

CITY OF ALBUQUERQUE

Planning Department
David Campbell, Director



Mayor Timothy M. Keller

April 11, 2019

Åsa Nilsson-Weber, P.E.
Isaacson & Arfman, P.A.
128 Monroe St. N.E
Albuquerque, NM 87108

RE: **Global Storage- Coors**
3421 Coors Blvd NW
Grading Plan Stamp Date: 4/5/19
Drainage Report Stamp Date: 4/5/19
Hydrology File: G11D071

Dear Ms. Nilsson-Weber:

PO Box 1293
Albuquerque
NM 87103
www.cabq.gov

Based on the submittal received on 4/5/19 the above-referenced submittal is approved for Building Permit and Work Order:

Prior to Certificate of Occupancy (For Information):

1. Engineer's Certification, per the DPM Chapter 22.7: *Engineer's Certification Checklist For Non-Subdivision* is required.
2. City acceptance and close-out of the public Work Order will be required, unless a financial guarantee has been posted.
3. A Bernalillo County Recorded [Drainage Covenant \(No Public Easement\)](#) is required for the stormwater control pond. The original notarized form, exhibit A (legible on 8.5x11 paper), and recording fee (\$25, payable to Bernalillo County) must be turned into DRC (4th, Plaza del Sol) for routing. Please contact Charlotte LaBadie (clabadie@cabq.gov, 924-3996) or Madeline Carruthers (mtafoya@cabq.gov, 924-3997) regarding the routing and recording process for covenants. The routing and recording process for covenants can take a month or longer; Hydrology recommends beginning this process as soon as possible as to not delay approval for certificate of occupancy.

If you have any questions, please contact me at 924-3695 or dpeterson@cabq.gov.

CITY OF ALBUQUERQUE

Planning Department
David Campbell, Director



Mayor Timothy M. Keller

Sincerely,

A handwritten signature in dark ink, appearing to read 'D. Peterson', is positioned above the printed name and title.

Dana Peterson, P.E.
Senior Engineer, Planning Dept.
Development Review Services

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 11/2018)

Project Title: Global Storage - Coors Building Permit #: _____ Hydrology File #: G11D071
DRB#: _____ EPC#: _____ Work Order#: _____
Legal Description: Tract A-36-A, Town of Atrisco Grant, Northeast Unit
City Address: 3421 Coors Blvd. NW - Albuquerque, NM 87120

Applicant: Isaacson & Arfman, PA Contact: Åsa Nilsson-Weber
Address: 128 Monroe Street NE - Albuquerque, NM 87108
Phone#: (505) 268-8828 Fax#: _____ E-mail: asaw@iacivil.com
Owner: _____ Contact: _____
Address: _____
Phone#: _____ Fax#: _____ E-mail: _____

TYPE OF SUBMITTAL: _____ PLAT (____# OF LOTS) _____ RESIDENCE ☒ DRB SITE _____ ADMIN SITE

IS THIS A RESUBMITTAL?: ☒ Yes _____ No

DEPARTMENT: _____ TRAFFIC/ TRANSPORTATION ☒ HYDROLOGY/ DRAINAGE

Check all that Apply:

TYPE OF SUBMITTAL:

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

TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

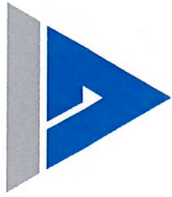
☒ BUILDING PERMIT APPROVAL
____ CERTIFICATE OF OCCUPANCY
____ PRELIMINARY PLAT APPROVAL
____ SITE PLAN FOR SUB'D APPROVAL
____ SITE PLAN FOR BLDG. PERMIT APPROVAL
____ FINAL PLAT APPROVAL
____ SIA/ RELEASE OF FINANCIAL GUARANTEE
____ FOUNDATION PERMIT APPROVAL
____ GRADING PERMIT APPROVAL
____ SO-19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

DATE SUBMITTED: April 5, 2019 By: Åsa Nilsson-Weber

COA STAFF:

ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____



ISAACSON & ARFMAN, P.A.

Consulting Engineering Associates

Thomas O. Isaacson, PE(RET.) & LS(RET.) . Fred C. Arfman, PE . Åsa Nilsson-Weber, PE

April 5, 2019

Mr. Dana Peterson, PE
Senior Engineer, Planning Dept.
City of Albuquerque
600 2nd Street NW
Albuquerque, NM 87103

**RE: G11D071 –Global Storage
Zone Atlas Map: G-11**

Dear Mr. Peterson:

Please see attached for a revised grading & drainage plan and supplemental calculations addressing your comments from March 14, 2019 (attached).

1. The ESC Plan for this project has been approved as confirmed today by Curtis Cherne.
2. NMDOT has reviewed and has no objections to grading & drainage plan, including connection to the inlet in the Coors Blvd. right-of-way. See attached email from Keith Thompson, NMDOT.
3. Per our discussions, the area along Atrisco Rd. north of the entrance will retain the 100-year, 10-day volume; the area south of the entrance will continue to drain south per historical path.
4. A fee for \$40 will be paid for this submittal.

If you have questions regarding this submittal, please call me at 268-8828 or email me at asaw@iacivil.com.

Thank you.

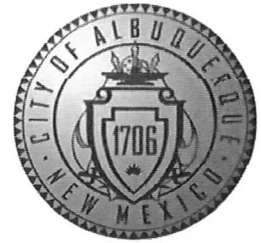
Sincerely,
ISAACSON & ARFMAN

Åsa Nilsson-Weber

Attachments

CITY OF ALBUQUERQUE

Planning Department
David Campbell, Director



Mayor Timothy M. Keller

March 14, 2019

Fred Arfman, P.E.
Isaacson & Arfman, P.A.
128 Monroe St. N.E
Albuquerque, NM 87108

RE: **Global Storage- Coors**
3421 Coors Blvd NW
Grading Plan Stamp Date: 2/28/19
Drainage Report Stamp Date: 2/15/19
Hydrology File: G11D071

Dear Mr. Arfman:

PO Box 1293

Based on the submittal received on 3/1/19 the above-referenced submittal cannot be approved until the following are corrected:

Prior to Building Permit:

Albuquerque

1. This project requires an ESC Plan, submitted to the Stormwater Quality Engineer (Curtis Cherne PE, ccherne@cabq.gov or 924-3420).

NM 87103

2. NMDOT concurrence needs to be reaffirmed with D3 Drainage that this project can proceed. Please contact Keith Thompson P.E (Keith.Thompson@state.nm.us or 505-490-3752).

www.cabq.gov

Prior to Work Order:

3. The Atrisco ROW Ponds need to be sized for the 100-yr, 10-day storm for the contributing area. Calculations for pond sizing and curb opening sizing are missing.
4. Because these corrections are minor, the administrative resubmittal fee of \$40 may be used. Please include a copy of this letter when resubmitting in order to receive the reduced fee.

Prior to Certificate of Occupancy:

5. Engineer's Certification, per the DPM Chapter 22.7: *Engineer's Certification Checklist For Non-Subdivision* is required.
6. City acceptance and close-out of the public Work Order will be required, unless a financial guarantee has been posted.

CITY OF ALBUQUERQUE

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David Campbell, Director



Mayor Timothy M. Keller

7. A Bernalillo County Recorded Drainage Covenant (No Public Easement) is required for the stormwater control pond. The original notarized form, exhibit A (legible on 8.5x11 paper), and recording fee (\$25, payable to Bernalillo County) must be turned into DRC (4th, Plaza del Sol) for routing. Please contact Charlotte LaBadie (clabadie@cabq.gov, 924-3996) or Madeline Carruthers (mtafoya@cabq.gov, 924-3997) regarding the routing and recording process for covenants. The routing and recording process for covenants can take a month or longer; Hydrology recommends beginning this process as soon as possible as to not delay approval for certificate of occupancy.

If you have any questions, please contact me at 924-3695 or dpeterson@cabq.gov.

Sincerely,

Dana Peterson, P.E.
Senior Engineer, Planning Dept.
Development Review Services

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov



Asa Weber <asaw@iacivil.com>

RE: [EXT] Re: 3-4-2019 Global Storage 60%

1 message

Thompson, Keith, NMDOT <Keith.Thompson@state.nm.us>

Tue, Mar 19, 2019 at 11:18 AM

To: "Kubiak, Peter, NMDOT" <Peter.Kubiak@state.nm.us>

Cc: "Arfman, Frederick" <freda@iacivil.com>, Asa Weber <asaw@iacivil.com>, "Peterson, Dana M." <dpeterson@cabq.gov>, "Perea, Nancy, NMDOT" <Nancy.Perea@state.nm.us>, "Haynes, Margaret, NMDOT" <Margaret.Haynes@state.nm.us>

Peter,

NMDOT D3 Drainage has no further comments regarding the Global Storage Development at 3421 Coors Blvd NW, 87120.

Thank you.

Keith Thompson, P.E.

NMDOT – District 3 Engineering Support

7500 Pan American Fwy, Albuquerque, NM 87109

Cell: (505) 490-3752

Email: keith.thompson@state.nm.us

From: Asa Weber <asaw@iacivil.com>**Sent:** Monday, March 18, 2019 11:59 AM**To:** Kubiak, Peter, NMDOT <Peter.Kubiak@state.nm.us>**Cc:** Thompson, Keith, NMDOT <Keith.Thompson@state.nm.us>; Arfman, Frederick <freda@iacivil.com>**Subject:** Re: [EXT] Re: 3-4-2019 Global Storage 60%

Hi Peter,

See links for plans addressing your comments from 3/4/19 and my responses to your comments. Also included is the utility permit application and environmental clearance.

Please let me know if you have any further comments before I sign and submit final plans.

Thank you.

APRIL 5, 2019

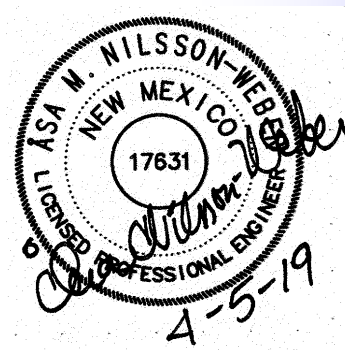
SUPPLEMENTAL DRAINAGE CALCULATIONS

for

GLOBAL SELF STORAGE 3421 COORS BLVD NW

ALBUQUERQUE, NM

BY



ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates

Thomas O. Isaacson, PE(RET.) & LS(RET.)
Fred C. Arfman, PE
Åsa Nilsson-Weber, PE

I&A Project No. 2258

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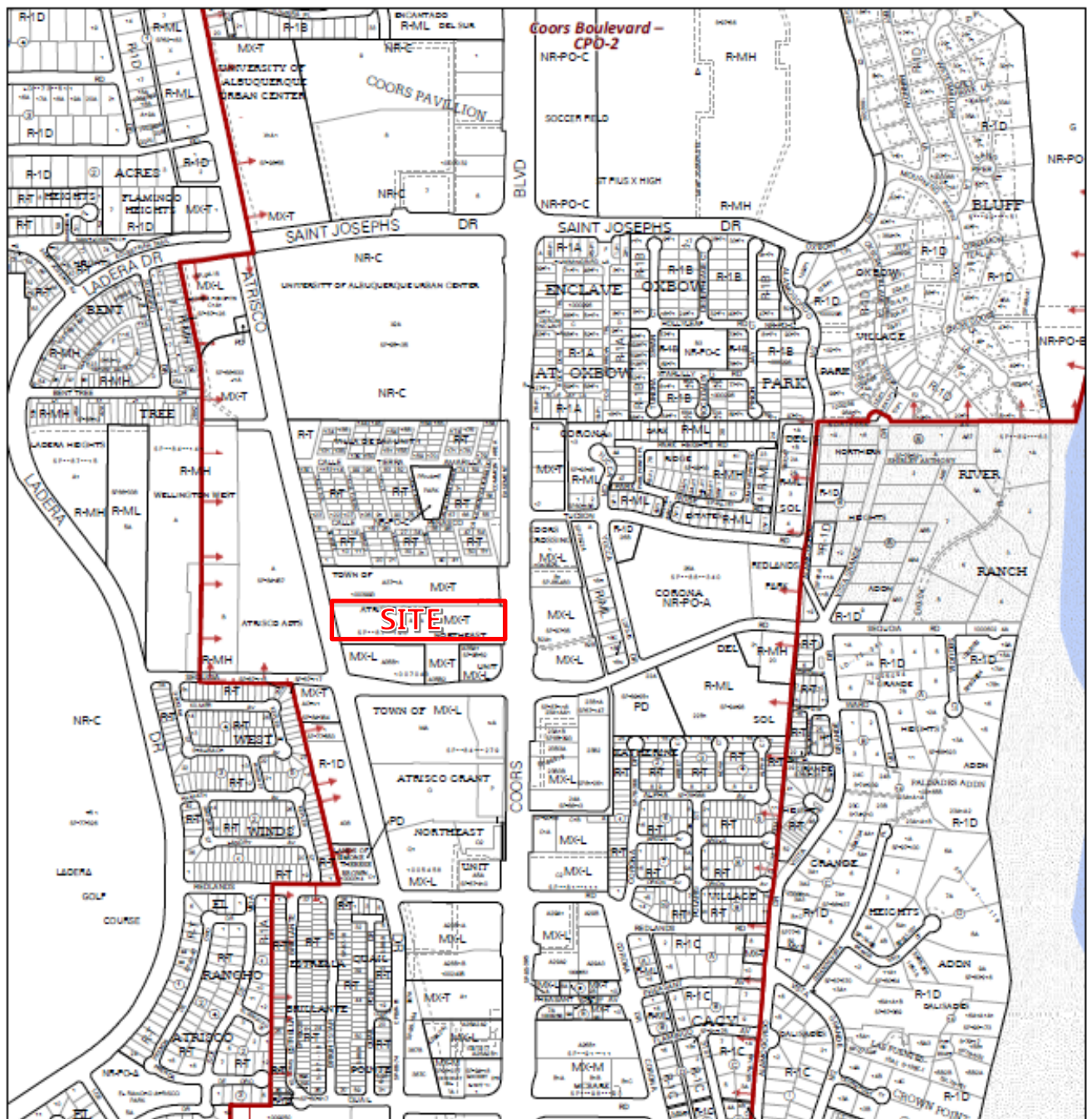
STORM DRAIN CALCULATIONS

CURB OPENING CAPACITY CALCULATIONS

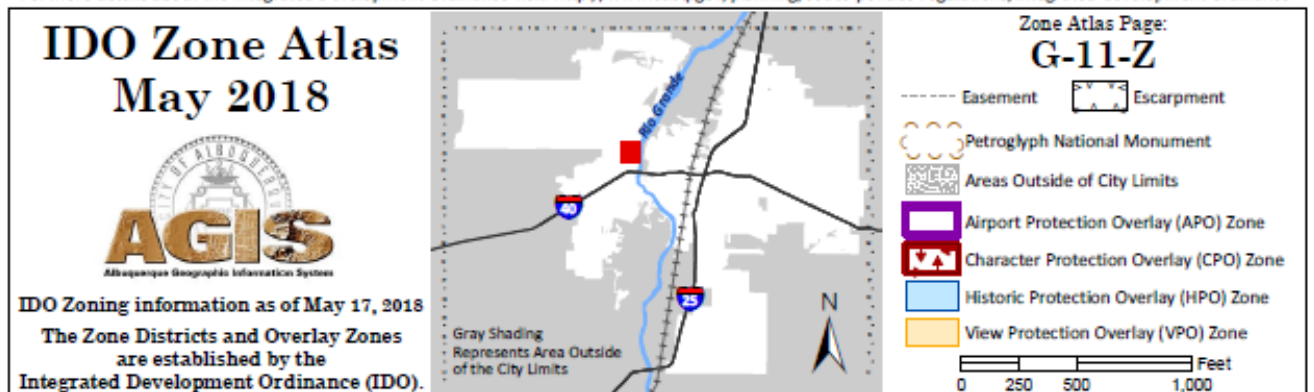
APPENDIX C

NMDOT STORM DRAIN AS-BUILT

VICINITY MAP



For more details about the Integrated Development Ordinance visit: <http://www.cabq.gov/planning/codes-policies-regulations/integrated-development-ordinance>



National Flood Hazard Layer FIRMette



Legend

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

SPECIAL FLOOD HAZARD AREAS	Without Base Flood Elevation (BFE) Zone A, V, AE With BFE or Depth Regulatory Floodway Zone AE, AO, AH, VE, AP

OTHER AREAS OF FLOOD HAZARD	0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X Future Conditions 1% Annual Chance Flood Hazard Zone X Area with Reduced Flood Risk due to Levee, See Notes, Zone X Area with Flood Risk due to Levee Zone D

OTHER AREAS	Area of Minimal Flood Hazard Zone X Effective LOMRs Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES	Channel, Culvert, or Storm Sewer Levee, Dike, or Floodwall

OTHER FEATURES	Cross Sections with 1% Annual Chance Water Surface Elevation Coastal Traverses Base Flood Elevation Line (BFE) Limit of Study Jurisdiction Boundary Coastal Traverses Baseline Profile Baseline Hydrographic Feature

MAP PANELS	Digital Data Available No Digital Data Available Unmapped

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/7/2018 at 5:41:15 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 valid if the one or more of the following map elements do not appear: base map imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unindexed areas cannot be used for regulatory purposes.



EXISTING CONDITIONS:

The site is located between Coors Blvd. NW and Atrisco Rd. NW, north of Sequoia Rd. NW. The area of the site is 4.04 acres and slopes from west to east at approximately 0.4%-2.8%. The historic discharge from the property is 8.6 cfs (based on 100% land treatment 'B')—see Appendix A for AHYMO calculations.

Storm waters from the site discharge to an existing inlet and storm drain system within the NMDOT right-of-way in Coors Blvd. (SR 45). See Appendix C for a plan & profile sheet of the existing storm drain.

