

CITY OF ALBUQUERQUE

Planning Department
Brennon Williams, Director



Mayor Timothy M. Keller

October 13, 2020

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

**RE: Allaso High Desert
Grading & Drainage Plan and Drainage Report
Engineer's Stamp Date: 10/05/20
Hydrology File: E22D023**

Dear Ms. Donart:

PO Box 1293

Based upon the information provided in your submittal received 10/05/2020, the Grading & Drainage Plan and Drainage Report are approved for Grading Permit, Work Order, and action by the DRB on Site Plan for Building Permit.

Albuquerque

As a reminder, if the project total area of disturbance (including the staging area and any work within the adjacent Right-of-Way) is 1 acre or more, then an Erosion and Sediment Control (ESC) Plan and Owner's certified Notice of Intent (NOI) is required to be submitted to the Stormwater Quality Engineer (Doug Hughes, PE, jhughes@cabq.gov, 924-3420) 14 days prior to any earth disturbance.

NM 87103

www.cabq.gov

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

Sincerely,

Renée C. Brissette

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 11/2018)

Project Title: _____ **Building Permit #:** _____ **Hydrology File #:** _____

DRB#: _____ **EPC#:** _____ **Work Order#:** _____

Legal Description: _____

City Address: _____

Applicant: _____ **Contact:** _____

Address: _____

Phone#: _____ **Fax#:** _____ **E-mail:** _____

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) _____
- _____ 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: _____ **By:** _____

COA STAFF:

ELECTRONIC SUBMITTAL RECEIVED: _____

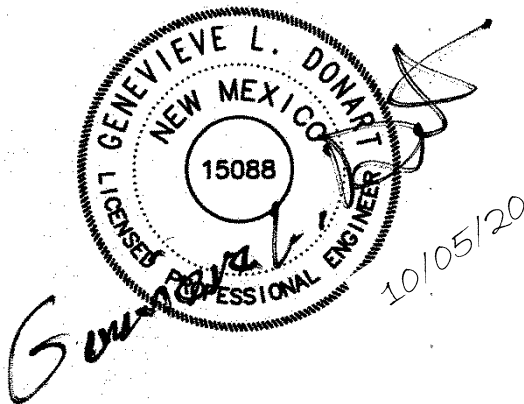
FEE PAID: _____

OCTOBER 5, 2020

DRAINAGE SUPPLEMENTAL INFORMATION

FOR

ALLASO HIGH DESERT



BY

Isaacson & Arfman, Inc.
Civil Engineering Consultants



128 Monroe Street NE
Albuquerque, NM 87108
505-268-8828 | www.iacivil.com

PROJECT:

This 16 acre site is an undeveloped R-MH property located within C.O.A. Vicinity Map E-22. The site is bound to the east by Tramway Blvd, to the west by the Pino Dam, to the north by San Antonio Dr and to the south by an apartment complex. The Pino Arroyo crosses the site from east to west, and portions of this property are within the Pino Dam pool. This site is lower in elevation than San Antonio, Tramway Blvd, and the apartment complex by as much as 20 feet. It slopes down at approximately 4% from east to west.

PROPOSED IMPROVEMENTS:

The proposed improvements include residential apartment buildings with associated asphalt paved access, parking, landscaping, clubhouse, and fitness center.

LEGAL:

Lot 1, the Foothills, Albuquerque, NM

BENCHMARK:

Albuquerque control survey monument "5-d22"
New Mexico state plane coordinates
(Central zone - NAD 83)
north= 1,514,036.991 feet
east= 1,563,586.296 feet
elevation= 5917.306 (navd 88)
delta alpha= -00°08'52.92"
ground to grid factor= 0.999627580

OFF-SITE FLOW:

Flows from the Pino Arroyo enter the site from a box culvert under Tramway Blvd. A storm drain from the west side of Tramway Blvd discharges to the Pino Arroyo east of the site. Another storm drain under Tramway Blvd discharges across the site on the south side, and merges with the Pino Arroyo upstream of the existing concrete rundown into the Pino Dam. There are also minor off-site drainage from perimeter slopes to the east and north that enter this property.



