Federal Emergency Management Agency

Washington, D.C. 20472

JUN 06 2005

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

The Honorable Martin J. Chavez
Mayor, City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

IN REPLY REFER TO:
Case No.: 05-06-0322P
Community Name: City of Albuquerque, NM
Community No.: 350002
Effective Date of This Revision: JUN 06 2005

Dear Mayor Chavez:

The Flood Insurance Rate Map for your community has been revised by this Letter of Map Revision (LOMR). Please use the enclosed annotated map panel(s) revised by this LOMR for floodplain management purposes and for all flood insurance policies and renewals issued in your community.

Additional documents are enclosed which provide information regarding this LOMR. Please see the List of Enclosures below to determine which documents are included. Other attachments specific to this request may be included as referenced in the Determination Document. If you have any questions regarding floodplain management regulations for your community or the National Flood Insurance Program (NFIP) in general, please contact the Consultation Coordination Officer for your community. If you have any technical questions regarding this LOMR, please contact the Director, Federal Insurance and Mitigation Division of the Department of Homeland Security's Federal Emergency Management Agency (FEMA) in Denton, Texas, at (940) 898-5127, or the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP). Additional information about the NFIP is available on our website at http://www.fema.gov/nfip.

Sincerely,

Max H. Yuan, P.E., Project Engineer
Hazard Identification Section
Mitigation Division
Emergency Preparedness
and Response Directorate

For: Doug Bellomo, P.E., Chief
Hazard Identification Section
Mitigation Division
Emergency Preparedness
and Response Directorate

List of Enclosures:
Letter of Map Revision Determination Document
Annotated Flood Insurance Rate Map

cc: Mr. Bradley L. Bingham, P.E., CFM
City Floodplain Administrator
City of Albuquerque

Ms. Genevieve L. Donart, P.E.
Isaacson & Arfman, P.A.

Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT

COMMUNITY AND REVISION INFORMATION		PROJECT DESCRIPTION	BASIS OF REQUEST
COMMUNITY	City of Albuquerque Bernalillo County New Mexico	STORM SEWERS RETENTION POND	HYDRAULIC ANALYSIS HYDROLOGIC ANALYSIS NEW TOPOGRAPHIC DATA
	COMMUNITY NO.: 350002		
IDENTIFIER	Vista del Aguila Subdivision, Unit Three	APPROXIMATE LATITUDE & LONGITUDE: 35.1855, -106.5611 SOURCE: USGS QUADRANGLE DATUM: NAD 83	
FLOODING SOURCE(S) & REVISED REACH(ES)	South La Cueva Arroyo – from approximately 1,150 feet downstream to approximately 1,450 feet upstream of Louisiana Boulevard Northeast		

SUMMARY OF REVISIONS

Effective Flooding:	Zone AO	Zone X (unshaded)
Revised Flooding:	Zone X (unshaded)	Zone A
Increases:	NONE	YES
Decreases:	YES	NONE

* BFEs – Base Flood Elevations

ANNOTATED MAPPING ENCLOSURES	ANNOTATED STUDY ENCLOSURES
TYPE: FIRM* NO.: 35001C0137 F Date: November 19, 2003	NO REVISION TO THE FLOOD INSURANCE STUDY REPORT

* FIRM – Flood Insurance Rate Map; ** FBFM – Flood Boundary and Floodway Map; *** FHBM – Flood Hazard Boundary Map

DETERMINATION

This document provides the determination from the Department of Homeland Security's Federal Emergency Management Agency (FEMA) regarding a request for a Letter of Map Revision (LOMR) for the area described above. Using the information submitted, we have determined that a revision to the flood hazards depicted in the Flood Insurance Study (FIS) report and/or National Flood Insurance Program (NFIP) map is warranted. This document revises the effective NFIP map, as indicated in the attached documentation. Please use the enclosed annotated map panels revised by this LOMR for floodplain management purposes and for all flood insurance policies and renewals in your community.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMR Depot, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional information about the NFIP is available on our website at http://www.fema.gov/nfip.

Max H. Yuan, P.E., Project Engineer
Hazard Identification Section
Mitigation Division
Emergency Preparedness and Response Directorate 105634 10.3.1.05060322 102IC

Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)

COMMUNITY INFORMATION

APPLICABLE NFIP REGULATIONS/COMMUNITY OBLIGATION

We have made this determination pursuant to Section 206 of the Flood Disaster Protection Act of 1973 (P.L. 93-234) and in accordance with the National Flood Insurance Act of 1968, as amended (Title XIII of the Housing and Urban Development Act of 1968, P.L. 90-448), 42 U.S.C. 4001-4128, and 44 CFR Part 65. Pursuant to Section 1361 of the National Flood Insurance Act of 1968, as amended, communities participating in the NFIP are required to adopt and enforce floodplain management regulations that meet or exceed NFIP criteria. These criteria, including adoption of the FIS report and FIRM, and the modifications made by this LOMR, are the minimum requirements for continued NFIP participation and do not supersede more stringent State/Commonwealth or local requirements to which the regulations apply.

COMMUNITY REMINDERS

We based this determination on the 1-percent-annual-chance discharges computed in the submitted hydrologic model. Future development of projects upstream could cause increased discharges, which could cause increased flood hazards. A comprehensive restudy of your community's flood hazards would consider the cumulative effects of development on discharges and could, therefore, indicate that greater flood hazards exist in this area.

Your community must regulate all proposed floodplain development and ensure that permits required by Federal and/or State/Commonwealth law have been obtained. State/Commonwealth or community officials, based on knowledge of local conditions and in the interest of safety, may set higher standards for construction or may limit development in floodplain areas. If your State/Commonwealth or community has adopted more restrictive or comprehensive floodplain management criteria, those criteria take precedence over the minimum NFIP requirements.

We will not print and distribute this LOMR to primary users, such as local insurance agents or mortgage lenders; instead, the community will serve as a repository for the new data. We encourage you to disseminate the information in this LOMR by preparing a news release for publication in your community's newspaper that describes the revision and explains how your community will provide the data and help interpret the NFIP maps. In that way, interested persons, such as property owners, insurance agents, and mortgage lenders, can benefit from the information.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMR Depot, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional information about the NFIP is available on our website at http://www.fema.gov/nfip.

Max H. Yuan, P.E., Project Engineer
Hazard Identification Section
Mitigation Division
Emergency Preparedness and Response Directorate

105634 10.3.1.05060322 102IC

Federal Emergency Management Agency
Washington, D.C. 20472

LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)

COMMUNITY INFORMATION (CONTINUED)

We have designated a Consultation Coordination Officer (CCO) to assist your community. The CCO will be the primary liaison between your community and FEMA. For information regarding your CCO, please contact:

Mr. Frank Pagano
Director, Federal Insurance and Mitigation Division
Federal Emergency Management Agency, Region VI
Federal Regional Center, Room 206
800 North Loop 288
Denton, TX 76209
(940) 898-5127

STATUS OF THE COMMUNITY NFIP MAPS

We will not physically revise and republish the FIRM for your community to reflect the modifications made by this LOMR at this time. When changes to the previously cited FIRM panel warrant physical revision and republication in the future, we will incorporate the modifications made by this LOMR at that time.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMR Depot, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional information about the NFIP is available on our website at http://www.fema.gov/nfip.

Max H. Yuan, P.E., Project Engineer
Hazard Identification Section
Mitigation Division
Emergency Preparedness and Response Directorate

Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)

PUBLIC NOTIFICATION OF REVISION

This revision is effective as of the date of this letter. Any requests to review or alter this determination should be made within 30 days and must be based on scientific or technical data.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMR Depot, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional information about the NFIP is available on our website at http://www.fema.gov/nfip.

Max H. Yuan, P.E., Project Engineer
Hazard Identification Section
Mitigation Division
Emergency Preparedness and Response Directorate

105634 10.3.1.05060322 102IC

ZONE AO
(DEPTH 1)

South La Cueva Arroyo

ZONE X

ZONE X

REVISED AREA

ZONE A

Retention Pond

OBSIDIAN ST NE

SHALE AVE NE

OLIVINE ST NE

LIMESTONE AVE NE

EAGLE ROCK AVE NE

MOONSTONE DR NE

TOURMALINE RD NE

JASPER DR NE

AQUAMARINE RD NE

OAKLAND AVE NE

QUAIL SPRINGS PL NE

GROUSE RIDGE DR NE

ALAMEDA BLVD NE

SIGNAL AVE NE

LA HABRA LA NE

EL MONTE LANE

ALTA LOMA LE NE

SIMI LA NE

TESORO PL NE

SENTIDO PL NE

SUERTE PL NE

CITY OF ALBUQUERQUE 350002

1% ANNUAL CHANCE FLOOD DISCHARGE CONTAINED IN CULVERT

WILSHIRE AVE NE

RANCHO DEL RIO DR NE

RANCHO DIEGO PL NE

RANCHO SANTA FE PL NE

RANCHO MIRANGE DR NE

VISTA DEL RANCHO RD NE

RANCHO VISTA PL NE

VISTA DEL ESCUELA PL NE

RANCHO LADERA RD NE

VISTA DEL NORTE DR NE

1% ANNUAL CHANCE FLOOD DISCHARGE CONTAINED IN CHANNEL

MURRELET DR NE

KRIDER DR NE

TRICIA RD NE

Culvert

PEREGRINE RD NE

CORONA AVE NE

JOINS PANEL 0141

KARLSON DR NE

CARMEL DR NE

Culvert

1% ANNUAL CHANCE FLOOD DISCHARGE CONTAINED IN CULVERT

ANAHEIM AVE NE

LA MILPITA ST NE

SAN GAVILON ST NE

CALLE SOQUELLE NE

LOUISIANA BLVD NE

Culvert

CARMEL AVE NE

1% ANNUAL CHANCE FLOOD DISCHARGE CONTAINED IN PASEO DEL NORTE STORM DRAIN SYSTEM

ZONE AE
(EL 5620)

ZONE AO
(DEPTH 1)

North Arroyo De Domingo Baca

LOWER NORTH DOMINGO BACA DAM

Legend

- 1% annual chance (100-Year) Floodplain
- 1% annual chance (100-Year) Floodway
- 0.2% annual chance (500-Year) Floodplain

APPROXIMATE SCALE IN FEET

500 250 0 500

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

BERNALILLO COUNTY, NEW MEXICO AND INCORPORATED AREAS

PANEL 137 OF 825
(SEE MAP INDEX FOR PANELS NOT PRINTED)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BERNALILLO COUNTY UNINCORPORATED AREAS	350001	0137	F
ALBUQUERQUE, CITY OF	350002	0137	F

REVISED TO REFLECT LOMR DATED JUN 06 2005

MAP NUMBER
35001C0137 F

EFFECTIVE DATE:
NOVEMBER 19, 2003

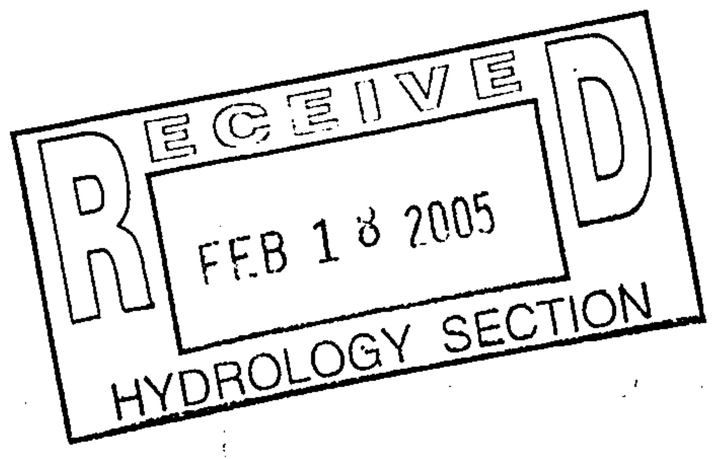
Federal Emergency Management Agency

ISAACSON & ARFMAN, P.A.

Consulting Engineering Associates

Thomas O. Isaacson, PE & LS • Fred C. Arfman, PE
Scott M. McGee, PE

February 17, 2005



Ms. Lauren Clem
Michael Baker Jr., Inc.
Revisions Coordinator
3601 Eisenhower Avenue
Alexandria, Virginia 22304-6425

RE: LOMR for Vista del Aguila Subdivision Unit 3 (Case #05-06-0322P)

Dear Ms. Clem:

I received your comments regarding the above mentioned LOMR, and I have responded to them in the following manner:

1. A Pond Volumes calculation sheet is attached with this letter which shows the WSEL at 5303.02 for a100-year, 10-day volume of 5.4454 Ac-ft. This is the base flood elevation. The pond has an additional 1' of freeboard before the emergency overflow at elevation 5304.

2. Attached is an Agreement & Covenant for the maintenance of the pond that was approved by the City of Albuquerque and filed at Bernalillo. It outlines the developer's responsibilities for maintenance and the actions the City may take for lack of compliance.

3. The storm drain capacities were recalculated using the WSPGW program, which is on the FEMA approved list. I included the results of those calculations.

   I only reworked the storm drain in Alameda Blvd and internal to Vista del Aguila Subdivision, as these are the only areas that affect the removal of the floodplain. The flows from Trementina Subdivision were input as an inflow on the Alameda Blvd storm drain at the appropriate location, but I didn't rerun the storm drain internal to Trementina.

   Part of the information provided includes profiles which show the WSPGW calculated HGL with respect to the storm drain and the road grades. I also included the HGL elevation from the HydraFlow Storm Sewer model that was used in the initial submittal by way of comparison. The flows still fit within the storm drain.

In addition to the responses to your comments, I have included some calculations for removal of the same floodplain to the west of the site, and a revised Proposed Floodplain Exhibit. This removes the floodplain for another 1,132 ft downstream of the Vista del Aguila Unit 3 Subdivision. The addendum was proposed because the upstream flows in this arroyo have all been cut off by the development of this subdivision.

If you have any questions about this resubmittal, please feel free to contact me at gennyd@iacivil.com or at (505) 268-8828.

Sincerely,
Isaacson & Arfman, P.A.

Genny Donart, PE

GLD/gld

Attachments

cc: Brad Bingham, City of Albuquerque Floodplain Manager
Joe Boyden, Two Joes, LLC
Adil Rizvi, Skyblue Investments

POND VOLUMES
VISTA DEL AGUILA 3 & TREMENTINA
2/16/2005

ELEV	AREA (SF)	VOLUME (CF)	VOLUME (Ac-ft)	SUM VOL (Ac-ft)
5294.5	19447.66			
		9946.17	0.22833	
5295	20337.02			0.22833
		21253.45	0.48791	
5296	22169.88			0.71624
		23122.40	0.53082	
5297	24074.92			1.24706
		25063.54	0.57538	
5298	26052.15			1.82244
		27076.86	0.62160	
5299	28101.56			2.44404
		29162.36	0.66948	
5300	30223.16			3.11352
		31320.06	0.71901	
5301	32416.95			3.83253
		33549.94	0.77020	
5302	34682.92			4.60273
		35852.00	0.82305	
5303	37021.07			**5.42577**
		38226.24	0.87755	
5304	39431.41			6.30333

WSEL @ 5.4454 Ac-ft = 5303.02

AGREEMENT AND COVENANT

This Agreement and Covenant, between the City of Albuquerque, New Mexico ("City") and Two Joes, L.L.C., ("User") is made in Albuquerque, New Mexico and is entered into as of the date of recording this Agreement with the Bernalillo County Clerk.

1. Recital. The User is the owner of certain real property ("User's Property") located at Louisiana Blvd. and Alameda Blvd., in Albuquerque, New Mexico, and more particularly described as: (give legal description and filing information)

Lots 1 and 2, Tract 2, Unit 3, Block 4
North Albuquerque Acres, filed September 10, 1931 in Book D1, Page 20

The City is the owner of certain real property, easement or public right-of-way ("City's Property") in the vicinity of, contiguous to, abutting or within User's Property, and more particularly described as:

Louisiana Blvd. right-of-way and Alameda Blvd. right-of-way

The User wishes to construct upon, improve or repair and to maintain the following "Improvement" on the City's Property (or already has done so):

A sketch of the proposed or existing Improvement is attached as Exhibit A and made a part of this Agreement.

The City agrees to permit the Improvement to exist on the City's Property provided the User complies with the terms of this Agreement.

2. City Use of City's Property and City Liability. The City has the right to enter upon the City's Property at any time and perform whatever inspection, installation, maintenance, repair, modification or removal ("Work") it deems appropriate without liability to the User. If the Work affects the Improvement the City will not be financially or otherwise responsible for rebuilding or repairing the Improvement. The User promptly will repair the Improvement to the City's satisfaction. The cost of repairing the Improvement will be paid by User.

3. User's Responsibility for Improvement. The User will be solely responsible for constructing, maintaining, repairing and, if required, removing the Improvement, all in accordance with standards required by the City as per the approved Grading and Drainage Plan _____ on file at the City Engineer's office. The User will be solely responsible for paying all related costs. The User will be solely responsible for paying all related costs. The User will not permit the Improvement to constitute a hazard to the health or safety of the general public or to interfere with the City's use of the City's Property. The User will conform with all applicable laws, ordinances and regulations.

Mary Herrera Bern. Co. AGRE R 17.00
2003197877
5980909
Page: 1 of 5
10/29/2003 03:24P
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4. Use of the Improvement. If the City's Property is a public right-of-way, it shall be open to the use of the general public at all times, subject to reasonable curtailment during periods of construction, maintenance or repair.

5. Demand for Repair, Modification or Removal. The City may send written notice ("Notice") to the User requiring the User to repair, modify or remove the Improvement within 30 days ("Deadline") and the User will comply promptly with the requirements of the Notice. If removal is demanded, the City also may require the User to return the City's Property to its original condition by the Deadline. The User will perform all required work by the Deadline, at User's sole expense.

6. Failure to Perform by User and Emergency Work by City. If the User fails to comply with the terms of the Notice by the Deadline stated, or, if the City determines that an emergency condition exists, the City may perform the work itself. The City then may assess the User for the cost of the work and for any other expenses or damages which result from User's failure to perform. The User agrees promptly to pay the City the amount assessed. If the User fails to pay the City within thirty (30) days after the City gives the User written notice of the amount due, the City may impose a lien against User's Property for the total resulting amount.

7. Cancellation of Agreement and Release of Covenant. This Agreement may be canceled and User's covenants released by the City at will by the City's mailing to the User notice of the City's intention to record a Cancellation and Release with the Bernalillo County Clerk. The Cancellation and Release will be effective thirty (30) days after the date of mailing the notice to the User unless a later date is stated in the notice or the Cancellation and Release. After the effective date, the City will record the Cancellation and Release with the Bernalillo County Clerk.

8. Condemnation. If any part of the User's Property is ever condemned by the City, the User will forego all claims to compensation for any portion of User's structure which encroaches on City Property and for severance damage to the remaining portion of User's structure on User's Property.

9. Assessment. Nothing in this Agreement shall be construed to relieve the User, his heirs, assigns and successors from an assessment against User's Property for improvements to the City Property under a duly authorized and approved Special Assessment District. The parties specifically agree that the value of the Improvement will not reduce the amount assessed by the City.

10. Notice. For purposes of giving formal written notice to the User, User's address is:

4402 Canyon Court NE
Albuquerque, NM 87111

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Page: 2 of 5
10/29/2003 03:24P
Bk-A67 Pg-7466
Mary Herrera Bern. Co. AGRE R 17.00

Notice may be given to the User either in person or by mailing the notice by regular U.S. mail, postage paid. Notice will be considered to have been received by the User within 3 days after the notice is mailed if there is no actual evidence of receipt. The User may change User's address by giving written notice of the change by certified mail, return receipt requested, to the City Engineer at P.O. Box 1293, Albuquerque, New Mexico 87103.

11. Indemnification. The User agrees to defend, indemnify and hold harmless the City, its officials, agents and employees from and against any and all claims, actions, suits or proceedings of any kind brought against said parties as a result of User's use of the City's Property. To the extent, if at all, Section 56-7-1 NMSA 1978 is applicable to this Agreement, this Agreement to indemnify will not extend to liability, claims, damages, losses or expenses, including attorney's fees, arising out of (1) the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications by the indemnitee, or the agents or employees of the indemnitee; or (2) the giving of or the failure to give direction or instructions by the indemnitee, where such giving or failure to give directions or instructions is the primary cause of bodily injury to persons or damage to property.

12. Term. This Agreement shall continue until revoked by the City pursuant to Section 7 above.

13. Binding on User's Property. The covenants and obligations of the User set forth herein shall be binding on User, his heirs assigns and successors and on User's Property and constitute covenants running with User's Property until released by the City.

14. Entire Agreement. This Agreement contains the entire agreement of the parties and supersedes any and all other agreements or understandings, oral or written, whether previous to the execution hereof or contemporaneous herewith.

15. Changes of Agreement. Changes to this Agreement are not binding unless made in writing, signed by both parties.

16. Construction and Severability. If any part of this Agreement is held to be invalid or unenforceable, the remainder of the Agreement will remain valid and enforceable if the remainder is reasonably capable of completion.

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Page: 3 of 5
10/29/2003 03:24P
Mary Herrera Bern. Co. AGRE R 17.00 Bk-A67 Pg-7466

17. Captions. The captions to the sections or paragraphs of this Agreement are not part of this Agreement and will not affect the meaning or construction of any of its provisions.

CITY OF ALBUQUERQUE:

By: _____
Title: City Engineer
Dated: 10-27-03

10/28

USER: Two Joes, L.L.C.

By: Joel R Hoan
Title: Managing Member
Dated: 10/6/03

cf 10/24/03

CITY'S ACKNOWLEDGMENT

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

This instrument was acknowledged before me on October 27, 2003 by Fred Cequeira, City Engineer, Public Works Department, for the City of Albuquerque, a New Mexico municipal corporation, on behalf of the corporation.

Claire Senova
Notary Public

My Commission Expires:
7.30.2004

OFFICIAL SEAL
CLAIRE SENOVA
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires: 7.30.2004

USER'S ACKNOWLEDGMENT

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

OFFICIAL SEAL
Ruth T. Lozano
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires: 4/22/07

This instrument was acknowledged before me on October 6, 2003 by Joel R. Hoan, ~~Two Joes, L.L.C.~~ (X), on behalf of Two Joes, L.L.C.
Managing Member

Ruth T. Lozano
Notary Public

My Commission Expires:
4/22/07

rpd4\agmnew2.wpm (Revised by Legal 4/99)

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Page: 4 of 5
10/29/2003 03:24P
Mary Herrera Bern. Co. [illegible] 17.00 Bk-A67 Pg-7466

ACS MONUMENT
"10–C18"
Y=1524061.42
X=402319.45
G–G=0.9996613
$\Delta\alpha$=–00°11'18"
CENTRAL ZONE
(NAD 1927/SLD 1929)
ELEVATION=5219.41

N 64°01'27" W
2934.03'

SCALE:
1"=100'

NORTH ALBUQUERQUE ACRES
TRACT 2, UNIT 3, BLOCK 3
(09–10–31, D1–20)

32 31 30

TIE:
S 00°12'41" W
296.23'

60' R/W

LOUISIANA BLVD.

ALAMEDA BLVD.

60 R/W

36" SD

36" SD

S89°42'43"E

P.O.B

233.94

299.84

234.58

N00°12'41"E

S00°14'27"W

N89°35'26"W

299.72

1

RETENTION POND
MIN. POND VOLUME
=5.4454 AC–FT
BOTTOM OF POND
ELEV=5294.5
WSEL=5303.0

EMERGENCY
OVERFLOW
WEIR ELEV=5304.0

2

5310
5305
5300
5295

NORTH ALBUQUERQUE ACRES
TRACT 2, UNIT 3, BLOCK 4
(09–10–31, D1–20)

3

ADDENDUM TO THE

LETTER OF MAP REVISION

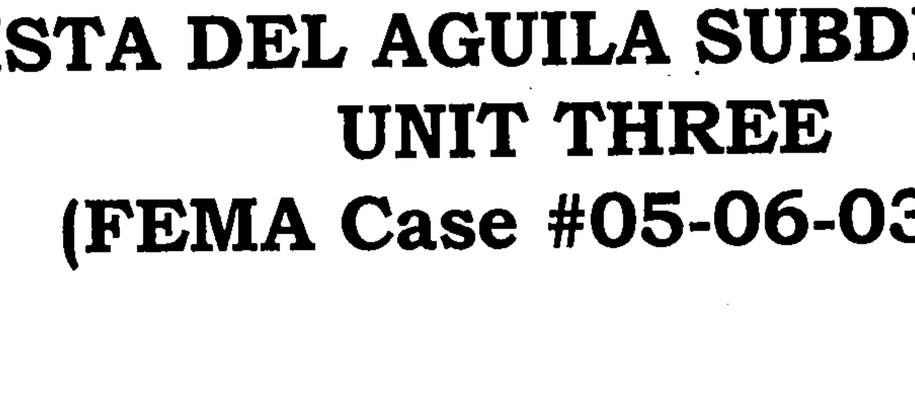
FOR

FLOOD INSURANCE RATE MAP #35001C0137F

FOR

VISTA DEL AGUILA SUBDIVISION, UNIT THREE (FEMA Case #05-06-0322P)

FEBRUARY 2005



This addendum to the Vista del Aguila Subdivision, Unit 3 (VDA3) LOMR application is provided to prove that the source of the floodplain downstream of VDA3 (west of Louisiana Blvd) was cut off by the upstream construction of drainage improvements in VDA3, and to remove it from FIRM Panel #35001C0137F at least 1132' west of Louisiana along with the floodplain inside of VDA3. (See the Proposed Floodplain Exhibit and the Vicinity Map attached.)

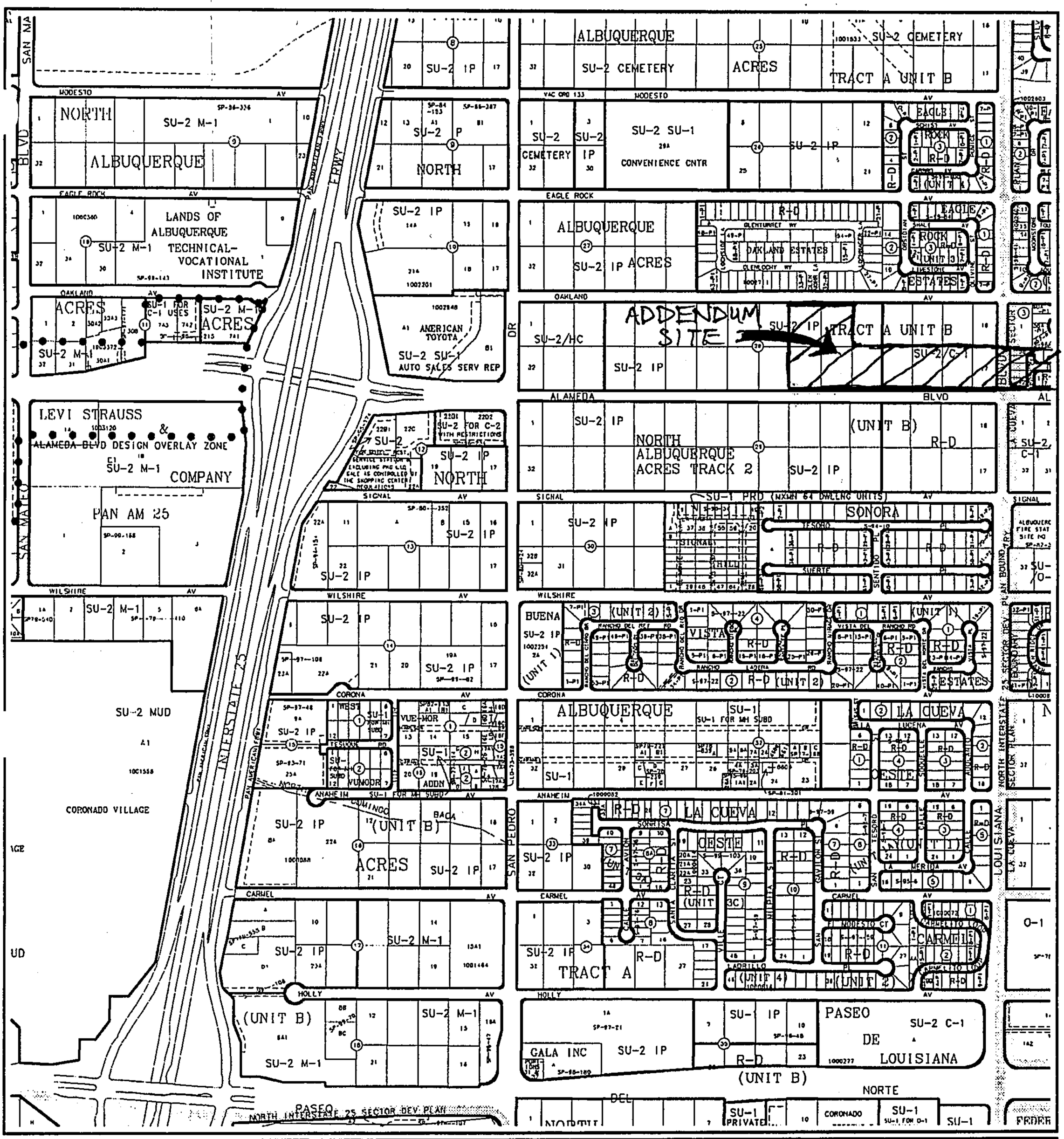
Existing conditions in the area to the west of Louisiana Blvd include undeveloped land that is covered in native grasses and scrub. The historic alignment of the South La Cueva Arroyo continues from the west boundary of VDA3 at Louisiana Blvd to San Pedro Blvd. All of the flows from upstream of Louisiana have been cut off by the construction of storm drains in Wyoming Blvd, Alameda Blvd, and internal to VDA3. The only flows which now enter the natural arroyo are from the undeveloped land immediately surrounding the channel.

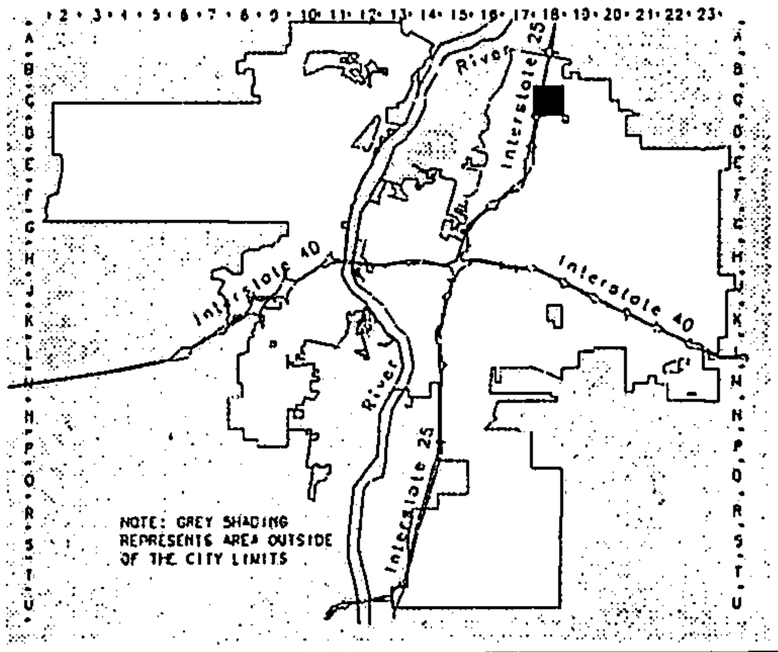
Attached are calculations which show the deepest flows in the arroyo during the 100-year, 6-hour storm to be 0.34'. An aerial topographic survey of the area was used to create basin boundaries and cross-section of the channel. (See the Offsite Basin Map.)

The flows from each basin were calculated per a modified Rational Method as described in the City of Albuquerque Development Process Manual. A previous resubmittal for this project included excerpts from the Development Process Manual that explained this methodology.(See the Runoff Calculation for Existing Conditions)

These flows and the cross-sectional information were used to generate a HEC-RAS computation of the channel depth. At STA 31+75, the arroyo reaches 0.34' depth, but most areas are below 0.2' deep. The maximum velocities in the current condition are 3.48 fps at STA 30+75, so sediment transportation will be negligible. (See the Existing Ground Cross-Sections and HEC-RAS calculations.)

A CD with the HEC-RAS, flow computation, and AutoCAD files is also attached.





Albuquerque Geographic Information System
PLANNING DEPARTMENT

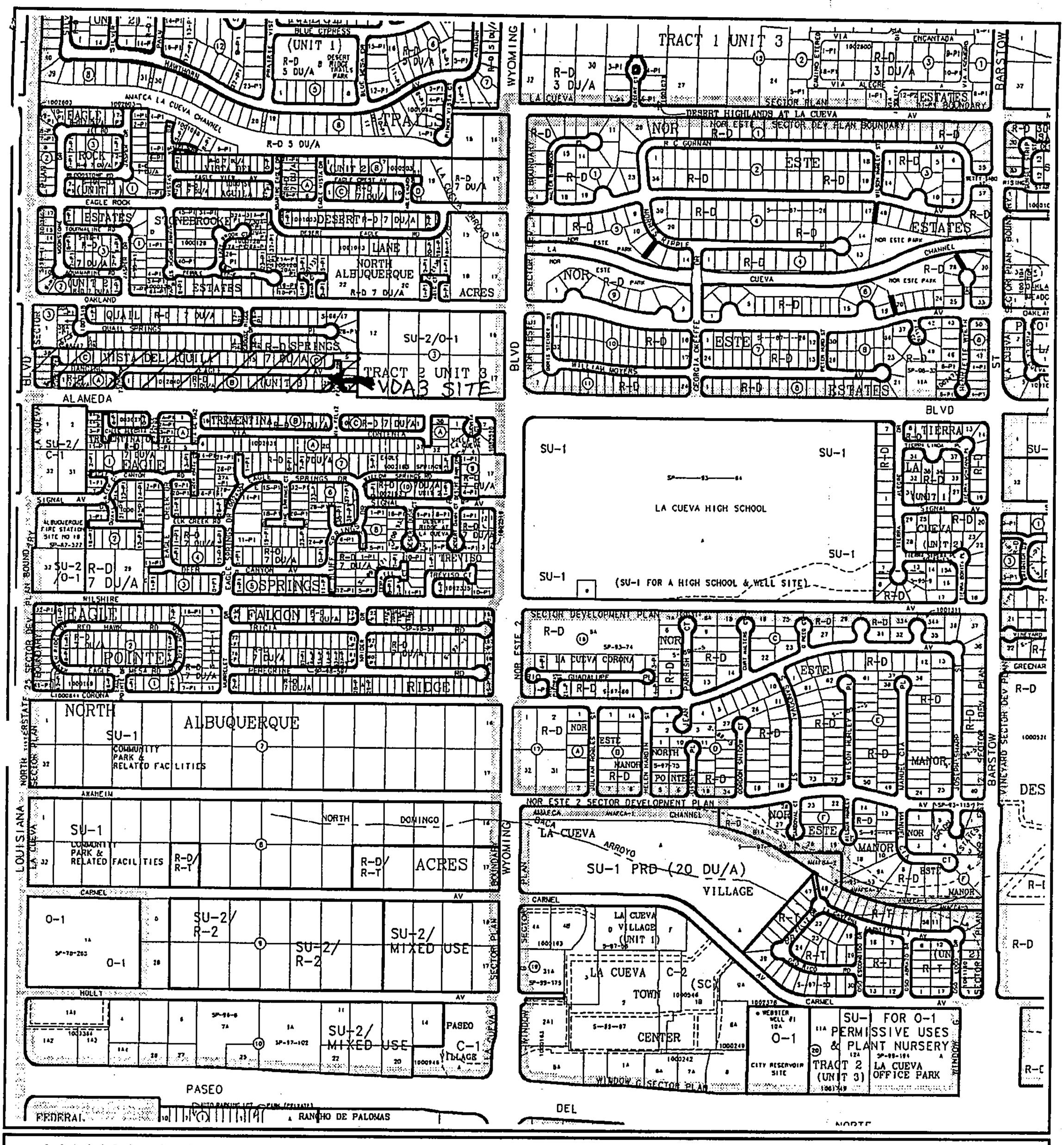
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GRAPHIC SCALE IN FEET
250 0 750 1000

Zone Atlas Page

C-18-Z

Map Amended through February 01, 2005



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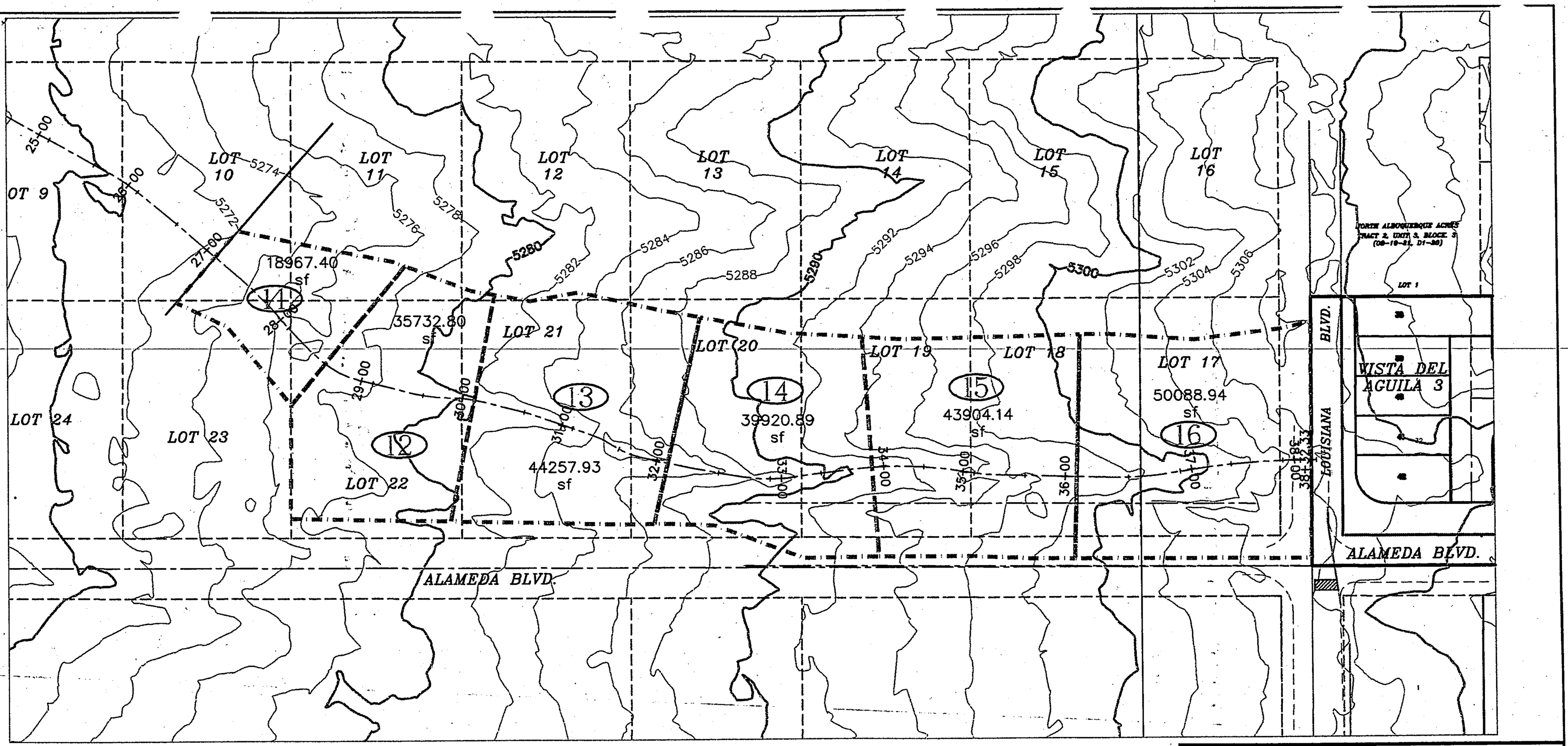
GRAPHIC SCALE IN FEET

250 0 750 1000

Zone Atlas Page

C-19-Z

Map Amended through February 01, 2005



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1257 floodplain TOPO flown.DWGthor 02.17.05

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BASIN MAP

RUNOFF CALCULATIONS FOR EXISTING CONDITIONS (Q_{100})

100-YEAR, 6-HOUR STORM

Per the City of Albuquerque D.P.M. Section 22.2

PROJECT NAME: **VISTA DEL AGUILA UNIT THREE (for LOMR)**

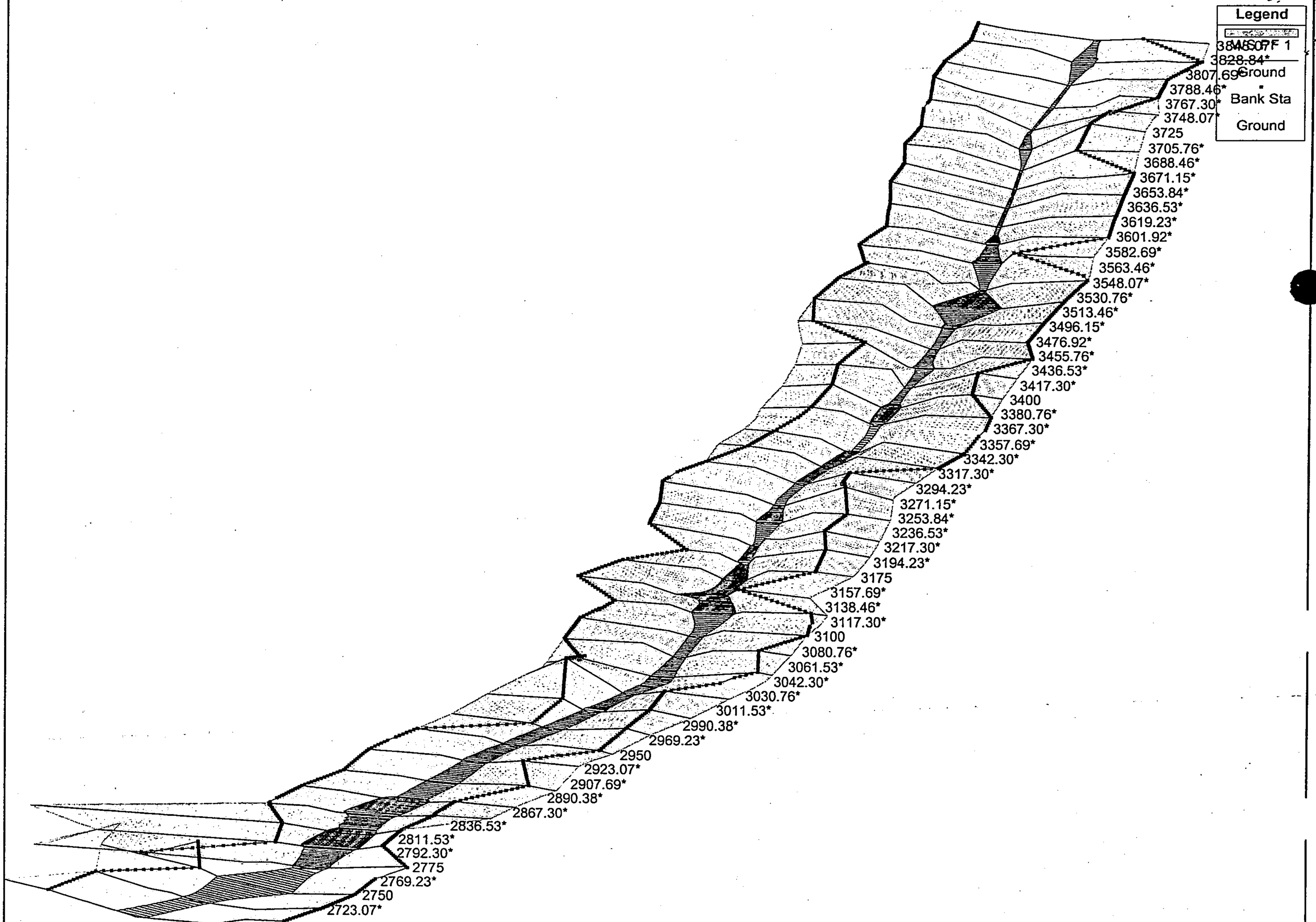
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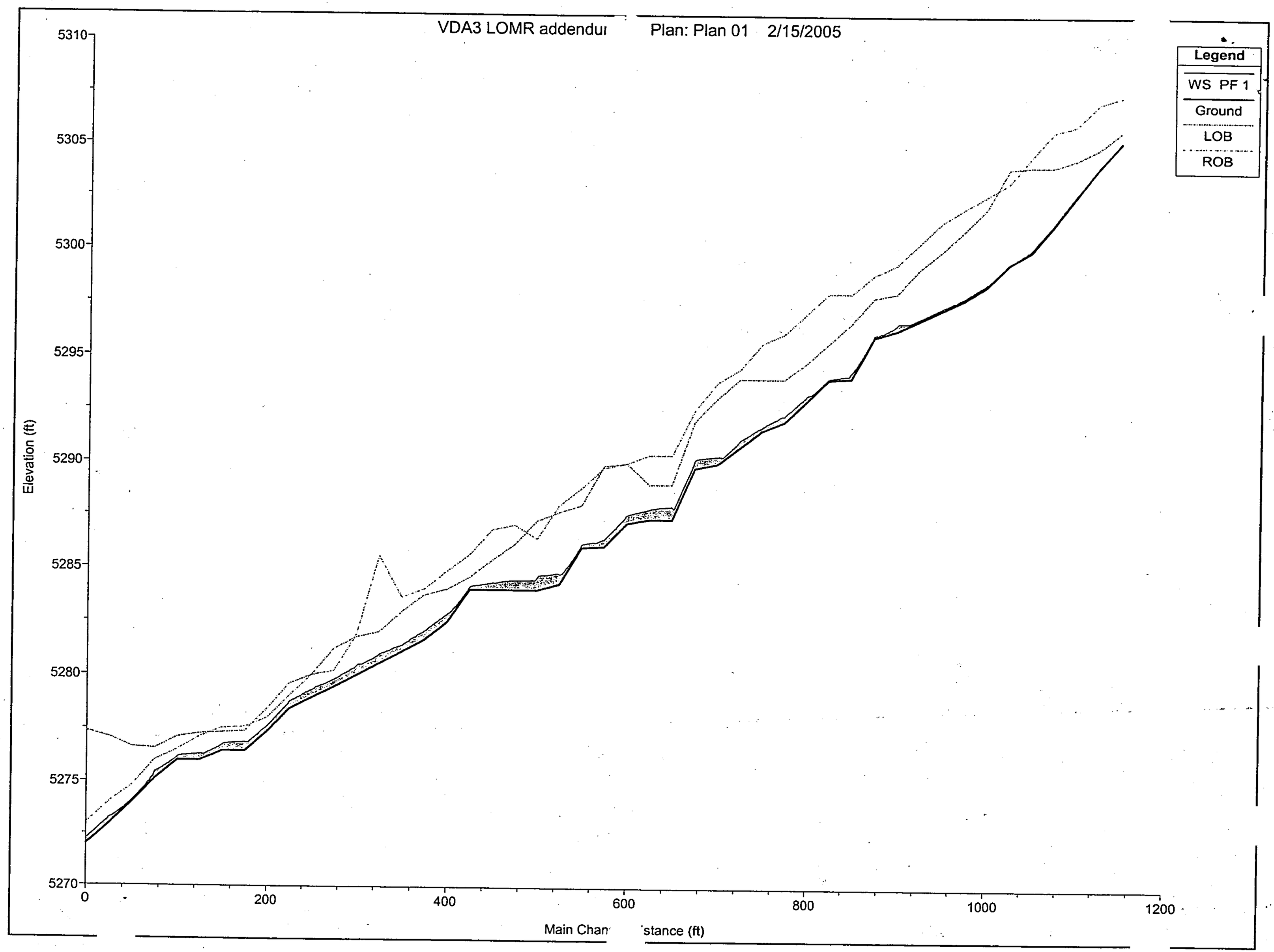
PRECIP ZONE	Q_{100} RUNOFF RATES (cfs/Ac)			
	A	B	C	D
1	1.29	2.03	2.87	4.37
2	1.56	2.28	3.14	4.70
3	1.87	2.60	3.45	5.02
4	2.20	2.92	3.73	5.25

% LAND TREATMENTS				
	TREAT TYPE 1	TREAT TYPE 2	TREAT TYPE 3	TREAT TYPE 4
A	100			
B	0			
C	0			
D	0			
Σ% =	100	0	0	0

PRECIPITATION ZONE: 3

TREATMENT TYPE 1							
BASIN #	LAND TREATMENT AREAS (Ac)					Q_{100} (cfs)	REMARKS
	A_{TOTAL}	A_A	A_B	A_C	A_D		
11	0.44	0.44	0	0	0	**0.8**	STA 27+00 to 28+50
12	0.82	0.82	0	0	0	**1.5**	STA 28+50 to 30+00
13	1.02	1.02	0	0	0	**1.9**	STA 30+00 to 32+00
14	0.92	0.92	0	0	0	**1.7**	STA 32+00 to 34+00
15	1.01	1.01	0	0	0	**1.9**	STA 34+00 to 36+00
16	1.17	1.17	0	0	0	**2.2**	STA 36+00 to END
					Σ =	**10.1**	


Legend
MSOTF 1
Ground
Bank Sta
Ground
3848.07*
3828.84*
3807.69*
3788.46*
3767.30*
3748.07*
3725
3705.76*
3688.46*
3671.15*
3653.84*
3636.53*
3619.23*
3601.92*
3582.69*
3563.46*
3548.07*
3530.76*
3513.46*
3496.15*
3476.92*
3455.76*
3436.53*
3417.30*
3400
3380.76*
3367.30*
3357.69*
3342.30*
3317.30*
3294.23*
3271.15*
3253.84*
3236.53*
3217.30*
3194.23*
3175
3157.69*
3138.46*
3117.30*
3100
3080.76*
3061.53*
3042.30*
3030.76*
3011.53*
2990.38*
2969.23*
2950
2923.07*
2907.69*
2890.38*
2867.30*
2836.53*
2811.53*
2792.30*
2775
2769.23*
2750
2723.07*


VDA3 LOMR addendu
Plan: Plan 01 2/15/2005
Legend
WS PF 1
Ground
LOB
ROB
Elevation (ft)
5310
5305
5300
5295
5290
5285
5280
5275
5270
0
200
400
600
800
1000
1200
Main Chan
stance (ft)