The area between the curb and right-of-way in Atrisco Road has asphalt surfacing and is lower than the street, so there are offsite flows from the area behind the curb draining south along the existing sidewalk to the Sequoia Rd. intersection.



Existing Conditions Arial Map

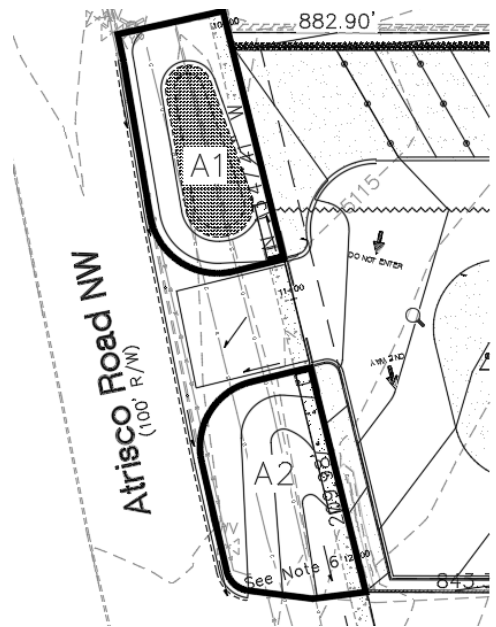


PROPOSED CONDITIONS:

OFFSITE DRAINAGE BASINS

The area between the existing curb and right-of-way is lower than Atrisco Road. There are two gas lines paralleling Atrisco Rd in this area in a public utility easement. Basin A1 north of the entrance will drain the 100-year, 10-day event to a retention pond. Basin A2 south of the entrance will continue to drain south per the historical condition. Because the existing asphalt within the right-of-way will be removed, storm water flows will be reduced. As noted on the plan, no work shall be performed in the public row without an approved work order or excavation permit.

The 100-year-10-day volume was calculated per the Drainage Design Criteria for City of Albuquerque Section 22.2, DPM, Vol 2, dated Jan., 1993. The pond volume is 410 cf, which is greater than the 378 cf required volume.



BASIN NO.	A1	DESCRIPTION
Area of basin flows =	3790	SF = 0.1 Ac.
The following calculations are based on Treatment areas as shown in table to the right		
Sub-basin Weighted Excess Precipitation (see formula above)		LAND TREATMENT
Weighted E	= 0.99 in.	A = 0%
Sub-basin Volume of Runoff (see formula above)		B = 43%
V ₃₆₀	= 313 CF	C = 43%
Sub-basin Peak Discharge Rate: (see formula above)		D = 14%
Q _p	= 0.2 cfs	

V ₃₆₀ (from previous calculation)	313
Area Treatment D (SF)	531
Zone	1

For 10 Day Storms:

$$V_{10day} = V_{360} + A_D * (P_{10day} - P_{360}) * 43560 \text{ SF/AC}$$

V ₃₆₀	=	313
A _D (SF)	=	531
Zone	=	1
P _{10day}	=	3.67
P ₃₆₀	=	2.2

V ₃₆₀	=	313
+ imp. area	=	65

Total Pond Volume (V _{10 day})	=	378
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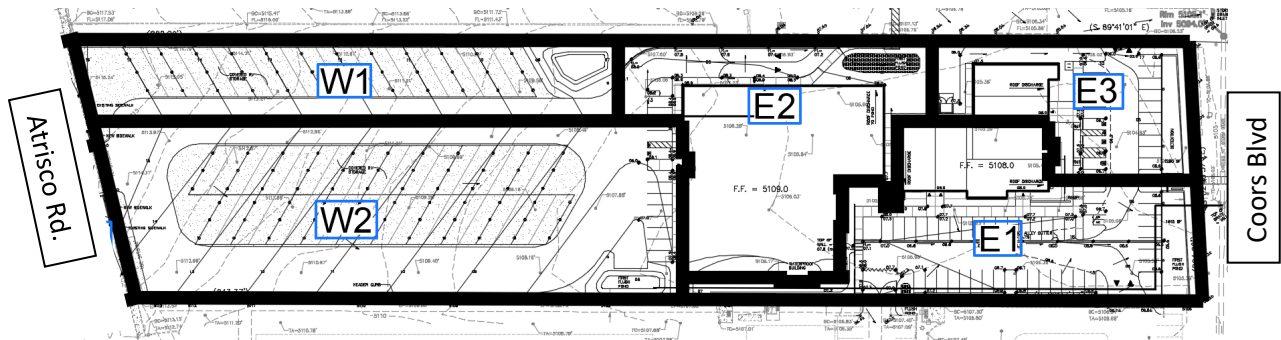
POND A1 VOLUME

POND A1		
Contour	Area	Volume
15.40	798	
15.80	1254	410 CF
TOTAL VOL.		410 CF



ONSITE DRAINAGE BASINS

The property is divided into five on-site drainage basins (W1 and W2 to the west and E1, E2 and E3 to the east).



ONSITE DRAINAGE:

Per discussion with NMDOT (Timothy Trujillo, PE), the property will be permitted to discharge the historic rate to the inlet and storm drain located in the Coors Blvd. NMDOT right-of-way. Therefore, on-site detention ponding will be required.

Discharge to NMDOT Storm Drain System in Coors Blvd: The following e-mail from Timothy R. Trujillo (NMDOT) clarifies the discharge will be held to the Historic Condition.

----- Forwarded message -----
From: **Trujillo, Timothy R, NMDOT** <TimothyR.Trujillo@state.nm.us>
Date: Tue, Apr 10, 2018 at 10:01 AM
Subject: RE: For your review (self-storage project Coors & Atrisco)
To: Sam Biggs <samb@iacivil.com>
Cc: Bryan Bobrick <bryanb@iacivil.com>, "Arfman, Frederick" <freda@iacivil.com>

Sam,

Typically we hold the development to the Historic Condition. Adding 4.3 CFS may seem trivial, but it's how we protect downstream infrastructure and neighboring properties. If you have any questions please get back to me.

Regards,

Tim Trujillo, PE
NMDOT – D3 Drainage
(505) 798-6690



On-site Land Treatments: The following e-mails between CABQ Hydrology (Dana Peterson) and I&A address the handling of the covered compacted base course parking areas for the RV storage:

Peterson, Dana M.

May 9

to me, Sam, Fred

Hi Bryan-

I spoke with Doug about this and we'll accept this reasoning with the roofs drained to the north to create the desired effect.

v/r,

Dana

From: Bryan Bobrick [mailto:bryanb@iacivil.com]

Sent: Tuesday, May 08, 2018 10:54 AM

To: Peterson, Dana M.

Cc: Sam Biggs; Fred Arfman

Subject: Re: Global Self Storage - Coors Blvd

Good morning Dana,

Regarding the covered RV storage area, we would need to look at this from two different perspectives. Regarding first flush, I can see that there would be a need for calling the area impervious. Regarding overall 100-yr 6-hr Q or volume, I would think there is justification to call it Treatment C since the upstream portion of the stormwater in the pavement would drain into the pervious portion as it passes to the southeast - it would also depend on how the covers discharge - if we discharge to the north side, stormwater would then drain into the pervious portion.

I would suggest

100% impervious regarding first flush

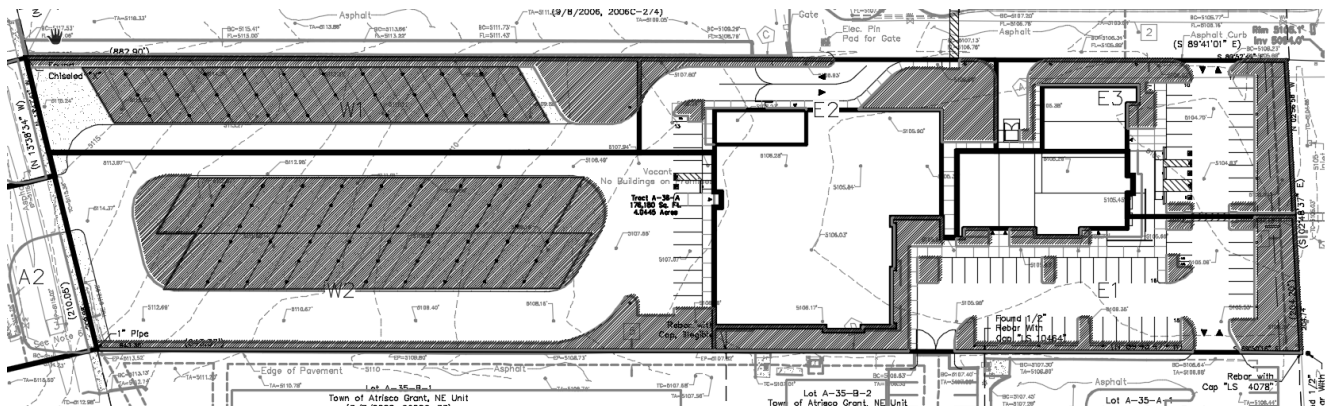
100% Treatment C regarding design storm Q/vol

Let me know -

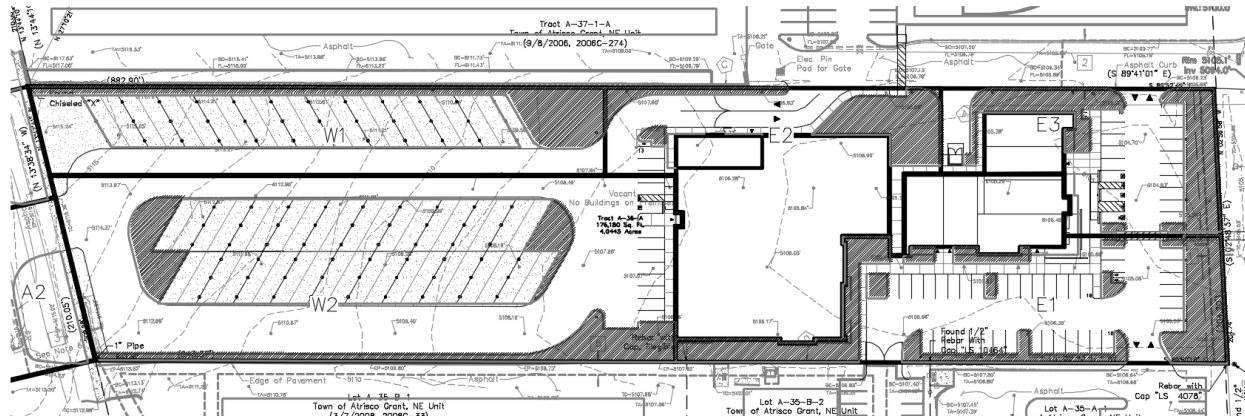
B

Bryan Bobrick
Isaacson & Arfman, P.A.
128 Monroee N.E.
Albuquerque, NM 87108
(505) 268-8828

For site discharge requirements: As noted in the e-mail, the compacted base course will be considered land treatment C with regards to design storm runoff rates and storm volumes as long as the roof areas discharge on the uphill side of the basin so that flow passes through the compacted base course. The image below shows the pervious areas hatched with the compacted base course as Land Treatment 'C'.



For storm water quality retention requirements: With regards to storm water quality retention requirements, the area of the overhead canopies will be considered impervious area. The image below shows the pervious areas hatched with the compacted base course as Land Treatment 'D' due to the cover.



See Appendix A for a basin area & land treatment table, including required storm water quality volumes, and AHYMO calculations for the onsite basins E1-E3 and W1 & W2. Basin W2 will discharge 4.9 cfs to a storm drain that will connect to the NMDOT inlet at Coors Blvd. The remaining on-site basins will discharge 9.5 cfs to two detention ponds at the east end of the site (west of Coors Blvd).

A standpipe will be installed in the south pond and the outflow to the NMDOT inlet will be limited to 3.7 cfs for a total discharge of 8.6 cfs (=historic rate). The remaining storm water flows 14.4 cfs – 8.6 cfs = 5.8 cfs will be detained on-site. Orifice outflow calculations and pond volume calculations for AHYMO pond routing are included in Appendix A and curb opening capacity calculations are included in Appendix B.

ONSITE STORM DRAIN:

See Appendix B for storm drain calculations. Basin W2 will discharge 4.9 cfs to a storm water quality pond at the south end of the site, west of the building. An inlet will accept those flows into a 15-inch storm drain that will connect to the inlet in the NMDOT Coors Blvd right-of-way.

Discharge from the remainder of the site will drain to the two detention ponds where the flows will be limited to an outflow of 3.7 cfs through a standpipe inlet and an 8-inch pipe connecting to the onsite storm drain.



BASIN AREA AND LAND TREATMENT TABLE
POND VOLUME AND OUTFLOW CALCULATIONS
AHYMO DRAINAGE CALCULATIONS



GLOBAL SELF STORAGE - COORS

BASIN AREA AND LAND TREATMENT TABLE-- PROPOSED CONDITIONS

BASIN	AREA			LAND TREATMENT (%)				Q100, cfs	WATER QUALITY VOLUMES (CF)
	SF	AC.	SQ.MI.	A	B	C	D		
E1	31790	0.73	0.00114	0	10	15	75	2.7	676
E2	30510	0.70	0.00109	0	2	8	90	2.8	778
E3	23830	0.55	0.00085	0	9	21	70	2.0	473
W1	27130	0.62	0.00097	0	10	50	40	2	307
W2	62919	1.44	0.00226	0	10	40	50	4.9	891
TOTAL	176179	4.04	0.00632					14.4	3125
EXST	176179	4.04	0.00632	0	100	0	0	8.6	

GLOBAL SELF STORAGE
ORIFICE EQUATION - POND OUTLET TO STORM DRAIN
(Calculations of outflow for AHYMO Pond Routing)

Orifice Equation:

$$Q = C * A * (2 * g * h)^{0.5}$$

Where	Q	=	3.57	cfs	Pipe Size	Area
	C	=	0.6		3	0.049087
	A	=	0.3490659	sq.ft.	4	0.087266
	g	=	32.2	ft/sec^2	6	0.19635
	h	=	4.5	ft	8	0.349066
				depth of flow at opening	12	0.785398
				from the center of pipe	15	1.227185
					18	1.767146
					24	3.141593

WSEL = 104.9

Head = 4.5'

Pipe = 8" dia.

Invert of pipe 100.1

Orifice Equation:

$$Q = C * A * (2 * g * h)^{0.5}$$

Where	Q	=	3.76	cfs	Pipe Size	Area
	C	=	0.6		3	0.049087
	A	=	0.3490659	sq.ft.	4	0.087266
	g	=	32.2	ft/sec^2	6	0.19635
	h	=	5	ft	8	0.349066
				depth of flow at opening	12	0.785398
				from the center of pipe	15	1.227185
					18	1.767146
					24	3.141593

WSEL = 105.4

Head = 5.0'

Pipe = 8" dia.

Invert of pipe 100.1

POND VOLUME CALCULATIONS FOR POND ROUTING IN AHYMO

TOTAL POND AREA 3173 SF
 (2 EAST PONDS)

ELEV	VOLUME	
	CF	AC-FT
5.4	8250	0.1894
4.9	6663	0.1530
2.8	0	0

top of grate of pond inlet



NOAA Atlas 14, Volume 1, Version 5
Location name: Albuquerque, New Mexico, USA*
Latitude: 35.1224°, Longitude: -106.7023°
Elevation: 5110.64 ft**

