE A-9. PEAK DISCHARGE (cfs/acre)				
	Treatment			100-YR [2-YR, 10-YR]
Zone	A	B	C	D
1	1.28 [0.00, 0.24]	2.03 [0.03, 0.76]	2.87 [0.47, 1.49]	4.37 [1.69, 2.89]
2	1.66 [0.00, 0.38]	2.28 [0.08, 0.85]	3.14 [0.60, 1.71]	4.70 [1.86, 3.14]
3	1.87 [0.00, 0.58]	2.60 [0.21, 1.19]	3.45 [0.78, 2.00]	5.02 [2.04, 3.39]
④	2.20 [0.05, 0.87]	2.92 [0.36, 1.48]	3.73 [1.00, 2.26]	5.25 [2.17, 3.57]

FIGURE A-1



Where a watershed extends across a zone boundary, use the zone which contains the largest portion of the watershed.

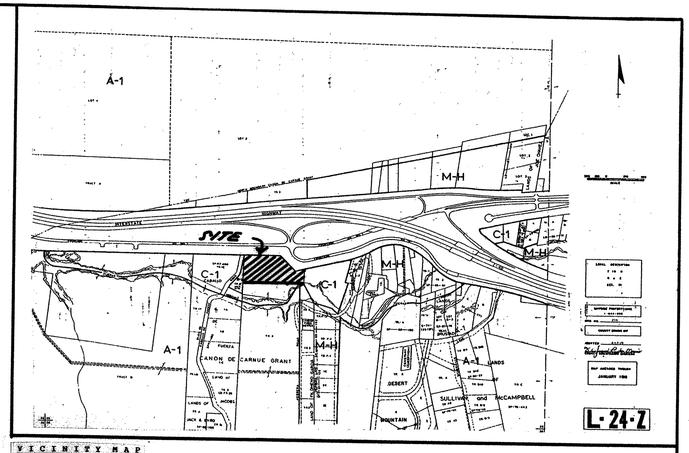
A.1 PRECIPITATION ZONES

Bernalillo County's four precipitation zones are indicated in TABLE A-1 and on FIGURE A-1.

TABLE A-1. PRECIPITATION ZONES	
Zone	Location
1	West of the Rio Grande
2	Between the Rio Grande and San Mateo
3	Between San Mateo and Eubank, North of Interstate 40; and between San Mateo and the East boundary of Range 4 East, South of Interstate 40
④	East of Eubank, North of Interstate 40; and East of the East boundary of Range 4 East, South of Interstate 40

TABLE A-4. LAND TREATMENTS	
Treatment	Land Condition
A	Soil uncompacted by human activity with 0 to 10 percent slopes. Native grasses, weeds and shrubs in typical densities with minimal disturbance to grading, groundcover and infiltration capacity. Croplands. Unlined arroyos.
B	Irrigated lawns, parks and golf courses with 0 to 10 percent slopes. Native grasses, weeds and shrubs, and soil uncompacted by human activity with slopes greater than 10 percent and less than 20 percent.
C	Soil compacted by human activity. Minimal vegetation. Unpaved parking, roads, trails. Most vacant lots. Gravel or rock on plastic (desert landscaping). Irrigated lawns and parks with slopes greater than 10 percent. Native grasses, weeds and shrubs, and soil uncompacted by human activity with slopes at 20 percent or greater. Native grass, weed and shrub areas with clay or clay loam soils and other soils of very low permeability as classified by SCS Hydrologic Soil Group D.
D	Impervious areas, pavement and roofs.

Most watersheds contain a mix of land treatments. To determine proportional treatments, measure respective subareas. In lieu of specific measurement for treatment D, the areal percentages in TABLE A-5 may be employed.



