rec'd

Federal Emergency Management Agency

Washington, D.C. 20472

NOV 01 2001

MAYOR'S OFFICE

01 NOV -6 AM 10: 04

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

The Honorable Jim Baca
Mayor, City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

IN REPLY REFER TO:

Case Number:	01-06-303P
Community:	City of Albuquerque, Bernalillo County, New Mexico
Community No.:	350002
Panel Affected:	35001C0329 D
Effective Date of This Revision:	DEC 01 2001
102-I-C	

Dear Mayor Baca:

The Flood Insurance Rate Map (FIRM) for Bernalillo County, New Mexico and Incorporated Areas has been revised by this Letter of Map Revision (LOMR) to reflect the placement of fill and excavation associated with the reconfiguration of the AHEPA 501 Apartments' Pond 7. The subject area is located approximately 1,300 feet west of Coors Boulevard and just south of Los Volcanes Road. This revision was initiated by Mr. Bradley L. Bingham, P.E., Acting City/County Floodplain Administrator, in a letter dated October 30, 2000.

We received hydrologic models, work maps, and all applicable forms, prepared by Advanced Engineering and Consulting, LLC., in support of this revision.

We received all of the data required to perform a technical review of the request as of October 5, 2001.

Based on our review of the submitted data, we are issuing this LOMR to reflect the reconfiguration of Pond 7 associated with the AHEPA 501 Apartments. This LOMR revises the approximate 1% annual chance (100-year) floodplain (Zone A) associated with Pond 7. The floodplain will increase by a maximum of 300 feet towards Los Volcanes Road and will decrease by a maximum of 50 feet from the pond's southwestern corner. The above mentioned revisions are shown on the enclosed annotated portions of the FIRM panel.

This revision will become effective 30 days from 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.

We based this determination on the 1% annual chance discharges computed in the revised 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, establish greater flood hazards in this area.

This LOMR is based on minimum floodplain management criteria established under the National Flood Insurance Program (NFIP). Your community is responsible for approving all floodplain development and for ensuring all necessary permits required by Federal or State law have been received. State, county, and community officials, based on knowledge of local conditions and in the interest of safety, may set higher

standards for construction in the Special Flood Hazard Area (SFHA). If the State, county, or community has adopted more restrictive or comprehensive floodplain management criteria, these criteria take precedence over the minimum NFIP criteria.

This revision has met our criteria for removing an area from the 1% annual chance floodplain to reflect the placement of fill. The community must ensure that any structures placed within the subject area be constructed such that they are "reasonably safe from flooding." "Reasonably safe from flooding" means base flood waters will not inundate the land or damage structures to be removed from the SFHA and that any subsurface waters related to the base flood will not damage existing or proposed buildings. The community and engineers should review and use *FEMA Technical Bulletin 10-01, Ensuring that Structures Built on Fill In or Near Special Flood Hazard Areas are Reasonably Safe From Flooding,* which may be downloaded directly from the Federal Emergency Management Agency (FEMA) website at http://www.fema.gov/mit/TB10Prop.pdf.

NFIP regulations Subparagraph 60.3(b)(7) requires communities to ensure that the flood-carrying capacity within the altered or relocated portion of any watercourse is maintained. This provision is incorporated into your community's existing floodplain management ordinances; therefore, responsibility for maintenance of the modified detention pond rests with your community. We may request that your community submit a description and schedule of the detention pond maintenance activities.

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, for publication in your community's newspaper, a news release 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.

Use the map panel listed above and revised by this letter for flood insurance policies and renewals issued in your community.

We have enclosed an updated version of a document titled *List of Current Flood Insurance Study Data,* which includes this letter, to help your community maintain all information for floodplain management and flood insurance. If any of the items in that document are not filed in your community's map repository, please contact the FEMA Map Assistance Center at the telephone number listed below for information on how to obtain those items.

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 ordinances that meet or exceed minimum NFIP criteria. These criteria, including adoption of the FIRM, and the modifications made by this LOMR, are the minimum requirements for continued NFIP participation and do not supersede more stringent State or local requirements to which the regulations apply.

If you have any questions regarding this LOMR, please contact the FEMA Map Assistance Center, toll free, at 1-877-FEMA MAP (1-877-336-2627).

Sincerely,

Lloyd A. Hake

Lloyd A. Hake, Project Engineer
Hazards Study Branch
Federal Insurance and
Mitigation Administration

For: Matthew B. Miller, P.E., Chief
Hazards Study Branch
Federal Insurance and
Mitigation Administration

Enclosures

cc: Mr. Carlos Montoya
Floodplain Administrator
City of Albuquerque

Mr. Shahab Biazar, P.E.
Advanced Engineering and Consulting, LLC.

LIST OF CURRENT FLOOD INSURANCE STUDY DATA

This list is provided to document all information currently effective for your community for insurance and floodplain management.

Date: NOV 01 2001

Community: City of Albuquerque, NM

Community Number: 350002

Page Number: 1 of 6

CURRENT EFFECTIVE FLOOD INSURANCE STUDY DATE: September 20, 1996

FLOOD INSURANCE RATE MAP

Map Index	Effective Date
350001CIND0	September 20, 1996

Panel Numbers	Effective Date
0092 D, 0094 D, 0100 D, 0103 D, 0104 D, 0108 D, 0109 D, 0111 D, 0112 D, 0113 D, 0114 D, 0116 D, 0118 D, 0119 D, 0128 D, 0129 D, 0133 D, 0136 D, 0137 D, 0138 D, 0139 D, 0141 D, 0142 D, 0143 D, 0144 D, 0161 D, 0163 D, 0309 D, 0317 D, 0319 D, 0326 D, 0327 D, 0328 D, 0329 D, 0331 D, 0332 D, 0333 D, 0334 D, 0336 D, 0337 D, 0338 D, 0339 D, 0341 D, 0342 D, 0344 D, 0351 D, 0352 D, 0353 D, 0354 D, 0356 D, 0357 D, 0358 D, 0359 D, 0361 D, 0362 D, 0363 D, 0364 D, 0366 D, 0367 D, 0376 D, 0378 D, 0386 D, 0527 D, 0531 D, 0533 D, and 0555 D	September 20, 1996

LETTERS OF MAP REVISION

Panel Numbers	Effective Date
0108 D	December 20, 1996 February 4, 1999
0109 D	October 21, 1998 February 4, 1999
0112 D	March 16, 1999
0113 D	September 18, 1998
0114 D	January 26, 1998 September 18, 1998 March 16, 1999
0116 D	January 6, 1997 October 21, 1998
0117 D	October 21, 1998
0128 D	February 23, 1998 September 11, 1998 October 21, 1998 September 29, 1999
0129 D	February 23, 1998 September 11, 1998 September 29, 1999
0133 D	February 23, 1998 September 11, 1998
0136 D	February 23, 1998 September 29, 1999
0137 D	August 1, 1997 November 24, 1997 February 23, 1998 March 25, 1998 September 11, 1998 September 29, 1999 July 30, 2001
0138 D	February 29, 2000

LETTERS OF MAP REVISION *(continued)*

Panel Numbers	Effective Date
0141 D	September 23, 1996 August 1, 1997 February 23, 1998 March 25, 1998 April 24, 1998 April 24, 1998 September 11, 1998 April 26, 1999 July 30, 2001
0142 D	April 24, 1998
0144 D	May 5, 1997 July 13, 2000
0161 D	May 5, 1997 July 13, 2000
0163 D	May 5, 1997 July 13, 2000
0326 D	September 5, 1997
0327 D	September 10, 1997 September 25, 1997
0328 D	September 25, 1997 October 3, 1997 January 24, 2000
0329 D	September 25, 1997 October 3, 1997 DEC 01 2001
0332 D	March 21, 2000
0336 D	August 8, 1997 August 26, 1997 October 24, 1997 April 15, 1999 September 27, 1999
0337 D	July 17, 1998 April 15, 1999
0339 D	June 18, 1998

LETTERS OF MAP REVISION *(continued)*

Panel Numbers	Effective Date
0341 D	April 24, 1998
0342 D	April 24, 1998
0344 D	April 11, 1997
0351 D	July 1, 1997
0356 D	September 15, 1997
0357 D	September 15, 1997
0358 D	July 16, 1997 July 13, 2000
0359 D	July 16, 1997 July 13, 2000
0367 D	July 16, 1997
0527 D	June 18, 1998

LETTERS OF MAP AMENDMENT AND MAP REVISION BASED ON FILL

Panel Numbers	Effective Date
0114 D	April 4, 1997
0118 D	September 10, 1997
0119 D	January 30, 1998 June 3, 1998
0137 D	June 8, 1999
0141 D	June 16, 2000 June 20, 2001
0144 D	March 12, 1997 August 17, 1998 December 14, 1998
0327 D	March 17, 1997 June 16, 1997 April 8, 1998 January 13, 2000 August 16, 2000

LETTERS OF MAP AMENDMENT AND MAP REVISION BASED ON FILL *(continued)*

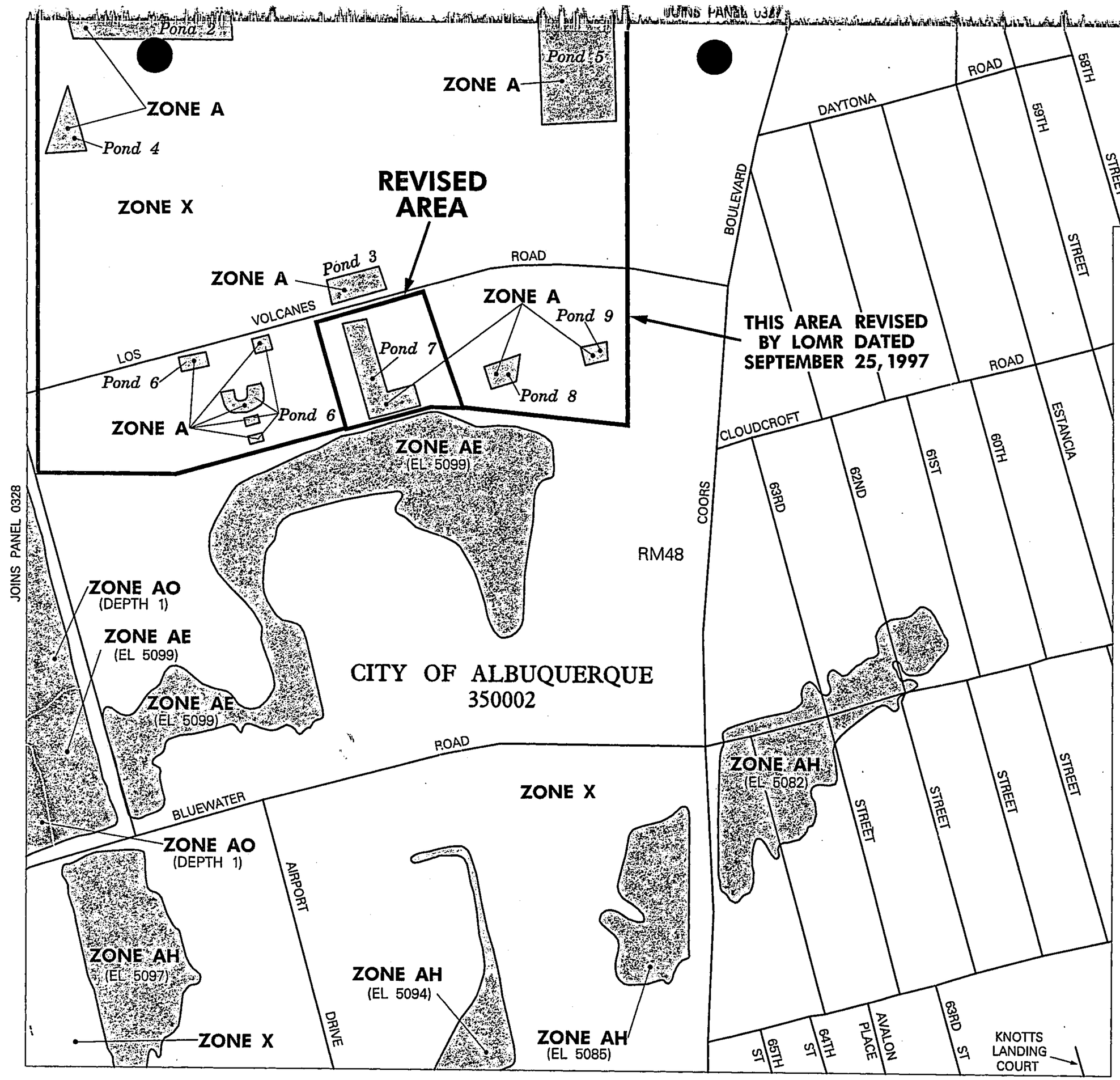
Panel Numbers	Effective Date
0328 D	June 25, 1998 January 24, 2000
0329 D	December 30, 1997 April 7, 1998 April 13, 1998
0332 D	January 13, 2000 March 21, 2000
0333 D	April 23, 1999
0336 D	March 17, 1997
0337 D	December 8, 1998 January 18, 2000
0339 D	December 4, 1996 January 17, 2001 February 7, 2001
0341 D	September 10, 1997
0354 D	May 16, 1997 June 9, 1998 January 14, 1999 March 31, 1999 April 12, 2000 August 2, 2000 December 1, 2000 March 14, 2001 March 26, 2001 May 16, 2001 August 29, 2001
0352 D	August 10, 2001
0356 D	January 3, 1997 April 14, 1997
0357 D	April 28, 1997 February 11, 1998 May 12, 1998 June 15, 1998 August 5, 1998 October 19, 1999

LETTERS OF MAP AMENDMENT AND MAP REVISION BASED ON FILL *(continued)*

Panel Numbers	Effective Date
0357 D	February 14, 2001
0358 D	March 2, 1999
0362 D	May 20, 1998 August 2, 2000
0367 D	July 2, 1997

BEST AVAILABLE DATA LETTERS

None



APPROXIMATE SCALE IN FEET

500 0 500

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

BERNALILLO COUNTY, NEW MEXICO AND INCORPORATED AREAS

PANEL 329 OF 825
(SEE MAP INDEX FOR PANELS NOT PRINTED)

CONTAINS: COMMUNITY	NUMBER	PANEL	SUFFIX
ALBUQUERQUE, CITY OF BERNALILLO COUNTY, UNINCORPORATED AREAS	350002 350001	0329 0329	D

REVISED TO REFLECT LOMR DATED DEC 01 2001

MAP NUMBER
35001C0329 D

EFFECTIVE DATE:
SEPTEMBER 20, 1996

Federal Emergency Management Agency

City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

October 1, 2001

Andre Cadogan, P.E.
Program Manager, Region VI
12101 Indian Creek Court
Beltsville, MD 20705

RE: Request for Information for AHEPA 501 Apartments, Case No.: 01-06-303P

Dear Mr. Cadogan:

Per your request, a review of the drainage information, and meeting with Mr. Shahab Biazar allows me to address your comment. The pond's 100-year/10 day water surface elevation is 5098.03 and the finish floor elevation of the proposed building is at 5102.2. The proposed building is over 100 feet from the pond. Because of the above information the proposed structure is reasonably safe from the 100-year storm. Also, any subsurface waters related to the base flood will not damage the proposed building.
If you have any questions please call me at 924-3982.

Sincerely,

Carlos A. Montoya
City Floodplain Administrator

C: Shahab Biazar, Advanced Engineering and Consulting, LLC

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

AHEPA 501 Apartments LOMR (J10/D27)

NATIONAL FLOOD INSURANCE PROGRAM
FEMA MAP COORDINATION CONTRACTOR

JULY 27, 2001

Mr. Shahab Biazar, P.E.
Advanced Engineering and Consulting, LLC
10205 Snowflake Court, N.W.
Albuquerque, NM 87114

IN REPLY REFER TO:
Case No.: 01-06-303P
Community: City of Albuquerque, Bernalillo County, New Mexico
Community No.: 350002

316-AD

Dear Mr. Biazar:

This is in regard to the October 30, 2000, request that the Federal Emergency Management Agency (FEMA) issue a Letter of Map Revision for Bernalillo County, New Mexico and Incorporated Areas. In a previous letter, you were informed that additional data might be required to complete our review of the request. The data required to complete our review, which must be submitted within 90 days of the date of this letter, are listed below.

- Please submit a letter from the community official responsible for floodplain management stating that the land and any proposed structures to be removed from the Special Flood Hazard Area (SFHA) are "reasonably safe from flooding." "Reasonably safe from flooding" means base (1% annual chance or 100-year) flood waters will not inundate the land or damage structures to be removed from the SFHA and that any subsurface waters related to the base flood will not damage existing or proposed buildings. The community and engineers should review and use *FEMA Technical Bulletin 10-01, Ensuring that Structures Built on Fill In or Near Special Flood Hazard Areas are Reasonably Safe From Flooding*, which may be downloaded directly from the FEMA website at http://www.fema.gov/mit/TB10Prop.pdf.

Please send the required data to us at the address shown at the bottom of this page. Further action on the request has been suspended pending receipt of the required data.

When you write us about your request, please include the case number referenced above. If you have general questions about your case, FEMA policy, or the National Flood Insurance Program, 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, Mark Delorey, by phone at 1-800-697-7275 Ext. 513, or by e-mail at mdelorey@pbsj.com.

Sincerely,

Joseph A. Matteo

for Andre Cadogan, P.E.
Program Manager, Region VI

cc: Mr. Carlos Montoya, Floodplain Administrator, City of Albuquerque

ADVANCED ENGINEERING and CONSULTING, LLC

Consulting
Design
Development
Management
Inspection
Surveying

June 4, 2001

Andre Cadgon
Program Manager, Region VI
12101 Indian Creek Court
Beltsville, MD 20705

Case No: 01-06-303-P
Community: City of Albuquerque,
Bernalillo County,
New Mexico
Community No: 350002
316-AD

Dear Mr. Cadgon:

This letter is in response to your letter dated May 10, 2001. We have re-calculated the runoff and volume using AHYMO 97. The numbers have not changed. A copy of the results are enclosed. We have notified the adjacent owner which may impacted by this pond/floodplain modification. Proof of Certified mail with copies of the letters and attachments are enclosed with this submittal.

If you should have any questions, please feel free to contact our office at the below number.

Sincerely,

Shahab Biazar, P.E.