* source: ESRI Maps

** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

[PF_tabular](#) | [PF_graphical](#) | [Maps_&_aerials](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.160 (0.137-0.187)	0.207 (0.177-0.243)	0.279 (0.238-0.328)	0.336 (0.286-0.392)	0.413 (0.349-0.482)	0.474 (0.399-0.553)	0.540 (0.451-0.628)	0.609 (0.504-0.708)	0.702 (0.576-0.819)	0.777 (0.632-0.904)
10-min	0.243 (0.209-0.285)	0.316 (0.269-0.369)	0.424 (0.361-0.499)	0.511 (0.435-0.597)	0.629 (0.531-0.735)	0.722 (0.608-0.842)	0.821 (0.686-0.955)	0.926 (0.767-1.08)	1.07 (0.876-1.25)	1.18 (0.962-1.38)
15-min	0.302 (0.259-0.353)	0.391 (0.334-0.458)	0.526 (0.448-0.618)	0.634 (0.539-0.740)	0.780 (0.659-0.910)	0.895 (0.754-1.04)	1.02 (0.850-1.18)	1.15 (0.951-1.34)	1.33 (1.09-1.54)	1.47 (1.19-1.71)
30-min	0.406 (0.349-0.476)	0.527 (0.449-0.617)	0.709 (0.603-0.832)	0.853 (0.725-0.996)	1.05 (0.887-1.23)	1.21 (1.01-1.41)	1.37 (1.15-1.60)	1.55 (1.28-1.80)	1.79 (1.46-2.08)	1.98 (1.61-2.30)
60-min	0.503 (0.432-0.589)	0.652 (0.556-0.763)	0.877 (0.746-1.03)	1.06 (0.898-1.23)	1.30 (1.10-1.52)	1.49 (1.26-1.74)	1.70 (1.42-1.97)	1.91 (1.59-2.23)	2.21 (1.81-2.57)	2.44 (1.99-2.84)
2-hr	0.583 (0.499-0.688)	0.746 (0.636-0.882)	0.990 (0.843-1.17)	1.19 (1.01-1.39)	1.46 (1.23-1.71)	1.69 (1.41-1.97)	1.92 (1.60-2.24)	2.17 (1.79-2.53)	2.53 (2.06-2.94)	2.82 (2.27-3.28)
3-hr	0.627 (0.544-0.737)	0.797 (0.689-0.938)	1.05 (0.907-1.23)	1.25 (1.08-1.46)	1.53 (1.30-1.78)	1.75 (1.49-2.04)	1.99 (1.68-2.32)	2.25 (1.88-2.62)	2.61 (2.16-3.04)	2.90 (2.37-3.39)
6-hr	0.726 (0.633-0.845)	0.919 (0.803-1.07)	1.19 (1.04-1.38)	1.40 (1.22-1.62)	1.69 (1.46-1.96)	1.92 (1.66-2.22)	2.17 (1.85-2.50)	2.42 (2.05-2.78)	2.77 (2.33-3.20)	3.06 (2.55-3.54)
12-hr	0.792 (0.696-0.904)	1.00 (0.881-1.14)	1.27 (1.12-1.45)	1.49 (1.30-1.69)	1.78 (1.55-2.01)	2.00 (1.73-2.27)	2.23 (1.92-2.53)	2.47 (2.12-2.80)	2.80 (2.38-3.23)	3.07 (2.58-3.58)
24-hr	0.913 (0.806-1.04)	1.15 (1.01-1.30)	1.43 (1.26-1.63)	1.66 (1.46-1.88)	1.97 (1.73-2.23)	2.21 (1.93-2.49)	2.46 (2.14-2.77)	2.71 (2.35-3.05)	3.04 (2.62-3.43)	3.31 (2.83-3.73)
2-day	0.943 (0.840-1.06)	1.18 (1.05-1.33)	1.47 (1.31-1.65)	1.70 (1.51-1.90)	2.00 (1.78-2.24)	2.24 (1.98-2.51)	2.47 (2.18-2.80)	2.72 (2.38-3.08)	3.07 (2.65-3.46)	3.34 (2.85-3.76)
3-day	1.08 (0.973-1.19)	1.34 (1.21-1.48)	1.66 (1.50-1.83)	1.90 (1.72-2.10)	2.23 (2.01-2.46)	2.48 (2.22-2.74)	2.73 (2.44-3.03)	2.98 (2.66-3.31)	3.34 (2.95-3.70)	3.60 (3.16-3.99)
4-day	1.21 (1.11-1.33)	1.50 (1.37-1.64)	1.84 (1.68-2.01)	2.10 (1.92-2.29)	2.45 (2.23-2.67)	2.72 (2.47-2.96)	2.99 (2.71-3.25)	3.25 (2.94-3.54)	3.60 (3.25-3.93)	3.86 (3.47-4.22)
7-day	1.38 (1.26-1.50)	1.71 (1.56-1.86)	2.07 (1.90-2.25)	2.36 (2.16-2.56)	2.73 (2.49-2.95)	3.00 (2.74-3.24)	3.27 (2.98-3.54)	3.52 (3.22-3.81)	3.85 (3.51-4.18)	4.09 (3.72-4.44)
10-day	1.53 (1.40-1.66)	1.89 (1.74-2.05)	2.31 (2.12-2.50)	2.63 (2.42-2.85)	3.06 (2.81-3.30)	3.38 (3.09-3.64)	3.70 (3.38-3.99)	4.01 (3.65-4.32)	4.40 (4.00-4.76)	4.70 (4.25-5.08)
20-day	1.90 (1.74-2.07)	2.35 (2.15-2.56)	2.85 (2.61-3.10)	3.22 (2.96-3.50)	3.69 (3.39-4.01)	4.03 (3.69-4.37)	4.36 (3.99-4.72)	4.66 (4.26-5.04)	5.03 (4.60-5.45)	5.29 (4.83-5.74)
30-day	2.27 (2.08-2.46)	2.81 (2.58-3.04)	3.37 (3.10-3.64)	3.78 (3.48-4.08)	4.30 (3.94-4.62)	4.66 (4.27-5.01)	5.00 (4.58-5.37)	5.31 (4.86-5.71)	5.68 (5.20-6.11)	5.93 (5.43-6.38)
45-day	2.77 (2.56-3.00)	3.43 (3.16-3.71)	4.07 (3.76-4.39)	4.53 (4.18-4.88)	5.07 (4.69-5.47)	5.44 (5.03-5.86)	5.77 (5.34-6.20)	6.05 (5.60-6.50)	6.34 (5.89-6.81)	6.51 (6.06-6.98)
60-day	3.19 (2.94-3.45)	3.94 (3.63-4.26)	4.68 (4.33-5.06)	5.21 (4.82-5.62)	5.84 (5.40-6.30)	6.27 (5.80-6.75)	6.65 (6.16-7.17)	6.99 (6.47-7.53)	7.35 (6.82-7.92)	7.56 (7.05-8.14)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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PF graphical

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*                               GLOBAL SELF STORAGE
*                               HYDROLOGIC MODEL--DEVELOPED CONDITIONS
*****
*
*       PRECIPITATION (FROM NOAA ATLAS 14; LAT:35.6212° LONG:-106.0057°)
*           P15 =           0"
*           P60 =          1.70"
*           P360 =         2.17"
*           P1440 =        2.46"
*
*****
*
START                TIME=0.0 HR   PUNCH CODE=0
LOCATION              ALBUQUERQUE
RAINFALL             TYPE=2 RAIN QUARTER=0 IN
                     RAIN ONE=1.70 IN  RAIN SIX=2.17 IN
                     RAIN DAY=2.46 IN  DT=0.05 HRS
*
*****
*       HYDROLOGIC MODEL FOR
*S       * * * * * * * * * * EXISTING CONDITIONS * * * * *
*S       100-YEAR, 24-HOUR STORM
*S
*S       BASIN EXISTING
COMPUTE NM HYD      ID=1  HYD NO=100  DA=0.006320 SQ MI
                     %A=0  %B=100  %C=0  %D=0
                     TP=-0.1333 HR
                     MASS RAINFALL=-1
PRINT HYD           ID=1 CODE=1
*S       * * * * * * * * * * PROPOSED CONDITIONS * * * * *
*S       100-YEAR, 24-HOUR STORM
*S       BASIN E1
COMPUTE NM HYD      ID=2  HYD NO=200  DA=0.00114 SQ MI
                     %A=0  %B=10  %C=15  %D=75
                     TP=-0.1333 HR
                     MASS RAINFALL=-1
PRINT HYD           ID=2 CODE=1
*S       BASIN E2
COMPUTE NM HYD      ID=3  HYD NO=300  DA=0.00109 SQ MI
                     %A=0  %B=2  %C=8  %D=90
                     TP=-0.1333 HR
                     MASS RAINFALL=-1
PRINT HYD           ID=3 CODE=1
*S       BASIN E3
COMPUTE NM HYD      ID=4  HYD NO=400  DA=0.00085 SQ MI
                     %A=0  %B=9  %C=21  %D=70
                     TP=-0.1333 HR
                     MASS RAINFALL=-1
PRINT HYD           ID=4 CODE=1
*S       BASIN W1
COMPUTE NM HYD      ID=5  HYD NO=500  DA=0.00097 SQ MI
                     %A=0  %B=10  %C=50  %D=40
                     TP=-0.1333 HR
                     MASS RAINFALL=-1

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PRINT HYD          ID=5 CODE=1
*S      BASIN W2
COMPUTE NM HYD     ID=6  HYD NO=600  DA=0.00226 SQ MI
                  %A=0  %B=10  %C=40  %D=50
                  TP=-0.1333 HR
                  MASS RAINFALL=-1
PRINT HYD          ID=6 CODE=1
*S      ADD BASINS E1, E2, E3 & W1
ADD HYD            ID=10  HYD=1000 ID I=2  ID II=3
PRINT HYD          ID=10  CODE=1
ADD HYD            ID=11  HYD=1100 ID I=4  ID II=10
PRINT HYD          ID=11  CODE=1
*S      *** TOTAL FLOWS TO PONDS ***
ADD HYD            ID=12  HYD=1200 ID I=5  ID II=11
PRINT HYD          ID=12  CODE=1
*S      ROUTE FLOWS THROUGH PONDS
ROUTE RESERVOIR    ID=13 HYD NO=1300  INFLOW ID=12 CODE=24
                  OUTFLOW(CFS)      STORAGE(AC-FT)      ELEVATION(FT)
                  0.0                0.0                2.8
                  3.6                0.1530             4.9
                  3.8                0.1894             5.4
PRINT HYD          ID=13 CODE=1
FINISH

```

AHYMO PROGRAM SUMMARY TABLE (AHYMO-S4)
 INPUT FILE = M:\PROJECTS\2200-2299\2258\CALCS\2258.DAT

- Ver. S4.01a, Rel: 01a

RUN DATE (MON/DAY/YR) =02/13/2019
 USER NO.= AHYMO_Temp_User:20122010

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	PAGE = 1 NOTATION
START										TIME= 0.00
LOCATION				ALBUQUERQUE						
RAINFALL	TYPE= 2 NOAA 14									RAIN24= 2.460
*S	* * * * * EXISTING CONDITIONS * * * * *									
*S	100-YEAR, 24-HOUR STORM									
*S	BASIN EXISTING									
COMPUTE	NM HYD	100.00	- 1	0.00632	8.56	0.247	0.73318	1.500	2.117	PER IMP= 0.00
*S	* * * * * PROPOSED CONDITIONS * * * * *									
*S	100-YEAR, 24-HOUR STORM									
*S	BASIN E1									
COMPUTE	NM HYD	200.00	- 2	0.00123	2.88	0.120	1.82416	1.500	3.659	PER IMP= 71.00
*S	BASIN E2									
COMPUTE	NM HYD	300.00	- 3	0.00120	2.99	0.130	2.03450	1.500	3.887	PER IMP= 87.00
*S	BASIN E3									
COMPUTE	NM HYD	400.00	- 4	0.00066	1.54	0.064	1.80927	1.500	3.657	PER IMP= 70.00
*S	BASIN W1									
COMPUTE	NM HYD	500.00	- 5	0.00097	1.92	0.065	1.25652	1.500	3.094	PER IMP= 26.00
*S	BASIN W2									
COMPUTE	NM HYD	600.00	- 6	0.00226	5.00	0.194	1.60771	1.500	3.454	PER IMP= 53.00
*S	ADD BASINS E1, E2, E3 & W1									
ADD HYD		1000.00	2& 3 10	0.00243	5.87	0.250	1.92779	1.500	3.771	
ADD HYD		1100.00	4&10 11	0.00309	7.41	0.314	1.90240	1.500	3.747	
*S	*** TOTAL FLOWS TO PONDS ***									
ADD HYD		1200.00	5&11 12	0.00406	9.33	0.379	1.74804	1.500	3.591	
*S	ROUTE FLOWS THROUGH PONDS									
ROUTE RESERVOIR		1300.00	12 13	0.00406	3.63	0.379	1.74804	1.750	1.397	AC-FT= 0.158
FINISH										

AHYMO PROGRAM (AHYMO-S4) - Version: S4.01a - Rel: 01a
 RUN DATE (MON/DAY/YR) = 02/14/2019
 START TIME (HR:MIN:SEC) = 10:18:46 USER NO.= AHYMO_Temp_User:20122010
 INPUT FILE = M:\PROJECTS\2200-2299\2258\CALCS\2258.DAT

* GLOBAL SELF STORAGE
 * HYDROLOGIC MODEL--DEVELOPED CONDITIONS

 *
 * PRECIPITATION (FROM NOAA ATLAS 14; LAT:35.6212° LONG:-106.0057°)
 * P15 = 0"
 * P60 = 1.70"
 * P360 = 2.17"
 * P1440 = 2.46"
 *

*
 START TIME=0.0 HR PUNCH CODE=0
 LOCATION ALBUQUERQUE
 City of Albuquerque soil infiltration values (LAND FACTORS) used for computations.
 Land Treatment Initial Abstr.(in) Unif. Infilt.(in/hour)
 A 0.65 1.67
 B 0.50 1.25
 C 0.35 0.83
 D 0.10 0.04

RAINFALL TYPE=2 RAIN QUARTER=0 IN
 RAIN ONE=1.70 IN RAIN SIX=2.17 IN
 RAIN DAY=2.46 IN DT=0.05 HRS
 24-HOUR RAINFALL DIST. - BASED ON NOAA ATLAS 14 FOR CONVECTIVE AREAS (NM & AZ) - D1
 DT = 0.050000 HOURS END TIME = 24.000002 HOURS

0.0000	0.0031	0.0064	0.0098	0.0135	0.0174	0.0218
0.0279	0.0377	0.0481	0.0590	0.0708	0.0827	0.0950
0.1078	0.1207	0.1350	0.1499	0.1661	0.1879	0.2124
0.2454	0.2827	0.3288	0.3903	0.4595	0.5790	0.7647
1.0830	1.3067	1.4831	1.5718	1.6495	1.7053	1.7498
1.7885	1.8168	1.8429	1.8643	1.8816	1.8968	1.9103
1.9232	1.9345	1.9452	1.9556	1.9657	1.9740	1.9787
1.9833	1.9878	1.9920	1.9962	2.0003	2.0043	2.0083
2.0121	2.0158	2.0194	2.0230	2.0266	2.0299	2.0333
2.0365	2.0398	2.0430	2.0460	2.0491	2.0521	2.0550
2.0579	2.0608	2.0636	2.0664	2.0692	2.0719	2.0746
2.0773	2.0799	2.0826	2.0851	2.0877	2.0902	2.0927
2.0952	2.0976	2.1000	2.1024	2.1048	2.1071	2.1094
2.1117	2.1140	2.1163	2.1185	2.1207	2.1229	2.1250
2.1272	2.1293	2.1314	2.1335	2.1356	2.1376	2.1397
2.1417	2.1437	2.1457	2.1476	2.1496	2.1515	2.1534
2.1553	2.1572	2.1591	2.1609	2.1628	2.1646	2.1664
2.1682	2.1700	2.1708	2.1716	2.1724	2.1732	2.1740
2.1748	2.1756	2.1764	2.1772	2.1781	2.1789	2.1797
2.1805	2.1813	2.1821	2.1829	2.1837	2.1845	2.1853
2.1861	2.1869	2.1877	2.1885	2.1893	2.1901	2.1909
2.1917	2.1926	2.1934	2.1942	2.1950	2.1958	2.1966
2.1974	2.1982	2.1990	2.1998	2.2006	2.2014	2.2022
2.2030	2.2038	2.2046	2.2054	2.2062	2.2071	2.2079
2.2087	2.2095	2.2103	2.2111	2.2119	2.2127	2.2135
2.2143	2.2151	2.2159	2.2167	2.2175	2.2183	2.2191
2.2199	2.2207	2.2216	2.2224	2.2232	2.2240	2.2248
2.2256	2.2264	2.2272	2.2280	2.2288	2.2296	2.2304
2.2312	2.2320	2.2328	2.2336	2.2344	2.2352	2.2361
2.2369	2.2377	2.2385	2.2393	2.2401	2.2409	2.2417
2.2425	2.2433	2.2441	2.2449	2.2457	2.2465	2.2473
2.2481	2.2489	2.2497	2.2506	2.2514	2.2522	2.2530
2.2538	2.2546	2.2554	2.2562	2.2570	2.2578	2.2586
2.2594	2.2602	2.2610	2.2618	2.2626	2.2634	2.2642
2.2651	2.2659	2.2667	2.2675	2.2683	2.2691	2.2699
2.2707	2.2715	2.2723	2.2731	2.2739	2.2747	2.2755
2.2763	2.2771	2.2779	2.2787	2.2796	2.2804	2.2812
2.2820	2.2828	2.2836	2.2844	2.2852	2.2860	2.2868
2.2876	2.2884	2.2892	2.2900	2.2908	2.2916	2.2924
2.2932	2.2941	2.2949	2.2957	2.2965	2.2973	2.2981
2.2989	2.2997	2.3005	2.3013	2.3021	2.3029	2.3037
2.3045	2.3053	2.3061	2.3069	2.3077	2.3085	2.3094
2.3102	2.3110	2.3118	2.3126	2.3134	2.3142	2.3150
2.3158	2.3166	2.3174	2.3182	2.3190	2.3198	2.3206

2.3214	2.3222	2.3230	2.3239	2.3247	2.3255	2.3263
2.3271	2.3279	2.3287	2.3295	2.3303	2.3311	2.3319
2.3327	2.3335	2.3343	2.3351	2.3359	2.3367	2.3375
2.3384	2.3392	2.3400	2.3408	2.3416	2.3424	2.3432
2.3440	2.3448	2.3456	2.3464	2.3472	2.3480	2.3488
2.3496	2.3504	2.3512	2.3520	2.3529	2.3537	2.3545
2.3553	2.3561	2.3569	2.3577	2.3585	2.3593	2.3601
2.3609	2.3617	2.3625	2.3633	2.3641	2.3649	2.3657
2.3665	2.3674	2.3682	2.3690	2.3698	2.3706	2.3714
2.3722	2.3730	2.3738	2.3746	2.3754	2.3762	2.3770
2.3778	2.3786	2.3794	2.3802	2.3810	2.3819	2.3827
2.3835	2.3843	2.3851	2.3859	2.3867	2.3875	2.3883
2.3891	2.3899	2.3907	2.3915	2.3923	2.3931	2.3939
2.3947	2.3955	2.3964	2.3972	2.3980	2.3988	2.3996
2.4004	2.4012	2.4020	2.4028	2.4036	2.4044	2.4052
2.4060	2.4068	2.4076	2.4084	2.4092	2.4100	2.4109
2.4117	2.4125	2.4133	2.4141	2.4149	2.4157	2.4165
2.4173	2.4181	2.4189	2.4197	2.4205	2.4213	2.4221
2.4229	2.4237	2.4245	2.4254	2.4262	2.4270	2.4278
2.4286	2.4294	2.4302	2.4310	2.4318	2.4326	2.4334
2.4342	2.4350	2.4358	2.4366	2.4374	2.4382	2.4390
2.4398	2.4407	2.4415	2.4423	2.4431	2.4439	2.4447
2.4455	2.4463	2.4471	2.4479	2.4487	2.4495	2.4503
2.4511	2.4519	2.4527	2.4535	2.4543	2.4552	2.4560
2.4568	2.4576	2.4584	2.4592	2.4600		

*

* HYDROLOGIC MODEL FOR

*S * * * * * EXISTING CONDITIONS * * * * *

*S 100-YEAR, 24-HOUR STORM

*S

*S BASIN EXISTING

COMPUTE NM HYD ID=1 HYD NO=100 DA=0.006320 SQ MI

%A=0 %B=100 %C=0 %D=0

TP=-0.1333 HR

MASS RAINFALL=-1

K = 0.133983HR TP = 0.133300HR K/TP RATIO = 1.005125 SHAPE CONSTANT, N = 3.511980

UNIT PEAK = 15.229 CFS UNIT VOLUME = 1.000 B = 321.21 P60 = 1.7000

AREA = 0.006320 SQ MI IA = 0.50000 INCHES INF = 1.25000 INCHES PER HOUR

RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.050000

PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 100.00

RUNOFF VOLUME = 0.73318 INCHES = 0.2471 ACRE-FEET

PEAK DISCHARGE RATE = 8.56 CFS AT 1.500 HOURS BASIN AREA = 0.0063 SQ. MI.

*S * * * * * PROPOSED CONDITIONS * * * * *

*S 100-YEAR, 24-HOUR STORM

*S BASIN E1

COMPUTE NM HYD ID=2 HYD NO=200 DA=0.00114 SQ MI

%A=0 %B=10 %C=15 %D=75

TP=-0.1333 HR

MASS RAINFALL=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428

UNIT PEAK = 3.3756 CFS UNIT VOLUME = 0.9959 B = 526.28 P60 = 1.7000

AREA = 0.000855 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR

RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.050000

K = 0.115963HR TP = 0.133300HR K/TP RATIO = 0.869938 SHAPE CONSTANT, N = 4.083779

UNIT PEAK = 0.77123 CFS UNIT VOLUME = 0.9850 B = 360.72 P60 = 1.7000

AREA = 0.000285 SQ MI IA = 0.41000 INCHES INF = 0.99800 INCHES PER HOUR

RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.050000

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 200.00

RUNOFF VOLUME = 1.87217 INCHES = 0.1138 ACRE-FEET

PEAK DISCHARGE RATE = 2.70 CFS AT 1.500 HOURS BASIN AREA = 0.0011 SQ. MI.

*S BASIN E2

COMPUTE NM HYD ID=3 HYD NO=300 DA=0.00109 SQ MI

%A=0 %B=2 %C=8 %D=90

TP=-0.1333 HR

MASS RAINFALL=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428

UNIT PEAK = 3.8730 CFS UNIT VOLUME = 0.9966 B = 526.28 P60 = 1.7000
AREA = 0.000981 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.050000

K = 0.109956HR TP = 0.133300HR K/TP RATIO = 0.824876 SHAPE CONSTANT, N = 4.328020
UNIT PEAK = 0.30785 CFS UNIT VOLUME = 0.9616 B = 376.48 P60 = 1.7000
AREA = 0.000109 SQ MI IA = 0.38000 INCHES INF = 0.91400 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.050000

PRINT HYD ID=3 CODE=1

HYDROGRAPH FROM AREA 300.00

RUNOFF VOLUME = 2.07911 INCHES = 0.1209 ACRE-FEET
PEAK DISCHARGE RATE = 2.75 CFS AT 1.500 HOURS BASIN AREA = 0.0011 SQ. MI.

*S BASIN E3

COMPUTE NM HYD ID=4 HYD NO=400 DA=0.00085 SQ MI

%A=0 %B=9 %C=21 %D=70

TP=-0.1333 HR

MASS RAINFALL=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 2.3491 CFS UNIT VOLUME = 0.9951 B = 526.28 P60 = 1.7000
AREA = 0.000595 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.050000

K = 0.112959HR TP = 0.133300HR K/TP RATIO = 0.847407 SHAPE CONSTANT, N = 4.201794
UNIT PEAK = 0.70475 CFS UNIT VOLUME = 0.9841 B = 368.41 P60 = 1.7000
AREA = 0.000255 SQ MI IA = 0.39500 INCHES INF = 0.95600 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.050000

PRINT HYD ID=4 CODE=1

HYDROGRAPH FROM AREA 400.00

RUNOFF VOLUME = 1.81160 INCHES = 0.0821 ACRE-FEET
PEAK DISCHARGE RATE = 1.99 CFS AT 1.500 HOURS BASIN AREA = 0.0009 SQ. MI.

*S BASIN W1

COMPUTE NM HYD ID=5 HYD NO=500 DA=0.00097 SQ MI

%A=0 %B=10 %C=50 %D=40

TP=-0.1333 HR

MASS RAINFALL=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 1.5318 CFS UNIT VOLUME = 0.9928 B = 526.28 P60 = 1.7000
AREA = 0.000388 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.050000

K = 0.108955HR TP = 0.133300HR K/TP RATIO = 0.817366 SHAPE CONSTANT, N = 4.372059
UNIT PEAK = 1.6559 CFS UNIT VOLUME = 0.9945 B = 379.26 P60 = 1.7000
AREA = 0.000582 SQ MI IA = 0.37500 INCHES INF = 0.90000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.050000

PRINT HYD ID=5 CODE=1

OUTFLOW HYDROGRAPH RESERVOIR 500.00

RUNOFF VOLUME = 1.43223 INCHES = 0.0741 ACRE-FEET
PEAK DISCHARGE RATE = 2.03 CFS AT 1.500 HOURS BASIN AREA = 0.0010 SQ. MI.

*S BASIN W2

COMPUTE NM HYD ID=6 HYD NO=600 DA=0.00226 SQ MI

%A=0 %B=10 %C=40 %D=50

TP=-0.1333 HR

MASS RAINFALL=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 4.4613 CFS UNIT VOLUME = 0.9966 B = 526.28 P60 = 1.7000
AREA = 0.001130 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.050000

K = 0.109956HR TP = 0.133300HR K/TP RATIO = 0.824876 SHAPE CONSTANT, N = 4.328019
UNIT PEAK = 3.1914 CFS UNIT VOLUME = 0.9977 B = 376.48 P60 = 1.7000
AREA = 0.001130 SQ MI IA = 0.38000 INCHES INF = 0.91400 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.050000

PRINT HYD ID=6 CODE=1

HYDROGRAPH FROM AREA 600.00

RUNOFF VOLUME = 1.55788 INCHES = 0.1878 ACRE-FEET
PEAK DISCHARGE RATE = 4.89 CFS AT 1.500 HOURS BASIN AREA = 0.0023 SQ. MI.

