

March 8, 2007

David Soule, P.E. Rio Grande Engineering 1606 Central SE, Suite 201 Albuquerque, NM 87106

RE: University Crossings (L-16/D36)

Engineers Certification for Release of Financial Guaranty

Engineers Stamp dated 2/6/06

Engineers Certification dated 2/21/07

Based upon the information provided in your Engineer's Certification Submittal dated 2/23/07, the above referenced plan is adequate to satisfy the Grading and Drainage Certification for Release of Financial Guaranty.

Sincerely,

P.O. Box 1293

If you have any questions, you can contact me at 924-3695

Albuquerque

Curtis A. Cherne, E.I.

New Mexico 87103

Engineering Associate Planning Dept.

Development and Building Services

C: Marilyn Maldonado

www.cabq.gov

File

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 01/28/2003rd)

PROJECT TITLE: DRB #:	University Crossings EPC #:	ZONE MAP/I	DRG. FILE #: <u>L16-D36</u> ER #:
LEGAL DESCRIPTION: CITY ADDRESS:	Tract B-1 and B-2, Cactus Park		
ENGINEERING FIRM: ADDRESS: CITY, STATE:	Rio Grande Engineering 1606 Central SE, Suite 201 ALBUQUERQUE, NM	CONTACT: PHONE: ZIP CODE:	David Soule, PE (505)321-9099 87106
OWNER: ADDRESS: CITY, STATE: ARCHITECT: ADDRESS: CITY, STATE:	Beazer Homes of NM 7007 Wyoming NE, Suite F-5 Albuquerque, NM	CONTACT: PHONE: ZIP CODE: PHONE: PHONE: ZIP CODE:	Robert Anderson 888-7576 87109
SURVEYOR: ADDRESS: CITY, STATE: CONTRACTOR: ADDRESS:	Terra Landsurveyss PO Box 2532 Corrales NM	CONTACT: PHONE: ZIP CODE: CONTACT: PHONE:	Chris Medina 792-0513 87048
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DATE SUBMITTED:	2/23/2007	BY:	David Soule
The particular nature, location of the following	Site Development Plans and/or Subdivision Plats so ion and scope of the proposed development define g levels of sumbittal may be required based on the rading and Drainage Plans: Required for approve tor Plans.	es the degree of drainage de following:	tail.

2. Drainage Plans: Required for building permits, grading permits, paving permits and site plans less than five (5) acres.

3. Drainage Report: Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 01/28/2003rd)

DR8 # EPC # WORK ORDER #: LEGAL DESCRIPTION: Tract B-1 and B-2, Cactus Park CITY ADDRESS: ENGINEERING FIRM: Rio Grands Engineering	PROJECT TITLE:	University Crossings		DRG. FILE #: <u>L16-D36</u>
ENGINEERING FIRM: ADDRESS: 1506 Central SE, Suite 201 PHONE: (1505)321-5099 PHONE: (1705)9	DRB #:	EPC #:	WORK ORD	E <u>R #:</u>
ENGINEERING FIRM: ADDRESS: 1506 Central SE, Suite 201 PHONE: (1505)321-5099 PHONE: (1705)9	LEGAL DESCRIPTION:	Tract B-1 and B-2. Cactus Park		
ADDRESS: 1606 Central SE, Suite 201 CITY, STATE: ALBUQUERQUE, NM OWNER: Beazer Homes of NM ADDRESS: 7007 Wyoming ME, Suite F-5 CITY, STATE: Albuquerque, NM ARCHITECT: ADDRESS: PO Box 2532 CITY, STATE: Cornsies NM CONTACT: PHONE: 888-7678 ARCHITECT: ADDRESS: PO Box 2532 CITY, STATE: Cornsies NM CONTACT: PHONE: 792-0513 CITY, STATE: Cornsies NM CONTACT: PHO				
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CITY, STATE: ALBUQUERQUE, NM ZIP CODE: 87106 OWNER: Beazer Homes of NM CONTACT: Dan Aarsgon ADDRESS: 7007 Wyoning NE, Suite F-S PHONE: 888-7676 CITY, STATE: Albuquerque, NM ZIP CODE: 67109 ARCHITECT: CONTACT: Den Aarsgon ARCHITECT: Contact Den Aarsgon ARCHITECT: Contact Den Aarsgon ARCHITECT: Contact Den Aarsgon ARCHITECT: Contact Den Aarsgon ARCHITECT: CONTACT: Den Aarsgon ARCHITECT: Contact Den Aarsg	· · · · · · · · · · · · · · · · · · ·			
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DATE SUBMITTED: 2/7/2006 BY: David Soule				HYDROLOGY SECTION
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Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a dranage submittal.

The particular nature, location and scope of the proposed development defines the degree of drainage detail.