HEC-RAS Plan ' 6hr River: unnamed arroyo Reach: all Profile: PF 1

Reach	Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	Hydr Depth	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
all	3850	PF 1	0.10	5305.20	5305.24	5305.25	0.02	5305.26	0.053935	1.07	0.09	4.28	1.28
all	3848.07*	PF 1	0.10	5305.11	5305.15	5305.15	0.02	5305.16	0.044938	1.00	0.10	4.44	1.18
all	3846.15*	PF 1	0.10	5305.02	5305.05	5305.06	0.02	5305.07	0.065489	1.11	0.09	4.55	1.39
all	3844.23*	PF 1	0.10	5304.92	5304.95	5304.95	0.02	5304.96	0.042915	0.92	0.11	5.35	1.13
all	3842.30*	PF 1	0.10	5304.83	5304.85	5304.86	0.02	5304.86	0.051219	0.92	0.11	6.01	1.21
all	3840.38*	PF 1	0.10	5304.74	5304.76	5304.76	0.02	5304.77	0.024988	0.69	0.14	7.18	0.86
all	3838.46*	PF 1	0.10	5304.65	5304.67	5304.67	0.02	5304.68	0.028456	0.69	0.14	8.00	0.91
all	3836.53*	PF 1	0.10	5304.55	5304.57	5304.57	0.02	5304.58	0.019557	0.59	0.17	9.07	0.76
all	3834.61*	PF 1	0.10	5304.46	5304.48	5304.48	0.02	5304.49	0.015145	0.52	0.19	10.11	0.67
all	3832.69*	PF 1	0.10	5304.37	5304.39	5304.39	0.02	5304.39	0.012060	0.47	0.21	11.17	0.60
all	3830.76*	PF 1	0.10	5304.28	5304.30	5304.30	0.02	5304.30	0.009097	0.41	0.24	12.24	0.52
all	3828.84*	PF 1	0.10	5304.18	5304.23	5304.23	0.04	5304.23	0.000456	0.15	0.65	15.13	0.13
all	3826.92*	PF 1	0.10	5304.09	5304.11	5304.11	0.02	5304.11	0.005910	0.34	0.29	14.36	0.42
all	3825	PF 1	0.10	5304.00	5304.02	5304.02	0.02	5304.02	0.005052	0.32	0.32	15.43	0.39
all	3823.07*	PF 1	0.10	5303.89	5303.91	5303.91	0.02	5303.91	0.005505	0.34	0.30	14.24	0.41
all	3821.15*	PF 1	0.10	5303.78	5303.83	5303.83	0.05	5303.83	0.000394	0.15	0.66	14.59	0.12
all	3819.23*	PF 1	0.10	5303.68	5303.70	5303.70	0.02	5303.71	0.007931	0.40	0.25	11.88	0.49
all	3817.30*	PF 1	0.10	5303.57	5303.59	5303.59	0.02	5303.60	0.009744	0.45	0.22	10.75	0.54
all	3815.38*	PF 1	0.10	5303.46	5303.48	5303.48	0.02	5303.49	0.011427	0.49	0.20	9.63	0.59
all	3813.46*	PF 1	0.10	5303.35	5303.37	5303.37	0.02	5303.38	0.016023	0.57	0.18	8.48	0.69
all	3811.53*	PF 1	0.10	5303.25	5303.27	5303.27	0.02	5303.28	0.020144	0.64	0.16	7.38	0.78
all	3809.61*	PF 1	0.10	5303.14	5303.17	5303.17	0.03	5303.18	0.007206	0.49	0.20	6.72	0.50
all	3807.69*	PF 1	0.10	5303.03	5303.05	5303.05	0.02	5303.07	0.041297	0.92	0.11	5.18	1.12
all	3805.76*	PF 1	0.10	5302.92	5302.94	5302.94	0.02	5302.97	0.076439	1.22	0.08	4.08	1.51
all	3803.84*	PF 1	0.10	5302.82	5302.85	5302.86	0.03	5302.87	0.035076	1.03	0.10	3.43	1.08
all	3801.92*	PF 1	0.10	5302.71	5302.75	5302.77	0.03	5302.78	0.056868	1.34	0.07	2.55	1.39
all	3800	PF 1	0.10	5302.60	5302.67	5302.68	0.03	5302.69	0.043997	1.29	0.08	2.34	1.24
all	3798.07*	PF 1	0.10	5302.49	5302.55	5302.56	0.03	5302.59	0.074874	1.56	0.06	2.15	1.59
all	3796.15*	PF 1	0.10	5302.39	5302.46	5302.46	0.03	5302.48	0.040842	1.23	0.08	2.46	1.20
all	3794.23*	PF 1	0.10	5302.28	5302.34	5302.35	0.03	5302.37	0.066493	1.47	0.07	2.28	1.50
all	3792.30*	PF 1	0.10	5302.18	5302.25	5302.25	0.03	5302.27	0.038969	1.19	0.08	2.58	1.17
all	3790.38*	PF 1	0.10	5302.07	5302.13	5302.13	0.03	5302.16	0.072909	1.50	0.07	2.34	1.56
all	3788.46*	PF 1	0.10	5301.96	5302.02	5302.03	0.03	5302.05	0.054815	1.34	0.07	2.51	1.36
all	3786.53*	PF 1	0.10	5301.86	5301.92	5301.93	0.03	5301.95	0.049971	1.28	0.08	2.63	1.30
all	3784.61*	PF 1	0.10	5301.75	5301.81	5301.82	0.03	5301.84	0.073561	1.46	0.07	2.50	1.56
all	3782.69*	PF 1	0.10	5301.65	5301.71	5301.71	0.03	5301.73	0.044284	1.19	0.08	2.83	1.22
all	3780.76*	PF 1	0.10	5301.54	5301.59	5301.61	0.03	5301.62	0.067907	1.39	0.07	2.68	1.49
all	3778.84*	PF 1	0.10	5301.43	5301.49	5301.50	0.03	5301.51	0.047684	1.21	0.08	2.93	1.26
all	3776.92*	PF 1	0.10	5301.33	5301.39	5301.40	0.03	5301.41	0.048892	1.20	0.08	3.02	1.27
all	3775	PF 1	0.10	5301.22	5301.27	5301.29	0.03	5301.30	0.065023	1.32	0.08	2.96	1.45
all	3773.07*	PF 1	0.10	5301.13	5301.19	5301.19	0.03	5301.21	0.037798	1.10	0.09	3.11	1.13
all	3771.15*	PF 1	0.10	5301.03	5301.08	5301.10	0.03	5301.12	0.072459	1.43	0.07	2.60	1.54
all	3769.23*	PF 1	0.10	5300.94	5301.00	5301.01	0.03	5301.02	0.037444	1.14	0.09	2.81	1.14
all	3)*	PF 1	0.10	5300.84	5300.90	5300.91	0.03	5300.93	0.061882	1.40	0.07	2.43	1.45

HEC-RAS Plar v 6hr River: unnamed arroyo Reach: all Profile: PF 1 (Continued)

Reach	r Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	ur Depth	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
all	3765.38*	PF 1	0.10	5300.75	5300.82	5300.82	0.03	5300.84	0.036773	1.18	0.09	2.56	1.14
all	3763.46*	PF 1	0.10	5300.66	5300.72	5300.73	0.03	5300.75	0.057888	1.42	0.07	2.26	1.41
all	3761.53*	PF 1	0.10	5300.56	5300.63	5300.63	0.03	5300.66	0.052605	1.39	0.07	2.19	1.36
all	3759.61*	PF 1	0.10	5300.47	5300.54	5300.54	0.03	5300.57	0.041985	1.30	0.08	2.20	1.23
all	3757.69*	PF 1	0.10	5300.38	5300.45	5300.45	0.03	5300.48	0.057128	1.48	0.07	2.01	1.42
all	3755.76*	PF 1	0.10	5300.28	5300.35	5300.36	0.04	5300.38	0.038944	1.30	0.08	2.07	1.19
all	3753.84*	PF 1	0.10	5300.19	5300.26	5300.27	0.04	5300.29	0.043522	1.38	0.07	1.96	1.26
all	3751.92*	PF 1	0.10	5300.09	5300.16	5300.17	0.04	5300.20	0.063059	1.61	0.06	1.76	1.50
all	3750	PF 1	0.10	5300.00	5300.08	5300.09	0.04	5300.11	0.041686	1.39	0.07	1.84	1.24
all	3748.07*	PF 1	0.10	5299.95	5300.01	5300.02	0.04	5300.04	0.034406	1.27	0.08	2.00	1.13
all	3746.15*	PF 1	0.10	5299.91	5299.97	5299.97	0.04	5299.98	0.013860	0.88	0.11	2.57	0.73
all	3744.23*	PF 1	0.10	5299.86	5299.89	5299.92	0.03	5299.92	0.070641	1.44	0.07	2.54	1.53
all	3742.30*	PF 1	0.10	5299.82	5299.86	5299.86	0.04	5299.87	0.015164	0.81	0.12	3.36	0.74
all	3740.38*	PF 1	0.10	5299.77	5299.83	5299.83	0.05	5299.83	0.003474	0.47	0.21	4.27	0.37
all	3738.46*	PF 1	0.10	5299.72	5299.75	5299.75	0.02	5299.76	0.038367	0.98	0.10	4.22	1.10
all	3736.53*	PF 1	0.10	5299.68	5299.72	5299.72	0.03	5299.72	0.008451	0.58	0.17	5.02	0.55
all	3734.61*	PF 1	0.10	5299.63	5299.66	5299.66	0.03	5299.67	0.020687	0.73	0.14	5.42	0.82
all	3732.69*	PF 1	0.10	5299.58	5299.60	5299.62	0.02	5299.61	0.041386	0.87	0.11	5.91	1.10
all	3730.76*	PF 1	0.10	5299.54	5299.57	5299.57	0.02	5299.57	0.015167	0.62	0.16	6.61	0.70
all	3728.84*	PF 1	0.10	5299.49	5299.52	5299.52	0.03	5299.52	0.009790	0.52	0.19	7.24	0.57
all	3726.92*	PF 1	0.10	5299.45	5299.49	5299.49	0.04	5299.49	0.002293	0.32	0.31	8.06	0.29
all	3725	PF 1	0.10	5299.40	5299.43	5299.43	0.03	5299.43	0.007485	0.45	0.22	8.44	0.49
all	3723.07*	PF 1	0.10	5299.32	5299.36	5299.36	0.04	5299.36	0.002288	0.32	0.31	8.06	0.29
all	3721.15*	PF 1	0.10	5299.24	5299.27	5299.27	0.03	5299.27	0.010404	0.53	0.19	7.23	0.58
all	3719.23*	PF 1	0.10	5299.16	5299.19	5299.19	0.03	5299.19	0.013325	0.59	0.17	6.62	0.66
all	3717.30*	PF 1	0.10	5299.08	5299.11	5299.11	0.03	5299.11	0.016414	0.66	0.15	6.01	0.73
all	3715.38*	PF 1	0.10	5299.00	5299.03	5299.03	0.02	5299.04	0.021970	0.75	0.13	5.41	0.84
all	3713.46*	PF 1	0.10	5298.92	5298.95	5298.95	0.02	5298.96	0.028568	0.85	0.12	4.80	0.95
all	3711.53*	PF 1	0.10	5298.85	5298.87	5298.88	0.02	5298.89	0.054026	1.09	0.09	4.14	1.29
all	3709.61*	PF 1	0.10	5298.77	5298.80	5298.80	0.02	5298.82	0.055145	1.16	0.09	3.58	1.32
all	3707.69*	PF 1	0.10	5298.69	5298.73	5298.75	0.03	5298.74	0.030870	1.03	0.10	3.17	1.03
all	3705.76*	PF 1	0.10	5298.61	5298.65	5298.67	0.03	5298.67	0.041543	1.21	0.08	2.61	1.20
all	3703.84*	PF 1	0.10	5298.53	5298.58	5298.59	0.04	5298.60	0.030758	1.17	0.09	2.27	1.06
all	3701.92*	PF 1	0.10	5298.45	5298.51	5298.52	0.04	5298.54	0.036287	1.31	0.08	1.93	1.16
all	3700	PF 1	0.10	5298.37	5298.45	5298.46	0.04	5298.48	0.030718	1.26	0.08	1.90	1.08
all	3698.07*	PF 1	0.10	5298.32	5298.40	5298.40	0.04	5298.43	0.031029	1.25	0.08	1.92	1.08
all	3696.15*	PF 1	0.10	5298.27	5298.35	5298.35	0.04	5298.38	0.029621	1.22	0.08	1.97	1.06
all	3694.23*	PF 1	0.10	5298.22	5298.31	5298.30	0.05	5298.33	0.015625	0.96	0.10	2.25	0.78
all	3692.30*	PF 1	0.10	5298.18	5298.26	5298.26	0.04	5298.28	0.029570	1.21	0.08	2.03	1.05
all	3690.38*	PF 1	0.10	5298.13	5298.22	5298.21	0.04	5298.23	0.021500	1.07	0.09	2.18	0.91
all	3688.46*	PF 1	0.10	5298.08	5298.16	5298.16	0.04	5298.18	0.028289	1.18	0.08	2.10	1.03
all	3686.53*	PF 1	0.10	5298.03	5298.11	5298.11	0.04	5298.13	0.027175	1.15	0.09	2.14	1.01
all	3684.61*	PF 1	0.10	5297.98	5298.06	5298.06	0.04	5298.08	0.035290	1.27	0.08	2.06	1.14
all	3 9*	PF 1	0.10	5297.93	5298.02	5298.01	0.04	5298.03	0.017895	0.98	0.10	2.37	0.83

HEC-RAS Plan: 6hr River: unnamed arroyo Reach: all Profile: PF 1 (Continued)

Reach	Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	Depth	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
all	3680.76*	PF 1	0.10	5297.89	5297.97	5297.97	0.04	5297.99	0.026614	1.13	0.09	2.23	1.00
all	3678.84*	PF 1	0.10	5297.84	5297.92	5297.92	0.04	5297.94	0.033511	1.22	0.08	2.16	1.11
all	3676.92*	PF 1	0.10	5297.79	5297.87	5297.87	0.04	5297.89	0.028282	1.14	0.09	2.25	1.02
all	3675	PF 1	0.10	5297.74	5297.82	5297.82	0.04	5297.84	0.024737	1.08	0.09	2.33	0.96
all	3673.07*	PF 1	0.10	5297.70	5297.79		0.04	5297.80	0.014870	0.89	0.11	2.57	0.76
all	3671.15*	PF 1	0.10	5297.67	5297.75	5297.75	0.04	5297.77	0.018174	0.96	0.10	2.49	0.83
all	3669.23*	PF 1	0.10	5297.63	5297.71	5297.71	0.04	5297.73	0.027531	1.12	0.09	2.31	1.01
all	3667.30*	PF 1	0.10	5297.59	5297.65	5297.67	0.03	5297.70	0.080956	1.68	0.06	1.89	1.67
all	3665.38*	PF 1	0.10	5297.56	5297.58	5297.64	0.01	5300.27	19.534490	13.15	0.01	0.68	21.87
all	3663.46*	PF 1	0.10	5297.52	5297.61	5297.60	0.04	5297.62	0.014680	0.89	0.11	2.61	0.75
all	3661.53*	PF 1	0.10	5297.48	5297.56	5297.56	0.04	5297.58	0.025835	1.09	0.09	2.36	0.98
all	3659.61*	PF 1	0.10	5297.44	5297.52		0.04	5297.54	0.017961	0.95	0.10	2.53	0.82
all	3657.69*	PF 1	0.10	5297.41	5297.50	5297.49	0.04	5297.51	0.015649	0.90	0.11	2.60	0.77
all	3655.76*	PF 1	0.10	5297.37	5297.45	5297.45	0.04	5297.47	0.024406	1.07	0.09	2.40	0.95
all	3653.84*	PF 1	0.10	5297.33	5297.42		0.04	5297.43	0.015035	0.89	0.11	2.63	0.76
all	3651.92*	PF 1	0.10	5297.30	5297.38	5297.38	0.04	5297.40	0.018441	0.96	0.10	2.54	0.83
all	3650	PF 1	0.10	5297.26	5297.34	5297.34	0.04	5297.36	0.027199	1.11	0.09	2.37	1.00
all	3648.07*	PF 1	0.10	5297.22	5297.30	5297.30	0.04	5297.32	0.017223	0.93	0.11	2.61	0.81
all	3646.15*	PF 1	0.10	5297.19	5297.27		0.04	5297.28	0.019175	0.96	0.10	2.60	0.85
all	3644.23*	PF 1	0.10	5297.15	5297.23	5297.23	0.04	5297.24	0.021920	1.01	0.10	2.56	0.90
all	3642.30*	PF 1	0.10	5297.11	5297.20	5297.18	0.04	5297.21	0.011930	0.80	0.13	2.90	0.68
all	3640.38*	PF 1	0.10	5297.08	5297.16	5297.15	0.04	5297.17	0.023872	1.03	0.10	2.58	0.94
all	3638.46*	PF 1	0.10	5297.04	5297.12	5297.12	0.04	5297.13	0.016354	0.89	0.11	2.81	0.78
all	3636.53*	PF 1	0.10	5297.00	5297.07	5297.07	0.04	5297.09	0.023596	1.01	0.10	2.66	0.93
all	3634.61*	PF 1	0.10	5296.96	5297.04		0.04	5297.05	0.016677	0.89	0.11	2.87	0.79
all	3632.69*	PF 1	0.10	5296.93	5297.01		0.04	5297.02	0.020104	0.94	0.11	2.81	0.86
all	3630.76*	PF 1	0.10	5296.89	5296.96	5296.96	0.04	5296.98	0.021396	0.96	0.10	2.82	0.88
all	3628.84*	PF 1	0.10	5296.85	5296.93	5296.92	0.04	5296.94	0.018912	0.91	0.11	2.93	0.83
all	3626.92*	PF 1	0.10	5296.82	5296.90	5296.89	0.04	5296.91	0.017907	0.89	0.11	3.01	0.81
all	3625	PF 1	0.10	5296.78	5296.85	5296.85	0.04	5296.87	0.023614	0.98	0.10	2.90	0.92
all	3623.07*	PF 1	0.10	5296.74	5296.82		0.04	5296.83	0.013602	0.80	0.12	3.18	0.71
all	3621.15*	PF 1	0.10	5296.71	5296.78	5296.78	0.04	5296.80	0.019030	0.91	0.11	2.96	0.83
all	3619.23*	PF 1	0.10	5296.67	5296.74	5296.74	0.04	5296.76	0.026280	1.03	0.10	2.75	0.97
all	3617.30*	PF 1	0.10	5296.63	5296.71	5296.70	0.04	5296.72	0.012527	0.79	0.13	3.12	0.69
all	3615.38*	PF 1	0.10	5296.60	5296.67	5296.67	0.04	5296.69	0.025407	1.03	0.10	2.71	0.96
all	3613.46*	PF 1	0.10	5296.56	5296.64		0.04	5296.65	0.018035	0.91	0.11	2.85	0.82
all	3611.53*	PF 1	0.10	5296.52	5296.63		0.06	5296.64	0.002292	0.42	0.24	4.15	0.31
all	3609.61*	PF 1	0.10	5296.48	5296.63		0.08	5296.64	0.000489	0.24	0.42	5.48	0.15
all	3607.69*	PF 1	0.10	5296.45	5296.63		0.09	5296.63	0.000198	0.17	0.59	6.44	0.10
all	3605.76*	PF 1	0.10	5296.41	5296.63		0.11	5296.63	0.000072	0.12	0.86	7.69	0.06
all	3603.84*	PF 1	0.10	5296.37	5296.63		0.13	5296.63	0.000031	0.09	1.18	8.94	0.04
all	3601.92*	PF 1	0.10	5296.34	5296.63		0.15	5296.63	0.000018	0.07	1.44	9.84	0.03
all	3600	PF 1	2.20	5296.30	5296.56	5296.56	0.13	5296.62	0.017804	2.02	1.09	8.47	0.99
all	3[illegible]*	PF 1	2.20	5296.28	5296.48	5296.50	0.12	5296.57	0.028900	2.41	0.91	7.83	1.24

HEC-RAS Pla[illegible]0y 6hr River: unnamed arroyo Reach: all Profile: PF 1 (Continued)

Reach	er Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	dr Depth	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
all	3596.15*	PF 1	2.20	5296.25	5296.42	5296.44	0.11	5296.51	0.027672	2.33	0.94	8.25	1.21
all	3594.23*	PF 1	2.20	5296.23	5296.38	5296.39	0.11	5296.46	0.029803	2.32	0.95	8.78	1.25
all	3592.30*	PF 1	2.20	5296.21	5296.35	5296.35	0.11	5296.41	0.021312	2.00	1.10	9.96	1.06
all	3590.38*	PF 1	2.20	5296.18	5296.30	5296.30	0.10	5296.37	0.029477	2.16	1.02	10.49	1.22
all	3588.46*	PF 1	2.20	5296.16	5296.26	5296.28	0.09	5296.34	0.036465	2.23	0.99	11.30	1.33
all	3586.53*	PF 1	2.20	5296.14	5296.23	5296.25	0.08	5296.31	0.043624	2.28	0.97	12.27	1.43
all	3584.61*	PF 1	2.20	5296.12	5296.17	5296.21	0.04	5296.43	0.309101	4.09	0.54	12.39	3.45
all	3582.69*	PF 1	2.20	5296.09	5296.17	5296.18	0.08	5296.23	0.031164	1.91	1.15	14.78	1.21
all	3580.76*	PF 1	2.20	5296.07	5296.14	5296.16	0.06	5296.22	0.060529	2.29	0.96	15.58	1.62
all	3578.84*	PF 1	2.20	5296.05	5296.10	5296.14	0.05	5296.20	0.092204	2.53	0.87	16.60	1.95
all	3576.92*	PF 1	2.20	5296.02	5296.12	5296.11	0.09	5296.14	0.011200	1.28	1.73	18.89	0.74
all	3575*	PF 1	2.20	5296.00	5296.08	5296.08	0.07	5296.11	0.020956	1.51	1.45	19.65	0.98
all	3573.07*	PF 1	2.20	5295.85	5295.90	5295.92	0.04	5296.02	0.140686	2.81	0.78	17.56	2.34
all	3571.15*	PF 1	2.20	5295.70	5295.76	5295.79	0.06	5295.84	0.060822	2.24	0.98	16.48	1.61
all	3569.23*	PF 1	2.20	5295.55	5295.61	5295.64	0.06	5295.71	0.073497	2.46	0.90	15.06	1.77
all	3567.30*	PF 1	2.20	5295.40	5295.47	5295.51	0.06	5295.57	0.075449	2.57	0.86	13.73	1.81
all	3565.38*	PF 1	2.20	5295.25	5295.32	5295.36	0.07	5295.43	0.068055	2.59	0.85	12.45	1.75
all	3563.46*	PF 1	2.20	5295.10	5295.18	5295.22	0.07	5295.29	0.066356	2.68	0.82	11.18	1.74
all	3561.53*	PF 1	2.20	5294.96	5295.05	5295.08	0.08	5295.17	0.067264	2.82	0.78	9.92	1.78
all	3559.61*	PF 1	2.20	5294.81	5294.91	5294.95	0.09	5295.04	0.062371	2.91	0.76	8.74	1.74
all	3557.69*	PF 1	2.20	5294.66	5294.77	5294.82	0.10	5294.91	0.060024	3.04	0.72	7.58	1.73
all	3555.76*	PF 1	2.20	5294.51	5294.64	5294.69	0.11	5294.80	0.058081	3.19	0.69	6.53	1.73
all	3553.84*	PF 1	2.20	5294.36	5294.52	5294.57	0.12	5294.69	0.053668	3.30	0.67	5.65	1.70
all	3551.92*	PF 1	2.20	5294.21	5294.41	5294.47	0.13	5294.59	0.050971	3.40	0.65	5.04	1.67
all	3550	PF 1	2.20	5294.06	5294.33	5294.39	0.14	5294.50	0.044561	3.30	0.67	4.90	1.58
all	3548.07*	PF 1	2.20	5294.06	5294.19	5294.26	0.11	5294.39	0.071107	3.54	0.62	5.86	1.92
all	3546.15*	PF 1	2.20	5294.05	5294.17	5294.19	0.10	5294.26	0.035585	2.44	0.90	8.91	1.35
all	3544.23*	PF 1	2.20	5294.05	5294.17	5294.17	0.11	5294.21	0.014716	1.64	1.34	12.42	0.88
all	3542.30*	PF 1	2.20	5294.04	5294.16		0.11	5294.18	0.008806	1.27	1.73	15.82	0.68
all	3540.38*	PF 1	2.20	5294.04	5294.14		0.10	5294.17	0.008945	1.19	1.85	18.97	0.67
all	3538.46*	PF 1	2.20	5294.03	5294.13		0.10	5294.15	0.006150	0.99	2.21	22.42	0.56
all	3536.53*	PF 1	2.20	5294.03	5294.12		0.09	5294.14	0.006801	0.97	2.26	25.64	0.58
all	3534.61*	PF 1	2.20	5294.02	5294.11		0.09	5294.12	0.005038	0.84	2.61	29.10	0.50
all	3532.69*	PF 1	2.20	5294.02	5294.10		0.08	5294.11	0.006028	0.85	2.58	32.34	0.53
all	3530.76*	PF 1	2.20	5294.01	5294.09		0.08	5294.10	0.004516	0.75	2.93	35.87	0.46
all	3528.84*	PF 1	2.20	5294.01	5294.08		0.07	5294.09	0.006046	0.79	2.78	39.08	0.52
all	3526.92*	PF 1	2.20	5294.00	5294.07		0.07	5294.08	0.004970	0.72	3.05	42.61	0.48
all	3525	PF 1	2.20	5294.00	5294.04	5294.04	0.04	5294.06	0.023391	1.12	1.96	45.33	0.95
all	3523.07*	PF 1	2.20	5293.92	5293.96	5293.96	0.03	5293.99	0.057845	1.52	1.45	41.64	1.44
all	3521.15*	PF 1	2.20	5293.84	5293.89	5293.90	0.05	5293.91	0.023723	1.20	1.83	38.61	0.97
all	3519.23*	PF 1	2.20	5293.77	5293.81	5293.83	0.04	5293.85	0.051701	1.58	1.40	35.00	1.39
all	3517.30*	PF 1	2.20	5293.69	5293.72	5293.74	0.03	5293.81	0.169184	2.35	0.93	31.30	2.40
all	3515.38*	PF 1	2.20	5293.61	5293.67	5293.67	0.06	5293.70	0.022791	1.33	1.65	28.73	0.98
all	[illegible]16*	PF 1	2.20	5293.53	5293.58	5293.60	0.05	5293.63	0.044819	1.72	1.28	25.16	1.35

HEC-RAS Pla `0y 6hr River: unnamed arroyo Reach: all Profile: PF 1 (Continued)

Reach	er Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	ydr Depth	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
all	3511.53*	PF 1	2.20	5293.46	5293.53	5293.53	0.06	5293.56	0.027767	1.57	1.40	22.23	1.10
all	3509.61*	PF 1	2.20	5293.38	5293.45	5293.46	0.07	5293.50	0.032635	1.75	1.25	19.01	1.20
all	3507.69*	PF 1	2.20	5293.30	5293.38	5293.39	0.07	5293.43	0.030296	1.84	1.20	16.04	1.18
all	3505.76*	PF 1	2.20	5293.22	5293.32	5293.34	0.09	5293.38	0.025214	1.87	1.18	13.41	1.11
all	3503.84*	PF 1	2.20	5293.15	5293.29	5293.28	0.11	5293.34	0.015454	1.70	1.29	11.67	0.90
all	3501.92*	PF 1	2.20	5293.07	5293.28		0.13	5293.31	0.008900	1.47	1.50	11.23	0.71
all	3500	PF 1	2.20	5292.99	5293.22	5293.22	0.11	5293.28	0.019794	1.97	1.12	9.75	1.03
all	3498.07*	PF 1	2.20	5292.91	5293.11	5293.15	0.10	5293.23	0.042786	2.68	0.82	8.04	1.48
all	3496.15*	PF 1	2.20	5292.84	5293.06	5293.08	0.11	5293.15	0.032099	2.45	0.90	8.15	1.30
all	3494.23*	PF 1	2.20	5292.76	5292.98	5293.01	0.11	5293.08	0.033601	2.53	0.87	7.73	1.33
all	3492.30*	PF 1	2.20	5292.69	5292.92	5292.94	0.12	5293.02	0.031949	2.52	0.87	7.55	1.31
all	3490.38*	PF 1	2.20	5292.61	5292.84	5292.87	0.12	5292.95	0.034254	2.63	0.84	7.16	1.3[illegible]
all	3488.46*	PF 1	2.20	5292.53	5292.77	5292.80	0.12	5292.88	0.033112	2.63	0.84	6.94	1.34
all	3486.53*	PF 1	2.20	5292.46	5292.71	5292.74	0.12	5292.82	0.032792	2.66	0.83	6.73	1.34
all	3484.61*	PF 1	2.20	5292.38	5292.63	5292.66	0.13	5292.75	0.033306	2.71	0.81	6.48	1.35
all	3482.69*	PF 1	2.20	5292.30	5292.55	5292.59	0.13	5292.68	0.035831	2.82	0.78	6.19	1.40
all	3480.76*	PF 1	2.20	5292.23	5292.49	5292.52	0.13	5292.61	0.036448	2.87	0.77	6.00	1.42
all	3478.84*	PF 1	2.20	5292.15	5292.42	5292.45	0.13	5292.54	0.032115	2.77	0.79	5.97	1.34
all	3476.92*	PF 1	2.20	5292.08	5292.35	5292.38	0.14	5292.47	0.031958	2.79	0.79	5.83	1.34
all	3475	PF 1	2.20	5292.00	5292.27	5292.31	0.14	5292.40	0.033111	2.86	0.77	5.62	1.36
all	3473.07*	PF 1	2.20	5291.97	5292.28	5292.27	0.16	5292.35	0.014506	2.07	1.06	6.78	0.92
all	3471.15*	PF 1	2.20	5291.94	5292.24	5292.23	0.15	5292.31	0.016021	2.12	1.04	6.88	0.96
all	3469.23*	PF 1	2.20	5291.91	5292.20	5292.20	0.14	5292.27	0.018599	2.21	0.99	6.95	1.03
all	3467.30*	PF 1	2.20	5291.87	5292.13	5292.15	0.13	5292.23	0.030714	2.63	0.84	6.56	1.30
all	3465.38*	PF 1	2.20	5291.84	5292.11	5292.12	0.13	5292.18	0.021373	2.26	0.98	7.36	1.09
all	3463.46*	PF 1	2.20	5291.81	5292.08	5292.08	0.13	5292.14	0.018172	2.08	1.06	7.98	1.01
all	3461.53*	PF 1	2.20	5291.78	5292.02	5292.03	0.12	5292.10	0.028562	2.41	0.91	7.79	1.24
all	3459.61*	PF 1	2.20	5291.75	5291.99	5292.00	0.12	5292.06	0.022832	2.15	1.02	8.71	1.11
all	3457.69*	PF 1	2.20	5291.72	5291.94	5291.95	0.11	5292.01	0.026591	2.21	1.00	9.15	1.18
all	3455.76*	PF 1	2.20	5291.68	5291.90	5291.90	0.11	5291.96	0.020426	1.94	1.14	10.44	1.03
all	3453.84*	PF 1	2.20	5291.65	5291.83	5291.85	0.09	5291.91	0.034297	2.24	0.98	10.66	1.30
all	3451.92*	PF 1	2.20	5291.62	5291.80	5291.80	0.09	5291.85	0.026726	1.93	1.14	12.92	1.14
all	3450	PF 1	2.20	5291.59	5291.74	5291.75	0.07	5291.80	0.035617	1.97	1.12	15.13	1.28
all	3448.07*	PF 1	2.20	5291.53	5291.70	5291.72	0.08	5291.77	0.036459	2.16	1.02	12.22	1.32
all	3446.15*	PF 1	2.20	5291.47	5291.66	5291.67	0.10	5291.73	0.026476	2.03	1.09	11.32	1.15
all	3444.23*	PF 1	2.20	5291.41	5291.61	5291.63	0.10	5291.68	0.027350	2.13	1.03	10.21	1.18
all	3442.30*	PF 1	2.20	5291.35	5291.57	5291.58	0.11	5291.64	0.024122	2.10	1.05	9.61	1.12
all	3440.38*	PF 1	2.20	5291.29	5291.52	5291.53	0.11	5291.59	0.023779	2.15	1.02	8.94	1.12
all	3438.46*	PF 1	2.20	5291.23	5291.47	5291.48	0.12	5291.55	0.022244	2.17	1.01	8.36	1.10
all	3436.53*	PF 1	2.20	5291.16	5291.40	5291.42	0.12	5291.50	0.031467	2.54	0.87	7.28	1.30
all	3434.61*	PF 1	2.20	5291.10	5291.36	5291.37	0.13	5291.45	0.026180	2.43	0.91	7.09	1.20
all	3432.69*	PF 1	2.20	5291.04	5291.31	5291.33	0.13	5291.40	0.024809	2.44	0.90	6.70	1.18
all	3430.76*	PF 1	2.20	5290.98	5291.26	5291.28	0.14	5291.35	0.023937	2.47	0.89	6.38	1.16
all	[illegible]4*	PF 1	2.20	5290.92	5291.21	5291.23	0.15	5291.31	0.022362	2.46	0.90	6.12	1.13

HEC-RAS Pla 0y 6hr River: unnamed arroyo Reach: all Profile: PF 1 (Continued)

Reach	er Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	dr Depth	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
all	3426.92*	PF 1	2.20	5290.86	5291.17	5291.19	0.15	5291.26	0.020173	2.41	0.91	5.91	1.08
all	3425	PF 1	2.20	5290.80	5291.13	5291.13	0.16	5291.21	0.017461	2.34	0.94	5.74	1.02
all	3423.07*	PF 1	2.20	5290.74	5291.00	5291.04	0.14	5291.16	0.039787	3.19	0.69	4.91	1.50
all	3421.15*	PF 1	2.20	5290.68	5290.91	5290.97	0.14	5291.08	0.043461	3.28	0.67	4.90	1.56
all	3419.23*	PF 1	2.20	5290.62	5290.84	5290.88	0.14	5290.99	0.039624	3.14	0.70	5.08	1.49
all	3417.30*	PF 1	2.20	5290.55	5290.75	5290.80	0.13	5290.90	0.042206	3.18	0.69	5.18	1.53
all	3415.38*	PF 1	2.20	5290.49	5290.67	5290.72	0.13	5290.83	0.043798	3.17	0.69	5.36	1.55
all	3413.46*	PF 1	2.20	5290.43	5290.61	5290.66	0.13	5290.74	0.033440	2.83	0.78	5.82	1.36
all	3411.53*	PF 1	2.20	5290.37	5290.54	5290.56	0.13	5290.66	0.035309	2.83	0.78	6.07	1.39
all	3409.61*	PF 1	2.20	5290.31	5290.47	5290.50	0.13	5290.58	0.032283	2.69	0.82	6.46	1.33
all	3407.69*	PF 1	2.20	5290.25	5290.40	5290.43	0.12	5290.51	0.034660	2.70	0.82	6.76	1.37
all	3405.76*	PF 1	2.20	5290.18	5290.32	5290.35	0.11	5290.44	0.039996	2.77	0.79	7.03	1.45
all	3403.84*	PF 1	2.20	5290.12	5290.36	5290.28	0.18	5290.38	0.004554	1.29	1.71	9.40	0.53
all	3401.92*	PF 1	2.20	5290.06	5290.36		0.22	5290.37	0.001563	0.87	2.54	11.33	0.32
all	3400	PF 1	4.10	5290.00	5290.34		0.25	5290.37	0.002818	1.25	3.28	13.10	0.44
all	3398.07*	PF 1	4.10	5289.98	5290.34		0.26	5290.36	0.002663	1.23	3.33	13.02	0.43
all	3396.15*	PF 1	4.10	5289.97	5290.33		0.25	5290.36	0.002892	1.27	3.22	12.76	0.45
all	3394.23*	PF 1	4.10	5289.95	5290.33		0.26	5290.35	0.002779	1.26	3.25	12.70	0.44
all	3392.30*	PF 1	4.10	5289.94	5290.32		0.25	5290.34	0.003079	1.31	3.12	12.40	0.46
all	3390.38*	PF 1	4.10	5289.92	5290.31		0.25	5290.34	0.003029	1.31	3.13	12.33	0.46
all	3388.46*	PF 1	4.10	5289.90	5290.30		0.26	5290.33	0.003024	1.31	3.12	12.24	0.46
all	3386.53*	PF 1	4.10	5289.89	5290.29		0.25	5290.32	0.003456	1.38	2.97	11.92	0.49
all	3384.61*	PF 1	4.10	5289.87	5290.29		0.25	5290.32	0.003573	1.40	2.93	11.79	0.50
all	3382.69*	PF 1	4.10	5289.85	5290.28		0.25	5290.31	0.003702	1.42	2.88	11.67	0.50
all	3380.76*	PF 1	4.10	5289.84	5290.26		0.24	5290.30	0.004498	1.53	2.68	11.27	0.55
all	3378.84*	PF 1	4.10	5289.82	5290.25		0.23	5290.29	0.005051	1.60	2.57	11.02	0.58
all	3376.92*	PF 1	4.10	5289.81	5290.23		0.22	5290.28	0.007134	1.81	2.26	10.39	0.68
all	3375	PF 1	4.10	5289.79	5290.16	5290.16	0.18	5290.26	0.017042	2.51	1.63	8.85	1.03
all	3373.07*	PF 1	4.10	5289.60	5289.89	5289.98	0.14	5290.17	0.068214	4.26	0.96	6.65	1.98
all	3371.15*	PF 1	4.10	5289.41	5289.69	5289.79	0.14	5290.02	0.082622	4.62	0.89	6.29	2.17
all	3369.23*	PF 1	4.10	5289.23	5289.51	5289.62	0.14	5289.86	0.087113	4.74	0.86	6.13	2.22
all	3367.30*	PF 1	4.10	5289.04	5289.32	5289.44	0.14	5289.70	0.092997	4.90	0.84	5.93	2.30
all	3365.38*	PF 1	4.10	5288.85	5289.13	5289.25	0.14	5289.52	0.095656	4.98	0.82	5.80	2.33
all	3363.46*	PF 1	4.10	5288.66	5288.95	5289.06	0.14	5289.33	0.093300	4.97	0.82	5.72	2.31
all	3361.53*	PF 1	4.10	5288.48	5288.77	5288.88	0.15	5289.15	0.090690	4.94	0.83	5.69	2.28
all	3359.61*	PF 1	4.10	5288.29	5288.58	5288.70	0.15	5288.97	0.090427	4.97	0.83	5.61	2.28
all	3357.69*	PF 1	4.10	5288.10	5288.40	5288.51	0.15	5288.79	0.092730	5.04	0.81	5.51	2.31
all	3355.76*	PF 1	4.10	5287.91	5288.21	5288.33	0.15	5288.61	0.095299	5.12	0.80	5.41	2.34
all	3353.84*	PF 1	4.10	5287.73	5288.03	5288.15	0.15	5288.43	0.091195	5.05	0.81	5.41	2.30
all	3351.92*	PF 1	4.10	5287.54	5287.84	5287.96	0.15	5288.24	0.091732	5.09	0.81	5.33	2.31
all	3350	PF 1	4.10	5287.35	5287.96	5287.77	0.30	5287.98	0.002285	1.28	3.21	10.55	0.41
all	3348.07*	PF 1	4.10	5287.35	5287.95		0.30	5287.98	0.002396	1.30	3.15	10.45	0.42
all	3346.15*	PF 1	4.10	5287.35	5287.95		0.30	5287.97	0.002524	1.33	3.09	10.35	0.43
all	3 3*	PF 1	4.10	5287.35	5287.94		0.30	5287.97	0.002661	1.35	3.03	10.25	0.44

HEC-RAS Pl[illegible]0y 6hr River: unnamed arroyo Reach: all Profile: PF 1 (Continued)

Reach	er Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	dr Depth	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
all	3342.30*	PF 1	4.10	5287.35	5287.94		0.29	5287.96	0.002818	1.38	2.96	10.14	0.45
all	3340.38*	PF 1	4.10	5287.35	5287.93		0.29	5287.96	0.003001	1.42	2.89	10.02	0.46
all	3338.46*	PF 1	4.10	5287.35	5287.92		0.28	5287.95	0.003227	1.46	2.82	9.89	0.48
all	3336.53*	PF 1	4.10	5287.35	5287.91		0.28	5287.95	0.003490	1.50	2.74	9.74	0.50
all	3334.61*	PF 1	4.10	5287.35	5287.90		0.28	5287.94	0.003814	1.55	2.65	9.58	0.52
all	3332.69*	PF 1	4.10	5287.35	5287.89		0.27	5287.93	0.004235	1.61	2.54	9.40	0.55
all	3330.76*	PF 1	4.10	5287.35	5287.88		0.26	5287.92	0.004783	1.69	2.43	9.18	0.58
all	3328.84*	PF 1	4.10	5287.35	5287.87		0.26	5287.91	0.005555	1.78	2.30	8.93	0.62
all	3326.92*	PF 1	4.10	5287.35	5287.85		0.25	5287.90	0.006792	1.92	2.13	8.60	0.68
all	3325	PF 1	4.10	5287.35	5287.82		0.23	5287.89	0.009142	2.15	1.91	8.13	0.78
all	3323.07*	PF 1	4.10	5287.34	5287.80		0.23	5287.87	0.009911	2.21	1.86	8.12	0.81
all	3321.15*	PF 1	4.10	5287.32	5287.78		0.23	5287.85	0.009261	2.14	1.91	8.29	0.79
all	3319.23*	PF 1	4.10	5287.31	5287.76		0.22	5287.84	0.010207	2.21	1.86	8.26	0.82
all	3317.30*	PF 1	4.10	5287.29	5287.74		0.23	5287.81	0.009471	2.14	1.92	8.47	0.79
all	3315.38*	PF 1	4.10	5287.28	5287.72		0.22	5287.80	0.010311	2.20	1.87	8.46	0.82
all	3313.46*	PF 1	4.10	5287.26	5287.70		0.22	5287.78	0.009632	2.13	1.92	8.66	0.80
all	3311.53*	PF 1	4.10	5287.25	5287.68		0.22	5287.76	0.010710	2.20	1.86	8.63	0.84
all	3309.61*	PF 1	4.10	5287.23	5287.66		0.22	5287.73	0.009953	2.13	1.92	8.87	0.81
all	3307.69*	PF 1	4.10	5287.22	5287.64		0.21	5287.72	0.011231	2.21	1.85	8.84	0.85
all	3305.76*	PF 1	4.10	5287.20	5287.62		0.21	5287.69	0.010667	2.16	1.90	9.05	0.83
all	3303.84*	PF 1	4.10	5287.19	5287.59	5287.57	0.20	5287.67	0.012189	2.25	1.82	9.03	0.88
all	3301.92*	PF 1	4.10	5287.17	5287.57		0.20	5287.65	0.011671	2.20	1.87	9.31	0.86
all	3300	PF 1	4.10	5287.16	5287.53	5287.53	0.19	5287.63	0.016222	2.45	1.67	9.01	1.01
all	3298.07*	PF 1	4.10	5287.08	5287.40	5287.45	0.16	5287.57	0.035209	3.29	1.25	7.76	1.45
all	3296.15*	PF 1	4.10	5286.99	5287.31	5287.36	0.16	5287.49	0.040295	3.47	1.18	7.52	1.54
all	3294.23*	PF 1	4.10	5286.91	5287.23	5287.29	0.16	5287.41	0.035956	3.33	1.23	7.64	1.46
all	3292.30*	PF 1	4.10	5286.82	5287.13	5287.19	0.16	5287.33	0.044641	3.62	1.13	7.30	1.62
all	3290.38*	PF 1	4.10	5286.74	5287.05	5287.12	0.16	5287.25	0.043106	3.58	1.15	7.31	1.59
all	3288.46*	PF 1	4.10	5286.65	5286.96	5287.03	0.15	5287.17	0.047278	3.71	1.10	7.15	1.66
all	3286.53*	PF 1	4.10	5286.57	5286.88	5286.96	0.16	5287.09	0.044480	3.63	1.13	7.20	1.62
all	3284.61*	PF 1	4.10	5286.48	5286.80	5286.86	0.16	5287.00	0.043711	3.62	1.13	7.18	1.61
all	3282.69*	PF 1	4.10	5286.40	5286.72	5286.78	0.16	5286.92	0.044050	3.63	1.13	7.16	1.61
all	3280.76*	PF 1	4.10	5286.31	5286.63	5286.70	0.16	5286.83	0.041073	3.55	1.16	7.21	1.56
all	3278.84*	PF 1	4.10	5286.23	5286.55	5286.61	0.16	5286.75	0.041352	3.56	1.15	7.18	1.57
all	3276.92*	PF 1	4.10	5286.14	5286.46	5286.53	0.16	5286.66	0.042838	3.61	1.13	7.09	1.59
all	3275	PF 1	4.10	5286.06	5286.38	5286.44	0.16	5286.58	0.043103	3.63	1.13	7.07	1.60
all	3273.07*	PF 1	4.10	5286.06	5286.38	5286.40	0.18	5286.50	0.020834	2.75	1.49	8.16	1.14
all	3271.15*	PF 1	4.10	5286.05	5286.32	5286.35	0.17	5286.45	0.024863	2.91	1.41	8.13	1.23
all	3269.23*	PF 1	4.10	5286.05	5286.31	5286.32	0.18	5286.41	0.018913	2.58	1.59	8.94	1.08
all	3267.30*	PF 1	4.10	5286.04	5286.26	5286.28	0.16	5286.37	0.024194	2.75	1.49	9.16	1.20
all	3265.38*	PF 1	4.10	5286.04	5286.24	5286.26	0.16	5286.35	0.022967	2.62	1.56	9.91	1.17
all	3263.46*	PF 1	4.10	5286.03	5286.26	5286.23	0.18	5286.32	0.009748	1.90	2.16	11.68	0.78
all	3261.53*	PF 1	4.10	5286.03	5286.25		0.18	5286.30	0.009854	1.86	2.21	12.45	0.78
all	31*	PF 1	4.10	5286.02	5286.23		0.18	5286.28	0.008066	1.70	2.42	13.49	0.71

HEC-RAS Pla ly 6hr River: unnamed arroyo Reach: all Profile: PF 1 (Continued)

Reach	er Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	ydr Depth	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
all	3257.69*	PF 1	4.10	5286.02	5286.22		0.17	5286.26	0.008458	1.68	2.44	14.30	0.72
all	3255.76*	PF 1	4.10	5286.01	5286.21		0.17	5286.24	0.007031	1.54	2.66	15.39	0.65
all	3253.84*	PF 1	4.10	5286.01	5286.19		0.16	5286.23	0.007623	1.55	2.65	16.25	0.68
all	3251.92*	PF 1	4.10	5286.00	5286.18		0.16	5286.21	0.006843	1.46	2.81	17.29	0.64
all	3250	PF 1	4.10	5286.00	5286.12	5286.12	0.11	5286.19	0.022791	2.10	1.96	17.29	1.10
all	3248.07*	PF 1	4.10	5285.87	5285.96	5286.00	0.09	5286.11	0.072242	3.11	1.32	15.38	1.87
all	3246.15*	PF 1	4.10	5285.74	5285.84	5285.89	0.10	5285.98	0.057805	2.99	1.37	14.31	1.70
all	3244.23*	PF 1	4.10	5285.60	5285.71	5285.75	0.10	5285.86	0.059684	3.13	1.31	13.10	1.74
all	3242.30*	PF 1	4.10	5285.47	5285.59	5285.63	0.11	5285.74	0.055983	3.17	1.29	12.03	1.71
all	3240.38*	PF 1	4.10	5285.34	5285.47	5285.51	0.12	5285.63	0.052832	3.24	1.27	10.94	1.68
all	3238.46*	PF 1	4.10	5285.21	5285.35	5285.40	0.12	5285.52	0.053612	3.39	1.21	9.86	1.71
all	3236.53*	PF 1	4.10	5285.07	5285.22	5285.27	0.13	5285.41	0.053629	3.55	1.16	8.81	1.7[illegible]
all	3234.61*	PF 1	4.10	5284.94	5285.11	5285.17	0.14	5285.31	0.050042	3.64	1.13	7.85	1.6[illegible]
all	3232.69*	PF 1	4.10	5284.81	5285.00	5285.06	0.16	5285.21	0.044865	3.69	1.11	6.98	1.63
all	3230.76*	PF 1	4.10	5284.68	5284.91	5284.97	0.18	5285.12	0.040154	3.73	1.10	6.24	1.56
all	3228.84*	PF 1	4.10	5284.54	5284.81	5284.88	0.19	5285.04	0.038084	3.84	1.07	5.56	1.54
all	3226.92*	PF 1	4.10	5284.41	5284.75	5284.82	0.21	5284.98	0.034913	3.84	1.07	5.18	1.49
all	3225	PF 1	4.10	5284.28	5284.73	5284.78	0.23	5284.91	0.024538	3.41	1.20	5.33	1.26
all	3223.07*	PF 1	4.10	5284.26	5284.79	5284.75	0.26	5284.88	0.010216	2.45	1.67	6.32	0.84
all	3221.15*	PF 1	4.10	5284.24	5284.77		0.27	5284.86	0.010003	2.43	1.69	6.37	0.83
all	3219.23*	PF 1	4.10	5284.22	5284.75		0.27	5284.84	0.009594	2.38	1.72	6.45	0.81
all	3217.30*	PF 1	4.10	5284.19	5284.74		0.28	5284.82	0.008106	2.24	1.83	6.65	0.75
all	3215.38*	PF 1	4.10	5284.17	5284.73		0.28	5284.80	0.007427	2.16	1.90	6.80	0.72
all	3213.46*	PF 1	4.10	5284.15	5284.72		0.28	5284.78	0.006858	2.10	1.96	6.92	0.70
all	3211.53*	PF 1	4.10	5284.13	5284.70		0.29	5284.77	0.006178	2.01	2.04	7.11	0.66
all	3209.61*	PF 1	4.10	5284.11	5284.69		0.29	5284.75	0.005638	1.94	2.11	7.24	0.63
all	3207.69*	PF 1	4.10	5284.09	5284.69		0.30	5284.74	0.004882	1.83	2.23	7.50	0.59
all	3205.76*	PF 1	4.10	5284.06	5284.68		0.31	5284.73	0.003801	1.67	2.46	7.87	0.53
all	3203.84*	PF 1	4.10	5284.04	5284.68		0.32	5284.72	0.003313	1.58	2.59	8.10	0.4[illegible]
all	3201.92*	PF 1	4.10	5284.02	5284.68		0.33	5284.71	0.002813	1.48	2.76	8.42	0.46
all	3200	PF 1	5.80	5284.00	5284.55	5284.55	0.28	5284.69	0.014093	2.96	1.96	7.12	0.99
all	3198.07*	PF 1	5.80	5284.00	5284.45	5284.50	0.25	5284.65	0.023503	3.57	1.63	6.57	1.26
all	3196.15*	PF 1	5.80	5284.00	5284.46	5284.45	0.27	5284.59	0.013301	2.86	2.03	7.47	0.97
all	3194.23*	PF 1	5.80	5284.00	5284.46		0.29	5284.55	0.009161	2.46	2.36	8.24	0.81
all	3192.30*	PF 1	5.80	5284.00	5284.45		0.30	5284.53	0.006867	2.18	2.66	8.96	0.71
all	3190.38*	PF 1	5.80	5284.00	5284.45		0.31	5284.51	0.005303	1.95	2.97	9.71	0.62
all	3188.46*	PF 1	5.80	5284.00	5284.45		0.31	5284.50	0.004196	1.77	3.28	10.50	0.56
all	3186.53*	PF 1	5.80	5284.00	5284.45		0.32	5284.49	0.003412	1.61	3.59	11.27	0.50
all	3184.61*	PF 1	5.80	5284.00	5284.44		0.32	5284.48	0.002817	1.48	3.92	12.10	0.46
all	3182.69*	PF 1	5.80	5284.00	5284.44		0.33	5284.47	0.002369	1.37	4.23	12.93	0.42
all	3180.76*	PF 1	5.80	5284.00	5284.44		0.33	5284.47	0.002009	1.27	4.57	13.82	0.39
all	3178.84*	PF 1	5.80	5284.00	5284.44		0.33	5284.46	0.001727	1.18	4.90	14.69	0.36
all	3176.92*	PF 1	5.80	5284.00	5284.44		0.33	5284.46	0.001500	1.11	5.24	15.64	0.34
all	[illegible]	PF 1	5.80	5284.00	5284.44		0.34	5284.45	0.001305	1.04	5.60	16.64	0.31

HEC-RAS Pla 0y 6hr River: unnamed arroyo Reach: all Profile: PF 1 (Continued)

