



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

December 5, 2002

Shahab Biazar, P.E.
Advanced Engineering
10205 Snowflake Ct NW
Albuquerque, New Mexico 87114

RE: LOS VOLCANES MOBILE HOME PARK (K-9/D17)
ENGINEERS CERTIFICATION
ENGINEERS STAMP DATED 10/2/2000
ENGINEERS CERTIFICATION DATED 11/25/2002

Dear Shahab:

Based upon the information provided your submittal dated 11/25/2002, the above referenced project is adequate to satisfy the Grading and Drainage Certification requirements for release of Financial Guaranty..

Please note: The requirement for the slope easement has been withdrawn per Brad Bingham, COA Hydrology Section.

If you have any questions, please call me at 924-3981.

Sincerely,

Teresa A. Martin
Hydrology Plan Checker
Development & Building Ser. Division
BLB

C: Arlene Portillo # 660881

✓
File

DRAINAGE INFORMATION SHEET

(REV. 11/01/2001)

PROJECT TITLE: Los Volcanos Mobile Home Park ZONE ATLAS/DRG. FILE #: K9 / D17
DRB #: _____ EPC #: _____ WORK ORDER #: _____

LEGAL DESCRIPTION: TRACTS 4 & 5, LANDS OF C.H. HILL
CITY ADDRESS: _____

ENGINEERING FIRM: Advanced Engineering and Consulting, LLC CONTACT: Shahab Biazar
ADDRESS: 10205 Snowflake Ct. NW PHONE: (505) 899-5570
CITY, STATE: Albuquerque, New Mexico ZIP CODE: 87114

OWNER: _____ CONTACT: _____
ADDRESS: _____ PHONE: _____
CITY, STATE: _____ ZIP CODE: _____

ARCHITECT: _____ CONTACT: _____
ADDRESS: _____ PHONE: _____
CITY, STATE: _____ ZIP CODE: _____

SURVEYOR: _____ CONTACT: _____
ADDRESS: _____ PHONE: _____
CITY, STATE: _____ ZIP CODE: _____

CONTRACTOR: _____ CONTACT: _____
ADDRESS: _____ PHONE: _____
CITY, STATE: _____ ZIP CODE: _____

CHECK TYPE OF SUBMITTAL:

_____ DRAINAGE REPORT
_____ DRAINAGE PLAN
_____ CONCEPTUAL GRADING & DRAINAGE PLAN
_____ GRADING PLAN
_____ EROSION CONTROL PLAN
☒ ENGINEER'S CERTIFICATION (HYDROLOGY)
_____ CLOMR / LOMR
_____ TRAFFIC CIRCULATION LAYOUT (TCL)
_____ ENGINEER'S CERTIFICATION (TCL)
_____ ENGINEER'S CERTIFICATION (DRB APPR. SITE PLAN)
_____ OTHER

CHECK TYPE OF APPROVAL SOUGHT:

☒ SIA / FINANCIAL GUARANTEE RELEASE
_____ PRELIMINARY PLAT APPROVAL
_____ S. DEV. PLAN FOR SUB'D. APPROVAL
_____ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
_____ SECTOR PLAN APPROVAL
_____ FINAL PLAT APPROVAL
_____ FOUNDATION PERMIT APPROVAL
_____ BUILDING PERMIT APPROVAL
☒ CERTIFICATE OF OCCUPANCY (PERM.)
_____ CERTIFICATE OF OCCUPANCY (TEMP.)
_____ GRADING PERMIT APPROVAL
_____ PAVING PERMIT APPROVAL
_____ WORK ORDER APPROVAL
_____ OTHER

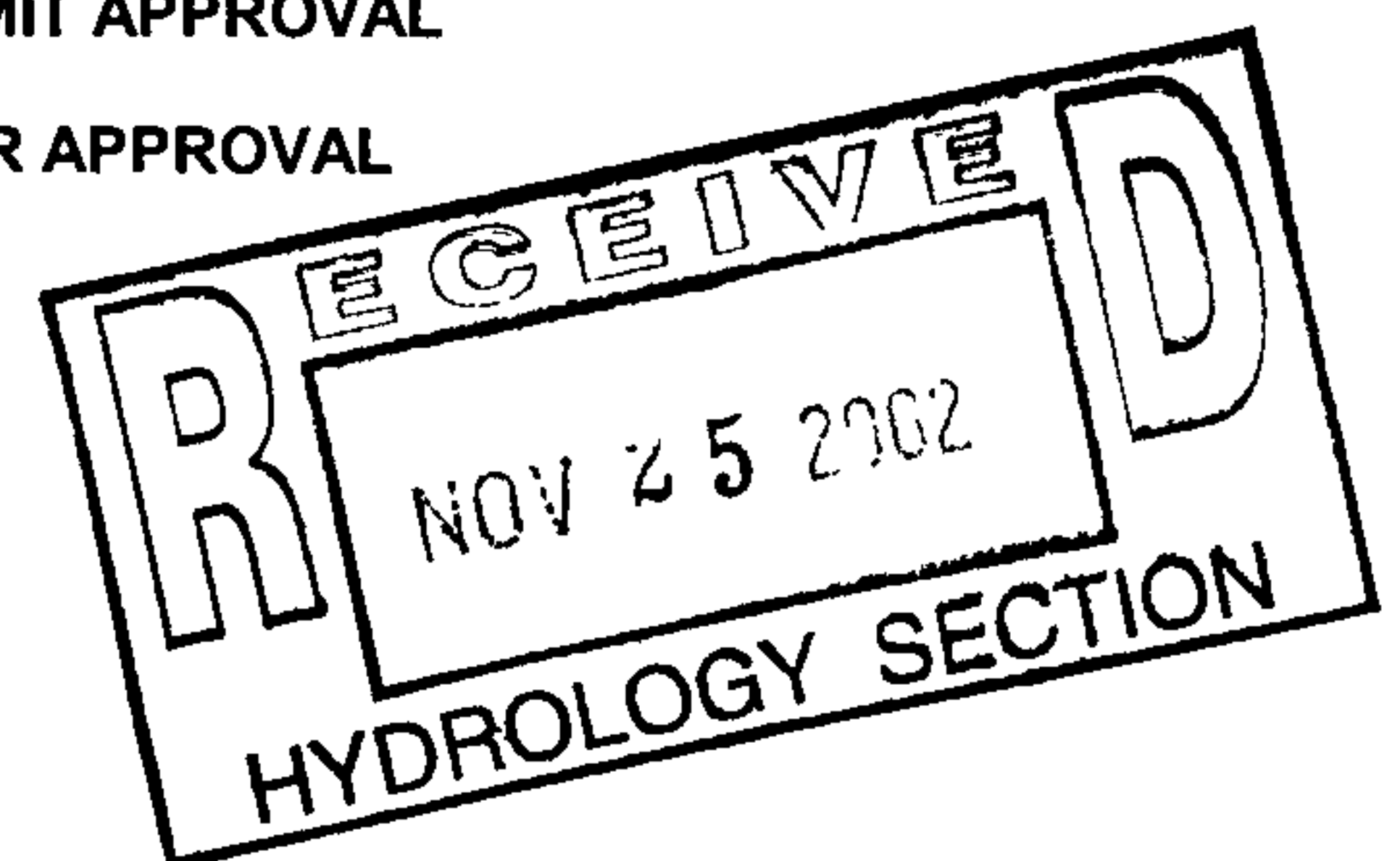
WAS A PRE-DESIGN CONFERENCE ATTENDED:

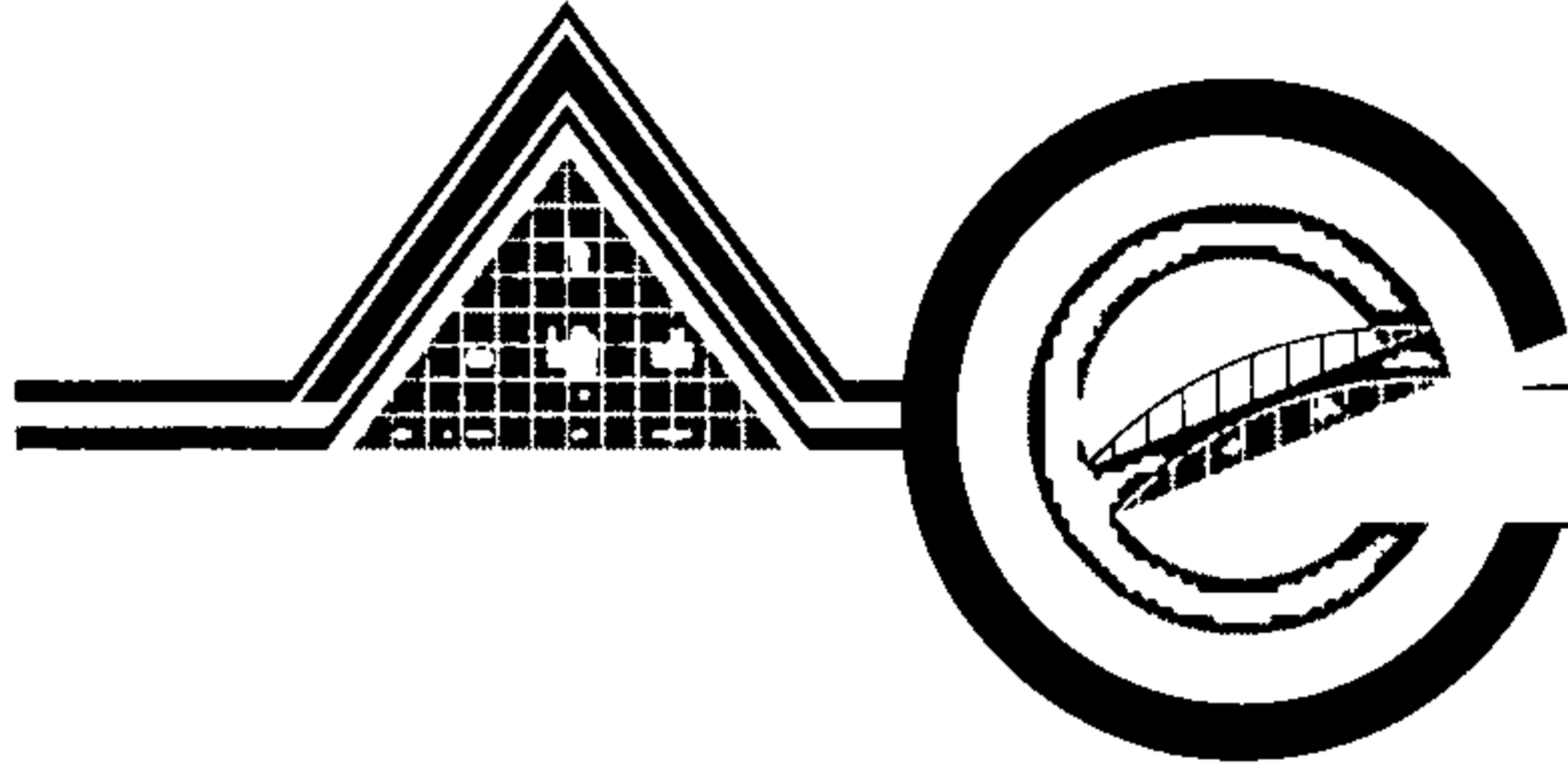
_____ YES
☒ NO
_____ COPY PROVIDED

DATE SUBMITTED: 11 / 25 / 2002 BY: Shahab Biazar, P.E.

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope of the proposed development defines the degree of drainage detail. One or more of the following levels of submittals may be required based on the following:

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





ADVANCED ENGINEERING and CONSULTING, LLC

Consulting
Design
Development
Management
Inspection
Surveying

November 25, 2002

Mr. Brad Bingham, PE
Sr. Engineer PWD
Development and Building Services
Plaza Del Sol-2nd Floor West
600 2nd Street NW
Albuquerque, NM 87102

RE: Los Volcanos Mobile Home Park, Grading Certification, K9/D17

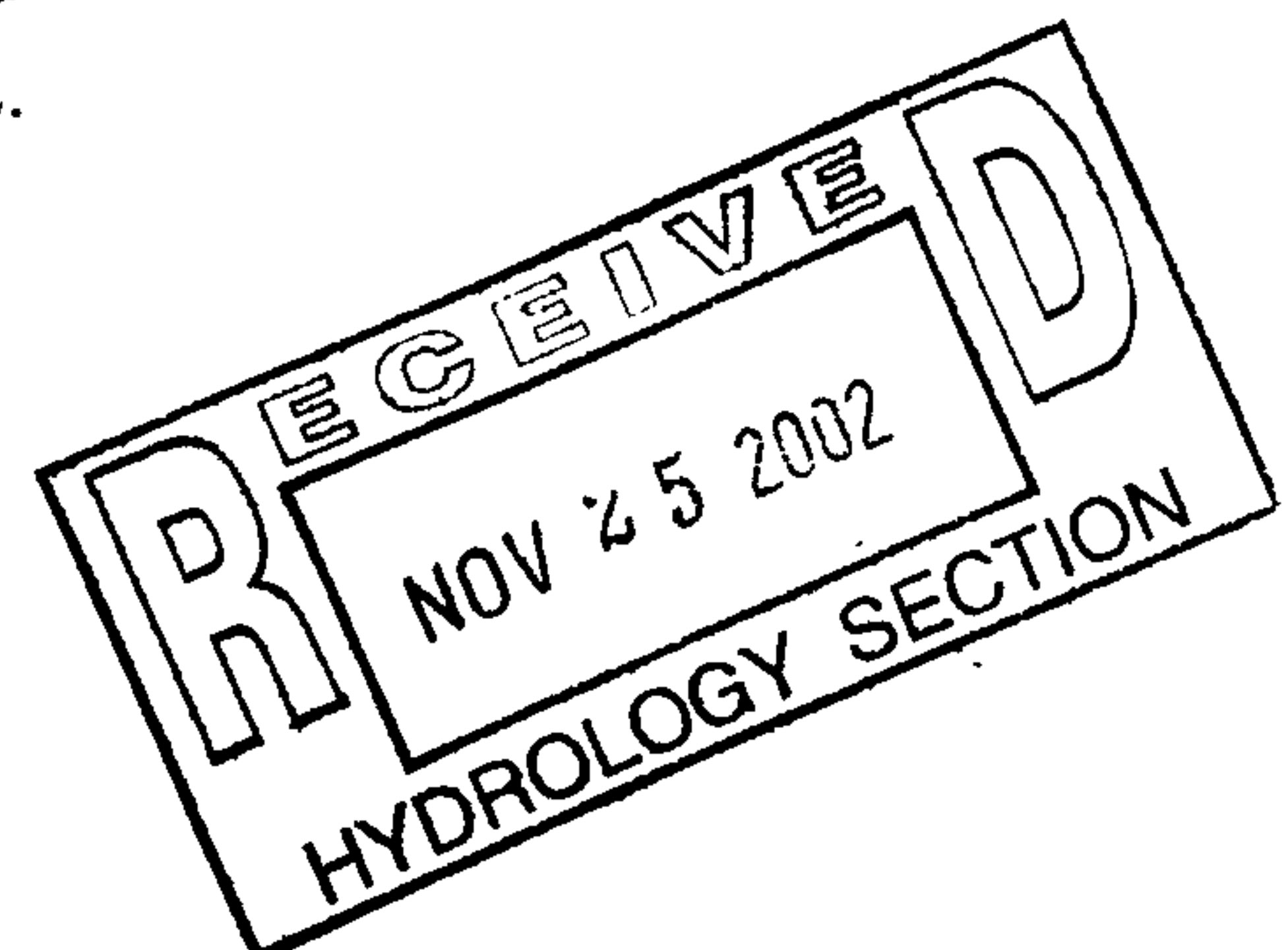
Dear Mr. Bingham:

Enclosed please find one copy of the as-built Grading Plan for the above mentioned site. The grades are built according to the approved grading & drainage plan with engineering stamp date of 10/02/2002. Some of the grades were raised on site due to excess cut. The grades were raised only on site. The pond was built with one single retaining wall instead of a double retaining wall. Therefore, the pond has more volume than the original design. See Section A-A on the as-built grading plan for the retaining wall changes. We also have used the revised certification note on the as-built grading and drainage plan.

Should you have any questions, please do not hesitate to contact our office.

Sincerely,

Shahab Biazar, P.E.



10205 Snowflake Ct. NW Albuquerque New Mexico 87114 Phone (505) 899-5570 Fax (505) 897-4996



FACSIMILE TRANSMITTAL

To:	Brad Bingham	FAX: 924-3864
From:	Shahab Biazar, P.E.	TOTAL OF (7) PAGES
Subject:	Los Volcanos Mobile Home Park, City Drainage No. K9/D17	JN: 2010
Date:	December 2, 2002	

As I had called you, we re-surveyed the pond based on the conversation that I had with the owner. We had surveyed the pond for top and bottom elevations only not realizing the pond has not been built exactly the same dimensions as the approved grading plan. We re-surveyed the pond for the exact dimensions. Attached please find the pond exhibit. We have recal

PONDING CONDITION

ROUTE RESERVOIR	ID=10 HYD NO=500.0 INFLOW ID=1 CODE=24		
	OUTFLOW(CFS)	STORAGE (AC-FT)	ELEVATION (FT)
	0.00	0.0000	5145.67
	2.67	0.1445	5146.67
	4.63	0.2890	5147.67
	5.98	0.4335	5148.67
	7.07	0.5780	5149.67
	8.02	0.7225	5150.67
	8.87	0.8670	5151.67
	9.32	0.9508	5152.25

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	5145.67	.000	.00
.80	.00	5145.67	.000	.00
1.60	24.81	5149.22	.512	6.58
2.40	1.35	5149.54	.559	6.93
3.20	.25	5147.31	.236	3.92
4.00	.15	5146.21	.079	1.45
4.80	.15	5145.87	.029	.53
5.60	.17	5145.77	.015	.27
6.40	.02	5145.73	.008	.16
7.20	.00	5145.69	.003	.05
8.00	.00	5145.68	.001	.01
8.80	.00	5145.67	.000	.00
PEAK DISCHARGE = 7.814 CFS - PEAK OCCURS AT HOUR 1.97				
MAXIMUM WATER SURFACE ELEVATION = 5150.453				
MAXIMUM STORAGE = .6911 AC-FT INCREMENTAL TIME= .033330HRS				

FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 11:33:12

AHYMO OUTPUT FILE (PONDING CONDITIONS)

AHYMO PROGRAM (AHYMO_97) -

- Version: 1997.02d

RUN DATE (MON/DAY/YR) = 12/02/2002

START TIME (HR:MIN:SEC) = 11:33:12

USER NO. = AHYMO-I-9702c01000R31-AH

INPUT FILE = 2010

*

* ZONE 1

*

* 100-YEAR, 6-HR STORM (UNDER DEVELOPED CONDITIONS) *

AHYMO INPUT FILE
(PONDING CONDITIONS)

*
* ZONE 1
*

* 100-YEAR, 6-HR STORM (UNDER DEVELOPED CONDITIONS) *

*
START TIME=0.0
RAINFALL TYPE=1 RAIN QUARTER=0.0 IN
RAIN ONE=1.87 IN RAIN SIX=2.20 IN
RAIN DAY=2.66 IN DT=0.03333 HR
COMPUTE NM HYD ID=1 HYD NO=101.0 AREA=0.015192 SQ MI
PER A=0.00 PER B=20.00 PER C=20.00 PER D=60.00
TP=0.1333 HR MASS RAINFALL=-1

*

* PONDING CONDITION *

*

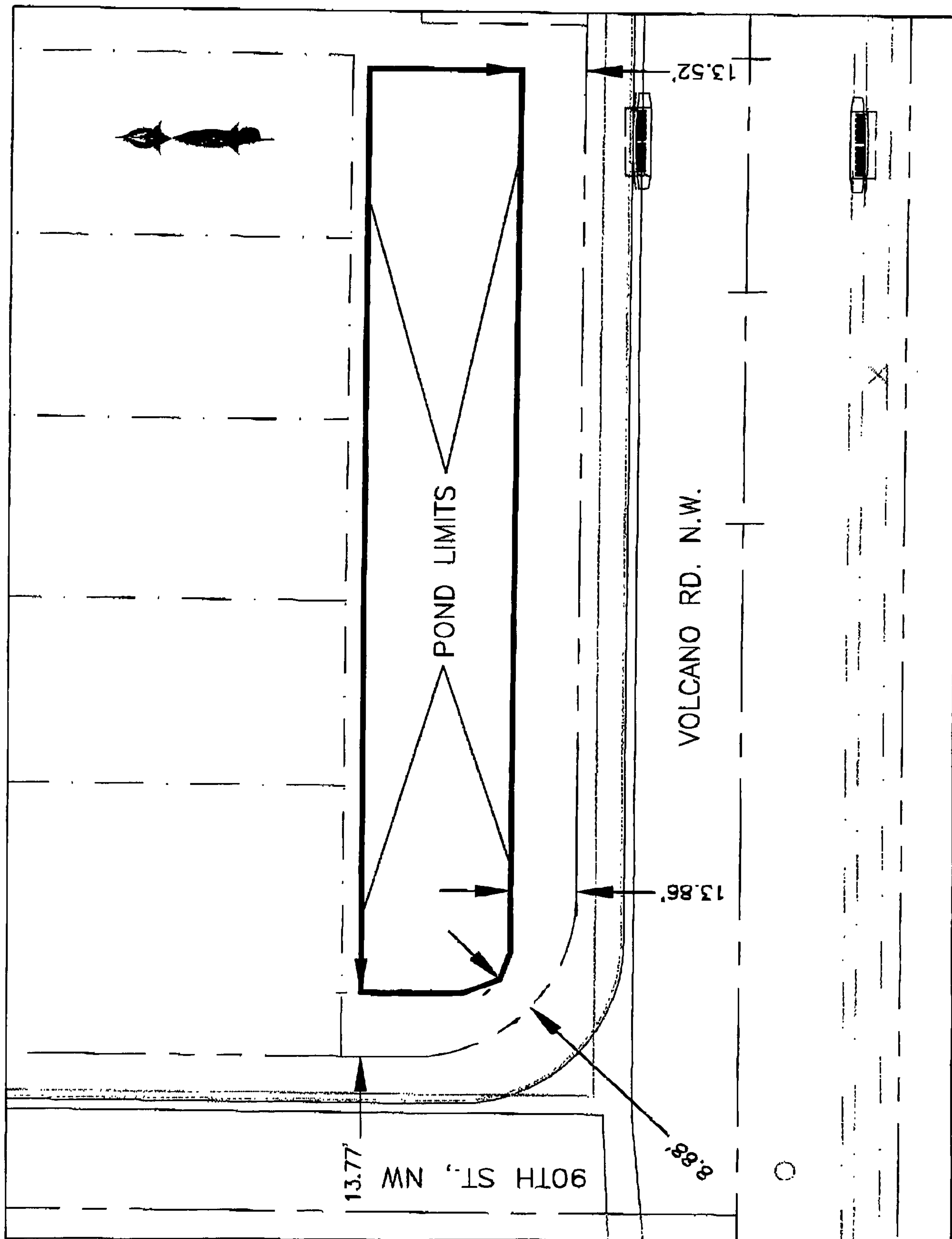
ROUTE RESERVOIR ID=10 HYD NO=500.0 INFLOW ID=1 CODE=24
OUTFLOW(CFS) STORAGE(AC-FT) ELEVATION(FT)
0.00 0.0000 5145.67
2.67 0.1445 5146.67
4.63 0.2890 5147.67
5.98 0.4335 5148.67
7.07 0.5780 5149.67
8.02 0.7225 5150.67
8.87 0.8670 5151.67
9.32 0.9508 5152.25

*

*
FINISH

REVISED POND EXHIBIT

1"=30'



VOLUME CALCULATIONS

DETENTION POND

Ab - Bottom Of The Pond Surface Area

At - Top Of The Pond Surface Area

D - Water Depth

Dt - Total Pond Depth

C - Change In Surface Area / Water Depth

$$\text{Volume} = Ab * D + 0.5 * C * D^2$$

$$C = (At - Ab) / Dt$$

$$Ab = 6,294.66$$

$$At = 6,294.66$$

$$Dt = 6.58$$

$$C = 0.00$$

ACTUAL ELEV.	DEPTH (FT)	VOLUME (AC-FT)	Q (CFS)
5145.67	0.00	0.0000	0.00
5146.67	1.00	0.1445	2.67
5147.67	2.00	0.2890	4.63
5148.67	3.00	0.4335	5.98
5149.67	4.00	0.5780	7.07
5150.67	5.00	0.7225	8.02
5151.67	6.00	0.8670	8.87
5152.25	6.58	0.9508	9.32

Orifice Equation

$$Q = CA \text{ SQRT}(2gH)$$

$$C = 0.6$$

$$\text{Diameter (in)} = 12$$

$$\text{Area (ft}^2\text{)} = 0.785398$$

$$g = 32.2$$

$$H \text{ (Ft)} = \text{Depth of water above center of orifice}$$

$$Q \text{ (CFS)} = \text{Flow}$$

11. Changes to Covenant. Changes to this Covenant are not binding unless made in writing, signed by both parties.

12. Effective Date of Covenant. This Covenant shall be effective as of the date of signature of the Owner.

CITY OF ALBUQUERQUE:
ACCEPTED:

By: *Lawrence Rael*
Lawrence Rael
Chief Administrative Officer
Dated: 11-20-01

OWNER: Zuni Development, LLC

By: *Vassan Pillai*
Title: Vassan Pillai, Managing Member
Dated: 10-26-01

APPROVED:

Paul J. Legum 11/20/01
Director, Public Works Dept.)

Reviewed by:

Paul J. Legum 11/20/01
City Engineer
11/19/01
of 11/20/01

CITY'S ACKNOWLEDGMENT

CONTRACT CONTROL FORM

PRELIMINARY REVIEW

Contact Person KATHY JARAMILLO
Phone No. 924-3996

Project # 660881
CCN# 200/01350
~~New~~ or Ext. #

Type of Agreement: private facility drainage covenant

Description/Project Name: Los Volcanos Mobile Home Park
Public Works Dept./Div.: DESIGN REVIEW

Developer: Buni Development

Contract Amount \$ -0

SIA Contract Period: 11/20/2001 - 12/31/2001

Contract Amount \$

SIA Contract Period: -

Contract Amount \$

S/W Contract Period:

ADDENDUM TO COVER PAGE

11/16/2001

(Date)

TO: Kevin Curran, Assistant City Attorney, Legal Department

FROM: Project Administrator, Project Review Sec., PWD

SUBJECT: PROJECT TITLE: Los Volcanes Mobile Home Park PROJECT # 660881

The attached documents have been review, approved, initialed and/or signed by the DRC Chairman and are submitted for your action as noted.

ITEM	ACTION		
	Review & Approval	Reference	Comments
Procedure "A".....	☐ ☐ ☐	☐ ☐	
Procedure "B".....	☐ ☐ ☐	☐ ☐	
Procedure "B" Modified Non Work Order.....	☐ ☐ ☐	☐ ☐	
Procedure "C".....	☐ ☐ ☐	☐ ☐	
Procedure "C" Modified.....	☐ ☐ <		



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

December 8, 2000

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

Re: Los Volcanes Mobile Home Park Drainage Report
Engineer's Stamp dated 10-2-00 (K9/D17)

Dear Mr. Biazar,

Based upon the information provided in your submittal dated 10-5-00, the above referenced site is approved for Site Development Plan for Building Permit, Building Permit and Grading Permit.