FLOOD HAZARD:

Per FIRM panels 35001C0161G dated 09/26/2008 & 35001C0142H dated 08/16/2012, the site is located within floodzone designations zone AO (depths 1' & 3') and zone AE (EL 6019 feet). Note that the floodplains do not match existing conditions, rather they reflect conditions prior to the construction of Tramway blvd. NMDOT did not apply for a LOMR upon construction of the Tramway Blvd expansion.

An approved CLOMR (FEMA No. 15-06-0805R) dated 03/03/2016 addresses the difference between the floodplains and existing conditions, and how these floodplains may be removed upon completion of public drainage improvements..This CLOMR was reviewed and approved by the City of Albuquerque prior to FEMA acceptance.

HISTORY:

This site is owned by Americus, LLC. Currently Titan Tennyson, LLC is under contract buy the site from Americus in order to develop the proposed multi-family site.

In 2012 Isaacson & Arfman, P.A., as agents for Americus, LLC, began the process to prepare this site for future development. There were no defined uses for the site at the time, just a desire to make it possible to use the property. Items that needed to be addressed included Pino Arroyo, the Pino Dam, the corresponding floodplains, and realignment of the existing PNM transmission lines. In order to address these concerns, the following entities were approached:

- City of Albuquerque for processing the Pino Arroyo public work order plans, bulk land platting, vacation of old , unused right-of-way, and CLOMR submittal. Public work order plans were processed through DRC (CPN 502980), but a work order permit was never pulled. The bulk land plat was filed in 2017, and the CLOMR was approved in 2016 ((FEMA No. 15-06-0805R). The work order plans corresponded to the design in the CLOMR.

The public work order plans are again being processed through DRC by Isaacson & Arfman, Inc as agents for Titan Tennyson, LLC .

This submittal is in support of the Site Development Plan that DRB is reviewing for compliance with EPC comments.

A LOMR will be included on the infrastructure list.



- AMAFCA is responsible for the maintenance of the Pino Arroyo and the Pino Dam, and their concurrence was needed for connecting to the existing concrete channel into the dam, maintenance of the new box culvert, and grading within the dam pool.

Conversations with AMAFCA revealed that there was a proposed revision to the dam that was being reviewed by the Office of the State Engineer (OSE). This revision was intended to improve the dam's spillway. It included a Bohannon Huston, Inc. (BHI) study of the contributing basin into the dam that found reduced flows in the Pino Arroyo from what was documented in the Flood Insurance Study (FIS). AMAFCA requested that the CLOMR submittal include the BHI study so the FIS would match the flow data on file with the OSE. BHI also was contracted by Americus, LLC to provide a memorandum that updated that flows to include the site as fully-developed at 85% impervious, rather than in the undeveloped condition. All design flows used in the CLOMR and the work order plans correlate to the 100-year flows in the CLOMR.

Americus, LLC presented the proposed improvements to the AMAFCA Board several times, but never completed a turnkey agreement .

In July 2020, Titan Tennyson, LLC received approval from the AMAFCA board for a turnkey agreement. This agreement will be finally signed upon transfer of the property title to Titan Tennyson, LLC.

- Office of the State Engineer Dam Bureau has oversight of the dam. Grading changes within the dam pool must be reviewed by them. Earlier in 2020, the OSE agreed to allow changes under AMAFCA's maintenance pervue, after it was proven that the grading would not increase the capacity of the dam above the original stage-storage-elevation curve.
- NMDOT owns the existing box culverts and storm drains within the Tramway Blvd right-of-way to which the proposed improvements connect, and the proposed maintenance access road for the Pino Arroyo lies partially within NMDOT property. AMAFCA and NMDOT have agreed to enter into a maintenance agreement for the improvements with NMDOT property.
- Bernallillo County for sign-off of the CLOMR, since a small portion of the floodplain to be removed lies within County limits.
- PNM for relocation of the existing power transmission lines and reduction of existing easement. While not directly related to drainage, these structures impact the use



and grading of the site. Americus, LLC is currently under contract with PNM and work is scheduled to begin soon.