Reach	er Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	dr Depth	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
all	3173.07*	PF 1	5.80	5284.00	5284.43		0.33	5284.45	0.001507	1.09	5.31	16.28	0.34
all	3171.15*	PF 1	5.80	5284.00	5284.43		0.32	5284.45	0.001762	1.15	5.03	15.93	0.36
all	3169.23*	PF 1	5.80	5284.00	5284.42		0.30	5284.44	0.002084	1.22	4.75	15.65	0.39
all	3167.30*	PF 1	5.80	5284.00	5284.41		0.29	5284.44	0.002496	1.30	4.46	15.38	0.43
all	3165.38*	PF 1	5.80	5284.00	5284.41		0.28	5284.43	0.003003	1.38	4.21	15.25	0.46
all	3163.46*	PF 1	5.80	5284.00	5284.40		0.26	5284.43	0.003671	1.47	3.96	15.22	0.51
all	3161.53*	PF 1	5.80	5284.00	5284.38		0.24	5284.42	0.004561	1.56	3.72	15.28	0.56
all	3159.61*	PF 1	5.80	5284.00	5284.37		0.22	5284.41	0.005678	1.65	3.51	15.58	0.61
all	3157.69*	PF 1	5.80	5284.00	5284.35		0.21	5284.40	0.007087	1.74	3.33	16.16	0.68
all	3155.76*	PF 1	5.80	5284.00	5284.33		0.19	5284.38	0.008877	1.82	3.18	17.07	0.75
all	3153.84*	PF 1	5.80	5284.00	5284.32		0.17	5284.37	0.009252	1.75	3.31	19.48	0.75
all	3151.92*	PF 1	5.80	5284.00	5284.31		0.16	5284.35	0.006595	1.43	4.07	25.30	0.63
all	3150	PF 1	5.80	5284.00	5284.32		0.19	5284.33	0.002260	0.92	6.30	33.85	0.38
all	3148.07*	PF 1	5.80	5284.00	5284.30		0.16	5284.32	0.004366	1.16	5.00	31.14	0.51
all	3146.15*	PF 1	5.80	5284.00	5284.29		0.16	5284.31	0.005911	1.36	4.25	26.04	0.60
all	3144.23*	PF 1	5.80	5284.00	5284.27		0.17	5284.30	0.006926	1.50	3.87	23.15	0.65
all	3142.30*	PF 1	5.80	5284.00	5284.25		0.17	5284.29	0.006943	1.53	3.78	21.95	0.65
all	3140.38*	PF 1	5.80	5284.00	5284.24		0.18	5284.28	0.006776	1.53	3.78	21.57	0.64
all	3138.46*	PF 1	5.80	5284.00	5284.23		0.18	5284.26	0.006462	1.50	3.86	21.83	0.63
all	3136.53*	PF 1	5.80	5284.00	5284.22		0.18	5284.25	0.006136	1.46	3.96	22.48	0.61
all	3134.61*	PF 1	5.80	5284.00	5284.21		0.17	5284.24	0.005883	1.42	4.08	23.41	0.60
all	3132.69*	PF 1	5.80	5284.00	5284.20		0.17	5284.23	0.005755	1.39	4.18	24.51	0.59
all	3130.76*	PF 1	5.80	5284.00	5284.19		0.17	5284.22	0.005751	1.36	4.27	25.75	0.59
all	3128.84*	PF 1	5.80	5284.00	5284.18		0.16	5284.20	0.005986	1.35	4.30	27.07	0.60
all	3126.92*	PF 1	5.80	5284.00	5284.16		0.15	5284.19	0.007004	1.39	4.18	28.35	0.64
all	3125	PF 1	5.80	5284.00	5284.11	5284.11	0.11	5284.17	0.018965	1.86	3.13	28.94	1.00
all	3123.07*	PF 1	5.80	5283.88	5283.96	5284.01	0.08	5284.09	0.072478	2.89	2.00	26.07	1.84
all	3121.15*	PF 1	5.80	5283.77	5283.87	5283.90	0.09	5283.97	0.045529	2.58	2.25	24.54	1.50
all	3119.23*	PF 1	5.80	5283.65	5283.75	5283.78	0.09	5283.87	0.053913	2.80	2.07	22.56	1.63
all	3117.30*	PF 1	5.80	5283.53	5283.63	5283.67	0.10	5283.76	0.051723	2.86	2.03	20.77	1.62
all	3115.38*	PF 1	5.80	5283.42	5283.53	5283.57	0.10	5283.67	0.050004	2.93	1.98	19.06	1.61
all	3113.46*	PF 1	5.80	5283.30	5283.42	5283.47	0.11	5283.57	0.050571	3.06	1.90	17.33	1.63
all	3111.53*	PF 1	5.80	5283.18	5283.31	5283.36	0.12	5283.47	0.047325	3.12	1.86	15.72	1.60
all	3109.61*	PF 1	5.80	5283.06	5283.21	5283.26	0.13	5283.37	0.045053	3.20	1.81	14.19	1.58
all	3107.69*	PF 1	5.80	5282.95	5283.12	5283.17	0.14	5283.29	0.041834	3.25	1.78	12.86	1.54
all	3105.76*	PF 1	5.80	5282.83	5283.03	5283.08	0.15	5283.20	0.040401	3.35	1.73	11.63	1.53
all	3103.84*	PF 1	5.80	5282.71	5282.94	5282.99	0.16	5283.12	0.037608	3.39	1.71	10.74	1.49
all	3101.92*	PF 1	5.80	5282.60	5282.88	5282.93	0.17	5283.06	0.036189	3.41	1.70	10.24	1.48
all	3100	PF 1	5.80	5282.48	5282.82	5282.87	0.17	5283.00	0.035437	3.41	1.70	10.10	1.46
all	3098.07*	PF 1	5.80	5282.42	5282.77	5282.81	0.17	5282.94	0.032455	3.32	1.75	10.07	1.41
all	3096.15*	PF 1	5.80	5282.35	5282.70	5282.76	0.18	5282.88	0.032769	3.37	1.72	9.79	1.42
all	3094.23*	PF 1	5.80	5282.29	5282.65	5282.70	0.18	5282.82	0.030891	3.32	1.75	9.74	1.38
all	3092.30*	PF 1	5.80	5282.23	5282.60	5282.64	0.18	5282.76	0.029696	3.29	1.76	9.65	1.36
all	3090.38*	PF 1	5.80	5282.16	5282.53	5282.58	0.18	5282.70	0.030460	3.34	1.73	9.45	1.38

HEC-RAS Plar 00y 6hr River: unnamed arroyo Reach: all Profile: PF 1 (Continued)

Reach	er Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	Jr Depth	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
all	3088.46*	PF 1	5.80	5282.10	5282.47	5282.52	0.18	5282.65	0.030407	3.36	1.73	9.35	1.38
all	3086.53*	PF 1	5.80	5282.04	5282.41	5282.46	0.19	5282.59	0.030889	3.39	1.71	9.22	1.39
all	3084.61*	PF 1	5.80	5281.98	5282.35	5282.40	0.19	5282.53	0.031225	3.42	1.70	9.13	1.40
all	3082.69*	PF 1	5.80	5281.91	5282.29	5282.33	0.19	5282.47	0.029921	3.38	1.72	9.09	1.37
all	3080.76*	PF 1	5.80	5281.85	5282.23	5282.28	0.19	5282.41	0.029744	3.38	1.72	9.06	1.37
all	3078.84*	PF 1	5.80	5281.79	5282.17	5282.22	0.19	5282.35	0.028862	3.34	1.74	9.08	1.35
all	3076.92*	PF 1	5.80	5281.72	5282.10	5282.15	0.19	5282.29	0.032214	3.50	1.66	8.82	1.42
all	3075	PF 1	5.80	5281.66	5282.04	5282.10	0.19	5282.23	0.031707	3.48	1.67	8.83	1.41
all	3073.07*	PF 1	5.80	5281.62	5282.00	5282.04	0.19	5282.17	0.028907	3.32	1.75	9.24	1.35
all	3071.15*	PF 1	5.80	5281.57	5281.95	5281.99	0.19	5282.10	0.026446	3.18	1.83	9.66	1.29
all	3069.23*	PF 1	5.80	5281.53	5281.91	5281.94	0.19	5282.05	0.023715	3.01	1.93	10.20	1.22
all	3067.30*	PF 1	5.80	5281.49	5281.87	5281.89	0.19	5281.99	0.021214	2.85	2.04	10.79	1.15
all	3065.38*	PF 1	5.80	5281.44	5281.79	5281.83	0.18	5281.94	0.028063	3.12	1.86	10.55	1.31
all	3063.46*	PF 1	5.80	5281.40	5281.75	5281.78	0.18	5281.89	0.024945	2.94	1.97	11.19	1.24
all	3061.53*	PF 1	5.80	5281.36	5281.71	5281.73	0.18	5281.83	0.021669	2.74	2.11	12.00	1.15
all	3059.61*	PF 1	5.80	5281.32	5281.66	5281.68	0.17	5281.78	0.023953	2.80	2.07	12.28	1.20
all	3057.69*	PF 1	5.80	5281.27	5281.58	5281.62	0.16	5281.73	0.032395	3.09	1.88	12.10	1.38
all	3055.76*	PF 1	5.80	5281.23	5281.54	5281.57	0.16	5281.67	0.027755	2.86	2.03	13.07	1.28
all	3053.84*	PF 1	5.80	5281.19	5281.50	5281.52	0.16	5281.61	0.023155	2.61	2.22	14.31	1.17
all	3051.92*	PF 1	5.80	5281.14	5281.43	5281.45	0.14	5281.55	0.031007	2.85	2.03	14.29	1.33
all	3050	PF 1	5.80	5281.10	5281.39	5281.41	0.14	5281.49	0.025226	2.57	2.25	15.84	1.20
all	3048.07*	PF 1	5.80	5281.06	5281.36	5281.38	0.15	5281.45	0.020213	2.40	2.42	15.97	1.09
all	3046.15*	PF 1	5.80	5281.02	5281.33	5281.34	0.16	5281.42	0.019224	2.38	2.43	15.62	1.06
all	3044.23*	PF 1	5.80	5280.97	5281.31	5281.30	0.17	5281.38	0.013982	2.14	2.71	16.07	0.92
all	3042.30*	PF 1	5.80	5280.93	5281.28	5281.27	0.18	5281.35	0.012028	2.05	2.83	16.03	0.86
all	3040.38*	PF 1	5.80	5280.89	5281.24	5281.23	0.17	5281.31	0.014980	2.25	2.57	14.91	0.96
all	3038.46*	PF 1	5.80	5280.85	5281.20	5281.20	0.17	5281.28	0.016194	2.35	2.47	14.24	0.99
all	3036.53*	PF 1	5.80	5280.80	5281.13	5281.15	0.16	5281.25	0.023533	2.74	2.12	12.86	1.19
all	3034.61*	PF 1	5.80	5280.76	5281.14	5281.12	0.19	5281.21	0.013063	2.22	2.61	13.89	0.90
all	3032.69*	PF 1	5.80	5280.72	5281.10	5281.09	0.19	5281.18	0.013456	2.28	2.54	13.34	0.92
all	3030.76*	PF 1	5.80	5280.68	5281.07	5281.06	0.19	5281.15	0.014441	2.38	2.44	12.68	0.95
all	3028.84*	PF 1	5.80	5280.63	5281.04	5281.02	0.20	5281.12	0.012025	2.25	2.57	12.62	0.88
all	3026.92*	PF 1	5.80	5280.59	5281.00	5280.99	0.21	5281.09	0.012927	2.35	2.46	11.94	0.91
all	3025	PF 1	5.80	5280.55	5280.96	5280.96	0.20	5281.06	0.015652	2.58	2.25	11.00	1.00
all	3023.07*	PF 1	5.80	5280.51	5280.88	5280.92	0.18	5281.03	0.025412	3.07	1.89	10.23	1.26
all	3021.15*	PF 1	5.80	5280.47	5280.84	5280.87	0.19	5280.98	0.023471	2.96	1.96	10.55	1.21
all	3019.23*	PF 1	5.80	5280.42	5280.78	5280.81	0.18	5280.93	0.026977	3.10	1.87	10.40	1.29
all	3017.30*	PF 1	5.80	5280.38	5280.74	5280.77	0.18	5280.88	0.025981	3.04	1.90	10.60	1.27
all	3015.38*	PF 1	5.80	5280.34	5280.70	5280.73	0.18	5280.84	0.024717	2.97	1.95	10.87	1.23
all	3013.46*	PF 1	5.80	5280.30	5280.66	5280.68	0.18	5280.79	0.023647	2.91	2.00	11.11	1.21
all	3011.53*	PF 1	5.80	5280.25	5280.61	5280.64	0.18	5280.74	0.021728	2.80	2.07	11.41	1.16
all	3009.61*	PF 1	5.80	5280.21	5280.57	5280.58	0.18	5280.69	0.020708	2.74	2.12	11.68	1.13
all	3007.69*	PF 1	5.80	5280.17	5280.53	5280.55	0.18	5280.64	0.019864	2.68	2.16	11.93	1.11
all	3005.76*	PF 1	5.80	5280.13	5280.49	5280.51	0.18	5280.60	0.018788	2.61	2.22	12.21	1.08

HEC-RAS Pla[illegible]0y 6hr River: unnamed arroyo Reach: all Profile: PF 1 (Continued)

Reach	[illegible]er Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	[illegible]dr Depth	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
all	3003.84*	PF 1	5.80	5280.08	5280.50	5280.45	0.21	5280.56	0.009014	1.98	2.93	14.12	0.76
all	3001.92*	PF 1	5.80	5280.04	5280.50		0.23	5280.54	0.005144	1.59	3.64	15.95	0.59
all	3000	PF 1	7.70	5280.00	5280.41	5280.41	0.20	5280.51	0.015452	2.56	3.00	14.66	1.00
all	2998.07*	PF 1	7.70	5279.96	5280.33	5280.36	0.19	5280.47	0.024196	3.01	2.56	13.72	1.23
all	2996.15*	PF 1	7.70	5279.92	5280.30	5280.32	0.19	5280.43	0.022087	2.90	2.66	14.15	1.18
all	2994.23*	PF 1	7.70	5279.88	5280.26	5280.28	0.19	5280.38	0.020755	2.81	2.74	14.59	1.14
all	2992.30*	PF 1	7.70	5279.83	5280.19	5280.22	0.18	5280.33	0.024492	2.97	2.59	14.32	1.23
all	2990.38*	PF 1	7.70	5279.79	5280.15	5280.18	0.18	5280.28	0.023415	2.91	2.65	14.65	1.20
all	2988.46*	PF 1	7.70	5279.75	5280.11	5280.14	0.18	5280.23	0.021817	2.81	2.74	15.17	1.16
all	2986.53*	PF 1	7.70	5279.71	5280.07	5280.09	0.18	5280.19	0.020899	2.75	2.80	15.50	1.14
all	2984.61*	PF 1	7.70	5279.67	5280.03	5280.04	0.18	5280.14	0.019417	2.65	2.91	16.08	1.10
all	2982.69*	PF 1	7.70	5279.63	5279.99	5280.01	0.18	5280.09	0.017598	2.53	3.05	16.78	1.04
all	2980.76*	PF 1	7.70	5279.58	5279.91	5279.95	0.17	5280.05	0.027921	2.99	2.57	15.51	1.30
all	2978.84*	PF 1	7.70	5279.54	5279.87	5279.90	0.17	5280.00	0.025817	2.88	2.67	16.13	1.25
all	2976.92*	PF 1	7.70	5279.50	5279.83	5279.86	0.17	5279.95	0.024179	2.79	2.76	16.66	1.21
all	2975	PF 1	7.70	5279.46	5279.79	5279.81	0.17	5279.90	0.021955	2.66	2.90	17.49	1.15
all	2973.07*	PF 1	7.70	5279.42	5279.75	5279.78	0.16	5279.87	0.023360	2.70	2.85	17.51	1.18
all	2971.15*	PF 1	7.70	5279.38	5279.71	5279.73	0.17	5279.83	0.023115	2.73	2.83	17.04	1.18
all	2969.23*	PF 1	7.70	5279.34	5279.68	5279.70	0.17	5279.79	0.022014	2.69	2.86	16.92	1.15
all	2967.30*	PF 1	7.70	5279.30	5279.64	5279.66	0.17	5279.75	0.022279	2.71	2.84	16.82	1.16
all	2965.38*	PF 1	7.70	5279.26	5279.60	5279.62	0.17	5279.72	0.023336	2.77	2.78	16.44	1.19
all	2963.46*	PF 1	7.70	5279.22	5279.56	5279.57	0.17	5279.68	0.023606	2.79	2.76	16.34	1.20
all	2961.53*	PF 1	7.70	5279.19	5279.54	5279.56	0.18	5279.65	0.019080	2.58	2.99	16.93	1.08
all	2959.61*	PF 1	7.70	5279.15	5279.51	5279.51	0.18	5279.61	0.018384	2.55	3.02	16.98	1.06
all	2957.69*	PF 1	7.70	5279.11	5279.47	5279.48	0.18	5279.57	0.018041	2.54	3.03	16.83	1.06
all	2955.76*	PF 1	7.70	5279.07	5279.45	5279.44	0.19	5279.53	0.013685	2.30	3.35	17.66	0.93
all	2953.84*	PF 1	7.70	5279.03	5279.40	5279.40	0.18	5279.49	0.016404	2.47	3.12	16.88	1.01
all	2951.92*	PF 1	7.70	5278.99	5279.34	5279.36	0.17	5279.46	0.022826	2.80	2.75	15.77	1.18
all	2950	PF 1	7.70	5278.95	5279.30	5279.33	0.18	5279.42	0.022296	2.78	2.77	15.74	1.17
all	2948.07*	PF 1	7.70	5278.91	5279.26	5279.28	0.18	5279.38	0.021621	2.74	2.81	15.98	1.15
all	2946.15*	PF 1	7.70	5278.87	5279.22	5279.24	0.18	5279.33	0.020881	2.69	2.86	16.26	1.13
all	2944.23*	PF 1	7.70	5278.83	5279.18	5279.20	0.18	5279.29	0.020185	2.65	2.91	16.54	1.11
all	2942.30*	PF 1	7.70	5278.79	5279.14	5279.16	0.18	5279.25	0.019339	2.59	2.97	16.86	1.09
all	2940.38*	PF 1	7.70	5278.75	5279.10	5279.11	0.18	5279.20	0.018052	2.52	3.06	17.29	1.05
all	2938.46*	PF 1	7.70	5278.71	5279.04	5279.06	0.17	5279.17	0.025035	2.83	2.72	16.46	1.23
all	2936.53*	PF 1	7.70	5278.67	5279.00	5279.03	0.17	5279.12	0.023978	2.77	2.78	16.82	1.20
all	2934.61*	PF 1	7.70	5278.63	5278.96	5278.98	0.17	5279.08	0.022987	2.71	2.84	17.17	1.18
all	2932.69*	PF 1	7.70	5278.59	5278.92	5278.94	0.17	5279.03	0.021974	2.65	2.90	17.56	1.15
all	2930.76*	PF 1	7.70	5278.55	5278.88	5278.90	0.17	5278.98	0.020896	2.59	2.98	18.01	1.12
all	2928.84*	PF 1	7.70	5278.51	5278.84	5278.85	0.17	5278.94	0.019883	2.52	3.05	18.46	1.09
all	2926.92*	PF 1	7.70	5278.47	5278.80	5278.81	0.17	5278.90	0.018675	2.45	3.15	19.00	1.06
all	2925	PF 1	7.70	5278.43	5278.74	5278.76	0.16	5278.85	0.024877	2.70	2.85	18.37	1.21
all	2923.07*	PF 1	7.70	5278.35	5278.63	5278.68	0.14	5278.79	0.041371	3.24	2.38	17.15	1.53
all	2921.15*	PF 1	7.70	5278.27	5278.54	5278.59	0.13	5278.71	0.046319	3.35	2.30	17.21	1.61

HEC-RAS Pla y 6hr River: unnamed arroyo Reach: all Profile: PF 1 (Continued)

Reach	er Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	dr Depth	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
all	2919.23*	PF 1	7.70	5278.19	5278.46	5278.51	0.13	5278.62	0.042311	3.20	2.41	18.00	1.54
all	2917.30*	PF 1	7.70	5278.10	5278.36	5278.41	0.13	5278.53	0.045476	3.27	2.35	17.96	1.59
all	2915.38*	PF 1	7.70	5278.02	5278.28	5278.33	0.13	5278.43	0.041629	3.13	2.46	18.77	1.52
all	2913.46*	PF 1	7.70	5277.94	5278.20	5278.24	0.13	5278.35	0.042394	3.12	2.47	19.13	1.53
all	2911.53*	PF 1	7.70	5277.86	5278.12	5278.16	0.13	5278.26	0.039342	3.01	2.56	19.86	1.48
all	2909.61*	PF 1	7.70	5277.78	5278.03	5278.08	0.13	5278.17	0.039350	2.98	2.58	20.30	1.47
all	2907.69*	PF 1	7.70	5277.70	5277.95	5277.99	0.12	5278.09	0.041684	3.02	2.55	20.58	1.51
all	2905.76*	PF 1	7.70	5277.61	5277.85	5277.90	0.12	5278.00	0.045574	3.11	2.48	20.48	1.57
all	2903.84*	PF 1	7.70	5277.53	5277.77	5277.82	0.12	5277.91	0.041687	2.97	2.59	21.41	1.50
all	2901.92*	PF 1	7.70	5277.45	5277.69	5277.73	0.12	5277.82	0.039334	2.88	2.67	22.04	1.46
all	2900	PF 1	7.70	5277.37	5277.60	5277.65	0.12	5277.74	0.042768	2.94	2.62	22.33	1.52
all	2898.07*	PF 1	7.70	5277.30	5277.54	5277.58	0.12	5277.66	0.038601	2.83	2.72	22.71	1.44
all	2896.15*	PF 1	7.70	5277.23	5277.47	5277.51	0.12	5277.60	0.038811	2.84	2.71	22.64	1.45
all	2894.23*	PF 1	7.70	5277.16	5277.40	5277.44	0.12	5277.53	0.036503	2.79	2.76	22.65	1.41
all	2892.30*	PF 1	7.70	5277.09	5277.33	5277.37	0.12	5277.46	0.036846	2.80	2.75	22.55	1.42
all	2890.38*	PF 1	7.70	5277.02	5277.26	5277.30	0.12	5277.39	0.037204	2.82	2.73	22.44	1.42
all	2888.46*	PF 1	7.70	5276.95	5277.19	5277.23	0.12	5277.32	0.037573	2.83	2.72	22.33	1.43
all	2886.53*	PF 1	7.70	5276.88	5277.12	5277.16	0.12	5277.25	0.038538	2.87	2.69	22.05	1.45
all	2884.61*	PF 1	7.70	5276.80	5277.05	5277.09	0.13	5277.17	0.035292	2.79	2.76	22.00	1.39
all	2882.69*	PF 1	7.70	5276.73	5276.98	5277.02	0.13	5277.10	0.035831	2.82	2.73	21.83	1.40
all	2880.76*	PF 1	7.70	5276.66	5276.91	5276.95	0.13	5277.03	0.035289	2.81	2.74	21.79	1.39
all	2878.84*	PF 1	7.70	5276.59	5276.84	5276.88	0.13	5276.97	0.034968	2.81	2.74	21.61	1.39
all	2876.92*	PF 1	7.70	5276.52	5276.86	5276.81	0.17	5276.90	0.007831	1.61	4.80	28.43	0.69
all	2875	PF 1	7.70	5276.45	5276.86		0.21	5276.88	0.002735	1.09	7.09	34.27	0.42
all	2873.07*	PF 1	7.70	5276.45	5276.86		0.20	5276.88	0.002755	1.08	7.12	34.89	0.42
all	2871.15*	PF 1	7.70	5276.45	5276.85		0.20	5276.87	0.002889	1.10	7.02	34.90	0.43
all	2869.23*	PF 1	7.70	5276.45	5276.85		0.20	5276.87	0.002920	1.09	7.05	35.50	0.43
all	2867.30*	PF 1	7.70	5276.45	5276.84		0.20	5276.86	0.002997	1.10	7.03	35.92	0.44
all	2865.38*	PF 1	7.70	5276.45	5276.84		0.19	5276.85	0.003046	1.09	7.04	36.54	0.44
all	2863.46*	PF 1	7.70	5276.45	5276.83		0.19	5276.85	0.003122	1.10	7.02	37.03	0.44
all	2861.53*	PF 1	7.70	5276.45	5276.82		0.19	5276.84	0.003301	1.11	6.91	37.12	0.45
all	2859.61*	PF 1	7.70	5276.45	5276.82		0.18	5276.84	0.003429	1.12	6.87	37.56	0.46
all	2857.69*	PF 1	7.70	5276.45	5276.81		0.18	5276.83	0.003532	1.12	6.85	38.19	0.47
all	2855.76*	PF 1	7.70	5276.45	5276.80		0.18	5276.82	0.003691	1.13	6.80	38.66	0.48
all	2853.84*	PF 1	7.70	5276.45	5276.79		0.17	5276.81	0.004002	1.16	6.63	38.64	0.49
all	2851.92*	PF 1	7.70	5276.45	5276.78		0.17	5276.81	0.004385	1.19	6.47	38.83	0.51
all	2850	PF 1	9.20	5276.45	5276.73	5276.72	0.14	5276.79	0.015150	1.96	4.69	33.75	0.93
all	2848.07*	PF 1	9.20	5276.42	5276.68	5276.68	0.14	5276.75	0.017640	2.10	4.38	31.89	1.00
all	2846.15*	PF 1	9.20	5276.38	5276.61	5276.64	0.13	5276.71	0.028482	2.55	3.61	28.15	1.26
all	2844.23*	PF 1	9.20	5276.35	5276.60	5276.60	0.14	5276.67	0.018796	2.20	4.18	29.72	1.04
all	2842.30*	PF 1	9.20	5276.31	5276.53	5276.55	0.13	5276.63	0.027997	2.58	3.56	26.86	1.25
all	2840.38*	PF 1	9.20	5276.28	5276.51	5276.52	0.15	5276.59	0.018418	2.23	4.13	28.47	1.03
all	2838.46*	PF 1	9.20	5276.24	5276.45	5276.47	0.14	5276.55	0.025842	2.55	3.61	26.28	1.21
all	2836.53*	PF 1	9.20	5276.21	5276.42	5276.43	0.14	5276.51	0.022198	2.41	3.81	26.80	1.13

HEC-RAS Pla y 6hr River: unnamed arroyo Reach: all Profile: PF 1 (Continued)

Reach	r Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	ur Depth	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
all	2834.61*	PF 1	9.20	5276.17	5276.40	5276.39	0.16	5276.46	0.013802	2.04	4.50	28.40	0.91
all	2832.69*	PF 1	9.20	5276.14	5276.35	5276.35	0.15	5276.43	0.018423	2.27	4.05	27.18	1.04
all	2830.76*	PF 1	9.20	5276.10	5276.28	5276.30	0.14	5276.38	0.025670	2.55	3.60	25.93	1.21
all	2828.84*	PF 1	9.20	5276.07	5276.29	5276.27	0.17	5276.35	0.010980	1.89	4.86	29.03	0.81
all	2826.92*	PF 1	9.20	5276.03	5276.29		0.20	5276.32	0.005170	1.46	6.32	31.77	0.58
all	2825	PF 1	9.20	5276.00	5276.29		0.22	5276.31	0.003157	1.23	7.51	33.78	0.46
all	2823.07*	PF 1	9.20	5276.00	5276.28		0.22	5276.31	0.003170	1.22	7.55	34.40	0.46
all	2821.15*	PF 1	9.20	5276.00	5276.28		0.22	5276.30	0.003196	1.21	7.58	34.96	0.46
all	2819.23*	PF 1	9.20	5276.00	5276.27		0.21	5276.30	0.003229	1.21	7.62	35.59	0.46
all	2817.30*	PF 1	9.20	5276.00	5276.27		0.21	5276.29	0.003301	1.21	7.61	36.10	0.46
all	2815.38*	PF 1	9.20	5276.00	5276.26		0.21	5276.28	0.003375	1.21	7.61	36.77	0.47
all	2813.46*	PF 1	9.20	5276.00	5276.25		0.20	5276.28	0.003492	1.21	7.59	37.37	0.47
all	2811.53*	PF 1	9.20	5276.00	5276.25		0.20	5276.27	0.003655	1.22	7.52	37.85	0.46
all	2809.61*	PF 1	9.20	5276.00	5276.24		0.19	5276.26	0.003866	1.24	7.44	38.42	0.50
all	2807.69*	PF 1	9.20	5276.00	5276.23		0.19	5276.25	0.004133	1.25	7.34	39.02	0.51
all	2805.76*	PF 1	9.20	5276.00	5276.22		0.18	5276.25	0.004563	1.29	7.15	39.37	0.53
all	2803.84*	PF 1	9.20	5276.00	5276.21		0.17	5276.24	0.005190	1.33	6.91	39.78	0.56
all	2801.92*	PF 1	9.20	5276.00	5276.19		0.16	5276.22	0.006590	1.43	6.43	39.74	0.63
all	2800	PF 1	9.20	5276.00	5276.14	5276.14	0.12	5276.20	0.018292	1.99	4.62	37.51	1.00
all	2798.07*	PF 1	9.20	5275.93	5276.05	5276.08	0.10	5276.16	0.041091	2.65	3.47	33.64	1.45
all	2796.15*	PF 1	9.20	5275.86	5276.00	5276.02	0.12	5276.09	0.028250	2.40	3.84	32.64	1.23
all	2794.23*	PF 1	9.20	5275.80	5275.94	5275.96	0.12	5276.03	0.028005	2.43	3.79	31.46	1.23
all	2792.30*	PF 1	9.20	5275.73	5275.88	5275.90	0.12	5275.98	0.029485	2.51	3.66	29.92	1.27
all	2790.38*	PF 1	9.20	5275.66	5275.82	5275.84	0.13	5275.92	0.025698	2.45	3.76	28.87	1.20
all	2788.46*	PF 1	9.20	5275.59	5275.76	5275.78	0.13	5275.86	0.025417	2.48	3.71	27.75	1.19
all	2786.53*	PF 1	9.20	5275.53	5275.71	5275.73	0.14	5275.81	0.025271	2.51	3.67	26.84	1.19
all	2784.61*	PF 1	9.20	5275.46	5275.66	5275.68	0.14	5275.76	0.022033	2.42	3.80	26.51	1.12
all	2782.69*	PF 1	9.20	5275.39	5275.61	5275.62	0.14	5275.70	0.022773	2.47	3.72	25.71	1.15
all	2780.76*	PF 1	9.20	5275.32	5275.55	5275.57	0.15	5275.65	0.022486	2.49	3.70	25.12	1.14
all	2778.84*	PF 1	9.20	5275.26	5275.51	5275.53	0.15	5275.61	0.022929	2.51	3.67	24.93	1.15
all	2776.92*	PF 1	9.20	5275.19	5275.47	5275.49	0.15	5275.56	0.020836	2.43	3.79	25.18	1.10
all	2775	PF 1	9.20	5275.12	5275.43	5275.43	0.15	5275.51	0.018961	2.34	3.94	25.80	1.05
all	2773.07*	PF 1	9.20	5275.03	5275.22	5275.28	0.12	5275.43	0.064636	3.68	2.50	20.83	1.87
all	2771.15*	PF 1	9.20	5274.95	5275.11	5275.17	0.11	5275.30	0.064219	3.53	2.60	22.92	1.85
all	2769.23*	PF 1	9.20	5274.86	5274.99	5275.04	0.11	5275.17	0.064101	3.36	2.74	25.89	1.82
all	2767.30*	PF 1	9.20	5274.78	5274.90	5274.94	0.10	5275.04	0.054912	3.03	3.04	30.01	1.68
all	2765.38*	PF 1	9.20	5274.69	5274.79	5274.83	0.09	5274.93	0.063666	3.02	3.05	33.82	1.77
all	2763.46*	PF 1	9.20	5274.60	5274.69	5274.72	0.09	5274.81	0.057449	2.78	3.31	38.37	1.67
all	2761.53*	PF 1	9.20	5274.52	5274.61	5274.64	0.09	5274.71	0.042807	2.42	3.80	43.49	1.44
all	2759.61*	PF 1	9.20	5274.43	5274.51	5274.54	0.08	5274.61	0.054026	2.50	3.68	47.79	1.59
all	2757.69*	PF 1	9.20	5274.34	5274.42	5274.43	0.07	5274.51	0.054100	2.41	3.82	52.52	1.57
all	2755.76*	PF 1	9.20	5274.26	5274.34	5274.35	0.07	5274.41	0.044033	2.18	4.22	57.65	1.42
all	2753.84*	PF 1	9.20	5274.17	5274.24	5274.26	0.07	5274.31	0.050153	2.20	4.18	62.29	1.50
all	2751.92*	PF 1	9.20	5274.09	5274.16	5274.18	0.07	5274.22	0.042253	2.02	4.55	67.47	1.37

HEC-RAS Pla `0y 6hr River: unnamed arroyo Reach: all Profile: PF 1 (Continued)

Reach	er Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	ydr Depth	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
all	2750	PF 1	9.20	5274.00	5274.06	5274.08	0.06	5274.13	0.051151	2.09	4.41	72.08	1.49
all	2748.07*	PF 1	9.20	5273.92	5273.99	5274.00	0.07	5274.05	0.035150	1.91	4.81	67.71	1.26
all	2746.15*	PF 1	9.20	5273.84	5273.91	5273.93	0.07	5273.98	0.041645	2.07	4.44	62.76	1.37
all	2744.23*	PF 1	9.20	5273.76	5273.84	5273.85	0.08	5273.91	0.037150	2.07	4.45	58.17	1.32
all	2742.30*	PF 1	9.20	5273.68	5273.76	5273.78	0.08	5273.84	0.038762	2.16	4.25	53.52	1.35
all	2740.38*	PF 1	9.20	5273.60	5273.69	5273.71	0.09	5273.77	0.036643	2.20	4.18	49.01	1.33
all	2738.46*	PF 1	9.20	5273.52	5273.62	5273.64	0.09	5273.70	0.035723	2.27	4.05	44.62	1.33
all	2736.53*	PF 1	9.20	5273.44	5273.55	5273.57	0.10	5273.63	0.033554	2.32	3.97	40.45	1.30
all	2734.61*	PF 1	9.20	5273.36	5273.48	5273.50	0.11	5273.57	0.031131	2.36	3.91	36.70	1.27
all	2732.69*	PF 1	9.20	5273.28	5273.42	5273.44	0.12	5273.51	0.028411	2.38	3.86	33.34	1.23
all	2730.76*	PF 1	9.20	5273.20	5273.36	5273.38	0.12	5273.46	0.026507	2.42	3.80	30.44	1.21
all	2728.84*	PF 1	9.20	5273.12	5273.31	5273.33	0.13	5273.41	0.025864	2.47	3.72	28.26	1.2
all	2726.92*	PF 1	9.20	5273.04	5273.27	5273.29	0.14	5273.36	0.023617	2.44	3.77	27.37	1.16
all	2725	PF 1	9.20	5272.96	5273.25	5273.25	0.14	5273.33	0.019757	2.28	4.03	28.14	1.06
all	2723.07*	PF 1	9.20	5272.89	5273.14	5273.19	0.13	5273.28	0.038801	2.94	3.13	24.82	1.46
all	2721.15*	PF 1	9.20	5272.81	5273.07	5273.10	0.13	5273.19	0.035239	2.85	3.23	24.99	1.40
all	2719.23*	PF 1	9.20	5272.74	5273.00	5273.04	0.13	5273.12	0.034617	2.83	3.26	25.21	1.39
all	2717.30*	PF 1	9.20	5272.66	5272.92	5272.96	0.13	5273.05	0.038012	2.93	3.14	24.68	1.45
all	2715.38*	PF 1	9.20	5272.59	5272.85	5272.88	0.13	5272.97	0.036375	2.87	3.21	25.15	1.42
all	2713.46*	PF 1	9.20	5272.52	5272.78	5272.81	0.13	5272.90	0.035726	2.84	3.23	25.38	1.40
all	2711.53*	PF 1	9.20	5272.44	5272.69	5272.73	0.12	5272.82	0.039345	2.94	3.13	25.06	1.47
all	2709.61*	PF 1	9.20	5272.37	5272.62	5272.67	0.12	5272.75	0.036962	2.85	3.23	25.85	1.42
all	2707.69*	PF 1	9.20	5272.30	5272.55	5272.58	0.12	5272.67	0.034265	2.75	3.35	26.85	1.37
all	2705.76*	PF 1	9.20	5272.22	5272.46	5272.51	0.12	5272.59	0.038583	2.87	3.21	26.32	1.45
all	2703.84*	PF 1	9.20	5272.15	5272.39	5272.44	0.12	5272.51	0.034765	2.73	3.37	27.64	1.38
all	2701.92*	PF 1	9.20	5272.07	5272.31	5272.34	0.12	5272.43	0.039976	2.85	3.23	27.49	1.47
all	2700	PF 1	10.00	5272.00	5272.24	5272.28	0.12	5272.36	0.036910	2.78	3.59	29.85	1.41

#133

NATIONAL FLOOD INSURANCE PROGRAM

FEMA MAP COORDINATION CONTRACTOR

January 5, 2005

Mr. Bradley L. Bingham, P.E., CFM
City Floodplain Administrator
City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

IN REPLY REFER TO:
Case No.: 05-06-0322P
Community: City of Albuquerque, NM
Community No.: 350002
316-ACK.FRQ

Dear Mr. Bingham:

This responds to your request dated November 10, 2004, that the Department of Homeland Security's Federal Emergency Management Agency (FEMA) issue a revision to the Flood Insurance Rate Map (FIRM) for Bernalillo County, New Mexico and Incorporated Areas. Pertinent information about the request is listed below.

Identifier:	Vista Del Aguila Subdivision, Unit 3
Flooding Source:	South La Cueva Arroyo
FIRM Panel(s) Affected:	35001C0137 F

FEMA has implemented a procedure to recover costs associated with reviewing and processing requests for modifications to published flood information and maps. Effective September 1, 2002, FEMA revised that fee schedule. A copy of the notice summarizing the current fee schedule, which was published in the *Federal Register*, is enclosed for your information. In accordance with this schedule, the fee for your request is $4,200 and must be submitted before we can continue processing your request. Payment of this fee must be made in the form of a check or money order, made payable in U.S. funds to the National Flood Insurance Program (NFIP), or credit card payment. For identification purposes, the case number referenced above must be included on the check or money order. We will not perform a detailed technical review of your request until we receive this payment.

Payment must be forwarded to one of the addresses listed below.

Using U.S. Postal Service:
Federal Emergency Management Agency
Fee-Charge System Administrator
P.O. Box 22787
Alexandria, VA 22304

Using overnight service:
FEMA Fee-Charge System Administrator
c/o Michael Baker Jr., Inc.
3601 Eisenhower Avenue
Alexandria, VA 22304

We have completed an inventory of the items that you submitted. The items identified below are required before we can begin a detailed review of your request.

1. Please provide calculations to support the figure of 5,303.00 feet for the elevation of the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood) that is shown for the new retention pond on your project site.

2. Please submit an officially adopted maintenance and operation plan for the proposed retention pond on your project site. This plan, which may be in the form of a written statement from the community Chief Executive Officer, an ordinance, or other legislation, must describe the nature of the maintenance activities, the frequency with which they will be performed, and the title of the local community official who will be responsible for ensuring that maintenance activities are accomplished.

3. The storm sewer calculations provided with the November 10 submittal were not computed with a model that meets the minimum requirements of the NFIP. Please resubmit your analysis using one of the acceptable models shown on FEMA's website at http://www.fema.gov/fhm/en_modl.shtm, or submit documentation in accordance with Paragraph 65.6(a)(6) of the NFIP regulations to show that the model used in your original analysis meets these requirements.

All required items (except the required fee) are to be submitted to us at the address shown at the bottom of the first page. If all required items are not submitted within 90 days of the date of this letter, we will treat any subsequent request as an original submittal, and it will be subject to all submittal/payment procedures.

If you are unable to meet the 90-day deadline for submittal of required items, and would like FEMA to continue processing your request, you must request an extension of the deadline. This request must be submitted to us in writing and must provide (1) the reason why the data cannot be submitted within the requested timeframe, and (2) a new date for the submittal of the data. FEMA receives a very large volume of requests and cannot maintain inactive requests for an indefinite period of time. Therefore, the fees will be forfeited for any request for which neither the requested data nor a written extension request is received within 90 days.

When you write us about your request, please include the case number referenced above in your letter.

If you have general questions about your request, FEMA policy, or the NFIP, please call the FEMA Map Assistance Center, toll free, at 1-877-FEMA MAP (1-877-336-2627). If you have specific questions concerning your request, please call the Revisions Coordinator for your State, Ms. Lauren Clem, who may be reached at (703) 960-8800, ext. 3016.

Sincerely,

Sheila M. Norlin, CFM
National LOMC Manager
Michael Baker Jr., Inc.

Enclosure

cc: Ms. Genevieve Donart, P.E.
Isaacson & Arfman, P.A.

Federal Emergency Management Agency

Washington, D.C. 20472

FEE SCHEDULE FOR PROCESSING REQUESTS FOR MAP CHANGES

This notice contains the fee schedule for processing certain types of requests for changes to National Flood Insurance Program (NFIP) maps. The fee schedule allows FEMA to further reduce the expenses to the NFIP by more fully recovering the costs associated with processing conditional and final map change requests. The fee schedule for map changes is effective for all requests dated September 1, 2002, or later and supersedes the fee schedule that was established on June 1, 2000.

To develop the fee schedule for conditional and final map change requests, FEMA evaluated the actual costs of reviewing and processing requests for Conditional Letters of Map Amendment (CLOMAs), Conditional Letters of Map Revision – based on Fill (CLOMR-Fs), Conditional Letters of Map Revision (CLOMRs), Letters of Map Revision – based on Fill (LOMR-Fs), Letters of Map Revision (LOMRs), and Physical Map Revision (PMRs).

Based on our review of actual cost data for Fiscal Years 2000 and 2001, FEMA has established the following review and processing fees, which are to be submitted with all requests that are not otherwise exempted under 44 CFR 72.5.

Fee Schedule for Requests for CLOMAs, CLOMR-Fs, and LOMR-Fs

Request for single-lot/single-structure CLOMA and CLOMR-F	$500
Request for single-lot/single structure LOMR-F	$425
Request for single-lot/single-structure LOMR-F based on as-built information (CLOMR-F previously issued by us)	$325
Request for multiple-lot/multiple-structure CLOMA	$700
Request for multiple-lot/multiple-structure CLOMR-F and LOMR-F	$800
Request for multiple-lot/multiple-structure LOMR-F based on as-built information (CLOMR-F previously issued)	$700

Fee Schedule for Requests for CLOMRs

Request based on new hydrology, bridge, culvert, channel, or combination of any of these	$4,000
Request based on levee, berm, or other structural measure	$4,500

Fee Schedule for Requests for LOMRs and PMRs

Requesters must submit the review and processing fees shown below with requests for LOMRs and PMRs that are not based on structural measures or alluvial fans.

Request based on bridge, culvert, channel, or combination thereof	$4,200
Request based on levee, berm, or other structural measure	$6,000
Request based on as-built information submitted as follow-up to CLOMR	$3,800

Fees for CLOMRs, LOMRs, and PMRs Based on Structural Measures on Alluvial Fans

FEMA has maintained $5,000 as the initial fee for requests for CLOMRs and LOMRs based on structural measures on alluvial fans. FEMA will also continue to recover the remainder of the review and processing costs by invoicing the requester before issuing a determination letter, consistent with current practice. The prevailing private-sector labor rate charged to FEMA ($50 per hour) will continue to be used to calculate the total reimbursable fees.

Payment Submission Requirements

Requesters must make fee payments for non-exempt requests before we render services. This payment must be in the form of a check or money order or by credit card payment. Please make all checks and money orders in U.S. funds payable to the *National Flood Insurance Program.* We will deposit all fees collected to the National Flood Insurance Fund, which is the source of funding for providing this service.

CITY OF ALBUQUERQUE

November 10, 2004

Joseph A Martinenza
PBS&J
12101 Indian Creek Court
Beltsville, MD 20705

Re: Request for a Letter of Map Revision for Vista del Aguila Subdivision,
Case No. 04-06-872P, City of Albuquerque, New Mexico, Community No. 350002,
FIRM Panel 35001C0137F

Dear Mr. Martinenza,

The purpose of this resubmittal is to convey the documents needed to satisfy your letter dated 3-1-04 (copy enclosed). This Letter of Map Revision is to remove the floodplain remnants of the South La Cueva Arroyo.

As the Community official, I have reviewed the application and endorse this revision request. All the storm drain constructed is maintained by the City of Albuquerque. Our Community would greatly appreciate your prompt response and approval for this Letter of Map Revision.

If you have any questions, you can contact me at (505) 924-3986.

Sincerely,

Bradley L. Bingham, PE, CFM
City Floodplain Administrator

C: Genevieve Donart, PE, Isaacson & Arfman
Bill Blanton, FEMA Headquarters
Jack Quarles, FEMA Region VI

P.O. Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

170

ISAACSON & ARFMAN, P.A.

Consulting Engineering Associates

Thomas O. Isaacson, PE & LS • Fred C. Arfman, PE
Scott M. McGee, PE

COPY

May 18, 2004

Mr. Joseph A. Martinenza, Jr. P.E.
Program Manager, Region VI
PBS&J
12101 Indian Creek Court
Beltsville, MD 20705

RE: Request for LOMR for Vista del Aguila Subdivision, Unit 3
(Case no. 04-06-872P)

Dear Mr. Martinenza:

I am writing you to request an extension of the deadline for submittal of additional information on the above mentioned project. You sent a letter dated March 1, 2004 to myself and Brad Bingham, the City Floodplain Administrator for Albuquerque, requesting additional information for this project, including as-built drawings for a storm sewer system. We are attempting to get the as-built information, but it is not yet available, and the 90-day deadline for resubmittal is rapidly approaching.

I would like to request an extension of the deadline for an additional 90 days to August 28, 2004. This should give us adequate time to gather all the additional information you requested. If you have any questions about this request, please contact me at (505) 268-8828 or gennyd@mcleodusa.net.

Sincerely,
Isaacson & Arfman, P.A.

Genevieve Donart, PE
GD/gld

cc: James Urisko, PBS&J
Brad Bingham, City of Albuquerque
Joe Boyden, Two Joes, LLC

128 Monroe St. NE • Albuquerque, NM 87108 • (505) 268-8828 • FAX (505) 268-2632

170

NATIONAL FLOOD INSURANCE PROGRAM

FEMA MAP COORDINATION CONTRACTOR

MAR 0 1 2004

Bradley L. Bingham, P.E., CFM
City Floodplain Administrator
P.O. Box 1293
Albuquerque, NM 87103

IN REPLY REFER TO:
Case No.: 04-06-872P
Community: City of Albuquerque, Bernalillo County, New Mexico
Community No.: 350002

316-ACK.FRQ

Dear Mr. Bingham:

This responds to your request, dated February 10, 2004, that the Federal Emergency Management Agency (FEMA) issue a revision to the Flood Insurance Rate Map (FIRM) for the above-referenced community. Pertinent information about the request is listed below.

Identifier:	Vista del Aguila Subdivision, Unit Three
Flooding Source:	South La Cueva Arroyo
FIRM Panel Affected:	Bernalillo County, New Mexico and Incorporated Areas FIRM, number 35001C0137 F, dated November 19, 2003

We have completed an inventory of the items that you submitted. The items identified below are required before we can begin a detailed review of your request.

1. Our preliminary review of the submitted grading and drainage plans depicting the post-project conditions indicates that the retention pond located in the southwest corner of the revision area would lead to mappable flooding of the 1% annual chance (100-year) floodplain (Zone A). Please submit a revised annotated FIRM updated to include the effects of the retention pond, or provide an explanation for the omission.

2. Please provide as-built drawings, including all applicable pipe calculations, of the storm sewer system within the Vista del Aguila Subdivision, Unit Three.

3. Our preliminary review of the submitted drainage area map, titled *Existing Drainage Basins*, indicates that offsite areas were not included, specifically the area north of the proposed subdivision, west of Wyoming Boulevard and east of Quail Springs Subdivision. Please revise the submitted AHYMO97 hydrologic analysis to include any additional offsite drainage areas, or provide an explanation for the chosen methodology.

Please send the required data to us at the address shown at the bottom of the first page. If all required items are not submitted within 90 days of the date of this letter, FEMA will treat any subsequent request as an original submittal, and it will be subject to all submittal/payment procedures as outlined in Paragraph 72.7(a) of the National Flood Insurance Program (NFIP) regulations (44 CFR Parts 59-78).

If you are unable to meet the 90-day deadline for submittal of required items and would like FEMA to continue processing your request, you must request an extension of the deadline. This request must be submitted to us in writing and must provide (1) the reason why the data cannot be submitted within the requested timeframe and (2) a new date for the submittal of the data. FEMA receives a very large volume of requests and cannot maintain inactive requests for an indefinite period of time. Therefore, the fees will be forfeited for any request for which neither the requested data nor a written extension request is received within 90 days.

When you write to us about your request, please include the case number referenced above in your letter. If you have general questions about your case, FEMA policy, or the NFIP, please call FEMA's toll free map assistance line at 1-877-FEMA MAP (1-877-336-2627). If you have specific questions concerning your request, please contact the Engineer assigned to your case, Mr. James Urisko, by phone at 1-800-697-7275 Ext. 788, or by e-mail at jurisko@pbsj.com.

Sincerely,

Joseph A. Martinenza, Jr., P.E.
Program Manager, Region VI

cc: Joseph L. Boyden, Managing Member, Two Joes, L.L.C.
Genevieve L. Donart, Isaacson & Arfman, P.A.

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

February 10, 2004

Joseph A Martinenza
PBS&J
12101 Indian Creek Court
Beltsville, MD 20705

Re: Request for a Letter of Map Revision for Vista del Aguila Subdivision (South La Cueva Arroyo), City of Albuquerque, New Mexico, Community No. 350002, FIRM Panel 35001C0137F

Dear Mr. Martinenza,

The purpose of this submittal is to convey the documents in order to request a Letter of Map Revision for the area of the Vista del Aguila Subdivision encumbered by the remnants of the South La Cueva Arroyo. This request is to remove floodplain from lots that had the possibility of flooding removed by the installation of storm drain improvements upstream, essentially cutting off the upstream basin.

Enclosed with this letter are the Application and Certification forms and as-builts of the construction drawings for requesting revisions to the National Flood Insurance Program map. Also enclosed is a check for $4200.00 for plan review.

As the Community official, I have reviewed the application and endorse this revision request. All the storm drain constructed is maintained by the City of Albuquerque. Our Community would greatly appreciate your prompt response and approval for this Letter of Map Revision.

If you have any questions, you can contact me at (505) 924-3986.