One or more of the following levels of sumbittal may be required based on the following:

- 1. Conceptual Grading and Drainage Plans: Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
- 2. Drainage Plans: Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
- 3. Drainage Report: Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.



February 7, 2006

Mr. Bradley Bingham PE Principal Engineer City of Albuquerque 600 2nd Street NW Albuquerque, NM 87102

RE: Revised Grading Plan Approval for

University Crossings, Albuquerque, New Mexico

Dear Mr. Bingham:

The purpose of this letter is to reply to your comments dated January 18, 2006. The grading plan was revised based upon your comments. The following is a summary as to how your comments were addressed on the enclosed Grading Plan.

1. There is a possible ponding problem to the south of this site. How is this going to be addressed? Is a culvert or swale going to be placed between lots 10 & 11 or is permission being sought out to grade off site so this area may drain away from the inside corner around the outside corner?

The plan was revised to show minor grading on the adjacent City Park/ community Center. The adjacent property is native without any improvements within the proposed disturbed area. We are in the process of obtaining Parks and Recreations approval for this.

2. The existing inlet located at the southwest corner, which is to remain, who is going to maintain it? Does it belong to the Park or to this subdivision?

Based upon our informal conversation regarding this inlet, we have revised the plan to show the inlet outside of this development. The only flows going to the inlet will be from the undeveloped area of the City Park / Community Center. The new inlet location will lie within the existing drainage easement.

Should you have any questions regarding this submittal, please do not hesitate to call me.

Sincerely,

David Soule, PE

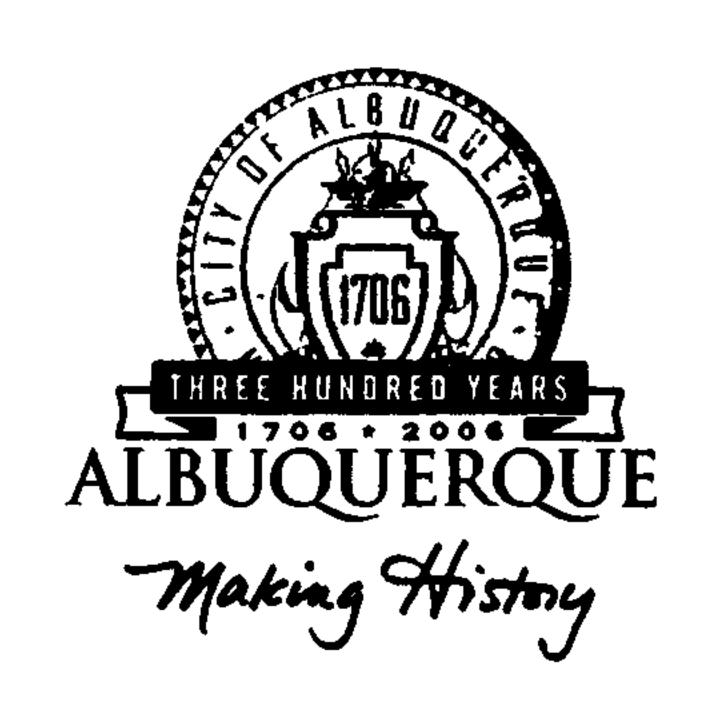
Enclosures

cc: Dan Aragon

JN: 2561

gradingrevltr020706

SECTION



February 16, 2006

David Soule, PE Rio Grande Engineering 1606 Central SE, Ste 201 Albuquerque, NM 87106

Re: University Crossing Drainage Report Engineer's Stamp dated 2-6-06 (L16-D36)

Dear Mr. Soule,

Based upon the information provided in your submittal dated 12-29-04, the above referenced report is approved for Preliminary Plat action by the DRB. Once that board approves the grading plan, please submit a mylar copy for my signature in order to obtain a Rough Grading Permit.

P.O. Box 1293

(NPDES) permit. If you have any questions about this permit, please feel free to call the Municipal Development Department, Hydrology section at 768-3654 (Charles Caruso).

Albuquerque

Prior to Release of SIA and Financial Guarantees, an Engineer's Certification of this grading plan will be required.

