

CITY OF ALBUQUERQUE

Planning Department
Brennon Williams, Director



Mayor Timothy M. Keller

April 23, 2020

Vincent Carrica, P.E.
Tierra West, LLC
5571 Midway Park Place NE
Albuquerque, NM, 87109

**RE: Maverik – Unser/Los Volcanes
551 Silver Creek Rd. NW
Revised Grading and Drainage Plan & Drainage Report
Engineer's Stamp Date: 04/02/20
Hydrology File: K10D023D**

Dear Mr. Carrica:

PO Box 1293

Based upon the information provided in your submittal received 04/17/2020, the Revised Grading & Drainage Plan & Drainage Report are approved for Building Permit.

Albuquerque

Please attach a copy of this approved plan in the construction sets for Building Permit processing along with a copy of this letter. Prior to approval in support of Permanent Release of Occupancy by Hydrology, Engineer Certification per the DPM checklist will be required.

NM 87103

As a reminder, please provide a Drainage Covenant for the proposed underground detention system per Chapter 17 of the DPM prior to Permanent Release of Occupancy. Please submit this on the 4th floor of Plaza de Sol. A \$25 fee will be required.

www.cabq.gov

If you have any questions, please contact me at 924-3995 or rbrissette@cabq.gov.

Sincerely,

Renée C. Brissette, P.E. CFM
Senior Engineer, Hydrology
Planning Department



City of Albuquerque

Planning Department
Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 6/2018)

Project Title: Maverik- Unser/Los Volcanes **Building Permit #:** _____ **Hydrology File #:** _____
DRB#: _____ **EPC#:** _____ **Work Order#:** _____
Legal Description: L-1-A-1 Plat of TRS L-1-A-1 & L-1-B-1-A Atrisco Business Park
City Address: 551 Silver Creek Rd. Albuquerque NM

Applicant: Tierra West, LLC **Contact:** Vince Carrica
Address: 5571 Midway Park Place NE Albuquerque NM 87109
Phone#: 505-858-3100 **Fax#:** 505-858-1118 **E-mail:** vcarrica@tierrawestllc.com

Other Contact: _____ **Contact:** _____
Address: _____
Phone#: _____ **Fax#:** _____ **E-mail:** _____

TYPE OF DEVELOPMENT: _____ PLAT (# of lots) _____ RESIDENCE ☒ DRB SITE _____ ADMIN SITE

IS THIS A RESUBMITTAL? ☒ Yes _____ No

DEPARTMENT _____ TRANSPORTATION ☒ HYDROLOGY/DRAINAGE

Check all that Apply:

TYPE OF SUBMITTAL:

- ☐ ENGINEER/ARCHITECT CERTIFICATION
- ☐ PAD CERTIFICATION
- ☐ CONCEPTUAL G & D PLAN
- ☒ GRADING PLAN
- ☒ DRAINAGE REPORT
- ☐ DRAINAGE MASTER PLAN
- ☐ FLOODPLAIN DEVELOPMENT PERMIT APPLIC
- ☐ ELEVATION CERTIFICATE
- ☐ CLOMR/LOMR
- ☐ TRAFFIC CIRCULATION LAYOUT (TCL)
- ☐ TRAFFIC IMPACT STUDY (TIS)
- ☐ STREET LIGHT LAYOUT
- ☐ OTHER (SPECIFY) _____
- ☐ PRE-DESIGN MEETING?

TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

- ☒ BUILDING PERMIT APPROVAL
- ☐ CERTIFICATE OF OCCUPANCY
- ☐ PRELIMINARY PLAT APPROVAL
- ☐ SITE PLAN FOR SUB'D APPROVAL
- ☒ SITE PLAN FOR BLDG. PERMIT APPROVAL
- ☐ FINAL PLAT APPROVAL
- ☐ SIA/ RELEASE OF FINANCIAL GUARANTEE
- ☐ FOUNDATION PERMIT APPROVAL
- ☐ GRADING PERMIT APPROVAL
- ☐ SO-19 APPROVAL
- ☐ PAVING PERMIT APPROVAL
- ☐ GRADING/ PAD CERTIFICATION
- ☐ WORK ORDER APPROVAL
- ☐ CLOMR/LOMR
- ☐ FLOODPLAIN DEVELOPMENT PERMIT
- ☐ OTHER (SPECIFY) _____

DATE SUBMITTED: 04-02-20 **By:** Vince Carrica

COA STAFF:

ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____

DRAINAGE REPORT

For

**551 Silver Creek Rd.
ALBUQUERQUE, NEW MEXICO**

Prepared by

Tierra West, LLC
5571 Midway Park Place NE
Albuquerque, New Mexico 87109

Prepared for

Maverik
Albuquerque, NM

April 29, 2019
REVISED April 01, 2020



Vincent P. Carrica, PE #16212



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GRADING AND DRAINAGE PLAN	MAP POCKET



**Zone Atlas Page:
K-10-Z**

Easement

Escarpment

Petroglyph National Monument

Areas Outside of City Limits

Airport Protection Overlay (APO) Zone

Character Protection Overlay (CPO) Zone

Historic Protection Overlay (HPO) Zone

View Protection Overlay (VPO) Zone

Gray Shading
Represents Area Outside
of the City Limits

0 250 500 1,000 Feet

LOCATION

The proposed commercial development is located off Silver Creek Rd south of Interstate 40, east of Unser Blvd at the corner of Los Volcanes and Silver Creek Rd in southwest Albuquerque. It is comprised of approximately 3.06 acres zoned NR-BP. This report represents a drainage management and grading plan for approval by the City of Albuquerque, for Site Plan, grading and Building Permit submittal.

DRAINAGE BASIN DESIGNATION

The drainage basins for proposed conditions are as indicated on the BASIN MAP included in this report. The site is broken into six onsite drainage basins and one upland offsite basin.