RECEIVED
JUN 06 2001
HYDROLOGY SECTION

cc: Carlos Montoya
City of Albuquerque
Floodplain Administrator

10205 Snowflake Court N.W., Albuquerque, N.M. 87114 PH (505) 899-5570 FAX (505) 897-4996 EMAIL AECLLC@aol.com

```
*
* ZONE 1
*
*****************************************************************
*        100-YEAR,  6-HR STORM (UNDER EXISTING CONDITIONS)      *
*****************************************************************
*
START
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                        RAIN DELAY=2.66 IN DT=0.03333 HR
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                        TP=0.1333 HR MASS RAINFALL=-1
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*****************************************************************
*         10-YEAR,  6-HR STORM (UNDER EXISTING CONDITIONS)      *
*****************************************************************
*
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                        RAIN ONE=1.25 IN RAIN SIX=1.47 IN
                        RAIN DAY=1.77 IN DT=0.03333 HR
COMPUTE NM HYD          ID=1 HYD NO=110.0 AREA=0.004794 SQ MI
                        PER A=77.00 PER B=15.00 PER C=5.00 PER D=3.00
                        TP=0.1333 HR MASS RAINFALL=-1
*
*****************************************************************
*        100-YEAR,  6-HR STORM (UNDER PROPOSED CONDITIONS)      *
*****************************************************************
*
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                        RAIN ONE=1.87 IN RAIN SIX=2.20 IN
                        RAIN DELAY=2.66 IN DT=0.03333 HR
COMPUTE NM HYD          ID=1 HYD NO=100.1 AREA=0.004794 SQ MI
                        PER A=0.00 PER B=53.29 PER C=10.00 PER D=36.71
                        TP=0.1333 HR MASS RAINFALL=-1
*
*****************************************************************
*         10-YEAR,  6-HR STORM (UNDER PROPOSED CONDITIONS)      *
*****************************************************************
*
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RAINFALL                TYPE=1 RAIN QUARTER=0.0 IN
                        RAIN ONE=1.25 IN RAIN SIX=1.47 IN
                        RAIN DAY=1.77 IN DT=0.03333 HR
COMPUTE NM HYD          ID=1 HYD NO=110.1 AREA=0.004794 SQ MI
                        PER A=0.00 PER B=53.29 PER C=10.00 PER D=36.71
                        TP=0.1333 HR MASS RAINFALL=-1
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FINISH
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COMPUTE NM HYD	110.10	-	1	.00479	4.89	.157	.61355	1.500	1.594	PER IMP=	36.71
FINISH											

ADVANCED ENGINEERING and CONSULTING, LLC

Consulting
Design
Development
Management
Inspection
Surveying

June 4, 2001

Amerace Corporation
6625 Bluewater Road NW
Albuquerque, NM 87105

RE: Floodplain Modification For Lots 2-B-2-A & 1-A-1-A, Tracts N & O, Unit 2, Atrisco Business Park located at 6700 Los Volcanos Road NW Immediately North Side of Your Property Located at 6625 Bluewater Road.

Dear Sir/Mam:

Advanced Engineering and Consulting, LLC is submitting this letter on behalf of AHEPA 501 Apartments. This letter is to inform you that AHEPA 501 Apartments located at 6700 Los Volcanos Road will impact flood hazard for Pond 7 shown on the National Flood Insurance Program (NFIP) Flood Insurance Rate Map (FIRM) number 35001C, Panel 329 D, dated September 25, 1997, for City of Albuquerque, Bernalillo County, New Mexico on which you may own property. A Letter of Map Revision (LOMR) request is being reviewed by the Federal Emergency Management Agency (FEMA), and if approved will not result in an increase in the Flood Elevations (BFEs) for Pond 7. If approved, the revision will cause approximate 1% annual chance floodplain denoted as Zone A on the FIRM, which will widen by the floodplain a maximum of 273 feet to the north (toward Los Volcanos Road) along Pond 7. We have enclosed an annotated portion of the FIRM panel 329 D, dated September 25, 1997 for your review.

If you should have any questions, please feel free to contact our office at the below number.

Sincerely,

Shahab Biazar, P.E.

cc: Carlos Montoya, City of Albuquerque/Floodplain Administrator
Andre Cadogan, Program Manager, Region VI

10205 Snowflake Court N.W., Albuquerque, N.M. 87114 PH (505) 899-5570 FAX (505) 897-4996 EMAIL AECLLC@aol.com

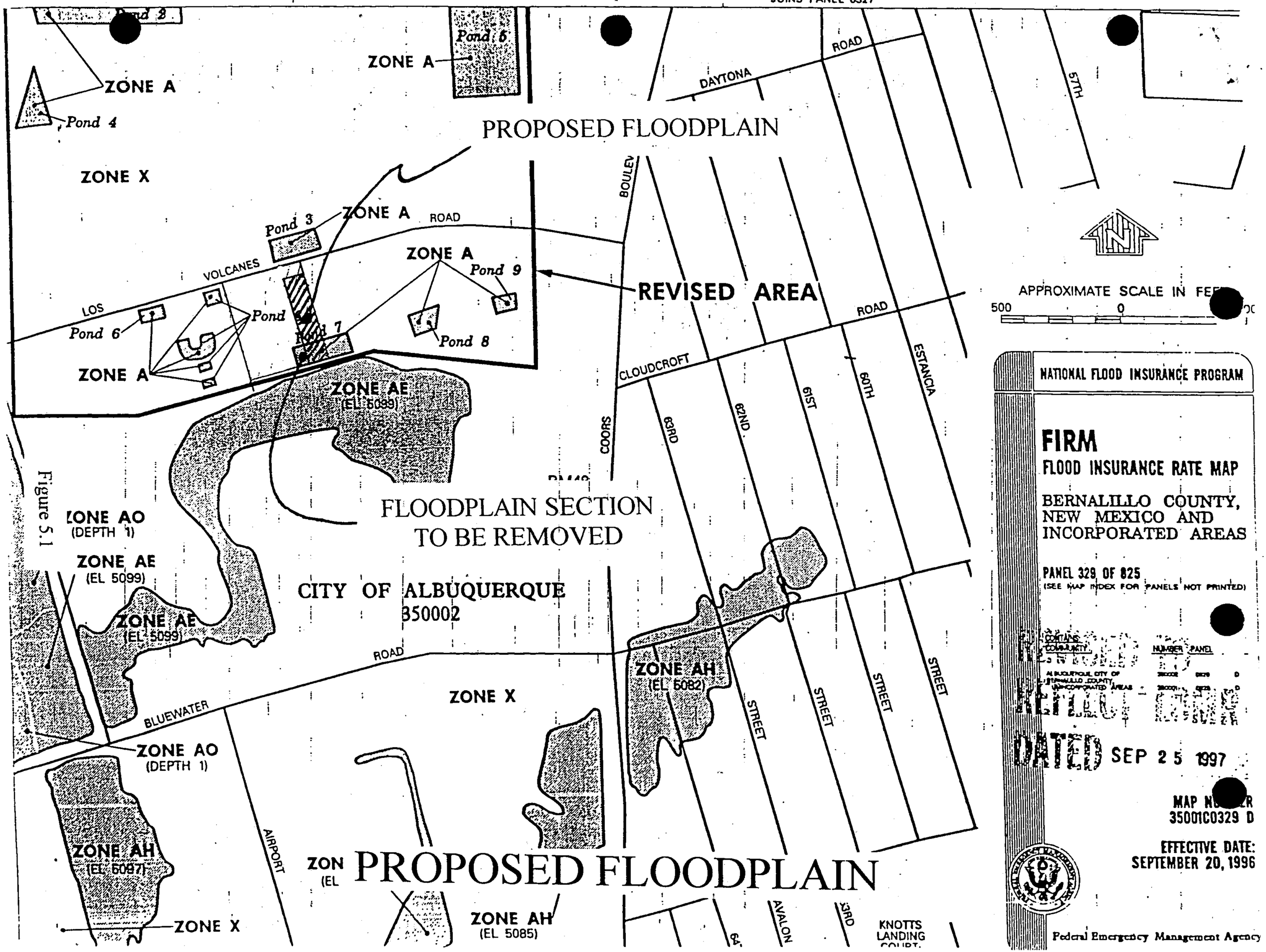
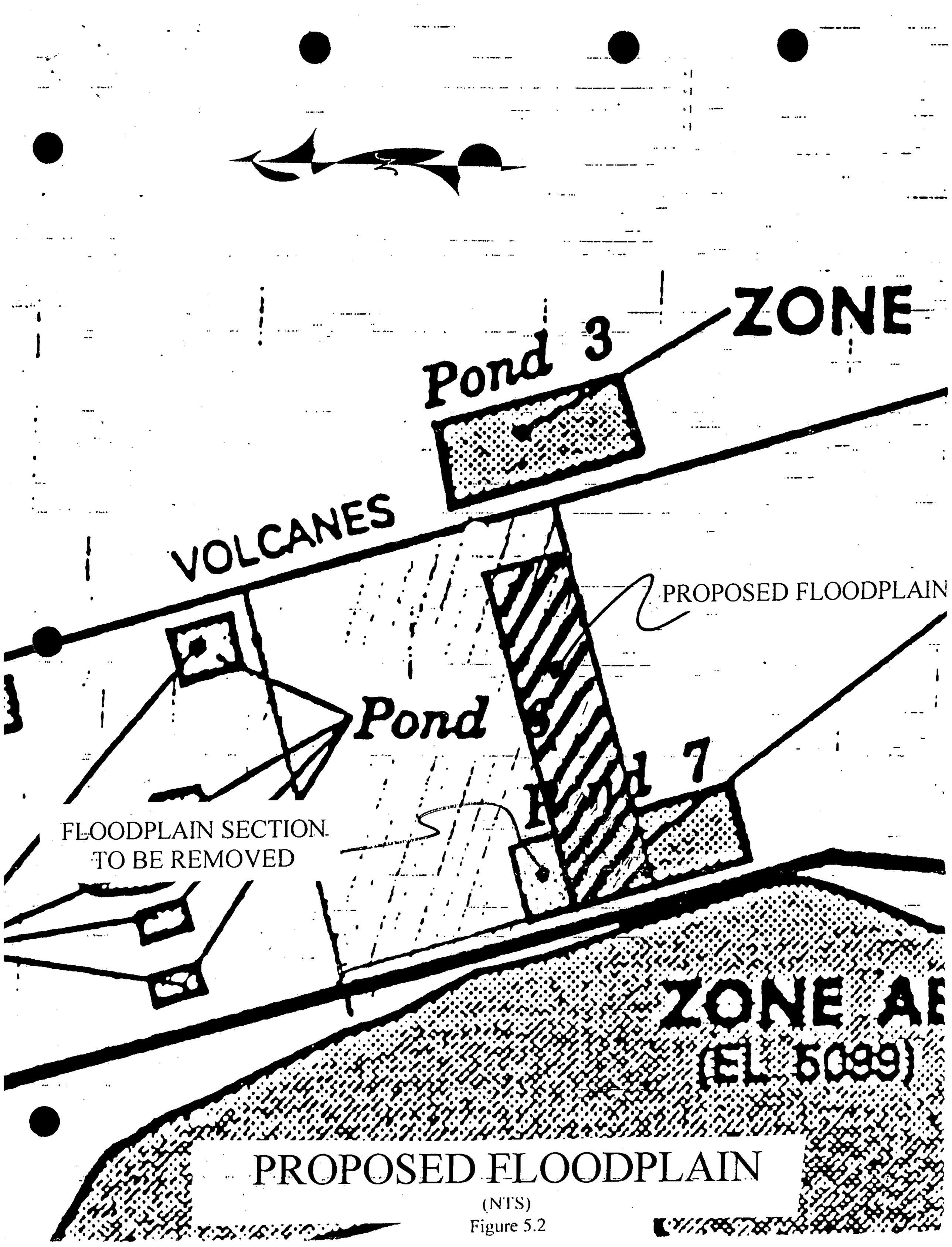

Pond 5
ZONE A
ZONE A
Pond 4
ZONE X
PROPOSED FLOODPLAIN
DAYTONA
ROAD
57TH
BOULEV
Pond 3
ZONE A
ROAD
VOLCANES
ZONE A
Pond 9
REVISED AREA
LOS
Pond 6
Pond
Pond 7
Pond 8
ZONE A
ZONE AE
(EL 5099)
CLOUDCROFT
ROAD
ESTANCIA
COORS
63RD
62ND
61ST
60TH
APPROXIMATE SCALE IN FEET
500
0
FLOODPLAIN SECTION
TO BE REMOVED
ZONE AO
(DEPTH 1)
ZONE AE
(EL 5099)
ZONE AE
(EL 5099)
CITY OF ALBUQUERQUE
350002
ROAD
ZONE AH
(EL 5082)
ZONE X
STREET
STREET
STREET
STREET
BLUEWATER
ZONE AO
(DEPTH 1)
ZONE AH
(EL 5097)
AIRPORT
PROPOSED FLOODPLAIN
ZONE AH
(EL 5085)
ZONE X
AVALON
KNOTTS
LANDING
NATIONAL FLOOD INSURANCE PROGRAM
FIRM
FLOOD INSURANCE RATE MAP
BERNALILLO COUNTY,
NEW MEXICO AND
INCORPORATED AREAS
PANEL 329 OF 825
(SEE MAP INDEX FOR PANELS NOT PRINTED)
COMMUNITY
NUMBER
PANEL
ALBUQUERQUE, CITY OF
BERNALILLO COUNTY
UNINCORPORATED AREAS
REVISED TO REFLECT
LETTER OF MAP REVISION
DATED SEP 25 1997
MAP NUMBER
350001C0329 D
EFFECTIVE DATE:
SEPTEMBER 20, 1996
Federal Emergency Management Agency

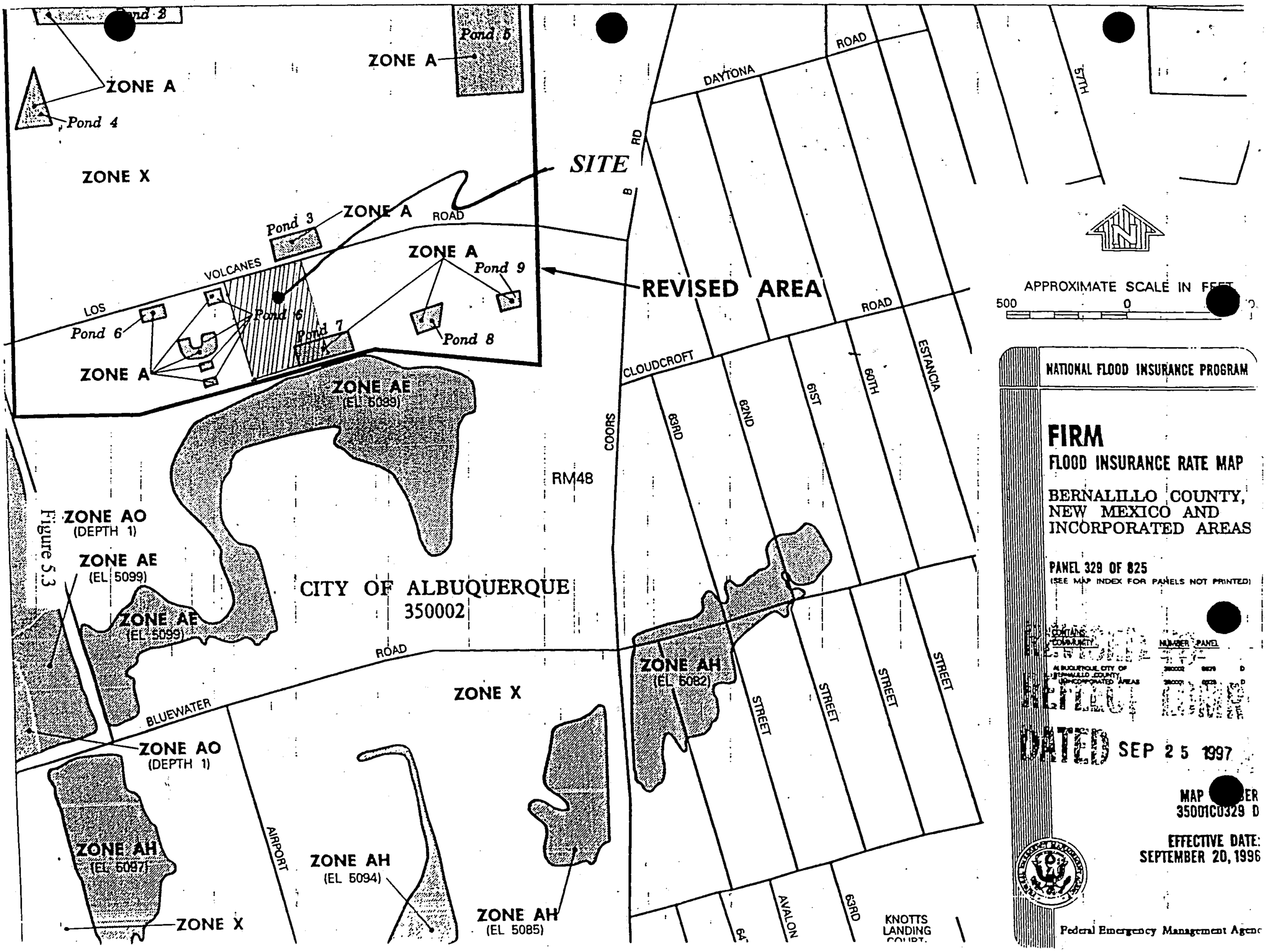
Figure 5.1



PROPOSED FLOODPLAIN

(NTS)

Figure 5.2


Pond 8
Pond 5
ZONE A
ZONE A
Pond 4
ZONE X
SITE
Pond 3
ZONE A
ROAD
ZONE A
Pond 9
VOLCANES
LOS
Pond 6
Pond 6
Pond 7
Pond 8
ZONE A
REVISED AREA
ZONE AE
(EL 5089)
RM48
ZONE AO
(DEPTH 1)
ZONE AE
(EL 5099)
ZONE AE
(EL 5099)
CITY OF ALBUQUERQUE
350002
ROAD
ZONE X
BLUEWATER
ZONE AO
(DEPTH 1)
ZONE AH
(EL 5097)
ZONE X
AIRPORT
ZONE AH
(EL 5094)
ZONE AH
(EL 5085)
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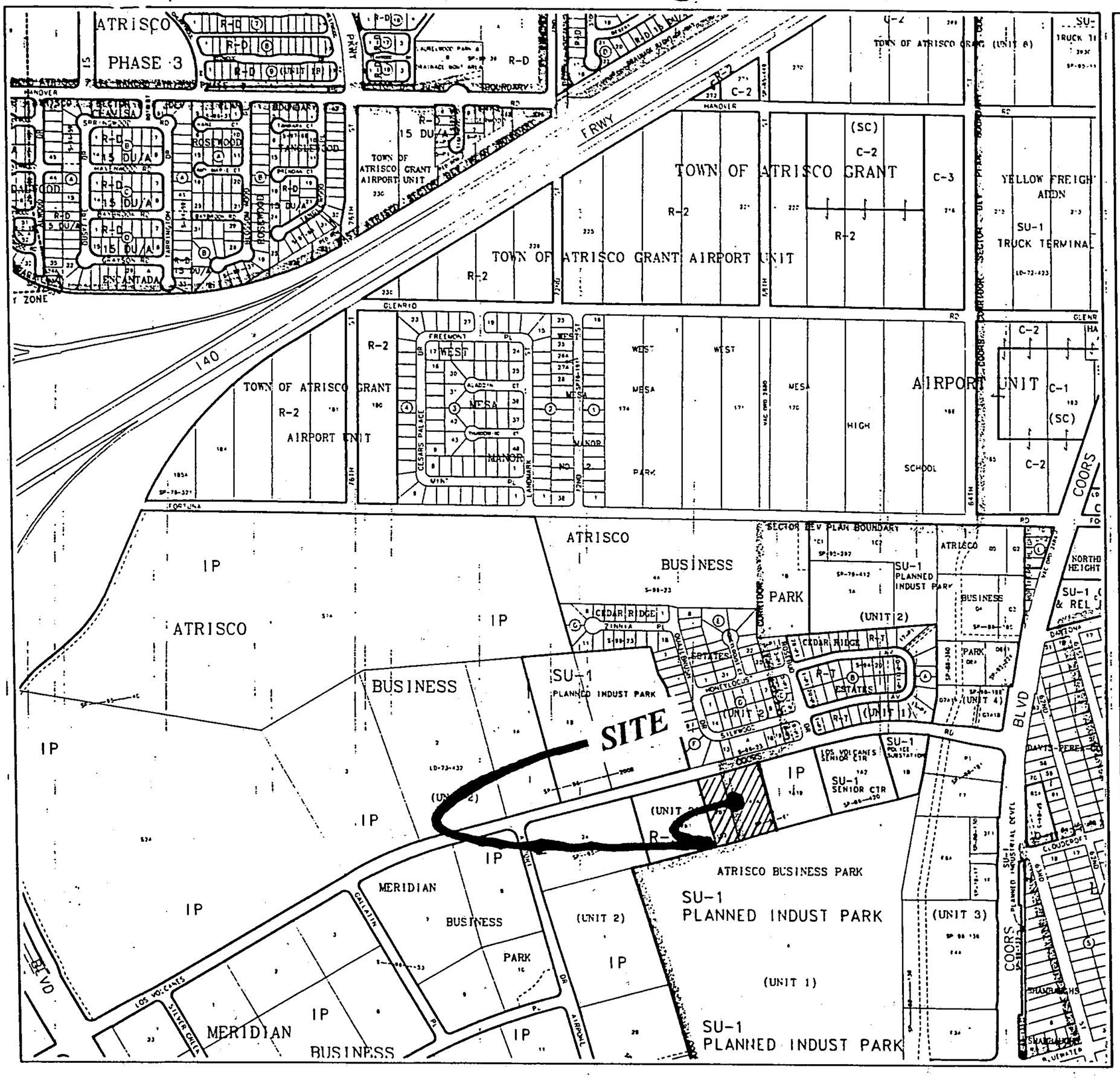
(EL 5082)
DAYTONA
ROAD
RD
B
COORS
CLOUDCROFT
ROAD
63RD
62ND
61ST
60TH
ESTANCIA
57TH
STREET
STREET
STREET
STREET
AVALON
63RD
KNOTTS
LANDING
APPROXIMATE SCALE IN FEET
500
0
NATIONAL FLOOD INSURANCE PROGRAM
FIRM
FLOOD INSURANCE RATE MAP
BERNALILLO COUNTY,
NEW MEXICO AND
INCORPORATED AREAS
PANEL 329 OF 825
(SEE MAP INDEX FOR PANELS NOT PRINTED)
CONTAINS
COMMUNITY
NUMBER PANEL
ALBUQUERQUE, CITY OF
BERNALILLO COUNTY,
UNINCORPORATED AREAS
DATED SEP 25 1997
MAP NUMBER
35001C0329 D
EFFECTIVE DATE:
SEPTEMBER 20, 1996
Federal Emergency Management Agenc

Figure 5.3



CITY OF
Albuquerque
Albuquerque Geographic Information System
PLANNING DEPARTMENT
© Copyright 1998

N
W E
S

GRAPHIC SCALE IN FEET
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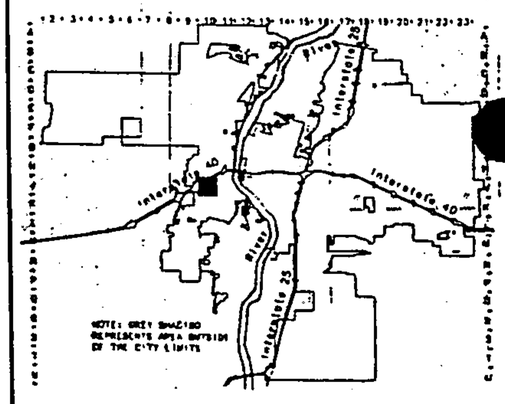


Zone Atlas Page
J-10-Z

Map Amended through
December 09, 1998

ADVANCED ENGINEERING and CONSULTING, LLC

Consulting
Design
Development
Management
Inspection
Surveying

June 4, 2001

Windchime Retirement Group LTD
8709 Vineyard Ridge Road NE
Albuquerque, NM 87122

RE: Floodplain Modification For Lots 2-B-2-A & 1-A-1-A, Tracts N & O, Unit 2, Atrisco Business Park located at 6700 Los Volcanos Road NW Immediately West Side of Your Property Located at 6600 Los Volcanos Road.

Dear Sir/Mam:

Advanced Engineering and Consulting, LLC is submitting this letter on behalf of AHEPA 501 Apartments. This letter is to inform you that AHEPA 501 Apartments located at 6700 Los Volcanos Road will impact flood hazard for Pond 7 shown on the National Flood Insurance Program (NFIP) Flood Insurance Rate Map (FIRM) number 35001C, Panel 329 D, dated September 25, 1997, for City of Albuquerque, Bernalillo County, New Mexico on which you may own property. A Letter of Map Revision (LOMR) request is being reviewed by the Federal Emergency Management Agency (FEMA), and if approved will not result in an increase in the Flood Elevations (BFEs) for Pond 7. If approved, the revision will cause approximate 1% annual chance floodplain denoted as Zone A on the FIRM, which will widen by the floodplain a maximum of 273 feet to the north (toward Los Volcanos Road) along Pond 7. We have enclosed an annotated portion of the FIRM panel 329 D, dated September 25, 1997 for your review.

If you should have any questions, please feel free to contact our office at the below number.

Sincerely,

Shahab Biazar, P.E.

cc: Carlos Montoya, City of Albuquerque/Floodplain Administrator
Andre Cadogan, Program Manager, Region VI

10205 Snowflake Court N.W., Albuquerque, N.M. 87114 PH (505) 899-5570 FAX (505) 897-4996 EMAIL AECLLC@aol.com

JOINS PANEL 0327

Pond 8

Pond 5

ZONE A

ZONE A

Pond 4

ZONE X

PROPOSED FLOODPLAIN

DAYTONA ROAD

57TH

BOULEV

Pond 3

ZONE A

ROAD

ZONE A

Pond 9

VOLCANES

LOS

Pond 6

Pond

Pond 7

Pond 8

ZONE A

REVISED AREA

APPROXIMATE SCALE IN FEET

500 0

ROAD

CLOUDCROFT

ESTANCIA

60TH

61ST

62ND

63RD

COORS

ZONE AE
(EL 5099)

FLOODPLAIN SECTION
TO BE REMOVED

Figure 5.1

ZONE AO
(DEPTH 1)

ZONE AE
(EL 5099)

ZONE AE
(EL 5099)

CITY OF ALBUQUERQUE
350002

ROAD

ZONE AH
(EL 5082)

STREET

STREET

STREET

STREET

ZONE X

BLUEWATER

ZONE AO
(DEPTH 1)

ZONE AH
(EL 5097)

AIRPORT

ZONE X

PROPOSED FLOODPLAIN

ZONE AH
(EL 5085)

AVALON

KNOTTS
LANDING
COURT

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

BERNALILLO COUNTY,
NEW MEXICO AND
INCORPORATED AREAS

PANEL 329 OF 825
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY	NUMBER	PANEL
ALBUQUERQUE, CITY OF	350002	0329 D
BERNALILLO, COUNTY OF UNINCORPORATED AREAS	350001	0329 D

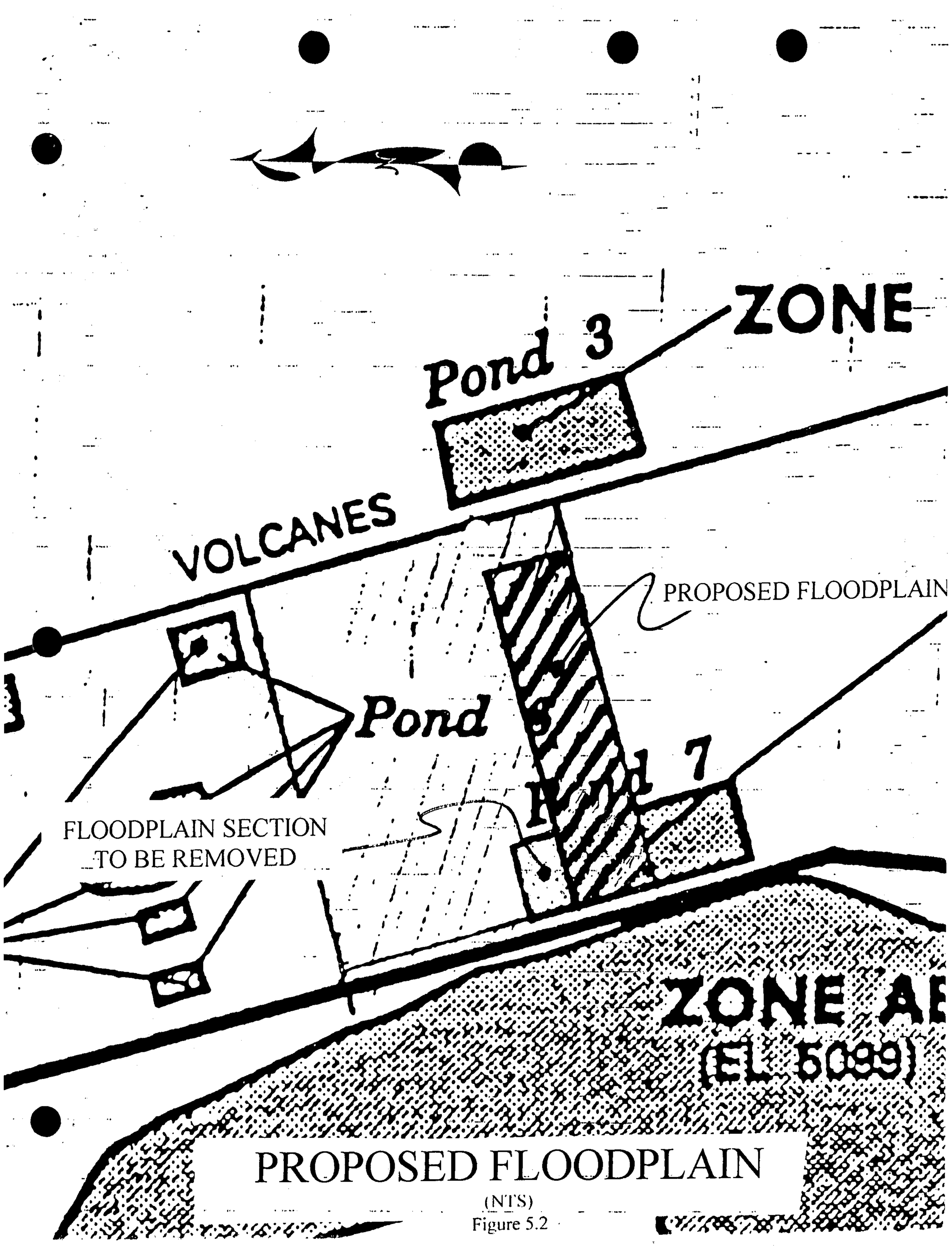
REVISED TO REFLECT

DATED SEP 25 1997

MAP NUMBER
35001C0329 D

EFFECTIVE DATE:
SEPTEMBER 20, 1996

Federal Emergency Management Agency



PROPOSED FLOODPLAIN

(NTS)

Figure 5.2

JOINS PANEL 0327

Figure 5.3

Pond 2
ZONE A
Pond 4
ZONE X
Pond 5
ZONE A
SITE
ROAD
Pond 3
ZONE A
VOLCANES
LOS
Pond 6
Pond 6
Pond 7
ZONE A
Pond 9
Pond 8
ZONE A
REVISED AREA
ZONE AE
(EL 5099)
RM48
ZONE AO
(DEPTH 1)
ZONE AE
(EL 5099)
ZONE AE
(EL 5099)
CITY OF ALBUQUERQUE
350002
ROAD
BLUEWATER
ZONE AO
(DEPTH 1)
ZONE X
ZONE AH
(EL 5097)
ZONE X
AIRPORT
ZONE AH
(EL 5094)
ZONE AH
(EL 5085)
ZONE AH
(EL 5082)
DAYTONA
ROAD
57TH
RD
8
CLOUDCROFT
ROAD
COORS
63RD
62ND
61ST
60TH
ESTANCIA
STREET
STREET
STREET
STREET
64
AVALON
63RD
KNOTTS
LANDING
COURT

APPROXIMATE SCALE IN FEET
500 0

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

BERNALILLO COUNTY,
NEW MEXICO AND
INCORPORATED AREAS

PANEL 329 OF 825
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY	NUMBER	PANEL	
ALBUQUERQUE, CITY OF	350002	0329	D
BERNALILLO, COUNTY, UNINCORPORATED AREAS	350001	0329	D

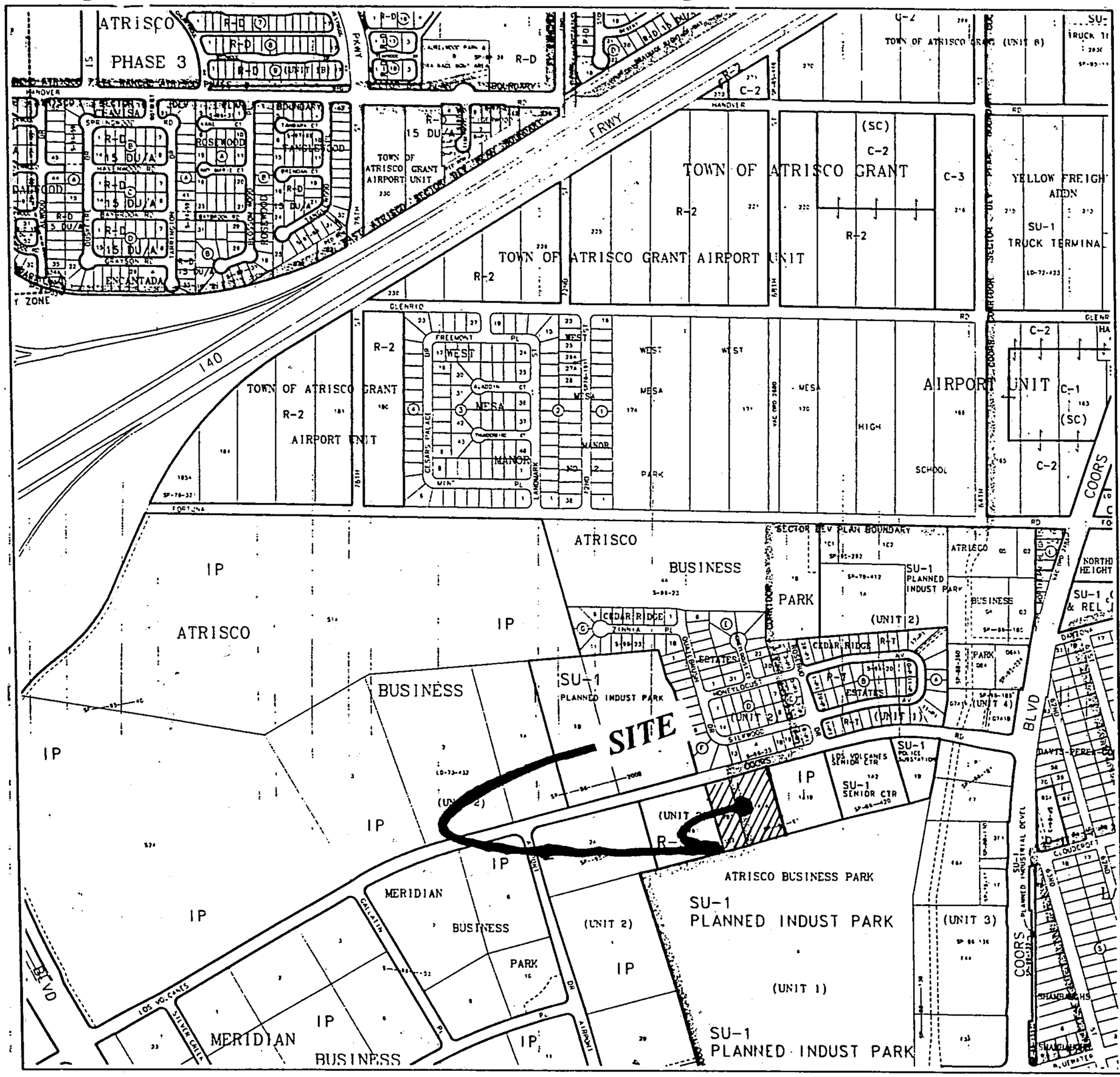
REVISED TO REFLECT LOMRs EFFECTIVE DATES

DATED SEP 25 1997

MAP NUMBER
35001C0329 D

EFFECTIVE DATE:
SEPTEMBER 20, 1996

Federal Emergency Management Agency



CITY OF Albuquerque

Albuquerque Geographic Information System

PLANNING DEPARTMENT

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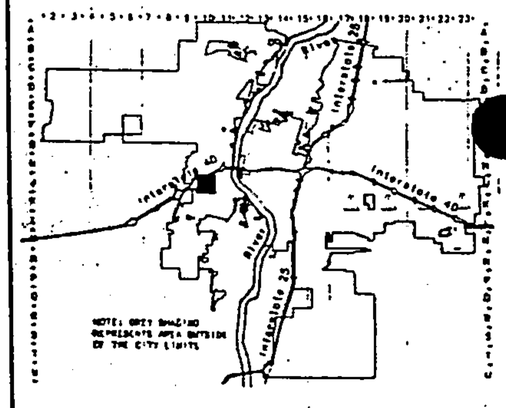
N W E S

GRAPHIC SCALE IN FEET

250 0 500 1000



Zone Atlas Page

J-10-Z

Map Amended through
December 09, 1998

7000 1670 0012 9559 7861

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

ALBUQUERQUE, NM 87105

Postage	$ 0.55
Certified Fee	1.90
Return Receipt Fee (Endorsement Required)	1.50
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$ 3.95

UNIT ID: 0118
RICHARD J PINO STA. ALBUQUERQUE NM 87118
Postmark Here
4
Clerk: KPZGMV
06/04/01

Sent To Amerace Corporation
Street, Apt. No.; or PO Box No. 6625 Bluewater Road NW
City, State, ZIP+4 Alb. NM 87105

PS Form 3800, May 2000 See Reverse for Instructions

7000 1670 0012 9559 7878

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

ALBUQUERQUE, NM 87122

Postage	$ 0.55
Certified Fee	1.90
Return Receipt Fee (Endorsement Required)	1.50
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$ 3.95

UNIT ID: 0118
RICHARD J PINO STA. ALBUQUERQUE NM 87118
Postmark Here
4
Clerk: KPZGMV
06/04/01

Sent To Windchime Retirement Group LTD
Street, Apt. No.; or PO Box No. 8709 Vineyard Ridge Road NE