DRAINAGE PLAN CONCEPT:

A Basin Map and hydrology calculations are at the end of this packet.

Offsite flows from the Pino Arroyo and other drains from Tramway Blvd will be addressed per the approved CLOMR, with a box culvert that will direct 100-year flows under the site. The public drainage infrastructure has already been heard by the AMAFCA board of directors, and a turnkey agreement and final plans are in process.

Portions of the site will be removed from the dam pool by fill with minimum finished floor elevations of 5995.0. The final water surface elevation of dam pool will be within the dam's approved stage-storage curve. The portions of the site that remain in the pool will be contained within a drainage easement dedicated to AMAFCA. AMAFCA has requested a maintenance road along the top of the dam, which is shown in this grading concept. At least 2' of cover over the box culvert will be maintained by the grading plan.

This site will drain to the Pino Arroyo box culvert via a private storm drain system then immediately to the Pino Dam. Retaining walls around the perimeter of the site as needed address elevation differences.

Minor offsite flows from the adjoining slopes will be captured in ponds on the perimeter of the property.

WATER QUALITY VOLUME:

Water quality will be addressed within the retention volume of the Pino Dam per communications with AMAFCA using the City's fee-in-lieu determination.





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**ALLASO HIGH DESERT
BASIN MAP**



Isaacson & Arfman, Inc.
Civil Engineering Consultants

128 Monroe Street NE
Albuquerque, NM 87108
505-268-8828 | www.iacivil.com

CALCULATIONS: ALLASO HIGH DESERT :

Based on City of Albuquerque DMP, Article 6-2 Hydrology dated June 26, 2020

100-YEAR, 6-HOUR CALCULATIONS

AREA OF SITE:		699322.4776	SF	=	16.05	ACRE
		100-year, 6-hour				
HISTORIC FLOWS:		DEVELOPED FLOWS:				EXCESS PRECIP:
		Treatment SF	%		Treatment SF	%
Area A	=	559458	80%	Area A	=	0
Area B	=	0	0%	Area B	=	96415
Area C	=	134969	19%	Area C	=	182785
Area D	=	4895	1%	Area D	=	420122
Total Area	=	699322	100%	Total Area	=	699322
						Precip. Zone 2
						$E_A = 0.62$
						$E_B = 0.80$
						$E_C = 1.03$
						$E_D = 2.33$

On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm)

$$\text{Weighted E} = \frac{E_A A_A + E_B A_B + E_C A_C + E_D A_D}{A_A + A_B + A_C + A_D}$$

Historic E	=	0.71 in.	Developed E	=	1.78 in.
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On-Site Volume of Runoff: $V_{360} = E * A / 12$

Historic V_{360}	=	41441 CF	Developed V_{360}	=	103690 CF
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On-Site Peak Discharge Rate: $Q_p = Q_{pA} A_A + Q_{pB} A_B + Q_{pC} A_C + Q_{pD} A_D / 43,560$

For Precipitation Zone 2

Q_{pA}	=	1.71	Q_{pC}	=	3.05
Q_{pB}	=	2.36	Q_{pD}	=	4.34

Historic Q_p	=	31.9 CFS	Developed Q_p	=	59.9 CFS
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BASIN NO.	1	DESCRIPTION	North Basin
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Area of basin flows = 357516 SF = 8.21 Ac.