Sincerely,

Bradley L. Bingham, PE, CFM
City Floodplain Administrator

C: Genevieve Donart, PE, Isaacson & Arfman
Bill Blanton, FEMA Headquarters
Jack Quarles, FEMA Region VI

THE CITY OF ALBUQUERQUE IS AN EQUAL OPPORTUNITY/REASONABLE ACCOMMODATION EMPLOYER

TABLE OF CONTENTS

I. VICINITY MAP & SITE PHOTOS

II. BACKGROUND INFORMATION
- A. INTRODUCTION
- B. EXISTING FACILITIES
- C. FACILITIES BUILT WITH THIS PROJECT

III. CONCLUSIONS

IV. FEMA APPLICATION FORMS (MT-2)
- A. Form 1 – Overview & Concurrence Form
- B. Form 2 – Riverine Hydrology & Hydraulics Form

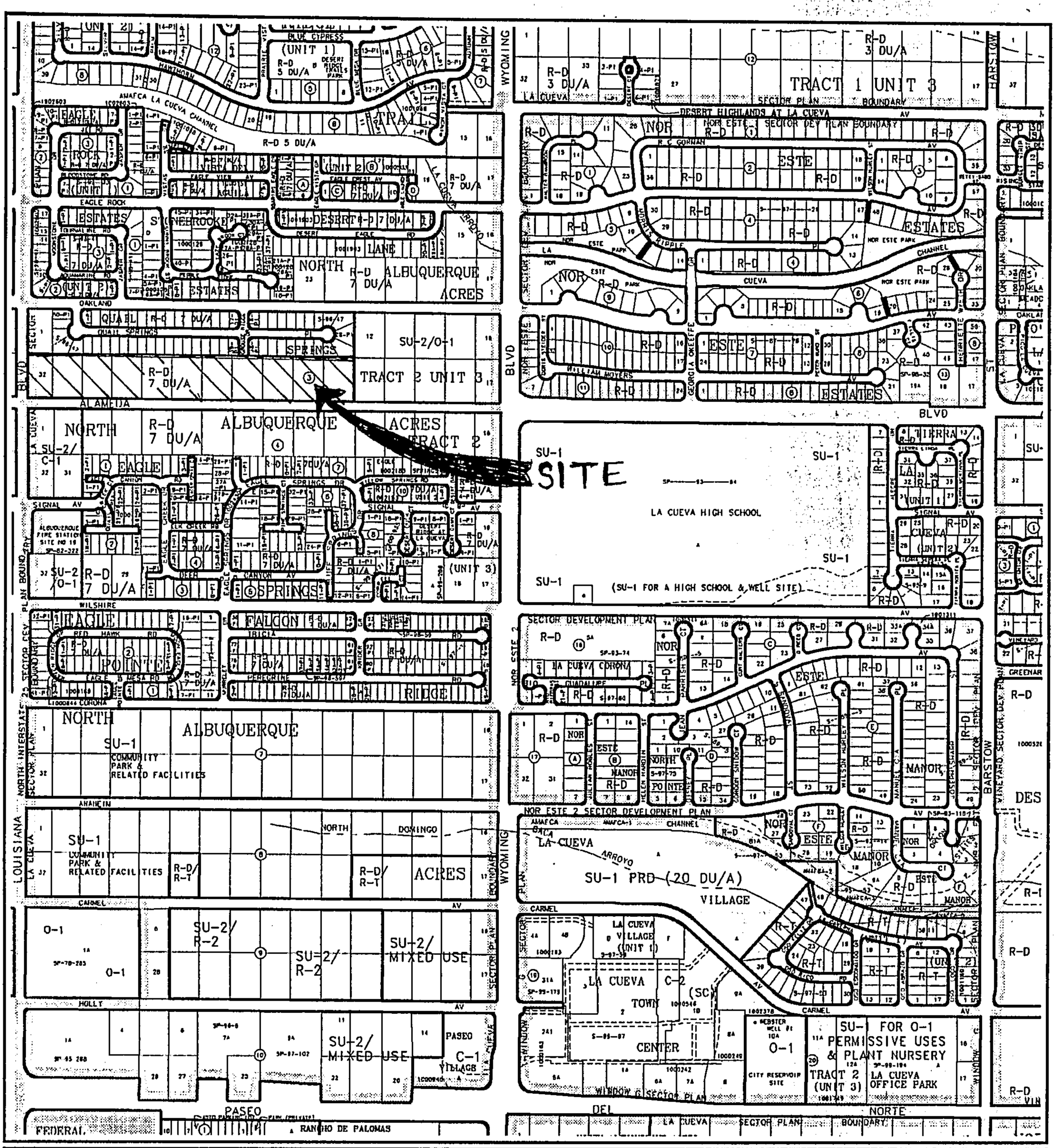
APPENDICES

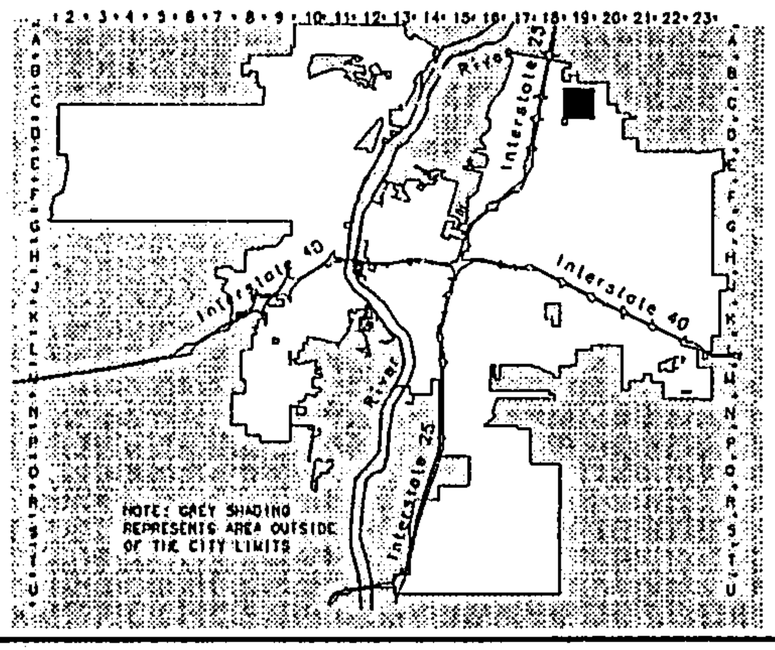
APPENDIX A
- Excerpts from "LOMR for Quail Springs Subdivision" dated March 4, 1997

APPENDIX B
- Existing Drainage Basins Exhibit
- AHYMO Summary & Output Hydrology Calculations
- HEC-RAS Output Hydraulics Calculations
- AHYMO and HEC-RAS Files

APPENDIX C
- As-Built Drawings for Wyoming Blvd Storm Drain
- Existing Arroyo Sections
- Vista del Aguila Subdivision, Unit Three Grading & Drainage Plan

APPENDIX D
- Existing Floodplain Limits Exhibit
  (FEMA FIRM, City of Albuquerque, New Mexico, Bernalillo County, Panel No. 35001C0137F)
- Proposed Floodplain Limits Exhibit
  (FEMA FIRM, City of Albuquerque, New Mexico, Bernalillo County, Panel No. 35001C0137F)





Albuquerque Geographic Information System
PLANNING DEPARTMENT

©Copyright 2003

GRAPHIC SCALE IN FEET
250 0 750 1000

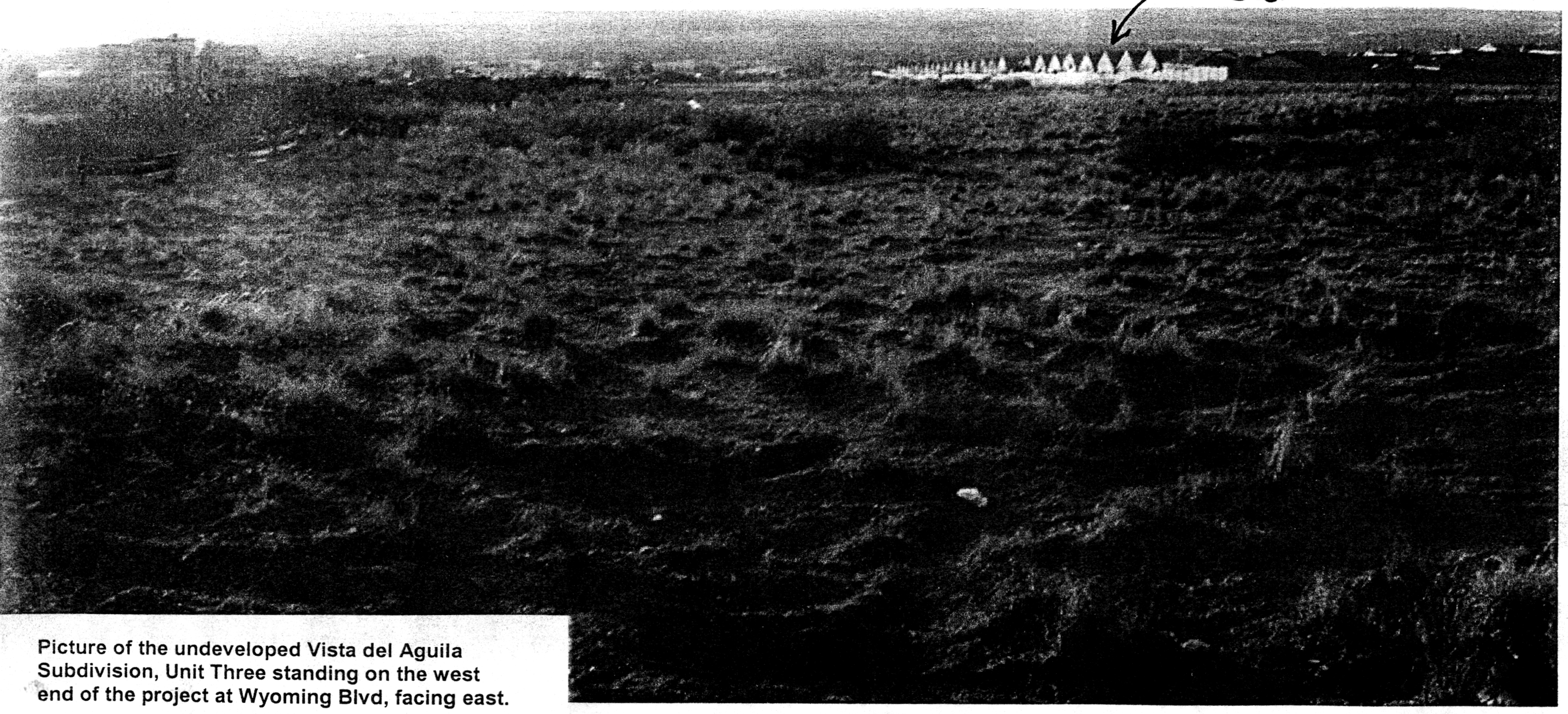
Zone Atlas Page

C-19-Z

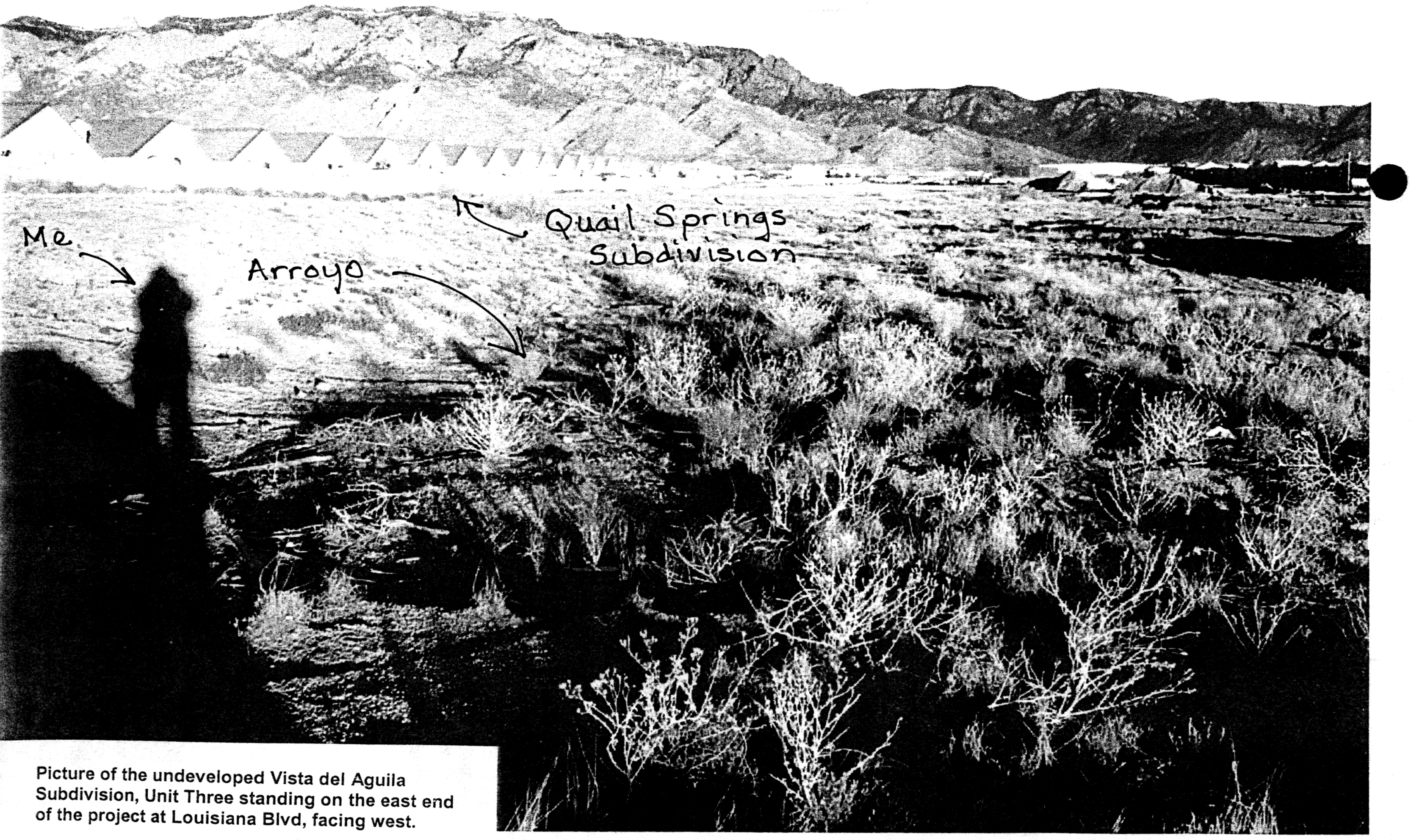
Map Amended through January 02, 2004

Sunset

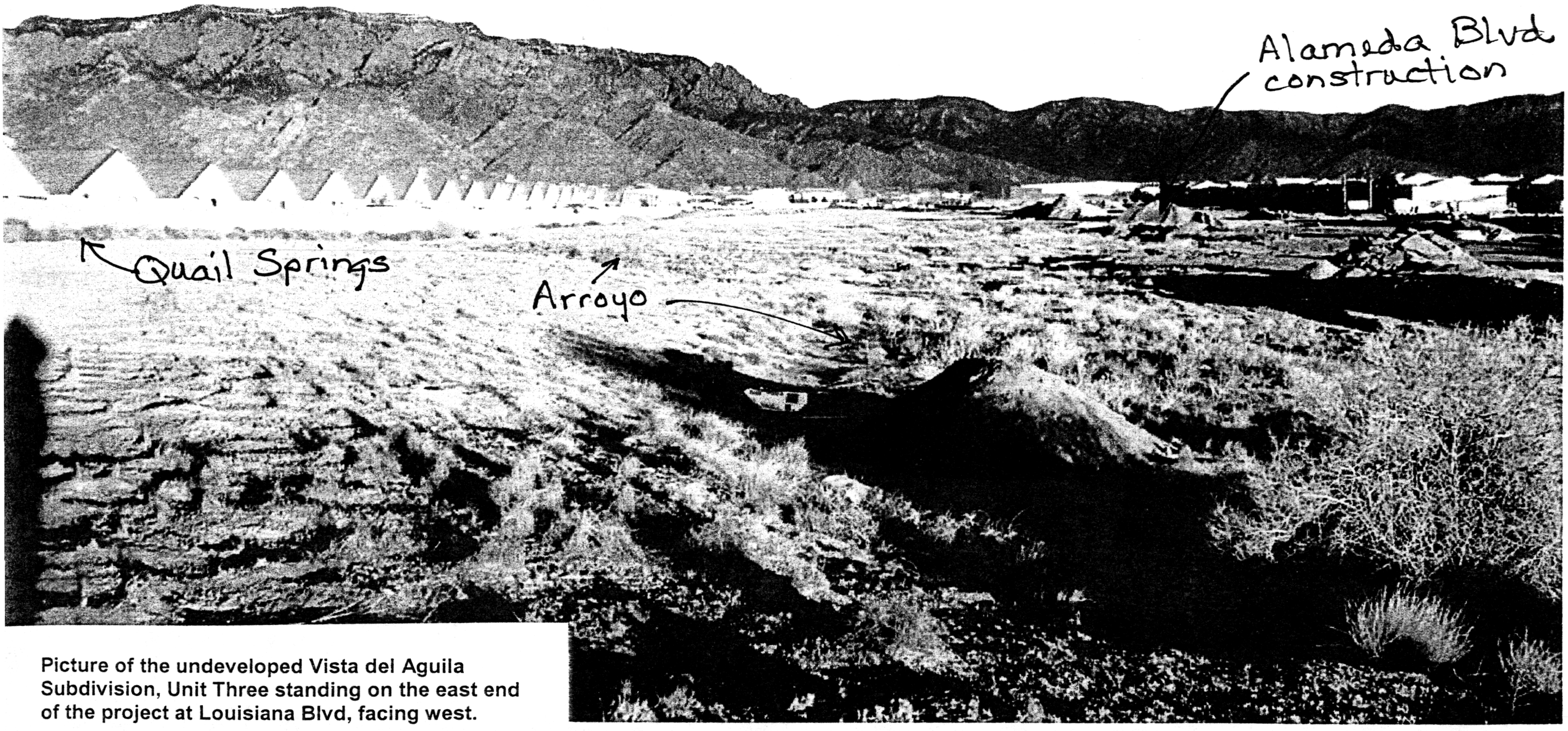
Quail Springs Subdivision



Picture of the undeveloped Vista del Aguila Subdivision, Unit Three standing on the west end of the project at Wyoming Blvd, facing east.



Picture of the undeveloped Vista del Aguila Subdivision, Unit Three standing on the east end of the project at Louisiana Blvd, facing west.



Picture of the undeveloped Vista del Aguila Subdivision, Unit Three standing on the east end of the project at Louisiana Blvd, facing west.

II. BACKGROUND INFORMATION

A. INTRODUCTION

Isaacson & Arfman, P.A. prepared this document for Two Joes, L.L.C. of Albuquerque, New Mexico. Its purpose is to request a Letter of Map Revision (LOMR) from the Federal Insurance Administration (FIA) of the Federal Emergency Management Agency (FEMA) for the area designated on the Proposed Flood Plain Exhibit in Appendix D for FIRM Panel #35001C0137F.

The area for which the revision is requested is a proposed residential development located in the northeast quadrant of the City of Albuquerque, to be known as Vista del Aguila Subdivision, Unit Three (VDA3). The development is bounded by the existing Quail Springs Subdivision to the north, Louisiana Blvd to the west, Alameda Blvd to the south, and undeveloped lots to the east.

Complete removal from the floodplain within the project is being requested, as well as a portion that was accidentally left within the Quail Springs Subdivision in a previous LOMR. The project site is shown on the Vicinity Map from the City of Albuquerque Zone Atlas. (See Section I.) Zone Designations and Flood Boundaries are found on the Flood Insurance Rate Map (FIRM). (See Existing Floodplain Limits Exhibit in Appendix D.) The source of instruction for this LOMR is "Instructions for Completing the Application Forms for Conditional Letters of Map Revision and Letters of Map Revision", MT-2 FEMA Form 81-89A Series

All completed FEMA forms for this LOMR request may be found in Section III of this report.

B. EXISTING FACILITIES

The original source of flooding for this area was cut off upstream by the construction of storm drain inlets in Alameda Blvd east of Wyoming Blvd in 1992. As-builts for the inlets and the storm drain are provided in Appendix C. LOMRs dated August 1, 1997 were prepared for the Quail Springs Subdivision that removed a portion of the floodplain from FIRM #35001C0137D & FIRM #35001C0141D based on the removal of these upstream storm waters. The

natural arroyo from the old floodway is still in place on the site, but the quantity of water within the arroyo is reduced to merely onsite flows.

During the construction of Quail Springs, a floodwall was built along the north boundary of VDA3 to protect the houses within that subdivision from any remaining flows. Developed flows from Quail Springs are directed north, so no offsite storm water enters the site from this direction. The old arroyo crossed this boundary line, so we show it as the northern edge of the channel in our cross-sections.

The LOMR for Quail Springs removed most of the floodplain from within that subdivision, but due to an error in mapping, a small portion of the subdivision remained within the limits as shown on the FIRM. As part of this application we request the complete removal of the floodplain from Quail Springs as well.

Calculations for the 1% annual storm were performed for this area to show that there are no significant existing floods within this natural arroyo. (See Appendix B for the 1% storm calculations.) The results were calculated with the AHYMO and HEC-RAS programs to determine the flows and depths, respectively. The Existing Drainage Basins Exhibit in Appendix B shows the areas from Wyoming Blvd to Louisiana Blvd which contribute storm waters. The basins were divided arbitrarily along the old lot lines to provide a relatively even spacing from east to west. These areas were input into the AHYMO calculations. The maximum flow at the east end of the site, where the water currently crosses over Louisiana Blvd, is 21.44 cfs during the 1% annual chance storm.

The Existing Arroyo Sections exhibit in Appendix C shows the arroyo in its existing configuration, with cross-sections at 100 foot intervals. (The cross-section do not extend to Wyoming Blvd because the defined arroyo ends about 1000 feet west of Wyoming Blvd, and the floodplain ends approximately 1200 feet west of Wyoming Blvd.) These cross-sections were used to generate the cross-sections for the HEC-RAS analysis. The maximum depth in the arroyo is 0.58 ft.

C. FACILITIES BUILT WITH THIS PROJECT

With the construction of this project, storm drain facilities will be provided in Dancing Eagle Dr and Dancing Eagle Ct that outlet to a storm drain in Alameda Blvd. The storm drain in Alameda is currently under construction by a project to the south that is expanding the roadway. Construction of both Alameda Blvd and VDA3 will further improve the drainage conditions.

A Grading & Drainage Plan for the proposed Vista del Aguila Unit Three project is provided in Appendix C. The Grading & Drainage Plan has been approved for grading by the City of Albuquerque, but to expedite the removal of the Zone AO designation, the calculations provided in this submittal are intended to prove that there is no floodplain in the existing condition. We request that the floodplain be removed on the basis of the existing conditions.

III. CONCLUSIONS

This application requests the removal of the Zone AO floodplain from Louisiana Blvd to the eastern extent of the floodplain (Section D14). The basis for this removal is that the existing flows in the arroyo are dramatically reduced because of as-built storm drain inlets in Alameda Blvd east of Wyoming that bypass the floodwaters that originally created the floodplain, as is shown in the calculations in the Appendices.

IV. FEMA APPLICATION FORMS (MT-2)

A. Form 1 – Overview & Concurrence Form

B. Form 2 – Riverine Hydrology & Hydraulics Form (Attachment – Sediment Transport Explanation)

FEDERAL EMERGENCY MANAGEMENT AGENCY

OVERVIEW & CONCURRENCE FORM

O.M.B No. 3067-0148
Expires September 30, 2005

PAPERWORK BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 1 hour per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing, reviewing, and submitting the form. You are not required to respond to this collection of information unless a valid OMB control number appears in the upper right corner of this form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden to: Information Collections Management, Federal Emergency Management Agency, 500 C Street, SW, Washington DC 20472, Paperwork Reduction Project (3067-0148). Submission of the form is required to obtain or retain benefits under the National Flood Insurance Program. **Please do not send your completed survey to the above address.**

A. REQUESTED RESPONSE FROM FEMA

This request is for a (check one):

☐ CLOMR: A letter from FEMA commenting on whether a proposed project, if built as proposed, would justify a map revision, or proposed hydrology changes (See 44 CFR Ch. 1, Parts 60, 65 & 72).

☒ LOMR: A letter from FEMA officially revising the current NFIP map to show the changes to floodplains, regulatory floodway or flood elevations. (See Parts 60 & 65 of the NFIP Regulations.)

B. OVERVIEW

1. The NFIP map panel(s) affected for all impacted communities is (are):

Community No.	Community Name	State	Map No.	Panel No.	Effective Date
Ex: 480301 480287	City of Katy Harris County	TX TX	480301 48201C	0005D 0220G	02/08/83 09/28/90
350002	City of Albuquerque/Bernalillo County	NM	35001C	0137F	11/19/03

2. Flooding Source: local shallow flooding

3. Project Name/Identifier: Vista del Aguila Subdivision, Unit Three

4. FEMA zone designations affected: AO (choices: A, AH, AO, A1-A30, A99, AE, AR, V, V1-V30, VE, B, C, D, X)

5. Basis for Request and Type of Revision:

a. The basis for this revision request is (check all that apply)

☒ Physical Change ☐ Improved Methodology/Data

☐ Regulatory Floodway Revision ☐ Other (Attach Description)

Note: A photograph and narrative description of the area of concern is not required, but is very helpful during review.

b. The area of revision encompasses the following types of flooding and structures (check all that apply)

Types of Flooding:	☐ Riverine	☐ Coastal	☒ Shallow Flooding (e.g., Zones AO and AH)
	☐ Alluvial fan	☐ Lakes	☐ Other (Attach Description)
Structures:	☐ Channelization	☐ Levee/Floodwall	☐ Bridge/Culvert
	☐ Dam	☐ Fill	☐ Other, Attach Description

C. REVIEW FEE

Has the review fee for the appropriate request category been included? ☒ Yes Fee amount: $4200

☐ No, Attach Explanation

Please see the FEMA Web site at http://www.fema.gov/fhm/frm_fees.shtm **for Fee Amounts and Exemptions.**

D. SIGNATURE

All documents submitted in support of this request are correct to the best of my knowledge. I understand that any false statement may be punishable by fine or imprisonment under Title 18 of the United States Code, Section 1001.

Name: Joseph L. Boyden, Managing Member	Company: Two Joes, L.L.C.	
Mailing Address: 11896 North Highway 14 Tijeras, NM 87059	Daytime Telephone No.: (505) 281-9593	Fax No.: (505) 281-4368
	E-Mail Address:	
Signature of Requester (required): Joe L. Boyden		Date: 2-3-04

As the community official responsible for floodplain management, I hereby acknowledge that we have received and reviewed this Letter of Map Revision (LOMR) or conditional LOMR request. Based upon the community's review, we find the completed or proposed project meets or is designed to meet all of the community floodplain management requirements, including the requirement that no fill be placed in the regulatory floodway, and that all necessary Federal, State, and local permits have been, or in the case of a conditional LOMR, will be obtained. In addition, we have determined that the land and any existing or proposed structures to be removed from the SFHA are or will be reasonably safe from flooding as defined in 44CFR 65.2(c), and that we have available upon request by FEMA, all analyses and documentation used to make this determination.

Community Official's Name and Title: Bradley L. Bingham, Flood Plain Administrator		Telephone No.: (505) 924-3986
Community Name: City of Albuquerque	Community Official's Signature (required): Bradley L. Bingham	Date: 2/10/04

CERTIFICATION BY REGISTERED PROFESSIONAL ENGINEER AND/OR LAND SURVEYOR

This certification is to be signed and sealed by a licensed land surveyor, registered professional engineer, or architect authorized by law to certify elevation information. All documents submitted in support of this request are correct to the best of my knowledge. I understand that any false statement may be punishable by fine or imprisonment under Title 18 of the United States Code, Section 1001.

Certifier's Name: Genevieve L. Donart	License No.: NMPE #15088	Expiration Date: 12/31/04
Company Name: Isaacson & Arfman, P.A.	Telephone No.: (505) 268-8828	Fax No.: (505) 268-2632
Signature: Genevieve L. Donart		Date: 2/2/04

Ensure the forms that are appropriate to your revision request are included in your submittal.

Form Name and (Number)	Required if ...
☒ Riverine Hydrology and Hydraulics Form (Form 2)	New or revised discharges or water-surface elevations
☐ Riverine Structures Form (Form 3)	Channel is modified, addition/revision of bridge/culverts, addition/revision of levee/floodwall, addition/revision of dam
☐ Coastal Analysis Form (Form 4)	New or revised coastal elevations
☐ Coastal Structures Form (Form 5)	Addition/revision of coastal structure
☐ Alluvial Fan Flooding Form (Form 6)	Flood control measures on alluvial fans

GENEVIEVE L. DONART NEW MEXICO 15088 LICENSED PROFESSIONAL ENGINEER

Seal (Optional)

FEDERAL EMERGENCY MANAGEMENT AGENCY

RIVERINE HYDROLOGY & HYDRAULICS FORM

O.M.B No. 3067-0148
Expires September 30, 2005

PAPERWORK REDUCTION ACT

Public reporting burden for this form is estimated to average 3 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing, reviewing, and submitting the form. You are not required to respond to this collection of information unless a valid OMB control number appears in the upper right corner of this form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden to: Information Collections Management, Federal Emergency Management Agency, 500 C Street, SW, Washington DC 20472, Paperwork Reduction Project (3067-0148). Submission of the form is required to obtain or retain benefits under the National Flood Insurance Program. **Please do not send your completed survey to the above address.**

Flooding Source: local shallow flooding
Note: Fill out one form for each flooding source studied

A. HYDROLOGY

1. Reason for New Hydrologic Analysis (check all that apply)

☐ Not revised (skip to section 2) ☐ No existing analysis ☐ Improved data
☐ Alternative methodology ☐ Proposed Conditions (CLOMR) ☒ Changed physical condition of watershed

2. Comparison of Representative 1%-Annual-Chance Discharges

Location	Drainage Area (Sq. Mi.)	FIS (cfs)	Revised (cfs)
Louisiana Blvd	.02339	no data available	21.44

3. Methodology for New Hydrologic Analysis (check all that apply)

☐ Statistical Analysis of Gage Records ☒ Precipitation/Runoff Model AHYMO_97 [TR-20, HEC-1, HEC-HMS etc.]
☐ Regional Regression Equations ☐ Other (please attach description)

Please enclose all relevant models in digital format, maps, computations (including computation of parameters) and documentation to support the new analysis. The document, "Numerical Models Accepted by FEMA for NFIP Usage" lists the models accepted by FEMA. This document can be found at: http://www.fema.gov/fhm/en_modl.shtm.

4. Review/Approval of Analysis

If your community requires a regional, state, or federal agency to review the hydrologic analysis, please attach evidence of approval/review.

5. Impacts of Sediment Transport on Hydrology

Was sediment transport considered? ☐ Yes ☒ No If yes, then fill out Section F (Sediment Transport) of Form 3. If No, then attach your explanation for why sediment transport was not considered.

B. HYDRAULICS

1. Reach to be Revised

	Description	Cross Section	Water-Surface Elevations (ft.)	
			Effective	Proposed/Revised
Downstream Limit	Louisianan Blvd	0+00	No information	5304.06
Upstream Limit	1206 lf west of Wyoming Blvd	14+00	No information	5346.00

2. Hydraulic Method Used

Hydraulic Analysis HEC-RAS [HEC-2 , HEC-RAS, Other (Attach description)]

B. HYDRAULICS (CONTINUED)

3. Pre-Submittal Review of Hydraulic Models

FEMA has developed two review programs, CHECK-2 and CHECK-RAS, to aid in the review of HEC-2 and HEC-RAS hydraulic models, respectively. These review programs verify that the hydraulic estimates and assumptions in the model data are in accordance with NFIP requirements, and that the data are comparable with the assumptions and limitations of HEC-2/HEC-RAS. CHECK-2 and CHECK-RAS identify areas of potential error or concern. These tools do not replace engineering judgment. CHECK-2 and CHECK-RAS can be downloaded from http://www.fema.gov/fhm/frm_soft.shtm. We recommend that you review your HEC-2 and HEC-RAS models with CHECK-2 and CHECK-RAS. If you disagree with a message, please attach an explanation of why the message is not valid in this case. Review of your submittal and resolution of valid modeling discrepancies will result in reduced review time.

HEC-2/HEC-RAS models reviewed with CHECK-2/CHECK-RAS? ☐ Yes ☒ No

4. Models Submitted

Duplicate Effective Model*	Natural File Name: N/A	Floodway File Name: N/A
Corrected Effective Model*	Natural File Name: N/A	Floodway File Name: N/A
Existing or Pre-Project Conditions Model	Natural File Name: N/A	Floodway File Name: N/A
Revised or Post-Project Conditions Model	Natural File Name: 1257.prj	Floodway File Name: N/A
Other - (attach description)	Natural File Name: N/A	Floodway File Name: N/A

*Not required for revisions to approximate 1%-annual-chance floodplains (Zone A) – for details, refer to the corresponding section of the instructions.

The document "Numerical Models Accepted by FEMA for NFIP Usage" lists the models accepted by FEMA. This document can be found at: http://www.fema.gov/fhm/en_modl.shtm.

C. MAPPING REQUIREMENTS

A **certified topographic map** must be submitted showing the following information (where applicable): the boundaries of the effective, existing, and proposed conditions 1%-annual-chance floodplain (for approximate Zone A revisions) or the boundaries of the 1%- and 0.2%-annual-chance floodplains and regulatory floodway (for detailed Zone AE, AO, and AH revisions); location and alignment of all cross sections with stationing control indicated; stream, road, and other alignments (e.g., dams, levees, etc.); current community easements and boundaries; boundaries of the requester's property; certification of a registered professional engineer registered in the subject State; location and description of reference marks; and the referenced vertical datum (NGVD, NAVD, etc.).

Note that the boundaries of the existing or proposed conditions floodplains and regulatory floodway to be shown on the revised FIRM and/or FBFM must tie-in with the effective floodplain and regulatory floodway boundaries. Please attach **a copy of the effective FIRM and/or FBFM,** annotated to show the boundaries of the revised 1%- and 0.2%-annual-chance floodplains and regulatory floodway that tie-in with the boundaries of the effective 1%- and 0.2%-annual-chance floodplain and regulatory floodway at the upstream and downstream limits of the area of revision.

D. COMMON REGULATORY REQUIREMENTS

1. For CLOMR requests, do Base Flood Elevations (BFEs) increase? ☐ Yes ☒ No

For CLOMR requests, if either of the following is true, please submit evidence of compliance with Section 65.12 of the NFIP regulations:
- The proposed project encroaches upon a regulatory floodway and would result in increases above 0.00 foot.
- The proposed project encroaches upon a SFHA with BFEs established and would result in increases above 1.00 foot.

2. Does the request involve the placement or proposed placement of fill? ☐ Yes ☒ No

If Yes, the community must be able to certify that the area to be removed from the special flood hazard area, to include any structures or proposed structures, meets all of the standards of the local floodplain ordinances, and is reasonably safe from flooding in accordance with the NFIP regulations set forth at 44 CFR 60.3(a)(3), 65.5(a)(4), and 65.6(a)(14). Please see the MT-2 instructions for more information.

3. For LOMR requests, is the regulatory floodway being revised? ☒ Yes ☐ No

If Yes, attach evidence of regulatory floodway revision notification. As per Paragraph 65.7(b)(1) of the NFIP Regulations, notification is required for requests involving revisions to the regulatory floodway. (Not required for revisions to approximate 1%-annual-chance floodplains [studied Zone A designation] unless a regulatory floodway is being added. Elements and examples of regulatory floodway revision notification can be found in the MT-2 Form 2 Instructions.)

4. For LOMR requests, does this request require property owner notification and acceptance of BFE increases? ☐ Yes ☒ No

If Yes, please attach proof of property owner notification and acceptance (if available). Elements of and examples of property owner notification can be found in the MT-2 Form 2 Instructions.

Attachment - Sediment Transport Explanation:

Explanation for Riverine Hydrology & Hydraulics Form, A.5.

The relevant area generates a very small amount of flow (Q_{max} = 21.44 cfs) and low velocities (V_{max} = 3.76 ft/s), therefore the amount of sediment transported by this arroyo is minor.

Appendix A

- **Excerpts from "LOMR for Quail Springs Subdivision" dated March 4, 1997**

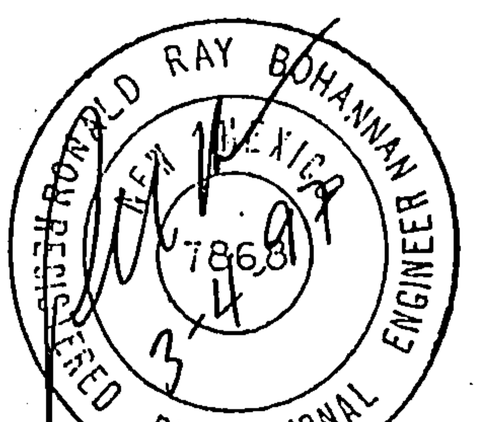
LOMR for Quail Springs Subdivision

Prepared by:

Tierra West Development Management Services
4421 McLeod Road NE, Suite D
Albuquerque, New Mexico 87109

Prepared for:

Newman Homes Inc.
P.O. Box 21490
Albuquerque, New Mexico 87154



February 1997

Additional Information for Form 1
Revision Requestor and Community Official Form
Quail Springs Subdivision

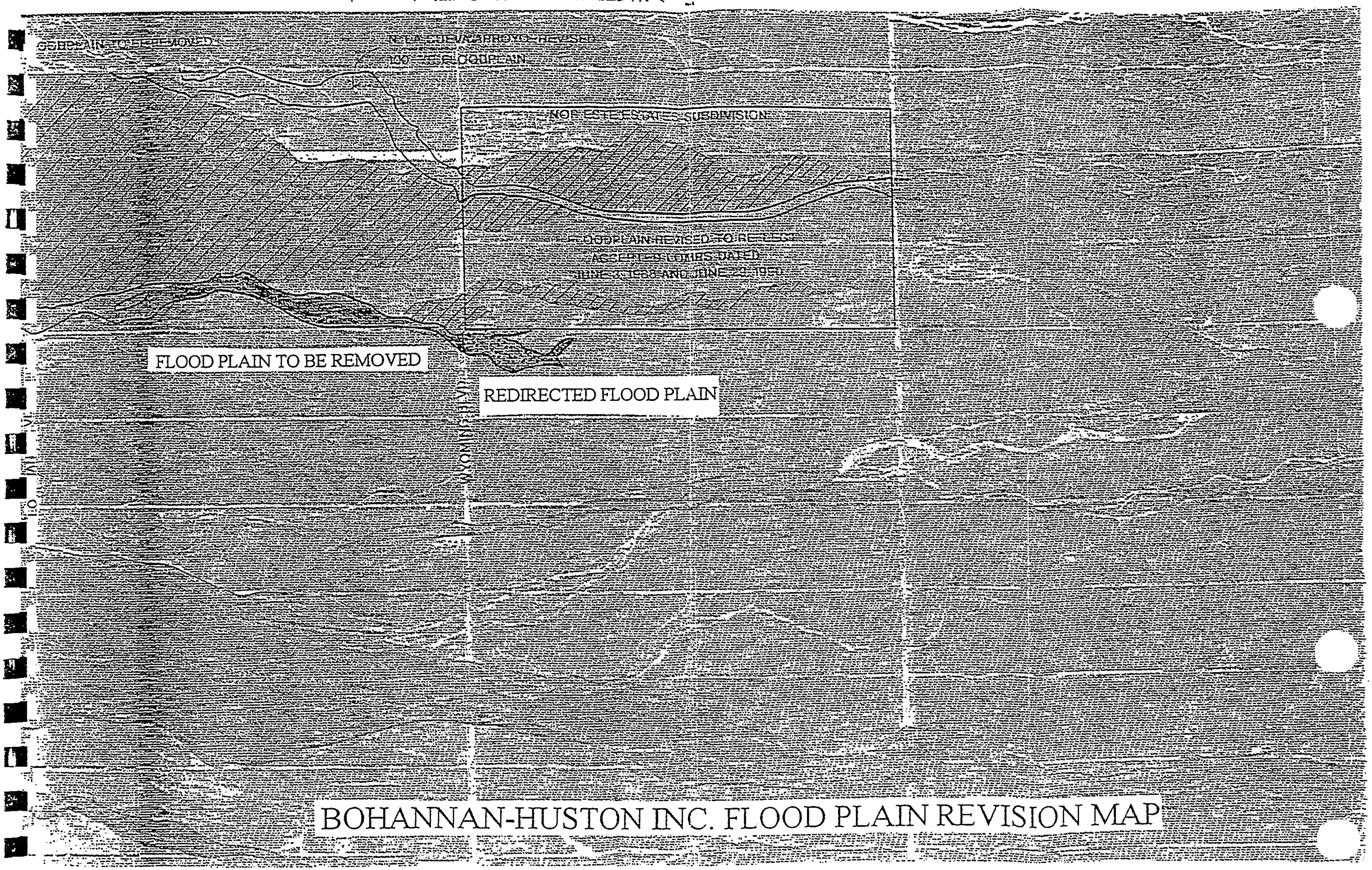
1. Basis for Revision request

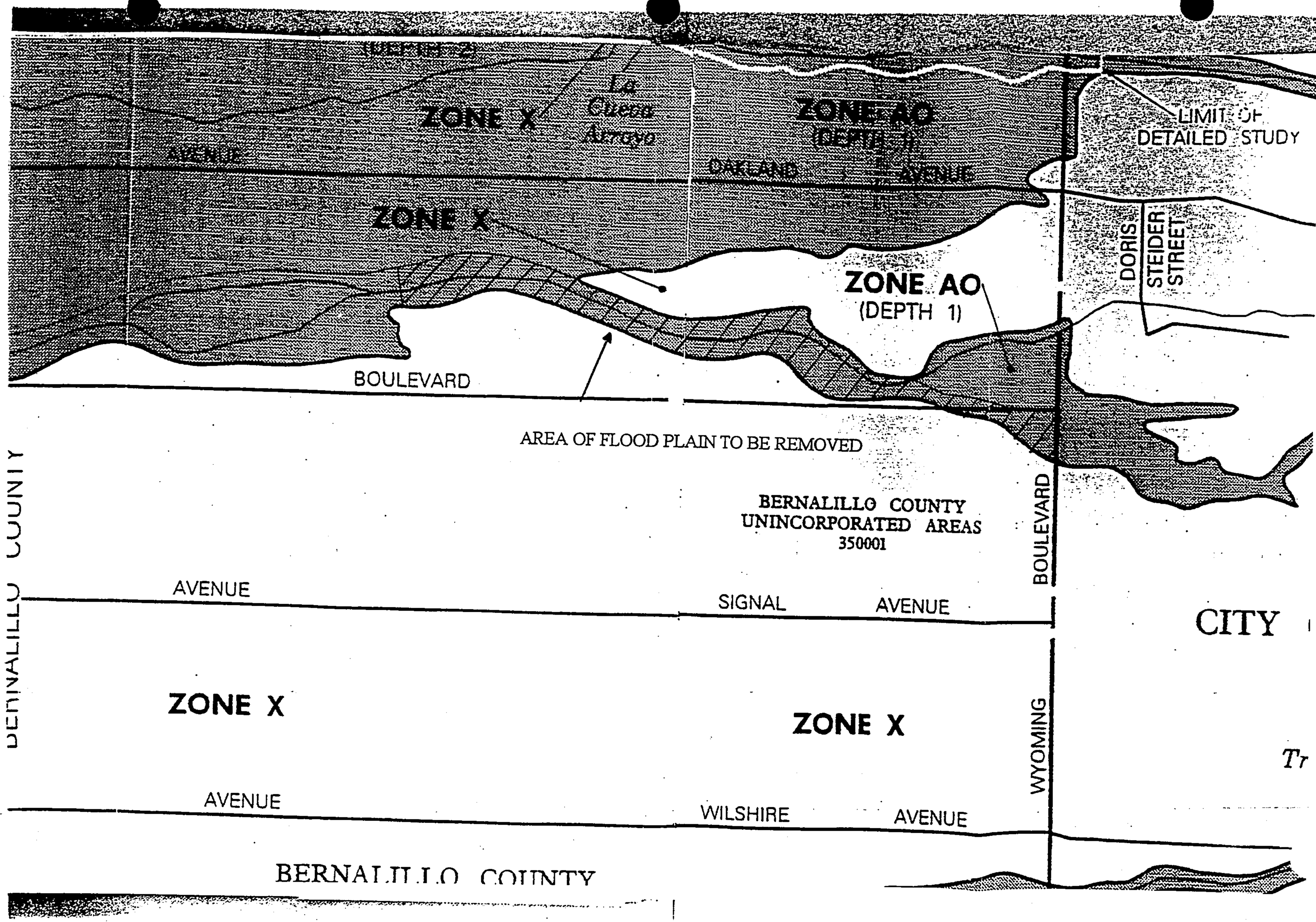
This report is based on the approval of a previous LOMR. Bohannan-Huston Inc. (BHI) is revising the 100-year flood plains under a LOMR entitled "La Cueva and South El Camino Arroyos LOMR". However, the Bohannan-Huston Inc. LOMR was submitted several months ago and has not yet received approval from the Federal Emergency Management Agency.

The construction of La Cueva High School has redirected the portion of the 100-year flood plain located south of Alameda and east of Wyoming. BHI did not include this area in their study because at the time La Cueva High School was violating their approved drainage plan and discharging flow from the corner of Alameda Boulevard and Wyoming Boulevard. This flow was entering the South La Cueva Arroyo and impacting the Quail Springs Subdivision. Since the Bohannan-Huston report was completed, La Cueva High School has corrected the problem and the on-site drainage follows the approved drainage plan. The La Cueva High School flood plain currently flows south to the intersection of Wilshire Avenue and Wyoming Boulevard and has no effect on the Quail Springs Subdivision.

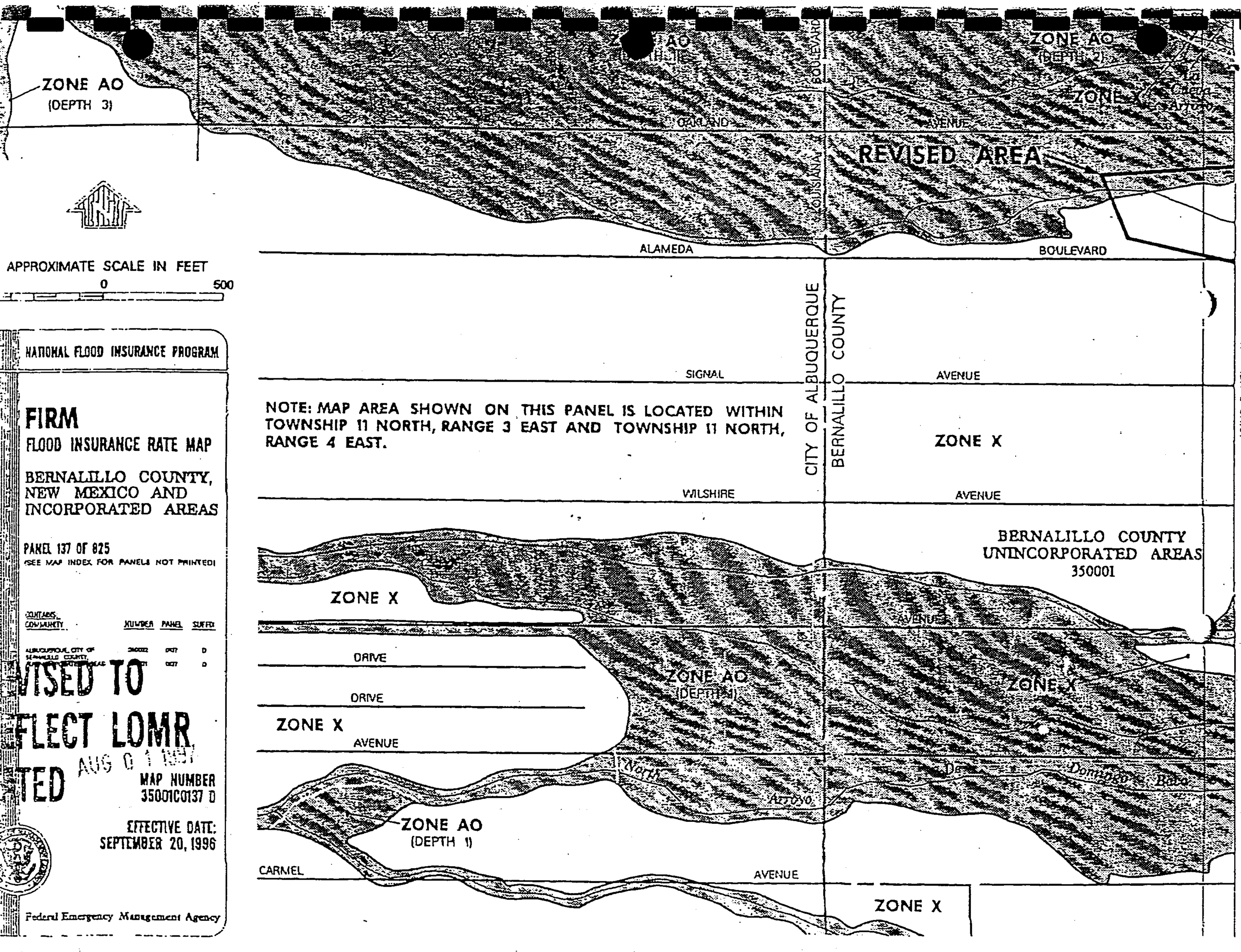
The flow draining west down Alameda Boulevard is caught by several drop inlets located on the east side of the intersection of Alameda Boulevard and Wyoming Boulevard. None of the flow in Alameda crosses to the west side of Wyoming and impacts the Quail Springs site.

The portion of the South La Cueva Arroyo east of Wyoming Boulevard and north of Alameda Avenue has been removed by the Nor Este Estates LOMRs dated June 3, 1988 and June 29, 1990. There is now no flow entering the South La Cueva Arroyo east of Wyoming Boulevard. This reduces the flow in the arroyo until it no longer acts as a flood plain and impacts the Quail Springs Subdivision.