City, State, ZIP+4 Alb. NM 87122

PS Form 3800, May 2000 See Reverse for Instructions

NATIONAL FLOOD INSURANCE PROGRAM
FEMA MAP COORDINATION CONTRACTOR

MAY 10 2001

Mr. Shahab Biazar, P.E.
Advanced Engineering & Consulting, LLC
10205 Snowflake Ct. NW
Albuquerque, NM 87114

IN REPLY REFER TO:
Case No.: 01-06-303P
Community: City of Albuquerque, Bernalillo County, New Mexico
Community No.: 350002
316-AD

Dear Mr. Biazar:

This is in regard to the October 30, 2000, request that the Federal Emergency Management Agency (FEMA) issue a Letter of Map Revision (LOMR) revision to the Flood Insurance Rate Map (FIRM) for the Bernalillo County, New Mexico and Incorporated Areas. In a previous letter, you were informed that additional data might be required to complete our review of the request. The data required to complete our review, which must be submitted within 90 days of the date of this letter, are listed below.

1. Although AHYMO is an accepted hydrologic model, the version in your submittal is out-of-date. The correct accepted version is AHYMO 97. Please use this version to recompute your flows and, if necessary, rerun your hydraulic models.

2. Please submit documentation of individual legal notice to all property owners impacted by any widening of the 1% annual chance (100-year) floodplain for the AHEPA pond. This notice must include a descriptive explanation of the impacts caused by the proposed project (see enclosed example notification letter).

Please send the required data to us at the address shown at the bottom of this page. For identification purposes, please include the case number referenced above on your correspondence. Further action on the request has been suspended pending receipt of the required data.

If we do not receive the required data within 90 days, we will suspend the processing of your request. Any data submitted after 90 days will be treated as an original submittal and will be subject to all submittal/payment procedures, including the review and processing fee in effect at the time of the re-submittal. A copy of the notice summarizing the current fee schedule, which was published in the *Federal Register,* is enclosed for your information.

12101 Indian Creek Court, Beltsville, MD 20705 • Phone: 1-800-697-7275 • Fax: 301-210-5157

When you write 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 National Flood Insurance Program, 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, Kristen Martinenza, by phone at 1-800-697-7275 Ext. 269, or by e-mail at kmmartinenza@pbsj.com.

Sincerely,

Andre Cadogan
Program Manager, Region VI

Enclosure

cc: Carlos Montoya
City of Albuquerque
Floodplain Administrator

City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

March 9, 2001

Federal Emergency Management Agency
Fee-Charge System Administrator
P.O. Box 3173
Merrifield, VA 22116-3173

RE: Additional Payment Fee for AHEPA 501 Apartments

City of Albuquerque, New Mexico, Community No. 350002, FIRM Panel 35001C0329 D, Effective Date September 20, 1996

Dear Sir,

The purpose of this submittal is to convey the balance of $300.00 for reviewing and processing.

Enclosed with this letter are the previous FEMA letter and a check in the amount of $300.00.

If you have any questions, you can contact me at (505) 924-3982.

Sincerely,

Carlos A. Montoya
City/County Floodplain Administrator

C: Shahab Biazar
Advance Engineering and Consulting

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

1257

AHEPA 501 PHASE II, INC.
5925 CENTRAL NORTHWEST
ALBUQUERQUE, NM 87121

95-219-1070

DATE 3-5-01

PAY TO THE ORDER OF FEMA $300.00

Three Hundred & No DOLLARS

Security features included. Details on back.

NORWEST BANK NEW MEXICO, N.A. 0113
ALBUQUERQUE, NM 87103-1081

MP

⑈001257⑈ ⑆107002192⑆ 2630108446⑈

THIS CHECK IS DELIVERED FOR PAYMENT ON THE FOLLOWING ACCOUNTS.

DATE		AMOUNT
CS #	01-06-303P	
Ph2 - Fema		
TOTAL OF INVOICES		
LESS ___% DISCOUNT		
LESS FREIGHT		
LESS		
TOTAL DEDUCTIONS		
AMOUNT OF CHECK		

© DELUXE - V9

NATIONAL FLOOD INSURANCE PROGRAM
FEMA MAP COORDINATION CONTRACTOR

FEB 20 2001

Bradley L Bingham, PE
City/County Floodplain Administrator (Acting)
City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

IN REPLY REFER TO:
Case No.: 01-06-303P
Community: City of Albuquerque, Bernalillo County, New Mexico
Community No.: 350002

316-ACK.FRQ

Dear Mr. Bingham:

This responds to your request dated October 30, 2000, 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:	AHEPA 501 Apartments
Flooding Source:	On site runoff
FIRM Panel(s) Affected:	Bernalillo County, New Mexico and Incorporated Areas, FIRM number 35001C0329 D, dated September 20, 1996

Effective June 1, 2000, FEMA revised the fee schedule for reviewing and processing requests for conditional and final modifications to published flood information and maps. 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 $4,000. The amount you submitted, $3,700, is not sufficient. The balance, $300, must be submitted before we can begin 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 a credit card payment.

For identification purposes, the case number referenced above must be included on the check or money order.

If you choose to forward your payment using the U.S. Postal Service, please send it to the following address:

Federal Emergency Management Agency
Fee-Charge System Administrator
P.O. Box 3173
Merrifield, VA 22116-3173

12101 Indian Creek Court, Beltsville, MD 20705 • Phone: 1-800-897-7275 • Fax: 301-210-5157

PBS&J, under contract with the FEDERAL EMERGENCY MANAGEMENT AGENCY,
is a Map Coordination Contractor for the National Flood Insurance Program

If you choose to forward your payment using an overnight service, please send it to the following address:

Fee-Charge System Administrator
c/o PBS&J
12101 Indian Creek Court
Beltsville, MD 20705

Upon receipt of the requested payment, we will begin our technical review of your request. When you write to us about your request, please include the case number referenced above in your letter. Unless otherwise directed by you in writing, we will keep the submitted data in our files.

If you have general questions about your case, FEMA policy, or the National Flood Insurance Program, 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 call the Study Manager for your state, Andre Cadogan, who may be reached at 1-800-697-7275 Ext. 782.

Sincerely,

Vince DiCamillo
Project Manager

Enclosure

cc: Shahab Biazar
Advanced Engineering and Consulting, LLC

NATIONAL FLOOD INSURANCE PROGRAM
FEMA MAP COORDINATION CONTRACTOR

FEB 20 2001

Bradley L Bingham, PE
City/County Floodplain Administrator (Acting)
City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

IN REPLY REFER TO:
Case No.: 01-06-303P
Community: City of Albuquerque, Bernalillo County, New Mexico
Community No.: 350002

316-ACK.FRQ

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P.O. Box 3173
Merrifield, VA 22116-3173

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Fee-Charge System Administrator
c/o PBS&J
12101 Indian Creek Court
Beltsville, MD 20705

Upon receipt of the requested payment, we will begin our technical review of your request. When you write to us about your request, please include the case number referenced above in your letter. Unless otherwise directed by you in writing, we will keep the submitted data in our files.

If you have general questions about your case, FEMA policy, or the National Flood Insurance Program, 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 call the Study Manager for your state, Andre Cadogan, who may be reached at 1-800-697-7275 Ext. 282.

Sincerely,

Vince DiCamillo
Project Manager

Enclosure

cc: Shahab Biazar
Advanced Engineering and Consulting, LLC

City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

October 30, 2000

Bill Blanton
Federal Emergency Management Agency
500 C Street, SW
Washington, DC 20472

Re: Request for a Letter of Map Revision for AHEPA 501 Apartments, City of Albuquerque, New Mexico, Community No. 350002, FIRM Panel 35001C0329D

Dear Mr. Blanton,

The purpose of this submittal is to request a Letter of Map Revision for the AHEPA 501 Apartments. This request is due to modifications made to the existing retention pond.

Enclosed with this letter are the Application and Certification forms for requesting revisions to the National Flood Insurance Program map, analysis of the project and a check in the amount of $3700.00.

As the Community official, I have reviewed and approved the analysis and plan provided with this submittal. 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

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

C: Shahab Biazar, P.E. Advanced Engineering
Alan Johnson, FEMA Headquarters
Jack Quarles, FEMA Region VI

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

ADVANCED ENGINEERING and CONSULTING, LLC

Consulting
Design
Development
Management
Inspection

October 18, 2000

Mr. Brad Bingham, P.E.
City/County Floodplain Administrator
600 Second Street NW
Albuquerque, New Mexico 87102

RE: AHEPA 501 APARTMENTS LOMR, (J10/D2J)

Dear Mr. Bingham:

Please find attached two copies of the LOMR for the AHEPA 501 Apartments. This LOMR study was prepared by our office. Please submit on copy of the LOMR to FEMA for review.

Please contact me if there are any questions or concerns regarding this submittal.

Sincerely yours,

Shahab Biazar, P.E.

10205 Snowflake Court N.W., Albuquerque, N.M. 87114 PH (505) 899-5570 FAX (505) 897-4996 EMAIL AECLLC@aol.com

ADVANCED ENGINEERING and CONSULTING

Consulting
Design
Development
Management

September 15, 2000

Ms. Susan Calongne, P.E.
City/County Floodplain Administrator
600 Second Street NW
Albuquerque, New Mexico 87102

RE: AHEPA 501 APARTMENTS LOMR, (J10/D2J)

Dear Ms. Calongne:

Please find enclosed copy of the LOMR for the AHEPA 501 Apartments. Once this LOMR is finalized and approved two copies with fee will be submitted, so one copy and the submittal fee can be forwarded to FEMA for review.

Please contact me if there are any questions or concerns regarding this submittal.

Sincerely yours,

Shahab Biazar, P.E.

RECEIVED
SEP 18 2000
HYDROLOGY SECTION

10209 Snowflake Court N.E., Albuquerque, N.M. 87114 PH/FAX (505) 899-5570 PAGER (505) 460-2188

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Additional Explanation For Form 1
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Figure 2.2 - Modified Pond Configuration
2.cal.1 - Offsite Ponding Calculations (Volume Requirement)
2.cal.2 - On-site Ponding Calculations (Volume Requirement)
2.cal.3 - Volume Calculations (Based On The As-Builts For The Retention Pond)

Form 3 - Hydrologic Analysis, Sheet 1 of 5 only (sheet 2 through 5 not required)
Additional Explanation For Form 3

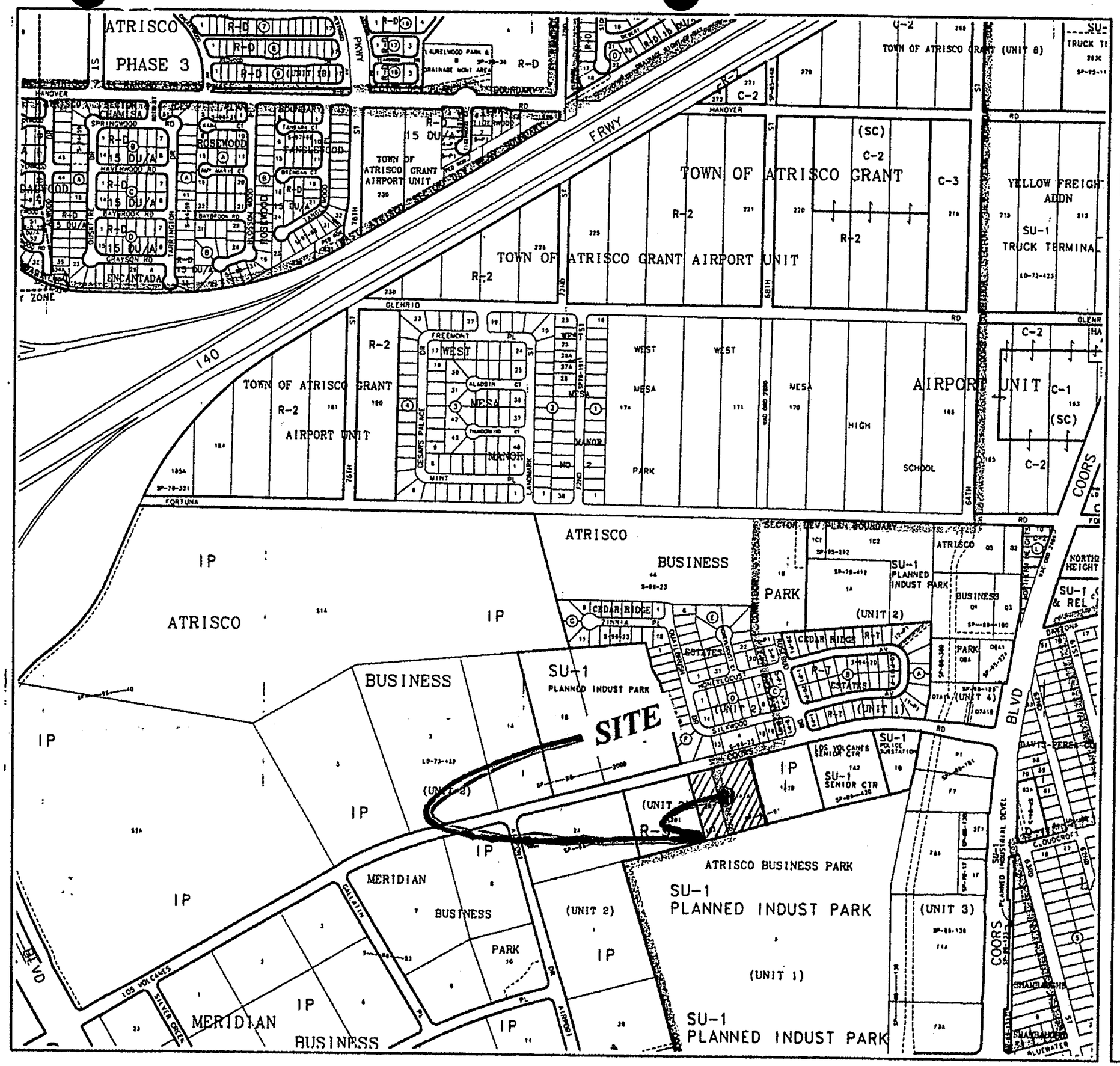
Form 5- Riverine/Coastal Mapping, Sheets 1 of 2 and 2 of 2
Additional Explanation For Form 5
Figure 5.1 - Proposed Floodplain (1"=500')
Figure 5.2 - Proposed Floodplain (Enlarged Figure, Not To Scale)
Figure 5.3 - Site Location Based On FIRM Map (1"=500')
Figure 5.4 - Private Drainage Easement (Not To Scale)

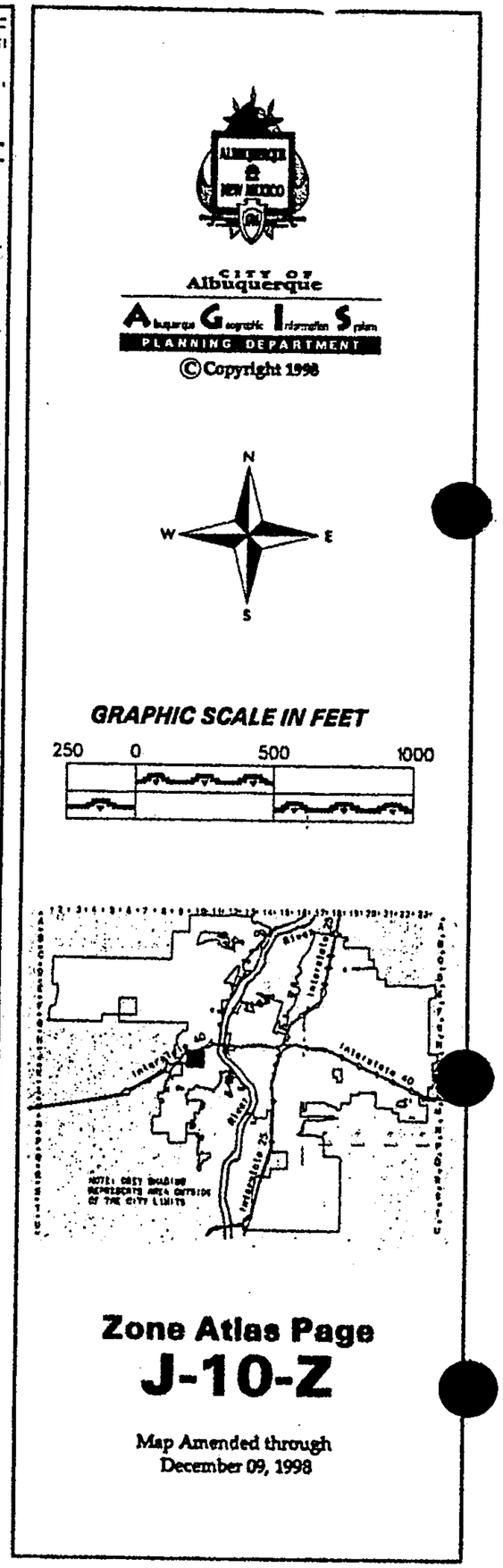
Appendix A- Approved drainage report for the AHEPA 501 Apartments

Appendix B - Copy for the original drainage report for the design of the original retention pond.

Map Pocket 1 - AHEPA 501 Apartments grading and drainage plan

Map Pocket 2 - Grading and drainage plan which the original retention pond was built from


ATRISCO
PHASE 3
TOWN OF ATRISCO GRANT
TOWN OF ATRISCO GRANT AIRPORT UNIT
YELLOW FREIGHT ADDN
SU-1
TRUCK TERMINAL
AIRPORT UNIT
WEST MESA HIGH SCHOOL
WEST MESA PARK
ATRISCO BUSINESS PARK
SU-1
PLANNED INDUST PARK
SITE
MERIDIAN BUSINESS PARK
IP
FRWY
140
COORS BLVD
OLENRIO
HANOVER
FORTUNA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Map Amended through
December 09, 1998

Form 1

Revision Request And Community Official

Sheets 1 of 2 and 2 of 2
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FEDERAL EMERGENCY MANAGEMENT AGENCY

REVISION REQUESTER AND COMMUNITY OFFICIAL