```

*S      ADD BASINS E1, E2, E3 & W1
ADD HYD      ID=10  HYD=1000 ID I=2  ID II=3
PRINT HYD    ID=10  CODE=1

                                HYDROGRAPH FROM AREA  1000.00

RUNOFF VOLUME =      1.97303 INCHES      =      0.2347 ACRE-FEET
PEAK DISCHARGE RATE =      5.46 CFS  AT  1.500 HOURS  BASIN AREA =  0.0022 SQ. MI.

ADD HYD      ID=11  HYD=1100 ID I=4  ID II=10
PRINT HYD    ID=11  CODE=1

                                HYDROGRAPH FROM AREA  1100.00

RUNOFF VOLUME =      1.92840 INCHES      =      0.3168 ACRE-FEET
PEAK DISCHARGE RATE =      7.44 CFS  AT  1.500 HOURS  BASIN AREA =  0.0031 SQ. MI.

*S      *** TOTAL FLOWS TO PONDS ***
ADD HYD      ID=12  HYD=1200 ID I=5  ID II=11
PRINT HYD    ID=12  CODE=1

                                HYDROGRAPH FROM AREA  1200.00

RUNOFF VOLUME =      1.80951 INCHES      =      0.3909 ACRE-FEET
PEAK DISCHARGE RATE =      9.47 CFS  AT  1.500 HOURS  BASIN AREA =  0.0041 SQ. MI.

*S      ROUTE FLOWS THROUGH PONDS
ROUTE RESERVOIR  ID=13 HYD NO=1300  INFLOW ID=12 CODE=24
                                OUTFLOW(CFS)      STORAGE(AC-FT)      ELEVATION(FT)
                                0.0                0.0                2.8
                                3.6                0.1530             4.9
                                3.8                0.1894             5.4
*  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *
TIME      INFLOW      ELEV      VOLUME      OUTFLOW
(HRS)     (CFS)       (FEET)   (AC-FT)   (CFS)
0.00      0.00        2.80      0.000     0.00
1.20      1.18        3.00      0.015     0.35
2.40      0.41        3.85      0.077     1.81
3.60      0.05        2.94      0.010     0.24
4.80      0.05        2.84      0.003     0.07
6.00      0.06        2.83      0.003     0.06
7.20      0.03        2.82      0.001     0.03
8.40      0.03        2.82      0.001     0.03
9.60      0.03        2.82      0.001     0.03
10.80     0.03        2.82      0.001     0.03
12.00     0.03        2.82      0.001     0.03
13.20     0.03        2.82      0.001     0.03
14.40     0.03        2.82      0.001     0.03
15.60     0.03        2.82      0.001     0.03
16.80     0.03        2.82      0.001     0.03
18.00     0.03        2.82      0.001     0.03
19.20     0.03        2.82      0.001     0.03
20.40     0.03        2.82      0.001     0.03
21.60     0.03        2.82      0.001     0.03
22.80     0.03        2.82      0.001     0.03
24.00     0.03        2.82      0.001     0.03
25.20     0.00        2.80      0.000     0.00
PEAK DISCHARGE =      3.650 CFS - PEAK OCCURS AT HOUR  1.75
MAXIMUM WATER SURFACE ELEVATION =      5.025
MAXIMUM STORAGE =      0.1621 AC-FT      INCREMENTAL TIME=      0.050000HRS
PRINT HYD    ID=13  CODE=1

                                HYDROGRAPH FROM AREA  1300.00

RUNOFF VOLUME =      1.80951 INCHES      =      0.3909 ACRE-FEET
PEAK DISCHARGE RATE =      3.65 CFS  AT  1.750 HOURS  BASIN AREA =  0.0041 SQ. MI.