EXISTING DRAINAGE CONDITIONS

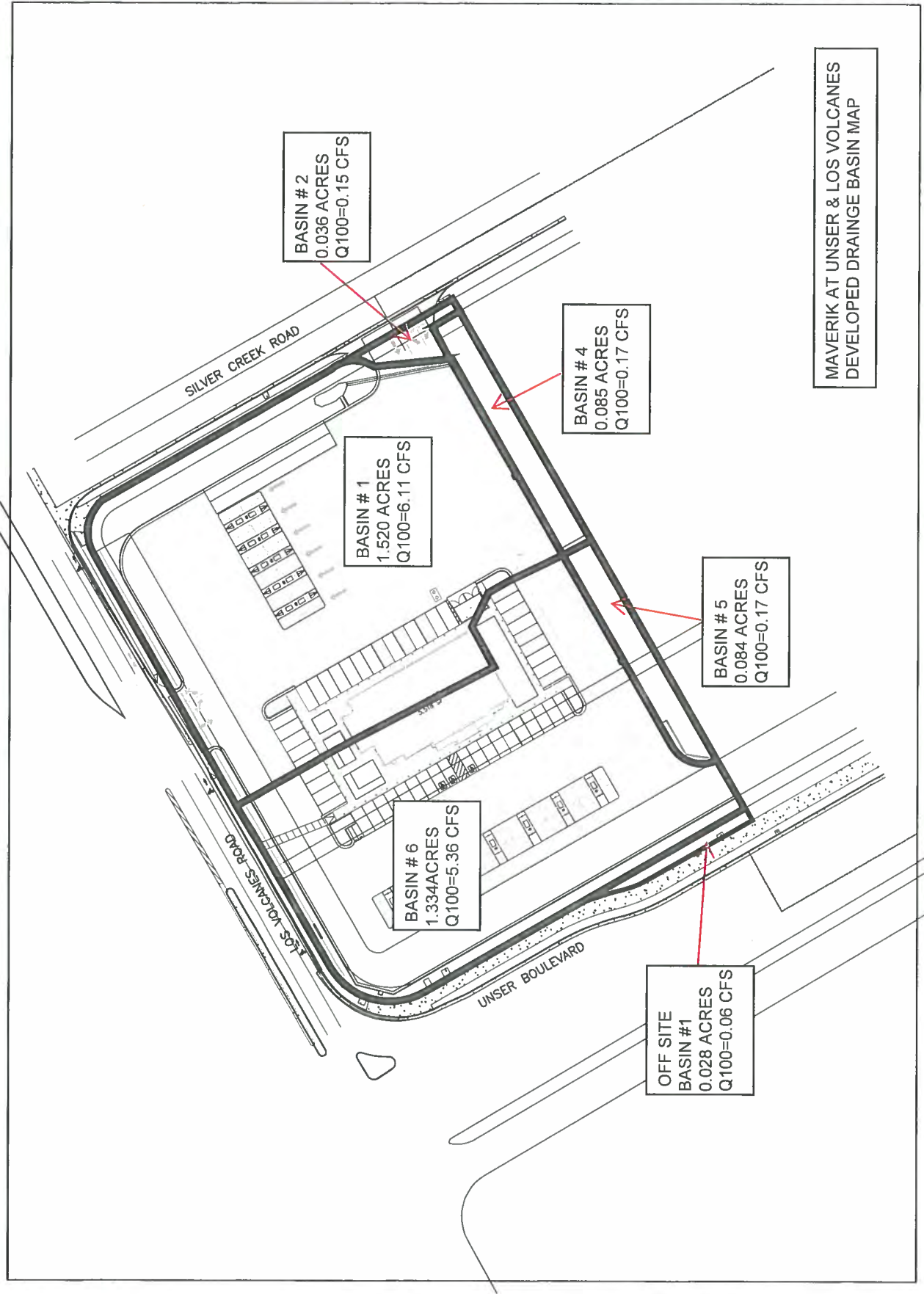
The site is currently vacant with an earthen detention pond constructed in the southeast corner of the site. It drains predominantly northwest to southeast. Runoff from a small upland basin that is within Unser Blvd right-of-way drains onto the site. This runoff is combined with the onsite runoff and routed through an existing detention pond before being released to Silver Creek Rd, which then drains to the south per the Atrisco Business Park Master Drainage Plan for fully developed conditions, dated February of 1992.

FIRM MAP

The site is not located in a flood plain as is shown on designated Flood Hazard Zone Map No. 35001C0328J dated 11/4/2016.

DESIGN-CRITERIA

The drainage plan presented in this report was prepared in accordance with the City of Albuquerque Drainage Ordinances and the Development Process Manual DPM. The hydrological analysis is based on the 100-year frequency, 6-hour duration storm. The plan will also include retention of the first flush in on-site drainage ponds. See attached Weighted E Table for excess precipitation values calculated for this site.



National Flood Hazard Layer FIRMette

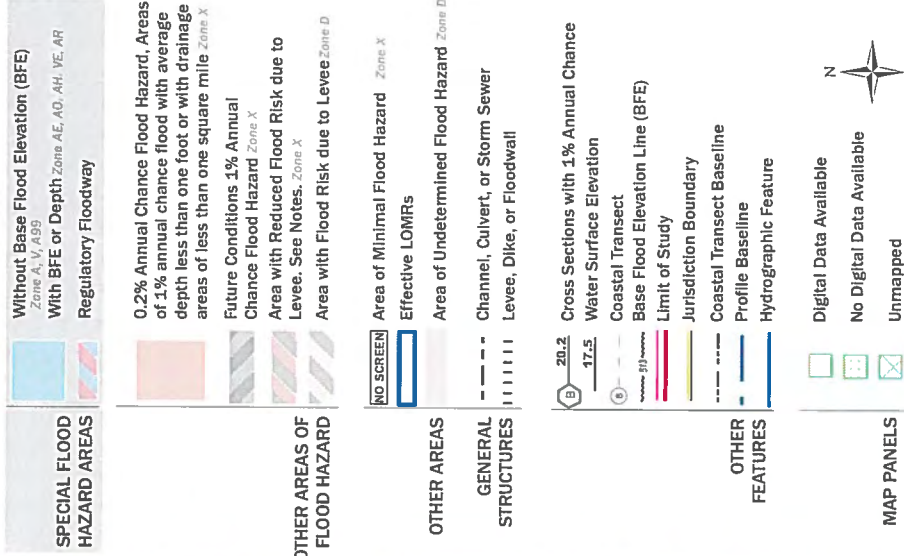


35°52'7.93"N
106°43'53.05"W



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards.

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **1/31/2019 at 6:28:05 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

DEVELOPED-DRAINAGE CONDITIONS

The site is proposed to be developed with a single user, Maverik C-Store. No offsite flows will enter the site with the exception of the small upland basin in the Unser Blvd right-of-way, which will continue to be routed through the subject site. Runoff from the site will be routed through onsite underground drainage culverts and will then discharge to Silver Creek roadway with a controlled discharge rate equal to or less than the allowable 0.1 cfs per acre. This is in compliance with the Atrisco Business Park Master Drainage Plan for fully developed conditions dated February of 1992. The drainage culverts will retain the first flush retention volumes as required by the drainage ordinance.

Refer to enclosed Weighted E computation spreadsheet for developed runoff conditions. Storm drain capacities are listed in a table in the appendix. A spreadsheet of retained and detained volumes is also included in the appendix.