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

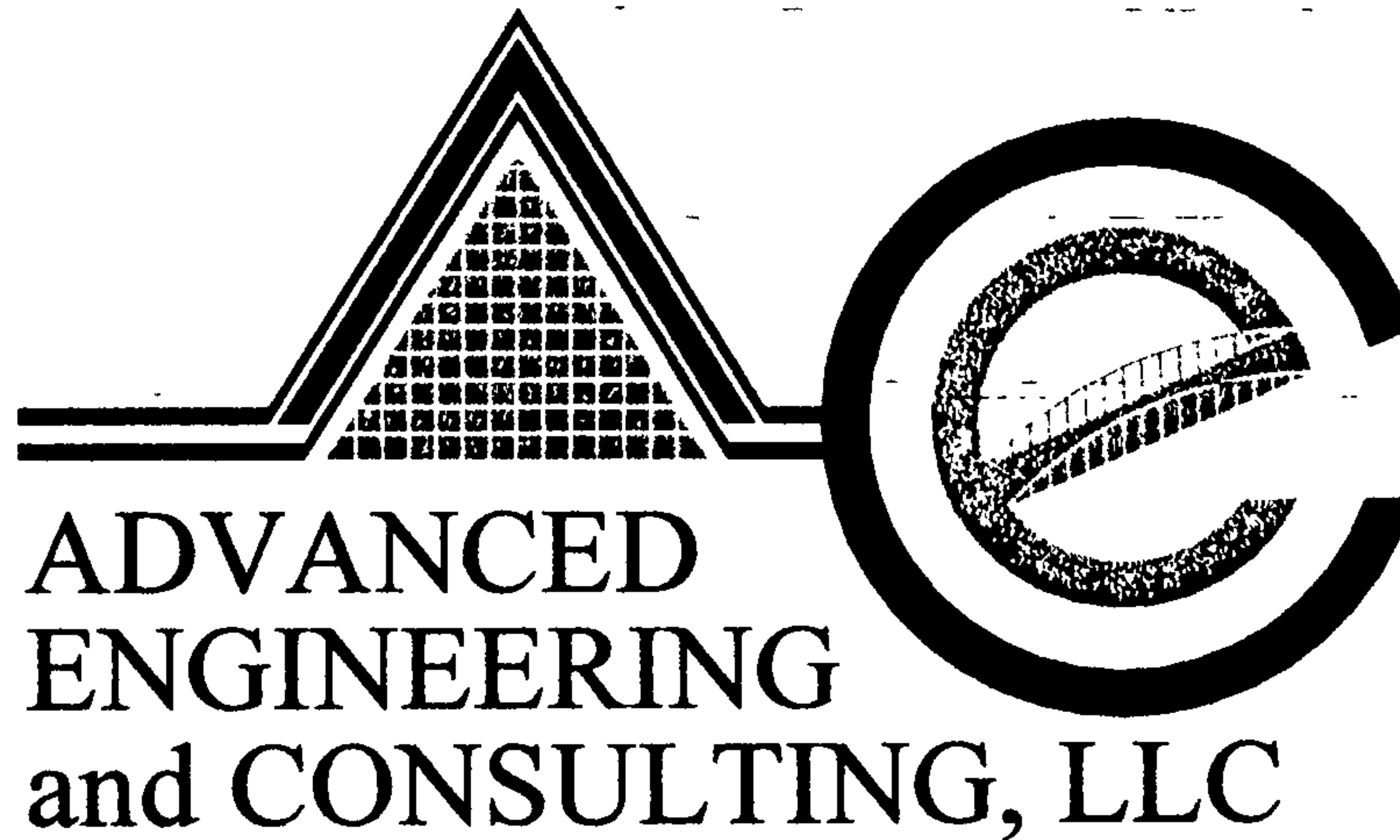
Sincerely,

Bradley L. Bingham, PE
Sr. Engineer Hydrology

C: file

DRAINAGE REPORT
FOR
**LOS VOLCANOS
MOBILE HOME PARK**

Prepared by:

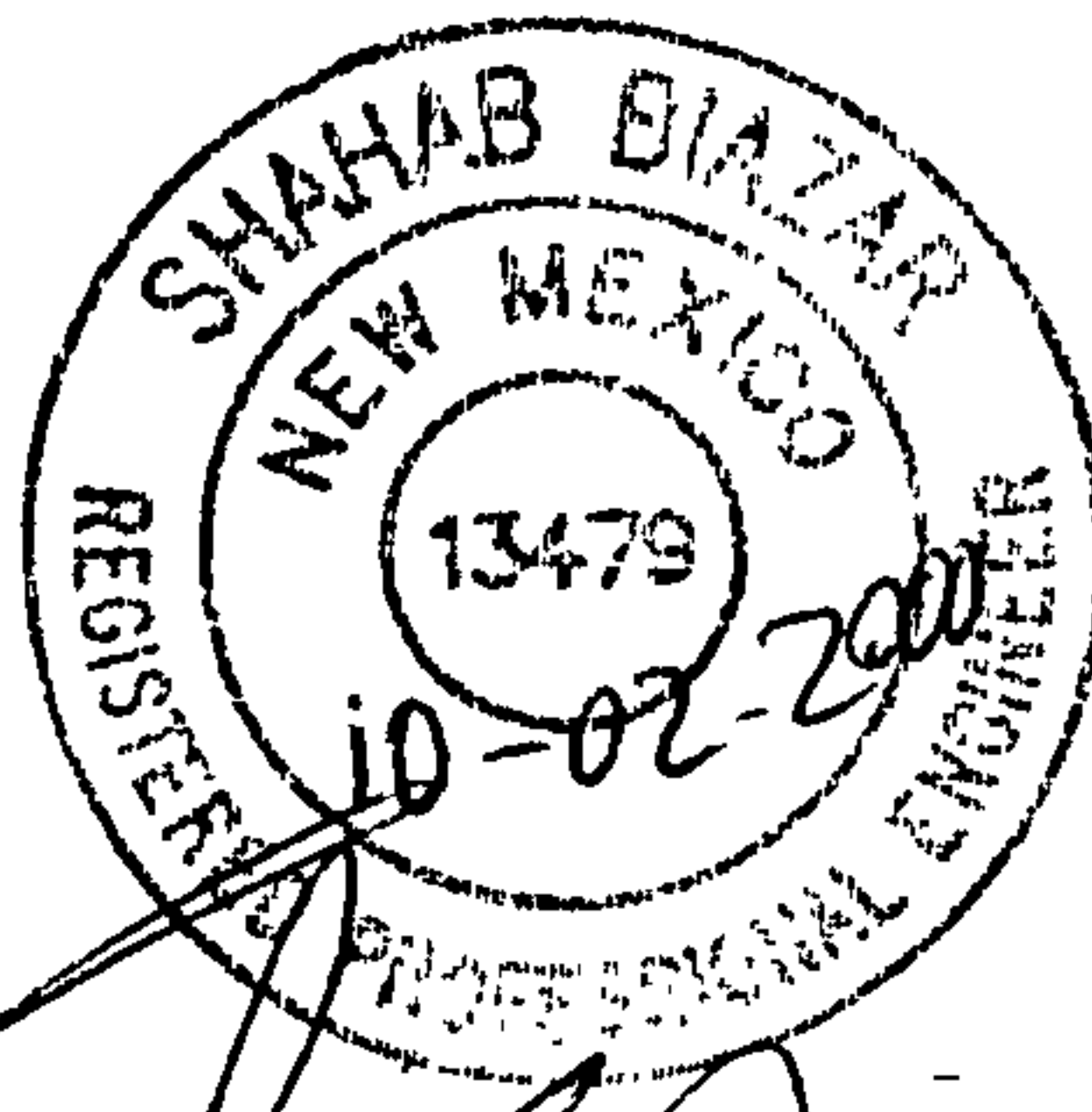
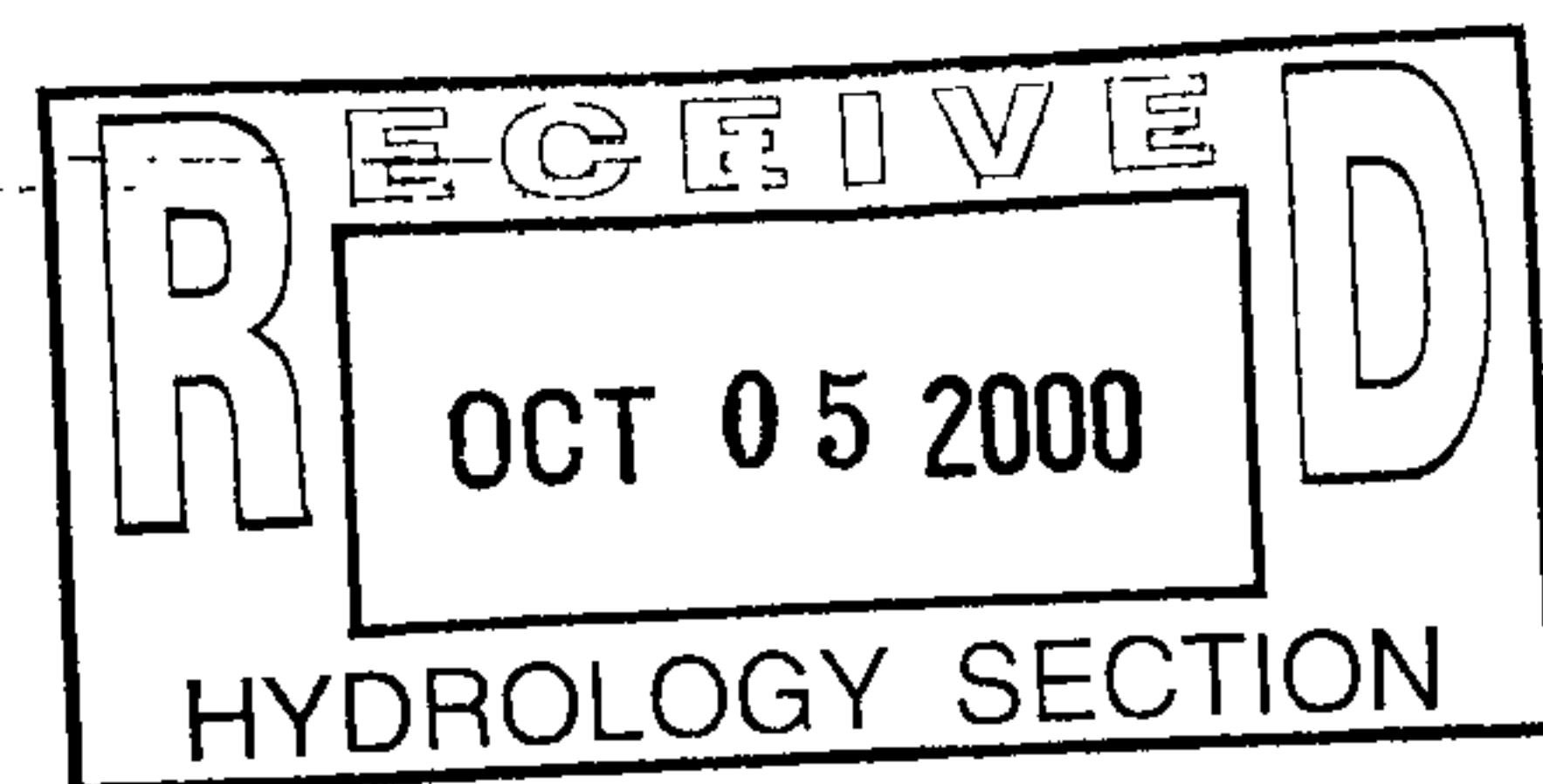