O.M.B No. 3067-0148
Expires April 30, 2001

PUBLIC BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 2.13 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing and reviewing the 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, S.W., Washington DC 20472; and to the Office of Management and Budget, Paperwork Reduction Project (3067-0148), Washington, DC 20503.

You are not required to respond to this collection of information unless a valid OMB Control Number is displayed in the upper right corner of this form.

1. REQUESTED RESPONSE FROM FEMA

This request is for a:

☐ 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, floodway or flood elevations. LOMRs typically decrease flood hazards. (See 44 CFR Ch. 1 Parts 60 & 65.)

☐ Other Describe: _____

2. OVERVIEW

1. The basis for this revision request is (are): (check all that apply)

☒ Physical Change ☐ Improved Methodology/Data ☐ Floodway Revision

☐ Other Describe: _____

Note: A photograph is not required, but is very helpful during review.

2. Flooding Source: On Site Runoff

Project Name/Identifier: AHEPA 501 Apartments

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

5. 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	Katy, City	TX	480301	0005D	02/08/83
480287	Harris County	TX	48201C	0220G	09/28/90
350002	City Of Albuquerque	NM	35001C	0329D	09/20/96

6. The area of revision encompasses the following types of flooding and structures. Check all that apply.

Types of Flooding	Structures
☐ Riverine	☐ Channelization
☐ Coastal	☐ Levee/Floodwall
☐ Alluvial fan	☐ Bridge/Culvert
☐ Shallow Flooding (e.g. Zones AO and AH)	☐ Dam
☐ Lakes	☐ Fill
☒ Other (describe) On Site Runoff	☒ Other (describe) Retention Pond

PLEASE REFER TO THE INSTRUCTIONS FOR THE APPROPRIATE MAILING ADDRESS

4. ENCROACHMENT INFORMATION

1. Does the State have jurisdiction over the floodway or its adoption by communities participating in the NFIP? ☐ Yes ☒ No

If Yes, attach a copy of a letter notifying the appropriate State agency of the floodway revision and documentation of the approval of the revised floodway by the appropriate State agency.

2. Does the development in the floodway cause the 1% annual chance (base) elevation to increase at any location by more than 0.000 feet? ☐ Yes ☐ No ☒ N/A

3. Does the cumulative effect of all development that has occurred since the effective SFHA was originally identified cause the base flood elevation to increase at any location by more than one foot (or other increase limit if community or state has adopted more stringent criteria - even if a floodway has not been delineated by FEMA)? ☐ Yes ☐ No

If the answer to either items is Yes, please attach documentation that all requirements of Section 65.12 of the NFIP regulations have been met, regarding evaluation of alternatives, notice to individual legal property owners, concurrence of CEO, and certification that no insurable structures are impacted.

5. MAINTENANCE RESPONSIBILITY

The community is willing to assume responsibility for ☐ performing ☐ overseeing compliance with the maintenance and operation plans of the N/A (Name) flood control structure. If not performed promptly by an owner other than the community, the community will provide the necessary services without cost to the Federal government.

Operation and maintenance plans are attached. ☐ **Yes** ☐ **No** ☒ **N/A** See Attached Explanation

6. REVIEW FEE

The review fee for the appropriate request category has been included. ☒ Yes Fee amount: $ ~~2,300.00~~ 3,700.00 SB

OR

This request is based on a federally sponsored flood-control project where 50 percent or more of the project's cost is federally sponsored, or the request is based on detailed hydrologic and hydraulic studies conducted by Federal, State, or local agencies to replace approximate studies conducted by FEMA and shown on the effective FIRM; thus the project is fee exempt. ☐ Yes

Please see Instructions for Fee Amounts See Attached Sheet For Fee Schedule

7. SIGNATURE

Note: **I understand that my signature indicates that all information submitted in support of this request is correct**

Signature of Revision Requester

Shahab Biazar, P.E. Professional Engineer
Printed Name and Title of Revision Requester

Advanced Engineering & Consulting, LLC
Company Name

(505) 899-5570 — Telephone No.
09/12/00 — Date

Note: **Signature indicates that the community understands, from the revision requester, the impacts of the revision on flooding conditions in the community.**

Signature of Community Official

Printed Name and Title of Community Official

Community Name

Telephone No. Date

CERTIFICATION BY REGISTERED PROFESSIONAL ENGINEER AND/OR LAND SURVEYOR

This certification is in accordance with 44 CFR Ch. 1, Sect 65.2

Signature

Shahab Biazar, P.E. Professional Engineer
Printed Name and Title of Revision Requester

Registr No. 13479 Expires (Date) 12/31/01 State NM

Type of License/Expertise: P.E.

Check which forms have been included with this request

Form Name and (Number)	Required if .....
☒ **Hydrologic** (3)	new or revised discharges
☐ **Hydraulic** (4)	new or revised water-surface elevations
☒ **Mapping** (5)	floodplain/floodway changes
☐ **Channelization** (6)	channel is modified
☐ **Bridge/Culvert** (7)	addition/revision of bridge/culvert
☐ **Levee/Floodwall** (8)	addition/revision of levee/floodwall
☐ **Coastal** (9)	new or revised coastal elevations
☐ **Coastal Structures** (10)	addition/revision of coastal structure
☐ **Dam** (11)	addition/revision of dam
☐ **Alluvial Fan** (12)	structures proposed on alluvial fan

Letter of Map Amendment (LOMA)	A letter from FEMA removing an existing structure or a legally defined parcel of land unaltered by fill from an SFHA (see 44 CFR Ch. 1, Part 70).
Conditional Letter of Map Amendment (CLOMA)	A letter from FEMA conditionally removing a proposed structure or a legally defined parcel of land unaltered by fill from an SFHA (see 44 CFR Ch. 1, Parts 70 and 72).
Letter of Map Revision Based on Fill (LOMR-F)	A letter from FEMA removing an existing structure or a or a legally defined parcel of land elevated by the placement of fill from an SFHA (see 44 CFR Ch. 1, Section 65.5 and Part 72).
Conditional Letter of Map Revision Based on Fill (CLOMR-F)	A letter from FEMA conditionally removing a proposed structure or a legally defined parcel of land to be elevated by the placement of fill from an SFHA (see 44 CFR Ch. 1, Section 65.5 and Part 72).

NFIP regulation, CFR Ch. 1, specifies the requirements regarding the submittal of revision requests to FEMA. A document entitled Appeals, Revisions, and Amendments to Flood Insurance Maps, A Guide for Community Officials, (FIA-12), provides background on the NFIP and an expanded explanation of these requirements.

NFIP Regulation, 44 CFR Ch. 1, Part 59, contain general provisions of the NFIP with which all requesters and community officials involved in revision requests should be familiar.

NFIP Regulation, 44 CFR Ch. 1, Section 65.2, contain definitions relative to certification of data, analyses, and structural works. This information is important to all professionals certifying technical information submitted with revision requests and should be carefully reviewed prior to signing the application/certification forms.

Part 72 of the NFIP regulations, published at 44 CFR 72, presents information regarding the reimbursement procedure that FEMA has initiated to allow for the recovery of costs associated with the review of requests for Conditional LOMRs, LOMRs, or Physical Map Revisions. The fees for FEMA's review and processing of CLOMRs, LOMRs, and Physical Map Revisions requests are as follows:

	CLOMR	LOMR	PMR
· Detailed data	--	$2,300	$2,300
· Channel modification, new bridge or culvert, or combination	$3,100	$3,700	$3,700
· Levees, berms, or other structural modifications	$3,300	$4,300	$4,300
· Structural measures on alluvial fan	$5,000	$5,000	$5,000
· Review of revised hydrology	$3,100	--	--
· "As-Built" request follow-up to CLOMR	--	$2,300	$2,300

For requests involving a combination of the above, the highest fee will apply.

Payment must be made in the form of a check or money order made payable to the National Flood Insurance Program. Please forward payment to the following address:

Federal Emergency Management Agency
Revisions Fee-Collection System Administrator
P.O. Box 3173
Merrifield, Virginia 22116
Fax: (703) 849-0282

Additional Explanation for Form 1

Revision Requester and Community Official

AHEPA 501 Apartments

2. Overview

2.1 Existing retention pond was enlarged and re-configured due to additional runoff based on the new developments on site. See Figure 2.1 for the original pond configuration. See Figure 2.2 for the modified pond configuration. Located in Map Pocket 2 is the original grading plan which the pond was built from. See Appendix B for the copy for the original drainage report for the design of the original retention pond. Sheet 2.cal.1 is the ponding volume requirements calculations for the adjacent property. Sheet 2.cal.2 is the ponding volume requirements for the on site runoff. Sheet 2.cal.3 is the ponding volume calculation based on the as-built data for the retention pond.

2.2 & 2.6 The flooding source is due to the storm runoff from this tract and the adjacent tract only. This pond is a common retention pond for both this and the adjacent tract to the east.

5. Maintenance Responsibility

The drainage structure is a retention pond. The maintenance of the pond will be very little. This pond is a private retention pond for the purpose of this site and the adjacent property to the east. Prior to modification of the pond, the maintenance of the pond was the responsibility of the both property owners and will remain the same after these new modifications.

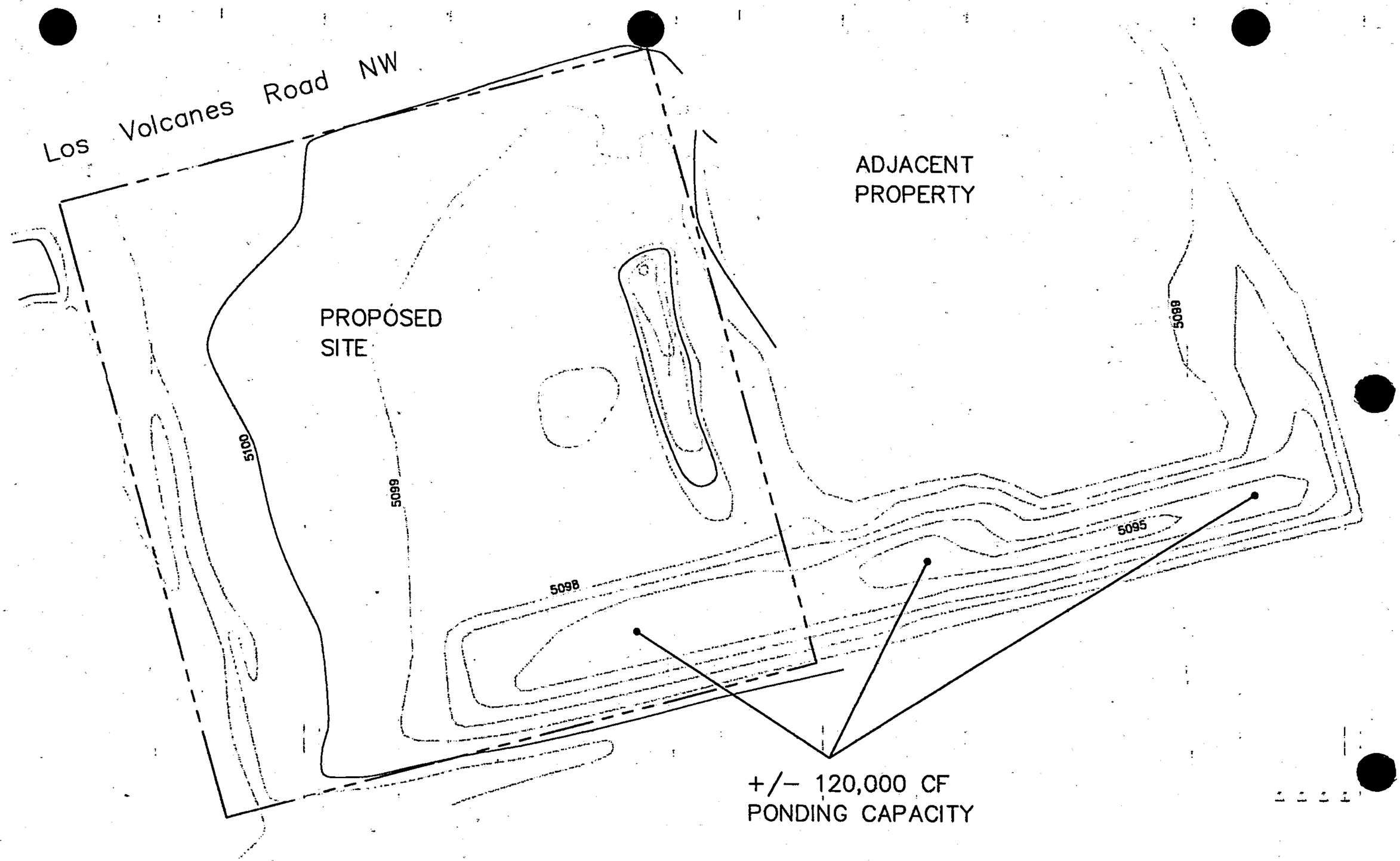


FIGURE 2.1

ORIGINAL POND CONFIGURATION

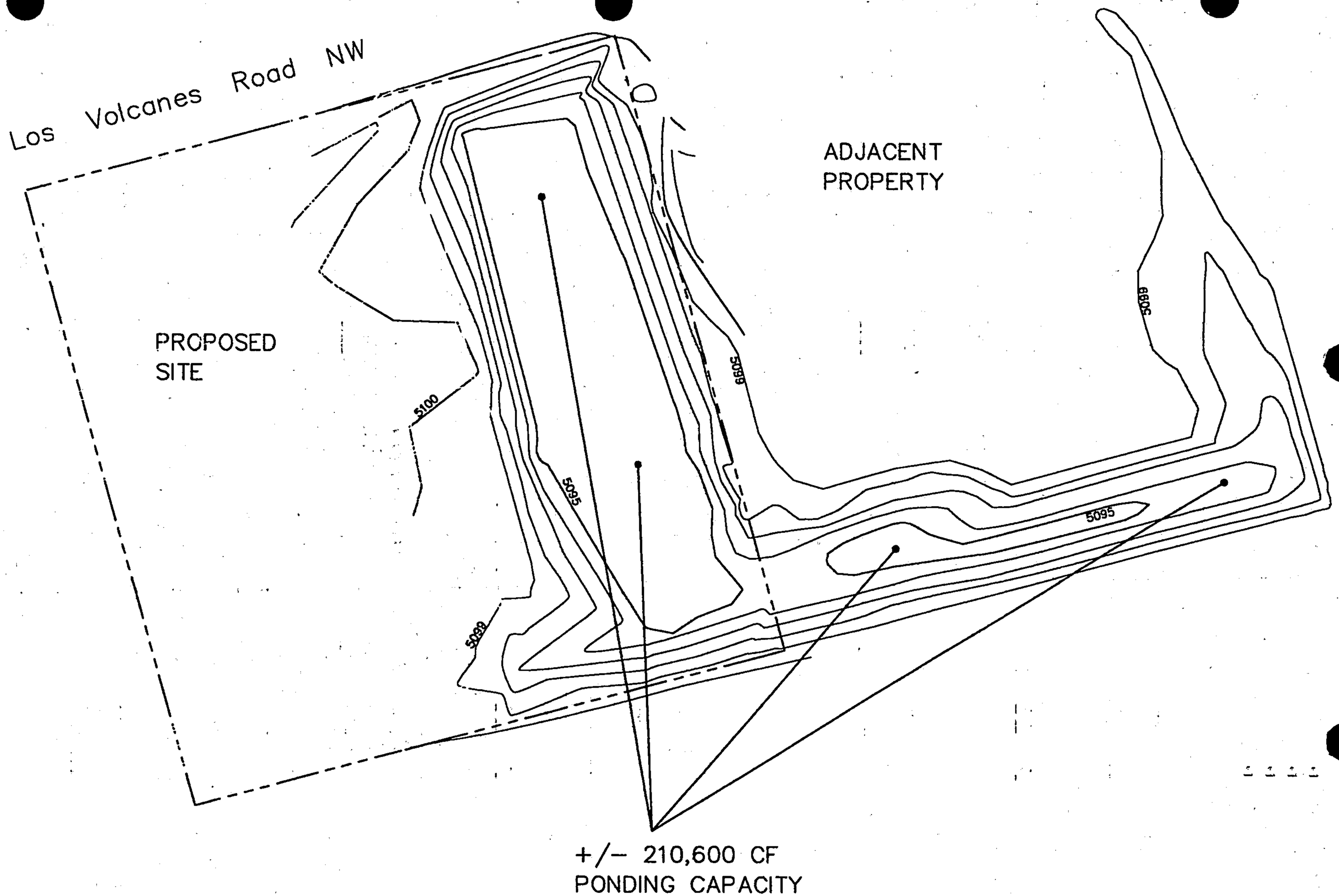


FIGURE 2.2

MODIFIED POND CONFIGURATION

OFFSITE PONDING CALCULATIONS

(REQUIRED VOLUME)

ZONE = 1

DRAINAGE BASINS

BASIN	AREA (SF)	AREA (AC-FT)	AREA (MI^2)
OFFSITE	122850.00	2.82025	0.004407

$$E = \frac{EA(AA) + EB(AB) + EC(AC) + ED(AD)}{AA + AB + AC + AD}$$

V-360 = E (AA + AB + AC + AD)

V-10 Day = V-360 + AD (P-10 Day - P-360) / 12 in/ft

EA = 0.44
EB = 0.67
EC = 0.99
ED = 1.97

AA = 0.00%
AB = 59.33%
AC = 0.00%
AD = 40.67%

P-60 = 1.87
P-360 = 2.20
P-1440 = 2.66
P-10 Day = 3.67

E =	**1.1987**	**IN**
V-360 =	**0.2817**	**AC-FT**
AD =	**1.1470**	**AC**
V-10 Day =	**0.4222**	**AC-FT**
V-10 DAY =	**18,392.27**	**CF**

VOL ENCROACHED INTO FLOODPLAIN =100,804.00 CF
V-10 DAY = 18,392.27 CF

TOTAL REQUIRED PONDING VOLUME = 119,196.27 CF

ON-SITE PONDING CALCULATIONS

(REQUIRED VOLUME)

ZONE = 1

DRAINAGE BASINS

SUB-BASIN	AREA (SF)	AREA (AC-FT)	AREA (MI²)
ON-SITE	133637.26	3.06789	0.004794

$$E = \frac{EA(AA) + EB(AB) + EC(AC) + ED(AD)}{AA + AB + AC + AD}$$

V-360 = E (AA + AB + AC + AD)

V-10 Day = V-360 + AD (P-10 Day - P-360) / 12 in/ft

EA = 0.44
EB = 0.67
EC = 0.99
ED = 1.97

AA = 0.00%
AB = 53.29%
AC = 10.00%
AD = 36.71%

P-60 = 1.87
P-360 = 2.20
P-1440 = 2.66
P-10 Day = 3.67

E =	**1.1792**	**IN**
V-360 =	**0.3015**	**AC-FT**
AD =	**1.1262**	**AC**
V-10 Day =	**0.4394**	**AC-FT**
V-10 DAY =	**19,142.06**	**CF**

OFFSITE PONDING REQUIREMENTS = 119,196.27 CF
ON-SITE PONDING REQUIREMENTS = 19,142.06 CF

TOTAL REQUIRED PONDING VOLUME = 138,338.33 CF

VOLUME CALCULATIONS

(BASED ON THE AS-BUILT GRADES FOR THE RETENTION POND)

ELEVATION FT	SURFACE AREA SF
5,099.00	83,713.34
5,098.00	62,533.76
5,097.00	49,043.80
5,096.00	36,630.21
5,095.00	24,609.03
5,094.50	8,315.23

ELEVATION FT	VOLUME CF	
5,099.00	**210,600.02**	**TOTAL PONDING CAPACITY**
5,098.01	**138,338.33**	*
5,098.00	137,476.47	
5,097.00	81,687.69	
5,096.00	38,850.69	
5,095.00	8,231.07	
5,094.50	0.00	

*** 100-YEAR WATER SURFACE ELEVATION (BASED ON THE REQUIRED VOLUME)**

Form 3

Hydrologic Analysis

Sheet 1 of 5 only (sheet 2 through 5 not required)
Additional Explanation For Form 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