FLOOD PLAIN TO BE REMOVED
REDIRECTED FLOOD PLAIN
BOHANNAN-HUSTON INC. FLOOD PLAIN REVISION MAP


ZONE X
La Cueva Arroyo
ZONE AO
(DEPTH 2)
LIMIT OF DETAILED STUDY
AVENUE
OAKLAND
AVENUE
ZONE X
ZONE AO
(DEPTH 1)
DORIS
STEIDER STREET
BOULEVARD
AREA OF FLOOD PLAIN TO BE REMOVED
BERNALILLO COUNTY
UNINCORPORATED AREAS
350001
BOULEVARD
BERNALILLO COUNTY
AVENUE
SIGNAL
AVENUE
CITY
ZONE X
ZONE X
WYOMING
AVENUE
WILSHIRE
AVENUE
BERNALILLO COUNTY

9-10-1997 10:33AM FROM TIE WEST
505 8837034
5



NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

BERNALILLO COUNTY,
NEW MEXICO AND
INCORPORATED AREAS

PANEL 137 OF 825
(SEE MAP INDEX FOR PANELS NOT PRINTED)

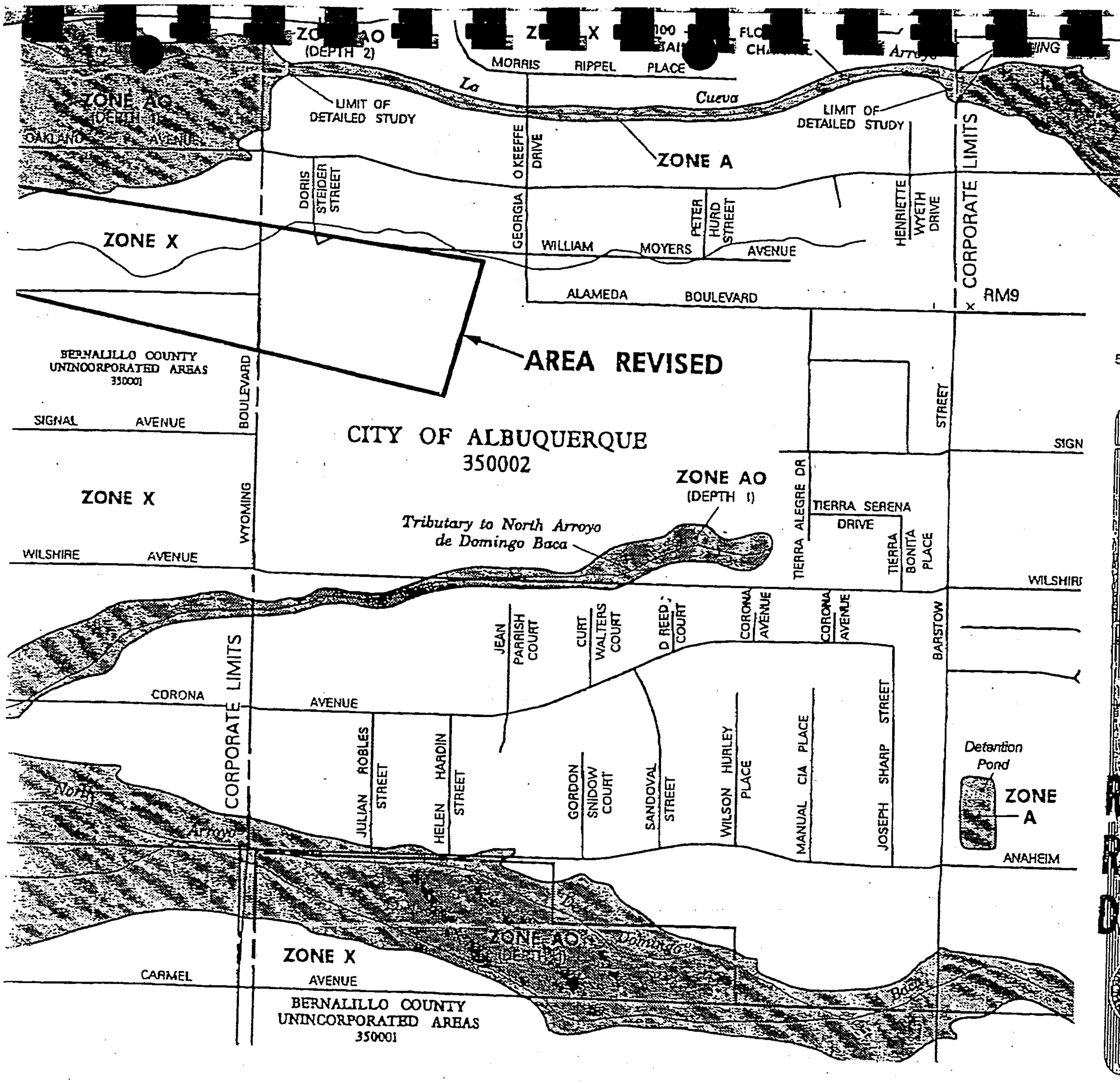
CONTAINS: COMMUNITY	NUMBER	PANEL	SUFFIX
ALBUQUERQUE, CITY OF	350002	0137	D
BERNALILLO COUNTY, UNINCORPORATED AREAS	350001	0137	D

VISED TO
FLECT LOMR
TED AUG 0 1 1997

MAP NUMBER
350001C0137 D

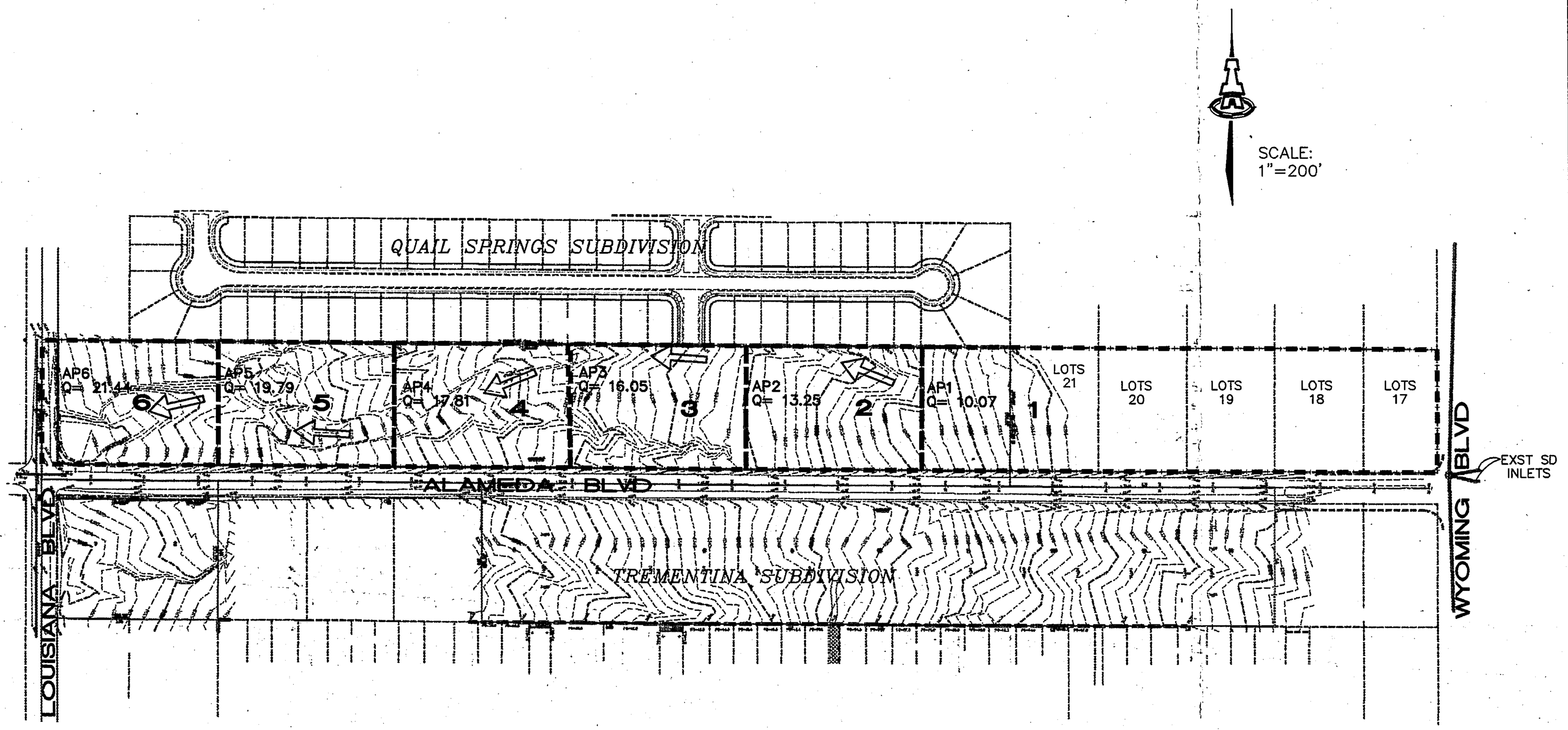
EFFECTIVE DATE:
SEPTEMBER 20, 1996

Federal Emergency Management Agency


ZONE AO
(DEPTH 2)
ZONE X
MORRIS
RIPPEL
PLACE
La
Cueva
LIMIT OF
DETAILED STUDY
ZONE AO
(DEPTH 1)
OAKLAND
AVENUE
O KEEFFE
DRIVE
ZONE A
DORIS
STEIDER
STREET
GEORGIA
WILLIAM
MOYERS
PETER
HURD
STREET
AVENUE
HENRIETTE
WYETH
DRIVE
CORPORATE
LIMITS
RM9
ZONE X
ALAMEDA
BOULEVARD
AREA REVISED
BERNALILLO COUNTY
UNINCORPORATED AREAS
350001
SIGNAL
AVENUE
BOULEVARD
CITY OF ALBUQUERQUE
350002
ZONE AO
(DEPTH 1)
Tributary to North Arroyo
de Domingo Baca
TIERRA SERENA
DRIVE
TIERRA ALEGRE DR
TIERRA
BONITA
PLACE
STREET
SIGN
WILSHIRE
AVENUE
WYOMING
JEAN
PARRISH
COURT
CURT
WALTERS
COURT
D REED
COURT
CORONA
AVENUE
BARSTOW
CORONA
AVENUE
CORPORATE LIMITS
JULIAN ROBLES
STREET
HELEN HARDIN
STREET
GORDON
SNIDOW
COURT
SANDOVAL
STREET
WILSON HURLEY
PLACE
MANUAL CIA PLACE
JOSEPH SHARP
STREET
Detention
Pond
ZONE
A
ANAHEIM
North
Arroyo
ZONE AO
(DEPTH 1)
ZONE X
CARMEL
AVENUE
BERNALILLO COUNTY
UNINCORPORATED AREAS
350001
APPROXIMATE SCALE IN FEET
500
0
500
NATIONAL FLOOD INSURANCE PROGRAM
FIRM
FLOOD INSURANCE RATE MAP
BERNALILLO COUNTY,
NEW MEXICO AND
INCORPORATED AREAS
PANEL 141 OF 825
(SEE MAP INDEX FOR PANELS NOT PRINTED)
CONTAINS:
COMMUNITY
NUMBER
PANEL
ALBUQUERQUE, CITY OF
BERNALILLO COUNTY,
UNINCORPORATED AREAS
REVISED TO
REFLECT LOMR
DATED
AUG 01 1997
MAP NUMBER
350001C0141 D
EFFECTIVE DATE
SEPTEMBER 20, 1996
Federal Emergency Management Agency

Appendix B

- **Existing Drainage Basins Exhibit**
- **AHYMO Summary & Output Hydrology Calculations**
- **HEC-RAS Hydraulics Calculations**
- **AHYMO and HEC-RAS Files**



EXISTING DRAINAGE BASINS

ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates
128 Monroe Street N.E.
Albuquerque New Mexico

1257EX–SECTION.DWGthor 11x17 TAB 02/02/04

AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) - - VERSION: 1997.02d RUN DATE (MON/DAY/YR) =01/30/2004
INPUT FILE = M:/ACTIVE/AHYMO/1257/1257UN.DAT USER NO.= AHYMO-I-9702dIsa-Arfman1

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	NOTATION
*S	**********									
*S	**** VISTA DEL AGUILA UNIT THREE ****									
*S	**** January 29, 2004 GLD ****									
*S	**** 1257un.DAT ****									
*S	**********									
*S	** 100-YR, 24-HOUR EXISTING CONDITIONS **									
*S	** FOR FEMA FLOODPLAIN REQUIREMENTS **									
*S	**********									
START										
RAINFALL TYPE= 2										TIME= .00
COMPUTE NM HYD	1.00	-	10	.00859	10.09	.298	.64981	1.500	1.834	RAIN24= 2.970
*S ** AP1 **										PER IMP= .00
ROUTE MCUNGE	1.10	10	11	.00859	10.07	.299	.65159	1.550	1.830	CCODE = .2
COMPUTE NM HYD	2.00	-	20	.00296	3.48	.102	.64981	1.500	1.837	PER IMP= .00
ADD HYD	2.10	11&20	21	.01155	13.43	.401	.65106	1.550	1.816	
*S ** AP2 **										
ROUTE MCUNGE	2.20	21	22	.01155	13.25	.400	.64883	1.600	1.792	CCODE = .1
COMPUTE NM HYD	3.00	-	30	.00296	3.48	.103	.64981	1.500	1.837	PER IMP= .00
ADD HYD	3.10	22&30	31	.01451	16.07	.502	.64898	1.600	1.731	
*S ** AP3 **										
ROUTE MCUNGE	3.20	31	32	.01451	16.05	.502	.64866	1.650	1.728	CCODE = .1
COMPUTE NM HYD	4.00	-	40	.00294	3.46	.102	.64981	1.500	1.837	PER IMP= .00
ADD HYD	4.10	32&40	41	.01745	18.23	.604	.64880	1.650	1.632	
*S ** AP4 **										
ROUTE MCUNGE	4.20	41	42	.01745	17.81	.604	.64901	1.700	1.594	CCODE = .2
COMPUTE NM HYD	5.00	-	50	.00297	3.49	.103	.64981	1.500	1.837	PER IMP= .00
ADD HYD	5.10	42&50	51	.02042	19.80	.707	.64908	1.650	1.515	
*S ** AP5 **										
ROUTE MCUNGE	5.20	51	52	.02042	19.79	.707	.64877	1.700	1.514	CCODE = .1
COMPUTE NM HYD	6.00	-	60	.00297	3.49	.103	.64981	1.500	1.837	PER IMP= .00
*S ** AP6 **										
ADD HYD	6.10	52&60	61	.02339	21.44	.810	.64887	1.700	1.432	
FINISH										

```
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         RUN DATE (MON/DAY/YR) = 01/30/2004
         START TIME (HR:MIN:SEC) = 09:39:03     USER NO.= AHYMO-I-9702dIsa-Arfman1
         INPUT FILE = M:/ACTIVE/AHYMO/1257/1257UN.DAT

*S    ***********************************************************
*S    ****          VISTA DEL AGUILA UNIT THREE              ****
*S    ****            January 29, 2004    GLD                ****
*S    ****                 1257un.DAT                        ****
*S    ***********************************************************
*S    **         100-YR, 24-HOUR EXISTING CONDITIONS           **
*S    **           FOR FEMA FLOODPLAIN REQUIREMENTS            **
*S    ***********************************************************

START                RAINFALL BEGINS AT 0.0 HRS
RAINFALL             TYPE=2 RAIN QUARTER=0 RAIN ONE=2.17
                     RAIN SIX=2.56 RAIN DAY=2.97 DT=0.05 HR

                COMPUTED 24-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
                DT =     .050000 HOURS       END TIME =     24.000000 HOURS
                 .0000    .0030    .0060    .0091    .0124    .0158    .0193
                 .0229    .0267    .0306    .0347    .0390    .0435    .0482
                 .0532    .0585    .0642    .0702    .0766    .0835    .0911
                 .1002    .1103    .1396    .2088    .3278    .5119    .7769
                1.1392   1.4250   1.5541   1.6619   1.7564   1.8408   1.9173
                1.9870   2.0510   2.1100   2.1643   2.2146   2.2611   2.2716
                2.2813   2.2903   2.2988   2.3067   2.3142   2.3214   2.3282
                2.3347   2.3409   2.3469   2.3527   2.3582   2.3636   2.3688
                2.3739   2.3787   2.3835   2.3881   2.3926   2.3970   2.4013
                2.4054   2.4095   2.4135   2.4174   2.4212   2.4249   2.4286
                2.4322   2.4357   2.4392   2.4426   2.4459   2.4492   2.4524
                2.4556   2.4587   2.4618   2.4648   2.4678   2.4707   2.4736
                2.4765   2.4793   2.4821   2.4848   2.4875   2.4902   2.4928
                2.4954   2.4980   2.5006   2.5031   2.5056   2.5080   2.5104
                2.5128   2.5152   2.5176   2.5199   2.5222   2.5245   2.5267
                2.5289   2.5311   2.5333   2.5355   2.5376   2.5398   2.5419
                2.5440   2.5460   2.5481   2.5501   2.5521   2.5541   2.5561
                2.5581   2.5600   2.5618   2.5635   2.5653   2.5670   2.5688
                2.5705   2.5723   2.5740   2.5757   2.5774   2.5791   2.5808
                2.5825   2.5842   2.5859   2.5876   2.5893   2.5909   2.5926
                2.5942   2.5959   2.5975   2.5992   2.6008   2.6024   2.6040
                2.6057   2.6073   2.6089   2.6105   2.6121   2.6137   2.6152
                2.6168   2.6184   2.6200   2.6215   2.6231   2.6246   2.6262
                2.6277   2.6293   2.6308   2.6323   2.6339   2.6354   2.6369
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                2.6488   2.6503   2.6518   2.6533   2.6547   2.6562   2.6576
                2.6591   2.6605   2.6620   2.6634   2.6648   2.6662   2.6677
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                2.6885   2.6899   2.6912   2.6926   2.6939   2.6953   2.6966
                2.6980   2.6993   2.7006   2.7019   2.7033   2.7046   2.7059
                2.7072   2.7085   2.7098   2.7111   2.7124   2.7137   2.7150
                2.7163   2.7176   2.7189   2.7201   2.7214   2.7227   2.7240
                2.7252   2.7265   2.7277   2.7290   2.7303   2.7315   2.7328
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                2.7426   2.7438   2.7450   2.7463   2.7475   2.7487   2.7499
                2.7511   2.7523   2.7535   2.7547   2.7559   2.7570   2.7582
                2.7594   2.7606   2.7618   2.7629   2.7641   2.7653   2.7664
                2.7676   2.7688   2.7699   2.7711   2.7722   2.7734   2.7745
                2.7757   2.7768   2.7779   2.7791   2.7802   2.7813   2.7825
                2.7836   2.7847   2.7858   2.7870   2.7881   2.7892   2.7903
                2.7914   2.7925   2.7936   2.7947   2.7958   2.7969   2.7980
                2.7991   2.8002   2.8013   2.8024   2.8034   2.8045   2.8056
                2.8067   2.8078   2.8088   2.8099   2.8110   2.8120   2.8131
                2.8141   2.8152   2.8163   2.8173   2.8184   2.8194   2.8205
                2.8215   2.8225   2.8236   2.8246   2.8257   2.8267   2.8277
                2.8288   2.8298   2.8308   2.8318   2.8328   2.8339   2.8349
                2.8359   2.8369   2.8379   2.8389   2.8399   2.8409   2.8420
                2.8430   2.8440   2.8449   2.8459   2.8469   2.8479   2.8489
                2.8499   2.8509   2.8519   2.8529   2.8538   2.8548   2.8558
                2.8568   2.8577   2.8587   2.8597   2.8606   2.8616   2.8626
                2.8635   2.8645   2.8655   2.8664   2.8674   2.8683   2.8693
                2.8702   2.8712   2.8721   2.8731   2.8740   2.8749   2.8759
                2.8768   2.8778   2.8787   2.8796   2.8806   2.8815   2.8824
                2.8833   2.8843   2.8852   2.8861   2.8870   2.8879   2.8889
                2.8898   2.8907   2.8916   2.8925   2.8934   2.8943   2.8952
                2.8961   2.8970   2.8979   2.8988   2.8997   2.9006   2.9015
                2.9024   2.9033   2.9042   2.9051   2.9059   2.9068   2.9077
                2.9086   2.9095   2.9104   2.9112   2.9121   2.9130   2.9139
                2.9147   2.9156   2.9165   2.9173   2.9182   2.9191   2.9199
                2.9208   2.9216   2.9225   2.9234   2.9242   2.9251   2.9259
                2.9268   2.9276   2.9285   2.9293   2.9302   2.9310   2.9318
                2.9327   2.9335   2.9344   2.9352   2.9360   2.9369   2.9377
                2.9385   2.9394   2.9402   2.9410   2.9419   2.9427   2.9435
                2.9443   2.9451   2.9460   2.9468   2.9476   2.9484   2.9492
                2.9501   2.9509   2.9517   2.9525   2.9533   2.9541   2.9549
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                2.9557  2.9565  2.9573  2.9581  2.9589  2.9597  2.9605
                2.9613  2.9621  2.9629  2.9637  2.9645  2.9653  2.9661
                2.9669  2.9676  2.9684  2.9692  2.9700

*    BASIN 1
*    UNDEVELOPED BASIN EAST OF SITE
*    LOTS 17-22, NAA, TR 2, UNIT 3, BLK 3
COMPUTE NM HYD      ID=10 HYD NO=1.0 AREA=0.008594 SQ MI
                    PER A=100 PER B=0 PER C=0 PER D=0
                    TP=-0.1333 HR   MASSRAIN=-1

     K =   .158785HR    TP =   .133300HR    K/TP RATIO =  1.191185     SHAPE CONSTANT, N =  2.981340
     UNIT PEAK =   18.071    CFS  UNIT VOLUME =    .9980       B =   280.30      P60 = 2.1700
     AREA =      .008594 SQ MI    IA =    .65000 INCHES    INF =   1.67000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD           ID=10   CODE=1

                                  OUTFLOW HYDROGRAPH REACH     1.00


    RUNOFF VOLUME =      .64981 INCHES     =         .2978 ACRE-FEET
    PEAK DISCHARGE RATE =     10.09 CFS  AT   1.500 HOURS   BASIN AREA =    .0086 SQ. MI.



*S  ** AP1 **
*    ROUTE THROUGH ARROYO
*    SECTION D16
COMPUTE RATING CURVE CID=1 VS NO=1 NO SEGS=1
                    MIN ELEV=51.67 FT MAX ELEV=55.01 FT
                    CH SLP=0.035 FP SLP=0.035 N=0.030 DIST=120 FT
                    DIST    ELEV    DIST    ELEV    DIST    ELEV
                     0      54.57   36.16   53.05   43.81   51.67
                    78.51   52.33   99.57   55.00   120     55.01

                                RATING CURVE VALLEY SECTION  1.0
                                   WATER       FLOW        FLOW        TOP
                                  SURFACE      AREA        RATE        WIDTH
                                   ELEV        SQ FT       CFS         FT
                                   51.67         .00         .00         .00
                                   51.85         .90        1.64       10.22
                                   52.02        3.59       10.43       20.43
                                   52.20        8.08       30.76       30.65
                                   52.37       14.33       68.08       38.94
                                   52.55       21.38      127.52       41.30
                                   52.72       28.85      202.39       43.66
                                   52.90       36.73      292.20       46.02
                                   53.08       45.03      394.25       48.86
                                   53.25       54.11      498.31       54.43
                                   53.43       64.17      620.46       60.00
                                   53.60       75.21      761.93       65.57
                                   53.78       87.22      923.88       71.14
                                   53.96      100.22     1107.47       76.70
                                   54.13      114.19     1313.81       82.27
                                   54.31      129.14     1544.01       87.84
                                   54.48      145.07     1799.13       93.41
                                   54.66      161.89     2108.14       96.88
                                   54.83      179.04     2469.76       98.26
                                   55.01      196.54     2526.28      119.98
ROUTE MCUNGE        ID=11   HYD NO=1.1   INFLOW ID=10
                    DT=0.0   LENGTH=330 FT
                    NS=0  SLP=0.035

     INFLOW END=  90          TABLE PTS= 20
     DT=  .050000             QMED=        5.04  CKMED=      3.2630
     WIDTH MED=       14.17   NREACH=  2         DX=       165.00

 DEPTH   AREA      Q     TRAVEL  WIDTH     ck      VEL      C      D      C1     C2     C3     Q-M     C1-M    C2-M    C3-M
 (FT)  (SQ FT)  (CFS)  TIME(HR)  (FT)    (FPS)   (FPS)                                          (CFS)
   .00     .0     .0      .069     .0      .92     .84    1.000  .000   1.000  .000   .000      .0    1.000   .000    .000
   .18     .9    1.6      .050   10.2     2.55    1.83    2.785  .011   .994   .473   -.467      .3    .996    .256    -.251
   .35    3.6   10.4      .032   20.4     4.04    2.90    4.407  .022   .992   .632   -.624     4.9    .992    .552    -.545
   .53    8.1   30.8      .024   30.6     5.31    3.81    5.796  .033   .990   .707   -.698    19.2    .990    .662    -.652
   .70   14.3   68.1      .019   38.9     7.04    4.75    7.675  .043   .990   .771   -.761    47.7    .990    .739    -.729
   .88   21.4  127.5      .015   41.3     9.29    5.96   10.135  .058   .990   .821   -.811    95.9    .990    .805    -.795
  1.05   28.8  202.4      .013   43.7    10.76    7.02   11.735  .075   .988   .844   -.832   163.3    .989    .833    -.822
  1.23   36.7  292.2      .012   46.0    11.90    7.96   12.985  .092   .987   .858   -.845   245.7    .988    .852    -.840
  1.41   45.0  394.3      .010   48.9    12.09    8.75   13.193  .116   .984   .860   -.844   341.8    .986    .862    -.847
  1.58   54.1  498.3      .010   54.4    11.83    9.21   12.903  .134   .981   .858   -.838   445.2    .981    .853    -.834
  1.76   64.2  620.5      .009   60.0    12.50    9.67   13.641  .143   .981   .865   -.845   558.2    .981    .861    -.841
  1.93   75.2  761.9      .009   65.6    13.17   10.13   14.367  .153   .980   .871   -.851   689.9    .980    .868    -.848
  2.11   87.2  923.9      .009   71.1    13.82   10.59   15.080  .163   .980   .877   -.857   841.6    .980    .874    -.854
  2.29  100.2 1107.5      .008   76.7    14.47   11.05   15.781  .173   .980   .882   -.862  1014.3    .980    .879    -.859
  2.46  114.2 1313.8      .008   82.3    15.10   11.51   16.471  .183   .979   .887   -.866  1209.2    .979    .884    -.864
  2.64  129.1 1544.0      .008   87.8    15.72   11.96   17.150  .194   .979   .891   -.870  1427.4    .979    .889    -.868
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    2.81  145.1   1799.1    .007   93.4      12  12.40   18.675   .195   .980   .899  -.      1670.0    .979   .893   .871
    2.99  161.9   2108.1    .007   96.9   19.63  13.02   21.418   .192   .983   .912  -.895   1951.5    .982   .906  -.888
    3.16  179.0   2469.8    .007   98.3   12.35  13.79   13.471   .352   .952   .865  -.818   2286.2    .984   .917  -.901
    3.34  196.5   2526.3    .007  120.0    2.88  12.85    3.145  1.265   .532   .630  -.163   2497.2    .509   .639  -.148
MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) =   3 OCCURRED        8 TIMES.  AVERAGE NUMBER ITERATIONS =  1.0515
Equations solved using the Ponce correction to C2
PRINT HYD           ID=11   CODE=1

                                    OUTFLOW HYDROGRAPH REACH     1.10


    RUNOFF VOLUME =       .65159 INCHES      =         .2987 ACRE-FEET
    PEAK DISCHARGE RATE =      10.07 CFS  AT   1.550 HOURS   BASIN AREA =    .0086 SQ. MI.



*     BASIN 2
*     UNDEVELOPED BASIN
*     LOTS 23 & 24, NAA, TR 2, UNIT 3, BLK 3
COMPUTE NM HYD      ID=20 HYD NO=2.0 AREA=0.002957 SQ MI
                    PER A=100 PER B=0 PER C=0 PER D=0
                    TP=-0.1333 HR   MASSRAIN=-1

      K =    .158785HR    TP =    .133300HR    K/TP RATIO =  1.191185     SHAPE CONSTANT, N =  2.981340
      UNIT PEAK =    6.2178    CFS  UNIT VOLUME =     .9964       B =    280.30      P60 = 2.1700
      AREA =       .002957 SQ MI    IA =     .65000 INCHES    INF =   1.67000 INCHES PER HOUR
      RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .050000

PRINT HYD           ID=20   CODE=1

                                    OUTFLOW HYDROGRAPH REACH     2.00


    RUNOFF VOLUME =       .64981 INCHES      =         .1025 ACRE-FEET
    PEAK DISCHARGE RATE =       3.48 CFS  AT   1.500 HOURS   BASIN AREA =    .0030 SQ. MI.



*     ADD BASINS 1.1 & 2.0
ADD HYD             ID=21 HYD NO=2.1 ID=11 ID=20
PRINT HYD           ID=21 CODE=1

                                    OUTFLOW HYDROGRAPH REACH     2.10


    RUNOFF VOLUME =       .65106 INCHES      =         .4011 ACRE-FEET
    PEAK DISCHARGE RATE =      13.43 CFS  AT   1.550 HOURS   BASIN AREA =    .0116 SQ. MI.



*S   ** AP2 **
*     ROUTE THROUGH ARROYO
*     SECTION D13
,COMPUTE RATING CURVE CID=1 VS NO=1 NO SEGS=1
                    MIN ELEV=43.12 FT MAX ELEV=46.70 FT
                    CH SLP=0.035 FP SLP=0.035 N=0.030 DIST=120 FT
                    DIST    ELEV    DIST    ELEV    DIST    ELEV
                     0.00  46.70   53.15   43.12   66.18   43.15
                    79.41  43.80   120.0   43.91

                                RATING CURVE VALLEY SECTION  1.0
                                   WATER        FLOW         FLOW         TOP
                                  SURFACE       AREA         RATE        WIDTH
                                   ELEV         SQ FT        CFS          FT
                                   43.12          .00          .00          .00
                                   43.31         2.78         7.13        19.05
                                   43.50         6.99        27.21        25.68
                                   43.69        12.46        61.10        32.32
                                   43.87        20.12        85.58        64.64
                                   44.06        34.84       184.16        80.84
                                   44.25        50.34       332.37        83.63
                                   44.44        66.36       515.35        86.43
                                   44.63        82.91       731.19        89.23
                                   44.82        99.98       978.68        92.03
                                   45.00       117.59      1257.01        94.82
                                   45.19       135.72      1565.68        97.62
                                   45.38       154.37      1904.35       100.42
                                   45.57       173.56      2272.83       103.22
                                   45.76       193.27      2671.02       106.01
                                   45.95       213.51      3098.93       108.81
                                   46.13       234.27      3556.61       111.61
                                   46.32       255.57      4044.14       114.40
                                   46.51       277.39      4561.69       117.20
                                   46.70       299.73      5109.42       120.00
ROUTE MCUNGE        ID=22   HYD NO=2.2   INFLOW ID=21
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DT=0.0 LENGTH=330 F
NS=0 SLP=0.035

INFLOW END= 101 TABLE PTS= 20
DT= .050000 QMED= 6.71 CKMED= 2.5666
WIDTH MED= 17.94 NREACH= 2 DX= 165.00

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	.048	.0	.92	1.26	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.19	2.8	7.1	.036	19.1	4.55	2.57	4.960	.014	.995	.665	-.660	1.1	.997	.570	-.568
.38	7.0	27.2	.024	25.7	5.64	3.89	6.148	.033	.991	.721	-.712	15.6	.992	.676	-.668
.57	12.5	61.1	.019	32.3	4.85	4.91	5.290	.068	.979	.685	-.664	42.6	.989	.743	-.732
.75	20.1	85.6	.022	64.6	4.79	4.25	5.229	.048	.985	.681	-.666	71.3	.949	.485	-.434
.94	34.8	184.2	.017	80.8	8.12	5.29	8.857	.049	.990	.798	-.788	130.5	.990	.774	-.765
1.13	50.3	332.4	.014	83.6	10.55	6.60	11.508	.065	.990	.841	-.831	253.9	.990	.826	-.816
1.32	66.4	515.4	.012	86.4	12.27	7.77	13.390	.084	.988	.862	-.850	419.9	.989	.852	-.841
1.51	82.9	731.2	.010	89.2	13.80	8.82	15.057	.103	.987	.876	-.864	619.6	.988	.869	-.857
1.70	100.0	978.7	.009	92.0	15.18	9.79	16.561	.121	.986	.887	-.873	851.5	.987	.882	-.869
1.88	117.6	1257.0	.009	94.8	16.44	10.69	17.938	.140	.985	.895	-.881	1114.5	.986	.891	-.877
2.07	135.7	1565.7	.008	97.6	17.61	11.54	19.211	.158	.985	.902	-.886	1408.2	.985	.899	-.883
2.26	154.4	1904.3	.007	100.4	18.70	12.34	20.399	.176	.984	.907	-.891	1731.9	.984	.905	-.889
2.45	173.6	2272.8	.007	103.2	19.72	13.10	21.515	.193	.983	.912	-.895	2085.6	.983	.910	-.893
2.64	193.3	2671.0	.007	106.0	20.69	13.82	22.569	.211	.982	.916	-.898	2469.0	.983	.914	-.897
2.83	213.5	3098.9	.006	108.8	21.61	14.51	23.571	.228	.982	.919	-.901	2882.1	.982	.918	-.900
3.01	234.3	3556.6	.006	111.6	22.48	15.18	24.526	.245	.981	.922	-.903	3325.0	.981	.921	-.902
3.20	255.6	4044.1	.006	114.4	23.32	15.82	25.441	.262	.980	.925	-.905	3797.6	.981	.924	-.904
3.39	277.4	4561.7	.006	117.2	24.13	16.45	26.320	.279	.980	.928	-.907	4300.2	.980	.926	-.906
3.58	299.7	5109.4	.005	120.0	24.70	17.05	26.942	.299	.979	.929	-.908	4832.9	.979	.929	-.908

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 10 OCCURRED 1 TIMES. AVERAGE NUMBER ITERATIONS = 1.0733

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	.048	.0	.92	1.26	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.19	2.8	7.1	.036	19.1	.98	2.57	1.066	.066	.938	.062	.000	1.1	.979	.021	.000
.38	7.0	27.2	.024	25.7	1.07	3.89	1.171	.171	.854	.146	.000	15.6	.895	.105	.000
.57	12.5	61.1	.019	32.3	1.17	4.91	1.279	.279	.782	.218	.000	42.6	.816	.184	.000
.75	20.1	85.6	.022	64.6	1.11	4.25	1.207	.207	.828	.172	.000	71.3	.815	.185	.000
.94	34.8	184.2	.017	80.8	1.21	5.29	1.325	.325	.755	.245	.000	130.5	.789	.211	.000
1.13	50.3	332.4	.014	83.6	1.38	6.60	1.500	.500	.667	.333	.000	253.9	.708	.292	.000
1.32	66.4	515.4	.012	86.4	1.53	7.77	1.673	.673	.598	.402	.000	419.9	.630	.370	.000
1.51	82.9	731.2	.010	89.2	1.69	8.82	1.841	.841	.543	.457	.000	619.6	.569	.431	.000
1.70	100.0	978.7	.009	92.0	1.84	9.79	2.003	1.003	.499	.501	.000	851.5	.520	.480	.000
1.88	117.6	1257.0	.009	94.8	1.98	10.69	2.160	1.160	.463	.537	.000	1114.5	.480	.520	.000
2.07	135.7	1565.7	.008	97.6	2.12	11.54	2.311	1.311	.433	.567	.000	1408.2	.447	.553	.000
2.26	154.4	1904.3	.007	100.4	2.25	12.34	2.458	1.458	.407	.593	.000	1731.9	.419	.581	.000
2.45	173.6	2272.8	.007	103.2	2.38	13.10	2.600	1.600	.385	.615	.000	2085.6	.395	.605	.000
2.64	193.3	2671.0	.007	106.0	2.51	13.82	2.738	1.738	.365	.635	.000	2469.0	.375	.625	.000
2.83	213.5	3098.9	.006	108.8	2.63	14.51	2.873	1.873	.348	.652	.000	2882.1	.356	.644	.000
3.01	234.3	3556.6	.006	111.6	2.75	15.18	3.004	2.004	.333	.667	.000	3325.0	.340	.660	.000
3.20	255.6	4044.1	.006	114.4	2.87	15.82	3.132	2.132	.319	.681	.000	3797.6	.326	.674	.000
3.39	277.4	4561.7	.006	117.2	2.99	16.45	3.257	2.257	.307	.693	.000	4300.2	.313	.687	.000
3.58	299.7	5109.4	.005	120.0	3.10	17.05	3.380	2.380	.296	.704	.000	4832.9	.301	.699	.000

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 3 OCCURRED 1 TIMES. AVERAGE NUMBER ITERATIONS = 1.0305
Equations solved with two passes: first using the Ponce correction to C1, second using the Fread correction to C1, C2 and C3
PRINT HYD ID=22 CODE=1

OUTFLOW HYDROGRAPH REACH 2.20

RUNOFF VOLUME = .64883 INCHES = .3997 ACRE-FEET
PEAK DISCHARGE RATE = 13.25 CFS AT 1.600 HOURS BASIN AREA = .0116 SQ. MI.

* BASIN 3
* UNDEVELOPED BASIN

* LOTS 25 & 26, NAA, TR 2, UNIT 3, BLK 3
COMPUTE NM HYD ID=30 HYD NO=3.0 AREA=0.002962 SQ MI
PER A=100 PER B=0 PER C=0 PER D=0
TP=-0.1333 HR MASSRAIN=-1

K = .158785HR TP = .133300HR K/TP RATIO = 1.191185 SHAPE CONSTANT, N = 2.981340
UNIT PEAK = 6.2283 CFS UNIT VOLUME = .9964 B = 280.30 P60 = 2.1700
AREA = .002962 SQ MI IA = .65000 INCHES INF = 1.67000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=30 CODE=1

OUTFLOW HYDROGRAPH REACH 3.00

RUNOFF VOLUME = .64981 INCHES = .1027 ACRE-FEET
PEAK DISCHARGE RATE = 3.48 CFS AT 1.500 HOURS BASIN AREA = .0030 SQ. MI.

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*    ADD BASINS 2.2 & 3.0
ADD HYD             ID=31 HYD NO=3.1 ID=22 ID=30
PRINT HYD           ID=31 CODE=1
```

OUTFLOW HYDROGRAPH REACH 3.10

RUNOFF VOLUME = .64898 INCHES = .5023 ACRE-FEET
PEAK DISCHARGE RATE = 16.07 CFS AT 1.600 HOURS BASIN AREA = .0145 SQ. MI.

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*S  ** AP3 **
*    ROUTE THROUGH ARROYO
*    SECTION D10
COMPUTE RATING CURVE CID=1 VS NO=1 NO SEGS=1
                     MIN ELEV=31.90 FT MAX ELEV=36.90 FT
                     CH SLP=0.035 FP SLP=0.035 N=0.030 DIST=120 FT
                      DIST    ELEV   DIST    ELEV   DIST    ELEV
                      0.00    36.90  34.49   33.51  52.79   31.90
                     67.79    32.32  120.0   33.95
```

RATING CURVE VALLEY SECTION 1.0

WATER SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	TOP WIDTH FT
31.90	.00	.00	.00
32.16	1.63	3.90	12.39
32.43	6.50	24.93	24.39
32.69	14.42	72.81	35.81
32.95	25.35	154.98	47.23
33.22	39.28	278.36	58.65
33.48	56.21	449.37	70.07
33.74	76.12	675.03	81.21
34.01	98.91	971.23	90.55
34.27	123.09	1371.42	93.23
34.53	147.97	1829.04	95.90
34.79	173.56	2342.52	98.58
35.06	199.86	2910.76	101.26
35.32	226.86	3533.02	103.94
35.58	254.56	4208.81	106.61
35.85	282.97	4937.84	109.29
36.11	312.08	5719.95	111.97
36.37	341.90	6555.13	114.65
36.64	372.42	7443.44	117.32
36.90	403.65	8385.01	120.00

```
ROUTE MCUNGE        ID=32   HYD NO=3.2   INFLOW ID=31
                    DT=0.0   LENGTH=330 FT
                    NS=0  SLP=0.035
```

INFLOW END= 103 TABLE PTS= 20
DT= .050000 QMED= 8.04 CKMED= 4.3165
WIDTH MED= 14.75 NREACH= 1 DX= 330.00

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	.053	.0	1.83	1.09	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.26	1.6	3.9	.038	12.4	3.36	2.40	1.831	.008	.994	.296	-.290	.6	.996	.049	-.045
.53	6.5	24.9	.024	24.4	5.37	3.83	2.929	.016	.992	.493	-.485	11.7	.992	.396	-.389
.79	14.4	72.8	.018	35.8	6.91	5.05	3.771	.025	.989	.583	-.572	45.7	.990	.533	-.523
1.05	25.3	155.0	.015	47.2	8.28	6.11	4.519	.034	.988	.640	-.628	110.3	.988	.609	-.597
1.32	39.3	278.4	.013	58.6	9.55	7.09	5.210	.043	.986	.680	-.666	212.7	.987	.658	-.645
1.58	56.2	449.4	.011	70.1	10.77	7.99	5.873	.052	.985	.711	-.696	359.6	.985	.694	-.680
1.84	76.1	675.0	.010	81.2	12.18	8.87	6.645	.059	.985	.740	-.725	557.6	.984	.723	-.708
2.11	98.9	971.2	.009	90.5	14.50	9.82	7.911	.064	.986	.777	-.763	817.9	.985	.756	-.741
2.37	123.1	1371.4	.008	93.2	17.51	11.14	9.551	.073	.986	.812	-.798	1164.6	.987	.802	-.789
2.63	148.0	1829.0	.007	95.9	19.26	12.36	10.506	.086	.985	.827	-.813	1593.9	.986	.820	-.806
2.89	173.6	2342.5	.007	98.6	20.87	13.50	11.382	.099	.984	.840	-.824	2079.7	.985	.834	-.819
3.16	199.9	2910.8	.006	101.3	22.35	14.56	12.194	.111	.983	.850	-.833	2620.8	.984	.845	-.829
3.42	226.9	3533.0	.006	103.9	23.74	15.57	12.951	.124	.982	.858	-.840	3216.3	.983	.854	-.837
3.68	254.6	4208.8	.006	106.6	25.05	16.53	13.663	.136	.982	.865	-.846	3865.5	.982	.861	-.843
3.95	283.0	4937.8	.005	109.3	26.28	17.45	14.336	.149	.981	.871	-.852	4568.0	.981	.868	-.849
4.21	312.1	5720.0	.005	112.0	27.46	18.33	14.975	.161	.980	.876	-.856	5323.7	.980	.873	-.854
4.47	341.9	6555.1	.005	114.6	28.57	19.17	15.585	.173	.979	.881	-.860	6132.4	.980	.878	-.858
4.74	372.4	7443.4	.005	117.3	29.64	19.99	16.169	.185	.979	.885	-.863	6994.3	.979	.883	-.862
5.00	403.6	8385.0	.004	120.0	30.43	20.77	16.599	.199	.978	.888	-.865	7909.3	.978	.887	-.865

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 3 OCCURRED 4 TIMES. AVERAGE NUMBER ITERATIONS = 1.0436

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	.053	.0	1.83	1.09	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.26	1.6	3.9	.038	12.4	1.86	2.40	1.015	.015	.986	.014	.000	.6	.995	.005	.000
.53	6.5	24.9	.024	24.4	1.92	3.83	1.046	.046	.956	.044	.000	11.7	.972	.028	.000
.79	14.4	72.8	.018	35.8	2.00	5.05	1.088	.088	.919	.081	.000	45.7	.937	.063	.000
1.05	25.3	155.0	.015	47.2	2.08	6.11	1.136	.136	.880	.120	.000	110.3	.899	.101	.000
1.32	39.3	278.4	.013	58.6	2.18	7.09	1.189	.189	.841	.159	.000	212.7	.860	.140	.000

1.58	56.2	449.4	.011	70.1	8	7.99	1.244	.244	.804	.196	.	359.6	.822	.17[illegible]	.000
1.84	76.1	675.0	.010	81.2	[illegible].39	8.87	1.302	.302	.768	.232	.000	557.6	.785	.215	.000
2.11	98.9	971.2	.009	90.5	2.51	9.82	1.370	.370	.730	.270	.000	817.9	.748	.252	.000
2.37	123.1	1371.4	.008	93.2	2.70	11.14	1.472	.472	.679	.321	.000	1164.6	.704	.296	.000
2.63	148.0	1829.0	.007	95.9	2.88	12.36	1.573	.573	.636	.364	.000	1593.9	.657	.343	.000
2.89	173.6	2342.5	.007	98.6	3.06	13.50	1.671	.671	.598	.402	.000	2079.7	.616	.384	.000
3.16	199.9	2910.8	.006	101.3	3.24	14.56	1.768	.768	.566	.434	.000	2620.8	.581	.419	.000
3.42	226.9	3533.0	.006	103.9	3.41	15.57	1.862	.862	.537	.463	.000	3216.3	.551	.449	.000
3.68	254.6	4208.8	.006	106.6	3.58	16.53	1.954	.954	.512	.488	.000	3865.5	.524	.476	.000
3.95	283.0	4937.8	.005	109.3	3.75	17.45	2.044	1.044	.489	.511	.000	4568.0	.500	.500	.000
4.21	312.1	5720.0	.005	112.0	3.91	18.33	2.132	1.132	.469	.531	.000	5323.7	.479	.521	.000
4.47	341.9	6555.1	.005	114.6	4.07	19.17	2.218	1.218	.451	.549	.000	6132.4	.460	.540	.000
4.74	372.4	7443.4	.005	117.3	4.22	19.99	2.302	1.302	.434	.566	.000	6994.3	.442	.558	.000
5.00	403.6	8385.0	.004	120.0	4.37	20.77	2.384	1.384	.419	.581	.000	7909.3	.427	.573	.000

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 2 OCCURRED 19 TIMES. AVERAGE NUMBER ITERATIONS = 1.0332
Equations solved with two passes: first using the Ponce correction to C1, second using the Fread correction to C1, C2 and C3

```
PRINT HYD          ID=32   CODE=1
```

OUTFLOW HYDROGRAPH REACH 3.20

RUNOFF VOLUME = .64866 INCHES = .5021 ACRE-FEET
PEAK DISCHARGE RATE = 16.05 CFS AT 1.650 HOURS BASIN AREA = .0145 SQ. MI.

```
*    BASIN 4
*    UNDEVELOPED BASIN
*    LOTS 27 & 28, NAA, TR 2, UNIT 3, BLK 3
COMPUTE NM HYD     ID=40 HYD NO=4.0 AREA=0.002941 SQ MI
                   PER A=100 PER B=0 PER C=0 PER D=0
                   TP=-0.1333 HR   MASSRAIN=-1
```

K = .158785HR TP = .133300HR K/TP RATIO = 1.191185 SHAPE CONSTANT, N = 2.981340
UNIT PEAK = 6.1842 CFS UNIT VOLUME = .9964 B = 280.30 P60 = 2.1700
AREA = .002941 SQ MI IA = .65000 INCHES INF = 1.67000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

```
PRINT HYD          ID=40   CODE=1
```

OUTFLOW HYDROGRAPH REACH 4.00

RUNOFF VOLUME = .64981 INCHES = .1019 ACRE-FEET
PEAK DISCHARGE RATE = 3.46 CFS AT 1.500 HOURS BASIN AREA = .0029 SQ. MI.

```
*    ADD BASINS 3.2 & 4.0
ADD HYD            ID=41 HYD NO=4.1 ID=32 ID=40
PRINT HYD          ID=41 CODE=1
```

OUTFLOW HYDROGRAPH REACH 4.10

RUNOFF VOLUME = .64880 INCHES = .6040 ACRE-FEET
PEAK DISCHARGE RATE = 18.23 CFS AT 1.650 HOURS BASIN AREA = .0175 SQ. MI.

```
*S  ** AP4 **
*    ROUTE THROUGH ARROYO
*    SECTION D6
COMPUTE RATING CURVE CID=1 VS NO=1 NO SEGS=1
                     MIN ELEV=20.84 FT MAX ELEV=22.98 FT
                     CH SLP=0.035 FP SLP=0.035 N=0.030 DIST=120 FT
                      DIST    ELEV   DIST    ELEV   DIST    ELEV
                      0.00    22.49  20.83   36.62  70.97   20.84
                     83.04    22.98  120.0   22.53
```

RATING CURVE VALLEY SECTION 1.0

WATER SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	TOP WIDTH FT
20.84	.00	.00	.00
20.95	.06	.07	.99
21.07	.22	.47	1.99
21.18	.50	1.40	2.98
21.29	.89	3.02	3.97
21.40	1.40	5.47	4.97
21.52	2.01	8.89	5.96
21.63	2.74	13.41	6.95
21.74	3.58	19.15	7.95
21.85	4.53	26.21	8.94
21.97	5.59	34.71	9.93

2	6.77	44.76	10.92
22.19	8.05	56.45	11.92
22.30	9.45	69.88	12.91
22.42	10.96	85.15	13.90
22.53	12.59	102.05	14.96
22.64	14.85	95.22	25.32
22.75	18.29	107.36	35.73
22.87	22.90	131.87	46.14
22.98	28.68	167.72	56.55

```
ROUTE MCUNGE          ID=42   HYD NO=4.2   INFLOW ID=41
                      DT=0.0   LENGTH=330 FT
                      NS=0  SLP=0.035

     INFLOW END= 104            TABLE PTS= 20
     DT=  .050000               QMED=        9.12  CKMED=      6.2165
     WIDTH MED=        6.01     NREACH=  1         DX=       330.00
```

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	.094	.0	1.83	.62	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.11	.1	.1	.069	1.0	1.87	1.34	1.018	.003	.997	.010	-.007	.0	.999	.002	-.001
.23	.2	.5	.043	2.0	2.95	2.12	1.610	.007	.995	.236	-.231	.2	.995	.118	-.113
.34	.5	1.4	.033	3.0	3.79	2.78	2.067	.011	.993	.350	-.343	.9	.993	.284	-.277
.45	.9	3.0	.027	4.0	4.55	3.37	2.483	.014	.992	.428	-.420	2.1	.992	.385	-.377
.56	1.4	5.5	.023	5.0	5.26	3.91	2.869	.018	.991	.485	-.476	4.2	.991	.454	-.445
.68	2.0	8.9	.021	6.0	5.92	4.42	3.232	.022	.990	.530	-.520	7.1	.990	.506	-.496
.79	2.7	13.4	.019	7.0	6.56	4.89	3.576	.025	.989	.565	-.554	11.1	.989	.546	-.535
.90	3.6	19.1	.017	7.9	7.16	5.35	3.905	.029	.988	.595	-.583	16.2	.988	.579	-.567
1.01	4.5	26.2	.016	8.9	7.74	5.79	4.221	.033	.988	.619	-.607	22.6	.988	.606	-.594
1.13	5.6	34.7	.015	9.9	8.30	6.21	4.526	.036	.987	.640	-.627	30.4	.987	.629	-.616
1.24	6.8	44.8	.014	10.9	8.84	6.61	4.821	.040	.986	.659	-.645	39.6	.986	.649	-.636
1.35	8.1	56.4	.013	11.9	9.36	7.01	5.107	.044	.986	.675	-.661	50.5	.986	.666	-.652
1.46	9.5	69.9	.012	12.9	9.87	7.39	5.386	.047	.985	.689	-.674	63.0	.985	.682	-.667
1.58	11.0	85.1	.012	13.9	10.29	7.77	5.610	.052	.985	.700	-.684	77.4	.985	.695	-.680
1.69	12.6	102.0	.011	15.0	2.67	8.11	1.455	.221	.834	.253	-.087	93.5	.984	.703	-.686
1.80	14.9	95.2	.014	25.3	1.41	6.41	.769	.231	.769	.000	.231	98.2	.658	3.481	-3.138
1.91	18.3	107.4	.016	35.7	4.57	5.87	2.492	.057	.968	.436	-.404	101.1	.945	.330	-.275
2.03	22.9	131.9	.016	46.1	5.80	5.76	3.164	.043	.980	.525	-.504	119.3	.976	.491	-.467
2.14	28.7	167.7	.016	56.6	5.93	5.85	3.236	.043	.980	.533	-.512	149.4	.982	.547	-.528

```
MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) =   3 OCCURRED        5 TIMES.  AVERAGE NUMBER ITERATIONS =  1.0646
Equations solved using the Ponce correction to C2
PRINT HYD             ID=42   CODE=1

                                OUTFLOW HYDROGRAPH REACH      4.20

     RUNOFF VOLUME =       .64901 INCHES      =         .6041 ACRE-FEET
     PEAK DISCHARGE RATE =      17.81 CFS  AT   1.700 HOURS   BASIN AREA =    .0175 SQ. MI.


*     BASIN 5
*     UNDEVELOPED BASIN
*     LOTS 29 & 30, NAA, TR 2, UNIT 3, BLK 3
COMPUTE NM HYD        ID=50 HYD NO=5.0 AREA=0.002968 SQ MI
                      PER A=100 PER B=0 PER C=0 PER D=0
                      TP=-0.1333 HR   MASSRAIN=-1

     K =   .158785HR    TP =   .133300HR    K/TP RATIO =  1.191185     SHAPE CONSTANT, N =  2.981340
     UNIT PEAK =   6.2410    CFS   UNIT VOLUME =    .9964       B =   280.30      P60 = 2.1700
     AREA =       .002968 SQ MI    IA =     .65000 INCHES    INF =   1.67000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .050000

PRINT HYD             ID=50   CODE=1

                                OUTFLOW HYDROGRAPH REACH      5.00

     RUNOFF VOLUME =       .64981 INCHES      =         .1029 ACRE-FEET
     PEAK DISCHARGE RATE =       3.49 CFS  AT   1.500 HOURS   BASIN AREA =    .0030 SQ. MI.