FINISH
NORMAL PROGRAM FINISH      END TIME (HR:MIN:SEC) = 10:18:46

```

STORM DRAIN CALCULATIONS
CURB OPENING CAPACITY CALCULATIONS

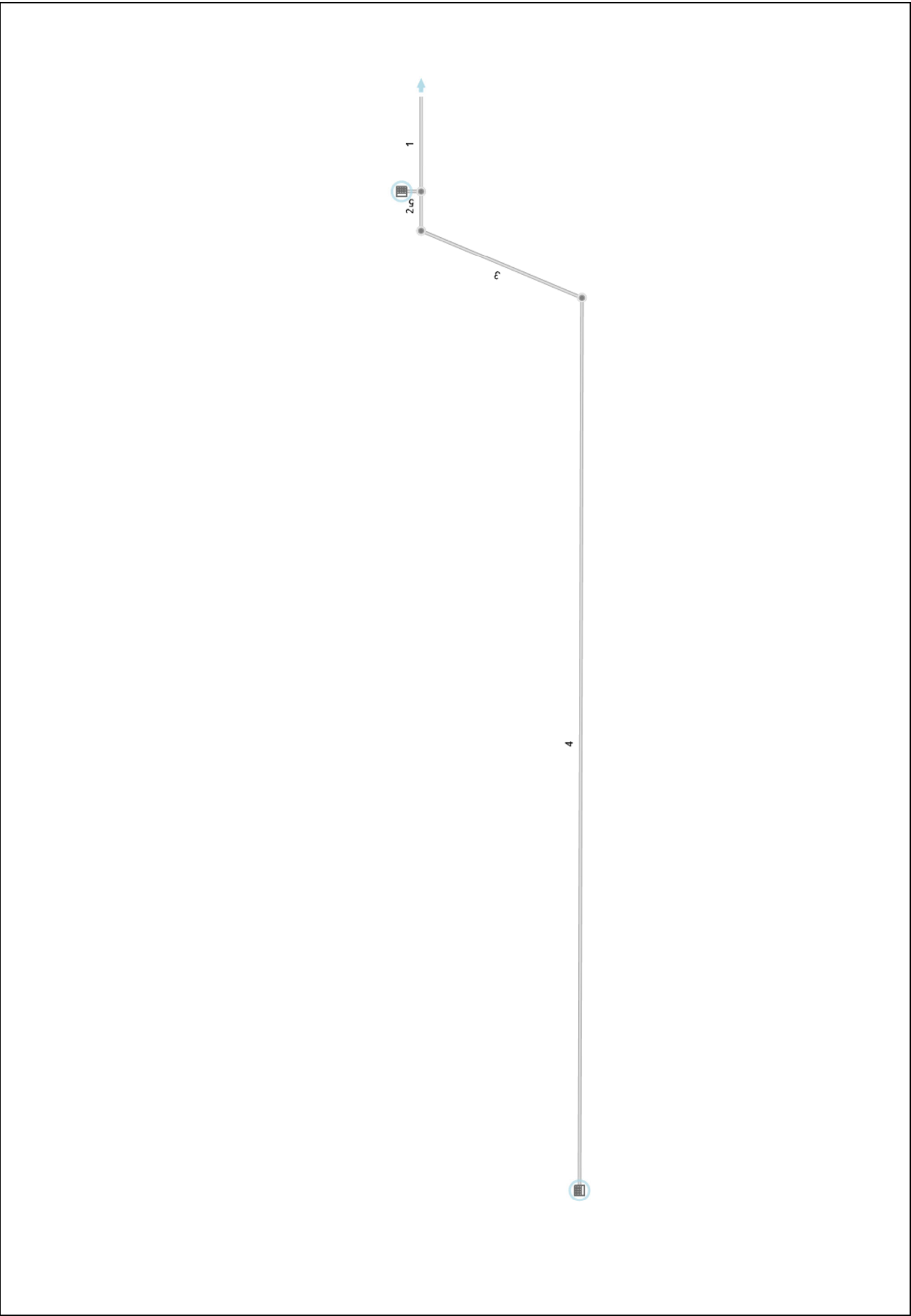


Plan View

Project Name: Enter Project Name...

Stormwater Studio 2018 v 1.0.0.0

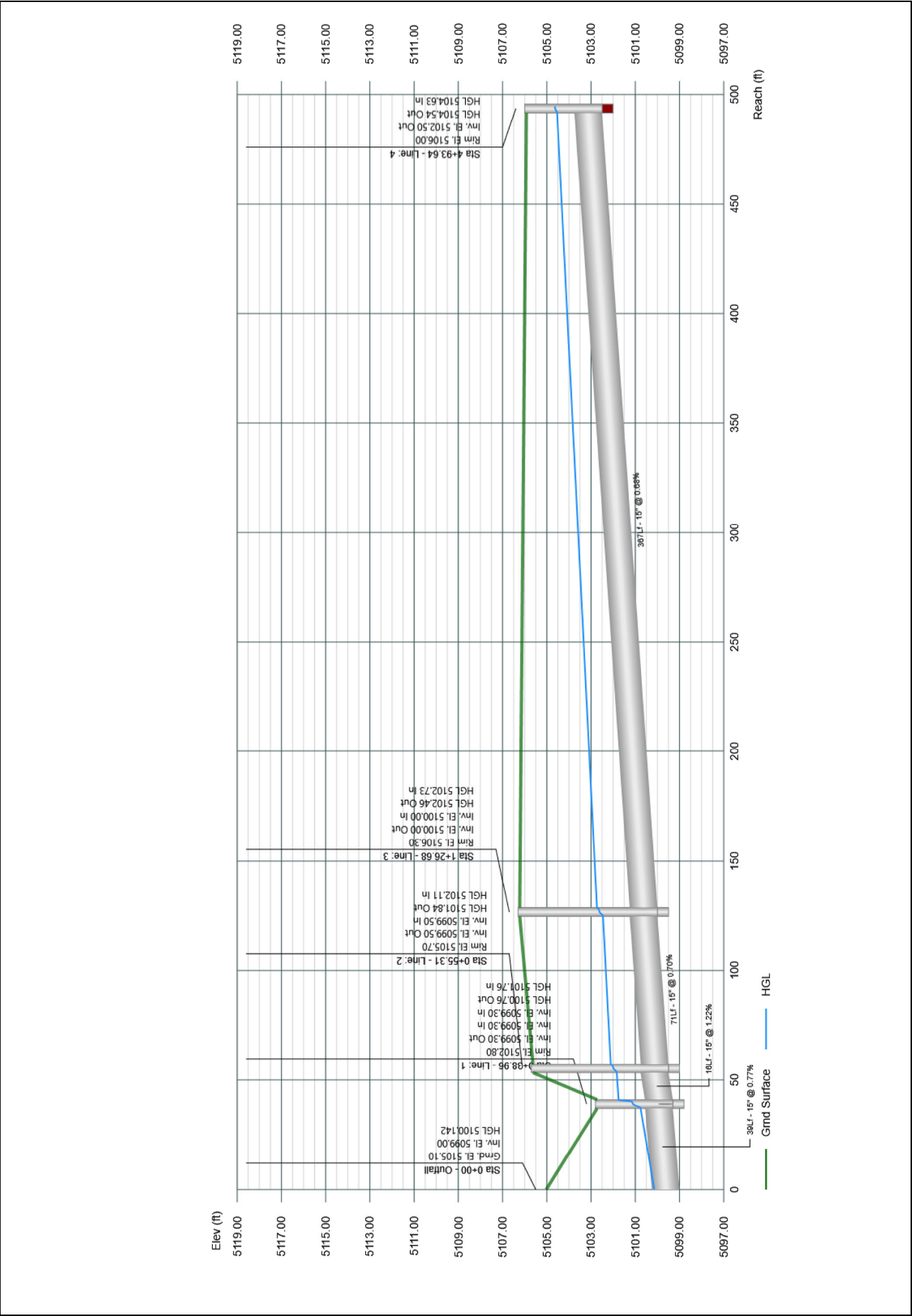
02-15-2019



Profile View

Stormwater Studio 2018 v 1.0.0.0

Project Name: Enter Project Name...
02-15-2019



Energy Grade Line Calculations

Stormwater Studio 2018 v 1.0.0.0

Project Name: Enter Project Name...

02-19-2019

Line No	Line Size (in)	Q (cfs)	Downstream							Length (ft)	Upstream							Pipe		Junction		
			Invert Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel (ft/s)	Vel Head (ft)	EGL Elev (ft)		Invert Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel (ft/s)	Vel Head (ft)	EGL Elev (ft)	n Value	Enrgy Loss (ft)	HGLa Elev (ft)	EGLa Elev (ft)	Enrgy Loss (ft)
1	15	8.60	5099.00	1.14'	1.18	5100.14	7.31	0.83	5100.97	38.96	5099.30	1.25	1.23	5100.76	7.01	0.76	5101.53	0.012	0.551	5101.14	5101.91	0.38
2	15	4.90	5099.30	1.25	1.23	5101.76	3.99	0.25	5102.01	16.35	5099.50	1.25	1.23	5101.84	3.99	0.25	5102.09	0.012	0.080	5102.01	5102.26	0.17
3	15	4.90	5099.50	1.25	1.23	5102.11	3.99	0.25	5102.36	71.37	5100.00	1.25	1.23	5102.46	3.99	0.25	5102.71	0.012	0.350	5102.64	5102.88	0.17
4	15	4.90	5100.00	1.25	1.23	5102.73	3.99	0.25	5102.98	366.96	5102.50	1.25	1.23	5104.54	3.99	0.25	5104.78	0.012	1.801	5104.63	5104.88	0.10
5	8	3.70	5099.30	0.67	0.35	5100.86	10.60	1.75	5102.61	8.00	5100.10	0.67	0.35	5101.50	10.60	1.75	5103.25	0.012	0.640	5101.50	5103.25	0.00

Notes: Return Period = 2-ys. ¹ Critical depth.

Project File: 2258-SD.sws

Weir Report

2-FOOT CURB OPENING

Trapezoidal Weir

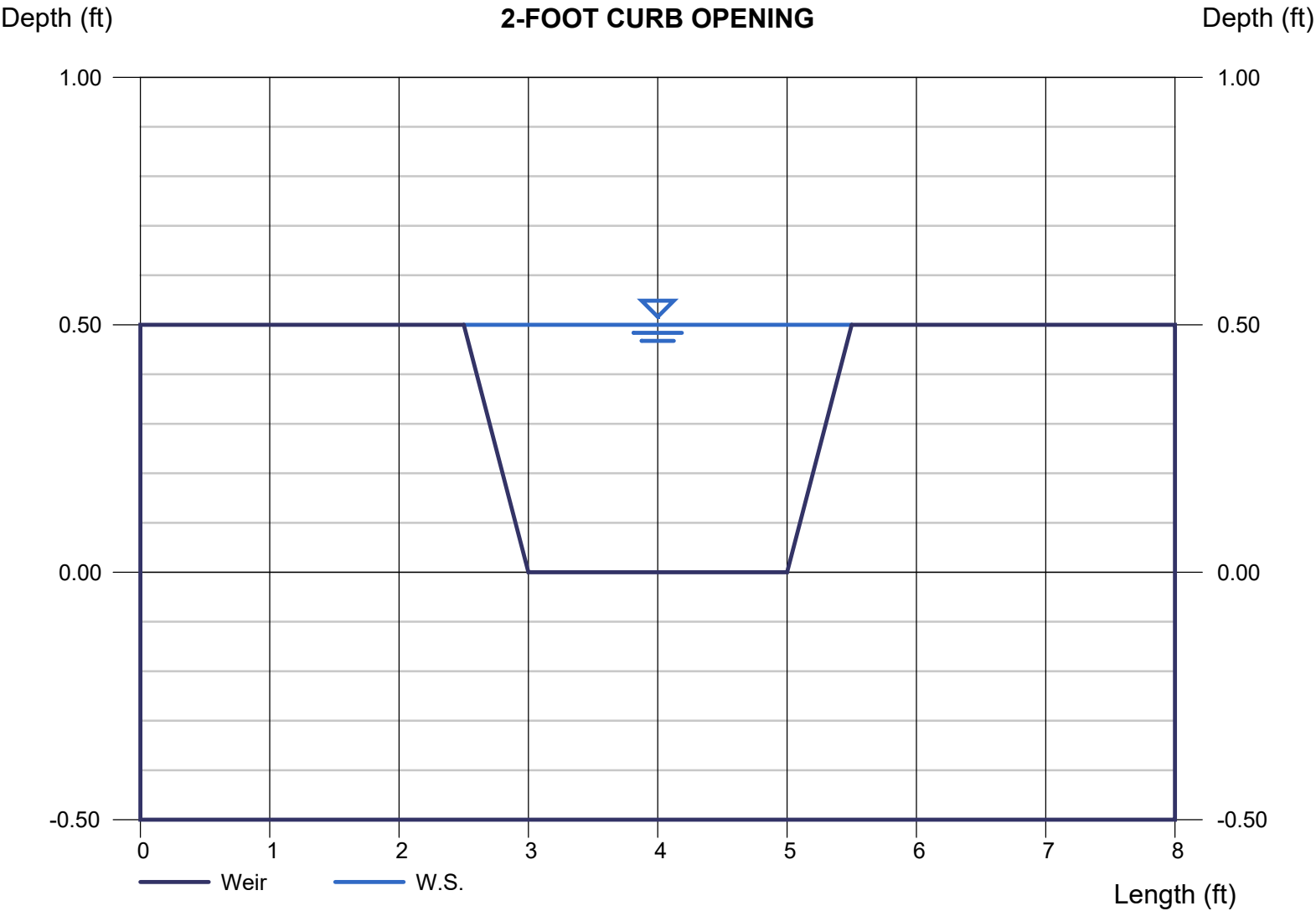
Crest = Sharp
Bottom Length (ft) = 2.00
Total Depth (ft) = 0.50
Side Slope (z:1) = 1.00

Highlighted

Depth (ft) = 0.50
Q (cfs) = 2.630
Area (sqft) = 1.25
Velocity (ft/s) = 2.10
Top Width (ft) = 3.00

Calculations

Weir Coeff. Cw = 3.10
Compute by: Q vs Depth
No. Increments = 10



NMDOT STORM DRAIN AS-BUILT



KEYED NOTES

- THE FOLLOWING KEYED NOTES ARE REFERENCED ON SHEETS CG-101 AND CG-102. NOT ALL NOTES ARE USED ON EACH SHEET.
- PROPOSED WORK WITHIN THE ATRISCO ROAD R/W TO BE CONSTRUCTED BY PUBLIC WORK ORDER. NO WORK SHALL BE PERFORMED IN THE PUBLIC R/W WITHOUT AN APPROVED WORK ORDER OR EXCAVATION PERMIT. PROPOSED GRADES WITHIN R/W ARE SHOWN FOR INFORMATION ONLY.
 - PROPOSED WORK WITHIN THE COORS BLVD. R/W SHALL BE CONSTRUCTED BY PUBLIC WORK ORDER. NO WORK SHALL BE PERFORMED IN THE NMDOT R/W WITHOUT AN APPROVAL FROM NMDOT. PROPOSED GRADES WITHIN R/W ARE SHOWN FOR INFORMATION ONLY.
 - FUTURE PHASE DASHED.
 - CONSTRUCT NEW PAVING AT ELEVATIONS SHOWN. SEE CP-101. NOTE: NOT ALL PAVEMENT SPOT ELEVATIONS SHOW ADJACENT TOP OF CURB / TOP OF WALK ELEVATIONS. TEXT SHOWN WITHIN FLOWLINE INDICATES FLOWLINE ELEVATION. ADD 0.5' TYPICAL FOR TOP OF CURB / TOP OF ADJACENT WALK ELEVATIONS.
 - PROVIDE SMOOTH TRANSITION BETWEEN NEW AND EXISTING PAVEMENT.
 - TOP OF ASPHALT TO BE FLUSH WITH TOP OF CONCRETE WALK THIS AREA FOR ADA ACCESS.
 - SLOPE WITHIN HANDICAP PARKING AREAS TO BE ADA COMPLAINT. MAX. SLOPE = 2% IN ANY DIRECTION.
 - CONSTRUCT ADA COMPLAINT 1:12 MAXIMUM SLOPE ACCESS RAMP. SEE CP-101.
 - CONSTRUCT ADA COMPLAINT PEDESTRIAN WALK AT ELEVATIONS SHOWN. MAX. 5% SLOPE, MAX. 2% CROSS-SLOPE.
 - NOT USED.
 - HIGH POINT / GRADE BREAK LOCATION.
 - ROOF DISCHARGE TO UNPAVED AREA. SEE PLUMBING PLAN FOR SPECIFIC LOCATION. INSTALL EROSION PROTECTION AT OUTFALL AND TO EXTENTS SHOWN. SEE CG-501.