The following calculations are based on Treatment %'s as shown in table to the right

LAND TREATMENT

Sub-basin Weighted Excess Precipitation:

Weighted E	=	1.97	in.
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A = 0%

B = 15%

C = 10%

D = 75%

Sub-basin Volume of Runoff:

V ₃₆₀	=	58707	CF
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Sub-basin Peak Discharge Rate:

Stormwater Quality Volume

Q _p	=	32.1	cfs
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9385 CF

BASIN NO.	2	DESCRIPTION	North Basin SE corner
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Area of basin flows = 29469 SF = 0.7 Ac.

The following calculations are based on Treatment %'s as shown in table to the right

LAND TREATMENT

Sub-basin Weighted Excess Precipitation:

Weighted E	=	1.97	in.
------------	---	------	-----

A = 0%

B = 15%

C = 10%

D = 75%

Sub-basin Volume of Runoff:

V ₃₆₀	=	4839	CF
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Sub-basin Peak Discharge Rate:

FIRST FLUSH VOL.

Q _p	=	2.6	cfs
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774 CF

BASIN NO.	3	DESCRIPTION	Open Channel
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Area of basin flows = 6072 SF = 0.1 Ac.

The following calculations are based on Treatment %'s as shown in table to the right

LAND TREATMENT

Sub-basin Weighted Excess Precipitation:

Weighted E	=	2.33	in.
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A = 0%

B = 0%

C = 0%

D = 100%

Sub-basin Volume of Runoff:

V ₃₆₀	=	1179	CF
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Sub-basin Peak Discharge Rate:

FIRST FLUSH VOL.

Q _p	=	0.6	cfs
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213 CF

BASIN NO.	4	DESCRIPTION	SE corner and Parking over arroyo
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Area of basin flows = 85232 SF = 2.0 Ac.

The following calculations are based on Treatment %'s as shown in table to the right

LAND TREATMENT

Sub-basin Weighted Excess Precipitation:

Weighted E	=	1.97	in.
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A = 0%

B = 15%

C = 10%

D = 75%

Sub-basin Volume of Runoff:

V ₃₆₀	=	13996	CF
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Sub-basin Peak Discharge Rate:

FIRST FLUSH VOL.

Q _p	=	7.7	cfs
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2237 CF

BASIN NO.	5	DESCRIPTION	SW corner
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Area of basin flows = 65101 SF = 1.5 Ac.

The following calculations are based on Treatment %'s as shown in table to the right

LAND TREATMENT

Sub-basin Weighted Excess Precipitation:

A = 0%

Weighted E = 1.97 in.

B = 15%

Sub-basin Volume of Runoff:

C = 10%

V₃₆₀ = 10690 CF

D = 75%

Sub-basin Peak Discharge Rate:

FIRST FLUSH VOL.

Q_p = 5.8 cfs

1709 CF

BASIN NO.	6	DESCRIPTION	Pino Dam Pool
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Area of basin flows = 150004 SF = 3.4 Ac.

The following calculations are based on Treatment %'s as shown in table to the right

LAND TREATMENT

Sub-basin Weighted Excess Precipitation:

A = 0%

Weighted E = 1.07 in.

B = 10%

Sub-basin Volume of Runoff:

C = 85%

V₃₆₀ = 13400 CF

D = 5%

Sub-basin Peak Discharge Rate:

FIRST FLUSH VOL.

Q_p = 10.5 cfs

263 CF

BASIN NO.	A	DESCRIPTION	Offsite slope north and northeast of site
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Area of basin flows = 36594 SF = 0.8 Ac.

The following calculations are based on Treatment %'s as shown in table to the right

LAND TREATMENT

Sub-basin Weighted Excess Precipitation:

A = 0%

Weighted E = 0.98 in.

B = 20%

Sub-basin Volume of Runoff:

C = 80%

V₃₆₀ = 3001 CF

D = 0%

Sub-basin Peak Discharge Rate:

FIRST FLUSH VOL.

Q_p = 2.4 cfs

0 CF

BASIN NO.	B	DESCRIPTION	Offsite Tramway adjacent to site north half
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Area of basin flows = 34764 SF = 0.8 Ac.