SUMMARY

The proposed grading and drainage plan for the proposed development of the existing undeveloped property includes surface flows and an onsite storm drain to convey runoff to underground detention culverts before discharging to the Silver Creek Roadway at a controlled discharge rate of equal to or less than 0.1 cfs per acre.

Zone #1
Developed Basins

Maverik @ Unser & Los Volcanes
Weighted E Method

100-Year										10-Year				2-Year						
Basin	Area (sf)	Area (acres)	Area (sq miles)	Treatment A		Treatment B		Treatment C		Treatment D		Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs	Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs	Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs
				%	(acres)	%	(acres)	%	(acres)	%	(acres)									
1	66226.00	1.520	0.00238	0%	0	15%	0.228	0%	0	85%	1.292	1.775	0.225	6.11	1.087	0.138	3.91	0.614	0.078	2.19
2	1578.00	0.036	0.00006	0%	0	15%	0.005	0%	0	85%	0.031	1.775	0.005	0.15	1.087	0.003	0.09	0.614	0.002	0.05
3	58095.00	1.334	0.00208	0%	0	15%	0.200	0%	0	85%	1.134	1.775	0.197	5.36	1.087	0.121	3.43	0.614	0.068	1.92
4	3705.00	0.085	0.00013	0%	0	100%	0.085	0%	0	0%	0.000	0.670	0.005	0.17	0.220	0.002	0.06	0.010	0.000	0.00
5	3655.00	0.084	0.00013	0%	0	100%	0.084	0%	0	0%	0.000	0.670	0.005	0.17	0.220	0.002	0.06	0.010	0.000	0.00
OS-1	1236.00	0.028	0.00004	0%	0	100%	0.028	0%	0	0%	0.000	0.670	0.002	0.06	0.220	0.001	0.02	0.010	0.000	0.00
Total	134495.00	3.088	0.00482										0.439	12.02		0.265	7.58		0.148	4.17

Equations:

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

Volume = Weighted D * Total Area

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

MAVERIK AT UNSER & LOS VOLCANES

UNDERGROUND PONDING VOLUMES 4/1/2020

Pond Outfall Elevation 30.1
MWSE 33.75

Pipe Dia (in)	Run No.	Length (ft)	Invert Elevation			Top of Pipe		Retained 1st Flush			Detained		
			High	Low	Average	High	Low	Depth (ft)	Area (ft)	Volume (cu.ft.)	Depth (ft)	Area (ft)	Volume (cu.ft.)
72	1	153	29.66	28.9	29.28	35.66	34.90	0.82	2.32	355	4.47	22.59	3,456
72	2	392	29.66	27.7	28.68	35.66	33.70	1.42	5.12	2,007	5.07	25.49	9,992
72	3	146	28.43	27.7	28.07	34.43	33.70	2.04	8.45	1,234	5.685	27.71	4,046
72	4	110	29.66	29.11	29.39	35.66	35.11	0.72	1.9	209	4.365	22.04	2,424
TOTALS										3,805			19,918

> 3,032 cu.ft.
Required

> 19,103 cu.ft.
Required



TIERRA WEST, LLC

Project MAVERIK @ UNSER / LOS VOLCANES Date 3-29-19

Project No. WEIR CALCS

Meeting Purpose _____ Sheet No 1 of _____

Attendees _____

OVERFLOW WEIRS

- BROAD CRESTED WEIR

$$Q = 1.6 L H^{3/2} \Rightarrow H = \left(\frac{Q}{1.6 L} \right)^{2/3}$$

WEST OVERFLOW:

L = 10 ft

Q = 6 cfs

$$H_{REQ} = \left(\frac{6}{1.6(10)} \right)^{2/3} = 0.52 \text{ ft} \leq H_{PROV.} = 0.77 \text{ ft} \checkmark$$

EAST OVERFLOW

L = 10 ft

Q = 12 cfs

$$H_{REQ} = \left(\frac{12}{1.6(10)} \right)^{2/3} = 0.83 \text{ ft} \leq H_{PROV.} = 1.07 \text{ ft} \checkmark$$

3ft RUN DOWN

$$Q = \frac{1.49}{n} A R^{2/3} S^{1/2}$$

$$L = 6 \text{ ft} \quad W = 3 \text{ ft} \quad S = \frac{32.75 - 30.60}{6} = 35.83\%$$

$$Q = \frac{1.49}{.013} (2.01) (0.46)^{2/3} (36)^{1/2}$$

$$n = .013 \quad H = 0.67 \text{ ft}$$

$$A = 2.01 \text{ ft}^2 \quad WP = 4.34 \text{ ft} \quad R = \frac{2.01}{4.34} = 0.46$$

$$Q_{PROV.} = 82.4 \text{ cfs} \geq Q_{REQ.} = 6.11 \text{ cfs} \checkmark$$

SIDE WALK CULVERT, 12"