HYDROLOGIC ANALYSIS

O.M.B No. 3067-0148
Expires April 30, 2001

PUBLIC BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average **3.67** hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing and reviewing the 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, S.W., Washington DC 20472; and to the Office of Management and Budget, Paperwork Reduction Project (3067-0148), Washington, DC 20503.

You are not required to respond to this collection of information unless a valid OMB Control Number is displayed in the upper right corner of this form.

Note: Fill out one form for each flooding source studied

Community Name: City of Albuquerque, Bernalillo County

Flooding Source: On-Site Runoff

Project Name/Identifier: AHEPA 501 Apartments, City of Albuquerque

1. REASON FOR NEW HYDROLOGIC ANALYSIS

☐ No existing analysis ☐ Improved data ☐ Changed physical condition of watershed

☐ Alternative methodology ☐ Proposed Conditions (CLOMR) ☒ Other Modification of Existing Retention Pond

For the reason stated above, please attach a detailed explanation. If a computer program/model was used in revising the hydrologic analysis, **please provide a diskette with the input files** for the same flood recurrence intervals contained in the FIS for that stream; and at least for the 1% annual chance (base) flood where no detailed study exists.

Explanation provided: ☐ Yes ☐ No **Diskettes provided:** ☐ Yes ☐ No N/A

2. METHODOLOGY FOR NEW ANALYSIS

Indicate Method	Required Data	Data Included	
☐ Statistical Analysis of Gage Records	Form 3 - Attachment A	☐ Yes	☐ No
☐ Regional Regression Equations	Form 3 - Attachment C	☐ Yes	☐ No
☐ Precipitation/Runoff Model	Form 3 - Attachment D	☐ Yes	☐ No
☒ Other	Back-up computations and supporting data	☒ Yes	☐ No

3. APPROVAL OF ANALYSIS

The hydrologic analysis has already been approved by a local, state, or Federal Agency. ☒ Yes ☐ No ☐ Not Required

If Yes, attach evidence of approval. ☐ **Approval attached.** If No, attach explanation. ☒ **Explanation attached.**

4. COMPARISON OF BASE FLOOD DISCHARGES

Location	Drainage Area (SqMi)	FIS(cfs)	Revised (cfs)
N/A			

Note: When revised discharges are not significantly different than the FIS discharges, FEMA may require a confidence limits analysis (see attachment B) at a later date to complete the review.

If only a portion of a detailed study area was revised please attach an explanation describing the transition from the proposed discharges to the effective discharges. ☒ **Explanation Included** ☐ **Explanation Not Required**

5. HISTORICAL FLOODING INFORMATION

If historical data are available for the flooding source please provide: Location, peak discharges/water-surface elevations and dates, and source of information. ☒ **Data Attached** ☐ **Data Not Available**

PLEASE REFER TO THE INSTRUCTIONS FOR THE APPROPRIATE MAILING ADDRESS

Additional Explanation for Form 3

Hydrological Analysis

AHEPA 501 Apartments

1. Reason For New Hydrological Analysis

The original retention pond was enlarged due to new construction on site. Therefore, new hydrological Analysis was required for additional ponding volume. See Figure 2.1 for the original pond configuration. See Figure 2.2 for the modified pond configuration.

2. Methodology For New Analysis

The Hydrological model used was AHYMO computer model used in accordance with the City of Albuquerque Development Process Manuel. See Appendix A for the approved drainage report for the AHEPA 501 Apartments, and Appendix B for the original drainage report for the adjacent site were the original retention pond was designed.

3. Approval of Analysis

FEMA has accepted the City of Albuquerque Development Process Manuel in a letter dated November 14, 1991 to Mr. Gilbert Aldez, City/County Floodplain Administrator at that time.

4. Comparison of Base Flood Discharge

The discharge can not be compared with the previous analysis. The storm runoff discharge and the volume has increased significantly due to this new development.

5. Historical Flooding Information

The drainage report which had calculated the original ponding requirement for the retention pond is attached in Appendix B.

Form 5

Riverine/Coastal Mapping

Sheets 1 of 2 and 2 of 2
Additional Explanation For Form 5
Figure 5.1 - Proposed Floodplain (1=500')
Figure 5.2 - Proposed Floodplain (Enlarged Figure, Not To Scale)
Figure 5.3 - Site Location Based On FIRM Map (1"=500')
Figure 5.4 - Private Drainage Easement (Not To Scale)

FEDERAL EMERGENCY MANAGEMENT AGENCY
RIVERINE/COASTAL MAPPING

O.M.B No. 3067-0148
Expires April 30, 2001

PUBLIC BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 1.5 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing and reviewing the 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, S.W., Washington DC 20472; and to the Office of Management and Budget, Paperwork Reduction Project (3067-0148), Washington, DC 20503.

You are not required to respond to this collection of information unless a valid OMB Control Number is displayed in the upper right corner of this form.

Note: Fill out one form for each flooding source studied

Community Name: City of Albuquerque, Bernalillo County

Flooding Source: On Site Runoff

Project Name/Identifier: AHEPA 501 Apartments

This is a ☒ Manual ☐ Digital submission. *Digital map submissions may be used to update digital FIRMs (DFIRMs). For updating DFIRMs, these submissions must be coordinated with FEMA Headquarters as far in advance as possible.*

1. MAPPING CHANGES

1. A topographic workmap must be submitted showing the following information (check N/A when not applicable):

a. Revised approximate 100-year floodplain boundaries (Zone A)	☒ Yes	☐ No	☐ N/A
b. Revised detailed 100- and 500-year floodplain boundaries.	☒ Yes	☐ No	☐ N/A
c. Revised floodway boundaries	☐ Yes	☐ No	☒ N/A
d. Location and alignment of all cross sections with stationing control indicated.	☐ Yes	☐ No	☒ N/A
e. Stream alignments, road alignments and dam alignments.	☐ Yes	☐ No	☒ N/A
f. Current community boundaries.	☒ Yes	☐ No	☐ N/A
g. Effective 100-year floodplain and floodway boundaries from FIRM/FBFM reduced or enlarged to the scale of the topographic workmap	☒ Yes	☐ No	☐ N/A
h. Tie-ins between the effective and revised 100-, 500-year and floodway boundaries	☐ Yes	☐ No	☒ N/A
i. The requester's property boundaries and community easements	☒ Yes	☐ No	☐ N/A
j. The signed certification of a registered professional engineer	☒ Yes	☐ No	☐ N/A
k. Location and description of reference marks	☒ Yes	☐ No	☐ N/A
l. Vertical datum (example: NGVD, NAVD)	☒ Yes	☐ No	☐ N/A
m. Coastal zone designations tie into adjacent areas not being revised	☐ Yes	☐ No	☒ N/A
n. Location and alignment of all coastal transects used to revise the coastal analyze	☐ Yes	☐ No	☒ N/A
o. V-zone has been delineated to extend landward to the heel of the primary frontal dune	☐ Yes	☐ No	☒ N/A

If any items are marked No or N/A please attach an explanation.

2. What is the source and date of the updated topographic information (example: orthophoto maps, July 1985; filed survey, May 1979, beach profile, June 1987 etc.)?

Field Survey (September, 2000)

3. What is the scale and contour interval of the following workmaps?

Effective FIS	Scale N/A	Contour Interval
Revision Request	Scale 1"=100'	Contour Interval 1'

NOTE: Revised topographic information must be of equal or greater detail than effective.

4. Attach an annotated FIRM/FBFM at the scale of the effective FIRM/FBFM showing the revised 100- and 500-year floodplain and the floodway boundaries and how they tie into those shown on the effective FIRM/FBFM downstream and upstream of the revisions or adjacent to the area of revision for coastal studies. **FIRM/FBFM attached?** ☒ **Yes** ☐ **No**

PLEASE REFER TO THE INSTRUCTIONS FOR THE APPROPRIATE MAILING ADDRESS

2. EARTH FILL PLACEMENT N/A

1. The fill is: ☐ Existing ☐ Proposed

2. Has fill been/will be placed in the regulatory floodway? ☐ Yes ☐ No
   If Yes, please attach completed Riverine Hydraulic Analysis Form (Form 4).

3. Has fill been/will be placed in floodway fringe (*area between the floodway and 100-year floodplain boundaries*)? ☐ Yes ☐ No

   If Yes, then complete A, B, C, and D below.

   a. Are fill slopes for granular materials steeper than one vertical on one-and-one-half horizontal? ☐ Yes ☐ No

      If Yes, justify steeper slopes _____

      _____

   b. Is adequate erosion protection provided for fill slopes exposed to moving flood waters? (*Slopes exposed to flows with velocities of up to 5 feet per second (fps) during the 100-year flood must, at a minimum, be protected by a cover of grass, vines, weeds, or similar vegetation; slopes exposed to flows with velocities greater than 5 fps during the 100-year flood must, at a minimum, be protected by stone or rock riprap.)*

      ☐ Yes ☐ No

      If No, describe erosion protection provided _____

      _____

   c. Has all fill placed in revised 100-year floodplain been compacted to 95 percent of the maximum density obtainable with the Standard Proctor Test Method or acceptable equivalent method? ☐ Yes ☐ No

   d. Can structures conceivably be constructed on the fill at any time in the future? ☐ Yes ☐ No

   If Yes, attach certification of fill compaction (item 3c. above) by the community's NFIP permit official, a registered professional Engineer, or an accredited soils engineer in accordance with Subparagraph 65.5(a)(6) of the NFIP regulations.

   Fill certification attached ☐ **Yes** ☐ **No**

4. Has fill been/will be placed in a V zone? ☐ Yes ☐ No

   If Yes, is the fill protected from erosion by a flood control structure such as a revetment or seawall?

   ☐ Yes ☐ No

   If Yes, attach the Coastal Structures Form (Form 10).

Additional Explanation for Form 5

Riverine/Coastal Mapping

AHEPA 501 Apartments

1. Mapping Changes

a & b. Revised detail 100-year floodplain boundaries (Zone A) is shown on Figure 5.1 (1"=500') and Figure 5.2 (enlarged section, not to scale).

f. City of Albuquerque boundaries are the limits of the current community boundaries.

g. Effective 100-year floodplain boundary from FIRM map is shown on Figure 5.3 (1"=500').

i. See Figure 5.4 for the requester's boundary and community easement (the easement is a private drainage easement).

j. See Form 1, Page 2 of 2, for the signed certification of a registered professional engineer.

l. See AHEPA 501 Apartments grading and drainage plan located in the Map Pocket 1 for the vertical datum reference.

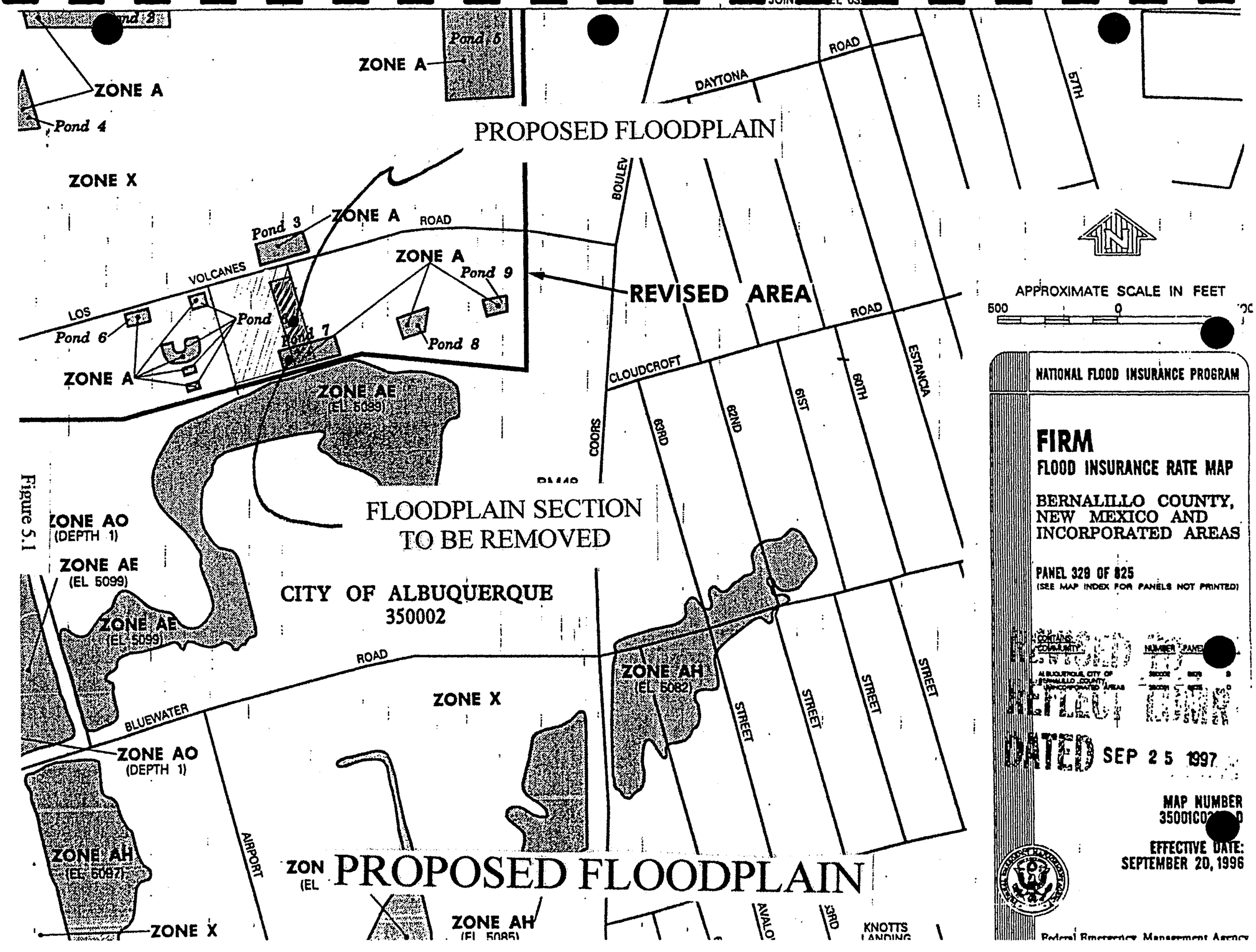
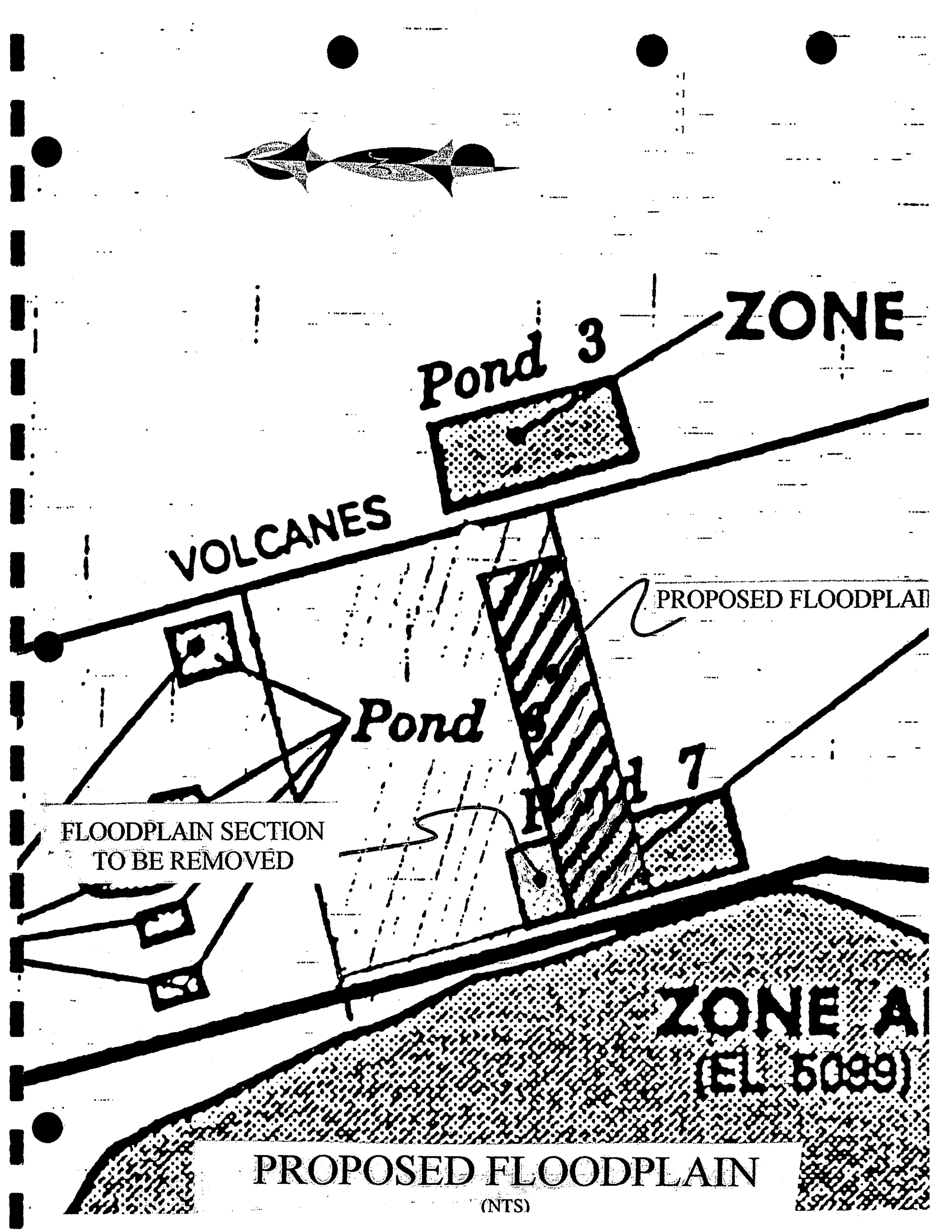

Pond 8
Pond 5
ZONE A
ZONE A
Pond 4
DAYTONA
ROAD
57TH
PROPOSED FLOODPLAIN
ZONE X
BOULEV
Pond 3
ZONE A
ROAD
ZONE A
Pond 9
VOLCANES
LOS
Pond 6
Pond
Pond 7
Pond 8
REVISED AREA
ZONE A
ZONE AE
(EL 5089)
CLOUDCROFT
ROAD
COORS
63RD
62ND
61ST
60TH
ESTANCIA
APPROXIMATE SCALE IN FEET
500
0
FLOODPLAIN SECTION
TO BE REMOVED
ZONE AO
(DEPTH 1)
ZONE AE
(EL 5099)
ZONE AE
(EL 5099)
CITY OF ALBUQUERQUE
350002
ROAD
ZONE AH
(EL 5082)
ZONE X
STREET
STREET
STREET
STREET
BLUEWATER
ZONE AO
(DEPTH 1)
ZONE AH
(EL 5087)
AIRPORT
ZON
(EL
PROPOSED FLOODPLAIN
ZONE X
ZONE AH
(EL 5085)
AVALO
KNOTTS
LANDING
NATIONAL FLOOD INSURANCE PROGRAM
FIRM
FLOOD INSURANCE RATE MAP
BERNALILLO COUNTY,
NEW MEXICO AND
INCORPORATED AREAS
PANEL 329 OF 825
(SEE MAP INDEX FOR PANELS NOT PRINTED)
COMMUNITY
NUMBER
PANEL
ALBUQUERQUE, CITY OF
BERNALILLO, COUNTY
UNINCORPORATED AREAS
EFFECT
DATED SEP 25 1997
MAP NUMBER
35001C0
EFFECTIVE DATE:
SEPTEMBER 20, 1996
Federal Emergency Management Agency

Figure 5.1



PROPOSED FLOODPLAIN

(NTS)

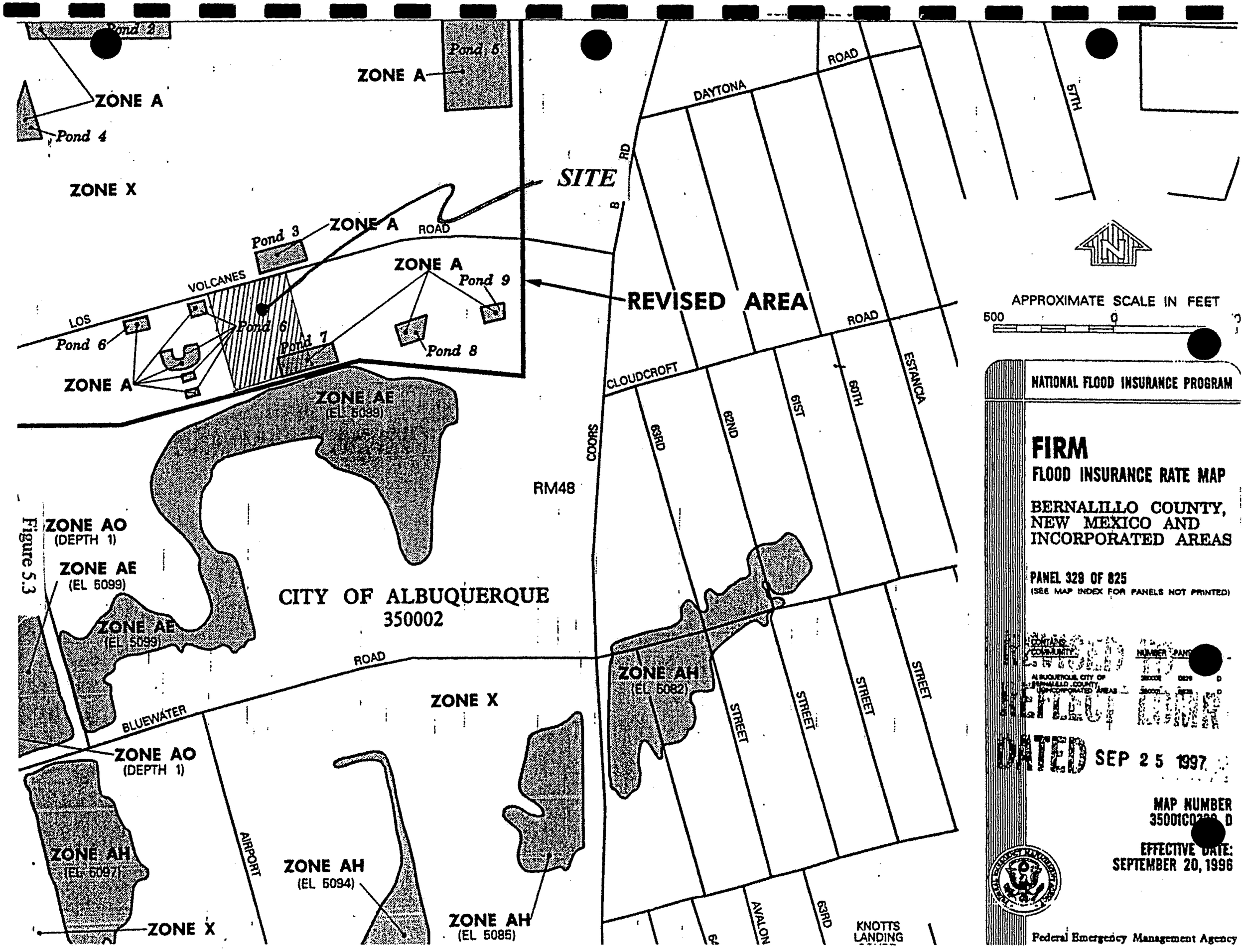
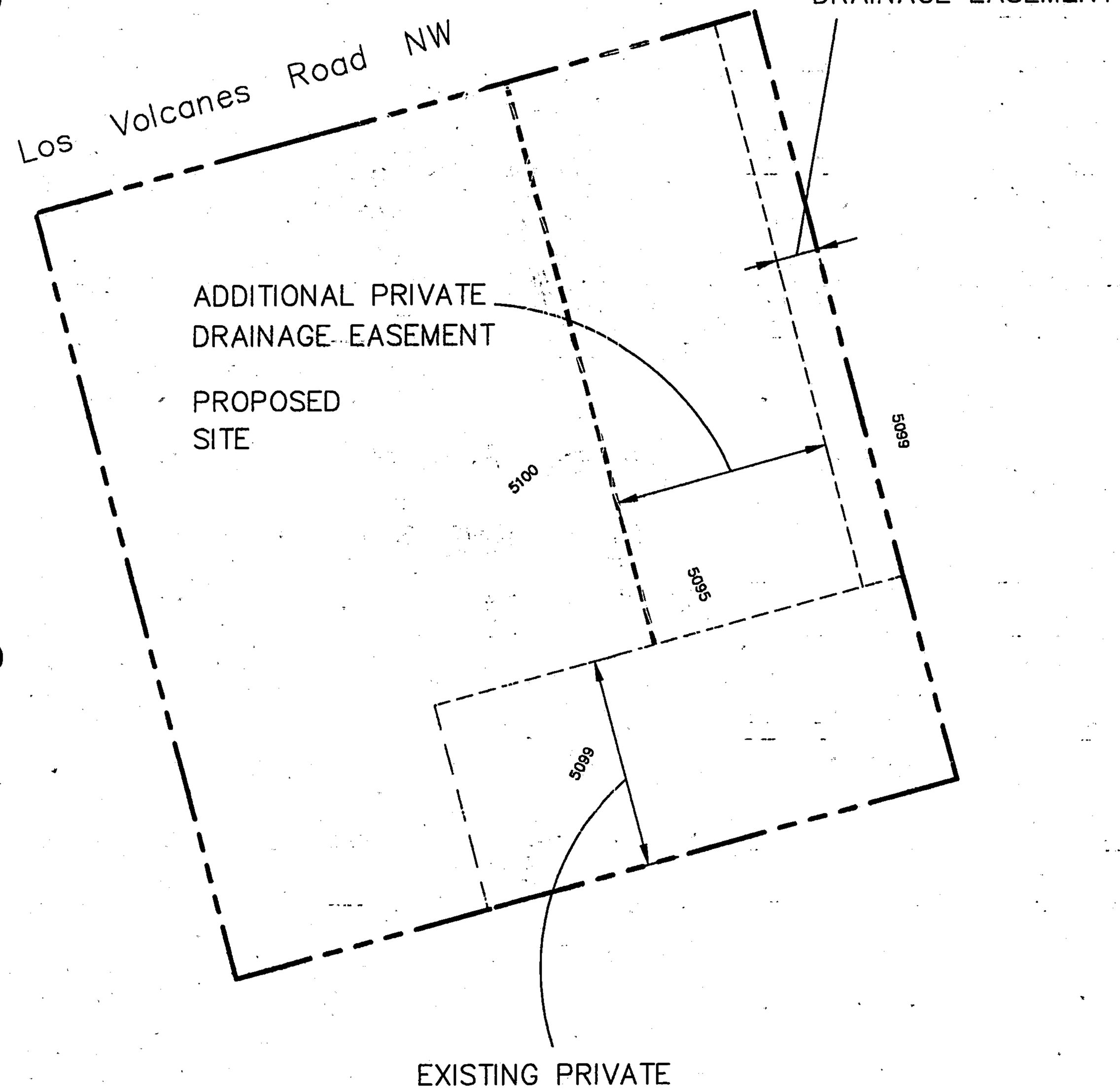

Pond 2
Pond 5
ZONE A
ZONE A
Pond 4
ZONE X
SITE
Pond 3
ZONE A
ROAD
ZONE A
Pond 9
VOLCANES
LOS
Pond 6
Pond 6
Pond 7
Pond 8
ZONE A
REVISED AREA
ZONE AE
(EL 5099)
DAYTONA
ROAD
HLTS
RD
B
CLOUDCROFT
ROAD
COORS
63RD
62ND
61ST
60TH
ESTANCIA
RM48
ZONE AO
(DEPTH 1)
ZONE AE
(EL 5099)
ZONE AE
(EL 5099)
CITY OF ALBUQUERQUE
350002
ROAD
ZONE AH
(EL 5082)
STREET
STREET
STREET
STREET
ZONE X