This project requires a National Pollutant Discharge Elimination System

New Mexico 87103

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

www.cabq.gov

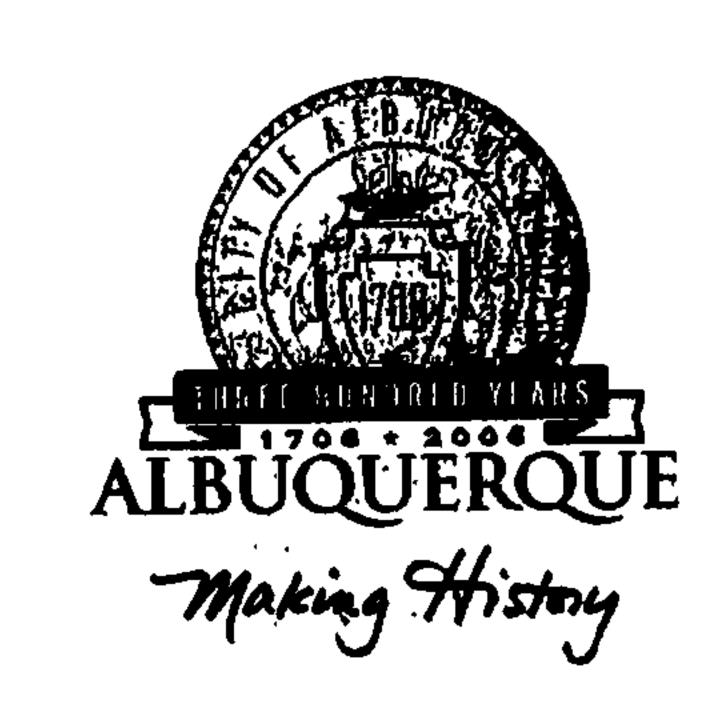
Sincerely,

Bradley L. Bingham, PE

Principal Engineer, Planning Dept. Development and Building Services

Chuck Caruso, DMD

file



January 18, 2006

David Soule, P.E.
Rio Grande Engineering
1606 Central Ave SE.
Albuquerque, NM 87107

Re: University Crossings, Cactus Park

Grading and Drainage Plan

Engineer's Stamp dated 1-09-06 (L16-D36)

Dear Mr. Soule,

Based upon the information provided in your submittal received 12-07-05, the above referenced plan cannot be approved for Preliminary Plat and Grading Permit until the following comments are addressed:

Albuquerque

P.O. Box 1293

- 1. There is a possible ponding problem to the south of this site. How is this going to be addressed? Is a culvert or swale going to be placed between lots 10 & 11 or is permission being sought out to grade off site so this area may drain away from the inside corner around the outside corner?.
- 2. The existing inlet located at the southwest corner, which is to remain, who is going to maintain it? Does it belong to the Park or to this subdivision?

New Mexico 87103

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

www.cabq.gov

Sincerely,

Bradley L. Bingham, PE

Principal Engineer, Planning Dept.

Development and Building Services

C: file



January 18, 2006

David Soule, P.E. Rio Grande Engineering 1606 Central Ave SE. Albuquerque, NM 87107

Re: University Crossings, Cactus Park
Grading and Drainage Plan

Engineer's Stamp dated 1-09-06 (L16-D36)

Dear Mr. Soule,

Based upon the information provided in your submittal received 12-07-05, the above referenced plan cannot be approved for Preliminary Plat and Grading Permit until the following comments are addressed:

1. There is a possible ponding problem to the south of this site. How is this going to be addressed? Is a culvert or swale going to be placed between lots 10 & 11 or is permission being sought out to grade off site so this area may drain away from the inside corner around the outside corner?.

2. The existing inlet located at the southwest corner, which is to remain, who is going to maintain it? Does it belong to the Park or to this subdivision?

New Mexico 87103

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

www.cabq.gov

P.O. Box 1293

Albuquerque

Sincerely,

Bradley L. Bingham, PE

Principal Engineer, Planning Dept.

Development and Building Services

Brully 1. Bila

C: file

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 01/28/2003rd)

L-16/D36

PROJECT TITLE:	University Crossings	ZONE	MAP/DRG. FILE #: <u>L15/16</u>
DRB #:	EPC #:	WOR	CORDER#:
LEGAL DESCRIPTION: CITY ADDRESS:	Tract B-1 and B-2, Cactus Park		
ENGINEERING FIRM: ADDRESS: CITY, STATE:	Rio Grande Engineering 1606 Central SE, Suite 201 ALBUQUERQUE, NM	CONT PHON ZIP CO	E: <u>(505)321-9099</u>
OWNER: ADDRESS: CITY, STATE:	Beazer Homes of NM 7007 Wyoming NE, Suite F-5 Albuquerque, NM	CONT PHON ZIP CO	E: 888-7576 ODE: 87109
ARCHITECT: ADDRESS: CITY, STATE:		PHON ZIP CO	DDE:
SURVEYOR: ADDRESS: CITY, STATE:	Terra Landsurveyss PO Box 2532 Corrales NM	CONT PHON ZIP CO	E: 792-0513
CONTRACTOR: ADDRESS: CITY, STATE:		CONT PHON ZIP CO	E:
DRAINAGE PLA CONCEPTUAL X GRADING PLAM EROSION CON ENGINEER'S C CLOMR/LOMR TRAFFIC CIRCUE ENGINEERS CE	PORT AN 1st SUBMITTAL, <i>REQUIRES TCL or equal</i> AN RESUBMITTAL GRADING & DRAINAGE PLAN	SIA / PREI S. DE S. DE S. DE SEC' FINA FOUL BUIL CER' CER' CER' WOF	OF APPROVAL SOUGHT: FINANACIAL GUARANTEE RELEASE LIMINARY PLAT APPROVAL EV. PLAN FOR SUB'D. APPROVAL EV. PLAN FOR BLDG. PERMIT APPROVAL TOR PLAN APPROVAL L PLAT APPROVAL NDATION PERMIT APPROVAL DING PERMIT APPROVAL TIFICATE OF OCCUPANCY (PERM.) TIFICATE OF OCCUPANCY (TEMP.) DING PERMIT APPROVAL NG PERMIT APPROVAL RK ORDER APPROVAL ER (SPECIFY)
WAS A PRE-DESIGN CON YES X NO COPY PROVIDE			JAN 1 2 2005 HYDROLOGY SECTION
DATE SUBMITTED:	1/9/2006	BY:	David Soule