$$Q = 1.6 L H^{3/2} \quad L = 1 \text{ ft} \quad H = 0.5 \text{ ft}$$

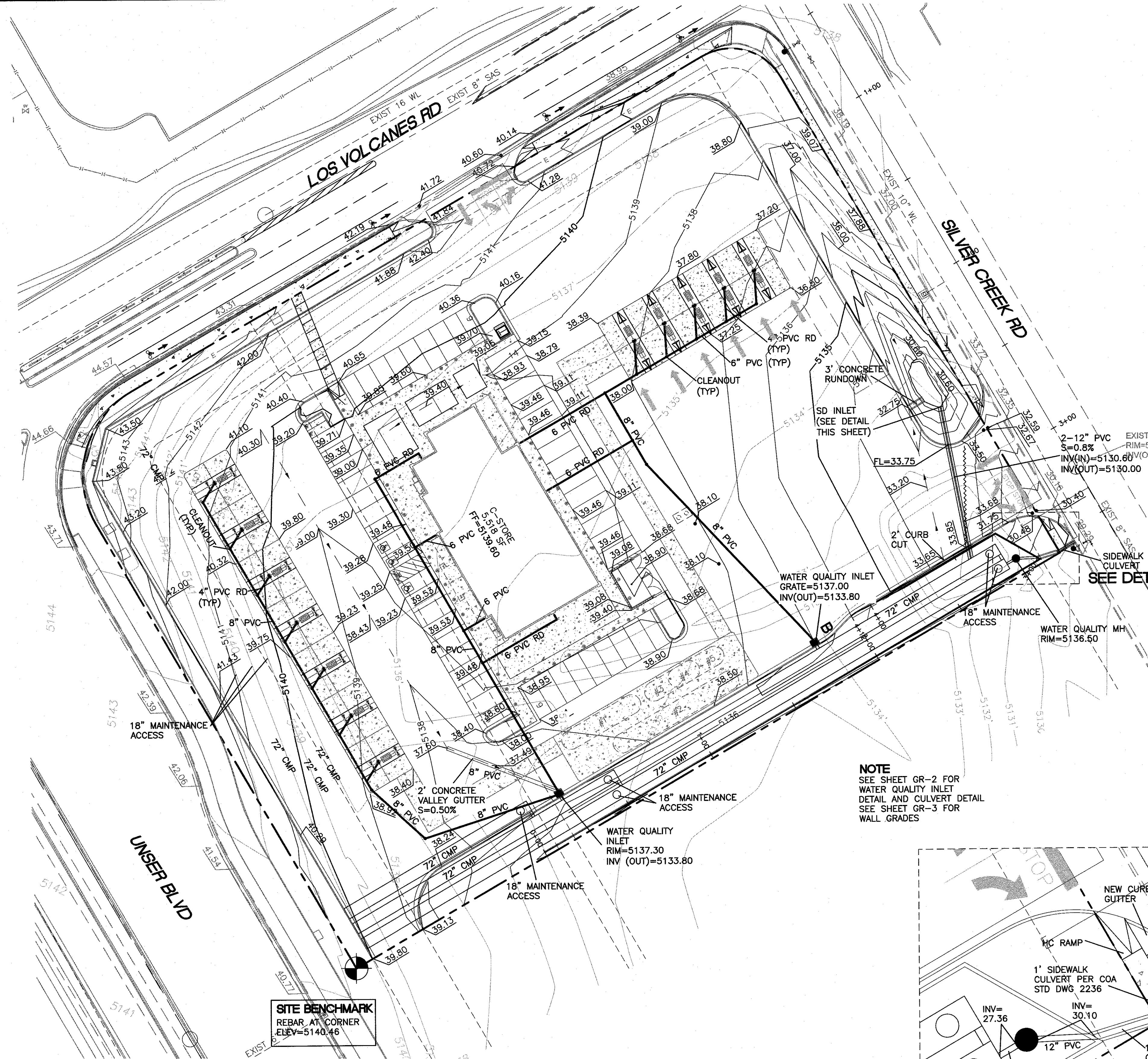
$$Q_{PROV.} = 1.6(1)(0.5)^{3/2} = 0.57 \text{ cfs} \geq Q_{REQ.} = 0.30 \text{ cfs} \checkmark$$

2ft CHANNEL

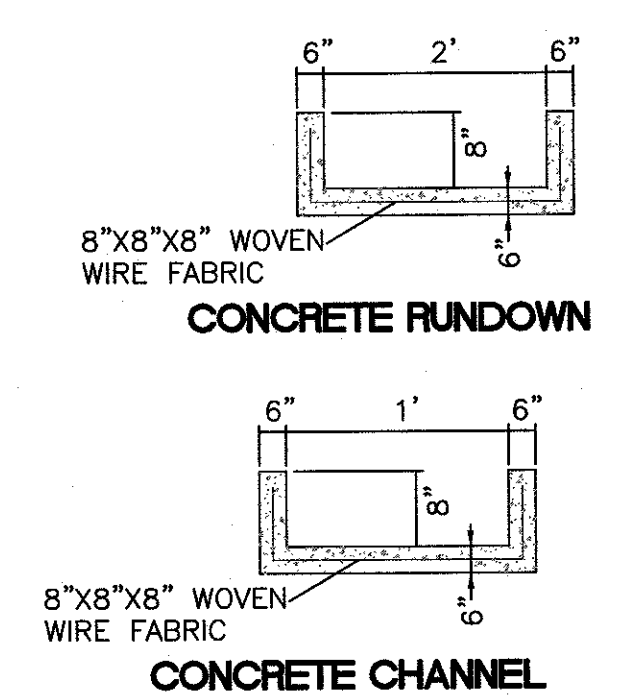
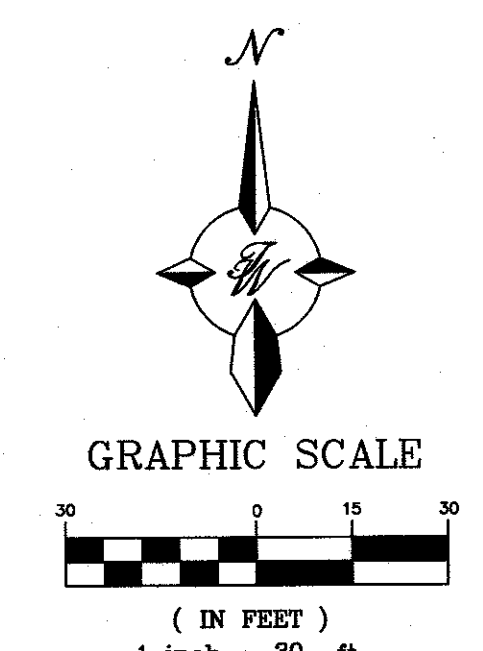
$$Q = 1.6 L H^{3/2} \quad L = 2 \text{ ft} \quad H = 0.5 \text{ ft}$$

$$Q_{PROV.} = 1.6(2)(0.5)^{3/2} = 1.14 \text{ cfs} \geq Q_{REQ.} = 0.30 \text{ cfs} \checkmark$$