 - CONSTRUCT 2' WIDE (BOTTOM WIDTH) 'U' SHAPED CHANNEL TO PASS STORMWATER TO POND. SEE CG-501.

- PROVIDE CURB OPENING(S) TO PASS FLOW. SEE PLAN FOR WIDTH(S). SEE CG-501.
- CONSTRUCT 2.0' WIDE COVERED CONCRETE SIDEWALK CULVERT PER COA STD. DWG. 2236. SEE CG-502 FOR ADDITIONAL INFORMATION.
- CONSTRUCT 2' WIDE CONCRETE ALLEY GUTTER AT ELEVATIONS SHOWN. SEE CP-101.
- CONSTRUCT DUMPSTER PAD SLOPED TO DIRECT LOCALIZED STORMWATER TO PROPOSED CENTRAL SANITARY SEWER FLOOR DRAIN INLET. SEE CU-1011.
- CONSTRUCT 12" WIDE CONCRETE APRON ADJACENT TO BUILDING THIS AREA TO ACHIEVE GRADES SHOWN. TOP OF CONCRETE APRON = 0.1' BELOW FINISH FLOOR. SEE CG-501.
- CONSTRUCT STORMWATER QUALITY RETENTION POND AT ELEVATIONS & VOLUME SHOWN. ALL STORMWATER QUALITY POND (TOP & BOTTOM ELEVATIONS AND REQUIRED VOLUMES) MUST BE CERTIFIED AS PART OF ENGINEER'S AS-BUILT CERTIFICATION. PONDS WHICH DO NOT MEET THE DESIGN PARAMETERS MUST BE CORRECTED AT CONTRACTOR'S EXPENSE.
- CONSTRUCT STORMWATER DETENTION POND AT ELEVATIONS & DIMENSIONS SHOWN. SEE NOTE 19 FOR CERTIFICATION CRITERIA.
- DEPRESS LANDSCAPING IN FOR GENERAL WATER HARVESTING. NOTE: NO WATER HARVESTING SHALL OCCUR WITHIN 10' OF ANY BUILDING.
- INSTALL PERCOLATION TRENCH. SEE CG-501.
- CONSTRUCT PRIVATE STORM DRAIN SYSTEM. SEE SHEET CG-502 FOR SIZES / SLOPES / INLET INFORMATION / MATERIALS.
- CONNECT PRIVATE STORM DRAIN TO STUB PROVIDED FROM PUBLIC NMDOT STORM DRAIN MANHOLE (BY PUBLIC WORK ORDER). SEE SHEET CG-502.
- INSTALL ANGULAR ROCK EROSION PROTECTION TO LIMITS HATCHED. SEE CG-501.

- CONSTRUCT POND RETAINING WALL(S) (MAX. 4' RETAINING) TOP OF WALL = 5106.0 (TYP.) BOTTOM OF POND = 5101.8 (NORTH POND) OR 5102.4 (SOUTH POND). STRUCTURAL DESIGN BY OTHERS. SEE ARCHITECTURAL FOR ADDITIONAL INFORMATION INCLUDING FOOTING, GUARDRAIL, REINFORCING, ETC. SEE CG-501 FOR SECTIONS.
- CONSTRUCT CONCRETE HEADER CURB AT ELEVATIONS SHOWN TO CONVEY STORMWATER. SEE CP-501 FOR DETAIL.
- BUILDING EXTENDED STEMWALL REQUIRED TO ACHIEVE GRADES SHOWN. SEE ARCHITECTURAL / STRUCTURAL PLANS.

PROJECT DATA

PROPERTY: THE SITE IS AN UNDEVELOPED PROPERTY LOCATED WITHIN C.O.A. VICINITY MAP G-11. THE SITE IS BOUND TO THE EAST BY COORS BLVD., TO THE WEST BY ATRISCO DR., TO THE NORTH BY A STORAGE FACILITY COMPLEX AND TO THE SOUTH BY DEVELOPED COMMERCIAL PROPERTY.

PROPOSED IMPROVEMENTS: THE PROPOSED IMPROVEMENTS INCLUDE TWO COMMERCIAL BUILDINGS (PHASED) WITH ASSOCIATED ASPHALT PAVED ACCESS, PARKING, AND LANDSCAPING.

LEGAL: TRACT A-36-A TOWN OF ATRISCO GRANT NORTHEAST ADDITION, ALBUQUERQUE, NM

SITE AREA: 4.04 ACRES

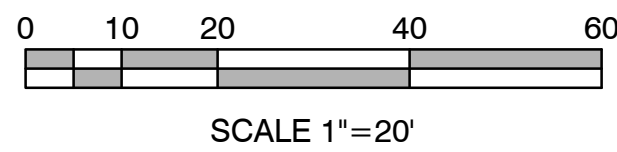
BENCHMARK: ACS BRASS TABLET STAMPED "8-G11", ELEVATION = 5116.009 FEET (NAD 1983)

OFF-SITE FLOW: WEST PROPERTY R.O.W. IS LOWER THAN ATRISCO RD. AND HISTORICALLY DRAINS ALONG THE WEST BOUNDARY TOWARD SEQUOIA RD. A WATER BLOCK AT THE PROPOSED ENTRANCE IS PROVIDED TO CONTAIN THE FLOWS WITHIN ATRISCO RD. THE UNDEVELOPED R.O.W. PORTION BETWEEN THE STREET AND PROPERTY LINE NORTH OF THE SITE ENTRANCE WILL BE GRADED TO SELF-POND.

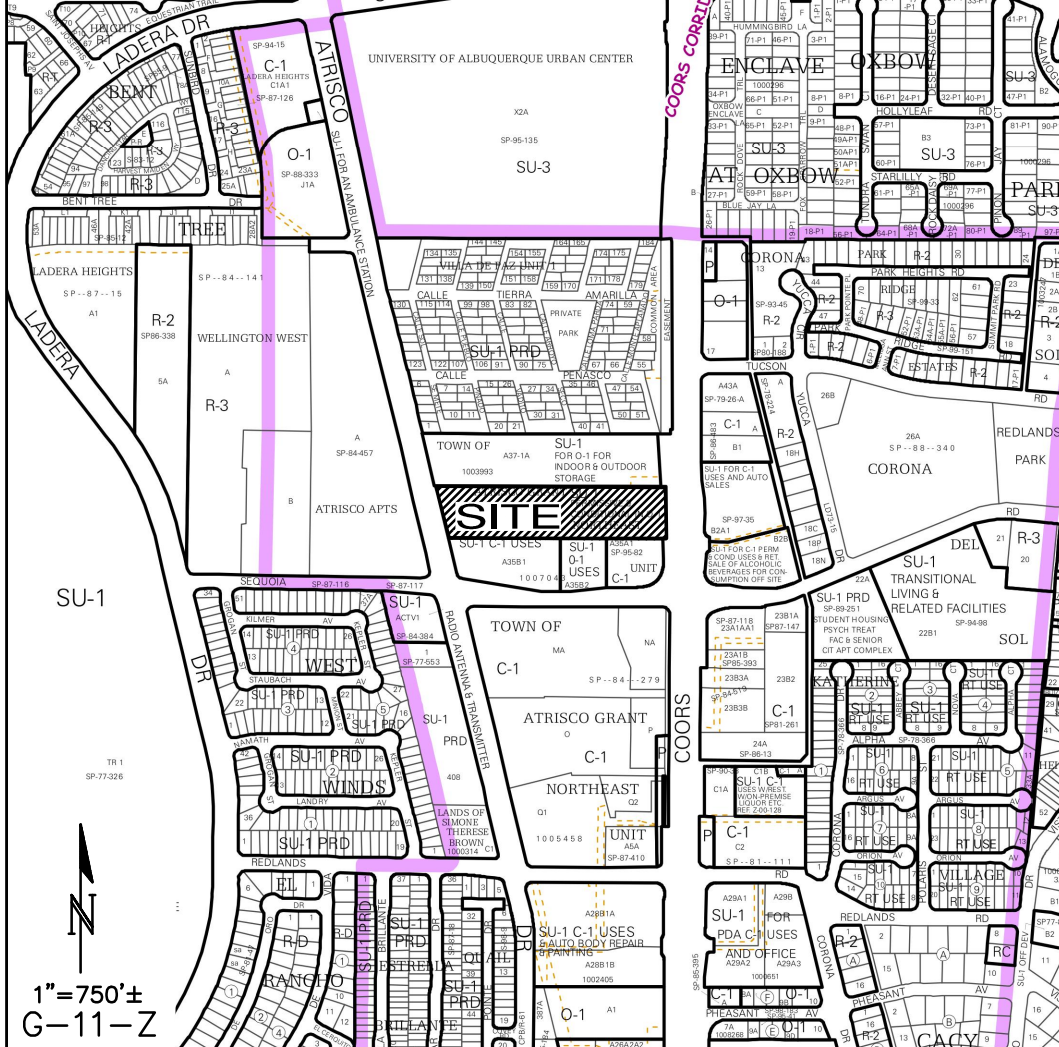
FLOOD HAZARD: PER BERNALILLO COUNTY FIRM MAP #35001C0327J, THE SITE IS LOCATED WITHIN FLOODZONE 'X' DESIGNATED AS AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOODPLAIN.

ENGINEER: ASA NILSSON-WEBER: NMPE 17631
ISAACSON & ARFMAN, PA
128 MONROE NE 87108
505-268-8828

SURVEYOR: WILL PLOTNER JR: NMPS NO. 14271
CARTESIAN SURVEYS, INC.