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a dranage submittal.

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DRAINAGE REPORT

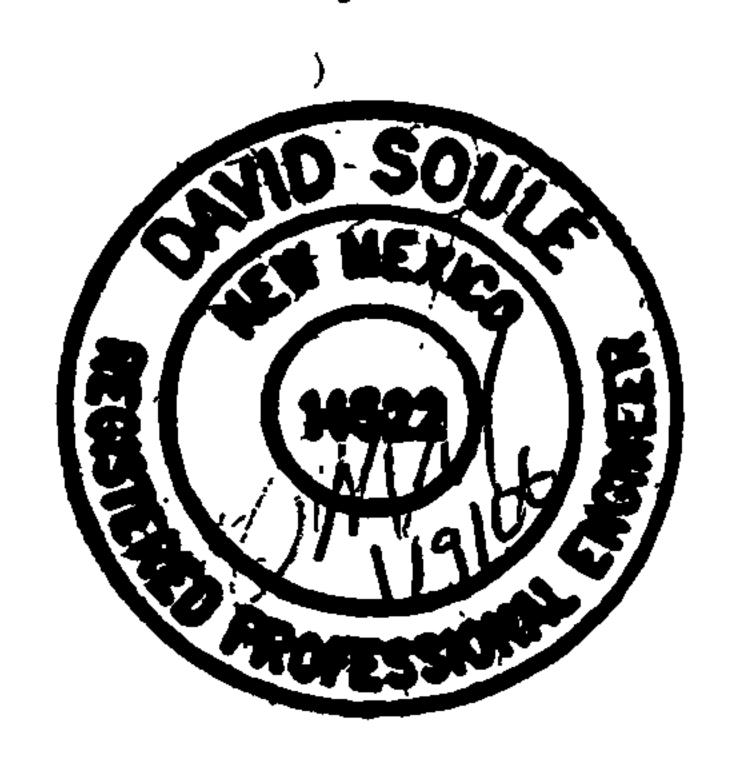
For

UNIVERSITY CROSSINGS SUBDIVISION Albuquerque, New Mexico

Prepared by

Rio Grande Engineering 1606 Central SE Albuquerque, New Mexico 87106

January 9, 2006



David Soule P.E. No. 14522

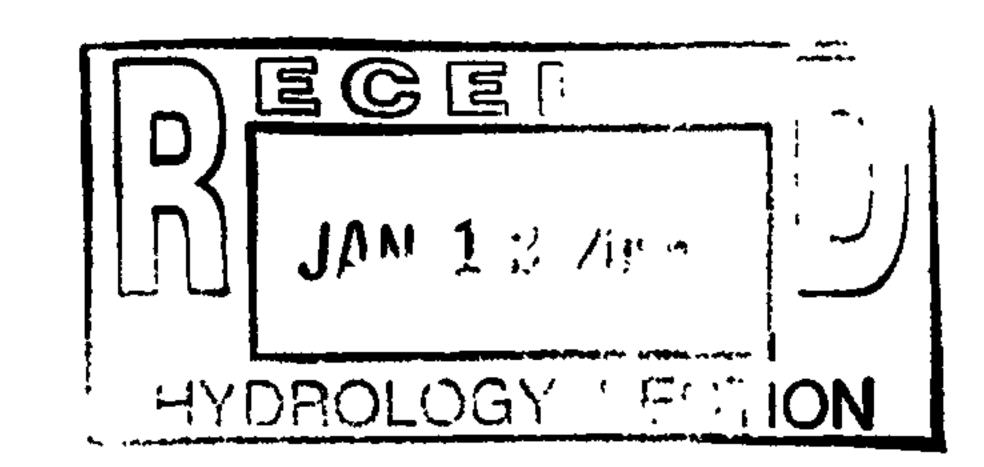


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Proposed Conditions	5
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Site Hydraulics	B
Map Pocket	
Site Grading and Drainage Plan	