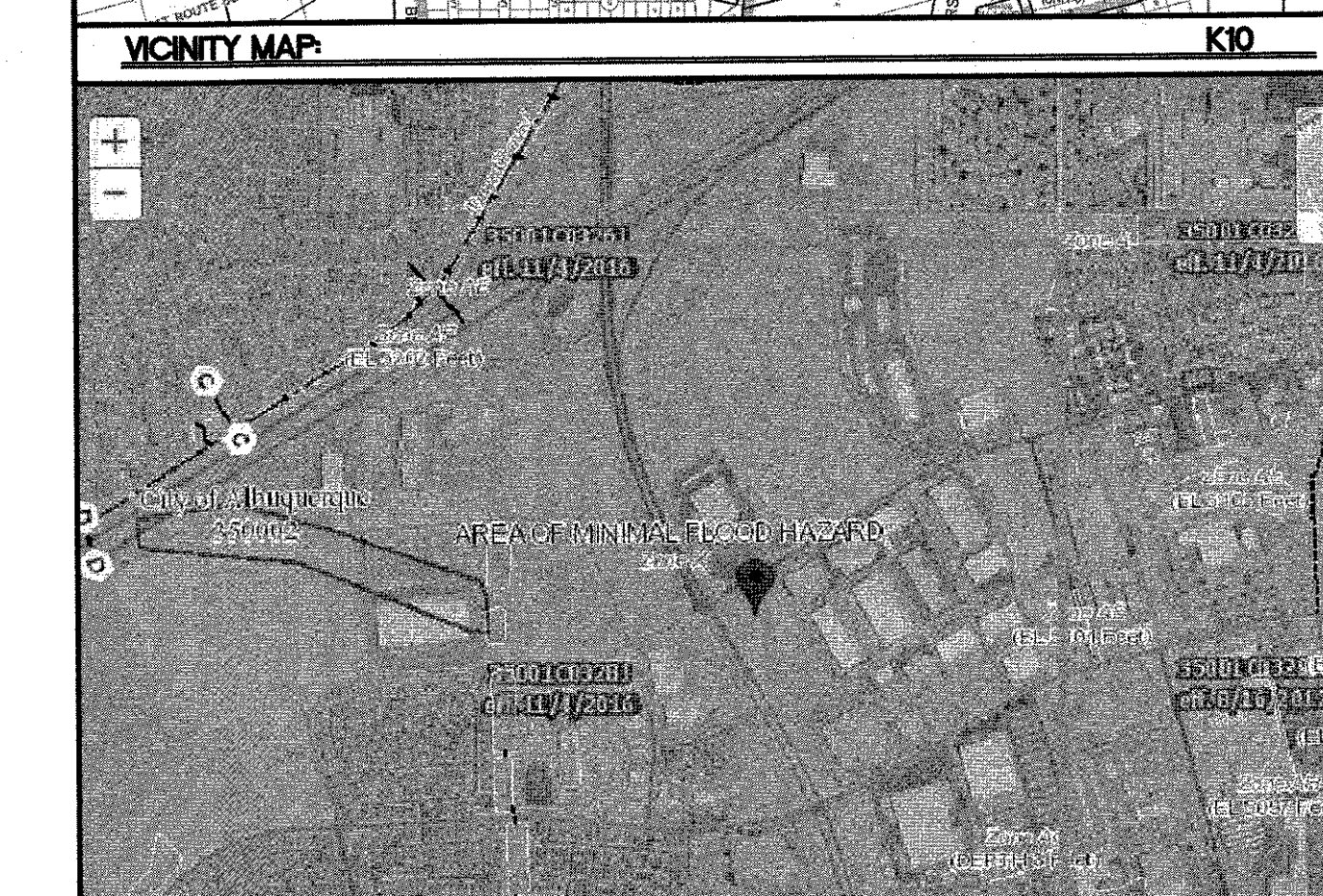
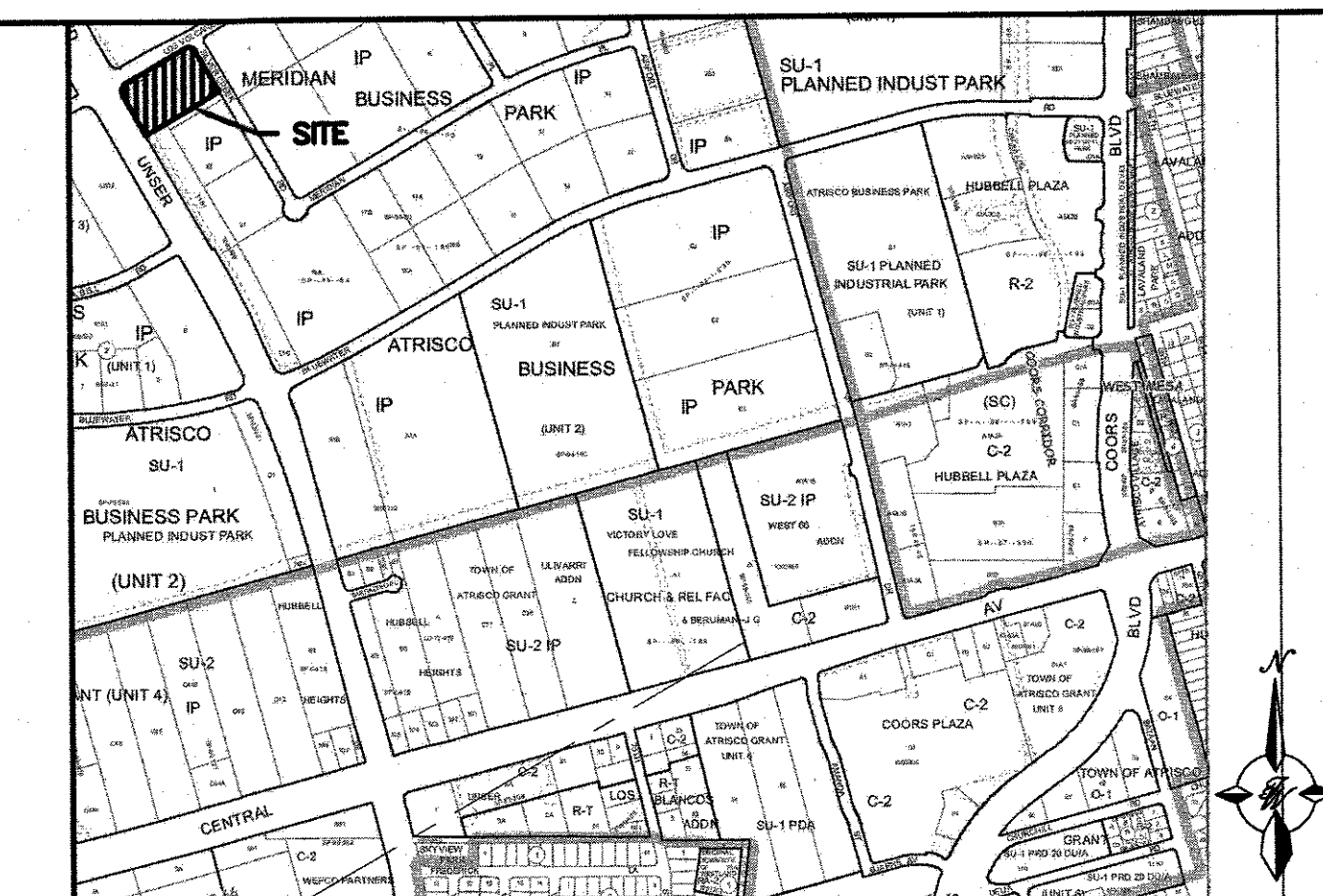
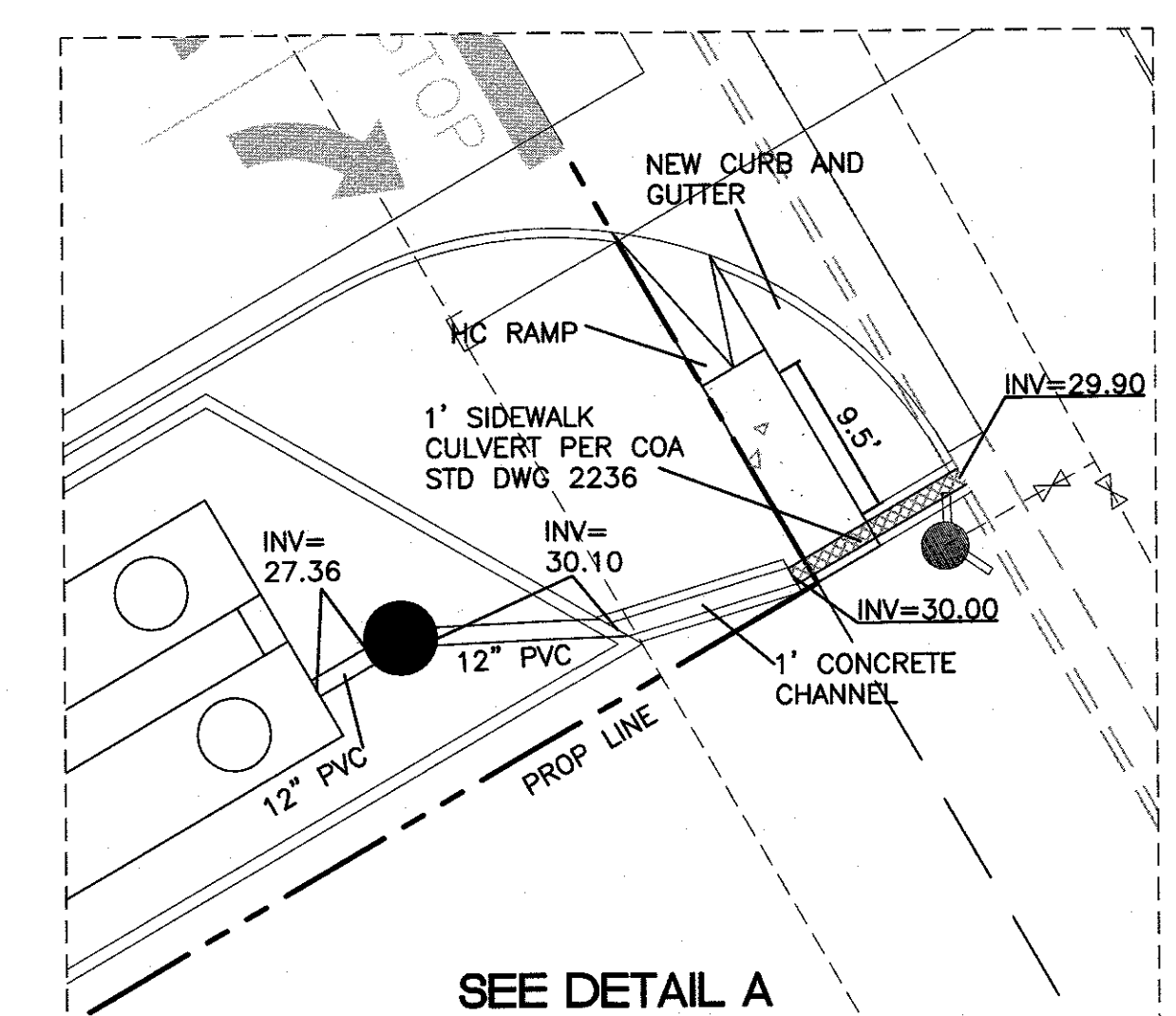