*     ADD BASINS 4.2 & 5.0
ADD HYD               ID=51 HYD NO=5.1 ID=42 ID=50
PRINT HYD             ID=51 CODE=1

                                OUTFLOW HYDROGRAPH REACH      5.10

     RUNOFF VOLUME =       .64908 INCHES      =         .7070 ACRE-FEET
     PEAK DISCHARGE RATE =      19.80 CFS  AT   1.650 HOURS   BASIN AREA =    .0204 SQ. MI.
```

```
*S  ** AP5 **
*     ROUTE THROUGH ARROYO

*     SECTION D3
COMPUTE RATING CURVE CID=1 VS NO=1 NO SEGS=1
                     MIN ELEV=11.30 FT MAX ELEV=13.57 FT
                     CH SLP=0.035 FP SLP=0.035 N=0.030 DIST=120 FT
                      DIST    ELEV   DIST    ELEV   DIST    ELEV
                       0.00   13.57  28.41   12.97  56.67   11.30
                      82.19   12.54  120.0   12.48
```

RATING CURVE VALLEY SECTION 1.0

WATER SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	TOP WIDTH FT
11.30	.00	.00	.00
11.42	.27	.38	4.48
11.54	1.07	2.40	8.96
11.66	2.41	7.09	13.44
11.78	4.28	15.27	17.92
11.90	6.69	27.68	22.40
12.02	9.64	45.01	26.88
12.14	13.12	67.90	31.36
12.26	17.13	96.94	35.84
12.38	21.68	132.71	40.33
12.49	26.83	155.71	54.09
12.61	36.27	189.55	85.57
12.73	46.61	283.52	87.59
12.85	57.20	392.73	89.61
12.97	68.03	516.24	91.71
13.09	79.32	640.81	97.37
13.21	91.29	780.06	103.03
13.33	103.94	934.48	108.69
13.45	117.26	1104.54	114.34
13.57	131.26	1290.74	120.00

```
ROUTE MCUNGE         ID=52    HYD NO=5.2    INFLOW ID=51
                     DT=0.0    LENGTH=330 FT
                     NS=0   SLP=0.035

     INFLOW END= 105          TABLE PTS= 20
     DT=  .050000             QMED=        9.90  CKMED=      4.3648
     WIDTH MED=       14.98   NREACH=  1         DX=      330.00
```

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	.089	.0	1.83	.65	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.12	.3	.4	.065	4.5	1.97	1.41	1.077	.004	.996	.039	-.035	.1	.999	.006	-.006
.24	1.1	2.4	.041	9.0	3.12	2.25	1.704	.007	.995	.262	-.257	1.1	.995	.145	-.140
.36	2.4	7.1	.031	13.4	4.01	2.94	2.187	.011	.993	.375	-.368	4.4	.993	.310	-.303
.48	4.3	15.3	.026	17.9	4.82	3.56	2.627	.015	.992	.451	-.442	10.8	.992	.408	-.400
.60	6.7	27.7	.022	22.4	5.56	4.14	3.035	.019	.991	.507	-.497	21.1	.991	.476	-.467
.72	9.6	45.0	.020	26.9	6.27	4.67	3.419	.023	.990	.550	-.539	35.9	.990	.526	-.516
.84	13.1	67.9	.018	31.4	6.94	5.18	3.784	.027	.989	.584	-.573	56.0	.989	.566	-.555
.96	17.1	96.9	.016	35.8	7.57	5.66	4.132	.031	.988	.613	-.601	81.9	.988	.597	-.586
1.08	21.7	132.7	.015	40.3	6.24	6.12	3.405	.046	.979	.551	-.530	114.3	.988	.624	-.611
1.19	26.8	155.7	.016	54.1	4.34	5.80	2.365	.057	.966	.416	-.382	143.9	.960	.388	-.348
1.31	36.3	189.6	.018	85.6	6.09	5.23	3.322	.031	.986	.541	-.526	171.8	.967	.382	-.349
1.43	46.6	283.5	.015	87.6	9.73	6.08	5.305	.029	.991	.684	-.675	234.7	.991	.666	-.657
1.55	57.2	392.7	.013	89.6	10.89	6.87	5.938	.035	.990	.713	-.703	336.4	.990	.700	-.690
1.67	68.0	516.2	.012	91.7	11.40	7.59	6.218	.043	.988	.725	-.713	452.9	.990	.724	-.714
1.79	79.3	640.8	.011	97.4	11.35	8.08	6.189	.050	.986	.724	-.710	577.3	.986	.717	-.703
1.91	91.3	780.1	.011	103.0	11.94	8.54	6.510	.055	.985	.736	-.721	709.2	.986	.730	-.715
2.03	103.9	934.5	.010	108.7	12.50	8.99	6.819	.060	.985	.746	-.731	856.1	.985	.741	-.726
2.15	117.3	1104.5	.010	114.3	13.05	9.42	7.116	.064	.984	.755	-.740	1018.3	.985	.751	-.735
2.27	131.3	1290.7	.009	120.0	13.33	9.83	7.272	.070	.983	.760	-.743	1196.4	.984	.760	-.744

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 3 OCCURRED 6 TIMES. AVERAGE NUMBER ITERATIONS = 1.0576

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	.089	.0	1.83	.65	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.12	.3	.4	.065	4.5	1.84	1.41	1.004	.004	.996	.004	.000	.1	.999	.001	.000
.24	1.1	2.4	.041	9.0	1.86	2.25	1.013	.013	.988	.012	.000	1.1	.992	.008	.000
.36	2.4	7.1	.031	13.4	1.88	2.94	1.024	.024	.976	.024	.000	4.4	.982	.018	.000
.48	4.3	15.3	.026	17.9	1.90	3.56	1.039	.039	.963	.037	.000	10.8	.969	.031	.000
.60	6.7	27.7	.022	22.4	1.93	4.14	1.055	.055	.948	.052	.000	21.1	.955	.045	.000
.72	9.6	45.0	.020	26.9	1.97	4.67	1.074	.074	.931	.069	.000	35.9	.939	.061	.000
.84	13.1	67.9	.018	31.4	2.00	5.18	1.093	.093	.915	.085	.000	56.0	.923	.077	.000
.96	17.1	96.9	.016	35.8	2.04	5.66	1.115	.115	.897	.103	.000	81.9	.906	.094	.000
1.08	21.7	132.7	.015	40.3	2.08	6.12	1.137	.137	.880	.120	.000	114.3	.888	.112	.000
1.19	26.8	155.7	.016	54.1	2.06	5.80	1.121	.121	.892	.108	.000	143.9	.887	.113	.000
1.31	36.3	189.6	.018	85.6	2.01	5.23	1.095	.095	.913	.087	.000	171.8	.905	.095	.000
1.43	46.6	283.5	.015	87.6	2.08	6.08	1.135	.135	.881	.119	.000	234.7	.897	.103	.000
1.55	57.2	392.7	.013	89.6	2.16	6.87	1.176	.176	.850	.150	.000	336.4	.866	.134	.000
1.67	68.0	516.2	.012	91.7	2.23	7.59	1.218	.218	.821	.179	.000	452.9	.835	.165	.000
1.79	79.3	640.8	.011	97.4	2.29	8.08	1.249	.249	.801	.199	.000	577.3	.811	.189	.000
1.91	91.3	780.1	.011	103.0	2.35	8.54	1.279	.279	.782	.218	.000	709.2	.791	.209	.000
2.03	103.9	934.5	.010	108.7	2.40	8.99	1.310	.310	.763	.237	.000	856.1	.772	.228	.000
2.15	117.3	1104.5	.010	114.3	2.46	9.42	1.340	.340	.746	.254	.000	1018.3	.755	.245	.000
2.27	131.3	1290.7	.009	120.0	2.51	9.83	1.371	.371	.730	.270	.000	1196.4	.738	.262	.000

```
MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMA      2 OCCURRED      20 TIMES.  AVERAGE NUMBE  ERATIONS =  1.0349
Equations solved with two passes: first using the Ponce correction to C1, second using the Fread correction to C1, C2 and C3
PRINT HYD           ID=52  CODE=1

                                    OUTFLOW HYDROGRAPH REACH     5.20


    RUNOFF VOLUME =      .64877 INCHES     =        .7066 ACRE-FEET
    PEAK DISCHARGE RATE =     19.79 CFS  AT   1.700 HOURS   BASIN AREA =    .0204 SQ. MI.



*     BASIN 6
*     UNDEVELOPED BASIN
*     LOTS 31 & 32, NAA, TR 2, UNIT 3, BLK 3
COMPUTE NM HYD      ID=60 HYD NO=6.0 AREA=0.002972 SQ MI
                    PER A=100 PER B=0 PER C=0 PER D=0
                    TP=-0.1333 HR   MASSRAIN=-1

     K =   .158785HR    TP =   .133300HR    K/TP RATIO =  1.191185     SHAPE CONSTANT, N =  2.981340
     UNIT PEAK =   6.2494    CFS   UNIT VOLUME =    .9964       B =   280.30      P60 = 2.1700
     AREA =      .002972 SQ MI    IA =    .65000 INCHES    INF =   1.67000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .050000

PRINT HYD           ID=60   CODE=1

                                    OUTFLOW HYDROGRAPH REACH     6.00

    RUNOFF VOLUME =      .64981 INCHES     =        .1030 ACRE-FEET
    PEAK DISCHARGE RATE =       3.49 CFS  AT   1.500 HOURS   BASIN AREA =    .0030 SQ. MI.



*S  ** AP6 **
*     ADD BASINS 5.2 & 6.0
ADD HYD             ID=61 HYD NO=6.1 ID=52 ID=60
PRINT HYD           ID=61 CODE=1

                                    OUTFLOW HYDROGRAPH REACH     6.10

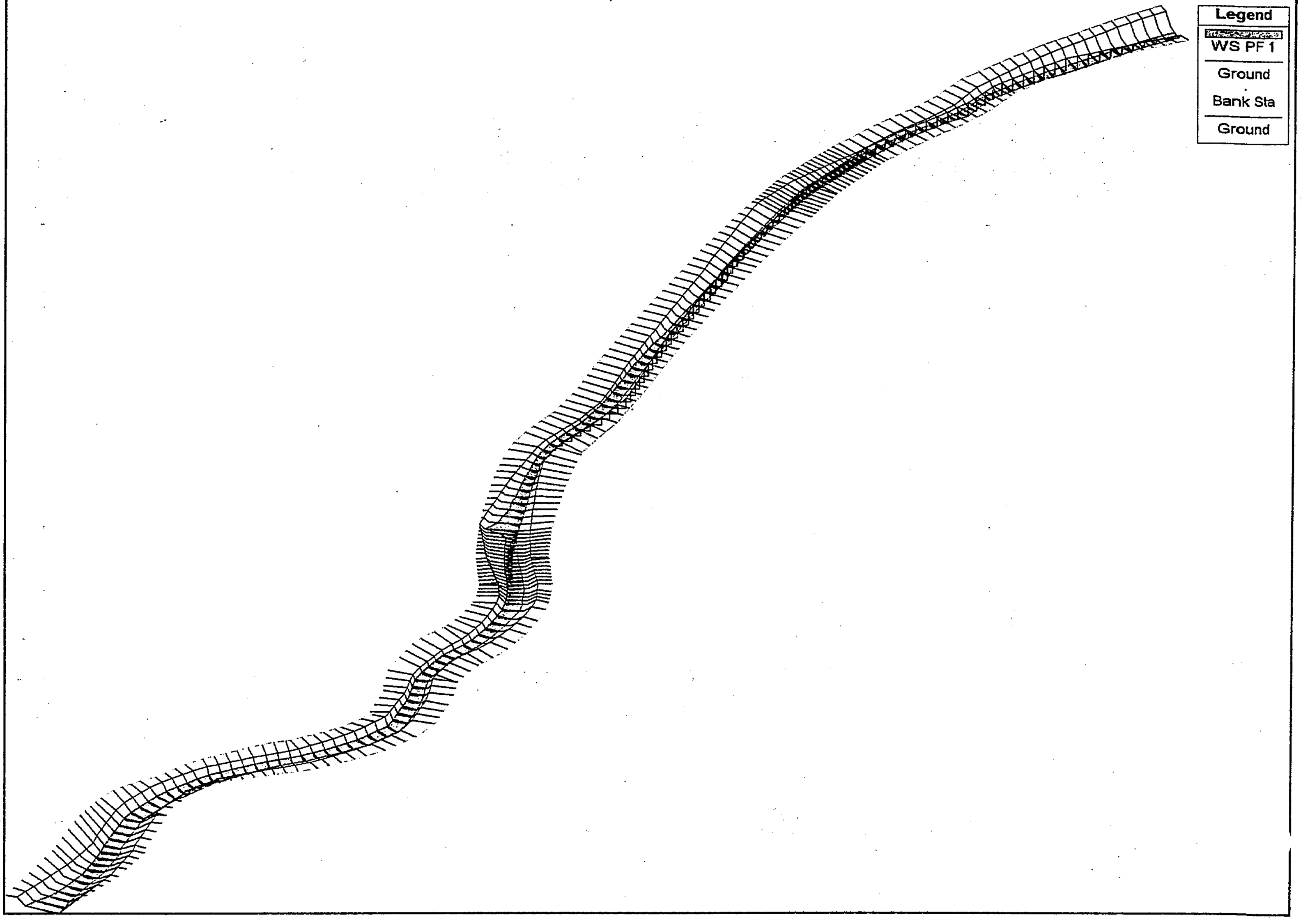
    RUNOFF VOLUME =      .64887 INCHES     =        .8096 ACRE-FEET
    PEAK DISCHARGE RATE =     21.44 CFS  AT   1.700 HOURS   BASIN AREA =    .0234 SQ. MI.



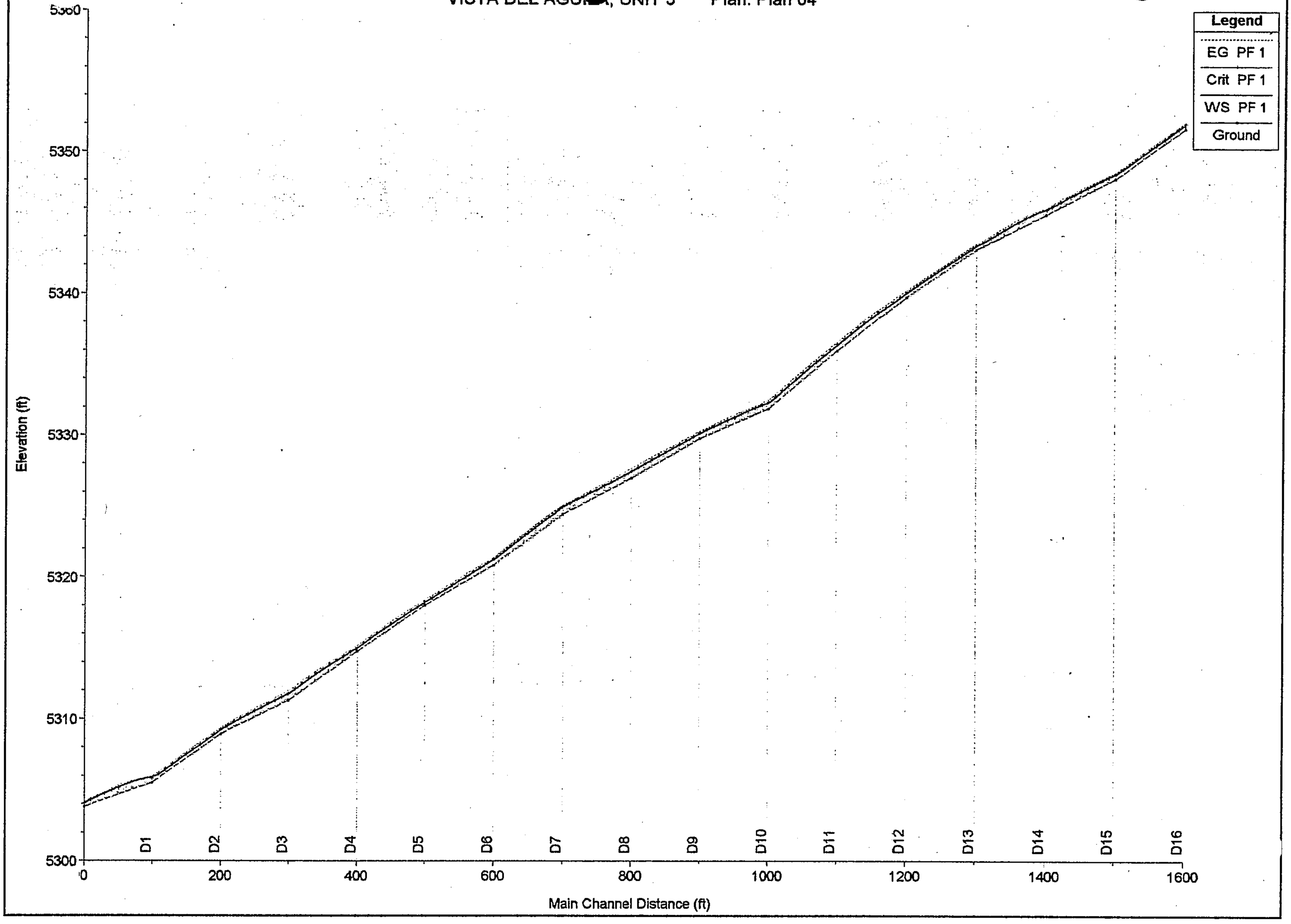
FINISH

    NORMAL PROGRAM FINISH          END TIME (HR:MIN:SEC) = 09:39:03
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VISTA DEL AGUILA, UNIT 3 Plan: Plan 04



VISTA DEL AGU[illegible], UNIT 3 Plan: Plan 04



HEC-RAS P. 30-04 River: Vista 3 Reach: ex Profile: PF 1

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	Max Chl Dpth	Vel Chnl	E.G. Elev	E.G. Slope	Flow Area	Top Width	Froude # Chl	Shear Total
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/s)	(ft)	(ft/ft)	(sq ft)	(ft)		(lb/sq ft)
ex	1600	10.07	5351.67	5352.01	5352.04	0.34	3.00	5352.15	0.039094	3.36	19.75	1.28	0.41
ex	1590.*	10.07	5351.32	5351.67	5351.69	0.35	2.81	5351.79	0.032976	3.58	20.46	1.18	0.36
ex	1580.*	10.07	5350.97	5351.31	5351.34	0.34	2.89	5351.44	0.035804	3.48	20.25	1.23	0.38
ex	1570.*	10.07	5350.61	5350.95	5350.98	0.34	2.93	5351.08	0.037052	3.44	20.19	1.25	0.39
ex	1560.*	10.07	5350.26	5350.60	5350.63	0.34	2.86	5350.73	0.035114	3.52	20.49	1.22	0.38
ex	1550.*	10.07	5349.91	5350.26	5350.28	0.35	2.81	5350.38	0.033498	3.59	20.79	1.19	0.36
ex	1540.*	10.07	5349.56	5349.90	5349.93	0.34	2.93	5350.03	0.037831	3.43	20.42	1.26	0.40
ex	1530.*	10.07	5349.21	5349.55	5349.59	0.34	2.81	5349.68	0.034127	3.58	20.94	1.20	0.36
ex	1520.*	10.07	5348.85	5349.19	5349.22	0.34	2.86	5349.32	0.035947	3.52	20.85	1.23	0.38
ex	1510.*	10.07	5348.50	5348.84	5348.87	0.34	2.84	5348.96	0.035495	3.54	21.03	1.22	0.37
ex	1500	10.07	5348.15	5348.49	5348.51	0.34	2.82	5348.61	0.035131	3.57	21.19	1.21	0.37
ex	1490.*	10.07	5347.89	5348.28	5348.27	0.39	2.45	5348.37	0.021948	4.10	21.17	0.98	0.27
ex	1480.*	10.07	5347.64	5348.04	5348.04	0.40	2.58	5348.14	0.023444	3.90	19.56	1.02	0.29
ex	1470.*	10.07	5347.38	5347.79	5347.81	0.41	2.72	5347.91	0.024809	3.71	18.01	1.06	0.32
ex	1460.*	10.07	5347.13	5347.56	5347.56	0.43	2.71	5347.67	0.023399	3.72	17.36	1.03	0.31
ex	1450.*	10.07	5346.87	5347.30	5347.32	0.43	2.87	5347.43	0.026006	3.51	16.28	1.09	0.35
ex	1440.*	10.07	5346.61	5347.05	5347.06	0.44	2.85	5347.18	0.024873	3.54	16.04	1.07	0.34
ex	1430.*	10.07	5346.36	5346.80	5346.81	0.44	2.82	5346.92	0.024363	3.58	16.24	1.06	0.33
ex	1420.*	10.07	5346.10	5346.51	5346.54	0.41	3.01	5346.65	0.030452	3.34	16.19	1.17	0.39
ex	1410.*	10.07	5345.85	5346.25	5346.26	0.40	2.73	5346.37	0.025757	3.69	18.36	1.07	0.32
ex	1400	10.07	5345.59	5346.00	5345.97	0.41	2.04	5346.07	0.012348	4.95	21.94	0.76	0.17
ex	1390.*	10.07	5345.34	5345.83		0.49	2.43	5345.93	0.015646	4.14	16.79	0.86	0.24
ex	1380.*	10.07	5345.10	5345.61	5345.61	0.51	2.85	5345.74	0.020416	3.53	13.74	0.99	0.33
ex	1370.*	10.07	5344.85	5345.36	5345.38	0.51	3.19	5345.52	0.025968	3.15	12.42	1.12	0.41
ex	1360.*	10.07	5344.60	5345.11	5345.13	0.51	3.15	5345.27	0.024994	3.20	12.53	1.10	0.40
ex	1350.*	10.07	5344.35	5344.83	5344.86	0.48	3.30	5345.00	0.029435	3.05	12.53	1.18	0.44
ex	1340.*	10.07	5344.11	5344.55	5344.58	0.44	3.21	5344.71	0.028651	3.14	13.16	1.16	0.42
ex	1330.*	10.07	5343.86	5344.25	5344.28	0.39	3.27	5344.42	0.032247	3.08	13.72	1.22	0.45
ex	1320.*	10.07	5343.61	5343.97	5343.99	0.36	3.07	5344.11	0.028845	3.28	14.78	1.15	0.40
ex	1310.*	10.07	5343.37	5343.66	5343.69	0.29	3.10	5343.81	0.032738	3.25	15.79	1.20	0.42
ex	1300	13.25	5343.12	5343.44	5343.44	0.32	2.85	5343.56	0.021319	4.66	18.55	1.00	0.33
ex	1295.*	13.25	5342.95	5343.22	5343.27	0.27	3.57	5343.42	0.043091	3.72	17.92	1.38	0.55
ex	1290.*	13.25	5342.78	5343.08	5343.11	0.30	3.10	5343.23	0.029248	4.27	18.93	1.15	0.41
ex	1285.*	13.25	5342.62	5342.92	5342.95	0.30	3.17	5343.07	0.032129	4.18	19.28	1.20	0.43
ex	1280.*	13.25	5342.45	5342.75	5342.78	0.30	3.17	5342.91	0.032945	4.18	19.64	1.21	0.43
ex	1275.*	13.25	5342.28	5342.59	5342.62	0.31	3.18	5342.74	0.033814	4.17	19.88	1.22	0.44
ex	1270.*	13.25	5342.11	5342.42	5342.45	0.31	3.18	5342.58	0.034454	4.16	20.09	1.23	0.44
ex	1265.*	13.25	5341.94	5342.27	5342.29	0.32	3.11	5342.42	0.032820	4.26	20.50	1.20	0.42
ex	1260.*	13.25	5341.78	5342.11	5342.13	0.33	3.00	5342.25	0.029665	4.42	20.88	1.15	0.39
ex	1255.*	13.25	5341.61	5341.93	5341.97	0.32	3.14	5342.09	0.034144	4.22	20.71	1.22	0.43
ex	1250.*	13.25	5341.44	5341.77	5341.80	0.33	3.13	5341.92	0.034149	4.23	20.77	1.22	0.43
ex	1245.*	13.25	5341.27	5341.61	5341.64	0.34	3.07	5341.76	0.032471	4.32	21.04	1.19	0.41
ex	1240.*	13.25	5341.10	5341.44	5341.47	0.34	3.11	5341.59	0.032518	4.27	20.46	1.20	0.42
ex	1235.*	13.25	5340.94	5341.27	5341.31	0.33	3.15	5341.43	0.032942	4.21	20.01	1.21	0.43
ex	1230.*	13.25	5340.77	5341.10	5341.13	0.33	3.15	5341.26	0.032335	4.21	19.67	1.20	0.42
ex	1225.*	13.25	5340.60	5340.94	5340.97	0.34	3.17	5341.10	0.032071	4.19	19.28	1.20	0.43
ex	1220.*	13.25	5340.43	5340.77	5340.80	0.34	3.24	5340.93	0.033722	4.09	18.84	1.23	0.45
ex	1215.*	13.25	5340.26	5340.59	5340.64	0.33	3.31	5340.76	0.035081	4.01	18.48	1.25	0.47
ex	1210.*	13.25	5340.10	5340.43	5340.46	0.33	3.28	5340.59	0.033921	4.04	18.46	1.23	0.46

HEC-RAS 1-30-04 River: Vista 3 Reach: ex Profile: PF 1 (Continued)

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	Max Chl Dpth	Vel Chnl	E.G. Elev	E.G. Slope	Flow Area	Top Width	Froude # Chl	Shear Total
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/s)	(ft)	(ft/ft)	(sq ft)	(ft)		(lb/sq ft)
ex	1205.*	13.25	5339.93	5340.26	5340.30	0.33	3.31	5340.43	0.034797	4.00	18.31	1.25	0.47
ex	1200	13.25	5339.76	5340.09	5340.13	0.33	3.23	5340.26	0.032313	4.10	18.41	1.21	0.44
ex	1190.*	13.25	5339.38	5339.74	5339.78	0.36	3.42	5339.92	0.035474	3.87	17.25	1.27	0.49
ex	1180.*	13.25	5339.01	5339.39	5339.44	0.38	3.46	5339.58	0.034698	3.83	16.60	1.27	0.50
ex	1170.*	13.25	5338.63	5339.03	5339.08	0.40	3.51	5339.22	0.034392	3.78	15.90	1.27	0.51
ex	1160.*	13.25	5338.26	5338.68	5338.73	0.42	3.57	5338.88	0.034782	3.71	15.39	1.28	0.52
ex	1150.*	13.25	5337.88	5338.32	5338.38	0.44	3.65	5338.53	0.035890	3.63	14.90	1.30	0.54
ex	1140.*	13.25	5337.50	5337.97	5338.02	0.46	3.65	5338.17	0.035180	3.63	14.74	1.29	0.54
ex	1130.*	13.25	5337.13	5337.59	5337.64	0.46	3.68	5337.81	0.036529	3.60	14.77	1.32	0.55
ex	1120.*	13.25	5336.75	5337.21	5337.28	0.46	3.77	5337.43	0.039944	3.52	14.93	1.37	0.59
ex	1110.*	13.25	5336.38	5336.83	5336.88	0.45	3.65	5337.03	0.039584	3.63	16.13	1.35	0.56
ex	1100	13.25	5336.00	5336.41	5336.47	0.41	3.59	5336.61	0.043973	3.69	18.08	1.40	0.56
ex	1090.*	13.25	5335.59	5336.03	5336.07	0.44	3.40	5336.21	0.035548	3.90	17.72	1.28	0.49
ex	1080.*	13.25	5335.18	5335.62	5335.68	0.44	3.63	5335.82	0.040606	3.65	16.61	1.37	0.56
ex	1070.*	13.25	5334.77	5335.22	5335.27	0.45	3.66	5335.43	0.040168	3.62	16.19	1.36	0.56
ex	1060.*	13.25	5334.36	5334.81	5334.87	0.45	3.71	5335.02	0.041088	3.58	15.92	1.38	0.58
ex	1050.*	13.25	5333.95	5334.40	5334.46	0.45	3.70	5334.61	0.040770	3.58	15.92	1.37	0.57
ex	1040.*	13.25	5333.54	5333.99	5334.04	0.45	3.72	5334.20	0.041753	3.56	15.96	1.39	0.58
ex	1030.*	13.25	5333.13	5333.57	5333.63	0.44	3.66	5333.78	0.040963	3.62	16.36	1.37	0.56
ex	1020.*	13.25	5332.72	5333.15	5333.22	0.43	3.71	5333.36	0.044002	3.57	16.69	1.41	0.59
ex	1010.*	13.25	5332.31	5332.73	5332.79	0.42	3.60	5332.93	0.042846	3.68	17.61	1.39	0.56
ex	1000	16.05	5331.90	5332.34	5332.39	0.44	3.56	5332.53	0.037793	4.51	20.06	1.32	0.53
ex	990.*	16.05	5331.69	5332.18	5332.18	0.49	3.01	5332.32	0.022601	5.33	20.71	1.05	0.36
ex	980.*	16.05	5331.48	5331.98	5331.98	0.50	2.92	5332.11	0.020910	5.49	21.07	1.01	0.34
ex	970.*	16.05	5331.27	5331.77	5331.77	0.50	2.92	5331.90	0.021239	5.50	21.41	1.01	0.34
ex	960.*	16.05	5331.06	5331.56	5331.56	0.50	2.94	5331.69	0.022134	5.47	21.73	1.03	0.35
ex	950.*	16.05	5330.84	5331.33	5331.33	0.49	2.99	5331.47	0.023119	5.37	21.49	1.05	0.36
ex	940.*	16.05	5330.63	5331.11	5331.11	0.48	2.93	5331.24	0.022192	5.48	21.87	1.03	0.35
ex	930.*	16.05	5330.42	5330.89	5330.89	0.47	2.89	5331.02	0.021564	5.56	22.19	1.02	0.34
ex	920.*	16.05	5330.21	5330.65	5330.66	0.44	3.05	5330.79	0.025766	5.26	22.09	1.10	0.38
ex	910.*	16.05	5330.00	5330.42	5330.43	0.42	2.87	5330.55	0.022398	5.59	23.15	1.03	0.34
ex	900	16.05	5329.79	5330.18	5330.20	0.39	2.97	5330.32	0.025653	5.40	23.53	1.09	0.37
ex	890.*	16.05	5329.51	5329.92	5329.93	0.41	2.96	5330.06	0.024074	5.42	22.63	1.07	0.36
ex	880.*	16.05	5329.23	5329.65	5329.67	0.42	3.17	5329.81	0.027783	5.06	21.16	1.14	0.41
ex	870.*	16.05	5328.95	5329.39	5329.41	0.44	3.16	5329.54	0.026014	5.08	20.37	1.12	0.40
ex	860.*	16.05	5328.67	5329.13	5329.14	0.45	3.19	5329.28	0.025129	5.03	19.42	1.10	0.41
ex	850.*	16.05	5328.40	5328.86	5328.88	0.46	3.26	5329.03	0.025456	4.92	18.49	1.12	0.42
ex	840.*	16.05	5328.12	5328.59	5328.62	0.47	3.36	5328.77	0.025879	4.78	17.42	1.13	0.44
ex	830.*	16.05	5327.84	5328.32	5328.35	0.48	3.42	5328.50	0.025582	4.69	16.46	1.13	0.45
ex	820.*	16.05	5327.56	5328.04	5328.07	0.48	3.62	5328.24	0.027950	4.43	15.30	1.19	0.50
ex	810.*	16.05	5327.28	5327.76	5327.80	0.48	3.64	5327.97	0.026818	4.40	14.57	1.17	0.50
ex	800	16.05	5327.00	5327.49	5327.52	0.49	3.66	5327.70	0.025639	4.38	13.88	1.15	0.50
ex	790.*	16.05	5326.74	5327.21	5327.26	0.47	3.72	5327.43	0.030067	4.32	15.11	1.23	0.53
ex	780.*	16.05	5326.48	5326.98	5327.00	0.50	3.26	5327.15	0.023634	4.93	17.56	1.08	0.41
ex	770.*	16.05	5326.22	5326.71	5326.75	0.49	3.43	5326.89	0.029567	4.68	18.29	1.19	0.47
ex	760.*	16.05	5325.96	5326.48	5326.49	0.52	2.97	5326.62	0.022692	5.40	21.42	1.04	0.36
ex	750.*	16.05	5325.71	5326.21	5326.24	0.50	3.20	5326.37	0.029661	5.02	21.77	1.18	0.43
ex	740.*	16.05	5325.45	5325.99	5325.99	0.54	2.69	5326.11	0.021748	5.97	26.72	1.00	0.30
ex	730.*	16.05	5325.19	5325.71	5325.74	0.52	3.00	5325.85	0.029530	5.35	25.52	1.15	0.39

HEC-RAS .: 1-30-04 River: Vista 3 Reach: ex Profile: PF 1 (Continued)

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	Max Chl Dpth	Vel Chnl	E.G. Elev	E.G. Slope	Flow Area	Top Width	Froude # Chl	Shear Total
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/s)	(ft)	(ft/ft)	(sq ft)	(ft)		(lb/sq ft)
ex	720.*	16.05	5324.93	5325.49	5325.49	0.56	2.52	5325.59	0.023733	6.36	33.37	1.02	0.28
ex	710.*	16.05	5324.67	5325.24	5325.25	0.57	2.49	5325.33	0.026822	6.46	37.99	1.06	0.28
ex	700	16.05	5324.41	5324.99	5324.99	0.58	2.28	5325.07	0.033224	7.03	55.21	1.13	0.26
ex	695.*	16.05	5324.23	5324.79	5324.82	0.56	2.80	5324.91	0.030210	5.73	30.86	1.14	0.35
ex	690.*	16.05	5324.05	5324.58	5324.65	0.53	3.34	5324.76	0.027262	4.81	18.40	1.15	0.44
ex	685.*	16.05	5323.87	5324.38	5324.47	0.50	3.79	5324.60	0.036897	4.23	16.77	1.33	0.58
ex	680.*	16.05	5323.70	5324.23	5324.29	0.53	3.42	5324.41	0.033684	4.69	20.22	1.25	0.49
ex	675.*	16.05	5323.52	5324.05	5324.11	0.53	3.43	5324.24	0.035671	4.68	21.06	1.28	0.49
ex	670.*	16.05	5323.34	5323.87	5323.93	0.53	3.45	5324.06	0.038049	4.65	21.69	1.32	0.51
ex	665.*	16.05	5323.16	5323.69	5323.74	0.53	3.36	5323.87	0.037397	4.78	22.94	1.30	0.49
ex	660.*	16.05	5322.98	5323.52	5323.56	0.53	3.31	5323.69	0.037661	4.85	23.92	1.30	0.48
ex	655.*	16.05	5322.80	5323.32	5323.38	0.52	3.37	5323.50	0.040121	4.77	24.09	1.33	0.50
ex	650.*	16.05	5322.62	5323.14	5323.19	0.52	3.28	5323.31	0.038846	4.90	25.16	1.31	0.47
ex	645.*	16.05	5322.45	5322.96	5322.99	0.51	3.19	5323.12	0.036973	5.04	25.98	1.28	0.45
ex	640.*	16.05	5322.27	5322.76	5322.81	0.49	3.25	5322.93	0.039951	4.93	26.14	1.32	0.47
ex	635.*	16.05	5322.09	5322.58	5322.62	0.49	3.20	5322.74	0.038563	5.02	26.56	1.30	0.45
ex	630.*	16.05	5321.91	5322.38	5322.42	0.47	3.30	5322.55	0.042343	4.86	26.38	1.35	0.49
ex	625.*	16.05	5321.73	5322.19	5322.23	0.46	3.18	5322.35	0.038636	5.05	27.00	1.30	0.45
ex	620.*	16.05	5321.55	5321.99	5322.04	0.44	3.20	5322.15	0.039759	5.01	27.07	1.31	0.46
ex	615.*	16.05	5321.38	5321.80	5321.83	0.42	3.19	5321.96	0.039637	5.03	27.25	1.31	0.46
ex	610.*	16.05	5321.20	5321.61	5321.65	0.41	3.09	5321.76	0.037044	5.19	28.03	1.27	0.43
ex	605.*	16.05	5321.02	5321.40	5321.45	0.38	3.20	5321.56	0.040201	5.01	27.32	1.32	0.46
ex	600	17.81	5320.84	5321.23	5321.26	0.39	3.11	5321.38	0.034949	5.73	29.46	1.24	0.42
ex	590.*	17.81	5320.56	5320.97	5320.97	0.40	2.78	5321.08	0.023909	6.41	29.32	1.05	0.33
ex	580.*	17.81	5320.27	5320.63	5320.67	0.36	3.27	5320.80	0.034478	5.44	25.57	1.25	0.46
ex	570.*	17.81	5319.99	5320.36	5320.39	0.36	3.01	5320.50	0.025824	5.91	25.36	1.10	0.38
ex	560.*	17.81	5319.70	5320.02	5320.07	0.32	3.37	5320.20	0.033403	5.29	23.25	1.24	0.47
ex	550.*	17.81	5319.42	5319.74	5319.77	0.32	3.15	5319.90	0.026810	5.65	23.32	1.13	0.41
ex	540.*	17.81	5319.14	5319.43	5319.47	0.29	3.34	5319.60	0.031476	5.33	22.73	1.21	0.46
ex	530.*	17.81	5318.85	5319.12	5319.16	0.27	3.31	5319.29	0.030752	5.38	22.81	1.20	0.45
ex	520.*	17.81	5318.57	5318.83	5318.86	0.26	3.28	5318.99	0.030624	5.44	23.35	1.20	0.44
ex	510.*	17.81	5318.28	5318.52	5318.55	0.24	3.27	5318.69	0.031540	5.45	24.01	1.21	0.45
ex	500	17.81	5318.00	5318.24	5318.27	0.24	3.10	5318.39	0.027903	5.75	25.07	1.14	0.40
ex	490.*	17.81	5317.67	5317.91	5317.95	0.24	3.31	5318.08	0.032419	5.37	23.68	1.23	0.46
ex	480.*	17.81	5317.35	5317.61	5317.64	0.26	3.26	5317.78	0.029272	5.47	22.87	1.17	0.44
ex	470.*	17.81	5317.02	5317.30	5317.33	0.28	3.33	5317.47	0.030581	5.34	22.34	1.20	0.46
ex	460.*	17.81	5316.70	5316.99	5317.03	0.29	3.35	5317.16	0.031646	5.31	22.58	1.22	0.46
ex	450.*	17.81	5316.37	5316.67	5316.71	0.30	3.33	5316.85	0.032754	5.35	23.60	1.23	0.46
ex	440.*	17.81	5316.04	5316.36	5316.40	0.32	3.23	5316.52	0.032805	5.52	25.53	1.22	0.44
ex	430.*	17.81	5315.72	5316.03	5316.06	0.31	3.16	5316.19	0.033568	5.64	27.39	1.23	0.43
ex	420.*	17.81	5315.39	5315.69	5315.72	0.30	3.14	5315.84	0.033488	5.67	27.72	1.22	0.43
ex	410.*	17.81	5315.07	5315.35	5315.37	0.28	3.12	5315.50	0.033190	5.71	28.05	1.22	0.42
ex	400	17.81	5314.74	5314.99	5315.02	0.25	3.21	5315.15	0.036910	5.54	28.20	1.28	0.45
ex	390.*	17.81	5314.40	5314.74	5314.74	0.34	2.77	5314.86	0.022343	6.44	28.17	1.02	0.32
ex	380.*	17.81	5314.05	5314.41	5314.45	0.36	3.28	5314.57	0.037993	5.43	27.42	1.30	0.47
ex	370.*	17.81	5313.71	5314.15	5314.16	0.44	2.81	5314.27	0.023129	6.33	27.74	1.04	0.33
ex	360.*	17.81	5313.36	5313.80	5313.85	0.44	3.41	5313.99	0.035414	5.22	23.51	1.28	0.49
ex	350.*	17.81	5313.02	5313.50	5313.54	0.48	3.28	5313.67	0.029631	5.42	22.67	1.18	0.44
ex	340.*	17.81	5312.68	5313.16	5313.21	0.48	3.48	5313.35	0.032859	5.12	21.20	1.25	0.49

HEC-RAS [illegible] 1-30-04 River: Vista 3 Reach: ex Profile: PF 1 (Continued)

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	Max Chl Dpth	Vel Chnl	E.G. Elev	E.G. Slope	Flow Area	Top Width	Froude # Chl	Shear Total
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/s)	(ft)	(ft/ft)	(sq ft)	(ft)		(lb/sq ft)
ex	330.*	17.81	5312.33	5312.82	5312.87	0.49	3.55	5313.01	0.033819	5.02	20.62	1.27	0.51
ex	320.*	17.81	5311.99	5312.46	5312.51	0.47	3.62	5312.67	0.036148	4.91	20.56	1.31	0.54
ex	310.*	17.81	5311.64	5312.10	5312.16	0.46	3.65	5312.31	0.036582	4.88	20.39	1.31	0.55
ex	300	19.79	5311.30	5311.76	5311.81	0.46	3.64	5311.97	0.033783	5.43	21.45	1.28	0.53
ex	290.*	19.79	5311.06	5311.58	5311.58	0.51	3.00	5311.71	0.020444	6.59	23.88	1.01	0.35
ex	280.*	19.79	5310.82	5311.31	5311.34	0.49	3.30	5311.48	0.028095	5.99	23.82	1.16	0.44
ex	270.*	19.79	5310.59	5311.09	5311.10	0.50	2.93	5311.23	0.021504	6.75	26.32	1.02	0.34
ex	260.*	19.79	5310.35	5310.82	5310.85	0.47	3.21	5310.98	0.028966	6.17	26.27	1.17	0.42
ex	250.*	19.79	5310.11	5310.59	5310.59	0.48	2.87	5310.72	0.022789	6.88	28.86	1.04	0.34
ex	240.*	19.79	5309.87	5310.31	5310.33	0.43	3.11	5310.46	0.030254	6.36	29.26	1.18	0.41
ex	230.*	19.79	5309.63	5310.06	5310.07	0.43	2.82	5310.18	0.023955	7.02	31.46	1.05	0.33
ex	220.*	19.79	5309.40	5309.78	5309.81	0.38	2.97	5309.92	0.029198	6.66	31.99	1.15	0.38
ex	210.*	19.79	5309.16	5309.52	5309.53	0.36	2.86	5309.65	0.026912	6.91	33.03	1.10	0.35
ex	200	19.79	5308.92	5309.24	5309.26	0.32	2.89	5309.37	0.028567	6.86	33.88	1.13	0.36
ex	190.*	19.79	5308.58	5308.88	5308.92	0.30	3.17	5309.04	0.037859	6.24	33.07	1.29	0.45
ex	180.*	19.79	5308.24	5308.54	5308.57	0.30	3.04	5308.69	0.032419	6.51	32.71	1.20	0.40
ex	170.*	19.79	5307.89	5308.19	5308.21	0.30	3.13	5308.34	0.035067	6.32	32.22	1.25	0.43
ex	160.*	19.79	5307.55	5307.85	5307.88	0.30	3.12	5308.00	0.034080	6.34	31.80	1.23	0.42
ex	150.*	19.79	5307.21	5307.50	5307.53	0.29	3.19	5307.66	0.036076	6.20	31.35	1.26	0.45
ex	140.*	19.79	5306.87	5307.16	5307.19	0.29	3.13	5307.31	0.033514	6.32	31.13	1.22	0.42
ex	130.*	19.79	5306.53	5306.81	5306.85	0.28	3.21	5306.97	0.035822	6.17	30.84	1.26	0.45
ex	120.*	19.79	5306.18	5306.46	5306.49	0.28	3.15	5306.62	0.033249	6.29	30.55	1.22	0.43
ex	110.*	19.79	5305.84	5306.12	5306.15	0.28	3.21	5306.28	0.035414	6.16	30.40	1.26	0.45
ex	100	21.44	5305.50	5305.91	5305.82	0.41	2.05	5305.97	0.008052	10.45	33.24	0.65	0.16
ex	90.*	21.44	5305.33	5305.81		0.48	2.16	5305.88	0.009169	9.92	32.19	0.69	0.18
ex	80.*	21.44	5305.16	5305.69		0.52	2.31	5305.77	0.011085	9.30	31.59	0.75	0.20
ex	70.*	21.44	5304.99	5305.54		0.55	2.45	5305.64	0.013538	8.76	31.61	0.82	0.23
ex	60.*	21.44	5304.82	5305.38		0.56	2.58	5305.48	0.014747	8.32	29.67	0.86	0.26
ex	50.*	21.44	5304.66	5305.19	5305.18	0.53	2.78	5305.31	0.018453	7.72	29.09	0.95	0.31
ex	40.*	21.44	5304.49	5304.98	5304.98	0.49	2.84	5305.11	0.021352	7.54	30.56	1.01	0.33
ex	30.*	21.44	5304.32	5304.78	5304.78	0.46	2.72	5304.89	0.021623	7.89	34.60	1.00	0.31
ex	20.*	21.44	5304.15	5304.55	5304.56	0.40	2.69	5304.66	0.025574	7.98	40.34	1.07	0.32
ex	10.*	21.44	5303.98	5304.31	5304.31	0.33	2.45	5304.40	0.027086	8.74	52.85	1.06	0.28
ex	000	21.44	5303.81	5304.06	5304.06	0.25	2.26	5304.14	0.026028	9.48	63.02	1.03	0.24

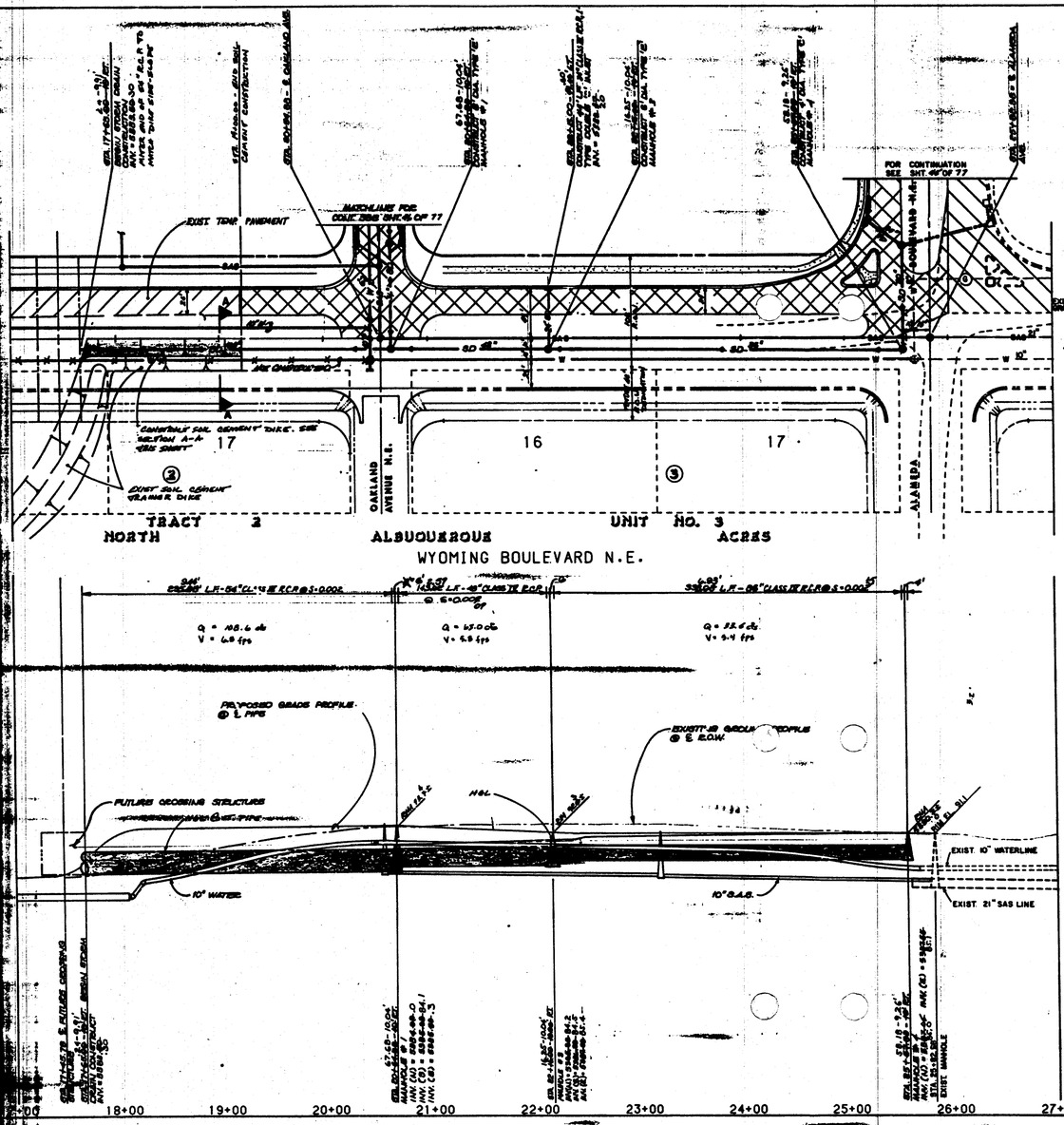
Appendix C

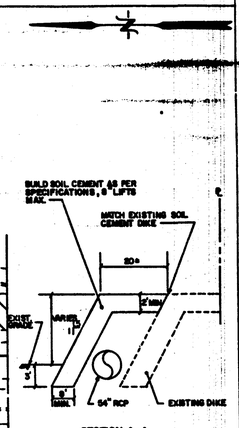
- **As-built Drawings for Wyoming Blvd Storm Drain**
- **Existing Arroyo Sections**
- **Vista del Aguila Subdivision, Unit Three Grading & Drainage Plan**

Appendix D

- **Existing Floodplain Limits Exhibit**
  (FEMA FIRM, City of Albuquerque, New Mexico, Bernalillo County, Panel No. 35001C0137F)

- **Proposed Floodplain Limits Exhibit**
  (FEMA FIRM, City of Albuquerque, New Mexico, Bernalillo County, Panel No. 35001C0137F)





SECTION A-A

SCALE:
HORIZ. 1"=50'
VERT. 1"= 10'

1. ALL STATIONING AND OFFSET DIMENSIONS ARE BASED ON CENTERLINE OF RIGHT-OF-WAY.
2. THE FOLLOWING CITY OF ALBUQUERQUE STANDARD DRAWINGS ARE APPLICABLE TO THE STORM DRAINAGE CONSTRUCTION:

2101	2209	2236
2110	2327	
2201	2328	
2208	2329	

LEGEND

- PROPOSED SOIL CEMENT DIKE
- PROPOSED PAVING
- EXISTING PAVING
- PROPOSED WATERLINE
- PROPOSED GATE VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED CAP OR PLUG
- PROPOSED CROSS, TEE, OR ELBOW
- PROPOSED SANITARY SEWER LINE
- PROPOSED MANHOLE
- PROPERTY OR BOUNDARY LINE
- CENTERLINE OF STREET
- CURB AND GUTTER
- SIDEWALK
- EXISTING WATERLINE
- EXISTING SANITARY SEWER LINE
- EXISTING CAP OR PLUG
- EXISTING MANHOLE
- FUTURE STORM DRAIN
- FUTURE INLET

RECORD DRAWING

This drawing is based on information provided by the Contractor and/or other sources and has been prepared for the convenience of the owner. The Engineer does not warrant the correctness of this information and shall not be responsible for any interpretations or decisions based thereon.