10205 Snowflake Ct. NW
Albuquerque, New Mexico 87114

Prepared For:

Zuni Development, LLC
8224 Calle Primera, NW
Albuquerque, NM 87120

June, 2000
Revised October, 2000



Location

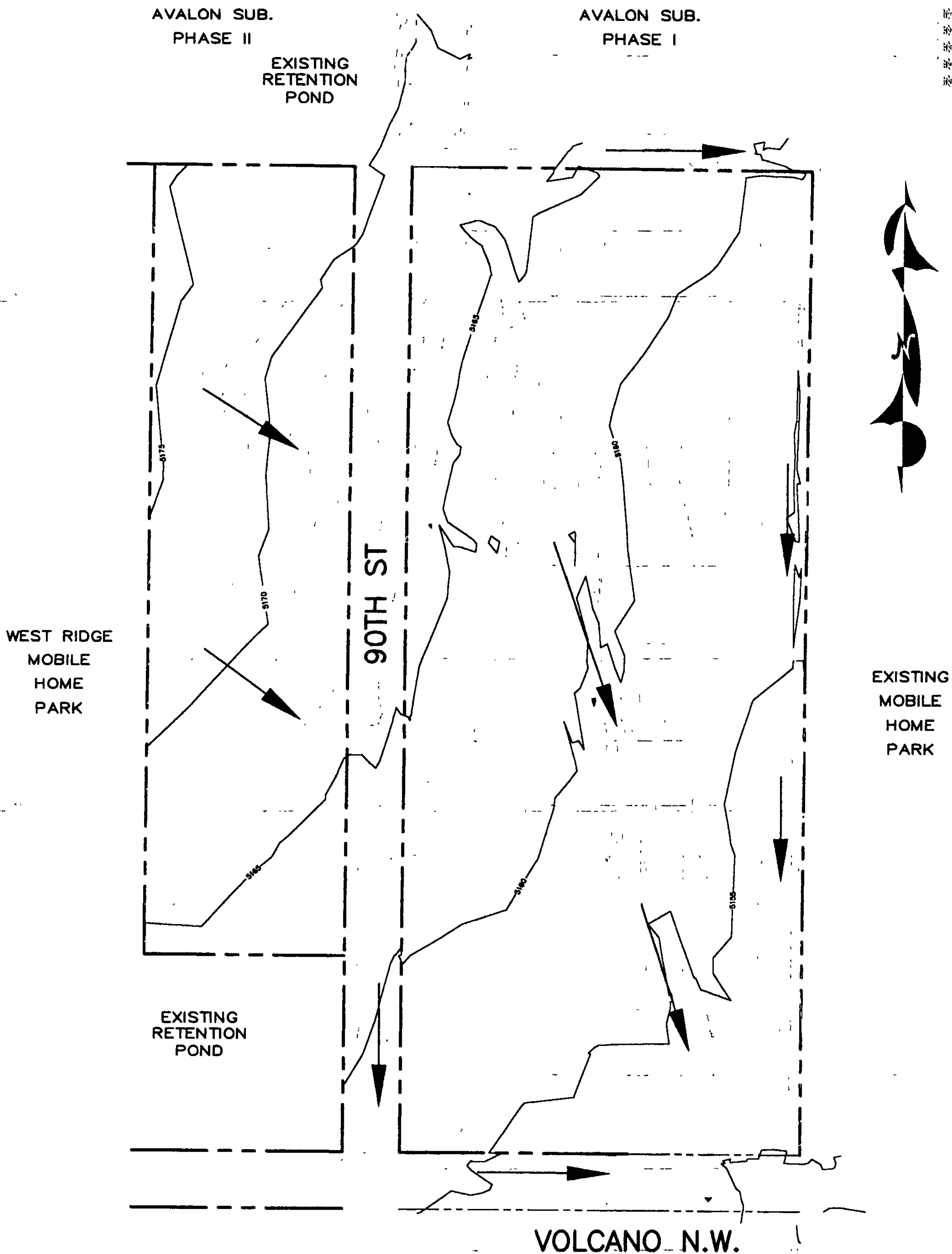
Tract 4 and 5, Lands of C.H. Hill are located northeast corner of the 90th Street and Volcano. See attached Vicinity Map K-9-Z for the location of the site.