VICINITY MAP

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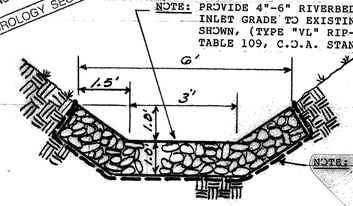
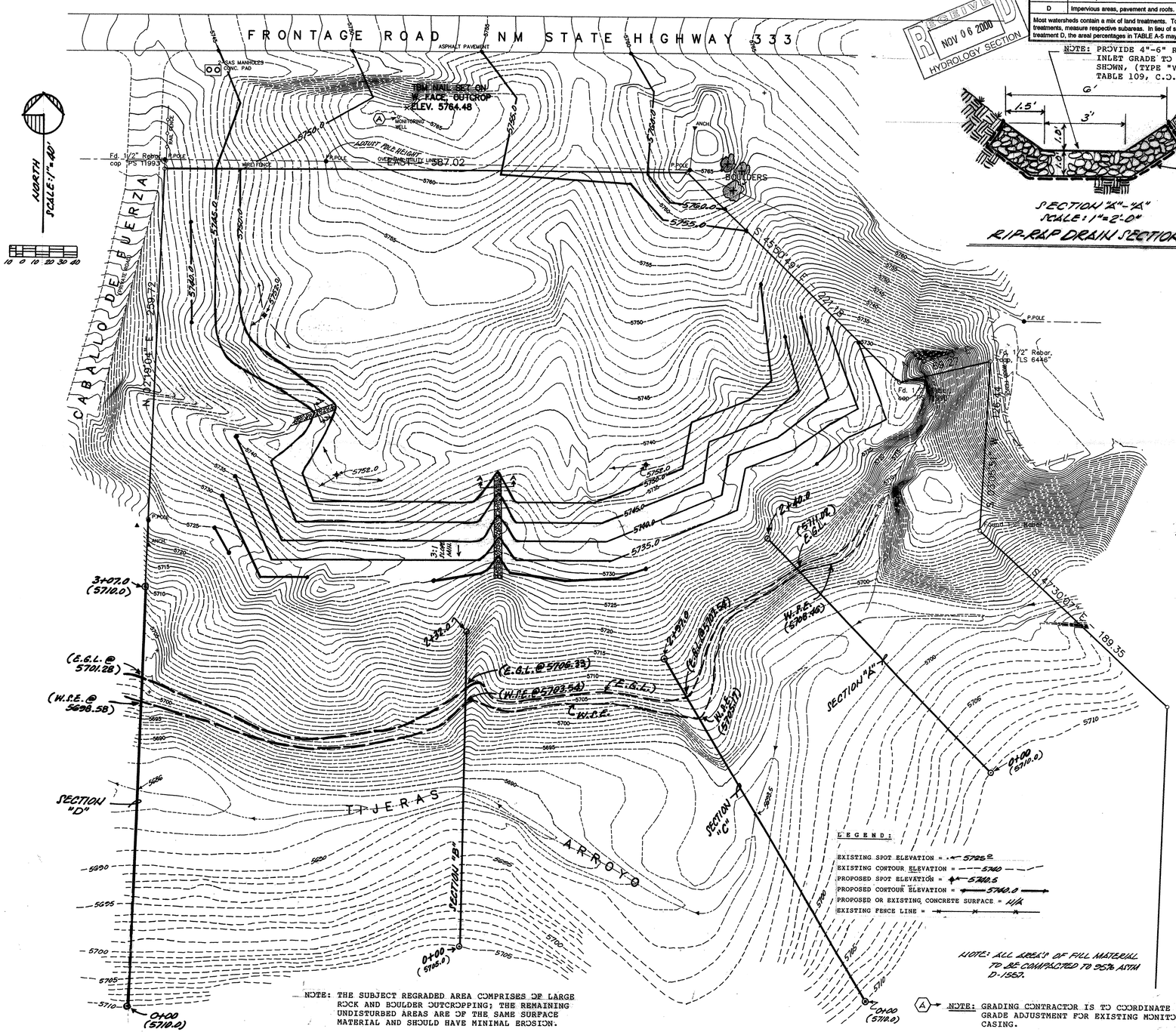
NOV 06 2000
HYDROLOGY SECTION



NOTE: PROVIDE 4"-6" RIVERBED ROCK FROM INLET GRADE TO EXISTING GRADE SHOWN, (TYPE "VL" RIP-RAP, PER TABLE 109, C.O.A. STANDARDS SPEC'S)

NOTE: PROVIDE FILTER FABRIC CLOTH PER C.O.A. SPEC. # 603.9.1 NON-WOVEN POLYESTER GEOTEXTILE SUCH AS MIRAFI # 140N DRAIN FABRIC

SECTION "A"-"A"
SCALE: 1"=2'-0"
RIP-RAP DRAIN SECTION



NOTE: THE SUBJECT REGRADED AREA COMPRISES OF LARGE ROCK AND BOULDER OUTCROPPING; THE REMAINING UNDISTURBED AREAS ARE OF THE SAME SURFACE MATERIAL AND SHOULD HAVE MINIMAL EROSION.