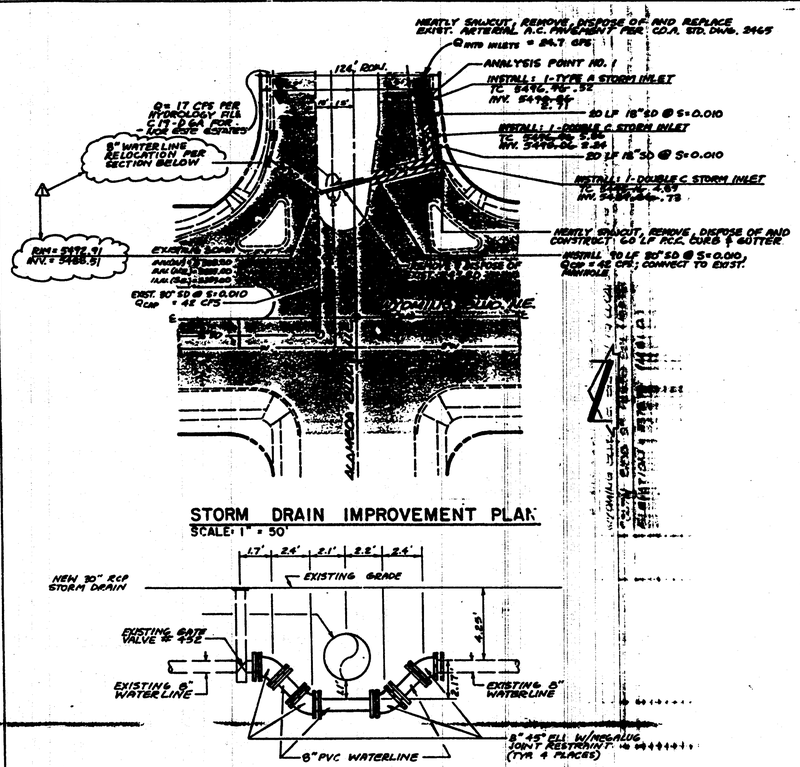
Date 5-14-88

Dennis A. Lorenz P.E. 9307

ESPEY, HUSTON & ASSOCIATES, INC.
Engineering & Environmental Consultants
317 COMMERCIAL ST. N.E.
ALBUQUERQUE, NEW MEXICO 87102
PHONE: (505) 842-1699

AS BUILT INFORMATION
CONTRACTOR: ROW CONCRETE
DATE STARTED: 6/87
DATE COMPLETED: 8/87
TEST DATE #1: 8/87
TEST DATE #2:
INSPECTOR: RAS
CERTIFICATION #1: 8/87
CERTIFICATION #2:
FILE COPIED BY:
DATE:

BENCH MARKS
THE STATION IS LOCATED 3 MILES NORTHEAST OF DOWNTOWN ALBUQUERQUE, NEW MEXICO, AT THE INTERSECTION OF LOUISIANA BLVD. AND LOS ANDALES DRIVE, AND EAST OF LOS ANDALES DRIVE. TO REACH THE STATION FROM THE INTERSECTION OF LOUISIANA BLVD. AND LOS ANDALES DRIVE, GO EAST ON LOS ANDALES DRIVE 10 BASES, THENCE NORTH 0.35 MILES TO MARKER ST1, THENCE NORTH ON DIRECTION OF LOUISIANA BLVD. 0.35 MILES TO MARKER ST2, THENCE NORTH ON DIRECTION OF LOUISIANA BLVD. 0.35 MILES TO MARKER ST3, THENCE NORTH ON DIRECTION OF LOUISIANA BLVD. 0.35 MILES TO MARKER



STORM DRAIN IMPROVEMENT PLAN
SCALE: 1" = 50'

⚠ 8" WATERLINE RELOCATION SECTION
SCALE: 1"=4'

STREET HYDRAULICS AT ANALYSIS POINT #1

1. 100-Year, Half-Street Capacity (See Figure 1)

Manning's Equation: $Q_{cap} = (1.486/n)A(R)^{(2/3)}(S)^{(1/2)}$
n = [6(0.017) + 3.5(0.025) + 35.5(0.017)]/45 = 0.0176
A = 0.5(0.20')10' + 0.5(0.87' + 0.17')35' = 19.2 sf
P = 45' + 0.67' + 0.17' = 45.84'
R = A/P = 19.2/45.84 = 0.419'
S = 0.0350
$Q_{cap} = (1.486/0.176)19.2(0.419)^{(2/3)}(0.0350)^{(1/2)} = 170$ cfs
$Q_{cap} > Q_{100}$ in every case (See Table)

2. 10-Year, Half-Street Capacity (One Lane Open)

Use a form of Manning's Equation for Triangular Gutters:

$Q = (0.468/n)Z(D)^{(8/3)}(S)^{(1/2)}$

Where:
n = 0.017 Per DPM
Z = Reciprocal of Cross Slope = 50
D = Depth at Gutter
S = Street Slope = 0.0350
Leaving one travel lane open, the width of flow is 25'.
Therefore, D = 25'(0.02) = 0.50'
So $Q_{cap} = (0.468/0.017)50(0.50)^{(8/3)}(0.0350)^{(1/2)} = 40.6$ cfs
$Q_{cap} > Q_{10}$ in every case (see Table)

3. Depth of Flow per DPM Requirements.

Use Manning's Equation for Triangular Gutters to calculate D
$D_{100} < 0.87'$ and $D_{10} < 0.50'$, per DPM Requirements
D_{100} and D_{10} meet DPM Requirements in every case (See Table)

4. Depth of Flow for Storm Inlet Capacities.

Use Manning's Equation for Triangular Gutters to calculate D.
(See Table for results)

5. Width of Flow, Given D_{10}

$W_{10} = D_{10}/0.02$
The DPM requires that one travel lane be open.
Because the street width (one-way) at Analysis Point #1 is 35', the ten-year width of flow, W_{10}, must be less than 25'.
$W_{10} < 25'$ in every case (see Table)

6. Velocity of Flow, Given Q_{10} and D_{10}

$V = Q/A$
$A = 25D^2$
$V = Q/(25D^2)$
(See Table for results)

7. $D_{10} \times V_{10} < 6.5$ per DPM Requirements.
$D_{10} \times V_{10} < 6.5$ in every case (see Table)

SUMMARY OF STREET HYDRAULICS AT ANALYSIS POINT NO. 1

CONDITION	Q_{100}(CFS)	Q_{cap}(CFS)	D_{100}(FT)	Q_{10}(CFS)	Q_{cap}(CFS)	D_{10}(FT)	W_{10}(FT)	V_{10}(FPS)	$D_{10}xV_{10}$
Existing	28.9	170	0.44	19.0	40.6	0.38	19.0	5.3	2.0
Interim (and Inlet 1)	46.8	170	0.53	30.7	40.6	0.45	22.5	6.1	2.7
Ultimate	36.5	170	0.48	24.0	40.6	0.41	20.5	5.7	2.3
Inlet 2	38.2		0.48						
Inlet 3	29.2		0.43						

STORM DRAIN CAPACITIES AT ANALYSIS POINT #1

Inlets

Use the Grating Capacity Charts to determine the quantity of runoff discharged

Q_{100} In Street (cfs)	D_{100} (ft)	Inlet Type	Discharge (cfs)	Q_{100} Remaining (cfs)
46.8	0.53	Single A	8.6	38.2
38.2	0.48	Double C	9.0	29.2
29.2	0.43	Double C	7.1	22.1
TOTAL INTO SYSTEM			24.7	

The Q_{100} into the existing storm drain system via the new inlets on the southeast corner is 25 cfs. The Q_{100} into the existing storm drain system via the existing inlets on the northeast corner is 17 cfs. Thus the total Q_{100} discharged into the system at Analysis Point #1 is 42 cfs.

30" RCP

Use Field's Hydraulic Calculator (Manning's Equation)

Given: n = 0.013, S = 0.01, D = 30",
Then Q = 42 cfs

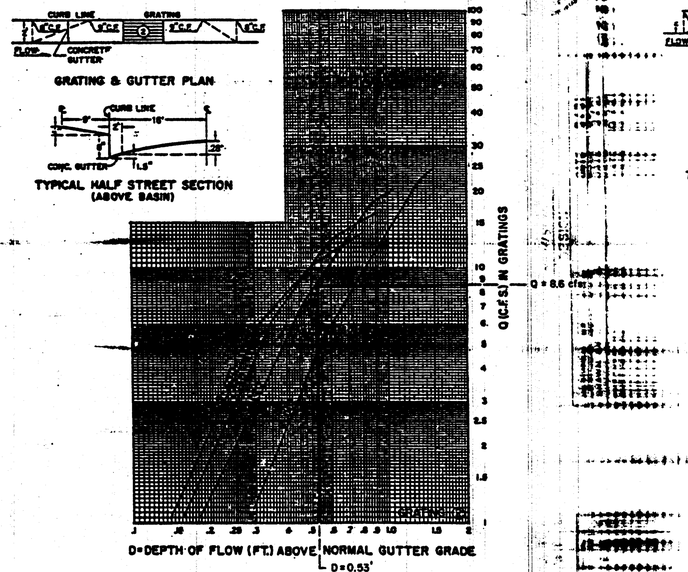
The existing storm drain main line on Alameda at Analysis Point #1 is a 30" RCP pipe at S = 0.01. Thus its capacity is 42 cfs, which is the total Q_{100} introduced by the inlets. The new storm drain connector pipe at Analysis Point #1 also has a 42 cfs capacity, and thus is capable of accepting the 25 cfs introduced by the new inlets.

RUNOFF COMPARISON AT ANALYSIS POINT #1

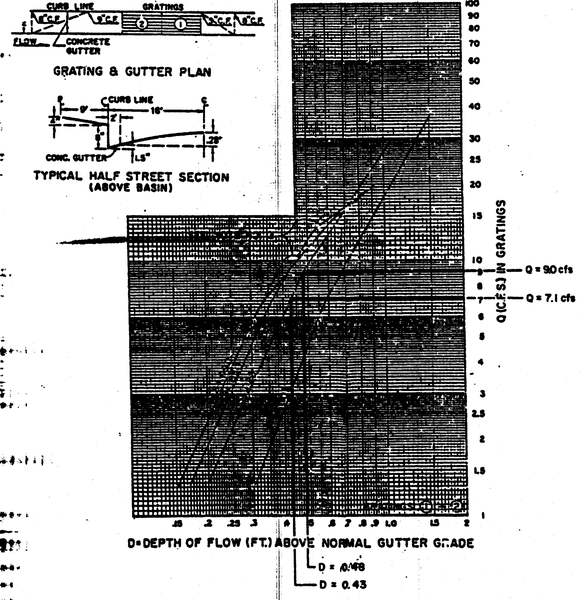
Condition	Q_{10}	Q_{100}	Q into S.D.	Q_{100} Remaining	Q_{10} Remaining
Existing	19.0	28.9	0	28.9	19.0
Interim	30.7	46.8	25	21.8	5.7
Ultimate	24.0	36.5	25	15.5	0

⚠ RECORD DRAWING

GRATING CAPACITIES FOR TYPE "A", "C" and "D"



GRATING CAPACITIES FOR TYPE DOUBLE "C," AND "D"



STREET CAPACITY

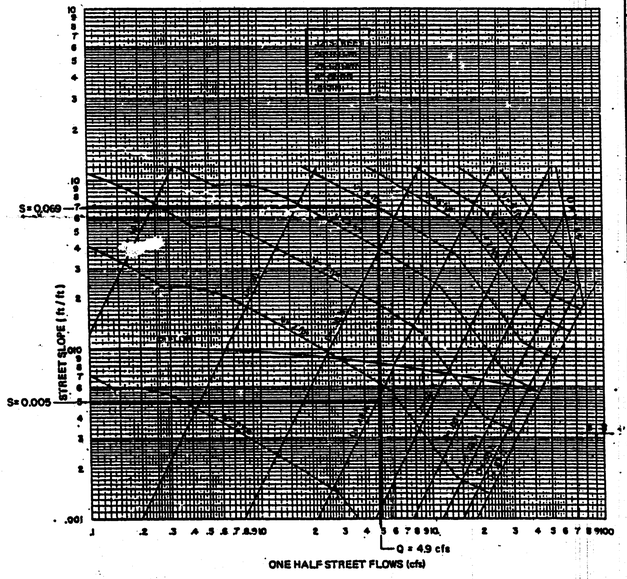


PLATE 22.3 D-5 | PLATE 22.3 D-6 | PLATE 22.3 D-1 | 910117

SURVEY INFORMATION — FIELD NOTES

NO.	BY	DATE
N/A	JMA	6/91

AS BUILT INFORMATION
CONTRACTOR SURVEYING & MECHANICAL

BENCH MARKS
CITY OF ALBUQUERQUE BENCHMARK "ALBUEL 4"
1966 EXPANSION DISC 1.65 ABOVE TABLET STAMPED "ALBUEL 4"

WORK STAKED BY: STANDARD USC 1.65 ABOVE TABLET STAMPED "ALBUEL 4" DATE: 6/91
ACCEPTANCE BY: JHW DATE: 06/92
FIELD VERIFICATION BY: JHW DATE: 06/92
CORRECTED BY: JHW DATE: 08/92
MICRO-FILM INFORMATION RECORDED BY DATE

THE INTERSECTION OF ALAMEDA BLVD. AND WYOMING BLVD. N.E. SECTION 13 LOCATED ON THE

ENGINEER'S SEAL

RECORD DRAWING

I, Jeffrey G. Mortensen, Registered Professional Engineer in the State of New Mexico, do hereby certify that this "as-built" information was obtained by me or under my supervision and represents the "as-built" conditions of this project, and is true and correct to the best of my knowledge and belief. All vertical and horizontal dimensions should be field verified prior to use on future projects.

Jeffrey G. Mortensen — 12-09-92
Jeffrey G. Mortensen, NMPE NO. 8547 — Date

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
26 4368.90 49Z

NOTE:
WORK ORDER ITEM INCLUDED ON THIS SHEET.

NO.	DATE	REMARKS
⚠	08-92	AS-BUILT
		REVISIONS
		DESIGN BY JHW

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

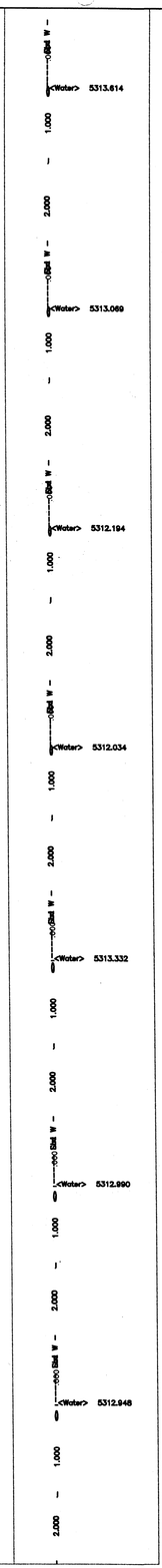
TITLE: TIERRA LA CUEVA UNIT I
STORM DRAIN IMPROVEMENTS
ALAMEDA / WYOMING INTERSECTION

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER
DRC CHAIRMAN		12-23-91	WATER	
TRANSPORTATION		12-18-91	WASTE WATER	
HYDROLOGY		12-18-91		

PROJECT NO. 4368.90 | MAP NO. C-19 | SHEET 2 OF 4

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
Top Width = 1.943 Number of Piers/pipes = 1
Critical Depth = 1.701 Mannings N = .013
Invert = 5312.377 Water Surface = 5313.614
PIPE Velocity = 11.201 Flow = 22.840

[8] STATION = 1623.834



Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
Top Width = 1.984 Number of Piers/pipes = 1
Critical Depth = 1.701 Mannings N = .013
Invert = 5311.881 Water Surface = 5313.069
PIPE Velocity = 11.748 Flow = 22.840

[7] STATION = 1607.912

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
Top Width = 1.980 Number of Piers/pipes = 1
Critical Depth = 1.701 Mannings N = .013
Invert = 5311.052 Water Surface = 5312.194
PIPE Velocity = 12.321 Flow = 22.840

[6] STATION = 1581.296

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
Top Width = 1.980 Number of Piers/pipes = 1
Critical Depth = 1.701 Mannings N = .013
Invert = 5310.892 Water Surface = 5312.034
PIPE Velocity = 12.322 Flow = 22.840

[5] STATION = 1576.150

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
HYD JUMP
Top Width = .000 Number of Piers/pipes = 1
Critical Depth = 1.701 Mannings N = .013
Invert = 5310.892 Water Surface = 5313.332
PIPE Velocity = 7.270 Flow = 22.840

[4] STATION = 1576.150

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
Top Width = .000 Number of Piers/pipes = 1
Critical Depth = 1.701 Mannings N = .013
Invert = 5309.880 Water Surface = 5312.990
PIPE Velocity = 7.270 Flow = 22.840

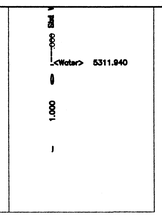
[3] STATION = 1543.670

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
TRANSITION
Top Width = .000 Number of Piers/pipes = 1
Critical Depth = 1.701 Mannings N = .013
Invert = 5309.730 Water Surface = 5312.948
PIPE Velocity = 7.270 Flow = 22.840

[2] STATION = 1539.610

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
Top Width = .000 Number of Piers/pipes = 1
Critical Depth = 1.701 Mannings N = .013
Invert = 5307.950 Water Surface = 5311.940
PIPE Velocity = 7.270 Flow = 22.840

[1] STATION = 1444.730



GENEVIEVE L. DONATO
NEW MEXICO
REGISTERED PROFESSIONAL ENGINEER
2-16-05

JACSON & ARFMAN, P.A.
Consulting Engineering Associates
[illegible] Monroe Street N.E.
Albuquerque, New Mexico 87108
Tel. 505-268-8828 Fax. 505-268-2632

1257 WSPGWsd-prop2.DWGthor 02.17.05

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VISTA DEL AGUILA SUBDIVISION UNIT 3

TWO JOES, LLC

WSPGW STORM DRAIN CALCS

Checked By:	Drawn By:	No.	Revision	PAGE
GLD	GLD			
Date:	Job Number:			SHEET OF
2/16/05	1257			

ALAMEDA STORM DRAIN CALCULATIONS

Program Package Serial Number: 1744 Date: 1-20-2005 Time: 3:25:24 File: 1257sd-prop1.WSW

[No.]	TYPE OPERATION	STATION (FT)	INV ELEV (FT)	WATER LEVEL (FT)	CHAN HT (FT)	TYPE CHANNEL	'N'	#PIER/PIP	FLOW RATE (CFS)	VELOCITY (FT/S)	TOP WIDTH (FT)	CHAN WDTH (FT)	PIER WIDTH (FT)	ZL	ZR	SUPEL RT B (FT)	SUPEL LT B (FT)	CRIT DPTH (FT)	RADIUS/CPT (FT DR < >)	RMKS
[1]	SYSTEM OUTLET	1000.000	5295.000	8.000	3.000	PIPE	.013	1	77.490	10.963	.000	3.000	.000	.000	.000	.000	.000	2.745	.000	
[2]	REACH	1093.730	5298.900	5.458	3.000	PIPE	.013	1	77.490	10.963	.000	3.000	.000	.000	.000	.000	.000	2.745	3.820	
[3]	JUNCTION	1099.730	5299.000	6.411	3.000	PIPE	.013	1	62.630	8.860	.000	3.000	.000	.000	.000	.000	.000	2.547	.000	
[4]	HYD JUMP	1262.094	5303.215	3.655	3.000	PIPE	.013	1	62.630	8.860	.000	3.000	.000	.000	.000	.000	.000	2.547	.000	HYD JUMP
[5]	REACH	1262.094	5303.215	1.698	3.000	PIPE	.013	1	62.630	15.172	2.974	3.000	.000	.000	.000	.000	.000	2.547	.000	
[6]	REACH	1288.601	5303.903	1.711	3.000	PIPE	.013	1	62.630	15.038	2.970	3.000	.000	.000	.000	.000	.000	2.547	.000	
[7]	REACH	1345.566	5305.381	1.780	3.000	PIPE	.013	1	62.630	14.338	2.947	3.000	.000	.000	.000	.000	.000	2.547	.000	
[8]	REACH	1377.163	5306.202	1.852	3.000	PIPE	.013	1	62.630	13.671	2.916	3.000	.000	.000	.000	.000	.000	2.547	.000	
[9]	REACH	1397.768	5306.736	1.930	3.000	PIPE	.013	1	62.630	13.035	2.874	3.000	.000	.000	.000	.000	.000	2.547	.000	
[10]	REACH	1412.149	5307.110	2.012	3.000	PIPE	.013	1	62.630	12.428	2.820	3.000	.000	.000	.000	.000	.000	2.547	.000	
[11]	REACH	1422.437	5307.377	2.100	3.000	PIPE	.013	1	62.630	11.850	2.750	3.000	.000	.000	.000	.000	.000	2.547	.000	
[12]	REACH	1429.757	5307.567	2.195	3.000	PIPE	.013	1	62.630	11.299	2.658	3.000	.000	.000	.000	.000	.000	2.547	.000	
[13]	REACH	1434.740	5307.696	2.300	3.000	PIPE	.013	1	62.630	10.773	2.538	3.000	.000	.000	.000	.000	.000	2.547	.000	
[14]	REACH	1437.701	5307.773	2.415	3.000	PIPE	.013	1	62.630	10.271	2.378	3.000	.000	.000	.000	.000	.000	2.547	.000	
[15]	REACH	1438.720	5307.800	2.547	3.000	PIPE	.013	1	62.630	9.790	2.148	3.000	.000	.000	.000	.000	.000	2.547	.000	
[16]	JUNCTION	1444.730	5307.900	4.043	2.500	PIPE	.013	1	40.390	8.228	.000	2.500	.000	.000	.000	.000	.000	2.137	.000	
[17]	HYD JUMP	1483.110	5309.043	3.272	2.500	PIPE	.013	1	40.390	8.228	.000	2.500	.000	.000	.000	.000	.000	2.137	.000	HYD JUMP
[18]	REACH	1483.110	5309.043	1.253	2.500	PIPE	.013	1	40.390	14.894	2.491	2.500	.000	.000	.000	.000	.000	2.137	.000	
[19]	REACH	1565.615	5311.500	1.353	2.500	PIPE	.013	1	40.390	14.894	2.491	2.500	.000	.000	.000	.000	.000	2.137	.000	
[20]	REACH	1714.178	5315.924	1.378	2.500	PIPE	.013	1	40.390	14.565	2.487	2.500	.000	.000	.000	.000	.000	2.137	.000	
[21]	REACH	1797.529	5318.109	1.432	2.500	PIPE	.013	1	40.390	13.887	2.473	2.500	.000	.000	.000	.000	.000	2.137	.000	
[22]	REACH	1820.992	5319.105	1.490	2.500	PIPE	.013	1	40.390	13.241	2.454	2.500	.000	.000	.000	.000	.000	2.137	.000	
[23]	REACH	1841.473	5319.715	1.551	2.500	PIPE	.013	1	40.390	12.624	2.426	2.500	.000	.000	.000	.000	.000	2.137	.000	
[24]	REACH	1855.453	5320.132	1.616	2.500	PIPE	.013	1	40.390	12.037	2.391	2.500	.000	.000	.000	.000	.000	2.137	.000	
[25]	REACH	1865.469	5320.430	1.685	2.500	PIPE	.013	1	40.390	11.477	2.344	2.500	.000	.000	.000	.000	.000	2.137	.000	
[26]	REACH	1872.771	5320.647	1.760	2.500	PIPE	.013	1	40.390	10.943	2.283	2.500	.000	.000	.000	.000	.000	2.137	.000	
[27]	REACH	1878.041	5320.804	1.840	2.500	PIPE	.013	1	40.390	10.433	2.205	2.500	.000	.000	.000	.000	.000	2.137	.000	
[28]	REACH	1881.665	5320.912	1.927	2.500	PIPE	.013	1	40.390	9.948	2.102	2.500	.000	.000	.000	.000	.000	2.137	.000	
[29]	REACH	1883.852	5320.977	2.024	2.500	PIPE	.013	1	40.390	9.485	1.962	2.500	.000	.000	.000	.000	.000	2.137	.000	
[30]	REACH	1884.620	5321.000	2.137	2.500	PIPE	.013	1	40.390	9.040	1.762	2.500	.000	.000	.000	.000	.000	2.137	.000	
[31]	JUNCTION	1890.620	5321.100	4.503	2.000	PIPE	.013	1	14.600	4.647	.000	2.000	.000	.000	.000	.000	.000	1.377	.000	
[32]	HYD JUMP	1948.310	5323.517	2.328	2.000	PIPE	.013	1	14.600	4.647	.000	2.000	.000	.000	.000	.000	.000	1.377	.000	HYD JUMP
[33]	REACH	1948.310	5323.517	.772	2.000	PIPE	.013	1	14.600	13.060	1.947	2.000	.000	.000	.000	.000	.000	1.377	.000	
[34]	REACH	2175.772	5333.047	.771	2.000	PIPE	.013	1	14.600	13.060	1.947	2.000	.000	.000	.000	.000	.000	1.377	.000	
[35]	REACH	2258.190	5336.500	.780	2.000	PIPE	.013	1	14.600	12.877	1.951	2.000	.000	.000	.000	.000	.000	1.377	.000	
[36]	TRANSITION	2262.190	5336.601	.768	2.000	PIPE	.013	1	14.600	13.124	1.946	2.000	.000	.000	.000	.000	.000	1.377	.000	
[37]	REACH	2469.424	5345.400	.768	2.000	PIPE	.013	1	14.600	13.124	1.946	2.000	.000	.000	.000	.000	.000	1.377	.000	
[38]	REACH	2548.889	5348.774	.769	2.000	PIPE	.013	1	14.600	13.121	1.946	2.000	.000	.000	.000	.000	.000	1.377	.000	
[39]	REACH	2630.760	5352.250	.797	2.000	PIPE	.013	1	14.600	12.510	1.958	2.000	.000	.000	.000	.000	.000	1.377	4.475	
[40]	TRANSITION	2634.760	5352.400	.968	1.500	PIPE	.013	1	14.600	12.103	1.435	1.500	.000	.000	.000	.000	.000	1.397	.000	
[41]	REACH	2650.553	5352.996	.983	1.500	PIPE	.013	1	14.600	11.896	1.426	1.500	.000	.000	.000	.000	.000	1.397	.000	
[42]	REACH	2674.621	5353.903	1.026	1.500	PIPE	.013	1	14.600	11.343	1.395	1.500	.000	.000	.000	.000	.000	1.397	.000	
[43]	REACH	2688.290	5354.419	1.071	1.500	PIPE	.013	1	14.600	10.815	1.356	1.500	.000	.000	.000	.000	.000	1.397	.000	
[44]	REACH	2697.255	5354.757	1.120	1.500	PIPE	.013	1	14.600	10.311	1.304	1.500	.000	.000	.000	.000	.000	1.397	.000	
[45]	REACH	2703.454	5354.991	1.175	1.500	PIPE	.013	1	14.600	9.832	1.236	1.500	.000	.000	.000	.000	.000	1.397	.000	
[46]	REACH	2707.756	5355.153	1.236	1.500	PIPE	.013	1	14.600	9.374	1.143	1.500	.000	.000	.000	.000	.000	1.397	.000	
[47]	REACH	2710.519	5355.257	1.306	1.500	PIPE	.013	1	14.600	8.938	1.006	1.500	.000	.000	.000	.000	.000	1.397	.000	
[48]	HEADWORKS	2711.660	5355.300	1.396	1.500	PIPE	.013	1	14.600	8.518	.760	1.500	.000	.000	.000	.000	.000	1.397	.000	

DANCING EAGLE STORM DRAIN CALCULATIONS

Program Package Serial Number: 1744 Date: 1-21-2005 Time: 10:7:37 File: 1257sd-prop2.WSW

VISTA DEL AGUILA SUBDIVISION UNIT 3
Recalculation of storm drain for FEMA LOMR using FEMA approved software
SD in Dancing Eagle Ave

[No.]	TYPE OPERATION	STATION (FT)	INV ELEV (FT)	WATER LEVEL (FT)	CHAN HT (FT)	TYPE CHANNEL	'N'	#PIER/PIP	FLOW RATE (CFS)	VELOCITY (FT/S)	TOP WIDTH (FT)	CHAN WDTH (FT)	PIER WIDTH (FT)	ZL	ZR	SUPEL RT B (FT)	SUPEL LT B (FT)	CRIT DPTH (FT)	RADIUS/CPT (FT DR < >)	RMKS
[1]	SYSTEM OUTLET	1444.730	5307.950	3.990	2.000	PIPE	.013	1	22.840	7.270	.000	2.000	.000	.000	.000	.000	.000	1.701	.000	
[2]	REACH	1539.610	5309.730	3.218	2.000	PIPE	.013	1	22.840	7.270	.000	2.000	.000	.000	.000	.000	.000	1.701	2.585	
[3]	TRANSITION	1543.670	5309.880	3.110	2.000	PIPE	.013	1	22.840	7.270	.000	2.000	.000	.000	.000	.000	.000	1.701	.000	
[4]	HYD JUMP	1576.150	5310.892	2.440	2.000	PIPE	.013	1	22.840	7.270	.000	2.000	.000	.000	.000	.000	.000	1.701	.000	HYD JUMP
[5]	REACH	1576.150	5310.892	1.142	2.000	PIPE	.013	1	22.840	12.382	1.980	2.000	.000	.000	.000	.000	.000	1.701	.000	
[6]	REACH	1581.296	5311.052	1.142	2.000	PIPE	.013	1	22.840	12.321	1.980	2.000	.000	.000	.000	.000	.000	1.701	.000	
[7]	REACH	1607.912	5311.881	1.188	2.000	PIPE	.013	1	22.840	11.748	1.964	2.000	.000	.000	.000	.000	.000	1.701	.000	
[8]	REACH	1623.934	5312.377	1.237	2.000	PIPE	.013	1	22.840	11.201	1.943	2.000	.000	.000	.000	.000	.000	1.701	.000	
[9]	REACH	1634.569	5312.712	1.288	2.000	PIPE	.013	1	22.840	10.680	1.915	2.000	.000	.000	.000	.000	.000	1.701	.000	
[10]	REACH	1642.208	5312.950	1.342	2.000	PIPE	.013	1	22.840	10.183	1.879	2.000	.000	.000	.000	.000	.000	1.701	.000	
[11]	REACH	1647.745	5313.122	1.402	2.000	PIPE	.013	1	22.840	9.709	1.831	2.000	.000	.000	.000	.000	.000	1.701	.000	
[12]	REACH	1651.723	5313.246	1.466	2.000	PIPE	.013	1	22.840	9.257	1.770	2.000	.000	.000	.000	.000	.000	1.701	.000	
[13]	REACH	1654.446	5313.331	1.535	2.000	PIPE	.013	1	22.840	8.826	1.689	2.000	.000	.000	.000	.000	.000	1.701	.000	
[14]	REACH	1656.077	5313.382	1.612	2.000	PIPE	.013	1	22.840	8.415	1.581	2.000	.000	.000	.000	.000	.000	1.701	.000	
[15]	REACH	1656.650	5313.400	1.701	2.000	PIPE	.013	1	22.840	8.020	1.426	2.000	.000	.000	.000	.000	.000	1.701	.000	
[16]	JUNCTION	1660.640	5313.500	2.436	2.000	PIPE	.013	1	18.040	5.742	.000	2.000	.000	.000	.000	.000	.000	1.530	.000	
[17]	HYD JUMP	1666.040	5313.655	2.314	2.000	PIPE	.013	1	18.040	5.742	.000	2.000	.000	.000	.000	.000	.000	1.530	.000	HYD JUMP
[18]	REACH	1666.040	5313.655	.965	2.000	PIPE	.013	1	18.040	12.025	1.999	2.000	.000	.000	.000	.000	.000	1.530	.000	
[19]	REACH	1666.277	5313.662	.964	2.000	PIPE	.013	1	18.040	12.025	1.999	2.000	.000	.000	.000	.000	.000	1.530	.000	
[20]	REACH	1763.514	5316.458	.978	2.000	PIPE	.013	1	18.040	11.824	1.999	2.000	.000	.000	.000	.000	.000	1.530	.000	
[21]	REACH	1818.507	5318.040	1.015	2.000	PIPE	.013	1	18.040	11.274	2.000	2.000	.000	.000	.000	.000	.000	1.530	.000	
[22]	REACH	1841.952	5318.714	1.054	2.000	PIPE	.013	1	18.040	10.749	1.997	2.000	.000	.000	.000	.000	.000	1.530	.000	
[23]	REACH	1856.001	5319.119	1.094	2.000	PIPE	.013	1	18.040	10.249	1.991	2.000	.000	.000	.000	.000	.000	1.530	.000	
[24]	REACH	1865.507	5319.392	1.138	2.000	PIPE	.013	1	18.040	9.772	1.981	2.000	.000	.000	.000	.000	.000	1.530	.000	
[25]	REACH	1872.312	5319.588	1.183	2.000	PIPE	.013	1	18.040	9.317	1.966	2.000	.000	.000	.000	.000	.000	1.530	.000	
[26]	REACH	1877.290	5319.731	1.232	2.000	PIPE	.013	1	18.040	8.883	1.945	2.000	.000	.000	.000	.000	.000	1.530	.000	
[27]	REACH	1880.934	5319.836	1.283	2.000	PIPE	.013	1	18.040	8.470	1.918	2.000	.000	.000	.000	.000	.000	1.530	.000	
[28]	REACH	1883.540	5319.911	1.338	2.000	PIPE	.013	1	18.040	8.076	1.882	2.000	.000	.000	.000	.000	.000	1.530	.000	
[29]	REACH	1885.289	5319.961	1.396	2.000	PIPE	.013	1	18.040	7.700	1.836	2.000	.000	.000	.000	.000	.000	1.530	.000	
[30]	REACH	1886.338	5319.990	1.460	2.000	PIPE	.013	1	18.040	7.342	1.776	2.000	.000	.000	.000	.000	.000	1.530	.000	
[31]	REACH	1886.640	5320.000	1.530	2.000	PIPE	.013	1	18.040	6.995	1.696	2.000	.000	.000	.000	.000	.000	1.530	.000	
[32]	JUNCTION	1890.640	5320.115	2.459	2.000	PIPE	.013	1	8.520	2.712	.000	2.000	.000	.000	.000	.000	.000	1.040	.000	
[33]	REACH	1904.113	5320.593	2.000	2.000	PIPE	.013	1	8.520	2.712	.000	2.000	.000	.000	.000	.000	.000	1.040	.000	
[34]	REACH	1909.179	5320.772	1.815	2.000	PIPE	.013	1	8.520	2.844	1.160	2.000	.000	.000	.000	.000	.000	1.040	.000	
[35]	REACH	1911.963	5320.871	1.707	2.000	PIPE	.013	1	8.520	2.983	1.415	2.000	.000	.000	.000	.000	.000	1.040	.000	
[36]	HYD JUMP	1912.399	5320.887	1.707	2.000	PIPE	.013	1	8.520	2.983	1.415	2.000	.000	.000	.000	.000	.000	1.040	.000	HYD JUMP
[37]	REACH	1912.399	5320.887	.606	2.000	PIPE	.013	1	8.520	10.587	1.839	2.000	.000	.000	.000	.000	.000	1.040	.000	
[38]	REACH	2164.956	5329.842	.606	2.000	PIPE	.013	1	8.520	10.587	1.839	2.000	.000	.000	.000	.000	.000	1.040	.000	
[39]	REACH	2286.556	5332.026	.608	2.000	PIPE	.013	1	8.520	10.559	1.840	2.000	.000	.000	.000	.000	.000	1.040	.000	
[40]	REACH	2282.020	5333.993	.629	2.000	PIPE	.013	1	8.520	10.067	1.857	2.000	.000	.000	.000	.000	.000	1.040	.000	
[41]	REACH	2300.476	5334.647	.651	2.000	PIPE	.013	1	8.520	9.599	1.874	2.000	.000	.000	.000	.000	.000	1.040	.000	
[42]	REACH	2311.026	5335.021	.674	2.000	PIPE	.013	1	8.520	9.152	1.891	2.000	.000	.000	.000	.000	.000	1.040	.000	
[43]	REACH	2318.134	5335.273	.698	2.000	PIPE	.013	1	8.520	8.726	1.907	2.000	.000	.000	.000	.000	.000	1.040	.000	
[44]	REACH	2323.292	5335.456	.723	2.000	PIPE	.013	1	8.520	8.320	1.922	2.000	.000	.000	.000	.000	.000	1.040	.000	
[45]	REACH	2327.193	5335.594	.749	2.000	PIPE	.013	1	8.520	7.933	1.936	2.000	.000	.000	.000	.000	.000	1.040	.000	
[46]	REACH	2330.208	5335.701	.776	2.000	PIPE	.013	1	8.520	7.564	1.949	2.000	.000	.000	.000	.000	.000	1.040	.000	
[47]	REACH	2332.565	5335.785	.804	2.000	PIPE	.013	1	8.520	7.212	1.961	2.000	.000	.000	.000	.000	.000	1.040	.000	
[48]	REACH	2334.408	5335.850	.834	2.000	PIPE	.013	1	8.520	6.876	1.972	2.000	.000	.000	.000	.000	.000	1.040	.000	
[49]	REACH	2335.834	5335.901	.864	2.000	PIPE	.013	1	8.520	6.556	1.981	2.000	.000	.000	.000	.000	.000	1.040	.000	
[50]	REACH	2336.917	5335.939	.896	2.000	PIPE	.013	1	8.520	6.251	1.989	2.000	.000	.000	.000	.000	.000	1.040	.000	
[51]	REACH	2337.704	5335.967	.929	2.000	PIPE	.013	1	8.520	5.960	1.995	2.000	.000	.000	.000	.000	.000	1.040	.000	
[52]	REACH	2338.233	5335.986	.964	2.000	PIPE	.013	1	8.520	5.683	1.999	2.000	.000	.000	.000	.000	.000	1.040	.000	
[53]	REACH	2338.539	5335.997	1.001	2.000	PIPE	.013	1	8.520	5.418	2.000	2.000	.000	.000	.000	.000	.000	1.040	.000	
[54]	HEADWORKS	2338.640	5336.000	1.040	2.000	PIPE	.013	1	8.520	5.160	1.998	2.000	.000	.000	.000	.000	.000	1.040	.000	

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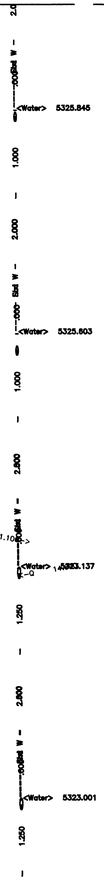
VISTA DEL AGUILA SUBDIVISION
UNIT 3
TWO JOES, LLC

WSPGW STORM DRAIN CALCS

Checked By:	Drawn By:	Job No.	Revision	PAGE
GLD	CLD			SH. OF
Date: 2/16/05	Job Number: 1257			

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
HYD JUMP
Top Width = .000 Number of Piers/pipes = 1
Critical Depth = 1.377 Mannings N = .013
Invert = 5323.517 Water Surface = 5325.845
PIPE Velocity = 4.847 Flow = 14.600

[32] STATION = 1948.310



Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
Top Width = .000 Number of Piers/pipes = 1
Critical Depth = 1.377 Mannings N = .013
Invert = 5321.100 Water Surface = 5325.603
PIPE Velocity = 4.847 Flow = 14.600

[31] STATION = 1890.620

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.500 Width = 2.500
JUNCTION
Top Width = 1.782 Number of Piers/pipes = 1
Critical Depth = 2.137 Mannings N = .013
Invert = 5321.000 Water Surface = 5323.137
PIPE Velocity = 9.040 Flow = 40.390

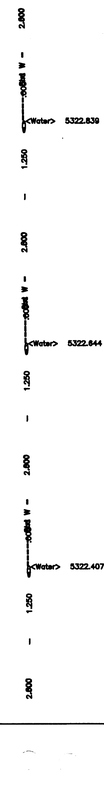
[30] STATION = 1884.620

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.500 Width = 2.500
Top Width = 1.982 Number of Piers/pipes = 1
Critical Depth = 2.137 Mannings N = .013
Invert = 5320.977 Water Surface = 5323.001
PIPE Velocity = 9.485 Flow = 40.390

[29] STATION = 1883.852

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.500 Width = 2.500
Top Width = 2.102 Number of Piers/pipes = 1
Critical Depth = 2.137 Mannings N = .013
Invert = 5320.912 Water Surface = 5322.839
PIPE Velocity = 9.948 Flow = 40.390

[28] STATION = 1881.665



Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.500 Width = 2.500
Top Width = 2.205 Number of Piers/pipes = 1
Critical Depth = 2.137 Mannings N = .013
Invert = 5320.804 Water Surface = 5322.644
PIPE Velocity = 10.433 Flow = 40.390

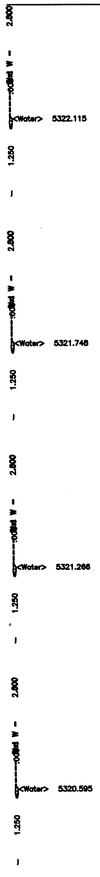
[27] STATION = 1878.041

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.500 Width = 2.500
Top Width = 2.283 Number of Piers/pipes = 1
Critical Depth = 2.137 Mannings N = .013
Invert = 5320.647 Water Surface = 5322.407
PIPE Velocity = 10.943 Flow = 40.390

[26] STATION = 1872.771

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.500 Width = 2.500
Top Width = 2.344 Number of Piers/pipes = 1
Critical Depth = 2.137 Mannings N = .013
Invert = 5320.430 Water Surface = 5322.115
PIPE Velocity = 11.477 Flow = 40.390

[25] STATION = 1865.469



Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.500 Width = 2.500
Top Width = 2.391 Number of Piers/pipes = 1
Critical Depth = 2.137 Mannings N = .013
Invert = 5320.132 Water Surface = 5321.748
PIPE Velocity = 12.037 Flow = 40.390

[24] STATION = 1855.453

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.500 Width = 2.500
Top Width = 2.426 Number of Piers/pipes = 1
Critical Depth = 2.137 Mannings N = .013
Invert = 5319.715 Water Surface = 5321.286
PIPE Velocity = 12.624 Flow = 40.390

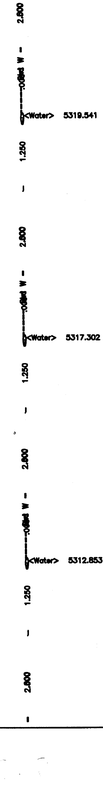
[23] STATION = 1841.473

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.500 Width = 2.500
Top Width = 2.454 Number of Piers/pipes = 1
Critical Depth = 2.137 Mannings N = .013
Invert = 5319.105 Water Surface = 5320.595
PIPE Velocity = 13.241 Flow = 40.390

[22] STATION = 1820.992

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.500 Width = 2.500
Top Width = 2.473 Number of Piers/pipes = 1
Critical Depth = 2.137 Mannings N = .013
Invert = 5318.109 Water Surface = 5319.541
PIPE Velocity = 13.887 Flow = 40.390

[21] STATION = 1787.529



Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.500 Width = 2.500
Top Width = 2.491 Number of Piers/pipes = 1
Critical Depth = 2.137 Mannings N = .013
Invert = 5317.800 Water Surface = 5318.541
PIPE Velocity = 14.894 Flow = 40.390

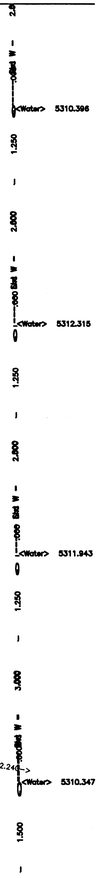
[20] STATION = 1714.178

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.500 Width = 2.500
Top Width = 2.491 Number of Piers/pipes = 1
Critical Depth = 2.137 Mannings N = .013
Invert = 5311.500 Water Surface = 5312.853
PIPE Velocity = 14.894 Flow = 40.390

[19] STATION = 1565.615

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.500 Width = 2.500
Top Width = 2.491 Number of Piers/pipes = 1
Critical Depth = 2.137 Mannings N = .013
Invert = 5309.043 Water Surface = 5310.396
PIPE Velocity = 14.894 Flow = 40.390

[18] STATION = 1483.110



Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.500 Width = 2.500
HYD JUMP
Top Width = .000 Number of Piers/pipes = 1
Critical Depth = 2.137 Mannings N = .013
Invert = 5309.043 Water Surface = 5312.315
PIPE Velocity = 8.228 Flow = 40.390

[17] STATION = 1483.110

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.500 Width = 2.500
Top Width = .000 Number of Piers/pipes = 1
Critical Depth = 2.137 Mannings N = .013
Invert = 5307.900 Water Surface = 5311.943
PIPE Velocity = 8.228 Flow = 40.390

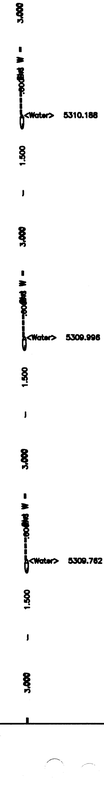
[16] STATION = 1444.730

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 3.000 Width = 3.000
JUNCTION
Top Width = 2.148 Number of Piers/pipes = 1
Critical Depth = 2.547 Mannings N = .013
Invert = 5307.800 Water Surface = 5310.347
PIPE Velocity = 9.790 Flow = 62.630

[15] STATION = 1438.730

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 3.000 Width = 3.000
Top Width = 2.378 Number of Piers/pipes = 1
Critical Depth = 2.547 Mannings N = .013
Invert = 5307.773 Water Surface = 5310.188
PIPE Velocity = 10.271 Flow = 62.630

[14] STATION = 1437.701



Scale, Vertical = 10.000 Horizontal = 40.000
Height = 3.000 Width = 3.000
Top Width = 2.538 Number of Piers/pipes = 1
Critical Depth = 2.547 Mannings N = .013
Invert = 5307.696 Water Surface = 5309.998
PIPE Velocity = 10.773 Flow = 62.630

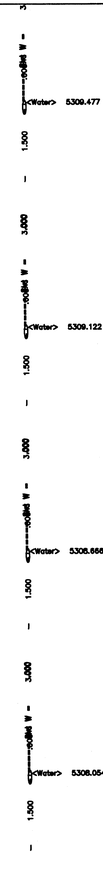
[13] STATION = 1434.740

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 3.000 Width = 3.000
Top Width = 2.658 Number of Piers/pipes = 1
Critical Depth = 2.547 Mannings N = .013
Invert = 5307.567 Water Surface = 5309.782
PIPE Velocity = 11.299 Flow = 62.630

[12] STATION = 1429.757

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 3.000 Width = 3.000
Top Width = 2.750 Number of Piers/pipes = 1
Critical Depth = 2.547 Mannings N = .013
Invert = 5307.377 Water Surface = 5308.477
PIPE Velocity = 11.850 Flow = 62.630

[11] STATION = 1422.437



Scale, Vertical = 10.000 Horizontal = 40.000
Height = 3.000 Width = 3.000
Top Width = 2.820 Number of Piers/pipes = 1
Critical Depth = 2.547 Mannings N = .013
Invert = 5307.110 Water Surface = 5309.122
PIPE Velocity = 12.428 Flow = 62.630

[10] STATION = 1412.149

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 3.000 Width = 3.000
Top Width = 2.874 Number of Piers/pipes = 1
Critical Depth = 2.547 Mannings N = .013
Invert = 5306.736 Water Surface = 5308.666
PIPE Velocity = 13.035 Flow = 62.630

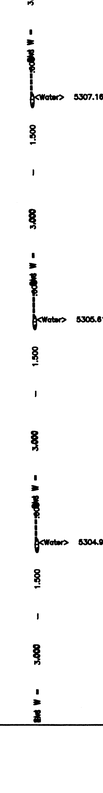
[9] STATION = 1397.768

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 3.000 Width = 3.000
Top Width = 2.918 Number of Piers/pipes = 1
Critical Depth = 2.547 Mannings N = .013
Invert = 5306.202 Water Surface = 5308.054
PIPE Velocity = 13.671 Flow = 62.630

[8] STATION = 1377.163

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 3.000 Width = 3.000
Top Width = 2.947 Number of Piers/pipes = 1
Critical Depth = 2.547 Mannings N = .013
Invert = 5305.381 Water Surface = 5307.161
PIPE Velocity = 14.336 Flow = 62.630

[7] STATION = 1345.566



Scale, Vertical = 10.000 Horizontal = 40.000
Height = 3.000 Width = 3.000
Top Width = 2.970 Number of Piers/pipes = 1
Critical Depth = 2.547 Mannings N = .013
Invert = 5303.903 Water Surface = 5305.614
PIPE Velocity = 15.038 Flow = 62.630

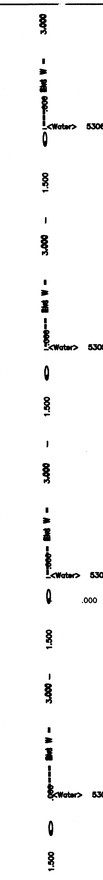
[6] STATION = 1288.601

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 3.000 Width = 3.000
Top Width = 2.974 Number of Piers/pipes = 1
Critical Depth = 2.547 Mannings N = .013
Invert = 5303.215 Water Surface = 5304.913
PIPE Velocity = 15.172 Flow = 62.630

[5] STATION = 1262.094

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 3.000 Width = 3.000
HYD JUMP
Top Width = .000 Number of Piers/pipes = 1
Critical Depth = 2.547 Mannings N = .013
Invert = 6303.215 Water Surface = 5306.870
PIPE Velocity = 8.860 Flow = 62.630

[4] STATION = 1262.094



Scale, Vertical = 10.000 Horizontal = 40.000
Height = 3.000 Width = 3.000
Top Width = .000 Number of Piers/pipes = 1
Critical Depth = 2.547 Mannings N = .013
Invert = 5299.000 Water Surface = 5305.411
PIPE Velocity = 8.860 Flow = 62.630

[3] STATION = 1099.730

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 3.000 Width = 3.000
JUNCTION
Top Width = .000 Number of Piers/pipes = 1
Critical Depth = 2.745 Mannings N = .013
Invert = 5298.900 Water Surface = 5304.358
PIPE Velocity = 10.983 Flow = 77.490

[2] STATION = 1093.730

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 3.000 Width = 3.000
Top Width = .000 Number of Piers/pipes = 1
Critical Depth = 2.745 Mannings N = .013
Invert = 5295.000 Water Surface = 5303.000
PIPE Velocity = 10.983 Flow = 77.490

[1] STATION = 1000.000

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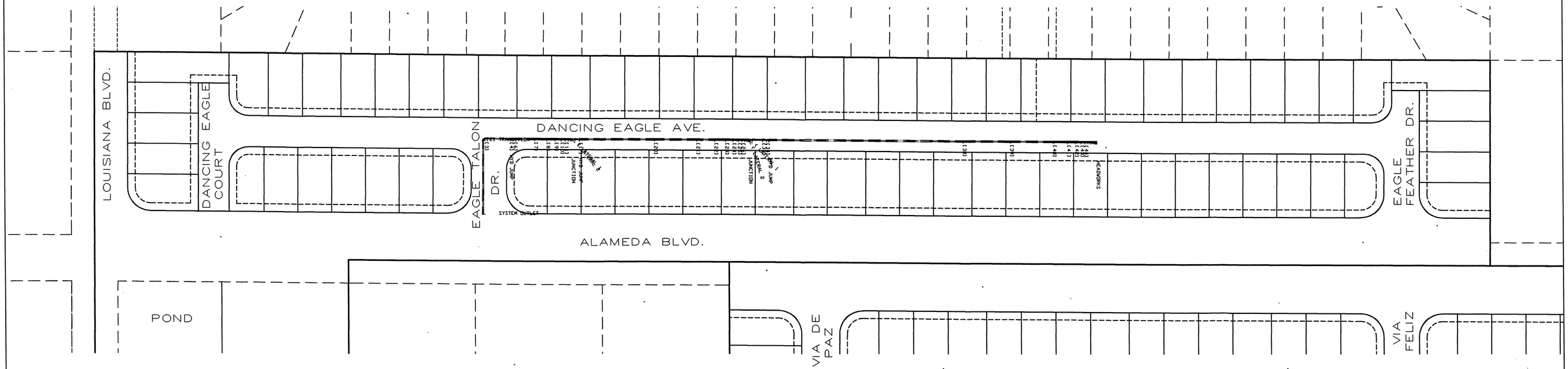
DWG NAME.DWG drafter DWG DATE

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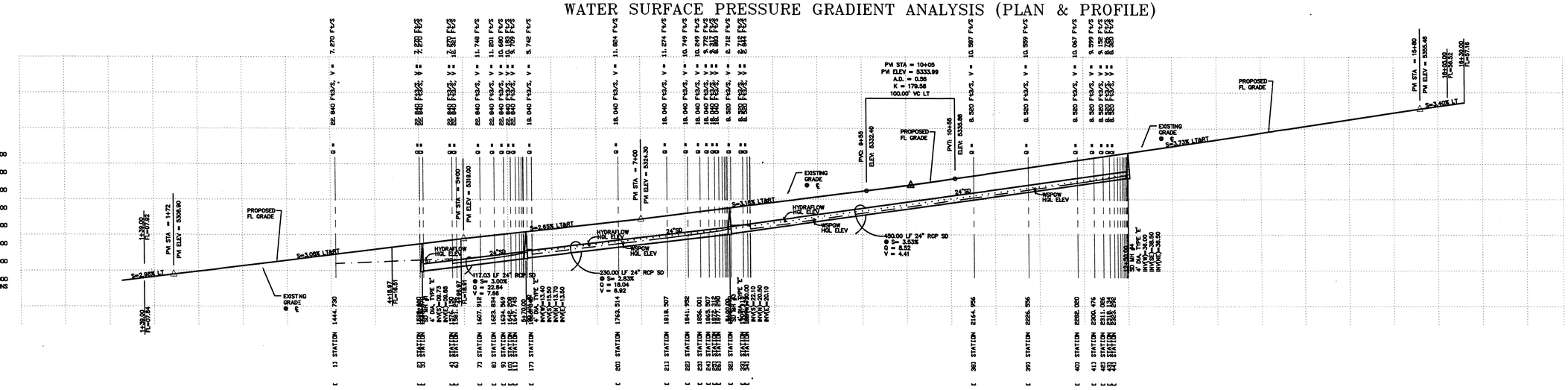
VISTA DEL AGUILA SUBDIVISION
UNIT 3
TWO JOES, LLC

WSPGW STORM DRAIN CALCS

Checked By:	Drawn By:	No.	Revision	PAGE
GLD	GLD			
Date:	Job Number:			SH. OF
2/16/05	1257			



WATER SURFACE PRESSURE GRADIENT ANALYSIS (PLAN & PROFILE)



LEGEND

WSPGW WATER HGL ELEV — · — · —

HYDRAFLOW HGL ELEV . . . . . .