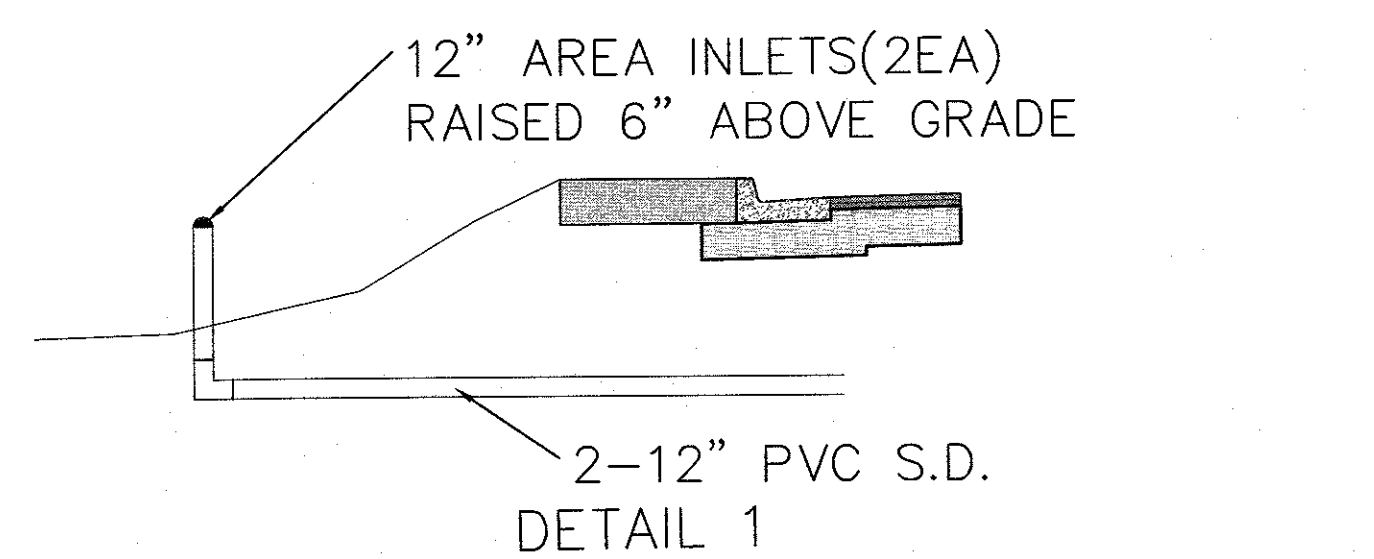
- LEGEND**
- CURB & GUTTER
 - - - BOUNDARY LINE
 - - - EASEMENT
 - - - RIGHT-OF-WAY
 - ▭ BUILDING
 - ▨ SIDEWALK
 - ▩ RETAINING WALL
 - 5010 — CONTOUR MAJOR
 - 5011 — CONTOUR MINOR
 - 48.25 SPOT ELEVATION
 - FLOW ARROW
 - - - EXISTING CURB & GUTTER
 - - - EXISTING BOUNDARY LINE
 - - - 5010 — EXISTING CONTOUR MAJOR
 - - - 5011 — EXISTING CONTOUR MINOR
 - 48.25 EXISTING SPOT ELEVATION