LEGEND:

- EXISTING SPOT ELEVATION = 5725.0
- EXISTING CONTOUR ELEVATION = 5740
- PROPOSED SPOT ELEVATION = 5710.5
- PROPOSED CONTOUR ELEVATION = 5740.0
- PROPOSED OR EXISTING CONCRETE SURFACE = n/a
- EXISTING FENCE LINE = -x-x-x-

NOTE: ALL AREA'S OF FILL MATERIAL TO BE COMPACTED TO 95% ASTM D-1557.

(A) NOTE: GRADING CONTRACTOR IS TO COORDINATE AND PROVIDE GRADE ADJUSTMENT FOR EXISTING MONITORING WELL CASING.

GRADING PLAN

LEGAL DESCRIPTION

THE FOLLOWING ITEMS CONCERNING THE NORTHERLY THREE ACRES OF PARCEL D OF PLAT OF SURVEY FOR MARIAN G MALCOLM CANON DE CARNUE GRANT, BERNALILLO COUNTY, NEW MEXICO ARE CONTAINED HEREON:

EXISTING CONDITIONS

AS SHOWN BY THE VICINITY MAP (L-24-Z), THE SITE IS LOCATED ON THE SOUTH FRONTAGE ROAD SOUTH OF I-40. AT PRESENT THE SITE IS VACANT LAND. ACCORDING TO THE INSURANCE FLOOD RATE MAP PANEL 0386D, DATED SEPTEMBER 26,1996, THE SITE ENCROACHED BY AN AE FLOOD ZONE.

PROPOSED CONDITIONS

AS SHOWN BY THE GRADING PLAN, THE SITE WILL BE GRADED FOR FUTURE DEVELOPMENT. ON-SITE RUN-OFF WILL BE PONDED ON-SITE AND DISCHARGED INTO THE TIJERAS ARROYO. IN ORDER TO PROVIDE SOME ANALYTICAL DATA ABOUT THE ARROYO FLOWS, WE HAVE PROVIDED TWO CROSS-SECTIONS SO AS TO ANALYSIS THE TIJERAS ARROYO AS AN INDICATION OF THE FLOW DEPTH AT THE NARROWEST PART OF THE ARROYO. OBVIOUSLY, THIS CROSS SECTIONS DO NOT ADDRESS BACK-WATER EFFECTS, WAVE ACTION OF ANY SUPERELEVATION ALONG THE CHANNEL OR THE EFFECTS OF THE POOLS AND EDDIES, BUT IT DOES PROVIDE A CONSERVATIVE WATER DEPTH IN ORDER TO ESTABLISH THE DEGREE OF SAFETY BETWEEN THE LOWEST SITE GRADE AND THE FLOOD LEVEL. THE SIDES OF THE ARROYO HAVE ROCK SLOPES, WHICH WOULD BE SUFFICIENT EVIDENCE OF THE STABILITY OF THE SITE TO NEGATE THE NEED FOR ADDITIONAL FLOOD ANALYSIS.
GIVEN THE RELATIVE SAFETY FACTOR OF THIS ELEVATION DIFFERENCE AND THE ROCK STABILITY OF THE CHANNEL SLOPE, WE FEEL THAT THE INFORMATION PROVIDED TO DATE WILL SUBSTANTIATE THE REQUEST FOR A GRADING PERMIT APPROVAL. THE PROCEDURE FOR 40 ACRES OR SMALLER BASINS, AS SET FORTH IN THE REVISION OF SECTION 22.2 HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL VOLUME II, DESIGN CRITERIA DATED 1997, HAS BEEN USED TO QUANTIFY THE PEAK RATE OF DISCHARGE AND VOLUME OF RUN-OFF GENERATED.

NOTE: GRADED AND DISTURBED AREA'S ARE TO BE SEEDED AND RE-VEGETATED PER STANDARD COUNTY OF BERNALILLO REQUIREMENTS.

CONSTRUCTION NOTES:

1.) TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE AT 260-1990 FOR LOCATION OF EXISTING UTILITIES.

2.) PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL POTENTIAL OBSTRUCTIONS; SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM OF DELAY.

3.) ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.

4.) ALL CONSTRUCTION WITHIN CITY RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.

EROSION CONTROL MEASURES:

THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR MANAGEMENT FOR STORM RUN-OFF DURING CONSTRUCTION; HE SHALL INSURE THAT THE FOLLOWING MEASURES ARE TAKEN:

1.) ADJACENT PROPERTY SHALL BE PROTECTED AT ALL TIMES BY CONSTRUCTION OF BERMS, DIKES, SWALES, PONDS, AND OTHER TEMPORARY GRADING AS REQUIRED TO PREVENT STORM RUNOFF FROM LEAVING THE SITE AND ENTERING ADJACENT PROPERTIES.