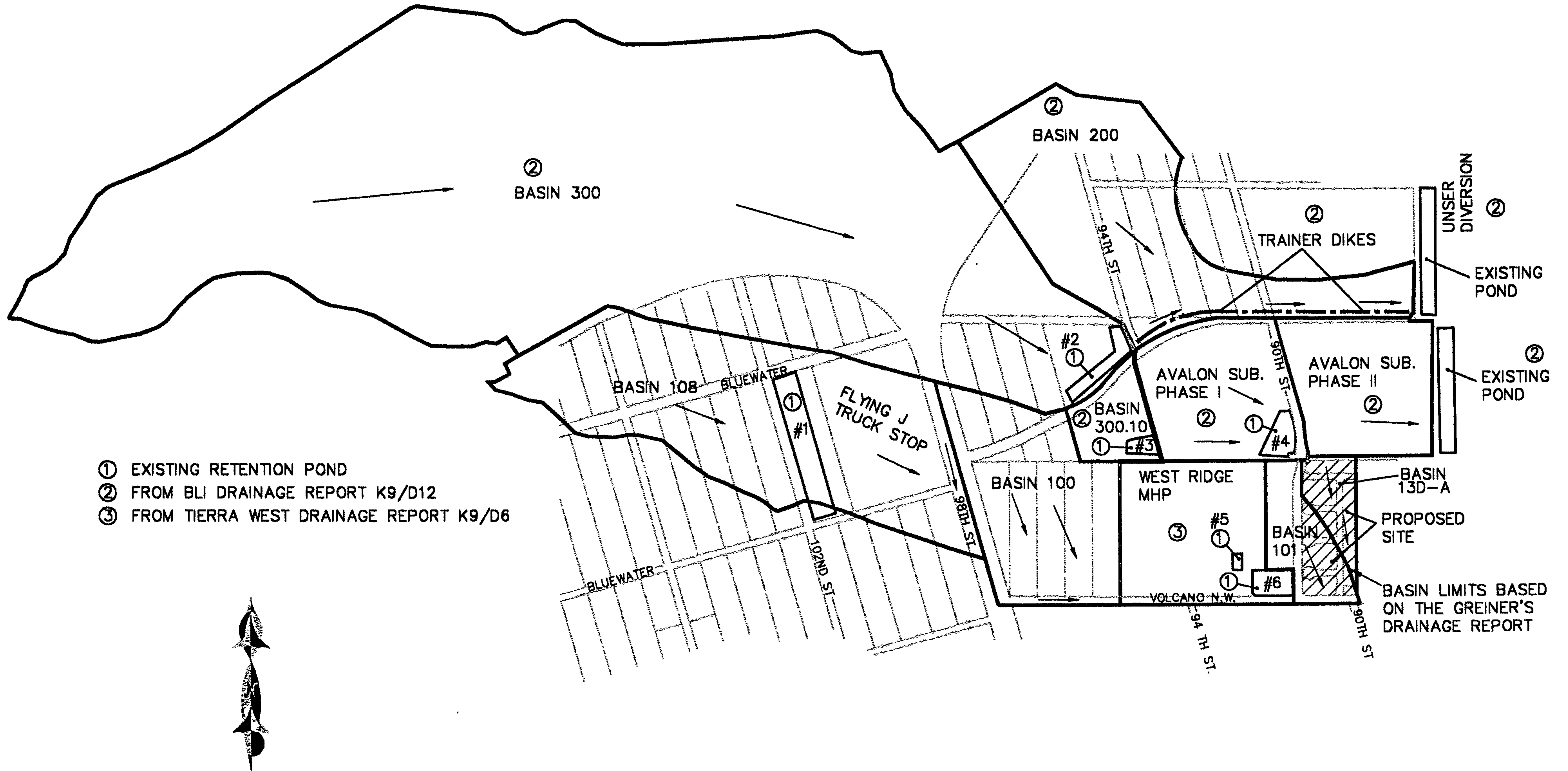
Purpose

The owners are proposing to build a mobile home park. Therefore, we are requesting Site Plan, Site Plan for Building permit, Building permit, and grading permit approval.

Existing Drainage Conditions

The site is currently undeveloped and drains from north to south to Volcano Road. See the following "Existing Topography" exhibit for the existing drainage patterns on site. This project falls within the Master Drainage Basin from the Amole Del Norte (ADN) System Diversion Facility prepared by Greiner. The northeastern portion of the property falls within Basin 13D and southwestern portion of the site falls within Basin 12D. See the "On-Site Basin Boundary" exhibit for the location of the site based on the ADN master basin plan. The site is shown on the following sheet as sub-basins 12D-A and 13D-A. Based on the Basin 12D a discharge of 364 cfs has been designed to discharge to a 66" RCP. The 66" RCP will be extended to the intersection of 90th Street (easterly leg) and Volcano NW under the master plan. Even though Basin 13D-A does drain to Basin 12-DA, it is not shown as part of the Basin 12D under the ADN report.





EXISTING BASIN LAYOUT

The overall existing offsite basin layout has been prepared using the City Drainage reports K9/D6 and K9/D12. As shown all the offsite runoff to the north and to the west are being detained under the recent developments. There is a ± 4 acre site immediately to the west of the project that drains to 90th Street and then south to Volcānō. There are no offsite runoff which would directly drain through this site. The site is analyzed in more detail under proposed conditions.

According to revised FIRM map 35001C0328 D dated January 24, 2000 the site does not fall within a 100-year floodplain.

Proposed Conditions and On-Site Drainage Management Plan

This site falls within the ADN report, and the proposed drainage design offsite and on-site has to be consistent with this report. Under the drainage study K9/D6 it was determined that the allowable discharge to the 66" is 2.05 cfs/acre for the areas that fall within Basin 12D. As shown under the existing conditions only portion of our site (Basin 12D-A, 4.0627 acres) falls within basin 12D, and the remaining portion (Basin 13D-A) falls within basin 13D. Therefore, the allowable discharge for this site is (4.0627×2.05) 8.33 cfs. Since, under the proposed conditions, basin 13D-A will continue to drain to Basin 12D-A, the runoff will be detained within a permanent detention pond and then discharges at an allowable discharge according to ADN report.

The entire runoff on-site will drain to the south end of Mazatlan Street. From there, the runoff will be intercepted by storm sewer inlets and then drained to the detention pond

The runoff in 60" RCP is 364 minus the runoff from our site (8.33 cfs) and minus the runoff from offsite Basin B. Therefore, the runoff in the 60" RCP is $(364 - 8.33 - 11.69)$ 343.98 cfs. The 60" RCP runoff capacity is 442.97 which is larger than the proposed discharge of 343.98 cfs. The 66" RCP pipe has a flow capacity of 510.86 cfs which large the actual discharge of 364 cfs.

Street Flow Capacities

Street flow capacity also was preformed to assure that the streets on-site and offsite will have adequate curb height to carry the runoff. On-site calculations were ran using both 4" and 8" curb height for a street width of 28' F-F. For 90th Street the flow capacity calculations were prepared using an 8" curb for a street width of 48' F-F. For Volcano the flow capacity was done using an 8" curb for a street width of 48' F-F. In all cases the street had more than adequate capacity for the proposed runoff.

Calculations

City of Albuquerque, Development Process Manuel, Section 22.2, Hydrology Section, revised January 1993, was used for runoff calculations. See this report for Summary Table for runoff results. See also this report for AHYMO input and output files for runoff and ponding calculations.

RUNOFF CALCULATIONS

RUNOFF CALCULATIONS

The site is @ Zone 1

LAND TREATMENT

Proposed

D = 60.00 %

B = 20.00 %

C = 20.00 %

Existing

A = 100 %

DEPTH (INCHES) @ 100-YEAR STORM

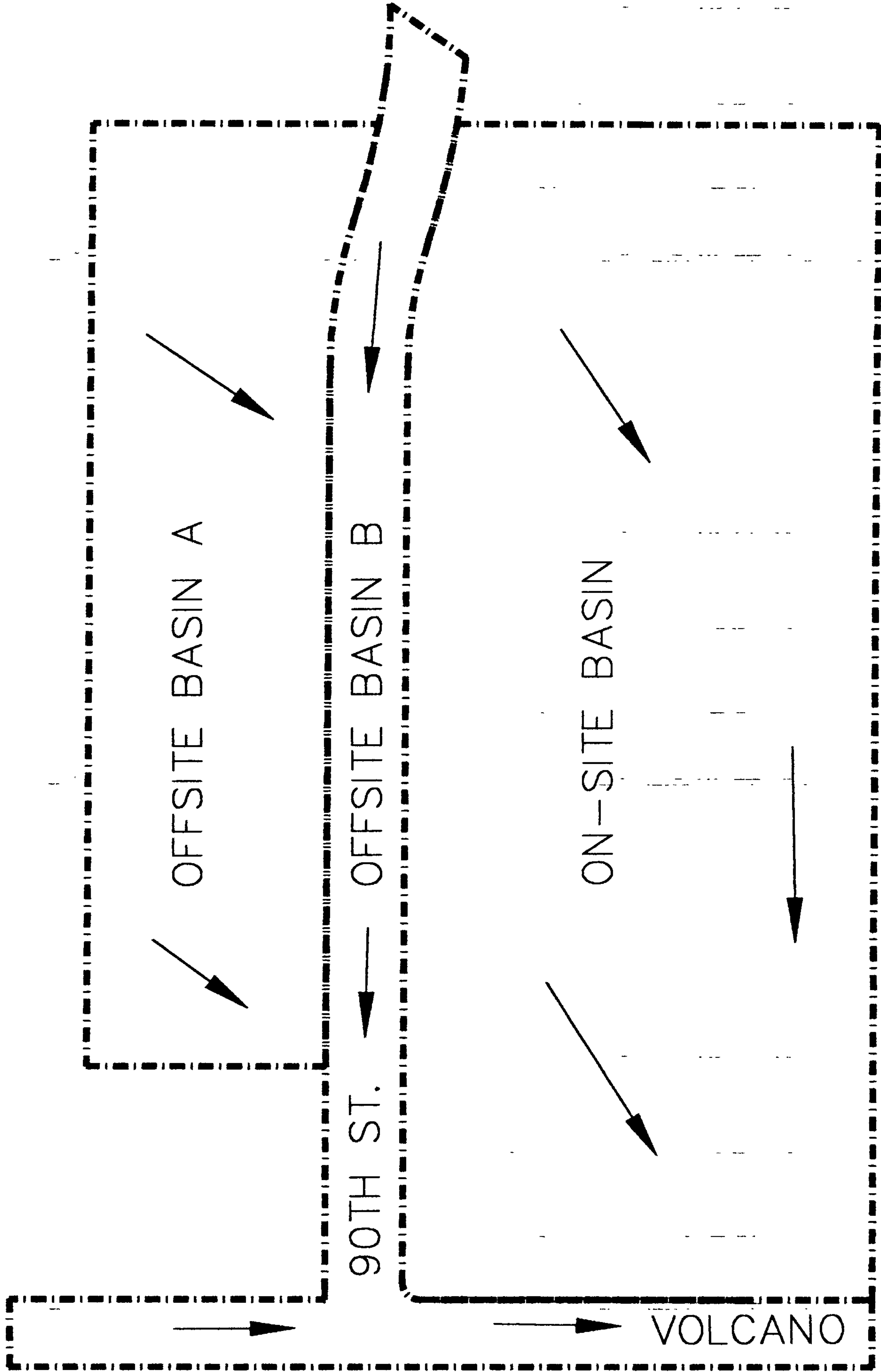
$P_{60} = 1.87$ inches

$P_{360} = 2.20$ inches

$P_{1440} = 2.66$ inches

DEPTH (INCHES) @ 10-YEAR STORM

$P_{60} = 1.87 \times 0.667$
 $= 1.25$ inches



OVERALL BASIN MAP

TREATMENT

EXISTING CONDITIONS

BASIN	A	B	C	D
OFFSITE A	100.00%	0.00%	0.00%	0.00%
OFFSITE B	100.00%	0.00%	0.00%	0.00%
ON-SITE	100.00%	0.00%	0.00%	0.00%

PROPOSED/INTERIM CONDITIONS

BASIN	A	B	C	D
OFFSITE A	100.00%	0.00%	0.00%	0.00%
OFFSITE B	0.00%	20.00%	35.00%	45.00%
ON-SITE	0.00%	20.00%	20.00%	60.00%