The following calculations are based on Treatment %'s as shown in table to the right

LAND TREATMENT

Sub-basin Weighted Excess Precipitation:

A = 0%

Weighted E = 1.06 in.

B = 15%

Sub-basin Volume of Runoff:

C = 80%

V₃₆₀ = 3072 CF

D = 5%

Sub-basin Peak Discharge Rate:

FIRST FLUSH VOL.

Q_p = 2.4 cfs

61 CF

BASIN NO.	C	DESCRIPTION	Offsite Tramway adjacent to site south half
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Area of basin flows = 43250 SF = 1.0 Ac.

The following calculations are based on Treatment %'s as shown in table to the right

Sub-basin Weighted Excess Precipitation:			
Weighted E	=	0.95	in.
Sub-basin Volume of Runoff:			
V ₃₆₀	=	3433	CF
Sub-basin Peak Discharge Rate:			
Q _p	=	2.7	cfs

LAND TREATMENT

A = 0%
 B = 45%
 C = 53%
 D = 2%

FIRST FLUSH VOL.

30 CF

BASIN SUMMARY

Basin No.	Description	Discharge (Q)		First Flush Vol.		Comments
1	North Basin	32.1		9385		
2	North Basin SE corner	2.6		774		
3	Open Channel	0.6		213		
4	SE corner and Parking over arroyo	7.7		2237		
5	SW corner	5.8		1709		
6	Pino Dam Pool	10.5				Public Dam Pool
A	Offsite slope north and northeast of site	2.4				water from offsite public ROW
B	Offsite Tramway adjacent to site north half	2.4				water from offsite public ROW
C	Offsite Tramway adjacent to site south half	2.7				water from offsite public ROW
TOTAL ONSITE DISCHARGE		59.4	CFS	14317	CF	
TOTAL DISCHARGE		67.0	CFS	14317	CF	



Federal Emergency Management Agency

Washington, D.C. 20472

March 3, 2016

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

IN REPLY REFER TO:

Case No.: 15-06-0805R

The Honorable Richard J. Berry
Mayor, City of Albuquerque
P. O. Box 1293
Albuquerque, NM 87103

Community Name: City of Albuquerque, NM
Community No.: 350002

Dear Mayor Berry:

We are providing our comments with the enclosed Conditional Letter of Map Revision (CLOMR) on a proposed project within your community that, if constructed as proposed, could revise the effective Flood Insurance Rate Map for your community.

If you have any general questions regarding the floodplain management regulations for your community, the National Flood Insurance Program (NFIP), or technical questions regarding this CLOMR, please contact the Director, Mitigation Division of the Federal Emergency Management Agency (FEMA) Regional Office in Denton, Texas, at (940) 898-5127, or the FEMA Map Information eXchange (FMIX) toll free at 1-877-336-2627 (1-877-FEMA MAP). Additional information about the NFIP is available on our Web site at <http://www.fema.gov/nfip>.

Sincerely,

Luis Rodriguez, P.E., Chief
Engineering Management Branch
Federal Insurance and Mitigation Administration

List of Enclosures:

Conditional Letter of Map Revision Comment Document

cc: The Honorable Maggie Hart Stebbins
Chair, Bernalillo County Board of Commissioners