2.) ADJACENT PUBLIC RIGHT-OF-WAYS SHALL BE PROTECTED AT ALL TIMES FROM STORM WATER RUNOFF FROM THE SITE. NO SEDIMENT BEARING WATER SHALL BE PERMITTED TO ENTER PUBLIC STREETS.

3.) THE CONTRACTOR SHALL IMMEDIATELY AND THROUGHLY REMOVE ANY AND ALL SEDIMENT WITHIN PUBLIC STREETS THAT HAS BEEN ERODED FROM THE SITE AND DEPOSITED THERE.

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HYDROLOGY SECTION

FELIX RABADI AREA = 3ac.
PROJECT EAST MNT.
ZONE 4
PRECIPITATION: 360= 2.90in.
1440= 3.65in.
10day= 5.95in.

	EXCESS PRECIPITATION:	PEAK DISCHARGE:
TREATMENT A	0.80in.	2.20 cfs/ac.
TREATMENT B	1.08in.	2.92 cfs/ac.
TREATMENT C	1.46in.	3.73 cfs/ac.
TREATMENT D	2.64in.	5.25 cfs/ac.

	EXISTING CONDITIONS: AREA	PROPOSED CONDITIONS: AREA
TREATMENT A	3ac.	0ac.
TREATMENT B	0ac.	0ac.
TREATMENT C	0ac.	3ac.
TREATMENT D	0ac.	0ac.

EXISTING EXCESS PRECIPITATION:

Weighted E = 0.80)x3.00)+ 1.08)x0.00)+1.46)x0.00)+2.64)x0.00)3.00ac.
= 0.80
V100-360 = 0.80)x3.00)/12 = 0.2000ac-f= .8712 cf

EXISTING PEAK DISCHARGE:

Q100 = 2.20)x3.00)+ 2.92)x0.00)+3.73)x0.00)+5.25)x0.00)=6.60cfs

PROPOSED EXCESS PRECIPITATION:

Weighted E = 0.80)x0.00)+ 1.08)x0.00)+1.46)x3.00)+2.64)x0.00)3.00ac.
= 1.46
V100-360 = 1.46)x3.00)/ 12.0= 0.3650ac-f= 15899 cf
V100-1440 = 0.37)+3.00)x 3.65- 2.90)/12 = 0.5525ac-f= 24067cf
V100-10day = 0.37)+3.00)x 5.95- 2.90)/12 = 1.1275ac-f= 49114cf

PROPOSED PEAK DISCHARGE:

Q100 = 2.20)x0.00)+ 2.92)x0.00)+3.73)x3.00)+5.25)x0.00)= 11.19cfs

NOTE: REFER TO ATTACHED "WORKSHEETS FOR IRREGULAR CHANNELS" FOR CALCULATIONS AND PROFILES.

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HYDROLOGY SECTION

~~09-15-00~~ 10-31-00

LEVI J. VALDEZ
NEW MEXICO
5693
REGISTERED PROFESSIONAL ENGINEER

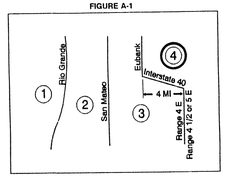
ENGINEER'S SEAL

A PROPOSED GRADING PLAN
FOR
FELIX RABADI
I-40, CARNUEL EXIT
BERNALILLO COUNTY, NEW MEXICO
AUGUST, 2000
(REVISED: OCTOBER, 2000)

TABLE A-10. PEAK INTENSITY (IN/HR at t_c = 0.2 hour)		
Zone	Intensity	100-YR [2-YR, 10-YR]
1	4.70 [1.84, 3.14]	
2	5.05 [2.04, 3.41]	
3	5.38 [2.21, 3.65]	
④	5.61 [2.34, 3.83]	

TABLE A-9. PEAK DISCHARGE (cfs/acre)				
	Treatment			100-YR [2-YR, 10-YR]
Zone	A	B	C	D
1	1.29 [0.00, 0.24]	2.03 [0.03, 0.78]	2.87 [0.47, 1.49]	4.37 [1.69, 2.89]
2	1.55 [0.00, 0.38]	2.28 [0.08, 0.95]	3.14 [0.60, 1.71]	4.70 [1.88, 3.14]
3	1.87 [0.00, 0.58]	2.60 [0.21, 1.19]	3.45 [0.78, 2.00]	5.02 [2.04, 3.39]
④	2.20 [0.05, 0.87]	2.92 [0.36, 1.45]	3.73 [1.00, 2.26]	5.25 [2.17, 3.57]