FUTURE/ULTIMATE CONDITIONS

BASIN	A	B	C	D
OFFSITE A	0.00%	20.00%	20.00%	60.00%
OFFSITE B	0.00%	5.00%		

RUNOFF CALCULATION RESULTS

BASIN	AREA (SF)	AREA (AC)	AREA (MI ²)
OFFSITE A	177893.50	4.0839	0.006381
OFFSITE B	121743.79	2.7949	0.004367
ON-SITE	423528.68	9.7229	0.015192

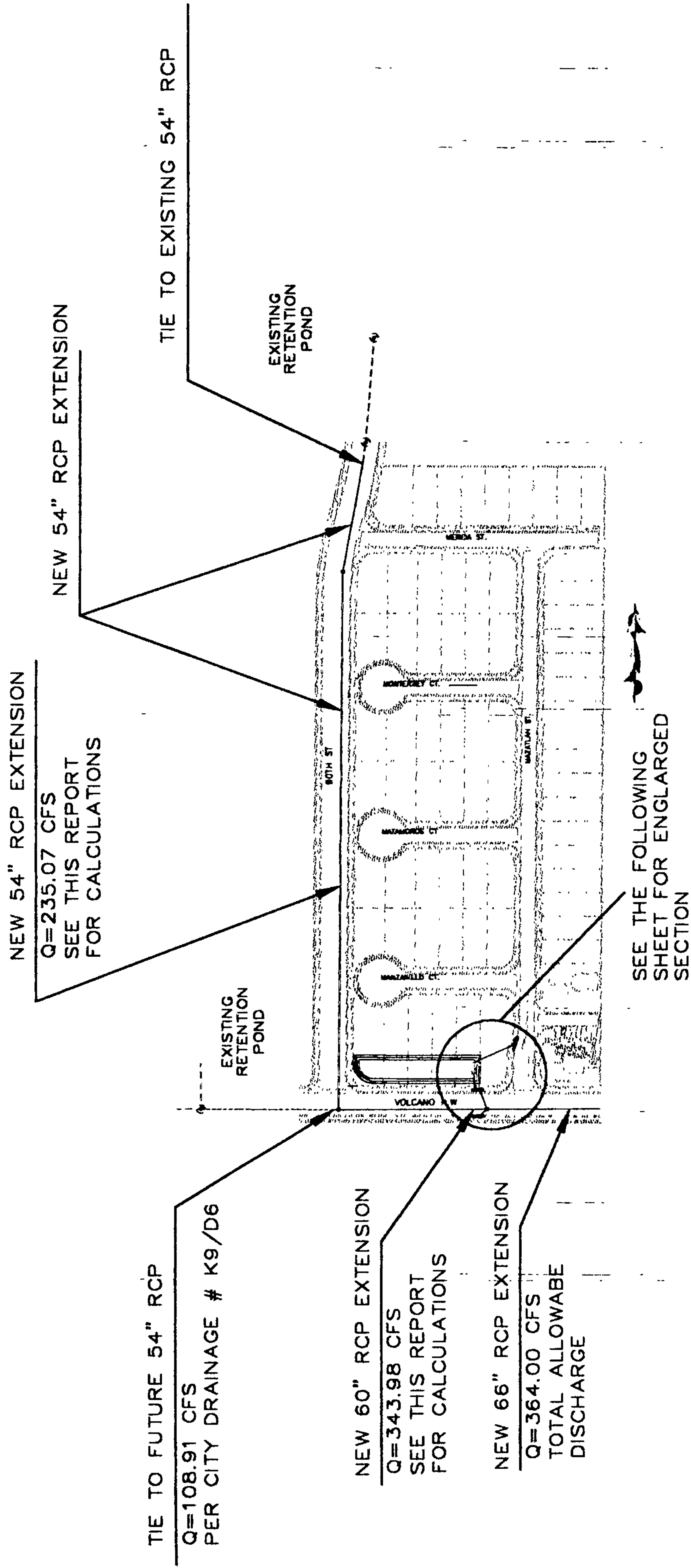
EXISTING

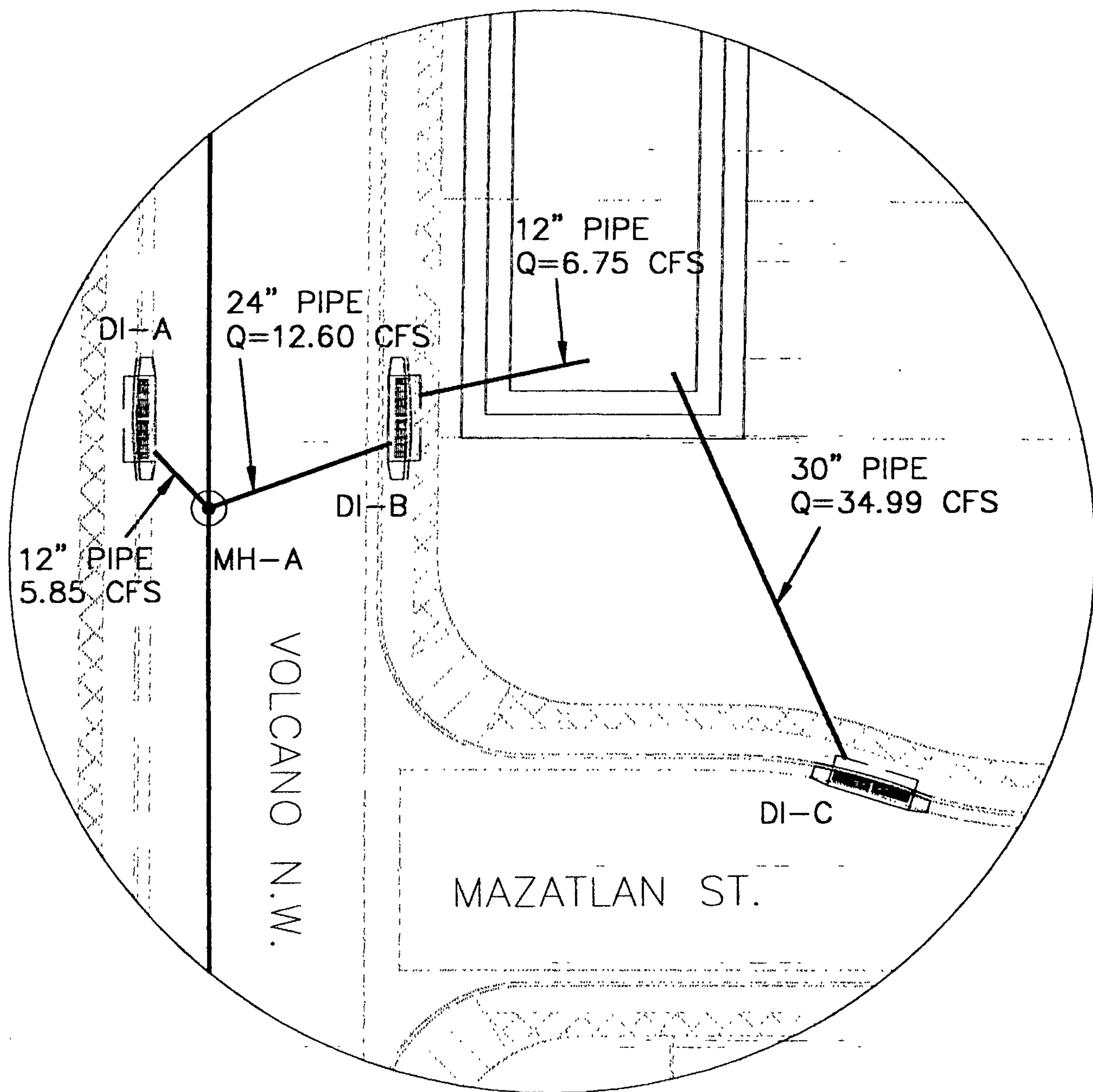
BASIN	Q-100 CFS	Q-10 CFS
OFFSITE A	5.30	1.01
OFFSITE B	3.63	0.69
ON-SITE	12.62	2.39

PROPOSED/INTERIM

BASIN	Q-100 CFS	Q-10 CFS
OFFSITE A	5.30</	

STORM SEWER FLOW CAPACITY CALCULATIONS





STORM SEWER PIPE

Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: 201012

Comment: POND TO DI-B

Solve For Actual Discharge

Given Input Data:

Diameter.....	1.00 ft
Slope.....	0.0320 ft/ft
Manning's n.....	0.013
Depth.....	0.94 ft