P.O. BOX 44414 RIO RANCHO, NM 87174
505-896-3050



VICINITY MAP



LEGEND

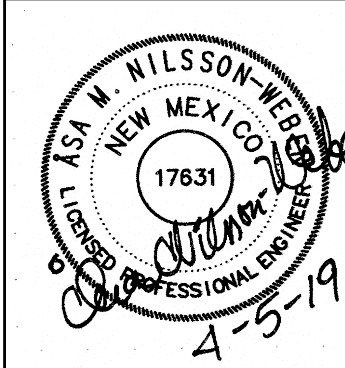
- 5105.65' EXISTING SPOT ELEVATION
- 5110- EXISTING CONTOUR
- 12- PROPOSED CONTOUR (1' INCREMENT)
- 10- PROPOSED CONTOUR (0.5' INCREMENT)
- 08.9 PROPOSED SPOT ELEVATION
- FLOW ARROW
- PROPOSED FIRST FLUSH RETENTION POND

ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates
128 Monroe Street N.E.
Albuquerque, New Mexico 87108
Ph: 505-268-8828 www.iandad.com

2258 CG-101.dwg Apr 05.2019

RETAIL SHELL BUILDING - 9,900 S.F.
GRADING & DRAINAGE PLAN 1 OF 2
3421 COORS BLVD., ALBUQUERQUE, NM
PROJECT #1853

REVISION DATE



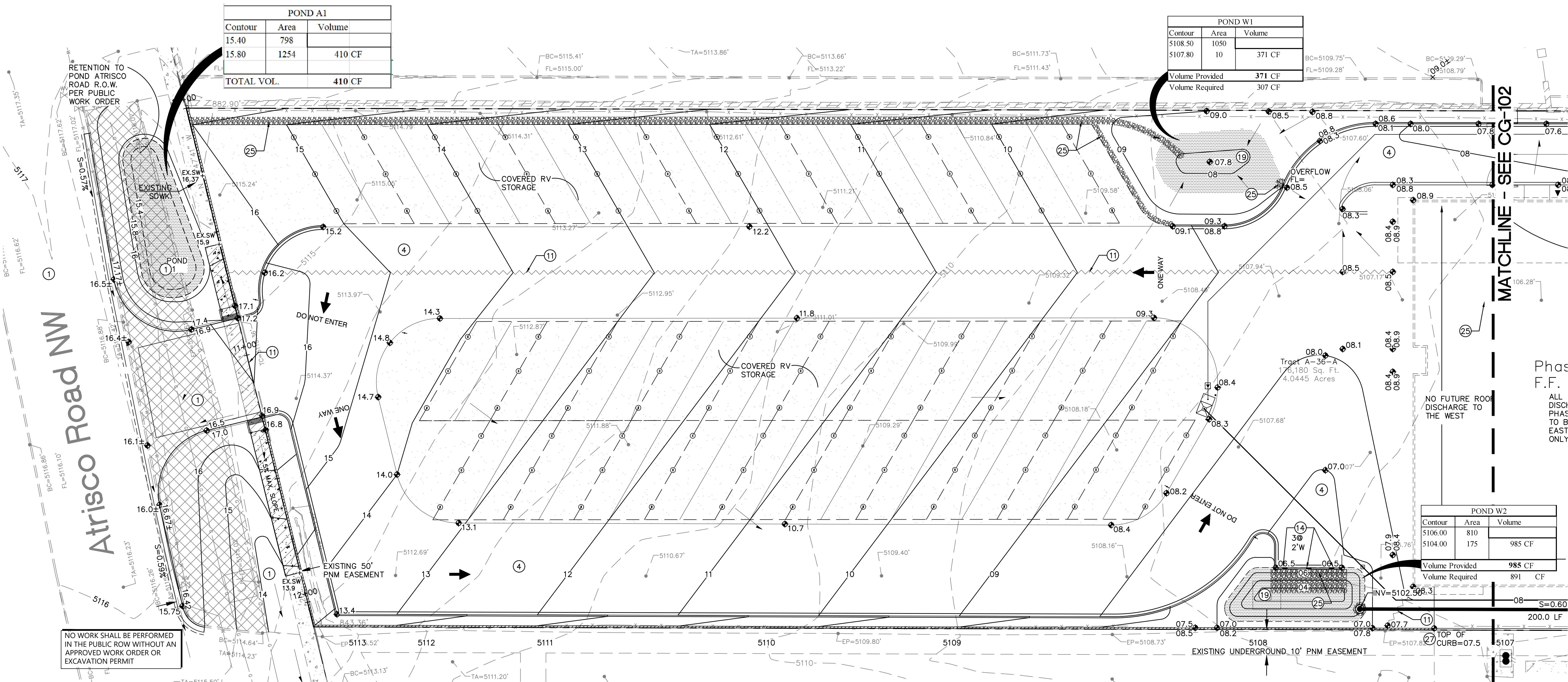
RBA
REGIONAL
PLANNING
DESIGN
1000 First Ave. SW, 87102
FEDERAL HILL, NEW MEXICO
www.rba.com

DATE

12-10-18

SHEET NUMBER

CG-101



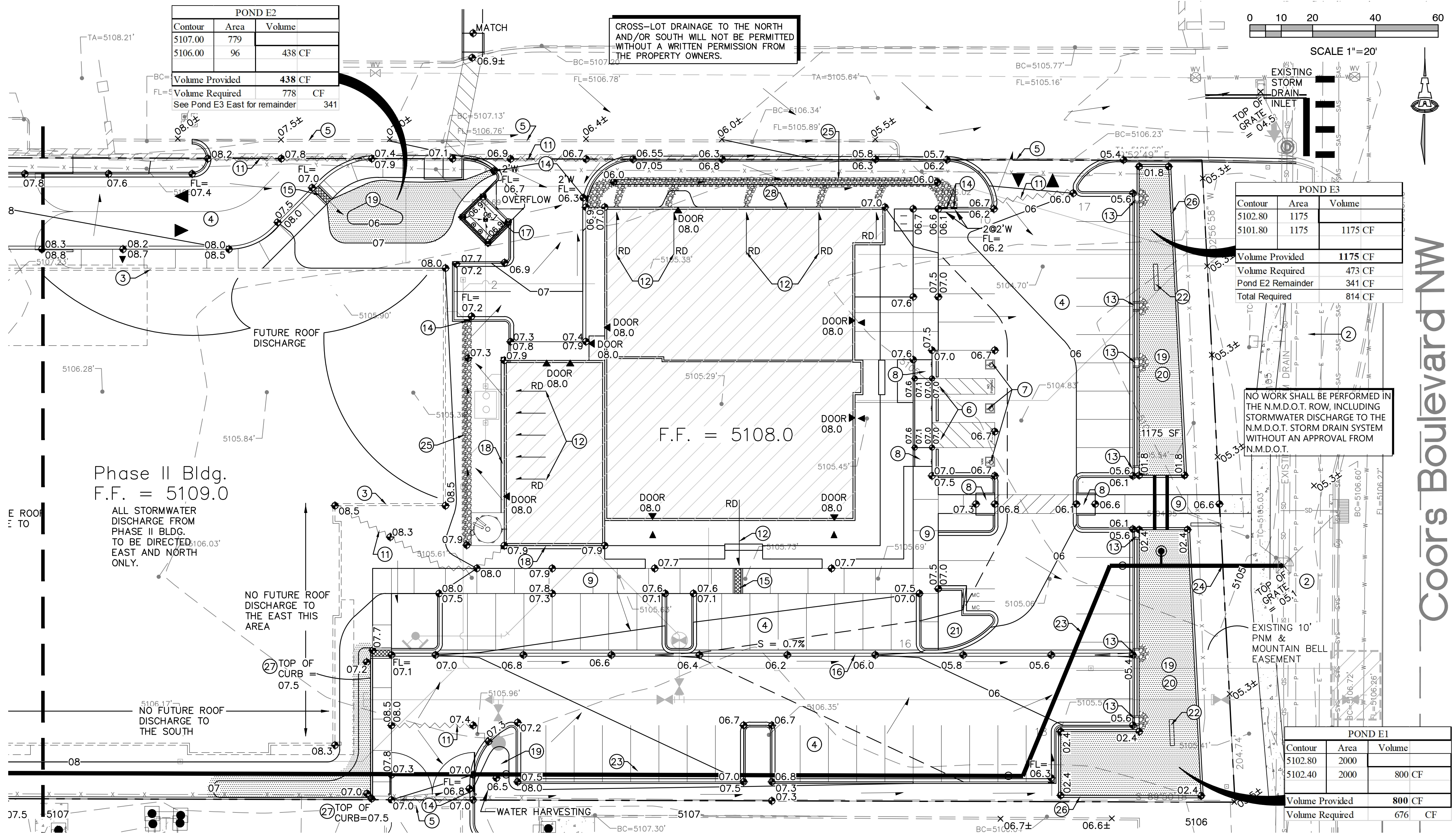
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- SLOPE WITHIN HANDICAP PARKING AREAS TO BE ADA COMPLAINT. MAX. SLOPE = 2% IN ANY DIRECTION.
- CONSTRUCT ADA COMPLAINT 1:12 MAXIMUM SLOPE ACCESS RAMP. SEE CP-101.
- CONSTRUCT ADA COMPLAINT PEDESTRIAN WALK AT ELEVATIONS SHOWN. MAX. 5% SLOPE, MAX. 2% CROSS-SLOPE.
- NOT USED.
- HIGH POINT / GRADE BREAK LOCATION.
- ROOF DISCHARGE TO UNPAVED AREA. SEE PLUMBING PLAN FOR SPECIFIC LOCATION. INSTALL EROSION PROTECTION AT OUTFALL AND TO EXTENTS SHOWN. SEE CG-501.
- CONSTRUCT 2' WIDE (BOTTOM WIDTH) 'U' SHAPED CHANNEL TO PASS STORMWATER TO POND. SEE CG-501.

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- CONSTRUCT 12' WIDE CONCRETE APRON ADJACENT TO BUILDING THIS AREA TO ACHIEVE GRADES SHOWN. TOP OF CONCRETE APRON = 0.1' BELOW FINISH FLOOR. SEE CG-501.
- CONSTRUCT STORMWATER QUALITY RETENTION POND AT ELEVATIONS & VOLUME SHOWN. ALL STORMWATER QUALITY POND (TOP & BOTTOM ELEVATIONS AND REQUIRED VOLUMES) MUST BE CERTIFIED AS PART OF ENGINEER'S AS-BUILT CERTIFICATION. PONDS WHICH DO NOT MEET THE DESIGN PARAMETERS MUST BE CORRECTED AT CONTRACTOR'S EXPENSE.
- CONSTRUCT STORMWATER DETENTION POND AT ELEVATIONS & DIMENSIONS SHOWN. SEE NOTE 19 FOR CERTIFICATION CRITERIA.
- DEPRESS LANDSCAPING IN FOR GENERAL WATER HARVESTING. NOTE: NO WATER HARVESTING SHALL OCCUR WITHIN 10' OF ANY BUILDING.
- INSTALL PERCOLATION TRENCH. SEE CG-501.
- CONSTRUCT PRIVATE STORM DRAIN SYSTEM. SEE SHEET CG-502 FOR SIZES / SLOPES / INLET INFORMATION / MATERIALS.
- CONNECT PRIVATE STORM DRAIN TO STUB PROVIDED FROM PUBLIC NMDOT STORM DRAIN MANHOLE (BY PUBLIC WORK ORDER). SEE SHEET CG-502.
- INSTALL ANGULAR ROCK EROSION PROTECTION TO LIMITS HATCHED. SEE CG-501.

- CONSTRUCT POND RETAINING WALL(S) (MAX. 4' RETAINING) TOP OF WALL = 5106.0 (TYP.) BOTTOM OF POND = 5101.8 (NORTH POND) OR 5102.4 (SOUTH POND). STRUCTURAL DESIGN BY OTHERS. SEE ARCHITECTURAL FOR ADDITIONAL INFORMATION INCLUDING FOOTING, GUARDRAIL, REINFORCING, ETC. SEE CG-501 FOR SECTIONS.
- CONSTRUCT CONCRETE HEADER CURB AT ELEVATIONS SHOWN TO CONVEY STORMWATER. SEE CP-501 FOR DETAIL.
- BUILDING EXTENDED STEMWALL REQUIRED TO ACHIEVE GRADES SHOWN. SEE ARCHITECTURAL / STRUCTURAL PLANS.



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2258 CG-101.dwg
Apr 05.2019

RETAIL SHELL BUILDING - 9,900 S.F.
GRADING & DRAINAGE PLAN 2 OF 2
3421 COORS BLVD., ALBUQUERQUE, NM
PROJECT # 1853

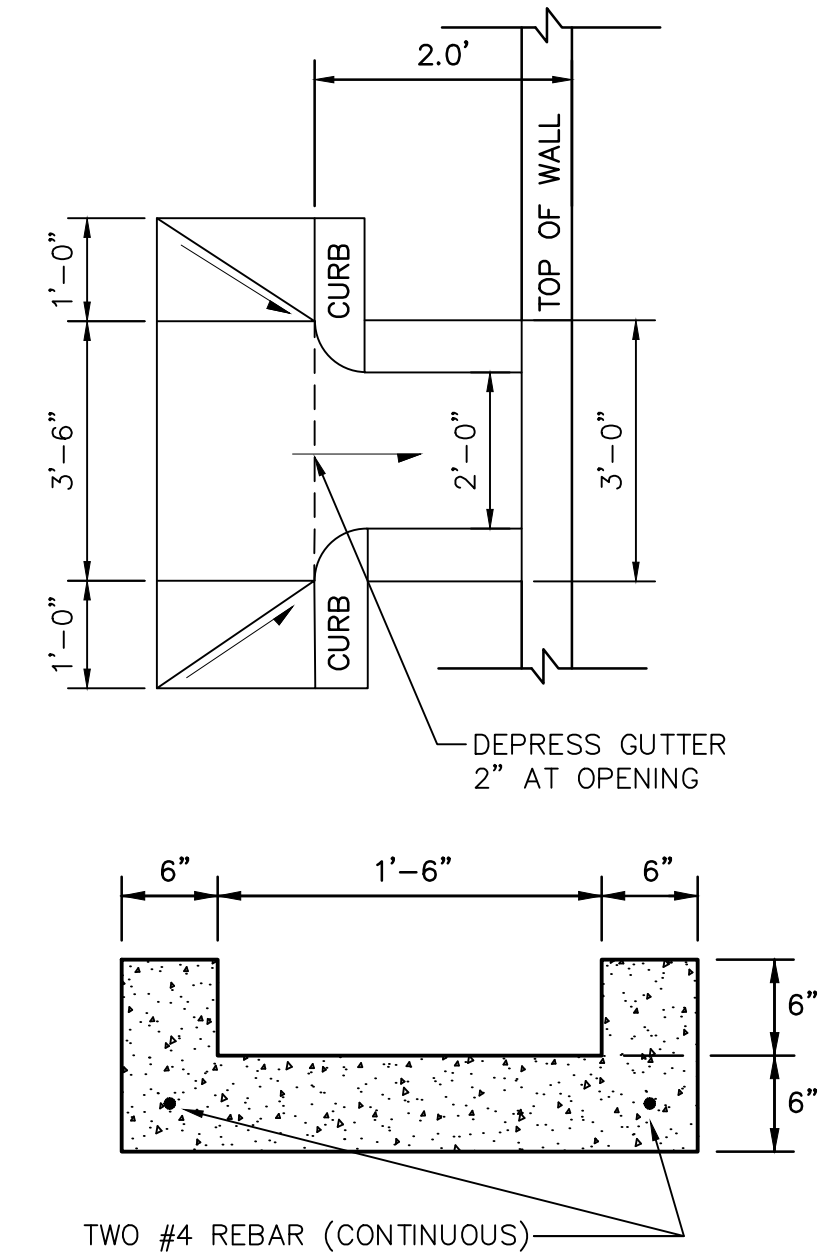
REVISION DATE

17831
4-5-19

RBA
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DESIGN
1601 First Ave. SW
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DATE
12-10-18

SHEET NUMBER