BLUEWATER
ZONE AO
(DEPTH 1)
AIRPORT
ZONE AH
(EL 5097)
ZONE AH
(EL 5094)
ZONE AH
(EL 5085)
ZONE X
AVALON
63RD
KNOTTS
LANDING
APPROXIMATE SCALE IN FEET
500
0
NATIONAL FLOOD INSURANCE PROGRAM
FIRM
FLOOD INSURANCE RATE MAP
BERNALILLO COUNTY,
NEW MEXICO AND
INCORPORATED AREAS
PANEL 329 OF 825
(SEE MAP INDEX FOR PANELS NOT PRINTED)
COMMUNITY
NUMBER
PANEL
ALBUQUERQUE, CITY OF
BERNALILLO COUNTY,
UNINCORPORATED AREAS
REVISED TO REFLECT LOMRS
DATED SEP 25 1997
MAP NUMBER
35001C0329 D
EFFECTIVE DATE:
SEPTEMBER 20, 1996
Federal Emergency Management Agency

Figure 5.3



PRIVATE DRAINAGE EASEMENT

FIGURE 5.4

Appendix A

City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

January 4, 2000

Shahab Biazar, PE
Advanced Engineering Consulting LLC
10205 Snowflake Ct. NW
Albuquerque, NM 87114

Re: AHEPA 501 Apartments Grading and Drainage Plan
Engineer's Stamp dated 11-22-99 (J10/D2J)

Dear Mr. Biazar,

Based upon the information provided in your submittal dated 12-17-99, the above referenced site is approved for Grading Permit and Building Permit. Final Plat approval is also granted.

Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

Also, prior to Certificate of Occupancy release, a LOMR for the new pond will be required and Engineer Certification per the DPM checklist will be required.

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

Sincerely,

Bradley L. Bingham

Bradley L. Bingham, PE
Hydrology Review Engineer

C: Fred Aguirre, DRB
file

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

DRAINAGE REPORT
FOR

AHEPA 501 APARTMENTS

Prepared by:

ADVANCED ENGINEERING and CONSULTING, LLC

10205 Snowflake Ct. NW
Albuquerque, New Mexico 87114

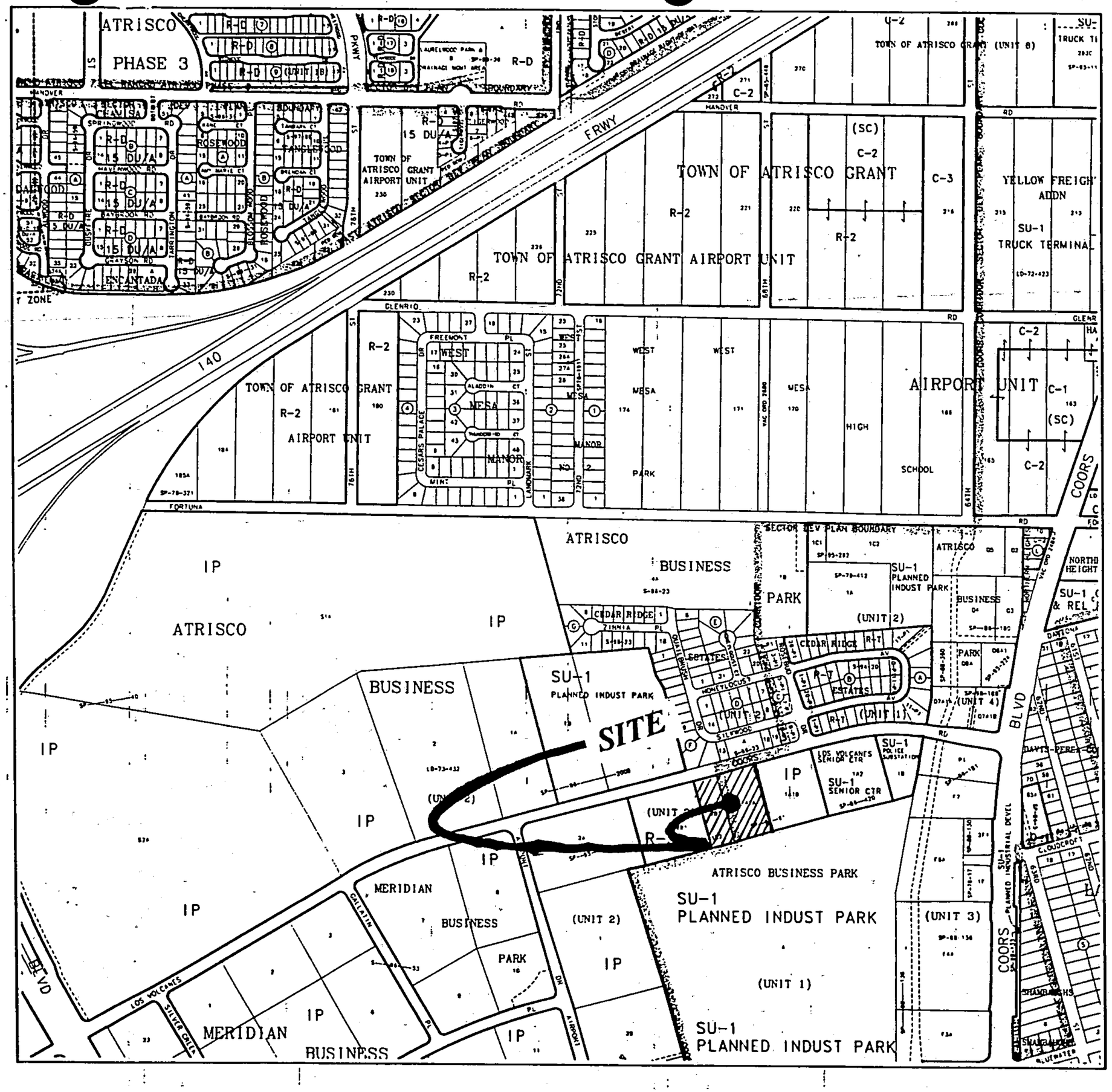
Prepared For:

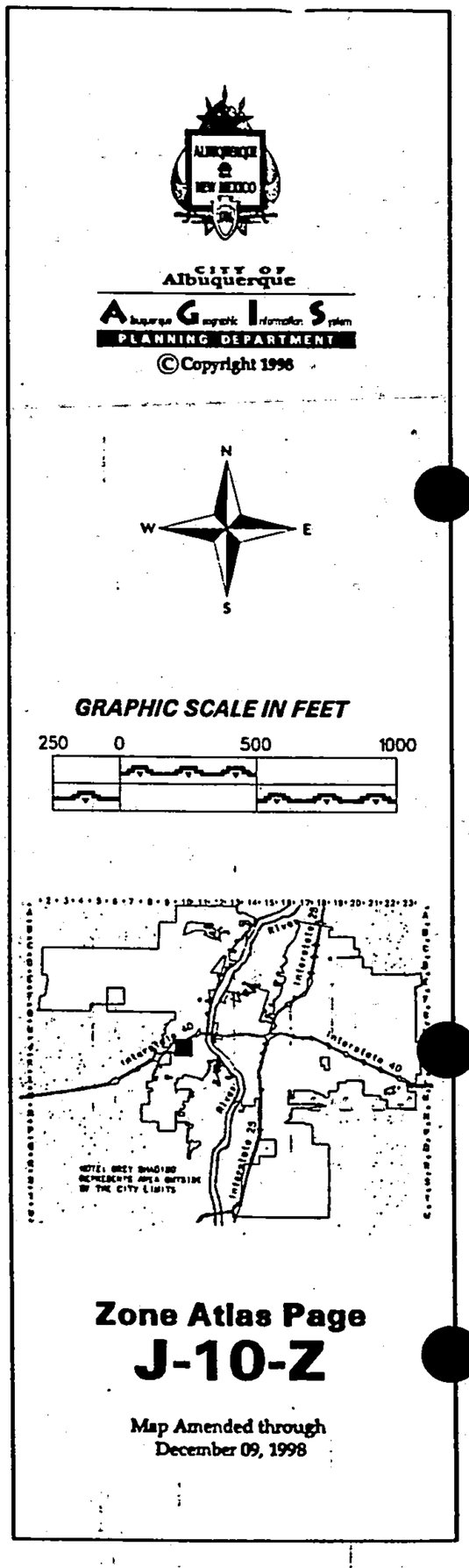
Mark Musemeche
Holcomb, Musemeche & Associates Inc.
2727 Allen Parkway, Suite 1815
Houston, Texas 77019

August, 1999
Revised September, 1999

SHAHAB BIAZAR
NEW MEXICO
13479
9-6-99
REGISTERED PROFESSIONAL ENGINEER

Shahab Biazar
PE NO. 13479


ATRISCO PHASE 3
TOWN OF ATRISCO GRANT (UNIT 8)
TOWN OF ATRISCO GRANT
TOWN OF ATRISCO GRANT AIRPORT UNIT
YELLOW FREIGHT ADDN
SU-1 TRUCK TERMINAL
ENCANTADA
WEST MESA
MANOR
HIGH SCHOOL
AIRPORT UNIT
ATRISCO BUSINESS PARK
SU-1 PLANNED INDUST PARK
ATRISCO BUSINESS PARK
MERIDIAN BUSINESS PARK
SITE
COORS BLVD
140
FRWY
GLENRIO
FORTUNA
HANOVER
LOS VOLCANES
SILVER CREEK
CALLEIN
AIRPORT
NORTH HEIGHT
DAYTONA
DAVITT-PEREA
CLOUDCROFT
SHAUBACHS
BLUEWATER


CITY OF Albuquerque
Albuquerque Geographic Information System
PLANNING DEPARTMENT
© Copyright 1998
N
W
E
S
GRAPHIC SCALE IN FEET
250 0 500 1000
Zone Atlas Page
J-10-Z
Map Amended through
December 09, 1998

Location

AHEPA 501 Apartments are Lots 2-B-2 and 1-A-1-A, Tract N, Unit 2, Atrisco Business Park. The site is a ±3.068 acre tract, and it is located ±1,100' east of the Airport Drive, on the south side of Los Volcanes Road. See attached Zone Atlas page J-10-Z for location of the site.

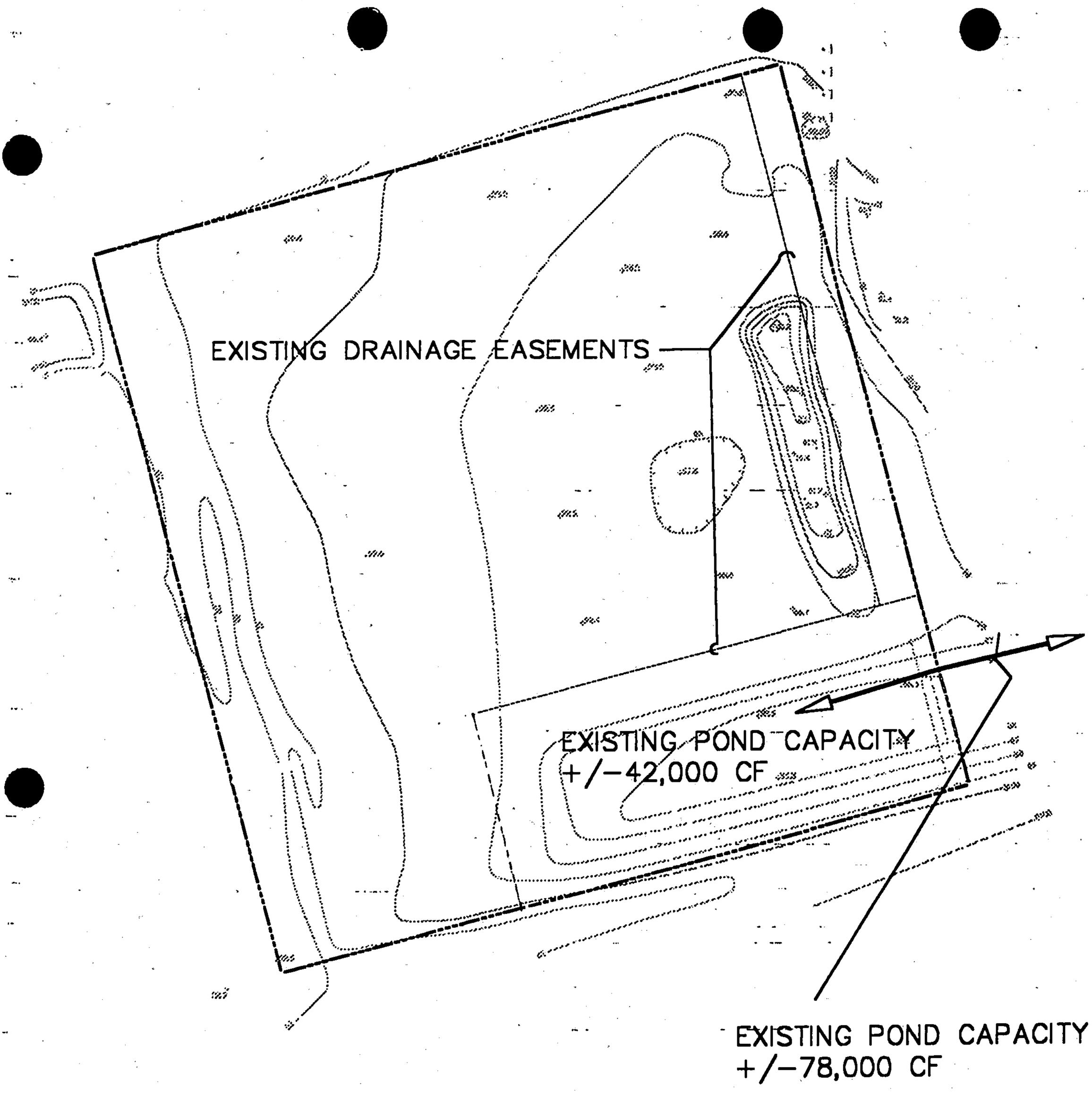
Purpose

Advanced Engineering and Consulting, LLC on behalf of Holcomb, Musemeche & Associates Inc. has prepared this grading and drainage solution for the proposed site. This report is prepared in order to obtain grading and drainage approval, preliminary and final plat approval, and building permit approval.

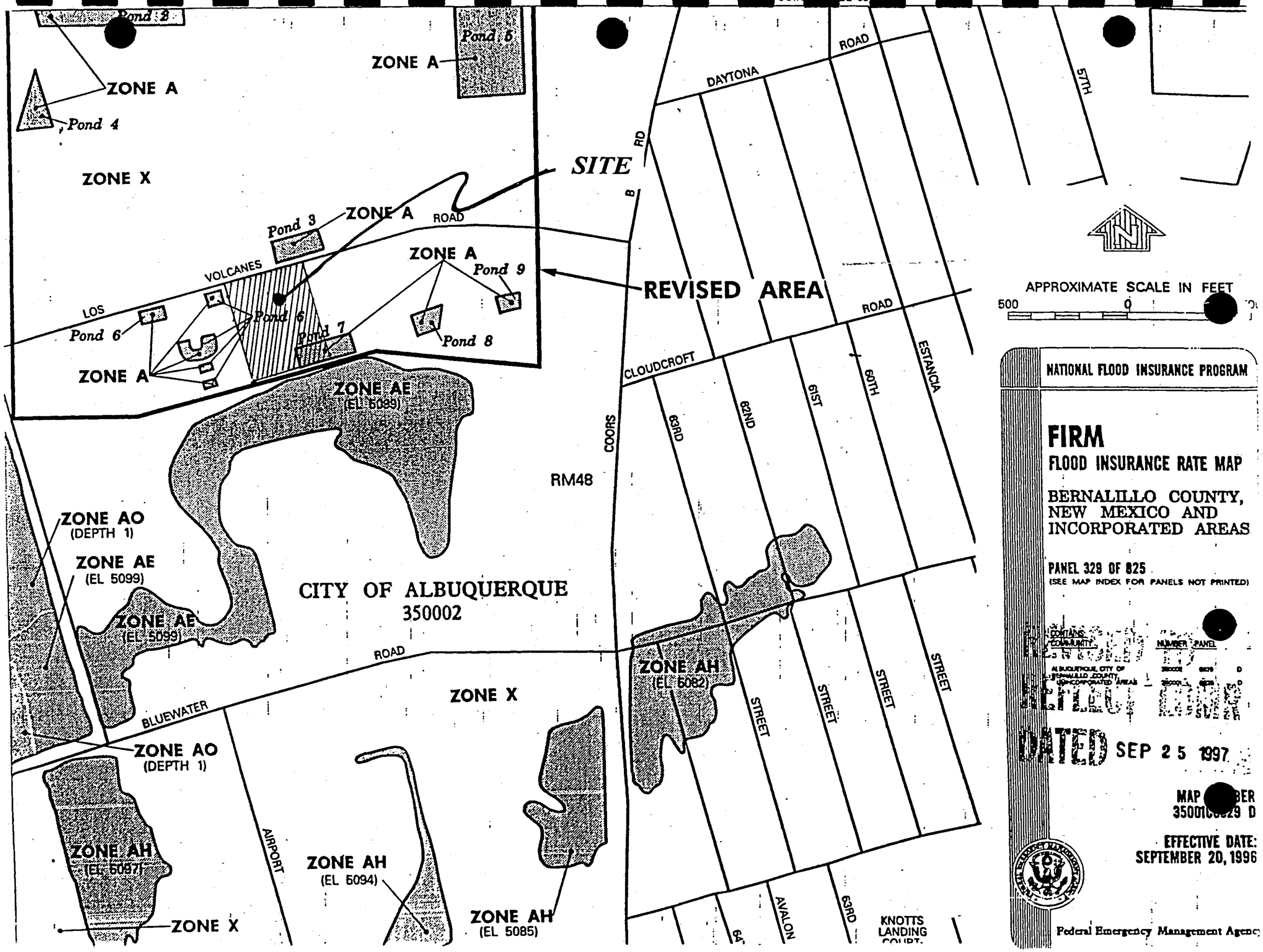
Existing Drainage Conditions

The site falls within the West Mesa Outfall System. There is fairly flat. There is an existing retention pond which is located at the southern portion. This portion of the retention is used for the ponding of The Tract to the east, and it has capacity of 42,000 cf. This pond was designed and built under City Drainage number J10/D002J. There is also a 20' drainage easement (along the easterly boundary line) for the future extension of the storm sewer system in Los Volcanes Road. The site at the existing conditions, 100-year (6-hour) storm, generates a runoff of 4.77 cfs which ponds on site. Except the retention pond at the southerly portion of the site, there are no other offsite runoff that drain to or through this site.

Based on the revised (September 25, 1997) FIRM Map number 35001C0329-D southerly portion of the site falls within a 100-year flood plain, Zone A. See attached exhibit for the location of the site.



EXISTING POND/EASEMENT

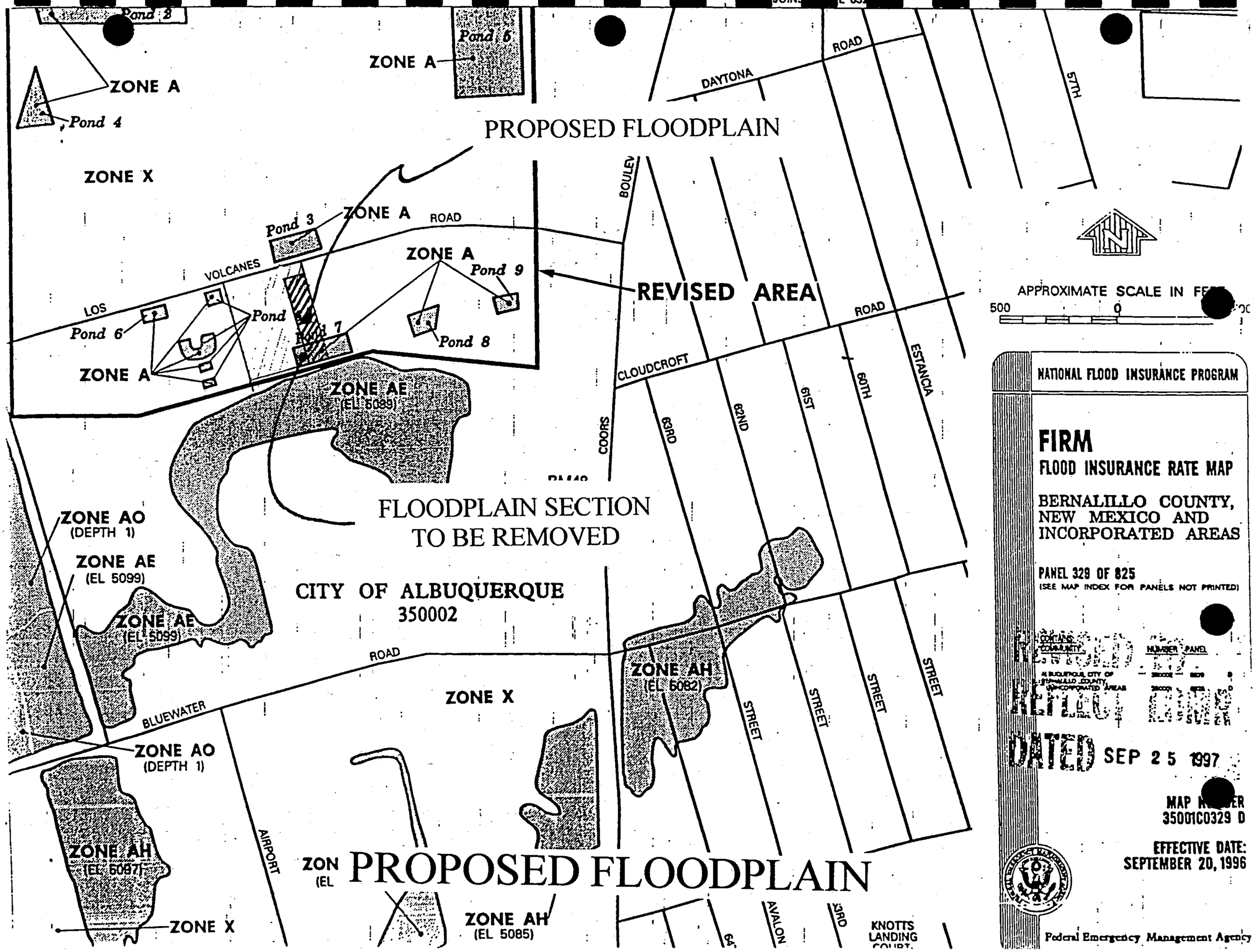

JOIN PANEL 03
Pond 2
Pond 5
ZONE A
ZONE A
Pond 4
ZONE X
SITE
ZONE A
ROAD
Pond 3
ZONE A
VOLCANES
LOS
Pond 6
Pond 6
Pond 7
Pond 8
Pond 9
ZONE A
ZONE A
REVISED AREA
ZONE AE
(EL 5099)
RM48
ZONE AO
(DEPTH 1)
ZONE AE
(EL 5099)
ZONE AE
(EL 5099)
CITY OF ALBUQUERQUE
350002
ROAD
BLUEWATER
ZONE X
ZONE AO
(DEPTH 1)
ZONE AH
(EL 5097)
ZONE X
AIRPORT
ZONE AH
(EL 5094)
ZONE AH
(EL 5085)
ZONE AH
(EL 5082)
DAYTONA
ROAD
RD
B
57TH
CLOUDCROFT
ROAD
COORS
63RD
62ND
61ST
60TH
ESTANCIA
STREET
STREET
STREET
STREET
STREET
AVALON
63RD
KNOTTS
LANDING
COURT
APPROXIMATE SCALE IN FEET
500
0
NATIONAL FLOOD INSURANCE PROGRAM
FIRM
FLOOD INSURANCE RATE MAP
BERNALILLO COUNTY,
NEW MEXICO AND
INCORPORATED AREAS
PANEL 329 OF 825
(SEE MAP INDEX FOR PANELS NOT PRINTED)
COMMUNITY
NUMBER
PANEL
ALBUQUERQUE, CITY OF
BERNALILLO, COUNTY
UNINCORPORATED AREAS
DATED SEP 25 1997
MAP NUMBER
EFFECTIVE DATE:
SEPTEMBER 20, 1996
Federal Emergency Management Agency

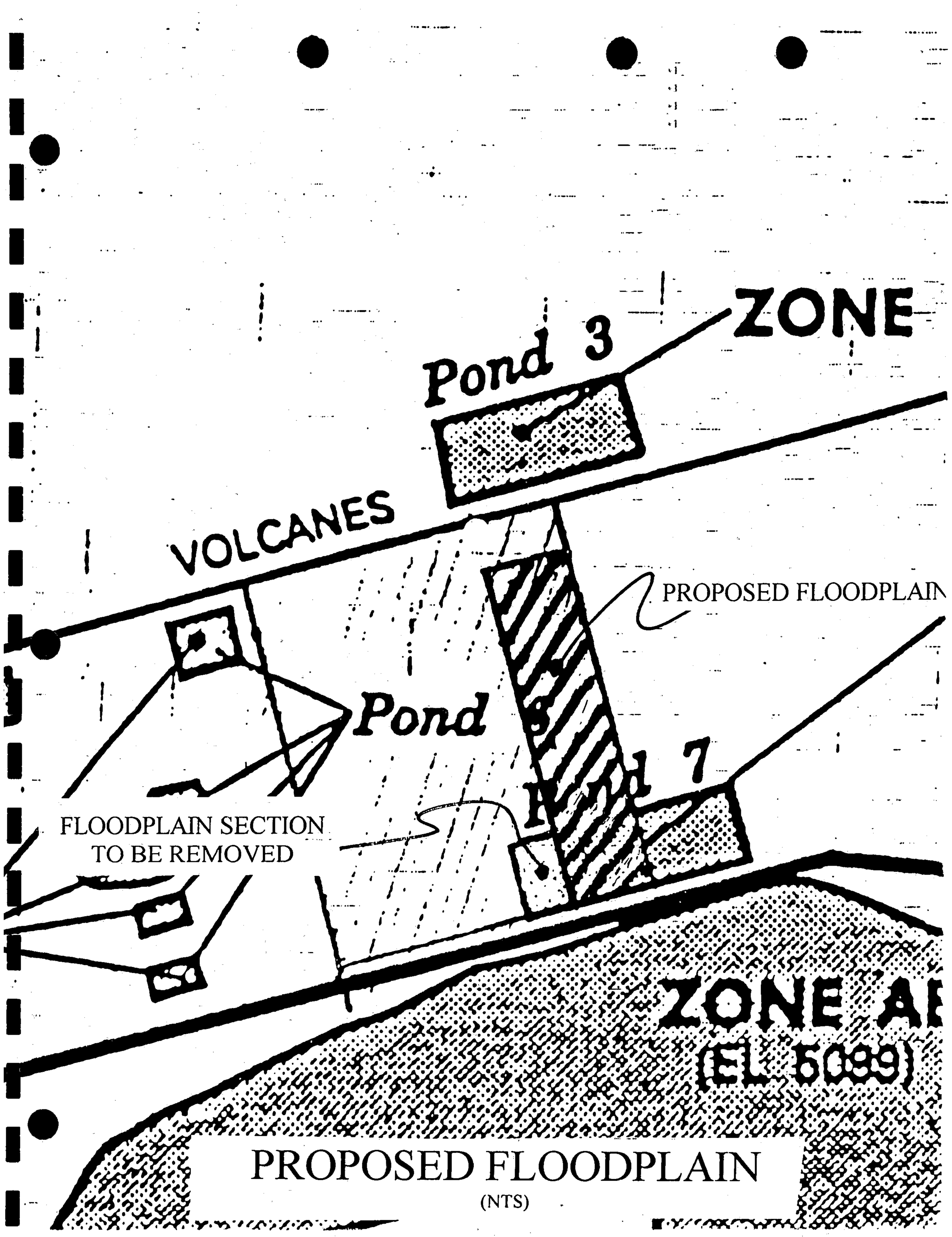
Proposed Conditions and On-Site/Offsite Drainage Management Plan

The owners are proposing to build ±42,000 sf apartment unit. The site will be design to drain to a retention pond along the easterly boundary. This existing pond will be modified. Portion of pond will be vacated and new easement will be granted based on the configuration of the new pond. The total ponding requirement for the adjacent site was calculated by Construction, Analysis and Management, Inc. in July 1994 under City Drainage # J10/D2J. The total required ponding (110,403 cf) for the adjacent site was calculated using the sum of the displaced volume due to the fill material (100,804 cf) and the 100-year/24-hour volume (12,272 cf) under developed conditions minus the 100-year/24-hour volume (2,673 cf) under existing conditions. The required ponding volume (119,196.27 cf) for the adjacent site was recalculated using sum of the displaced volume due to the fill material (100,804 cf) from the original construction of the easterly property and the developed 100-year/10-day volume (18,392.27 cf). Therefore, the total ponding requirement of 138,338.27 cf is the sum of the ponding requirement (119,196.27 cf) from the adjacent site plus the on-site developed 100-year/10-day volume (19,142 cf). Under developed condition the site generates a runoff of 9.11 cfs which is retained on site.

West Mesa Diversion Outfall System

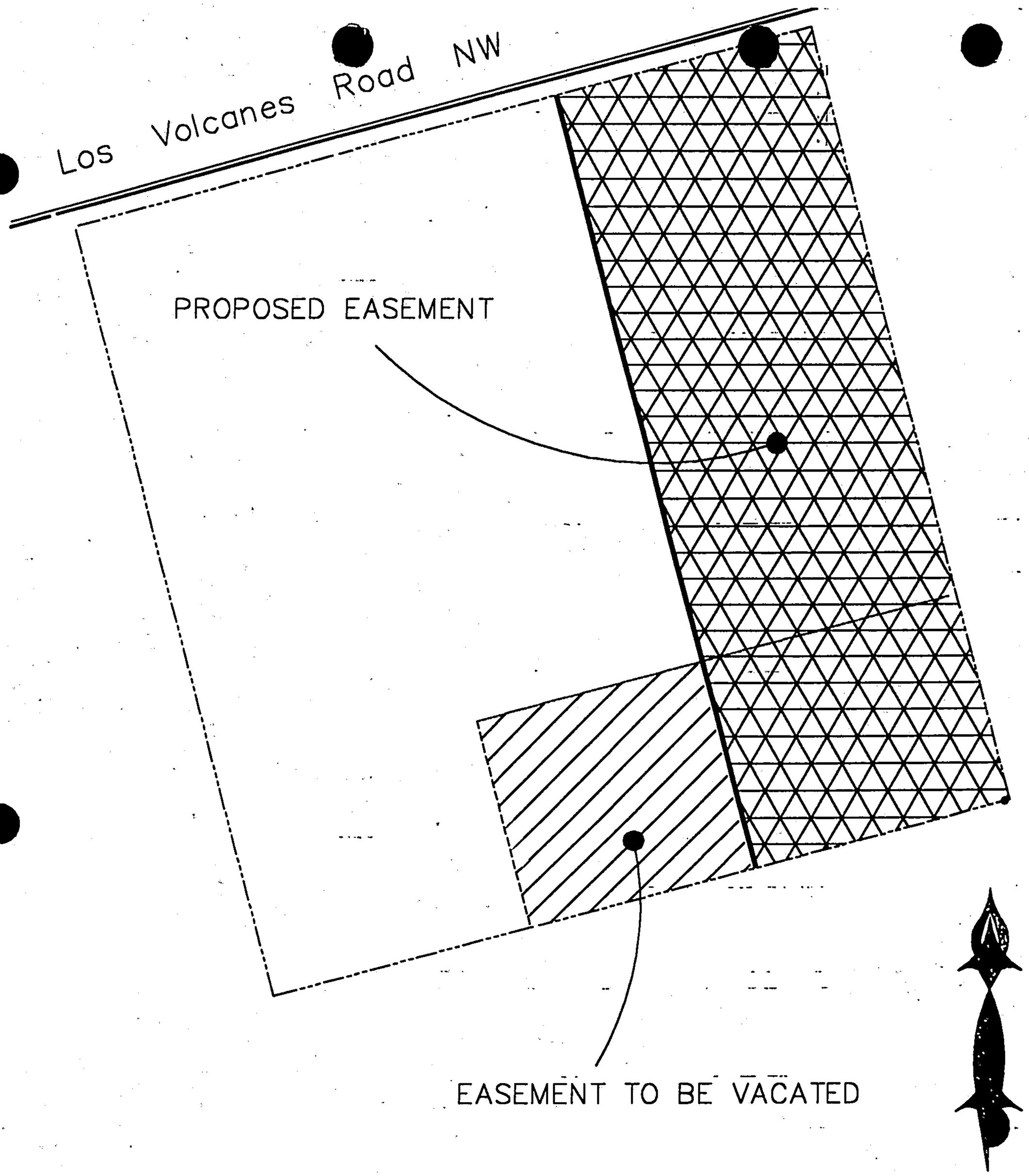
The site falls within the West Mesa Diversion Outfall System. We talked with Steve Boberg (City Hydrology) regarding the status of the master storm sewer pipe and its capacity. The storm sewer pipe for this reach of the master plan will not be built for at least three more years. The City of Albuquerque is in the process of finding a detention pond site up stream of our project. If the detention pond location is found, we will be able to discharge fully developed


JOINS
Pond 8
Pond 5
ZONE A
ZONE A
Pond 4
DAYTONA
ROAD
57TH
PROPOSED FLOODPLAIN
ZONE X
BOULEV
Pond 3
ZONE A
ROAD
ZONE A
Pond 9
VOLCANES
LOS
Pond 6
Pond
Pond 7
Pond 8
ZONE A
REVISED AREA
APPROXIMATE SCALE IN FE
500
0
ROAD
CLOUDCROFT
ESTANCIA
60TH
61ST
62ND
63RD
COORS
ZONE AE
(EL 5089)
FLOODPLAIN SECTION
TO BE REMOVED
ZONE AO
(DEPTH 1)
ZONE AE
(EL 5099)
ZONE AE
(EL 5099)
CITY OF ALBUQUERQUE
350002
ROAD
ZONE AH
(EL 5082)
STREET
STREET
STREET
STREET
ZONE X
BLUEWATER
ZONE AO
(DEPTH 1)
AIRPORT
ZONE AH
(EL 5097)
ZONE X
ZON
(EL
PROPOSED FLOODPLAIN
ZONE AH
(EL 5085)
AVALON
KNOTTS
LANDING
COURT
NATIONAL FLOOD INSURANCE PROGRAM
FIRM
FLOOD INSURANCE RATE MAP
BERNALILLO COUNTY,
NEW MEXICO AND
INCORPORATED AREAS
PANEL 329 OF 825
(SEE MAP INDEX FOR PANELS NOT PRINTED)
CONTAINS
COMMUNITY
NUMBER
PANEL
ALBUQUERQUE, CITY OF
BERNALILLO COUNTY
UNINCORPORATED AREAS
REVISED TO REFLECT
DATED SEP 25 1997
MAP NUMBER
35001C0329 D
EFFECTIVE DATE:
SEPTEMBER 20, 1996
Federal Emergency Management Agency



PROPOSED FLOODPLAIN

(NTS)



PROPOSED EASEMENT

runoff. If the pond location is not found, we will be allowed to discharge up 75% of the developed runoff. The site can be drained to the future storm sewer pipe in Los Volcanes Road with a storm sewer pipe along the easterly property line. Once the storm sewer in Los Volcanes Road is in place a new grading plan should be submitted for any revision to this grading plan. Under the future conditions the grading plan should show the removal of unnecessary ponding and the proposed storm sewer pipe connection to the main line in Los Volcanes Road.

Future Conditions

Under the future conditions, once the storm sewer pipe in Los Volcanos is in place, the remaining portion of the flood plain will be removed from the site. Inlets will be placed at the discharged points of the site into the retention pond to intercept the runoff, and then from there the runoff will be routed to the storm sewer system in Los Volcanos via storm sewer pipe.

Calculations

City of Albuquerque, Development Process Manuel, Section 22.2, Hydrology Section, revised January 1993, was used for the runoff calculations. The site falls under Zone 1 based on Figure A-1 of page A-1.

RUNOFF CALCULATIONS

The site is @ Zone 1

DEPTH (INCHES) @ 100-YEAR STORM

P_{60} = 1.87 inches

P_{360} = 2.20 inches

P_{1440} = 2.66 inches

DEPTH (INCHES) @ 10-YEAR STORM

P_{60} = 1.87 x 0.667
= 1.25 inches

P_{360} = 1.47

P_{1440} = 1.77

See the summary output from AHYMO calculations.

Also see the following summary tables.

RUNOFF CALCULATION RESULTS

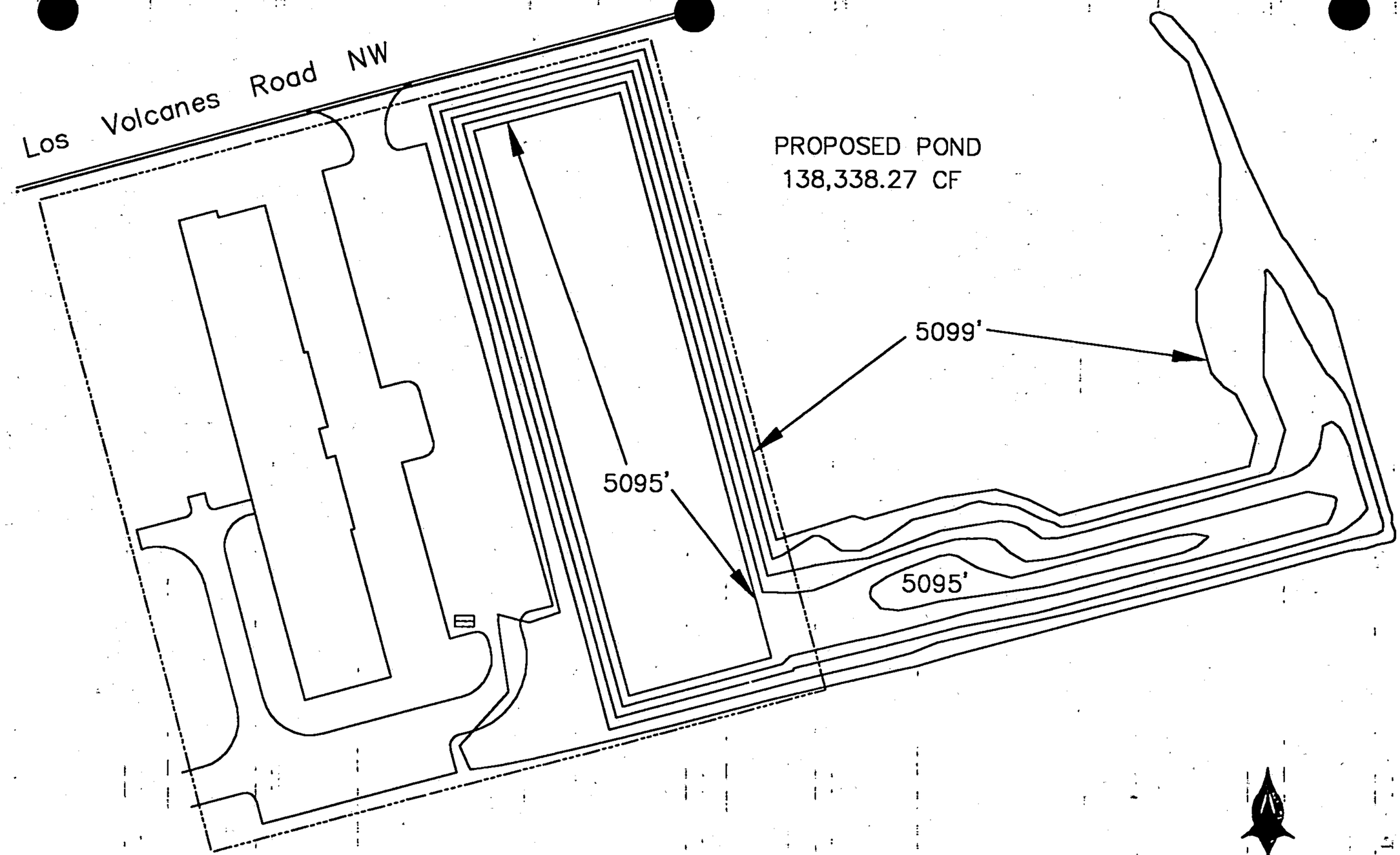
BASIN	AREA (SF)	AREA (AC)	AREA (MI^2)
ON-SITE A	133637.26	3.0679	0.004794

EXISTING

BASIN	Q-100 CFS	Q-10 CFS
ON-SITE	4.77	1.31

PROPOSED

BASIN	Q-100 CFS	Q-10 CFS
ON-SITE	9.11	4.89



PROPOSED PONDING LAYOUT

PONDING CALCULATIONS

ZONE = 1

DRAINAGE BASINS

BASIN	AREA (SF)	AREA (AC-FT)	AREA (MI²)
OFFSITE	122850.00	2.82025	0.004407

$$E = \frac{EA(AA) + EB(AB) + EC(AC) + ED(AD)}{AA + AB + AC + AD}$$

V-360 = E (AA + AB + AC + AD)

V-10 Day = V-360 + AD (P-10 Day - P-360) / 12 in/ft

EA = 0.44
EB = 0.67
EC = 0.99
ED = 1.97

AA = 0.00%
AB = 59.33%
AC = 0.00%
AD = 40.67%

P-60 = 1.87
P-360 = 2.20
P-1440 = 2.66
P-10 Day = 3.67

E =	**1.1987**	**IN**
V-360 =	**0.2817**	**AC-FT**
AD =	**1.1470**	**AC**
V-10 Day =	**0.4222**	**AC-FT**
V-10 DAY =	**18,392.27**	**CF**

VOL ENCROACHED INTO FLOODPLAIN =100,804.00 CF
V-10 DAY = 18,392.27 CF

TOTAL REQUIRED PONDING VOLUME = 119,196.27 CF

V101.WK4

PONDING CALCULATIONS

ZONE = 1

DRAINAGE BASINS

SUB-BASIN	AREA (SF)	AREA (AC-FT)	AREA (MI²)
ON-SITE	133637.26	3.06789	0.004794

$$E = \frac{EA(AA) + EB(AB) + EC(AC) + ED(AD)}{AA + AB + AC + AD}$$

V-360 = E (AA + AB + AC + AD)

V-10 Day = V-360 + AD (P-10 Day - P-360) / 12 in/ft

EA = 0.44
EB = 0.67
EC = 0.99
ED = 1.97

AA = 0.00%
AB = 53.29%
AC = 10.00%
AD = 36.71%

P-60 = 1.87
P-360 = 2.20
P-1440 = 2.66
P-10 Day = 3.67

E =	**1.1792**	**IN**
V-360 =	**0.3015**	**AC-FT**
AD =	**1.1262**	**AC**
V-10 Day =	**0.4394**	**AC-FT**
V-10 DAY =	**19,142.06**	**CF**

POND CALCULATIONS

(PROPOSED RETENTION POND)

ELEVATION FT	SURFACE AREA SF
5,099.00	83,441.78
5,098.00	62,299.49
5,097.00	50,593.83
5,096.00	40,088.39
5,095.00	29,524.25

ELEVATION FT	VOLUME CF	
5,099.00	**209,464.73**	**TOTAL PONDING CAPACITY**
5,098.03	**138,780.21**	**100-YEAR, 10-DAY PONDING DEPTH**
5,098.00	136,594.09	
5,097.88	129,820.49	
5,097.80	125,304.76	
5,097.60	114,015.43	
5,097.00	80,147.43	
5,096.00	34,806.32	
5,095.00	0.00	

Volume required for the offsite runoff =	119,196.27	cf
Volume rquired for the onstie runoff =	19,142.00	cf
Total ponding volume required =	**138,338.27**	**cf**

Total ponding capacity = 209,464.73 cf >> required ponding volume

See the following sheet for the 10-day volume calculations