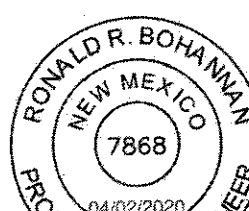




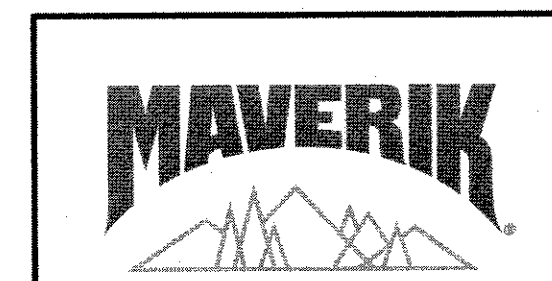
NOTE
SEE SHEET GR-2 FOR
WATER QUALITY INLET
DETAIL AND CULVERT DETAIL
SEE SHEET GR-3 FOR
WALL GRADES

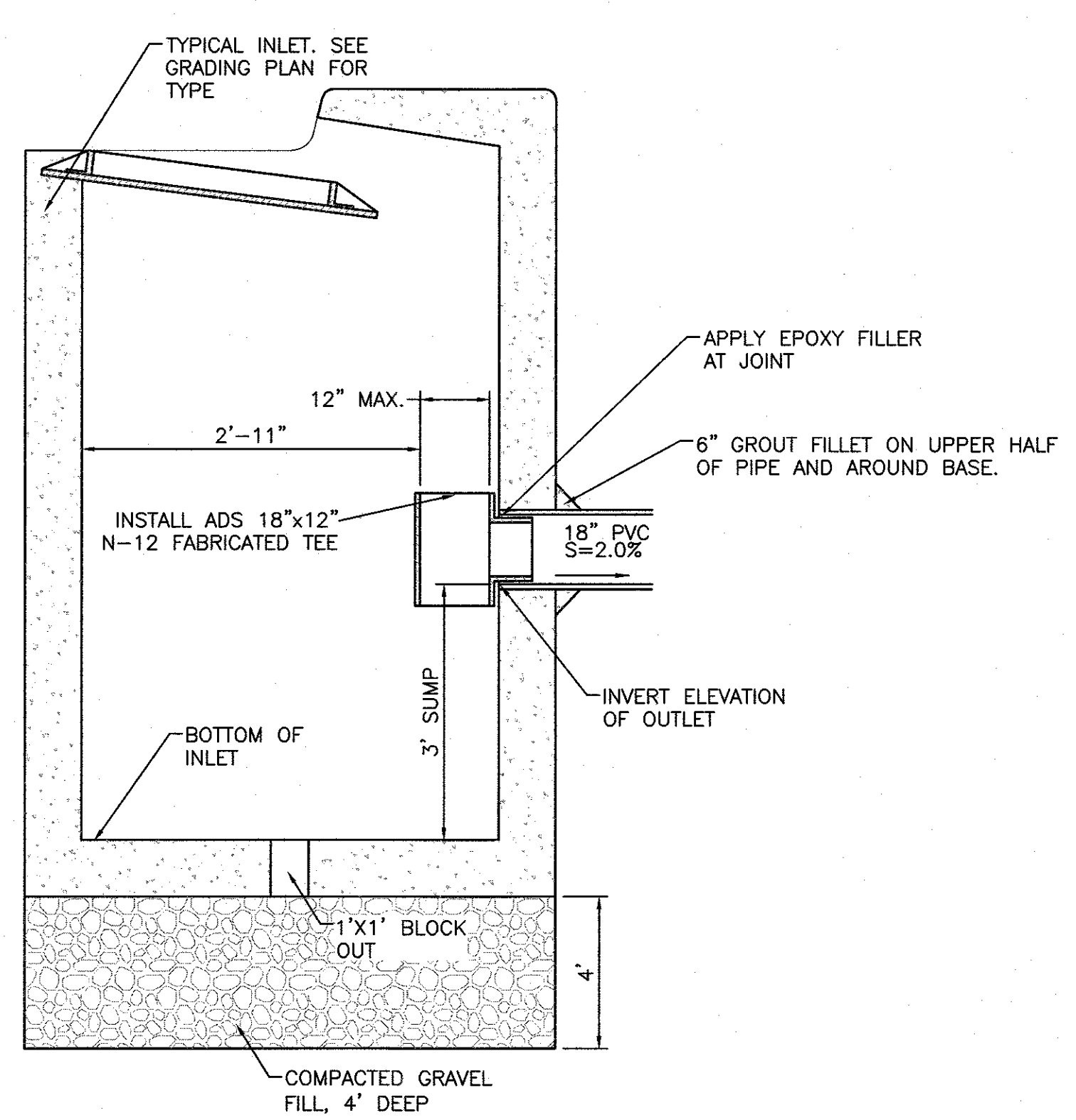
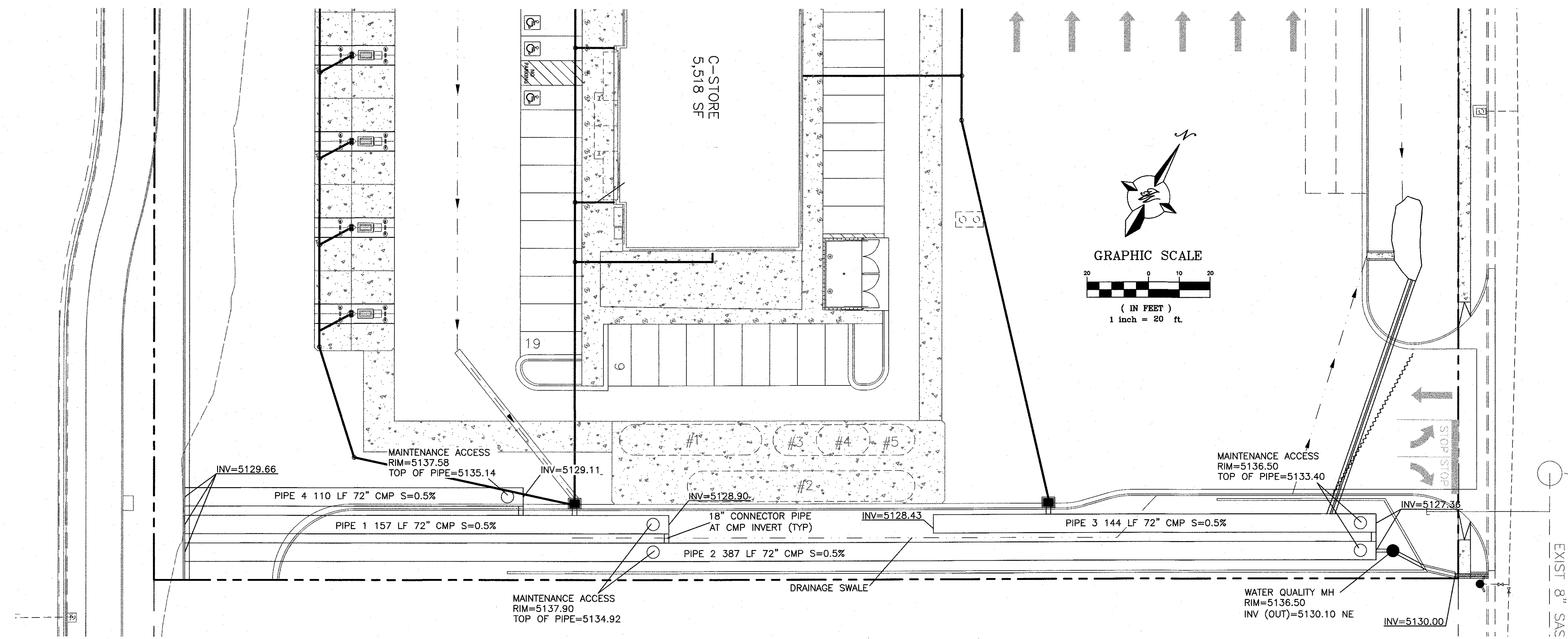