Mr. John Mechenbier
Americus, LLC

Mr. Curtis Cherne, P.E.
Floodplain Manager
City of Albuquerque

Mr. Don R. Briggs, P.E., CFM
Floodplain Administrator
Bernalillo County

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



Federal Emergency Management Agency

Washington, D.C. 20472

CONDITIONAL LETTER OF MAP REVISION COMMENT DOCUMENT

COMMUNITY INFORMATION		PROPOSED PROJECT DESCRIPTION	BASIS OF CONDITIONAL REQUEST
COMMUNITY	City of Albuquerque Bernalillo County New Mexico	CULVERT CHANNELIZATION	HYDRAULIC ANALYSIS HYDROLOGIC ANALYSIS UPDATED TOPOGRAPHIC DATA
	COMMUNITY NO.: 350002		
IDENTIFIER	The Foothills	APPROXIMATE LATITUDE AND LONGITUDE: 35.158, -106.498 SOURCE: USGS QUADRANGLE DATUM: NAD 83	
AFFECTED MAP PANELS			
TYPE: FIRM* NO.: 35001C0161G DATE: September 26, 2008		* FIRM - Flood Insurance Rate Map	
TYPE: FIRM* NO.: 35001C0142H DATE: August 16, 2012			

FLOODING SOURCES AND REACH DESCRIPTION

See Page 2 for Additional Flooding Sources

Pino Arroyo – from just downstream of Tramway Boulevard to approximately 1,070 feet downstream of Tramway Boulevard

PROPOSED PROJECT DESCRIPTION

Flooding Source	Proposed Project	Location of Proposed Project
Pino Arroyo	New Culvert	from approximately 1,020 feet downstream of Tramway Boulevard to approximately 520 feet downstream of Tramway Boulevard
	Channelization	from approximately 520 feet downstream of Tramway Boulevard to approximately 290 feet downstream of Tramway Boulevard
	New Culvert	at Tramway Boulevard

SUMMARY OF IMPACTS TO FLOOD HAZARD DATA

Flooding Source	Effective Flooding	Proposed Flooding	Increases	Decreases
Pino Arroyo	Zone AO	Zone AE	Yes	None
	Zone AO	Zone X (unshaded)	Yes	None
	No BFEs*	BFEs	Yes	None

* BFEs - Base (1-percent-annual-chance) Flood Elevations

COMMENT

This document provides the Federal Emergency Management Agency's (FEMA's) comment regarding a request for a CLOMR for the project described above. This document is not a final determination; it only provides our comment on the proposed project in relation to the flood hazard information shown on the effective National Flood Insurance Program (NFIP) map. We reviewed the submitted data and the data used to prepare the effective flood hazard information for your community and determined that the proposed project meets the minimum floodplain management criteria of the NFIP. Your community is responsible for approving all floodplain development and for ensuring that all permits required by Federal or State/Commonwealth law have been received. State/Commonwealth, county, and community officials, based on their knowledge of local conditions and in the interest of safety, may set higher standards for construction in the Special Flood Hazard Area (SFHA), the area subject to inundation by the base flood. If the State/Commonwealth, county, or community has adopted more restrictive or comprehensive floodplain management criteria, these criteria take precedence over the minimum NFIP criteria.

This comment is based on the flood data presently available. If you have any questions about this document, please contact the FEMA Map Information eXchange (FMIX) toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 847 South Pickett Street, Alexandria, VA 22304. Additional information about the NFIP is available on the FEMA Web site at <http://www.fema.gov/nfip>.

Luis Rodriguez, P.E., Chief
Engineering Management Branch
Federal Insurance and Mitigation Administration



Federal Emergency Management Agency

Washington, D.C. 20472

CONDITIONAL LETTER OF MAP REVISION COMMENT DOCUMENT (CONTINUED)

COMMUNITY INFORMATION

To determine the changes in flood hazards that will be caused by the proposed project, we compared the hydraulic modeling reflecting the proposed project (referred to as the proposed conditions model) to the hydraulic modeling used to prepare the Flood Insurance Study (FIS) (referred to as the effective model). If the effective model does not provide enough detail to evaluate the effects of the proposed project, an existing conditions model must be developed to provide this detail. This existing conditions model is then compared to the effective model and the proposed conditions model to differentiate the increases or decreases in flood hazards caused by more detailed modeling from the increases or decreases in flood hazards that will be caused by the proposed project.