DANCING EAGLE AVE.

ISAACSON & ARFMAN, P.A.
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128 Monroe Street N.E.
Albuquerque, New Mexico 87108
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GENEVIEVE L. DONAT — NEW MEXICO — 15092 — REGISTERED PROFESSIONAL ENGINEER — 2/16/05

1257 WSPGWsd-prop2.DWGthor 02.17.05

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VISTA DEL AGUILA SUBDIVISION UNIT 3

TWO JOES, LLC

WSPGW STORM DRAIN CALCS

Checked By:	Drawn By:	No.	Revision	PAGE
GLD	GLD			
Date:	Job Number:			SH. OF
2/16/05	1257			

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
Top Width = 1.891 Number of Piers/pipes = 1
Critical Depth = 1.040 Mannings N = .013
Invert = 5335.021 Water Surface = 5335.695
PIPE Velocity = 9.152 Flow = 8.520

[42] STATION = 2311.026

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
Top Width = 1.874 Number of Piers/pipes = 1
Critical Depth = 1.040 Mannings N = .013
Invert = 5334.647 Water Surface = 5335.298
PIPE Velocity = 9.599 Flow = 8.520

[41] STATION = 2300.476

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
Top Width = 1.857 Number of Piers/pipes = 1
Critical Depth = 1.040 Mannings N = .013
Invert = 5333.993 Water Surface = 5334.622
PIPE Velocity = 10.067 Flow = 8.520

[40] STATION = 2282.020

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
Top Width = 1.840 Number of Piers/pipes = 1
Critical Depth = 1.040 Mannings N = .013
Invert = 5332.026 Water Surface = 5332.634
PIPE Velocity = 10.559 Flow = 8.520

[39] STATION = 2226.556

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
Top Width = 1.839 Number of Piers/pipes = 1
Critical Depth = 1.040 Mannings N = .013
Invert = 5329.842 Water Surface = 5330.448
PIPE Velocity = 10.587 Flow = 8.520

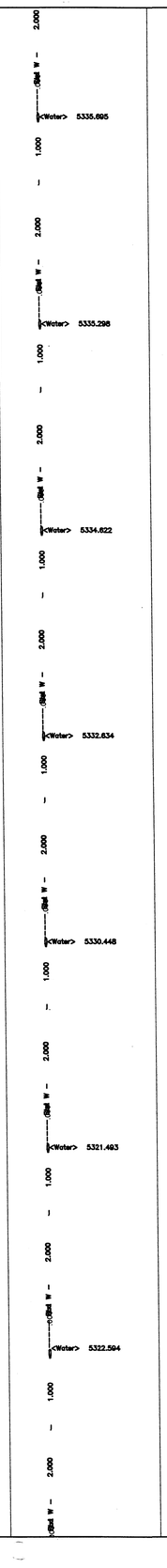
[38] STATION = 2164.956

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Top Width = 1.839 Number of Piers/pipes = 1
Critical Depth = 1.040 Mannings N = .013
Invert = 5320.887 Water Surface = 5321.493
PIPE Velocity = 10.587 Flow = 8.520

[37] STATION = 1912.399

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
HYD JUMP
Top Width = 1.415 Number of Piers/pipes = 1
Critical Depth = 1.040 Mannings N = .013
Invert = 5320.887 Water Surface = 5322.594
PIPE Velocity = 2.983 Flow = 8.520

[36] STATION = 1912.399



Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
Top Width = 1.415 Number of Piers/pipes = 1
Critical Depth = 1.040 Mannings N = .013
Invert = 5320.871 Water Surface = 5322.578
PIPE Velocity = 2.983 Flow = 8.520

[35] STATION = 1911.963

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
Top Width = 1.180 Number of Piers/pipes = 1
Critical Depth = 1.040 Mannings N = .013
Invert = 5320.772 Water Surface = 5322.587
PIPE Velocity = 2.844 Flow = 8.520

[34] STATION = 1909.179

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
Top Width = .000 Number of Piers/pipes = 1
Critical Depth = 1.040 Mannings N = .013
Invert = 5320.593 Water Surface = 5322.593
PIPE Velocity = 2.712 Flow = 8.520

[33] STATION = 1904.113

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
Top Width = .000 Number of Piers/pipes = 1
Critical Depth = 1.040 Mannings N = .013
Invert = 5320.115 Water Surface = 5322.574
PIPE Velocity = 2.712 Flow = 8.520

[32] STATION = 1890.640

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
JUNCTION
Top Width = 1.898 Number of Piers/pipes = 1
Critical Depth = 1.530 Mannings N = .013
Invert = 5320.000 Water Surface = 5321.530
PIPE Velocity = 6.995 Flow = 18.040

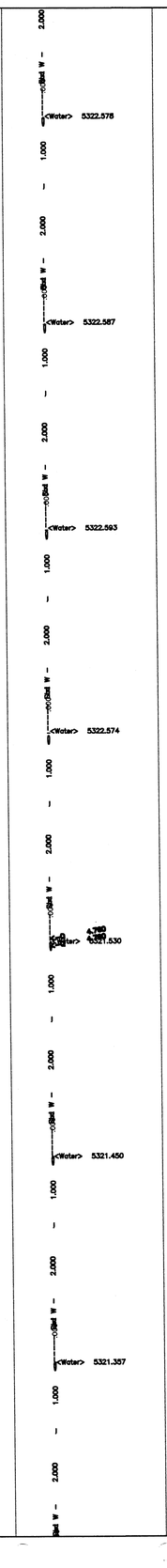
[31] STATION = 1886.640

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
Top Width = 1.778 Number of Piers/pipes = 1
Critical Depth = 1.530 Mannings N = .013
Invert = 5319.990 Water Surface = 5321.450
PIPE Velocity = 7.342 Flow = 18.040

[30] STATION = 1886.308

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
Top Width = 1.836 Number of Piers/pipes = 1
Critical Depth = 1.530 Mannings N = .013
Invert = 5319.981 Water Surface = 5321.357
PIPE Velocity = 7.700 Flow = 18.040

[29] STATION = 1885.289



Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
Top Width = 1.882 Number of Piers/pipes = 1
Critical Depth = 1.530 Mannings N = .013
Invert = 5319.911 Water Surface = 5321.249
PIPE Velocity = 8.076 Flow = 18.040

[28] STATION = 1883.540

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
Top Width = 1.918 Number of Piers/pipes = 1
Critical Depth = 1.530 Mannings N = .013
Invert = 5319.836 Water Surface = 5321.119
PIPE Velocity = 8.470 Flow = 18.040

[27] STATION = 1880.934

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
Top Width = 1.945 Number of Piers/pipes = 1
Critical Depth = 1.530 Mannings N = .013
Invert = 5319.731 Water Surface = 5320.983
PIPE Velocity = 8.883 Flow = 18.040

[26] STATION = 1877.290

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
Top Width = 1.966 Number of Piers/pipes = 1
Critical Depth = 1.530 Mannings N = .013
Invert = 5319.588 Water Surface = 5320.771
PIPE Velocity = 9.317 Flow = 18.040

[25] STATION = 1872.312

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
Top Width = 1.981 Number of Piers/pipes = 1
Critical Depth = 1.530 Mannings N = .013
Invert = 5319.392 Water Surface = 5320.530
PIPE Velocity = 9.772 Flow = 18.040

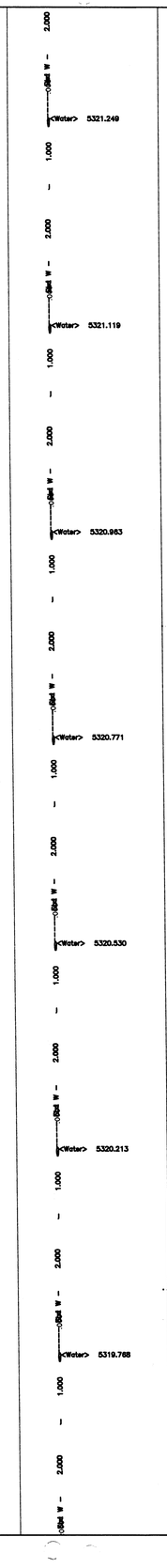
[24] STATION = 1865.507

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
Top Width = 1.991 Number of Piers/pipes = 1
Critical Depth = 1.530 Mannings N = .013
Invert = 5319.119 Water Surface = 5320.213
PIPE Velocity = 10.249 Flow = 18.040

[23] STATION = 1856.001

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
Top Width = 1.997 Number of Piers/pipes = 1
Critical Depth = 1.530 Mannings N = .013
Invert = 5318.714 Water Surface = 5319.768
PIPE Velocity = 10.748 Flow = 18.040

[22] STATION = 1841.952



Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
Top Width = 2.000 Number of Piers/pipes = 1
Critical Depth = 1.530 Mannings N = .013
Invert = 5318.040 Water Surface = 5319.055
PIPE Velocity = 11.274 Flow = 18.040

[21] STATION = 1818.507

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
Top Width = 1.999 Number of Piers/pipes = 1
Critical Depth = 1.530 Mannings N = .013
Invert = 5318.458 Water Surface = 5317.436
PIPE Velocity = 11.824 Flow = 18.040

[20] STATION = 1763.514

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
Top Width = .000 Number of Piers/pipes = 1
Critical Depth = 1.530 Mannings N = .013
Invert = 5313.662 Water Surface = 5314.626
PIPE Velocity = 12.025 Flow = 18.040

[19] STATION = 1666.277

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
Top Width = 1.999 Number of Piers/pipes = 1
Critical Depth = 1.530 Mannings N = .013
Invert = 5313.655 Water Surface = 5314.620
PIPE Velocity = 12.025 Flow = 18.040

[18] STATION = 1666.040

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
HYD JUMP
Top Width = .000 Number of Piers/pipes = 1
Critical Depth = 1.530 Mannings N = .013
Invert = 5313.655 Water Surface = 5315.989
PIPE Velocity = 5.742 Flow = 18.040

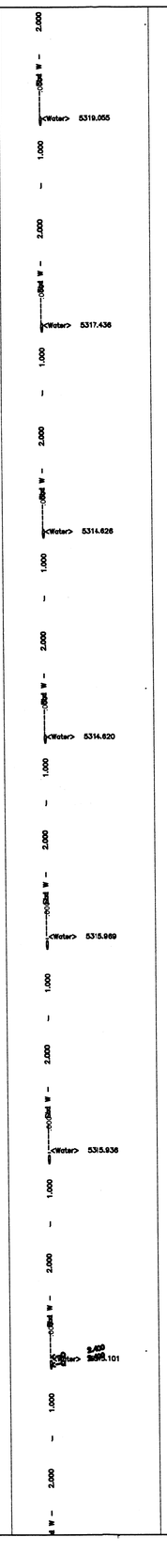
[17] STATION = 1666.040

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
Top Width = .000 Number of Piers/pipes = 1
Critical Depth = 1.530 Mannings N = .013
Invert = 5313.500 Water Surface = 5315.936
PIPE Velocity = 5.742 Flow = 18.040

[16] STATION = 1660.640

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
Top Width = 1.428 Number of Piers/pipes = 1
Critical Depth = 1.701 Mannings N = .013
Invert = 5313.400 Water Surface = 5315.101
PIPE Velocity = 8.020 Flow = 22.840

[15] STATION = 1656.650



Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
Top Width = 1.581 Number of Piers/pipes = 1
Critical Depth = 1.701 Mannings N = .013
Invert = 5313.382 Water Surface = 5314.994
PIPE Velocity = 8.415 Flow = 22.840

[14] STATION = 1656.077

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
Top Width = 1.869 Number of Piers/pipes = 1
Critical Depth = 1.701 Mannings N = .013
Invert = 5313.331 Water Surface = 5314.886
PIPE Velocity = 8.826 Flow = 22.840

[13] STATION = 1654.446

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
Top Width = 1.770 Number of Piers/pipes = 1
Critical Depth = 1.701 Mannings N = .013
Invert = 5313.246 Water Surface = 5314.712
PIPE Velocity = 9.257 Flow = 22.840

[12] STATION = 1651.723

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
Top Width = 1.831 Number of Piers/pipes = 1
Critical Depth = 1.701 Mannings N = .013
Invert = 5313.122 Water Surface = 5314.524
PIPE Velocity = 9.709 Flow = 22.840

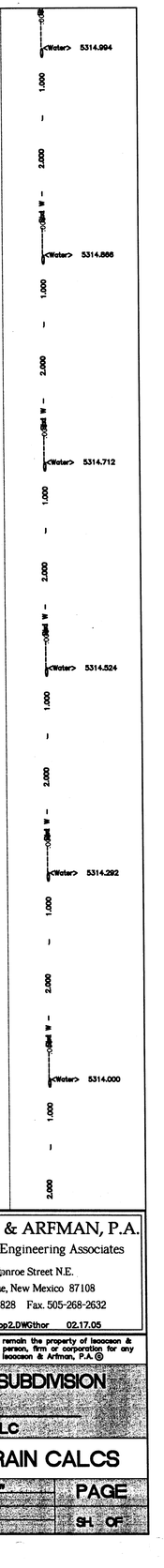
[11] STATION = 1647.745

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
Top Width = 1.879 Number of Piers/pipes = 1
Critical Depth = 1.701 Mannings N = .013
Invert = 5312.950 Water Surface = 5314.292
PIPE Velocity = 10.183 Flow = 22.840

[10] STATION = 1642.208

Scale, Vertical = 10.000 Horizontal = 40.000
Height = 2.000 Width = 2.000
Top Width = 1.915 Number of Piers/pipes = 1
Critical Depth = 1.701 Mannings N = .013
Invert = 5312.712 Water Surface = 5314.000
PIPE Velocity = 10.550 Flow = 22.840

[9] STATION = 1634.569



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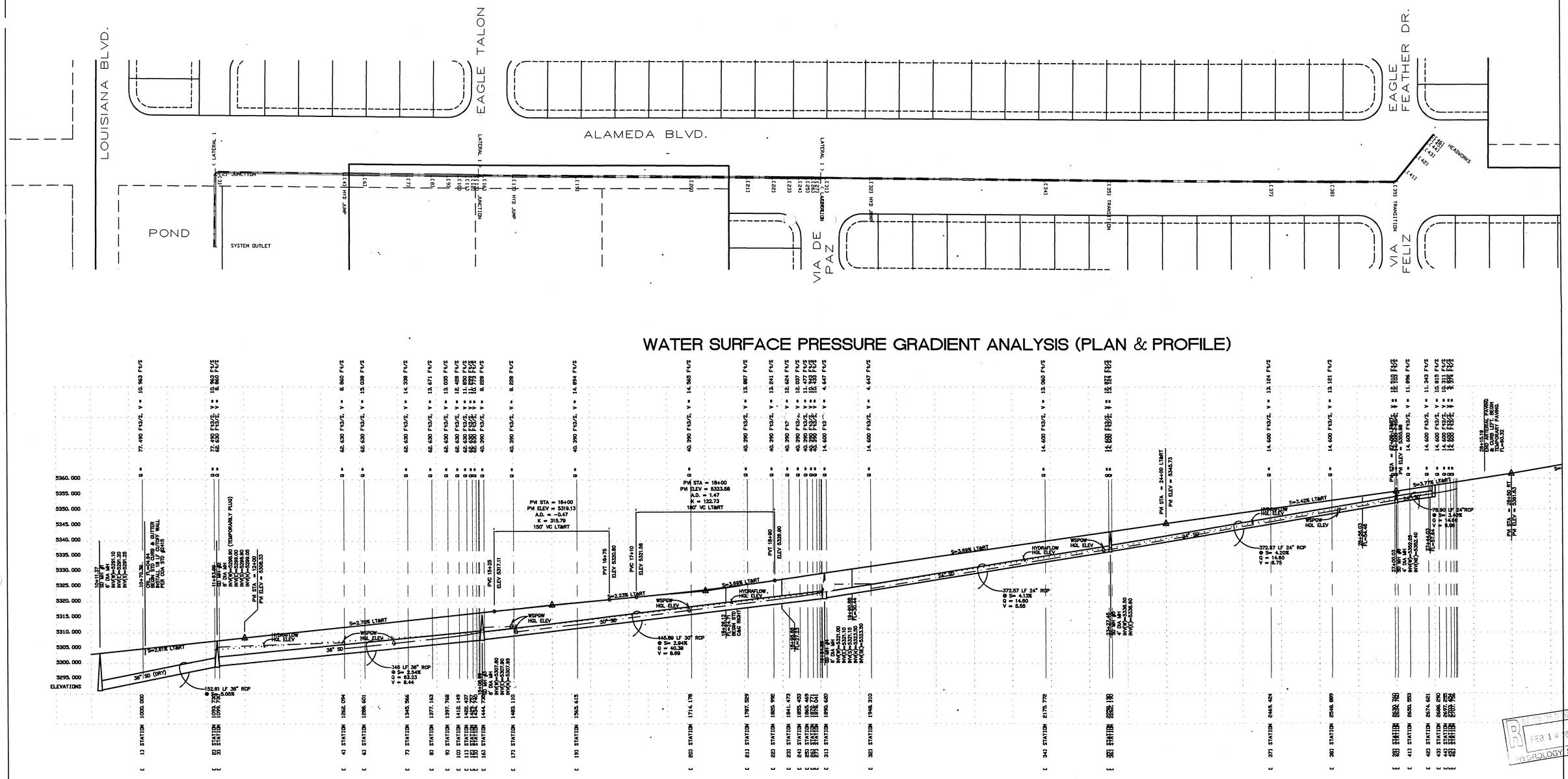
VISTA DEL AGUILA SUBDIVISION UNIT 3

TWO JOES, LLC

WSPGW STORM DRAIN CALCS

Checked By:	Drawn By:	No.	Revision	PAGE
GLD	GLD			
Date:	Job Number:			SH. OF
2/16/05	1257			

WATER SURFACE PRESSURE GRADIENT ANALYSIS (PLAN & PROFILE)



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WSPGW WATER HGL ELEV — — — — —

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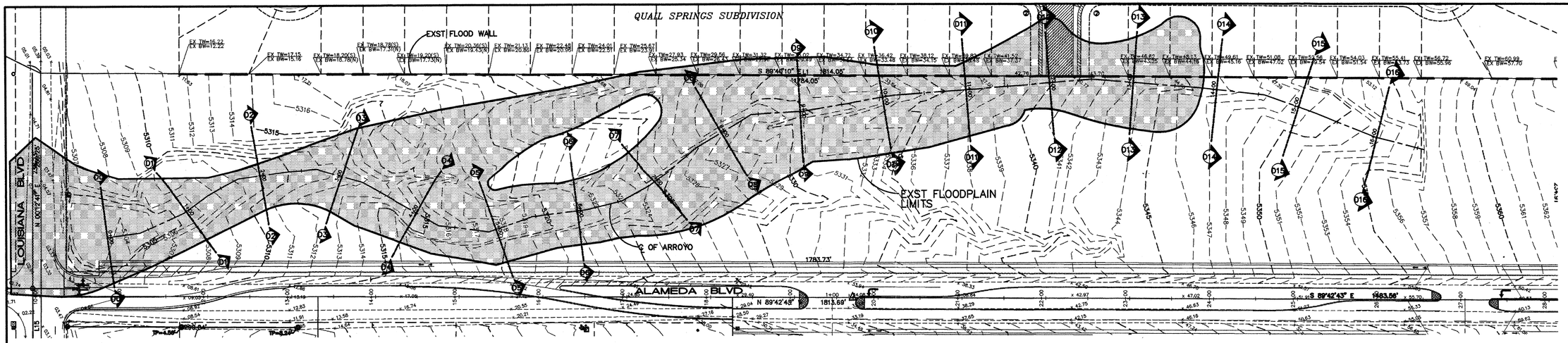
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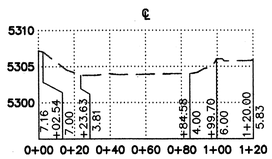
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TWO JOES, LLC

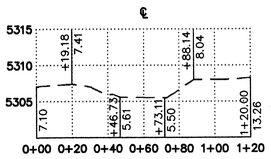
WSPGW STORM DRAIN CALCS

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GLD	GLD			
Date: 2/16/05	Job Number 1257			84 OF

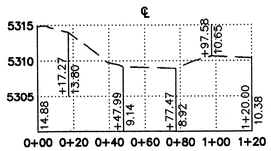




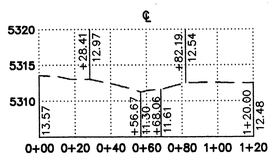
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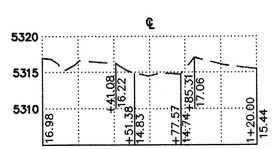
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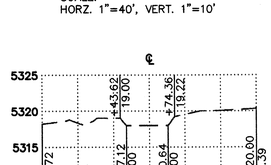
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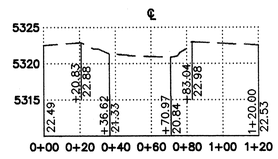
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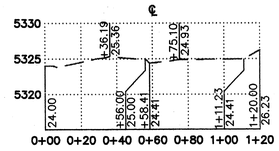
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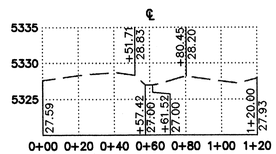
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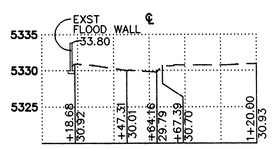
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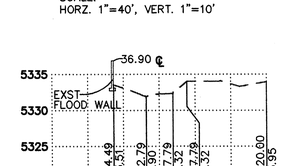
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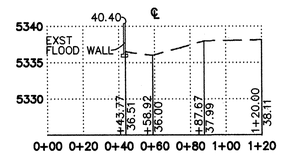
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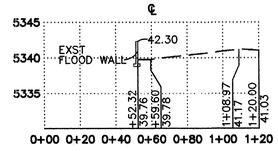
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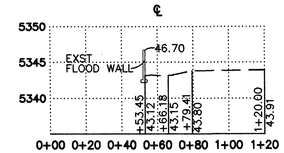
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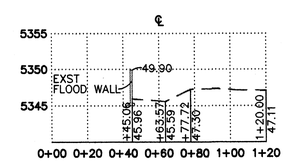
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SCALE:
HORZ. 1"=40', VERT. 1"=10'



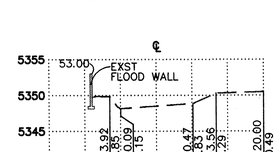
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HORZ. 1"=40', VERT. 1"=10'



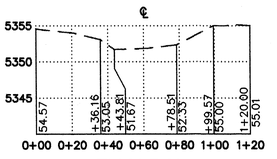
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HORZ. 1"=40', VERT. 1"=10'



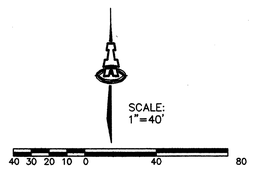
SECTION D14
SCALE:
HORZ. 1"=40', VERT. 1"=10'



SECTION D15
SCALE:
HORZ. 1"=40', VERT. 1"=10'



SECTION D16
SCALE:
HORZ. 1"=40', VERT. 1"=10'



AS-BUILT INFORMATION
CONTRACTOR
WORK STARTED BY DATE
INSPECTOR'S ACCEPTANCE BY DATE
FIELD VERIFICATION BY DATE
AS-BUILTED BY DATE
MICRO-FILM INFORMATION
RECORDED BY DATE
NO.

BENCH MARKS
NMSHC BRASS CAP "1-25-11" SET IN CONCRETE POST ON EAST SIDE OF FRONTAGE ROAD NEAR THE SW CORNER OF THE CORONADO AIRFIELD
ELEVATION=5206.94 (NGVD 1929)

SURVEY INFORMATION
FIELD NOTES
1. ALDRICH SURVEYING 04/03

ENGINEER'S SEAL
GENEVIEVE L. DONART
NEW MEXICO
15088
REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	
		DESIGNED BY GLD	DATE 04/03
		DRAWN BY RFH	DATE 04/03
		CHECKED BY GLD	DATE 04/03

ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates
128 Monroe Street N.E.
Albuquerque New Mexico
1257EX-SECTION.DWGthor 01/29/04

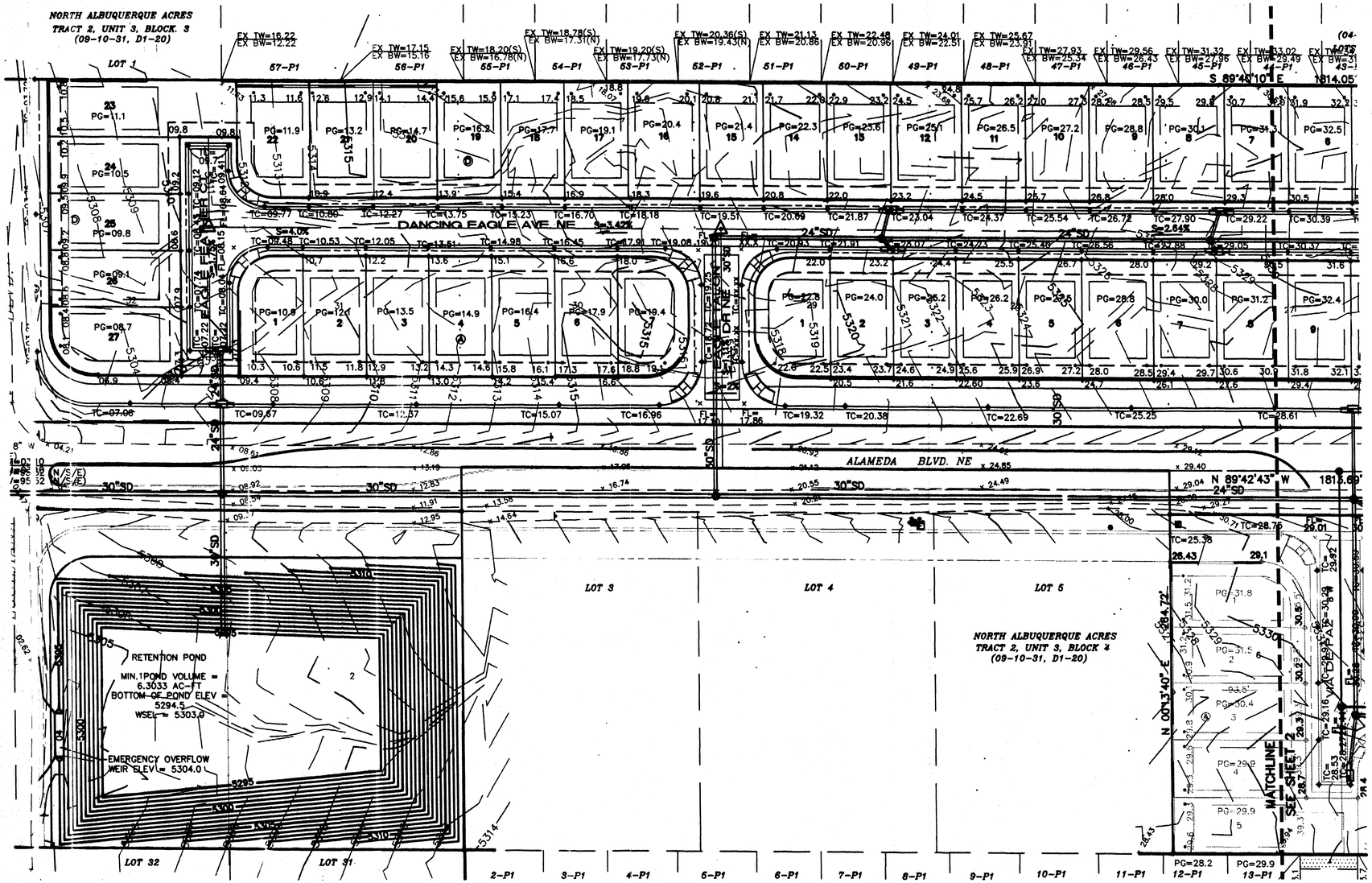
CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

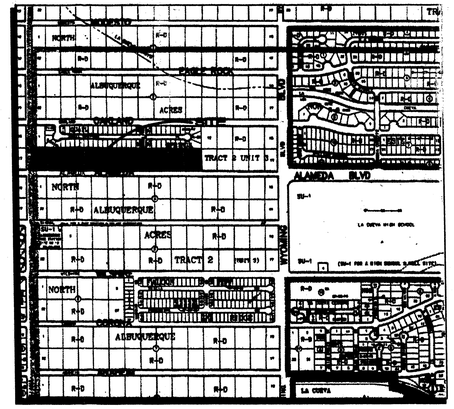
TITLE: VISTA DEL AGUILA SUBDIVISION, UNIT 3

EXISTING ARROYO SECTIONS

Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.

City Project No. 702481 | Zone Map No. C-19 | Sheet 19 Of 18





VICINITY MAP

SCALE: 1"=40'

40 30 20 10 0 40 80

LEGEND

—5200—	EXISTING CONTOUR
—52—	PROPOSED CONTOUR
◆78.3	PROPOSED SPOT ELEVATION
	FLOW ARROW
PG=6881.0	PAD GRADE ELEVATION
TC=81.95 / L=81.45	TOP OF CURB / FLOWLINE ELEVATION
	PROPOSED RETAINING WALL
TW=52.0 / BW=50.0	TOP OF WALL / BOTTOM OF WALL ELEVATION
V=72.5	INVERT ELEVATION
	STORM DRAIN MANHOLE

AS-BUILT INFORMATION

CONTRACTOR
STAKED BY
INSPECTION BY
FIELD VERIFICATION BY
CORRECTED BY
RECORDED BY

MICRO-FILM INFORMATION

DATE

BENCH MARKS

NMSHC BRASS CAP 7-25-11" SET IN CONCRETE POST ON EAST SIDE OF FRONTAGE ROAD NEAR THE SW CORNER OF THE CORONADO AIRFIELD

ELEVATION=5206.94 (NGVD 1929)

SURVEY INFORMATION

FIELD NOTES

1. ALDRICH SURVEYING 04/03

ENGINEER'S SEAL

GENEVIEVE L. DOMAN
NEW MEXICO
19096
REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REMARKS
		REVISIONS
		DESIGN
		DESIGNED BY GLD DATE 04/03
		DRAWN BY RFH DATE 04/03
		CHECKED BY GLD DATE 04/03

ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates
128 Monroe Street N.E.
Albuquerque New Mexico
GRD1.DWGrfh 07/03/03

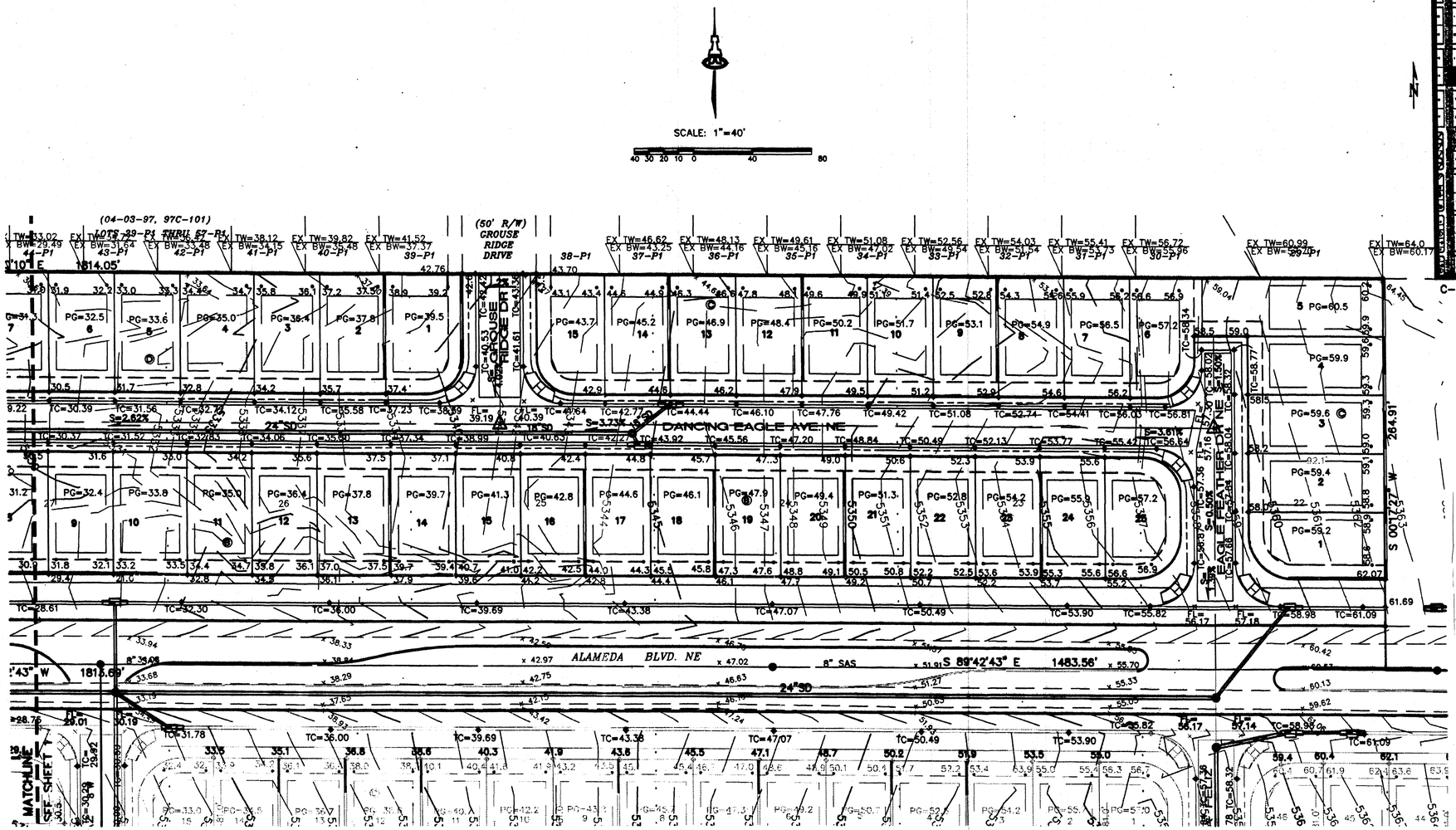
CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

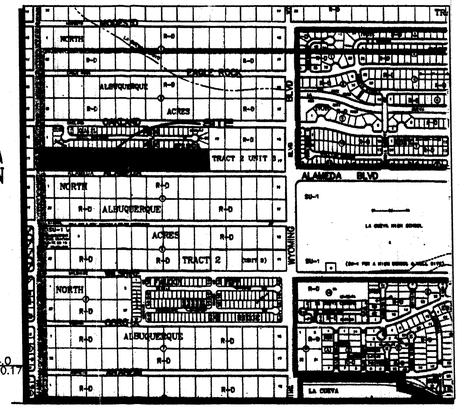
TITLE: VISTA DEL AGUILA SUBDIVISION, UNIT 3

GRADING & DRAINAGE PLAN

Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.
FOR INFORMATION ONLY				

City Project No. | Zone Map No. C-19 | Sheet 1 Of 2





VICINITY MAP

LEGEND

5200	EXISTING CONTOUR
52	PROPOSED CONTOUR
◆78.3	PROPOSED SPOT ELEVATION
→	FLOW ARROW
PG=6881.0	PAD GRADE ELEVATION
TC=81.95 / FL=81.45	TOP OF CURB / FLOWLINE ELEVATION
	PROPOSED RETAINING WALL
TW=52.0 / BW=50.0	TOP OF WALL / BOTTOM OF WALL ELEVATION
INV=72.5	INVERT ELEVATION
	STORM DRAIN MANHOLE

GRADING NOTES:

1. ALL TRASH, DEBRIS, & SURFACE VEGETATION SHALL BE CLEARED AND LEGALLY DISPOSED OFFSITE.
2. ALL SUBGRADE AND FILL SHALL BE COMPACTED TO A MINIMUM OF 90% ASTM D-1557.
3. EXCAVATION IS UNCLASSIFIED AND INCLUDES EXCAVATION TO SUBGRADE ELEVATIONS INDICATED, REGARDLESS OF CHARACTER OF MATERIALS ENCOUNTERED.
4. CONFORM TO ELEVATIONS AND DIMENSIONS SHOWN ON PLANS WITHIN A TOLERANCE OF 0.3± FEET.
5. SCARIFY AND COMPACT SUBGRADE FOR FILLS. PLACE FILL MATERIALS IN LAYERS NOT MORE THAN 8" IN LOOSE DEPTH. MOISTEN AS NECESSARY TO PROVIDE OPTIMUM MOISTURE (±2%) CONTENT.
6. UNIFORMLY GRADE AREAS WITHIN LIMITS OF GRADING AS SHOWN ON PLAN. SMOOTH FINISHED SURFACE WITHIN SPECIFIED TOLERANCE, COMPACT WITH UNIFORM SLOPES BETWEEN POINTS WHERE ELEVATIONS ARE INDICATED.
7. MAXIMUM SLOPES SHALL BE 3:1 MINIMUM SLOPES SHALL BE 1%.
8. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM, 260-1990, FOR LOCATION OF EXISTING UTILITIES.
9. IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES ARE SHOWN ON THESE DRAWINGS, THEY ARE SHOWN IN AN APPROXIMATE MANNER ONLY, AND SUCH LINES MAY EXIST WHERE NONE ARE SHOWN. IF ANY SUCH EXISTING LINES ARE SHOWN, THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE OWNER OF SAID UTILITY, AND THE INFORMATION MAY BE INCOMPLETE, OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES. THE ENGINEER HAS CONDUCTED ONLY PRELIMINARY INVESTIGATION OF THE LOCATION, DEPTH, SIZE OR TYPE OF EXISTING UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES. THIS INVESTIGATIONS IS NOT CONCLUSIVE, AND MAY NOT BE COMPLETE, THEREFORE, MAKES NO REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFORE. THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE, OR UNDERGROUND UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.
10. THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT ERODED AND WASHED DOWN THE STREET.
11. OWNER WILL PROVIDE SOIL TESTING AND INSPECTION SERVICES DURING EARTHWORK OPERATIONS. ALLOW TESTING SERVICE TO INSPECT AND APPROVE COMPACTED SUBGRADES AND FILL LAYERS BEFORE FURTHER CONSTRUCTION WORK IS DONE. SHALL COMPACTION TESTS INDICATE INADEQUATE DENSITY, CONTRACTOR SHALL PROVIDE ADDITIONAL COMPACTION AND TESTING AT NO ADDITIONAL EXPENSE.
12. OWNER HAS ESTABLISHED SUBDIVISION BOUNDARY CORNERS. CONTRACTOR SHALL PROVIDE ALL OTHER CONSTRUCTION STAKING INCLUDING TRACT CORNERS. CONTRACTOR SHALL LOCATE AN[illegible] RESERVE ALL BOUNDARY CORNERS AND REPLACE ANY LOST OR DISTURBED CORNER

SURVEY INFORMATION
FIELD NOTES
1. ALDRICH SURVEYING 04/03

BENCH MARKS
NMSHC BRASS CAP "1-25-11" SET IN CONCRETE POST ON ON EAST SIDE OF FRONTAGE ROAD NEAR THE SW CORNER OF THE CORONADO AIRFIELD
ELEVATION=5206.94 (NGVD 1929)

AS-BUILT INFORMATION
CONTRACTOR
WORK STAKED BY — DATE
INSPECTED BY — DATE
FIELD REVISIONS BY — DATE
DRAWINGS CORRECTED BY — DATE

MICRO-FILM INFORMATION
RECORDED BY — DATE
NO.

ENGINEER'S SEAL
GENEVIEVE L. BONART NEW MEXICO 15086 REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	DATE 04/03
		DESIGNED BY GLD	DATE 04/03
		DRAWN BY RFH	DATE 04/03
		CHECKED BY GLD	DATE 04/03

ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates
128 Monroe Street N.E.
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1257GRD1.DWGrfh 07/03/03

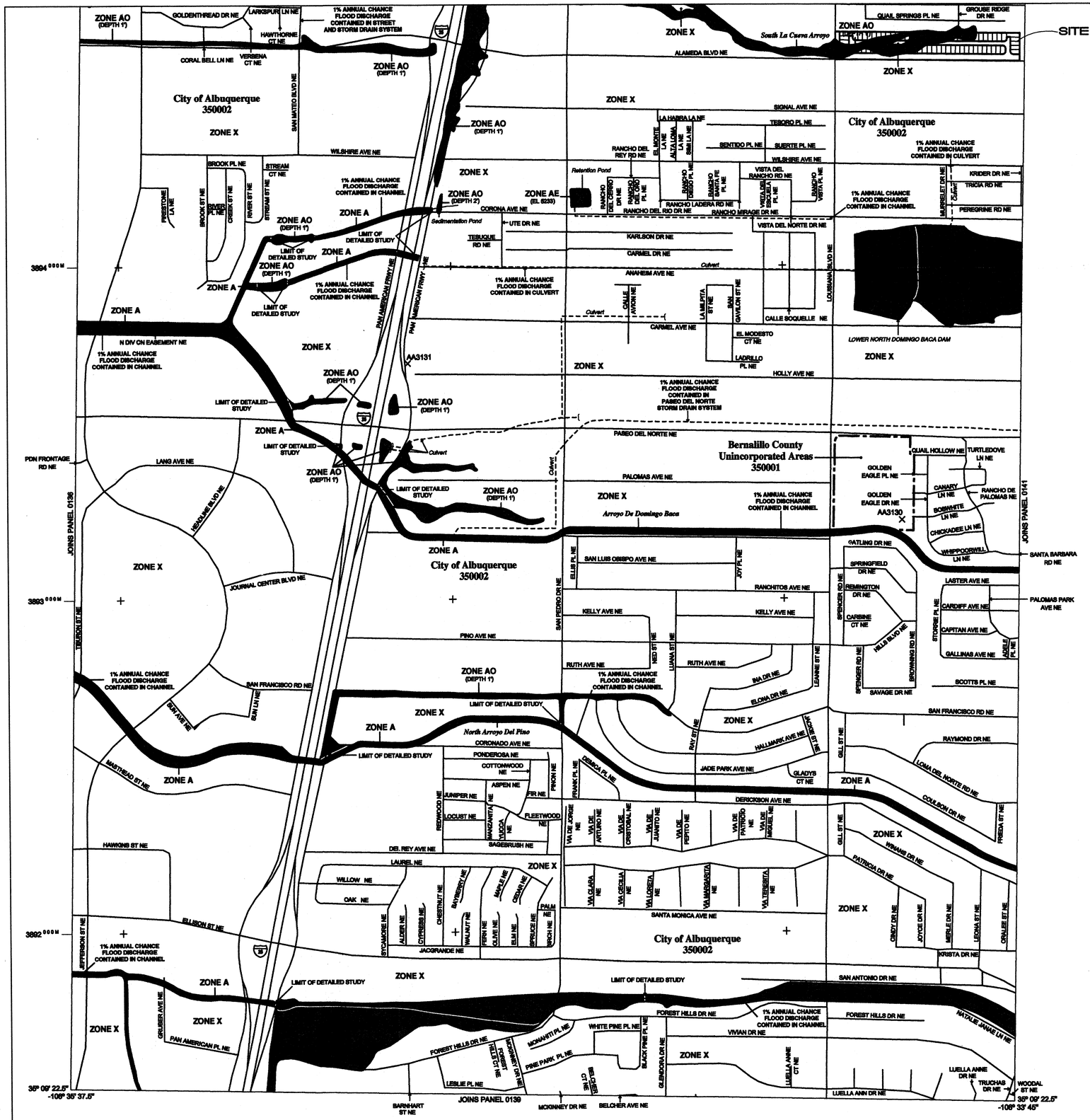
CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: VISTA DEL AGUILA SUBDIVISION, UNIT 3

GRADING & DRAINAGE PLAN

Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.
FOR INFORMATION ONLY				

City Project No. | Zone Map No. C-19 | Sheet 2 Of 2



ZONE AR — Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

ZONE A99 — Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.

ZONE V — Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

ZONE VE — Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X — Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X — Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D — Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- Floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

- (A)—(A) Cross section line
- (23)---(23) Transect line
- 45° 02' 08", -93° 02' 12" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 4989000M — 1000-meter Universal Transverse Mercator grid values, zone 13
- M1.5 × — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 — River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
September 20, 1996

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

April 2, 2002 - to update corporate limits, to change Base Flood Elevations and Special Flood Hazard Areas, to add roads and road names, to reflect updated topographic information, and to incorporate previously issued Letters of Map Revision.

November 19, 2003 - to update corporate limits and to incorporate previously issued Letters of Map Revision.

For Community map revision history prior to countywide mapping, refer to the community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET

150 0 150 300 METERS

NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0137F

FIRM
FLOOD INSURANCE RATE MAP

BERNALILLO COUNTY, NEW MEXICO
AND INCORPORATED AREAS

PANEL 137 OF 825

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
ALBUQUERQUE, CITY OF	350002	0137	F
BERNALILLO COUNTY	350001	0137	F

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

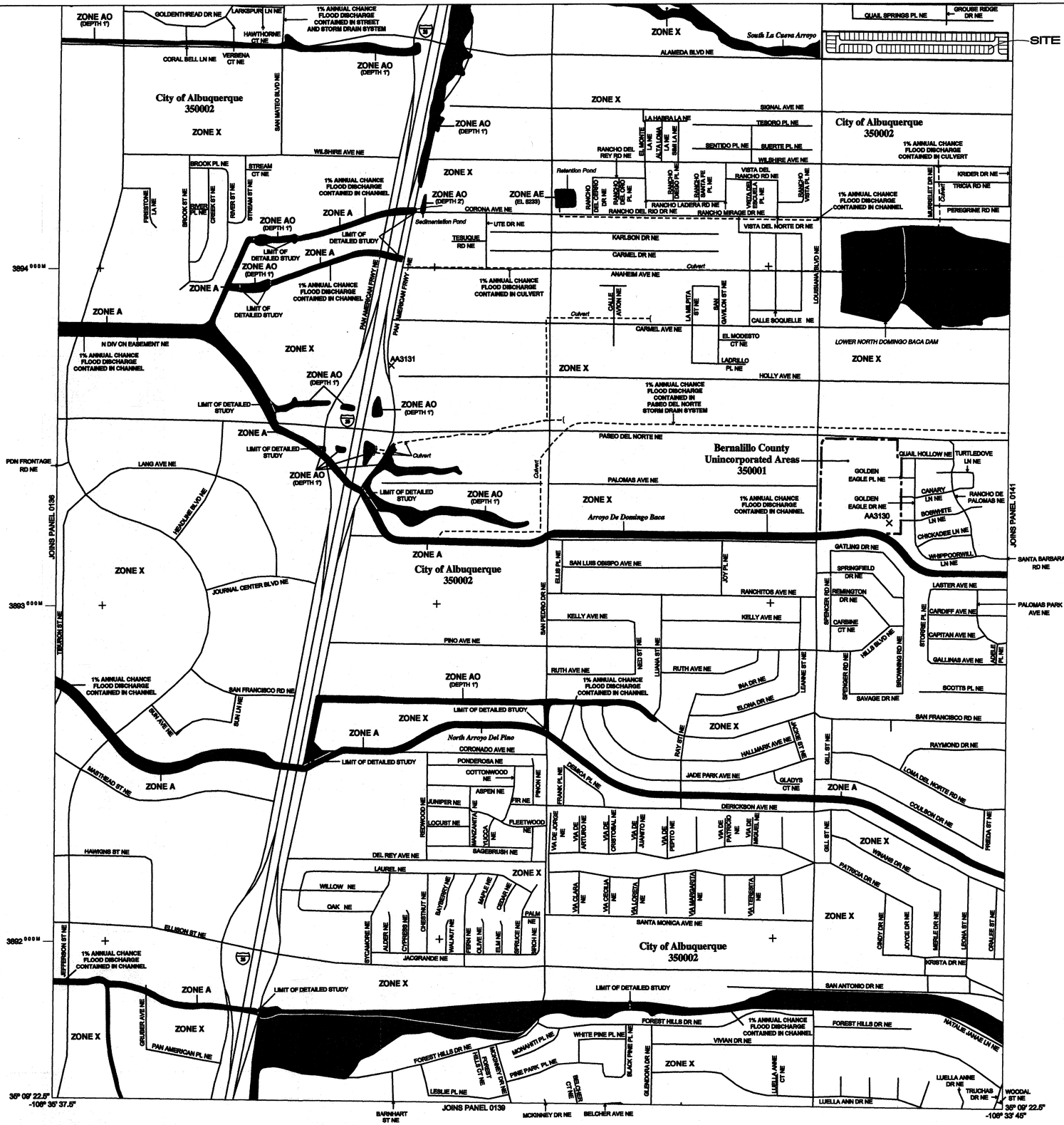
MAP NUMBER
35001C0137F
MAP REVISED
NOVEMBER 19, 2003

Federal Emergency Management Agency

EXISTING FLOOD PLAIN EXHIBIT

JANUARY 2004

1257FP—EXST.DWGrfh 02/02/04



ZONE AR	Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
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(EL 987)	Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

A — A	Cross section line
23 — 23	Transect line
46° 02' 08", -93° 02' 12"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
4989000m	1000-meter Universal Transverse Mercator grid values, zone 13
MS510	Bench mark (see explanation in Notes to Users section of this FIRM panel)
M1.5	River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
September 20, 1996

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NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0137F

FIRM
FLOOD INSURANCE RATE MAP

BERNALILLO COUNTY, NEW MEXICO AND INCORPORATED AREAS

PANEL 137 OF 825

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

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BERNALILLO COUNTY	350001	0137	F

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MAP NUMBER 35001C0137F

MAP REVISED NOVEMBER 19, 2003

Federal Emergency Management Agency

PROPOSED FLOOD PLAIN EXHIBIT

JANUARY 2004

1257FP--PROP.DWGrfh 02/02/04