CG-102



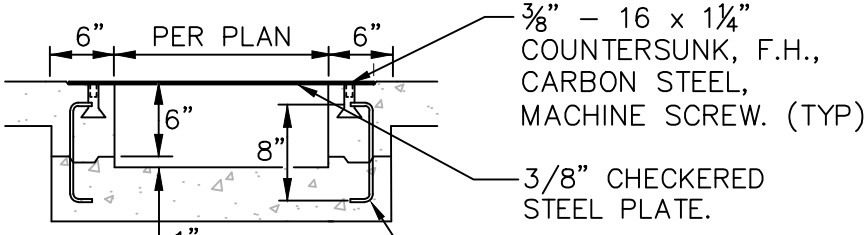
1. EDGES SHALL BE SHAPED WITH A 3/8" EDGING TOOL.
2. SILICON SEALED CONSTRUCTION CONTROL JOINTS AT 6' O.C.
3. 1/2" SILICON SEALED EXPANSION JOINTS 24' O.C. AND AT CURB RETURNS.

CURB OPENING WITH 'U' SHAPED CONC. CHANNEL

SCALE: N.T.S.

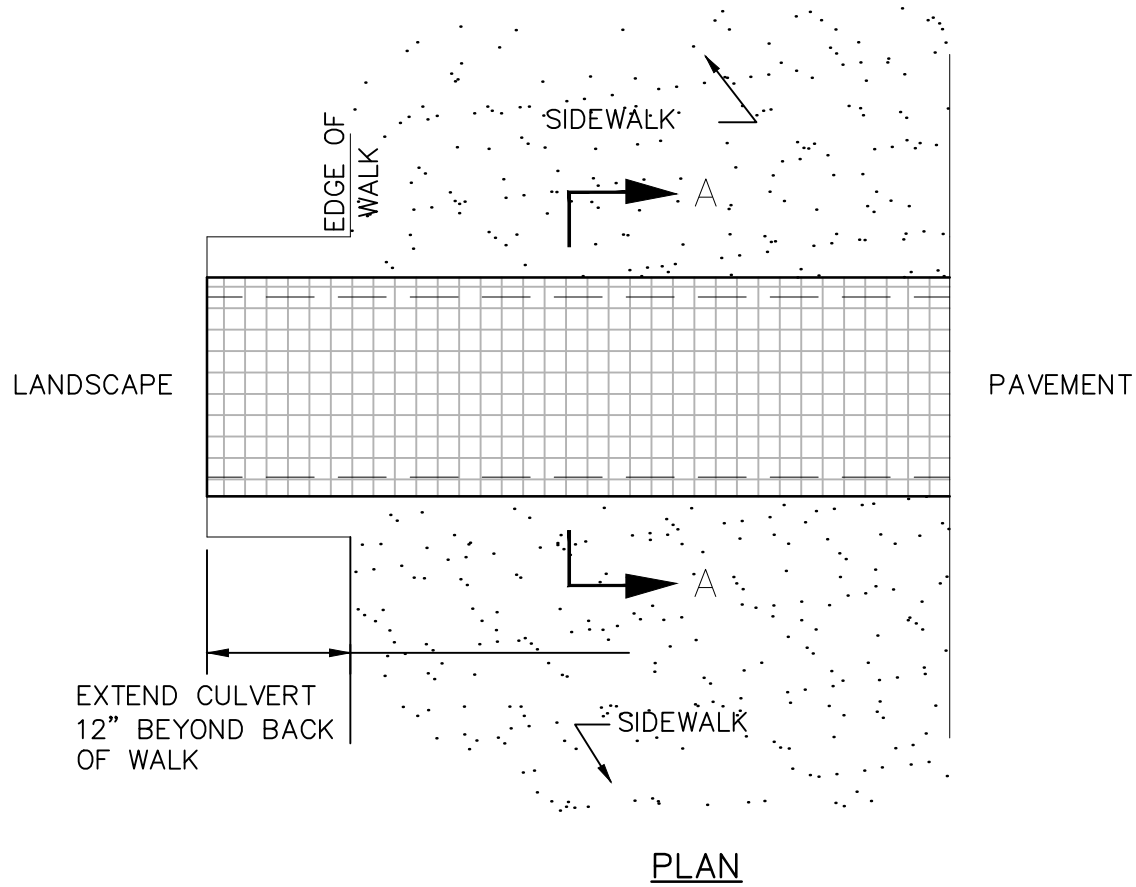
WELD 3/8" THICK, 3/8" MIN. DIAMETER OVER ALL SCREWS. COMPLETELY COVER SCREW HEADS. GRIND EDGES SMOOTH.

FOR SECURING PLATE USE 1"x5" S.S. ROD ANCHOR, "RED HEAD MULTI-SET II SRM-38 ANCHOR" OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S INSTRUCTIONS AT MAX. 24" O.C., A MINIMUM OF 2 PER SIDE AND ONE WITHIN 6" OF EACH END.



USE NO. 3 DEFORMED BAR DOWELS. SPACE DOWELS AT 18" O.C. MAXIMUM. 1-1/2" MINIMUM FROM FACE OF CONCRETE

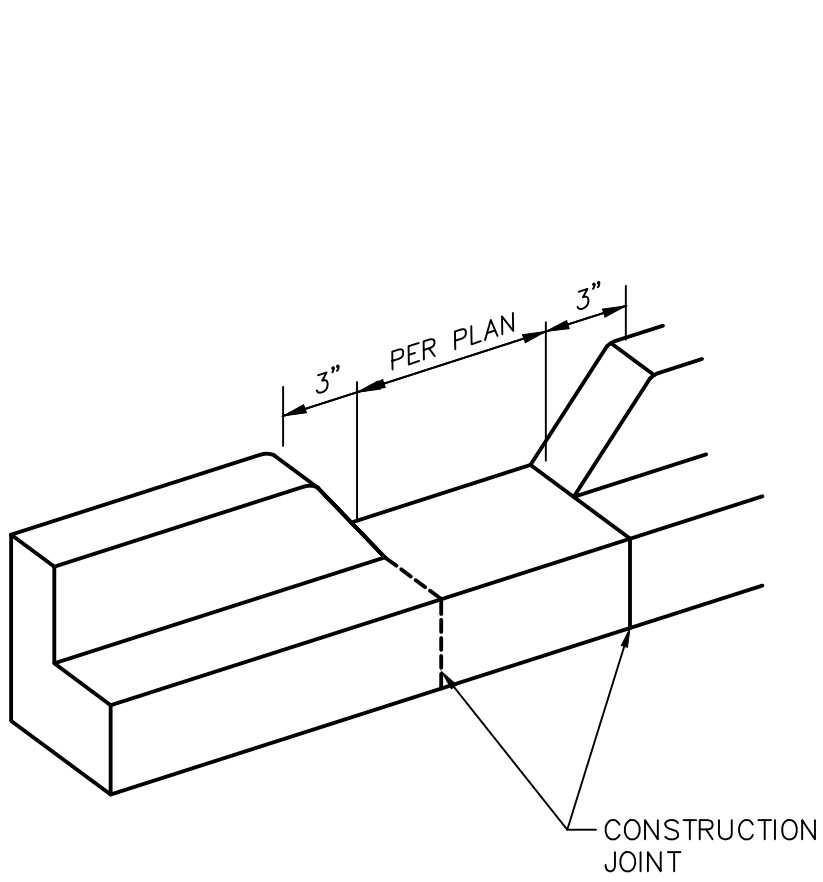
SECTION A-A



SIDEWALK CULVERT

CONSTRUCT PER COA STD. DWG 2236 WITH MODIFICATIONS PER THIS DETAIL

SCALE: N.T.S.



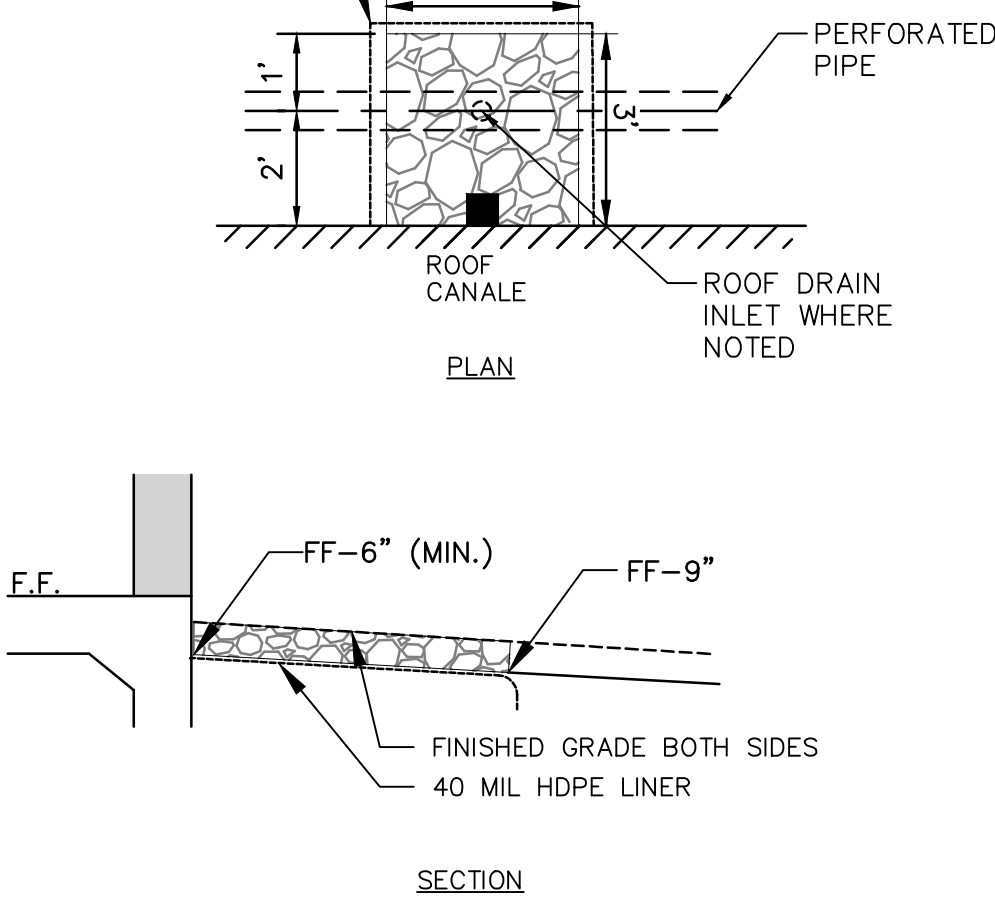
GENERAL NOTES

1. EDGES NOT SPECIFICALLY DIMENSIONED SHALL BE SHAPED WITH A 3/8" EDGING TOOL.

CURB OPENING

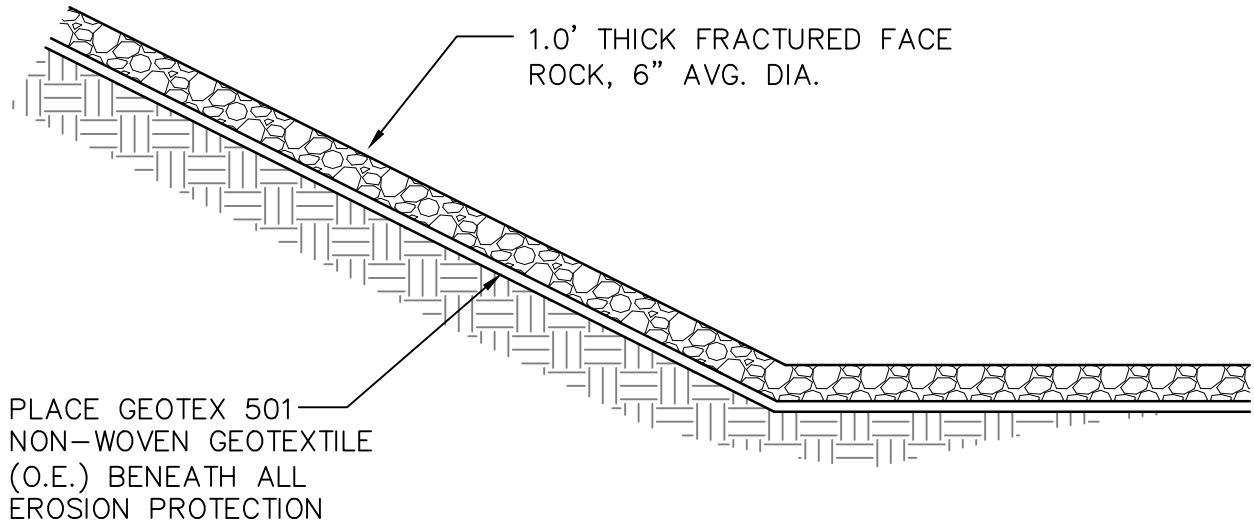
SCALE: N.T.S.

PLACE 3'X3'X8" DEEP ROCK EROSION PROTECTION AT ALL CANALES AS INDICATED
PLACE 40 MIL HDPE LINER BENEATH ALL ROCK



SPLASH PAD AT CANALES

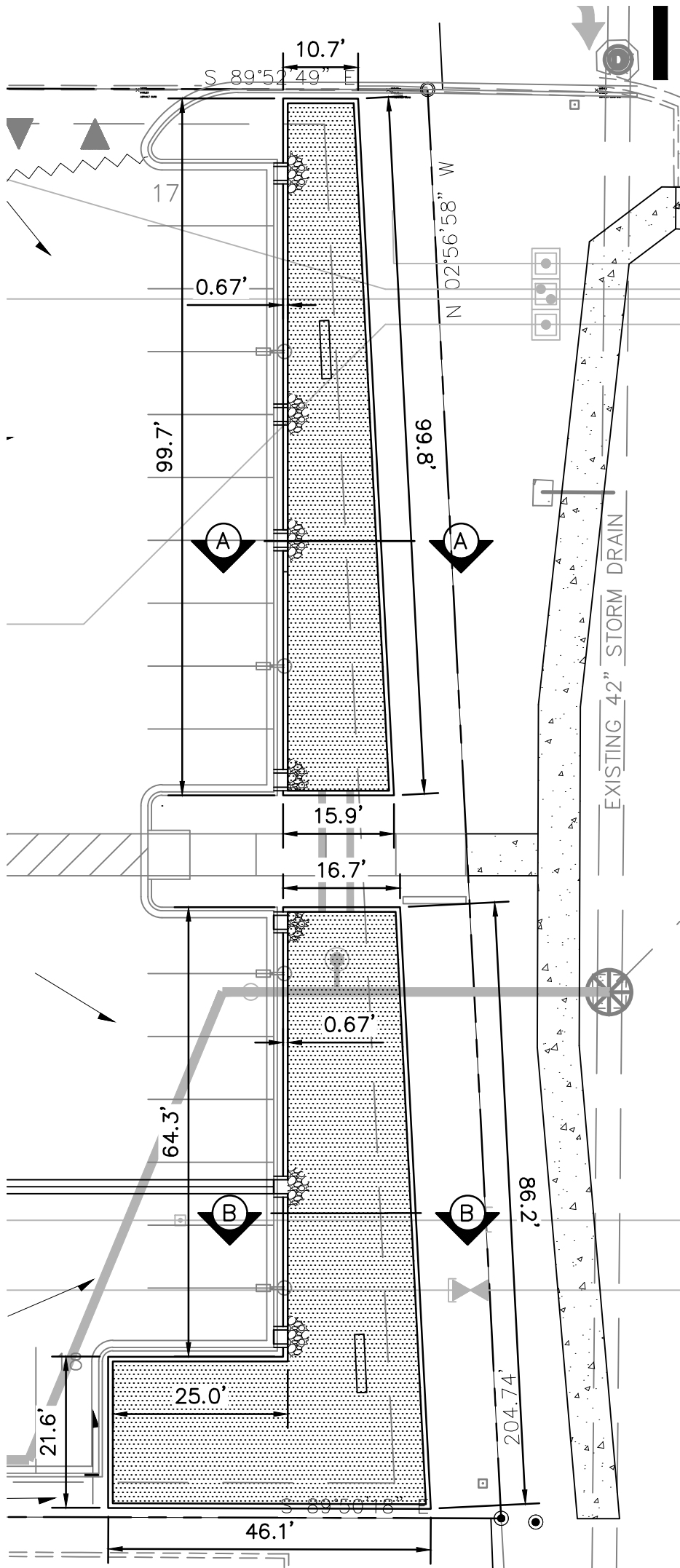
NTS



EROSION PROTECTION - MEDIUM

SLOPES > 3:1, RUNDOWNS, OVERFLOW WEIRS

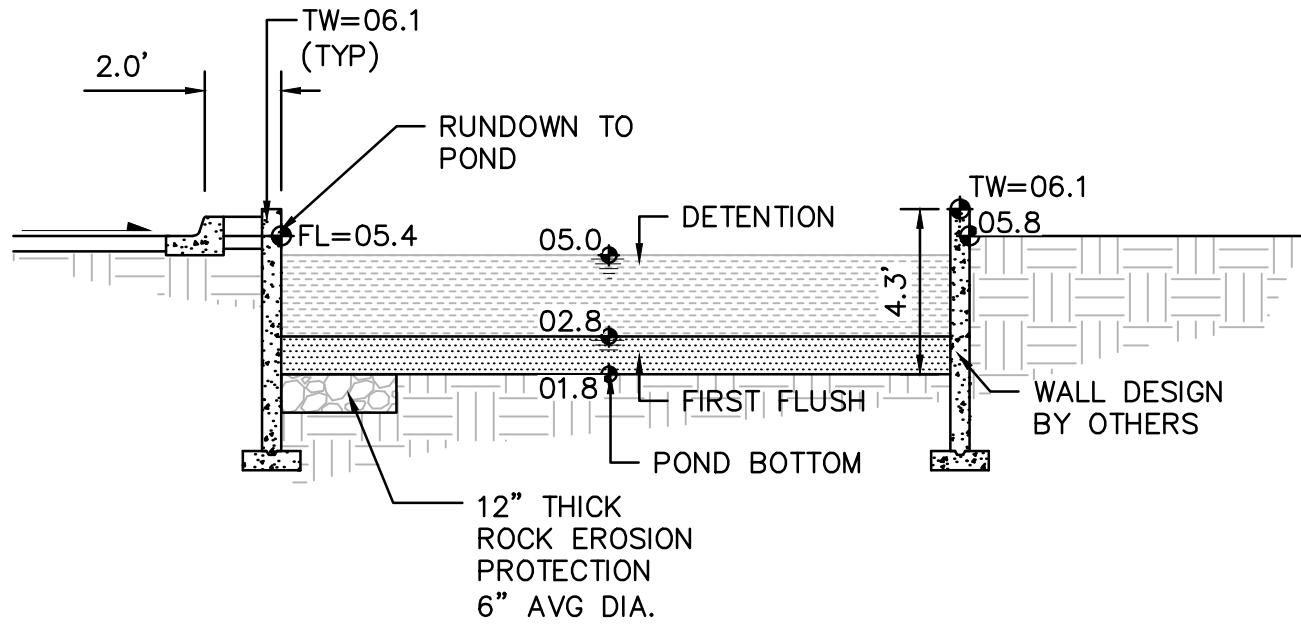
SCALE: N.T.S.



SCALE: 1"=20'

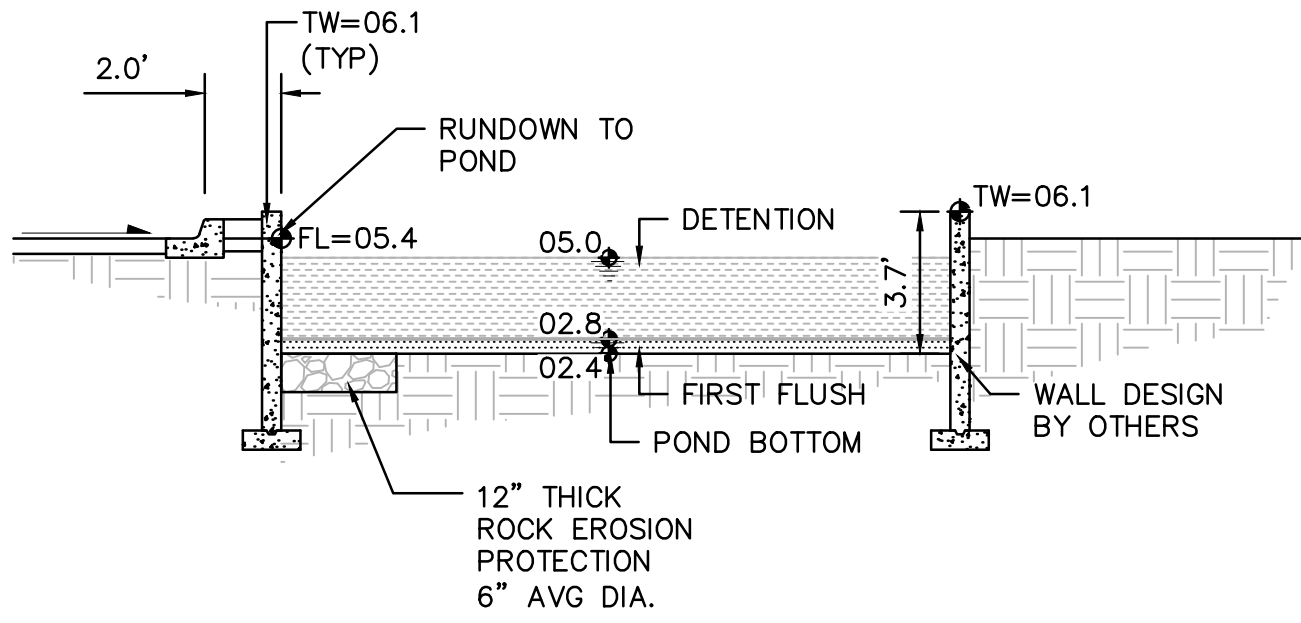
POND ENCLOSURE

SCALE: N.T.S.



SECTION A-A

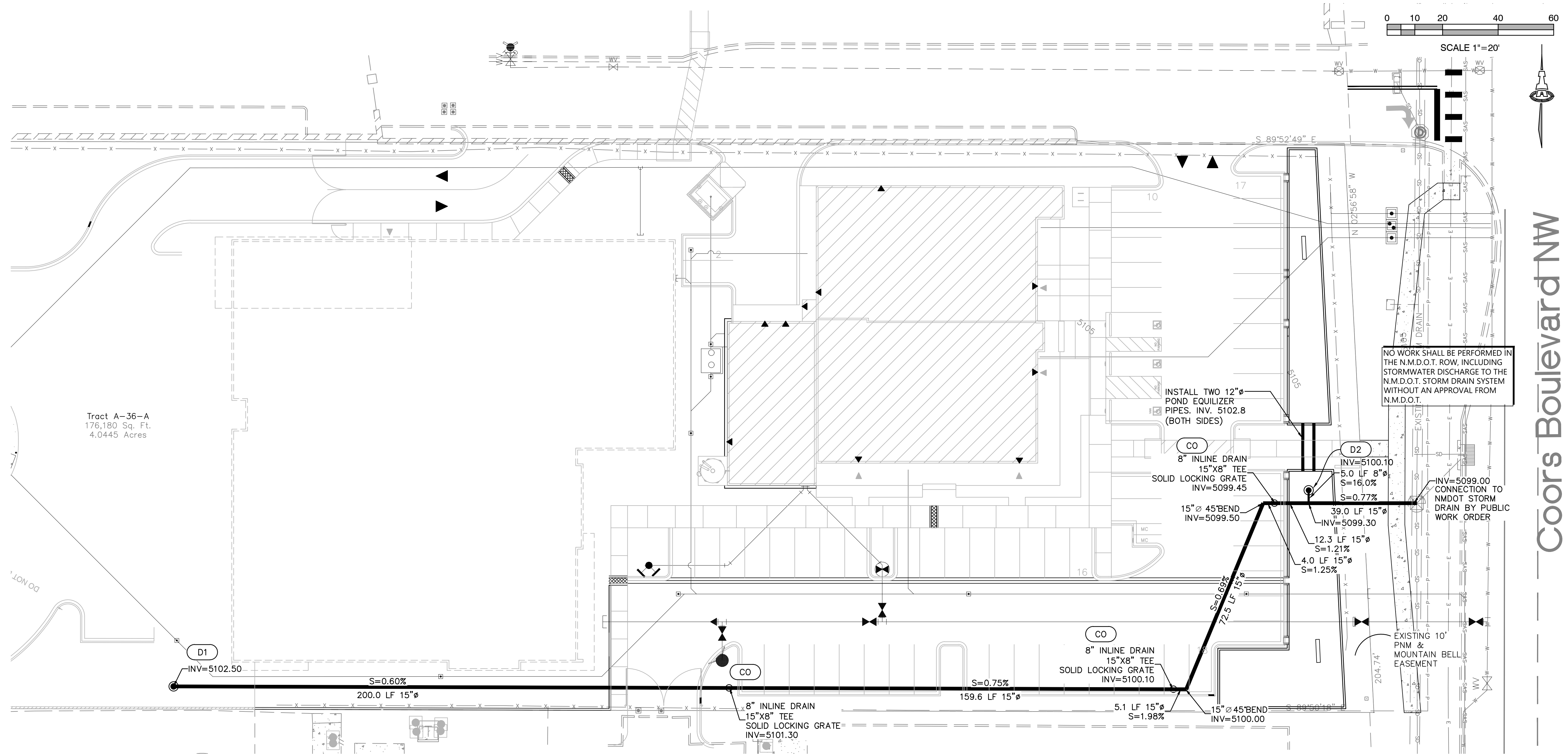
NTS



SECTION B-B

NTS

POND HORIZONTAL AND VERTICAL DIMENSIONS (POND AREA, BOTTOM OF POND, STORM DRAIN RIMS AND INVERTS, TOP OF POND WALL, ETC.) ARE PROVIDED TO ENSURE RETENTION VOLUME AND DETENTION VOLUME ARE PROVIDED PER THE SUPPLEMENTAL DRAINAGE REPORT. PONDS WHICH DO NOT ADHERE TO THE DESIGN PARAMETERS MUST BE CORRECTED AT CONTRACTOR'S EXPENSE.

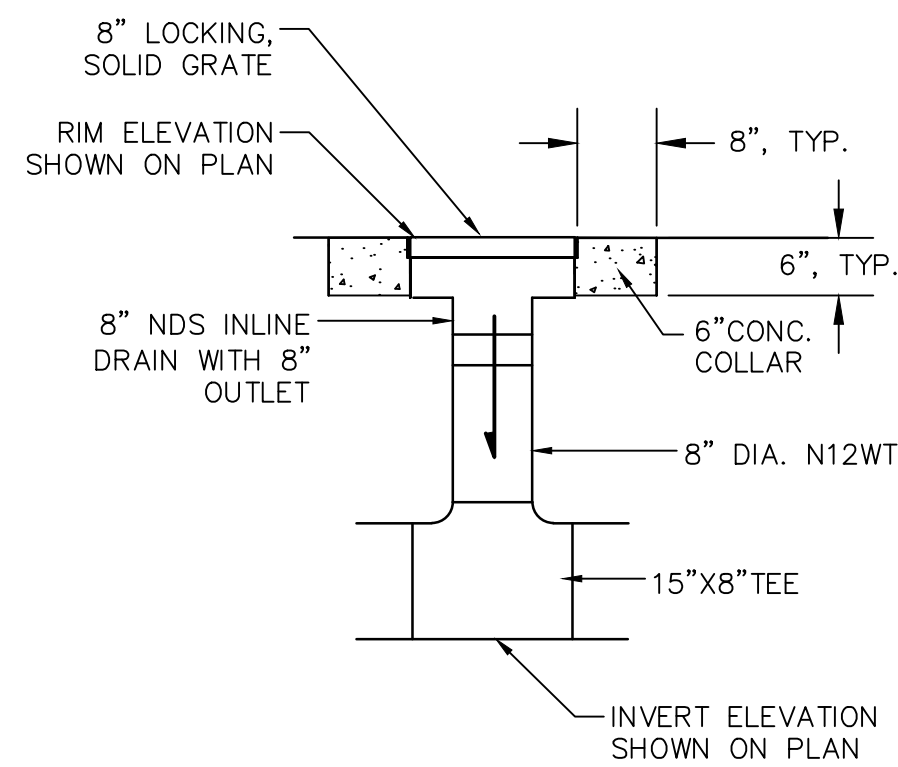


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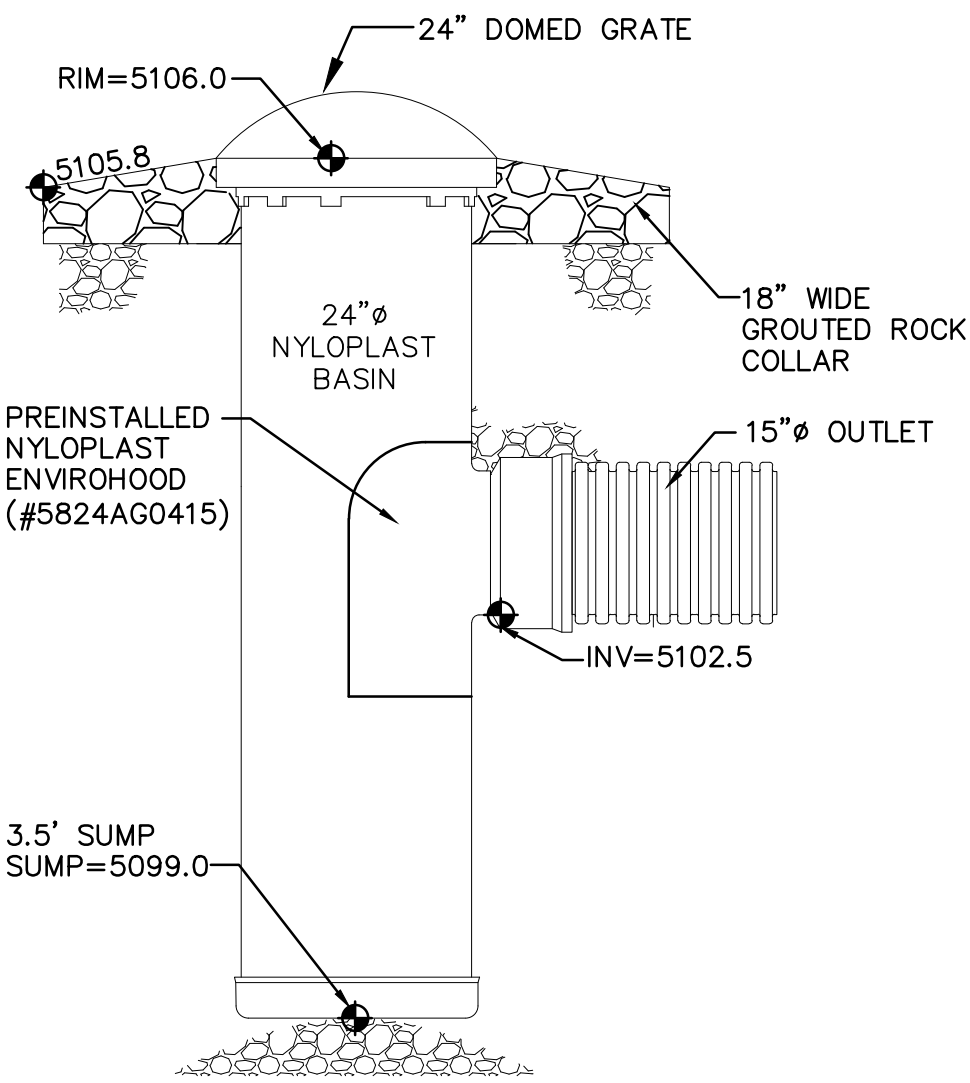
2558 CG-101.dwg
Apr 05/2019

RETAIL SHELL BUILDING - 9,900 S.F.
STORM DRAIN DETAILS
3421 COORS BLVD., ALBUQUERQUE, NM
PROJECT #1853



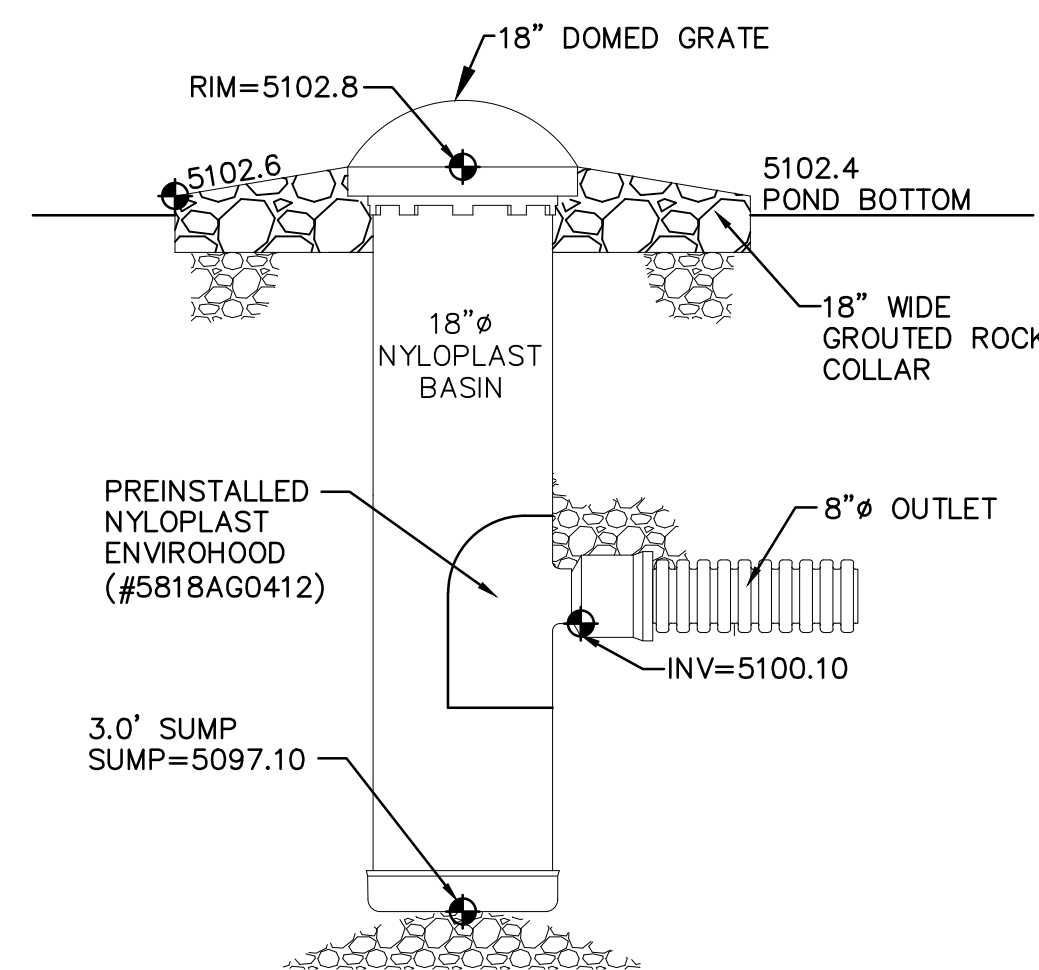
CLEANOUT (CO)

DRAIN BASIN WITH DOME GRATE PER ADS NYLOPLAST INSTALLATION SPECIFICATIONS AND DETAILS



INLET (D1)

DRAIN BASIN WITH ENVIROHOOD AND DOME GRATE PER ADS NYLOPLAST INSTALLATION SPECIFICATIONS AND DETAILS



INLET (D2)

DRAIN BASIN WITH ENVIROHOOD AND DOME GRATE PER ADS NYLOPLAST INSTALLATION SPECIFICATIONS AND DETAILS

LEGEND

- D# NYLOPLAST BASIN WITH LOCKING DOME GRATE AND PREINSTALLED ENVIROHOOD. SEE DETAIL FOR BASIN DIAMETER, RIM, INV. AND SUMP ELEVATIONS..
- CO 8" ADS INLINE DRAIN WITH LOCKING, SOLID GRATE AND 8" OUT, 15"x8" TEE IN STORM DRAIN MAIN LINE, SEE DETAIL FOR RIM AND INVERT ELEVATIONS.

GENERAL NOTES

- A. INSTALL ALL STORM DRAIN INLETS AND PIPE PER MANUFACTURER'S SPECIFICATIONS.
- B. ALL STORM DRAIN LINES AND FITTINGS TO BE ADS N-12WT WATERTIGHT.
- C. STORM DRAIN SYSTEM WILL REQUIRE REGULAR MAINTENANCE TO ENSURE PROPER FUNCTIONING DURING STORM EVENTS. ENGINEER RECOMMENDS THAT PROPERTY OWNER PUT IN PLACE INSPECTION AND MAINTENANCE CRITERIA SCHEDULED TO ON A REGULAR BASIS AND AFTER EACH STORM EVENT.

REVISION DATE

17831

4-5-19

RBA
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PLANNING
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DATE
12-10-18

SHEET NUMBER
CG-502