The table below shows the changes in the BFEs:

BFE Comparison Table

Flooding Source: Pino Arroyo		BFE Change (feet)	Location of maximum change
Proposed vs.	Maximum increase	0.5	just downstream of Tramway Boulevard
Existing	Maximum decrease	7.7	approximately 630 feet downstream of Tramway Boulevard

NFIP regulations Subparagraph 60.3(b)(7) requires communities to ensure that the flood-carrying capacity within the altered or relocated portion of any watercourse is maintained. This provision is incorporated into your community's existing floodplain management ordinances; therefore, responsibility for maintenance of the altered or relocated watercourse, including any related appurtenances such as bridges, culverts, and other drainage structures, rests with your community. We may request that your community submit a description and schedule of maintenance activities necessary to ensure this requirement.

This comment is based on the flood data presently available. If you have any questions about this document, please contact the FEMA Map Information eXchange (FMIX) toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 847 South Pickett Street, Alexandria, VA 22304. Additional Information about the NFIP is available on the FEMA Web site at <http://www.fema.gov/nfip>.

Luis Rodriguez, P.E., Chief
Engineering Management Branch
Federal Insurance and Mitigation Administration



Federal Emergency Management Agency
Washington, D.C. 20472

**CONDITIONAL LETTER OF MAP REVISION
COMMENT DOCUMENT (CONTINUED)**

COMMUNITY INFORMATION (CONTINUED)

DATA REQUIRED FOR FOLLOW-UP LOMR (continued)

• FEMA's fee schedule for reviewing and processing requests for conditional and final modifications to published flood information and maps may be accessed at <https://www.fema.gov/forms-documents-and-software/flood-map-related-fees>. The fee at the time of the map revision submittal must be received before we can begin processing the request. Payment of this fee can be made through a check or money order, made payable in U.S. funds to the National Flood Insurance Program, or by credit card (Visa or MasterCard only). Please either forward the payment, along with the revision application, to the following address:

LOMC Clearinghouse
Attention: LOMR Manager
847 South Pickett Street
Alexandria, Virginia 22304-4605

or submit the LOMR using the LOMC portal at <https://hazards.fema.gov/femportal/onlineLOMC/signin>.

After receiving appropriate documentation to show that the project has been completed, FEMA will initiate a revision to the FIRM and FIS report. Because the flood hazard information (i.e., base flood elevations, base flood depths, SFHAs, zone designations) will change as a result of the project, a 90-day appeal period will be initiated for the revision, during which community officials and interested persons may appeal the revised flood hazard information based on scientific or technical data.

This comment is based on the flood data presently available. If you have any questions about this document, please contact the FEMA Map Information eXchange (FMIX) toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 847 South Pickett Street, Alexandria, VA 22304. Additional information about the NFIP is available on the FEMA Web site at <http://www.fema.gov/nfip>.

A handwritten signature in black ink, appearing to read "Luis Rodriguez", is located above the typed name.

Luis Rodriguez, P.E., Chief
Engineering Management Branch
Federal Insurance and Mitigation Administration



Federal Emergency Management Agency
Washington, D.C. 20472

**CONDITIONAL LETTER OF MAP REVISION
COMMENT DOCUMENT (CONTINUED)**

COMMUNITY INFORMATION (CONTINUED)