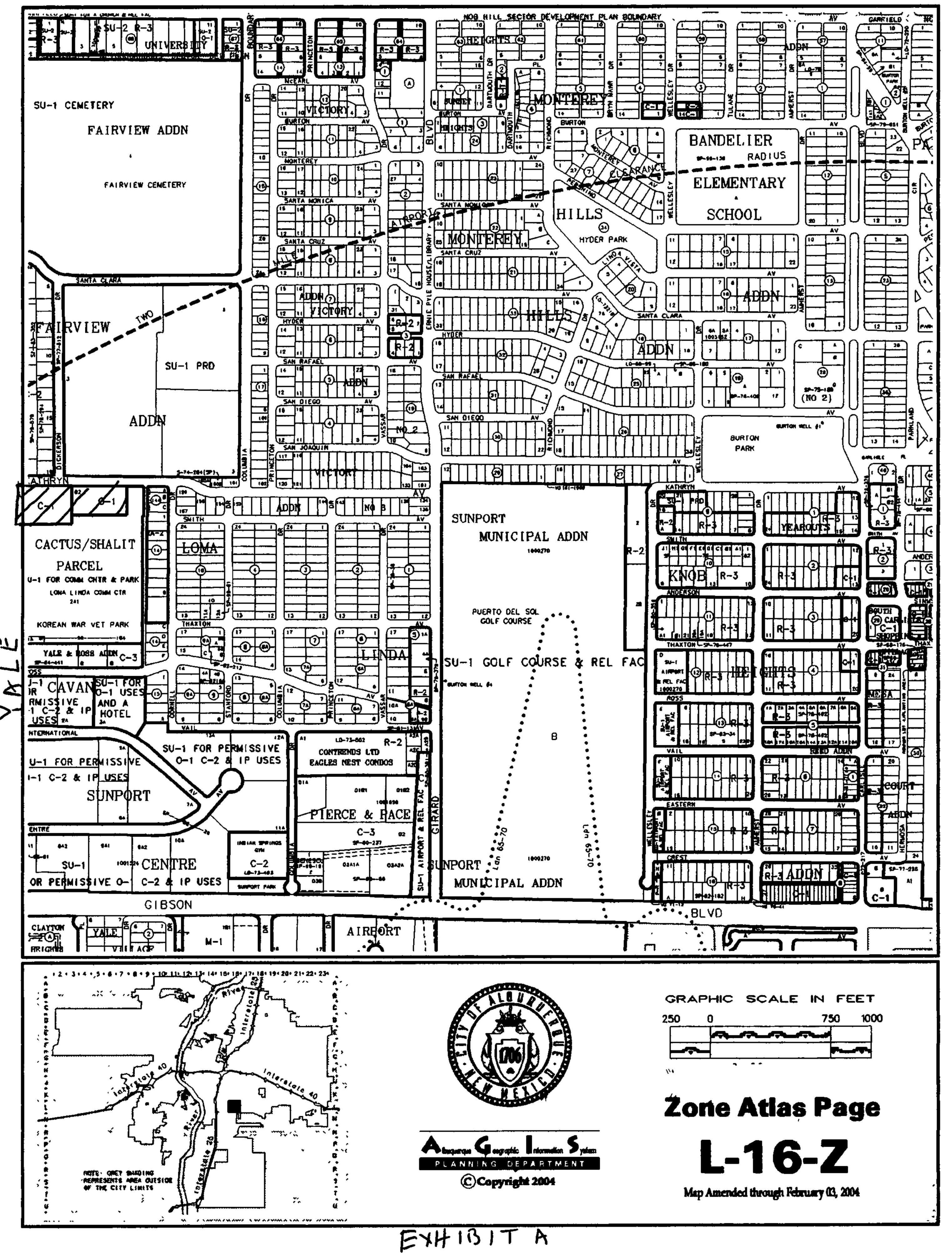
PURPOSE

The purpose of this report is to provide the Drainage Management Plan for the development of the University Crossings Subdivision. This plan will be utilized for the development of the subject property as a 32-lot paired unit family residential subdivision. This plan was prepared in accordance with the City of Albuquerque's Development Process Manual. This report will demonstrate that the proposed improvements do not adversely affect the surrounding properties, nor the upstream or downstream facilities.

INTRODUCTION

The subject of this report, as shown on the Exhibit A, is a 3.25-acre parcel of land located on the southeast corner of Kathryn Avenue SE and Yale Boulevard SE. The site is located in the near southeast heights area of Albuquerque. The legal description of this site is Tracts B-1 and B-2, Cactus Park Subdivision. As shown on FIRM map 35001C0353E, the site is located entirely within Flood Zone X. The site is currently undeveloped.