FIGURE A-1



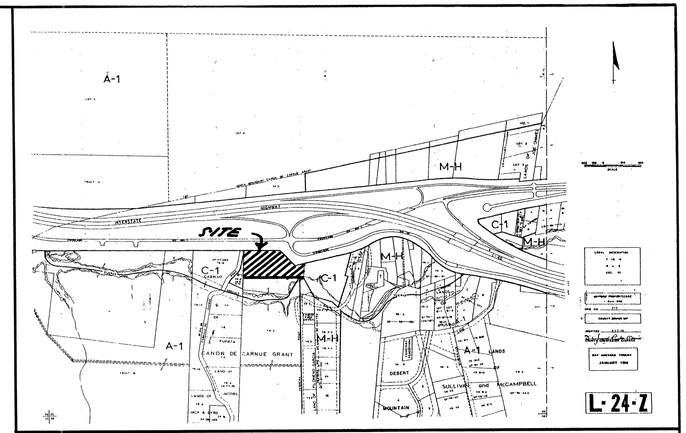
Where a watershed extends across a zone boundary, use the zone which contains the largest portion of the watershed.

A.1 PRECIPITATION ZONES

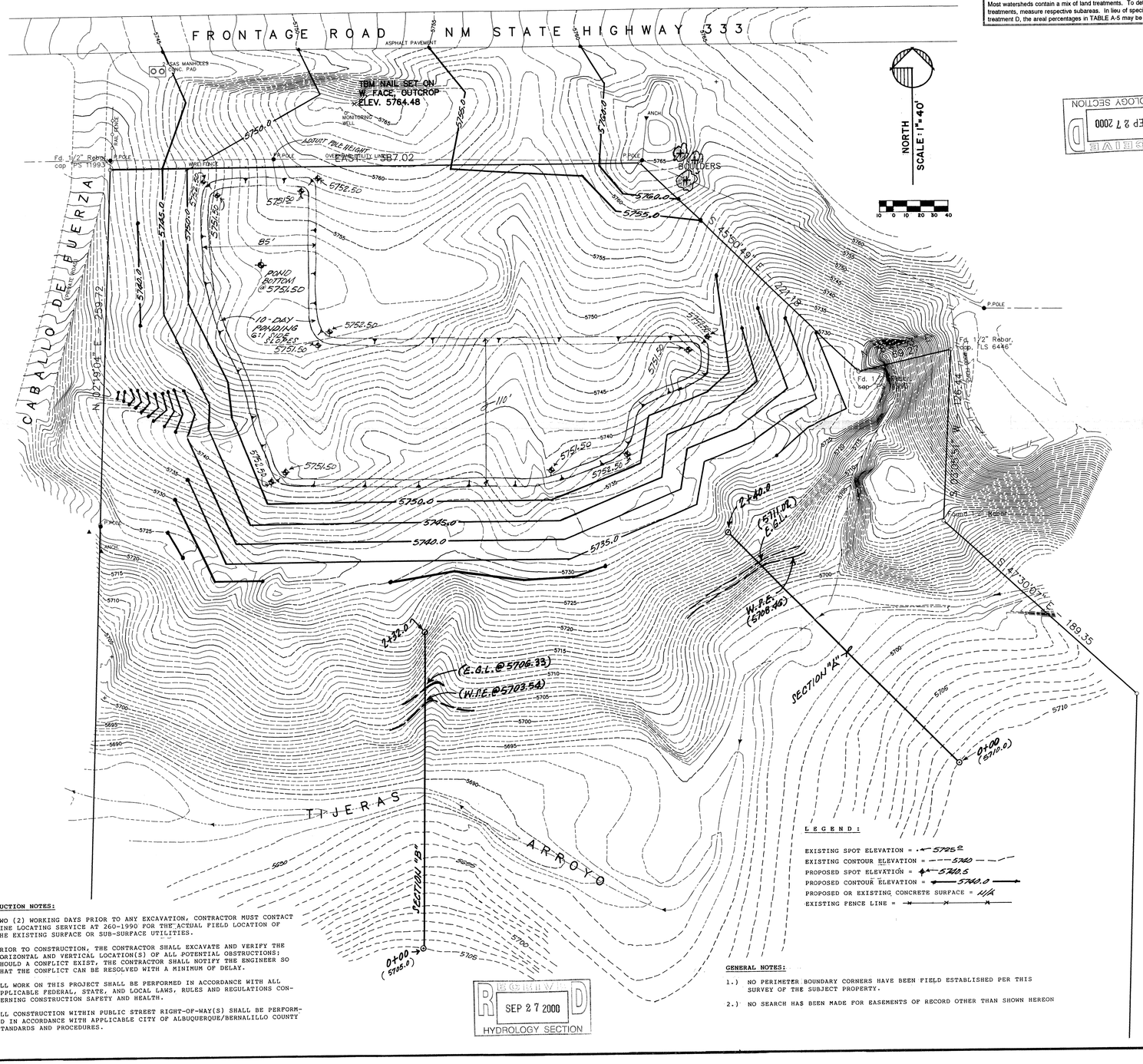
Bernalillo County's four precipitation zones are indicated in TABLE A-1 and on FIGURE A-1.