```
*
* ZONE 1
*
*****************************************************************
      100-YEAR,  6-HR STORM (UNDER EXISTING CONDITIONS)       *
*****************************************************************
*
START
RAINFALL              TYPE=1 RAIN QUARTER=0.0 IN
                      RAIN ONE=1.87 IN RAIN SIX=2.20 IN
                      RAIN DELAY=2.66 IN DT=0.03333 HR
COMPUTE NM HYD        ID=1 HYD NO=100.0 AREA=0.004794 SQ MI
                      PER A=77.00 PER B=15.00 PER C=5.00 PER D=3.00
                      TP=0.1333 HR MASS RAINFALL=-1
*
*****************************************************************
*       10-YEAR,  6-HR STORM (UNDER EXISTING CONDITIONS)       *
*****************************************************************
*
START                 TIME=0.0
RAINFALL              TYPE=1 RAIN QUARTER=0.0 IN
                      RAIN ONE=1.25 IN RAIN SIX=1.47 IN
                      RAIN DAY=1.77 IN DT=0.03333 HR
COMPUTE NM HYD        ID=1 HYD NO=110.0 AREA=0.004794 SQ MI
                      PER A=77.00 PER B=15.00 PER C=5.00 PER D=3.00
                      TP=0.1333 HR MASS RAINFALL=-1
*
*****************************************************************
      100-YEAR,  6-HR STORM (UNDER PROPOSED CONDITIONS)       *
*****************************************************************
*
START
RAINFALL              TYPE=1 RAIN QUARTER=0.0 IN
                      RAIN ONE=1.87 IN RAIN SIX=2.20 IN
                      RAIN DELAY=2.66 IN DT=0.03333 HR
COMPUTE NM HYD        ID=1 HYD NO=100.1 AREA=0.004794 SQ MI
                      PER A=0.00 PER B=53.29 PER C=10.00 PER D=36.71
                      TP=0.1333 HR MASS RAINFALL=-1
*
*****************************************************************
*       10-YEAR,  6-HR STORM (UNDER PROPOSED CONDITIONS)       *
*****************************************************************
*
START                 TIME=0.0
RAINFALL              TYPE=1 RAIN QUARTER=0.0 IN
                      RAIN ONE=1.25 IN RAIN SIX=1.47 IN
                      RAIN DAY=1.77 IN DT=0.03333 HR
COMPUTE NM HYD        ID=1 HYD NO=110.1 AREA=0.004794 SQ MI
                      PER A=0.00 PER B=53.29 PER C=10.00 PER D=36.71
                      TP=0.1333 HR MASS RAINFALL=-1
*
*****************************************************************
*
FINISH
```

AHYMO SUMMARY TABLE (AHYMO194) - AMAFCA Hydrologic Model - January, 1994 RUN DATE (MON/DAY/YR) =07/19/1999

INPUT FILE = 9910

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	
START										TIME=	.00
RAINFALL TYPE= 1										RAIN6=	2.200
COMPUTE NM HYD	100.00	-	1	.00479	4.77	.137	.53578	1.533	1.556	PER IMP=	3.00
START										TIME=	.00
RAINFALL TYPE= 1										RAIN6=	1.470
COMPUTE NM HYD	110.00	-	1	.00479	1.31	.038	.14848	1.533	.427	PER IMP=	3.00
START										TIME=	.00
RAINFALL TYPE= 1										RAIN6=	2.200
COMPUTE NM HYD	100.10	-	1	.00479	9.11	.300	1.17177	1.500	2.968	PER IMP=	36.71
START										TIME=	.00
RAINFALL TYPE= 1										RAIN6=	1.470
COMPUTE NM HYD	110.10	-	1	.00479	4.89	.157	.61355	1.500	1.594	PER IMP=	36.71
FINISH											

Appendix B

DRAINAGE REPORT

FOR

ASSISTED CARE LIVING CENTER
LOT 1A1 UNIT 2
ATRISCO BUSINESS PARK

Zone Atlas Sheet J-10-Z

JULY 1994
(REVISED FROM APRIL 1994)

PREPARED FOR

Design Professionals Inc.
3939 San Pedro Dr. N.E.
Building F, Suite A
Albuquerque, New Mexico 87109

PREPARED BY

Construction, Analysis and Management, Inc.
4250 Montgomery, N.E.
Suite 5,
Albuquerque, New Mexico 87109

Raymond Hensley, P.E.
N.M.P.E. 7873

7-5-94

RECEIVED
JUL 18 199
HYDROLOGY

RAYMOND HENSLEY
NEW MEXICO
No. 7873
REGISTERED PROFESSIONAL ENGINEER

TABLE OF CONTENTS

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EXISTING DRAINAGE CONDITIONS 1

DEVELOPED DRAINAGE CONDITIONS 3

DISPLACEMENT AND FLOOD PONDING CAPACITY 5

FUTURE DEVELOPMENTS 6

RECOMMENDATIONS 7

CONCLUSIONS 7

APPENDIX 8
- VICINITY MAP 9
- FLOODWAY MAP 10
- HYDROLOGY MEMORANDUM, DEC. 1988 11

RECEIVE

JUL 1 8 1994

PURPOSE

The purpose of this report is to analyze the existing and proposed developed drainage on the site for the Assisted Care Living Center, and to propose solutions to control the excess storm water runoff resulting from the 100-year storm falling on the adjacent and subject parcels.

PROJECT LOCATION AND DESCRIPTION

The site is located west of Coors Road on the south side of Los Volcanes in the Atrisco Business Park including 2.88202 acres more or less. It is bounded on the east by a commercial development used as a senior center, and on the west by commercial lot. (see the appendix, plate 1 for location map and plate 4 for floodway map). The existing site consists of 2.88 acres of undeveloped and uncompacted surface. The parcel slopes from east to west at about .5 percent. All undeveloped surfaces are vegetated with weeds and native grasses. The proposed development will create 62,614 square feet of impermeable surface.

EXISTING DRAINAGE CONDITIONS

The site is bounded by a paved roadway, Los Volcanes Rd., on the north, and undeveloped land to the south and west. A developed lot lies to the east. The subject is located within and beneath the 100 year prudent limit flood plain. The vacant land adjacent to the west is the lowest portion of the flood plain. Please refer to figure 1.

The topographic survey (figure-1/plate 2) indicates the property at an existing mean elevation of 5099 feet above MSL. The current project 100 year flood limits are at 5101 feet above MSL. This condition was discussed with hydrology staff in a pre-design meeting March 1994.

The location of the property, shown on plate 1, indicates that the precipitation zone for the subject is Zone 1 according to the Development Process Manual, Volume 2, Section 22.2 - HYDROLOGY, Section A-1. Likewise, the soil conditions are given by Table A-4 as Treatment A..

RECEIVED
JUL 18 1994

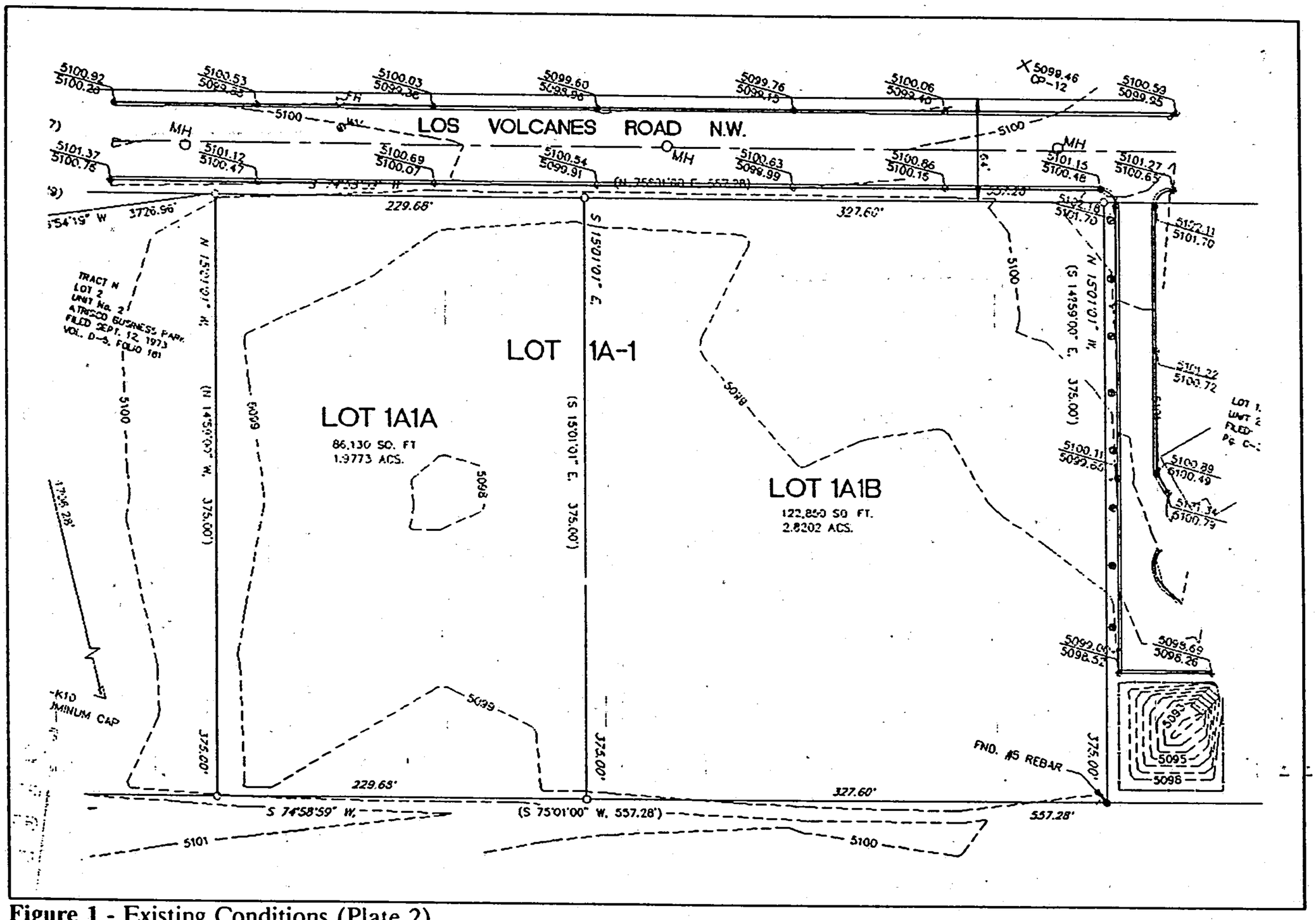

Figure 1 - Existing Conditions (Plate 2)

JUL 18 1994

The storm water flows are self contained within the lots 1A1-A and 1A1-B. The following are the calculations for the flood water generation for lot 1A!1-B, the subject property, using the DPM, Section 22.2, A-6:

$$Q_{p100} = Q_{pA} \times A_A$$

(1) Equation a-10

BASIN	AREA	PEAK DISCHARGE (table A-9)	FLOW
Treatment A	122,850 sf	1.29 cfs/acre	3.628 cfs

This flow generated on lot 1A1-B sheets to lot 1A1-A.

DEVELOPED DRAINAGE CONDITIONS

The site plan (Plate 3) shows the configuration of the proposed development of the property. Approximately 49,961 square feet will be converted to impermeable surfaces. According to the following table:

Building	23,509 sf.
Walks	7,559 sf.
Paving	15,026 sf.
Courtyard Improvements	3,667 sf.
Total	49,961 sf.

Note: It is assumed that the courtyard will be primarily landscaped for at least 50% of the area.

Subsequent to development the property will be consist of impervious surfaces, Treatment "D", and landscaped areas, Treatment "B".

DPM, Section 22.2, A-6:

$$Q_{p100} = Q_{pB} \times A_B + Q_{pD} \times A_D$$

(2) Equation a-10

BASIN	AREA	PEAK DISCHARGE (table A-9)	FLOW
Treatment B	72,889 sf	2.03 cfs/acre	3.397 cfs
Treatment D	49,961 sf	4.37 cfs/acre	5.012 cfs
Total	122,850 sf		8.409 cfs

JUL 1 8 1994

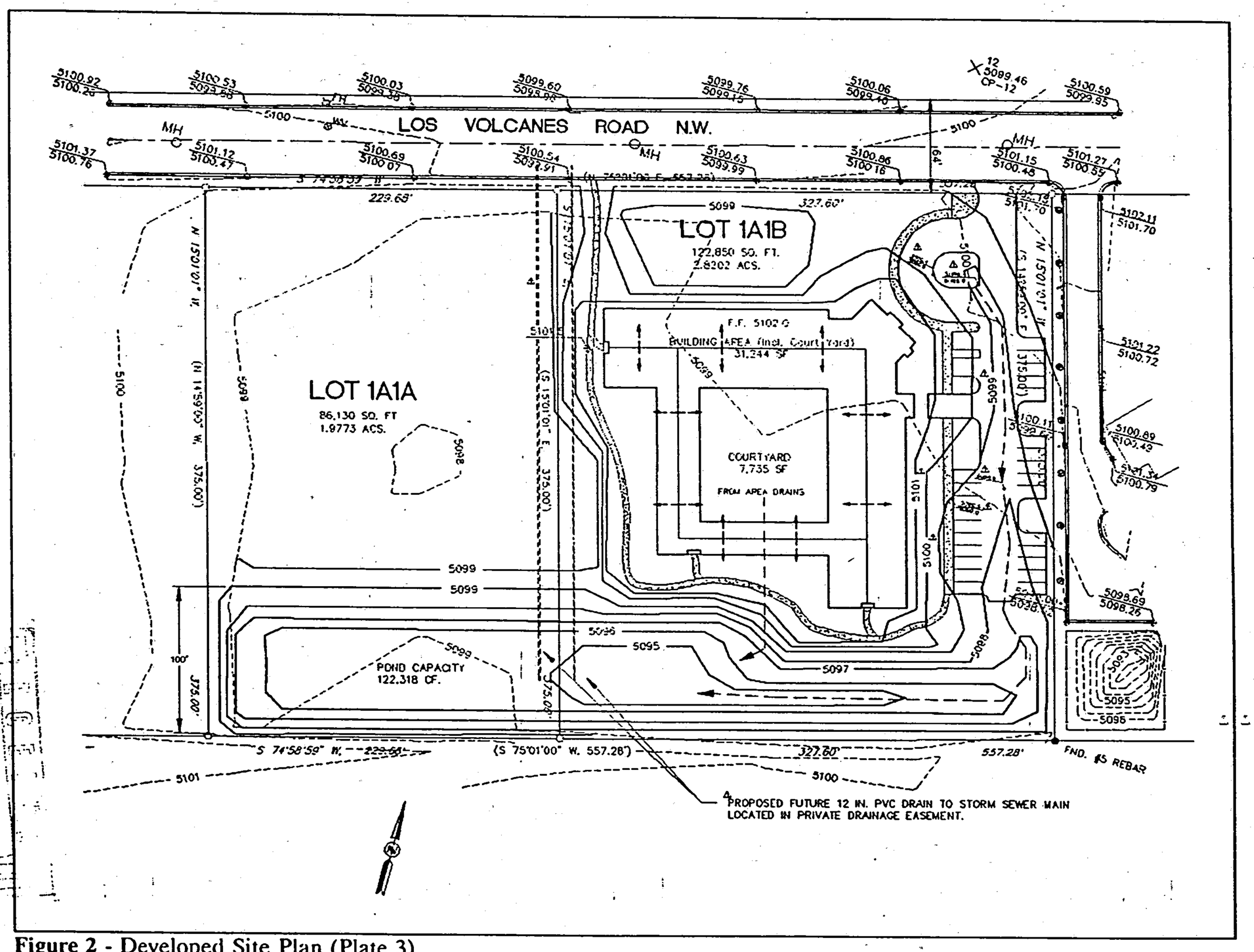

Figure 2 - Developed Site Plan (Plate 3)

JUL 18 1994

DISPLACEMENT AND FLOOD PONDING CAPACITY

As a result of the subject property existing within the flood plain, it is necessary to off set all additional volumes of development above existing grade to the elevation of the estimated flood plain elevation of 5101 feet. The total amount of developed fill is estimated to be 100,804 cf. The table below gives the area of each contour elevation. Each of these were integrated using Simpson's Rule to yield the volume of fill above existing elevation.

	Developed		Existing	
Elevation Contour	Area	Volume Contribution	Area	Volume Contribution
5098	173,505.	0.0	207,095.	0.0
5099	99,749.	136,627.0	65,831.	136,463.0
5100	60,658.	80,204.0	713.	33,272.0
5101	46,758.	53,708.0	N/A	
Total		270,539.0		169,735.0

Total fill above existing grade: 270,539 - 169,735 = 100,804 cf

The base pond volume required is therefore 100,804 cf (2.31 ac-ft). In addition to this amount, the development will generate excess flows from impervious surfaces that must be added to this total. Because of the nature of the existing conditions and assumed percolation rates, we have assumed the necessity of 24 hour retention of these excess flows. The following is a tabulation of the required additional pond capacity:

$$V_{360} = \frac{E_A \times A_A + E_B \times A_B + E_D \times A_D}{12}$$

(3) Equation a-6

EXISTING CONDITIONS:

BASIN	AREA	EXCESS (table A-8)	VOLUME
Treatment A	122,850 sf	.44 inches	4,505. cf

DEVELOPED CONDITIONS:

BASIN	AREA	EXCESS (table A-9)	FLOW
Treatment B	72,889 sf	.67 inches	4,070. cf
Treatment D	49,961 sf	1.97 inches	8,202. cf
Total	122,850 sf		12,272. cf

The requirement for the 24 hour retention is given by:

$$V_{1440} = V_{360} + A_D \times (P_{1440} - P_{360})/12 \qquad \text{(4) Equation a-7}$$

$$V_{1440} = 12{,}272 + 49{,}961 \times (2.66 - 2.2)/12$$

The difference between the existing conditions and the developed conditions would require an additional 9,599 cf. (.220 ac-ft.)

The total required pond volume is the sum of the displacement plus excess developed flows, or 110,403 cf. (2.535 ac-ft). The design indicated in plate 3 would allow 122,318 cf. (2.808 ac-ft) as calculated in the following table. A pond of this size may also allow for some future development on lots 1A1A or 1A1B.