The site is located within an older part of Albuquerque. The site is surrounded by fully developed road to the north and west. The property to the east and south is a large community center with substantial amounts of landscaping and native vegetation along the common boundary. An existing inlet is located on the south west corner of this lot. Based upon informal discussions with the City of Albuquerque, the storm drainage system within Yale was recently upgraded; therefore the development of this site must allow for the historical patterns of flow surrounding the site and will be allowed free discharge to Yale Boulevard.



EXISTING CONDITIONS

The site is currently undeveloped. Due to the location it in an established area of town, all of the surrounding improvements are in place. The site is bound on its northern and western boundary by a full width road including sidewalks and storm drain. The eastern and southern boundaries are adjacent to native seeded and landscaped 'park- area' of a city community center. The site currently drains east to west where it de-silts prior to entering the Yale Storm drain via an existing inlet located within the property at the southwest corner. As shown in Appendix A, this site discharges 5.07 cfs to the Yale Storm drain during a 100-year, 6-hour rain event.

PROPOSED CONDITIONS

The proposed improvements consist of a 32-lot paired-unit single family residential subdivision with approximately 650 lineal feet of 26' wide public roads. The onsite lot grading shall consist of a building pad and rear and side yard swales with typical grades of 1%. Each lot will drain directly to the fronting roadway. The proposed roadway will consist of a 2% crowned roadway section with mountable curbs on the eastern lots and standard curbs on the western lots. The developed storm water discharge rates were calculated using the simplified procedure for 40 acre and smaller basins as shown in chapter 3-part A of the Development Process

Manual. As shown in Appendix A, the total developed flow generated by this site is predicted to be 13.06 cfs. As shown in Appendix B, the mountable curb transitions to standard in order for the entire peak runoff to stay within the roadway.

SUMMARY AND RECOMMENDATIONS

This site is a development of a portion of land located within the near southeast portion of Albuquerque. This site is surrounded by fully developed roadways. The storm drainage system within Yale Boulevard has been upgraded and this site is allowed free discharge. As shown within

this report, the roadways were designed to convey the 100-year 6-hour peak discharge rates..

The proposed site development does not adversely affect the upstream or downstream facilities. The site was designed in conformance to City of Albuquerque Drainage Policy.

Therefore, we request approval of the site-grading plan. Since public improvements will be constructed a work order and Subdivision Improvement Agreement will be required. Since this site encompasses more than 1 acre, a NPDES permit will be required prior to any construction activity.

APPENDIX A SITE HYDROLOGY

Weighted E Method

Existing Basins

The second of the second		Ť											100-Ye	ar
Basin		Area	Area	Treatment A		Treatment B		Treatment C		Treatment D		Weighted E	Volume	Flow
		(sf)	(acres)	%	(acres)	%	(acres)	%	(acres)	%	(acres)	(ac-ft)	(ac-ft)	cfs
ONSITE	14	41482.88	3.248	100%	3.248	0%	0.000	0%	0	0%	0.000	0.530	0.143	5.07
Total		41482.88	3.248		3.248		0.000		0		0.000		0.143	5.07

Proposed Developed Basins

		<u>-</u>		والمراجع المراجع	00-Year, 6-hr.								
Basin	Агеа	Area	Treat	ment A	Trea	tment B		ment C	Treat	ment D	Weighted E	Volume	Flow
	(sf)	(acres)	%	(acres)	%	(acres)	%	(acres)	%	(acres)	(ac-ft)	(ac-ft)	cfs
ONSITE	141526;44	3.249	0%	0	15%	0.487	20%	0.6498	65%	2.112	1.721	0.466	13.08
Total	141526.44	3.249	0%	0	15%	0.487	20%	0.6498	65%	2.112	1.721	0.466	13.08

Equations:

Weighted E = Ea*Aa + Eb*Ab + Ec*Ac + Ed*Ad / (Total Area)