LEGAL DESCRIPTION
TRACT L-1-A-1, ATRISCO BUSINESS PARK

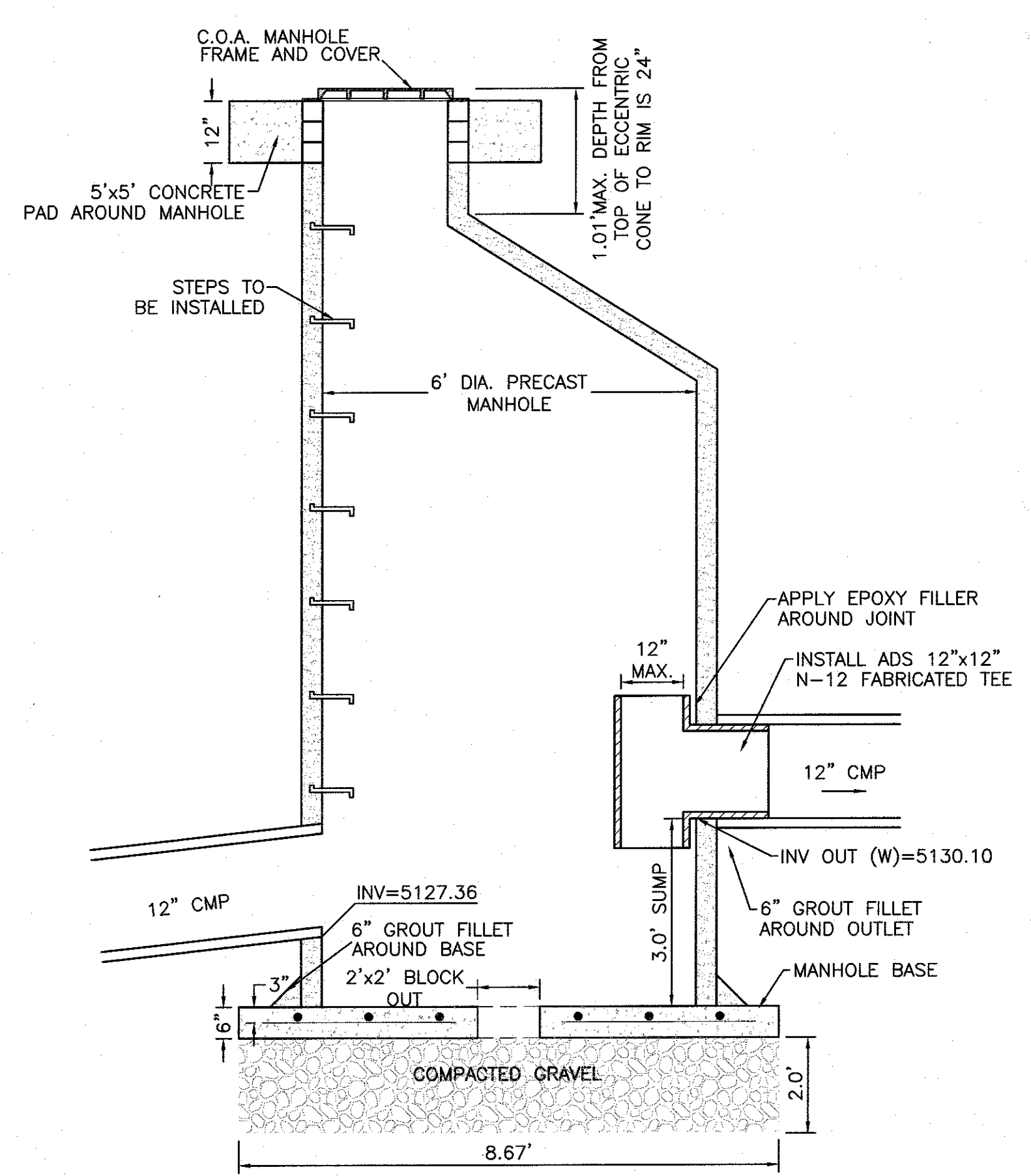


ASI-001		
ENGINEER'S SEAL	 	MAVERIK STORE #NM-0115 UNSER AND LOS VOLCANES
		GRADING AND DRAINAGE PLAN
RONALD R. BOHANNAN P.E. #7868	 TERRA WEST, LLC 5571 MIDWAY PARK PL NE ALBUQUERQUE, NEW MEXICO 87109 (505) 858-3100 www.tierrawestllc.com	DRAWN BY pm DATE 3-17-2020 DRAWING SHEET # GR-1 JOB # 2018042





TYPICAL WATER QUALITY INLET DETAIL
NTS



WATER QUALITY MANHOLE
NTS



ASI-001		
ENGINEER'S SEAL RONALD R. BOHANNAN P.E. #7868	MAVERIK STORE #NM-0115	DRAWN BY pm
	UNSER AND LOS VOLCANES	DATE 3-17-2020
TIERRA WEST, LLC 5571 MIDWAY PARK PL NE ALBUQUERQUE, NEW MEXICO 87109 (505) 858-3100 www.tierrowestllc.com	GRADING DETAILS	DRAWING
		SHEET # GR-2
		JOB # 2018042