Computed Results:

Discharge.....	6.86 cfs
Velocity.....	8.95 fps
Flow Area.....	0.77 sf
Critical Depth....	0.97 ft
Critical Slope....	0.0327 ft/ft
Percent Full.....	94.00 %
Full Capacity.....	6.37 cfs
QMAX @.94D.....	6.86 cfs
Froude Number.....	1.24 (flow is Supercritical)

Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: 201018

Comment: DI-A TO MH-A

Solve For Actual Discharge

Given Input Data:

Diameter.....	1.50 ft
Slope.....	0.0100 ft/ft
Manning's n.....	0.013
Depth.....	1.41 ft

Computed Results:

Discharge.....	11.30 cfs
Velocity.....	6.55 fps
Flow Area.....	1.72 sf
Critical Depth....	1.28 ft
Critical Slope....	0.0108 ft/ft
Percent Full.....	94.00 %
Full Capacity.....	10.50 cfs
QMAX @.94D.....	11.30 cfs
Froude Number.....	0.74 (flow is Subcritical)

Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: 201024

Comment: DI-B_TO MH-A

Solve For Actual Discharge

Given Input Data:

Diameter.....	2.00 ft
Slope.....	0.0100 ft/ft
Manning's n.....	0.013
Depth.....	1.88 ft

Computed Results:

Discharge.....	24.33 cfs
Velocity.....	7.94 fps
Flow Area.....	3.06 sf
Critical Depth....	1.74 ft
Critical Slope....	0.0105 ft/ft
Percent Full.....	94.00 %
Full Capacity.....	22.62 cfs
QMAX @.94D.....	24.34 cfs
Froude Number.....	0.78 (flow is Subcritical)

Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: 201030

Comment: DI-C TO POND

Solve For Actual Discharge

Given Input Data:

Diameter.....	2.50 ft
Slope.....	0.0100 ft/ft
Manning's n.....	0.013
Depth.....	2.35 ft

Computed Results:

Discharge.....	44.12 cfs
Velocity.....	9.21 fps
Flow Area.....	4.79 sf
Critical Depth....	2.21 ft
Critical Slope....	0.0104 ft/ft
Percent Full.....	94.00 %
Full Capacity.....	41.02 cfs
QMAX @.94D.....	44.12 cfs
Froude Number.....	0.81 (flow is Subcritical)

Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: 201054

Comment: (54" PIPE IN 90TH STREET)

Solve For Actual Discharge

Given Input Data:

Diameter.....	4.50 ft
Slope.....	0.0200 ft/ft
Manning's n.....	0.013
Depth.....	4.22 ft

Computed Results:

Discharge.....	299.16 cfs
Velocity.....	19.31 fps
Flow Area.....	15.49 sf
Critical Depth....	4.39 ft
Critical Slope....	0.0205 ft/ft
Percent Full.....	93.78 %
Full Capacity.....	278.10 cfs
QMAX @.94D.....	299.16 cfs
Froude Number.....	1.27 (flow is Supercritical)

Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: 201060

Comment: 60" PIPE IN VOLCANO

Solve For Actual Discharge

Given Input Data:

Diameter.....	5.00 ft
Slope.....	0.0250 ft/ft
Manning's n.....	0.013
Depth.....	4.69 ft

Computed Results:

Discharge.....	442.97 cfs
Velocity.....	23.17 fps
Flow Area.....	19.12 sf
Critical Depth....	4.92 ft
Critical Slope....	0.0262 ft/ft
Percent Full.....	93.70 %
Full Capacity.....	411.80 cfs
QMAX @.94D.....	442.97 cfs
Froude Number.....	1.46 (flow is Supercritical)

Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: 201066

Comment: 66" PIPE IN VOLCANO

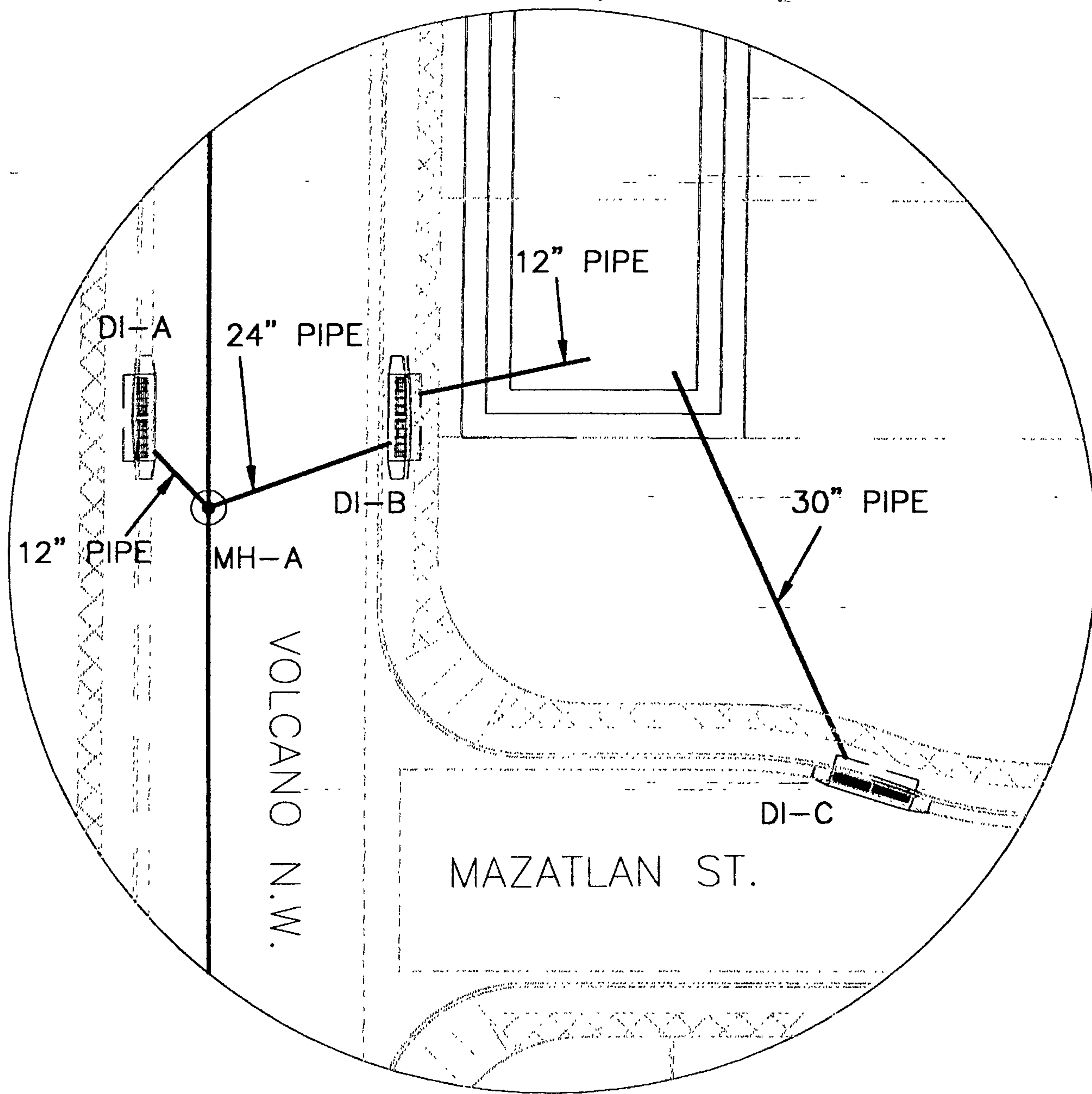
Solve For Actual Discharge

Given Input Data:

Diameter.....	5.50 ft
Slope.....	0.0200 ft/ft
Manning's n.....	0.013
Depth.....	5.17 ft

Computed Results:

Discharge.....	510.86 cfs
Velocity.....	22.05 fps
Flow Area.....	23.16 sf
Critical Depth....	5.38 ft
Critical Slope....	0.0206 ft/ft
Percent Full.....	93.91 %
Full Capacity.....	474.91 cfs
QMAX @.94D.....	510.86 cfs
Froude Number.....	1.31 (flow is Supercritical)



INLET LOCATION

STORM DROP INLET DRAINAGE CAPACITY

Double 'A' (DI-C)

Area at the grate:

$$\begin{aligned} L &= 88 \frac{3}{4}'' - 2(6''_{\text{ends}}) - 6''_{\text{center piece}} - 14(\frac{1}{2}''_{\text{middle bars}}) \\ &= 63 \frac{3}{4}'' \\ &= 5.3125' \end{aligned}$$

$$\begin{aligned} W &= 25 \frac{1}{2}'' - 13(\frac{1}{2}''_{\text{middle bars}}) \\ &= 19'' \\ &= 1.5833' \end{aligned}$$

$$\begin{aligned} \text{Area} &= 5.3125' \times 1.5833' \\ &= 8.41 \text{ ft}^2 \end{aligned}$$

$$\begin{aligned} \text{Effective Area} &= 8.41 - 8.41 (0.5_{\text{clogging factor}}) \\ &= 4.21 \text{ ft}^2 \text{ at the grate} \end{aligned}$$

Area at the throat:

$$L = 13.50''$$

STREET FLOW CAPACITY CALCULATIONS

PONDING CALCULATIONS