Volume = Weighted D * Total Area

Flow = Qa * Aa + Qb * Ab + Qc * Ac + Qd * Ad

Where for 100-year, 6-hour storm

Ea= 0.53 Qa= 1.56 Eb= 0.78 Qb= 2.28 Ec= 1.13 Qc= 3.14 Ed= 2.12 Qd= 4.7

APPENDIX B SITE HYDRAULICS

Street Capacity Calculations

STREET BOTTOM

26' F-F Street Section with 8" curb Slope= 0.006

For water depths less than 0.125 feet

Y= Water depth

Area = 8*Y^2

P= SQRT(257*Y^2) + Y

n= 0.017

Depth (ft)	Area (ft^2)	P (ft)	R (A/P)	Q (cfs)	2Q (cfs)	Vel (ft/s)	D*V	Fr	D2 (ft)
0.01	0.00	0.17	0.00	0.00	0.00	0.19	0.00	0.33	0.0018848
0.02	0.00	0.34	0.01	0.00	0.00	0.30	0.01	0.38	0.0045908
0.04	0.01	0.68	0.02	0.01	0.01	0.48	0.02	0.42	0.0111278
0.06	0.03	1 02	0.03	0.02	0.04	0.63	0.04	0.45	0.0186349
0.08	0.05	1.36	0.04	0.04	0.08	0.76	0.06	0.47	0.0268376
0.1	0.08	1.70	0.05	0.07	0.14	0.88	0.09	0.49	0.0355923
0.12	0.12	2.04	0.06	0.11	0.23	1.00	0.12	0.51	0.0448091
0.125	0.13	2.13	0.06	0.13	0.26	1.02	0.13	0.51	0.0471777

For water depths greater than 0.125 ft but less than 0.365 ft

Y1= Y-0.125

A2= A1 + 2*Y1 + 25*Y1^2

P2= P1 + SQRT(2501*Y1^2)+Y1

Depth (ft)	Area (ft^2)	P (ft)	R (A/P)	Q (cfs)	2Q (cfs)	Vel (ft/s)	D*V	Fr	D2 (ft)
0.13	0.14	2.38	0.06	0.14	0.27	1.00	0.13	0.49	0.0460163
0.16	0.23	3.91	0.06	0.23	0.46	1.01	0.16	0.45	0.0486259
0.2	0.42	5.95	0.07	0.48	0.95	1.15	0.23	0.45	0.0623776
0.24	0.69	8.00	0.09	0.90	1.81	1.32	0.32	0.47	0.0806096
0.2846	1.08	10.27	0.11	1.63	3.26	1.51	0.43	0.50	0.1037171
0.32	1.47	12.08	0.12	2.43	4.87	1.66	0.53	0.52	0.1234692
0.3551	1.91	13.87	0.14	3.45	6.89	1.81	0.64	0.53	0.1440036
0.365	2.05	14.37	0.14	3.77	7.55	1.85	0.67	0.54	0.1499436

For water depths greater than 0.365 ft but less than 0.667 ft

Y2= Y - 0.365 A3= A2 + Y2*14 P3= P2 + Y2

Depth (ft)	Area (ft^2)	P (ft)	R (A/P)	Q (cfs)	2Q (cfs)	Vel (ft/s)	D*V	Fr	D2 (ft)
0.37	2.12	14.38	0.15	3.99	7.98	1.89	0.70	0.55	0.1556607
0.4556	3.31	14.46	0.23	8.40	16.80	2.54	1.16	0.66	0.2556985
0.4848	3.72	14.49	0.26	10.18	20.37	2.74	1.33	0.69	0.2906669
0.5	3.94	14.51	0.27	11.16	22.33	2.84	1.42	0.71	0.3090234
0.54	4.50	14.55	0.31	13.91-	27.82-	3.09-	1.67_	0.74-	-0.357805
0.5584	4.75	14.56	0.33	15.25	30.50	3.21	1.79	0.76	0.3804643
0.63	5.76	14.64	0.39	20.91	41.83	3.63	2.29	0.81	0.4698487
0.667	6.27	14.67	0.43	24.10	48.21	3.84	2.56	0.83	0.5167338

For water depths greater than 0.667 ft but less than 0.847 ft

Y3= Y - 0.667

A4= A3 + 14 * Y3 + 25 * Y3^2 P4= P3 + SQRT(2501 * Y3^2)

Depth (ft)	Area (ft^2)	P (ft)	R (A/P)	Q (cfs)	2Q (cfs)	Vel (ft/s)	D*V	Fr	D2 (ft)
0.7	6.76	16.32	0.41	25.44	50.89	3.76	2.63	0.79	0.5090958
0.72	7.09	17.32	0.41	26.43	52.87	3.73	2.69	0.77	0.5071856
0.74	7.43	18.32	0.41	27.55	55.10	3.71	2.74	0.76	0.5069788
0.76	7.79	19.32	0.40	28.79	57.58	3.70	2.81	0.75	0.508251
0.78	8.17	20.32	0.40	30.16	60.31	3.69	2.88	0.74	0.5108175
0.8	8.58	21.32	0.40	31.64	63.29	3.69	2.95	0.73	0.5145251
0.847	9.60	23.68	0.41	35.63	71.26	3.71	3.14	0.71	0.5270333