TABLE A-1. PRECIPITATION ZONES	
Zone	Location
1	West of the Rio Grande
2	Between the Rio Grande and San Mateo
3	Between San Mateo and Eubank, North of Interstate 40; and between San Mateo and the East boundary of Range 4 East, South of Interstate 40
④	East of Eubank, North of Interstate 40; and East of the East boundary of Range 4 East, South of Interstate 40

TABLE A-4. LAND TREATMENTS	
Treatment	Land Condition
A	Soil uncompacted by human activity with 0 to 10 percent slopes. Native grasses, weeds and shrubs in typical densities with minimal disturbance to grading, groundcover and infiltration capacity. Croplands. Unlined arroyos.
B	Irrigated lawns, parks and golf courses with 0 to 10 percent slopes. Native grasses, weeds and shrubs, and soil uncompacted by human activity with slopes greater than 10 percent and less than 20 percent.
C	Soil compacted by human activity. Minimal vegetation. Unpaved parking, roads, trails. Most vacant lots. Gravel or rock on plastic (desert landscaping). Irrigated lawns and parks with slopes greater than 10 percent. Native grasses, weeds and shrubs, and soil uncompacted by human activity with slopes at 20 percent or greater. Native grass, weed and shrub areas with clay or clay loam soils and other soils of very low permeability as classified by SCS Hydrologic Soil Group D.
D	Impervious areas, pavement and roofs.
Most watersheds contain a mix of land treatments. To determine proportional treatments, measure respective subareas. In lieu of specific measurement for treatment D, the areal percentages in TABLE A-5 may be employed.	



VICINITY MAP



CONSTRUCTION NOTES:

1.) TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE AT 260-1990 FOR THE ACTUAL FIELD LOCATION OF THE EXISTING SURFACE OR SUB-SURFACE UTILITIES.

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LEGEND:

EXISTING SPOT ELEVATION = × 5725.2
EXISTING CONTOUR ELEVATION = 5740
PROPOSED SPOT ELEVATION = × 5740.5
PROPOSED CONTOUR ELEVATION = 5740.0
PROPOSED OR EXISTING CONCRETE SURFACE = N/A
EXISTING FENCE LINE = -×-×-×-

GENERAL NOTES:

1.) NO PERIMETER BOUNDARY CORNERS HAVE BEEN FIELD ESTABLISHED PER THIS SURVEY OF THE SUBJECT PROPERTY.

2.) NO SEARCH HAS BEEN MADE FOR EASEMENTS OF RECORD OTHER THAN SHOWN HEREON

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LEGAL DESCRIPTION

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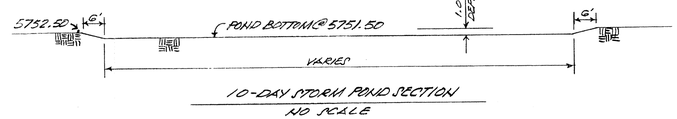

10-DAY STORM POND SECTION
NO SCALE

REQ. PONDING = 40,402.0 CU.FT.
PROVIDED PONDING = 40,500.0 CU.FT.
POND SIZE: 40,500.0 SQ. FT. X 1.0' DEPTH
(G:1 SIDE SLOPES)

EROSION CONTROL MEASURES:

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09-15-00
LEVI J. VALDEZ NEW MEXICO 5693 REGISTERED PROFESSIONAL ENGINEER
ENGINEER'S SEAL

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