Elevation Contour	Area	Volume Contribution
5099	57,122.	0.0
5098	40,353.	48,738.0
5097	30,218.	38,286.0
5096	20,660.	25,439.0
5095	5,049.	12,855.0
Total		122,318.0

JUL 1 8 1994
HYDROLOGY DIVI...

FUTURE DEVELOPMENTS

The West Bluff Drainage Plan has indicated a proposed 84 inch RCP at a .006 ft/ft slope be located in Los Volcanes Rd. A December 23, 1988 communication from Roger

Green to Dwayne Sheppard in the file of West Mesa Senior Center indicates that there are some problems with the proposed design of the system. A copy of this memorandum is included in the appendix. A proposed design change from 84 inch to 68 x 109 oval at .0045 ft/ft slope was given. This would allow 2 feet of cover of the storm sewer main. If a future connection of a 12 inch outlet from the subject property were installed at the location of the proposed pond it could be connected to this proposed main system with an approximate slope of .012 ft/ft from a catch basin elevation of 5097 feet.

We have reviewed Hydrology Department Staff's (Mr. Green) calculations and design suggestions for the modification of the West Bluff Drainage Plan recommendations. We agree with the memorandum suggestions. However, the final solution may take anyone of a variety of possible solutions.

RECOMMENDATIONS

Construct a retention pond of a capacity of at least 112,873 cf. This will require the use of lands located to the west of the subject property for additional ponding capacity. Therefore an easement should be given to the subject property from the adjacent land to the west to allow the given ponding required. This easement and pond will be required until such time as the proposed 84 inch RCP storm drainage system is constructed in Los Volcanes Rd.

When the storm drainage system is completed in Los Volcanes a 12 inch drain and inlet in the proposed pond will direct storm flow to the new system. The ponding in the rear of the property will be altered to a catch basin. An easement and location is given on the plan for this future connection. When this connection is accomplished the ponding will no longer be required and the easement to the adjacent property for the pond may be returned to the owners of lot 1A1-A to the west.

We can not recommend installation of the future drain line to the Los Volcanes Rd. at this time, because of the status of the final design assumptions of the future main storm drain. However, we recommend that the location of any future drain line be dedicated at a location along the west property line from a proposed catch basin at the same location of the proposed pond to the street.

Given the flood plain elevation of 5101 feet above MSL, the proposed building will be constructed at a finished floor elevation of 5102 feet.

CONCLUSIONS

If the above recommendations are followed, the site will be protected from flooding and the potential downstream flooding situation will not be altered significantly during the 100-year storm event.

JUL 1 8 1994
HYDROLOGY

APPENDIX

RECEIVED
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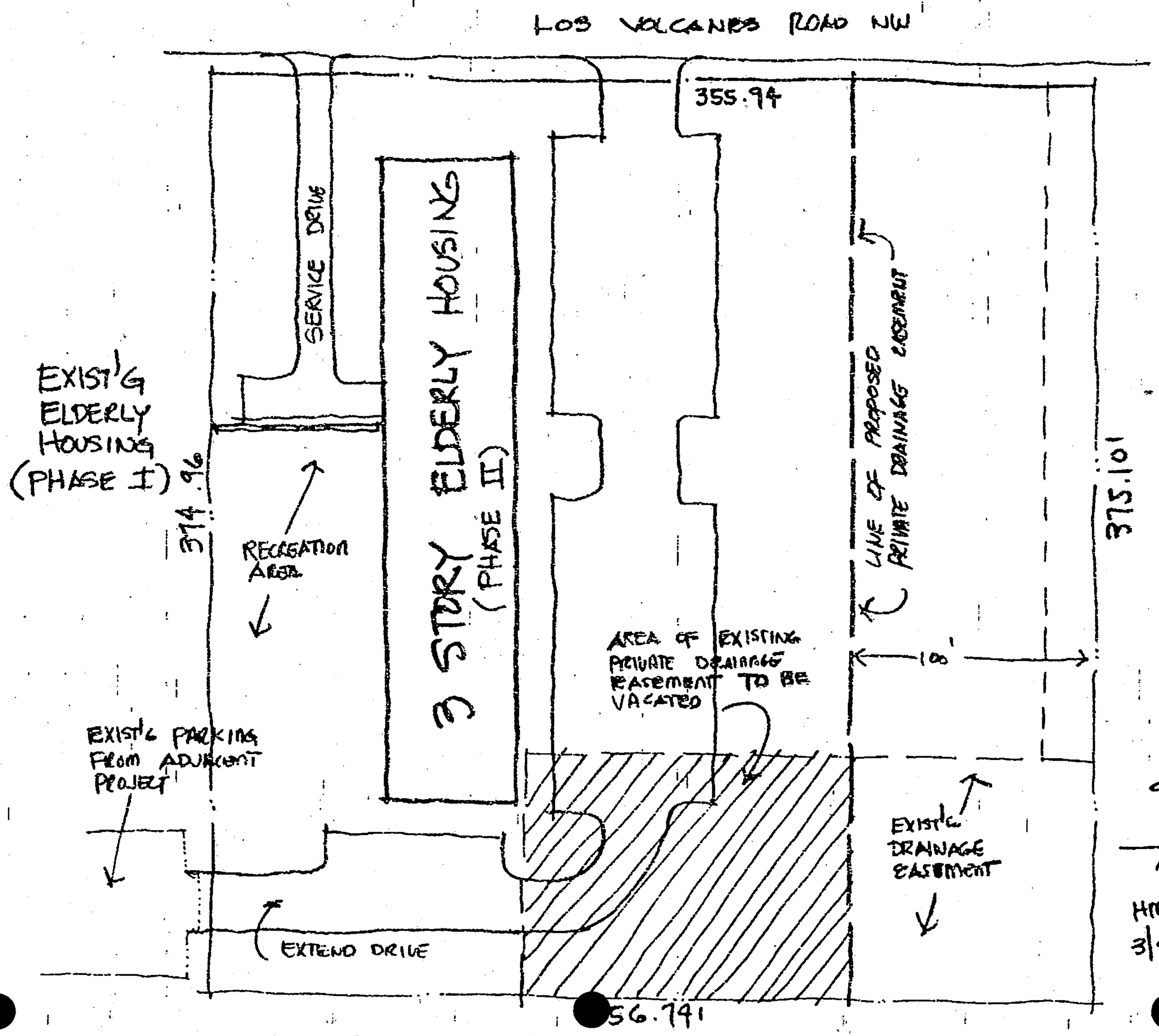
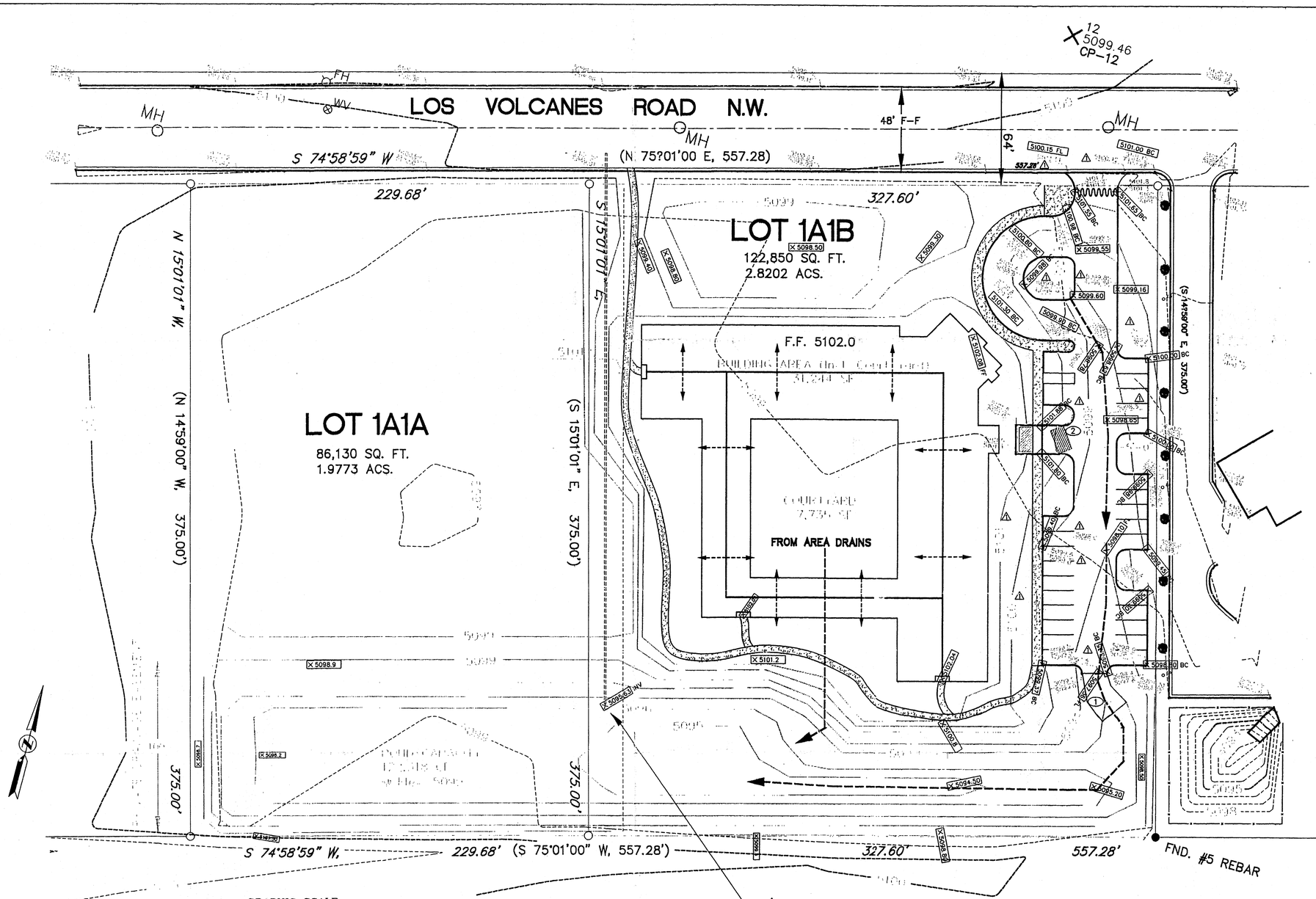
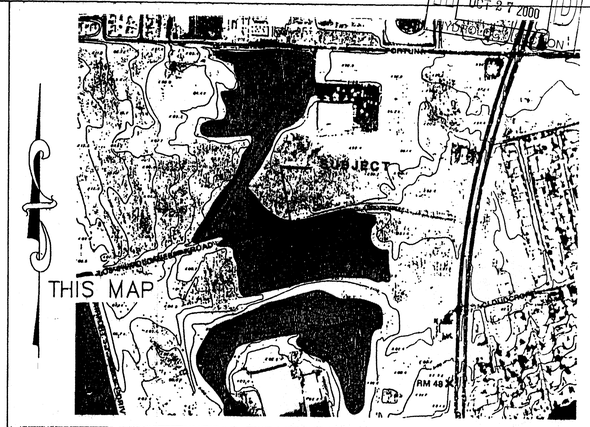
ECOLOGY DIVISION



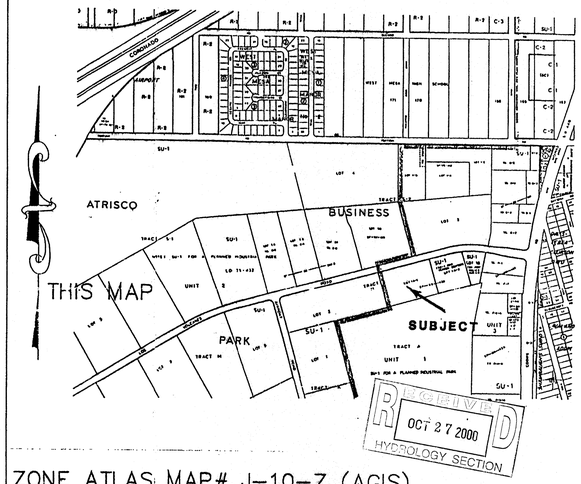
SITE DEVEL
CONCEPT
AHEPA 501
HMA, INC
3/9/99
NO SCALE



PROPOSED FUTURE 12 IN. PVC DRAIN TO STORM SEWER MAIN LOCATED IN 2C' PRIVATE DRAINAGE EASEMENT.
(Invert at pond 97.0, Invert at North Property Line 95.25)



PORTION OF FLOODWAY MAP PANEL 350003 0027



ZONE ATLAS MAP# J-10-Z (AGIS)

RECEIVED OCT 27 2000 HYDROLOGY SECTION

CAMI
CONSTRUCTION ANALYSIS & MANAGEMENT, INC.
4520 MONTGOMERY BLVD N.E. ALB. N.M. 87109
(505)889-9558
MECHANICAL & CIVIL ENGINEERS

THIS PLAN IS TO BE USED WITH DRAINAGE REPORT DATED APRIL 1994. (Revised July 1994)

REV.	DATE	DESCRIPTION
3	01/11/95	HYDROLOGY AMENDMENTS LETTER DATED 01/11/95
2	11/8/94	HYDROLOGY AMENDMENTS LETTER DATED 08/8/94
1	05/31/94	HYDROLOGY AMENDMENTS LETTER DATED 04/28/94

SITE CONDITIONS

EXISTING :

UNDISTURBED VACANT LAND - CLASS "A"
DPM, SECTION 22.2, TABLE A-4 — 122,850 SF.

PROPOSED DEVELOPMENT :

IMPERVIOUS SURFACES - CLASS "D"

BUILDING (Less Courtyard)	23,509 SF.
WALKS	7,559 SF.
PAVING	15,026 SF.
WALKS AND IMPROVEMENTS IN COURTYARD	3,867 SF. (ASSUMED 50%)
TOTAL CLASS "D"	49,961 SF.
LANDSCAPING - CLASS "B"	72,889 SF.

AS-BUILT POND VOLUME: 122,235 CF. REQUIRED MIN. POND VOLUME: 112,783 CF.

LEGEND

NEW CONTOURS
EXISTING CONTOURS
FLOW LINE
WATER BREAK
AS-BUILT ELEVATIONS (X 5000.00)

KEY NOTES

1. Plastic lined gravel filled run out 4 inch minimum fill.
2. Trash Bin (Relocation of Bin and Curb)

LEGAL DESCRIPTION

LOTS 1A1A AND LOT 1A1B
OF LOT 1A1, TRACT "N" AND "O", UNIT 2
ATRISCO BUSINESS PARK
BERNALILLO COUNTY, NEW MEXICO

ENGINEER'S CERTIFICATION

I HAVE INSPECTED THE SITE DURING THE WEEK OF MAY 1, 1996. THE INSTALLATION OF THE SITE IMPROVEMENTS WERE SUBSTANTIALLY IN COMPLIANCE WITH THE DRAINAGE PLAN AND DRAINAGE REPORT DATED 1/31/95.

VARIATIONS:

1. FUTURE STORM DRAIN OUTLET FROM POND WAS DESIGNED FOR AN INVERT ELEVATION OF 97.0. AS-BUILT ELEVATION IS 95.63. THIS WILL NOT MATERIALLY EFFECT THE FUNCTION OF THE DRAINAGE DESIGN.

Raymond Hensley 8/13/96
RAYMOND HENSLEY, P.E. P.E. NO. 7873

AUG 15

3409 SAN PEDRO NE., BUILDING E SUITE A
ALBUQUERQUE, NEW MEXICO 87110
PHONE (505) 884-8336(505) 884-8339

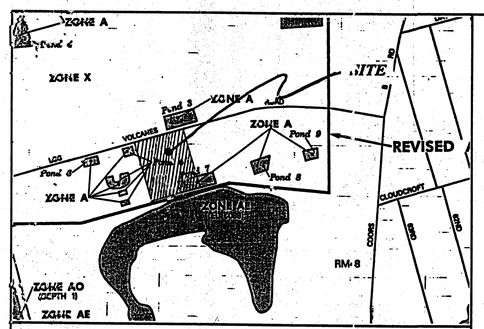
PROJECT TITLE:
PROPOSED ASSISTED LIVING FACILITY
LOT 1A1B, TRACT N, LOS VOLCANES
WESTLAND HOUSE #1
A NEW MEXICO CORPORATION

SHEET TITLE:
DRAINAGE PLAN

DRAWN BRSH PROJ. NO. 1-6
CHECKED RBH DATE 8/9/96
DESIGN PROFESSIONALS INC.
ARCHITECTS ENGINEERS
PLOT SCALE= 30' CADD FILE:

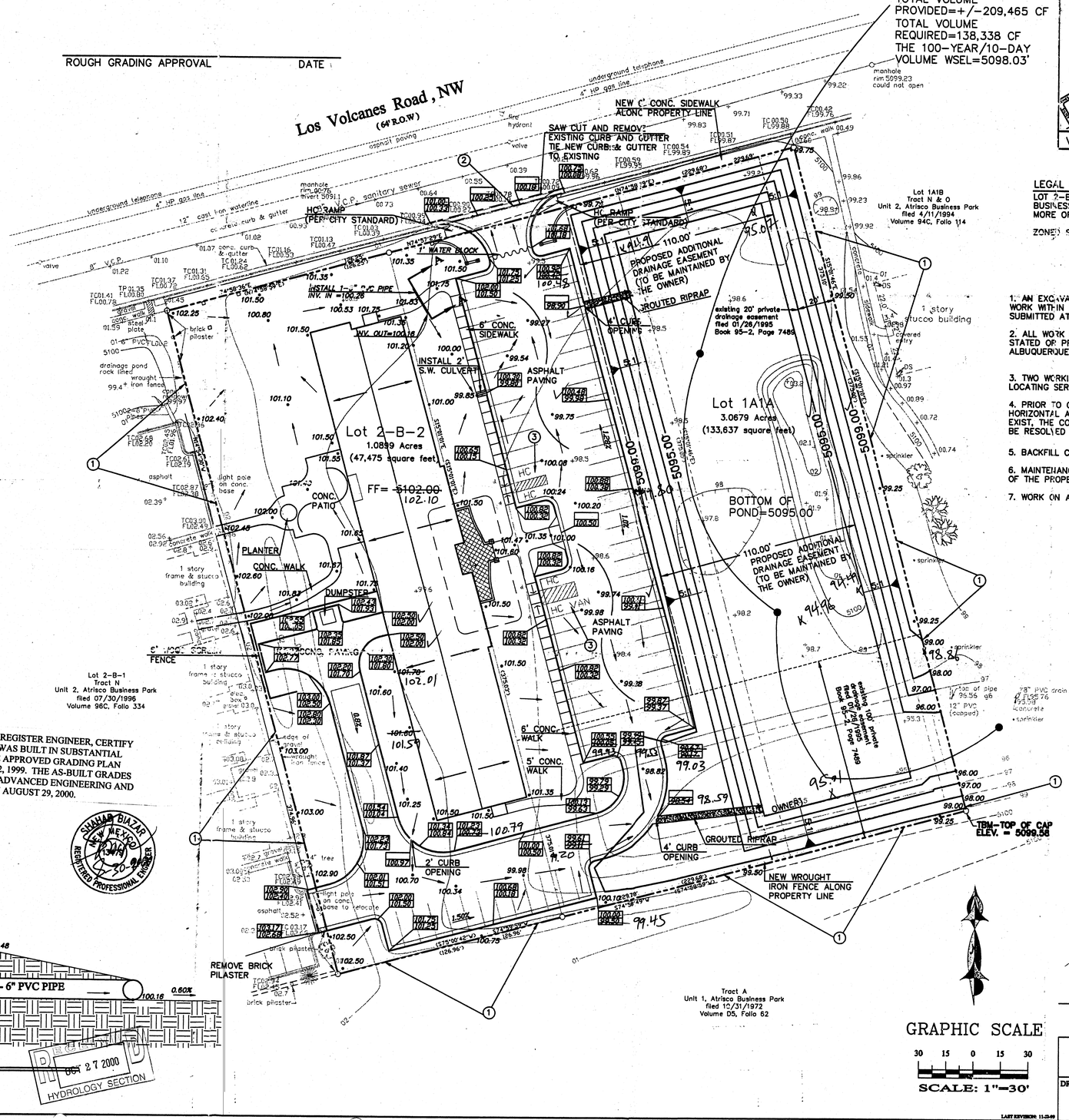
SHEET NO. C2 OF 26

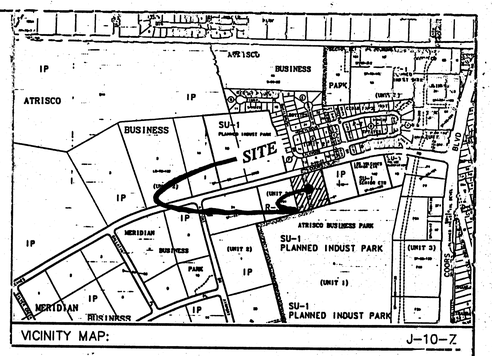
Date: 08/14/1996
Drawing File: C:\WSTLND\CERT.DWG



FIRM MAP: 35001C0329 D

ROUGH GRADING APPROVAL DATE





VICINITY MAP: J-10-Z

LEGAL DESCRIPTION:

LOT 2-B-1, TRACT N, AND LOT 1-A-1-A, TRACTS N & O, UNIT 2, ATRISCO BUSINESS PARK CONTAINING 133,637.26 SQUARE FEET (3.0678 ACRES) MORE OR LESS.

ZONED SU-2 IP

GENERAL NOTES:

1: ADD 5000 TO SPOT ELEVATIONS TO SHOW TRUE ELEVATION.
2: CONTOUR INTERVAL IS ONE (1) FOOT.
3: ELEVATIONS ARE BASED ON CITY OF ALBUQUERQUE CONTROL STATION (7-J10) HAVING AN ELEVATION OF 5103.22 FEET ABOVE SEA LEVEL.
4: UTILITIES SHOWN HEREON ARE IN THEIR APPROXIMATE LOCATION BASED ONLY ON ABOVE GROUND EVIDENCE FOUND IN THE FIELD AND AS-BUILT INFORMATION PROVIDED BY THE CLIENT. UTILITIES SHOWN HEREON, WHETHER INDICATED AS ABANDONED OR NOT, SHALL BE VERIFIED BY OTHERS FOR EXACT LOCATION AND/ OR DEPTH PRIOR TO EXCAVATION OR DESIGN CONSIDERATIONS.
5: THIS IS NOT A BOUNDARY SURVEY, BEARINGS ARE ASSUMED, DISTANCES AND FOUND PROPERTY CORNERS ARE FOR INFORMATIONAL PURPOSES ONLY.
6: RETENTION POND (4.0' MAX. DEPTH, WITH 5:1 SIDE SLOPES)

EROSION CONTROL PLAN AND POLLUTION PREVENTION NOTES

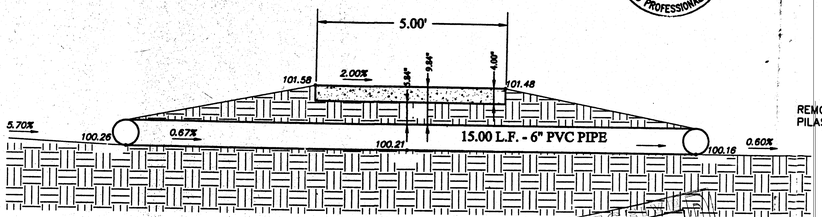
1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
2. CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT OUT OF EXISTING RIGHT-OF-WAY.
3. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL STORM RUN OFF ON SITE.
4. REPAIR OF DAMAGED FACILITIES AND CLEAN-UP OF SEDIMENT ACCUMULATION ON ADJACENT PROPERTIES AND IN PUBLIC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
5. ALL EXPOSED EARTH SURFACES MUST BE PROTECTED FROM WIND AND WATER EROSION PRIOR TO FINAL ACCEPTANCE OF ANY PROJECT.

NOTES:

1. MATCH EXISTING GRADE AT THE PROPERTY LINE
2. MATCH EXISTING FLOW LINE.
3. MAINTAIN 2% MAX. SLOPE AROUND HC PARKING AREA.

I SHAHAB BIAZAR, A REGISTER ENGINEER, CERTIFY THAT THIS PROJECT WAS BUILT IN SUBSTANTIAL COMPLIANCE TO THE APPROVED GRADING PLAN DATED NOVEMBER 22, 1999. THE AS-BUILT GRADES WERE PROVIDED BY ADVANCED ENGINEERING AND CONSULTING, LLC ON AUGUST 29, 2000.

SHAHAB BIAZAR NEW MEXICO 13479 11-22-99 REGISTERED PROFESSIONAL ENGINEER



SECTION A-A

RECEIVED OCT 27 2000 HYDROLOGY SECTION

NOTICE TO CONTRACTORS

1. AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY. AN APPROVED COPY OF THESE PLANS MUST BE SUBMITTED AT THE TIME OF APPLICATION FOR THIS PERMIT.
2. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF ALBUQUERQUE INTERIM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
3. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 260-1990, FOR LOCATION OF EXISTING UTILITIES.
4. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL CONSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
5. BACKFILL COMPACTION SHALL BE ACCORDING TO RESIDENTIAL STREET USE.
6. MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
7. WORK ON ARTERIAL STREETS SHALL BE PERFORMED ON A 24-HOUR BASIS.

RECEIVED HYDROLOGY SECTION

LEGEND

	EXISTING SAS MANHOLE
	EXISTING METER
	EXISTING VALVE W/BOX
	EXISTING FIRE HYDRANT
	EXISTING AIR RELEASE VALVE
	EXISTING REDUCER
	EXISTING SANITARY SEWER LINE
	EXISTING WATER LINE
	EXISTING CURB & GUTTER
5005	EXISTING CONTOUR (MAJOR)
5004	EXISTING CONTOUR (MINOR)
	BOUNDARY LINE
	EASEMENT
	LIMITS OF TOP OF EXISTING SLOPE
	PROPOSED SIDEWALK
TC 101.88 FL 101.38	PROPOSED GRADE
* 101.50	PROPOSED SPOT ELEVATION
* 5265.16	EXISTING GRADE
	EXISTING POWER LINES
	EXISTING FENCE

~~101.60~~ 102.10 As-Built Grades

GRAPHIC SCALE

30 15 0 15 30

SCALE: 1"=30'

SHAHAB BIAZAR NEW MEXICO 13479 11-22-99 REGISTERED PROFESSIONAL ENGINEER

SHAHAB BIAZAR
P.E. #13479

ADVANCED ENGINEERING and CONSULTING, LLC
10205 SNOWFLAKE CT., NW
ALBUQUERQUE, NEW MEXICO 87114
(505)899-5570

AHEPA 501 APARTMENTS GRADING AND DRAINAGE PLAN

DRAWING:	DRAWN BY:	DATE:	SHEET #
9910-GR.DWG	SBB	07-01-99	C2

LAST REVISION: 11-23-99