Street Capacity Calculations

STREET TOP

26' F-F Street Section with 4" curb

Slope= 0.031

Q=13.08*.42=5.49 CFS

For water depths less than 0.0625 feet

Y= Water depth Area = 16*Y^2

P= SQRT(1025*Y^2) + Y

n= 0.017

	Depth (ft)	Area (ft^2)	P (ft)	R (A/P)	Q (cfs)	2Q (cfs)	Vel (ft/s)	D*V	Fr	D2 (ft)
ı	0.01	0.0016	0.33	0.00	0.00	0.00	0.44	0.00	0.78	0.00707
- #	0.02	0.0064	0.66	0.01	0.00	0.01	0.70	0.01	0.87	0.01661
1	0.025	0.01	0.83	0.01	0.01	0.02	0.81	0.02	0.90	0.02185
	0.035	0.0196	1.16	0.02	0.02	0.04	1.02	0.04	0.96	0.033
ı	0.045	0.0324	1.49	0.02	0.04	0.08	1.20	0.05	1.00	0.04488
٠,	0.052	0.043264	1.72	0.03	0.06	0.11	1.32	0.07	1.02	0.05355
	0.06	0.0576	1.98	0.03	0.08	0.17	1.46	0.09	1.05	0.06377
. !	0.0625	0.0625	2.06	0.03	0.09	0.19	1.50	0.09	1.05	0.06703

For water depths greater than 0.0625 ft but less than 0.3025 ft

Y1= Y-0.0625

A2= A1 + 2*Y1 + 25*Y1^2

P2= P1 + SQRT(2501*Y1^2)+Y1

	Depth (ft)	Area (ft^2)	P (ft)	R (A/P)	Q (cfs)	2Q (cfs)	Vel (ft/s)	D*V	Fr	D2 (ft)
Í	0.063	0.063506	2.09	0.03	0.10	0.19	1.50	0.09	1.05	0.06743
	0.1	0.172656	3.98	0.04	0.33	0.66	1.90	0.19	1.06	0.10796
	0.13	0.311406	5.51	0.06	0.71	1.41	2.27	0.29	1.11	0.14887
	0.16	0.495156	7.04	0.07	1.30	2.60	2.62	0.42	1.16	0.19346
	0.2	0.810156	9.08	0.09	2.49	4.98	3.07	0.61	1.21	0.25687
	=0.207=	0.873506	9.43	· 0.09 ~	-2.75·	5.50 -	- 3.15	-0.65 	-1:22	-0.26835
į	0.2612	1.446942	12.20	0.12	5.38	10.75	3.72	0.97	1.28	0.36032
	0.3025	1.9825	14.31	0.14	8.17	16.34	4.12	1.25	1.32	0.43358

For water depths greater than 0.3025 ft but less than 0.333 ft

Y2= Y - 0.3025 A3= A2 + Y2*14 P3= P2 + Y2

	Depth (ft)	Area (ft^2)	P (ft)	R (A/P)	Q (cfs)	2Q (cfs)	Vel (ft/s)	D*V	Fr	D2 (ft)
	0.303	1.9895	14.31	0.14	8.22	16.44	4.13	1.25	1.32	0.43512
	0.3039	2.0021	14.31	0.14	8.31	16.61	4.15	1.26	1.33	0.43789
	0.3062	2.0343	14.31	0.14	8.53	17.06	4.19	1.28	1.34	0.44497
	0.31	2.0875	14.31	0.15	8.90	17.80	4.26	1.32	1.35	0.45667
1	0.3125	2.1225	14 32	0.15	9.15	18.30	4.31	1.35	1.36	0.46438
;	0.32	2.2275	14.32	0.16	9.91	19.83	4.45	1.42	1.39	0.48755
	0.3317	2.3913	14.34	0.17	11.15	22.31	4.66	1.55	1.43	0.52381
;	0.333	2.4095	14.34	0.17	11.29	22.59	4.69	1.56	1.43	0.52785

For water depths greater than 0.333 ft but less than 0.513 ft

Y3= Y - 0.333

A4= A3 + 14 * Y3 + 25 * Y3^2 P4= P3 + SQRT(2501 * Y3^2)

	Depth (ft)	Area (ft^2)	P (ft)	R (A/P)	Q (cfs)	2Q (cfs)	Vel (ft/s)	D*V	Fr	D2 (ft)
I	0.335	2.4376	14.44	0.17	11.46	22.92	4.70	1.58	1.43	0.53109
	0.3601	2.80726	15.69	0.18	13.72	27.44	4.89	1.76	1.44	0.57259
	0.38	3.122725	16.69	0.19	15.72	31.45	5.04	1.91	1.44	0.60657
	0.4196	3.809389	18.67	0.20	20.32	40.64	5.33	2.24	1.45	0.67659
1	0.4603	4.596832	20.70	0.22	25.94	51.88	5.64	2.60	1.47	0.75143
A	0.504	5.534525	22.89	0.24	33.06	66.12	5.97	3.01	1.48	0.83453
L	0.513	5.7395	23.34	0.25	34.67	69.35	6.04	3.10	1.49	0.85196