COMMUNITY REMINDERS

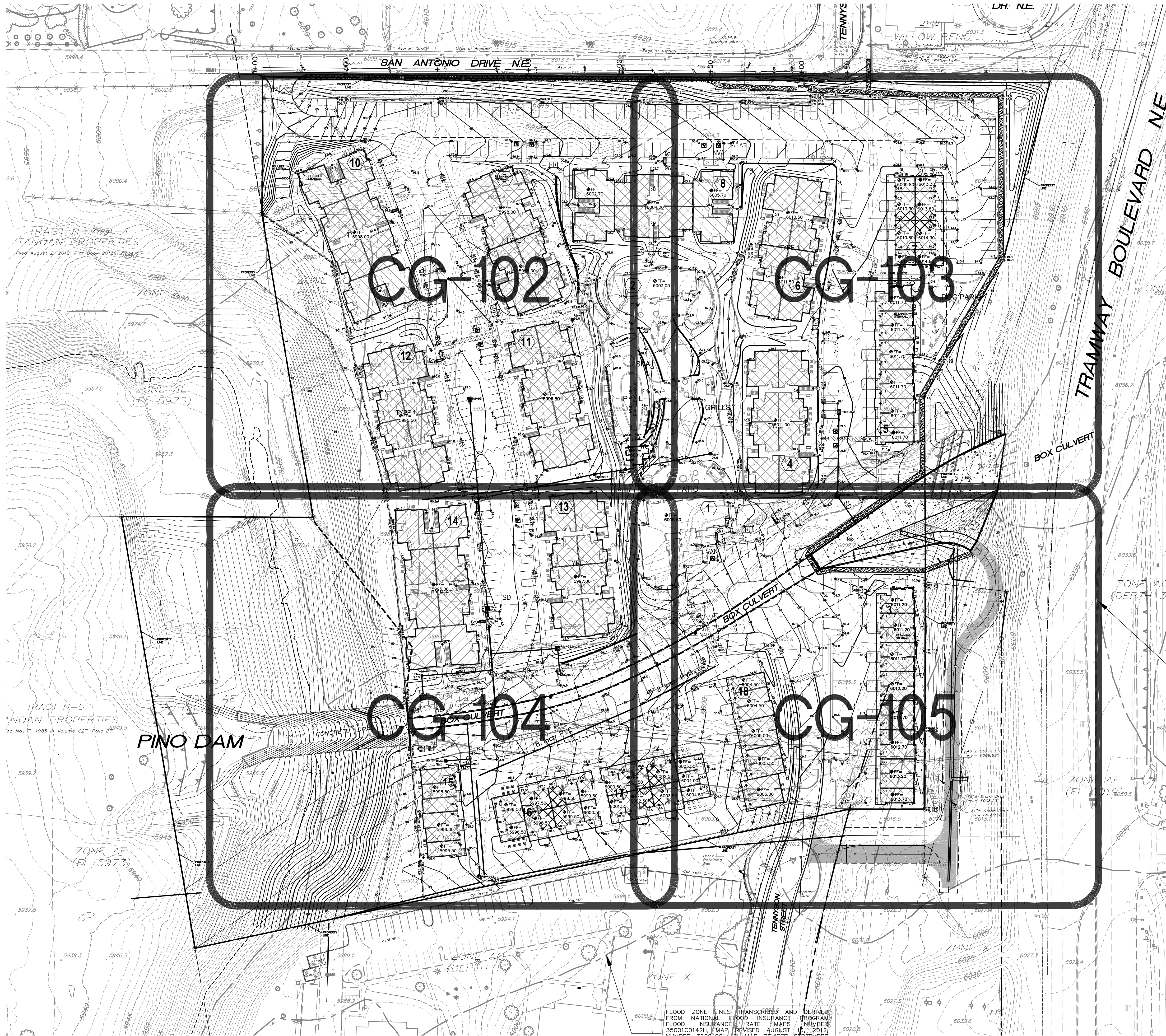
We have designated a Consultation Coordination Officer (CCO) to assist your community. The CCO will be the primary liaison between your community and FEMA. For information regarding your CCO, please contact:

Ms. Sandy Keefe
Director, Mitigation Division
Federal Emergency Management Agency, Region VI
Federal Regional Center, Room 206
800 North Loop 288
Denton, TX 76209
(940) 898-5127

This comment is based on the flood data presently available. If you have any questions about this document, please contact the FEMA Map Information eXchange (FMIX) toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 847 South Pickett Street, Alexandria, VA 22304. Additional information about the NFIP is available on the FEMA Web site at <http://www.fema.gov/nfip>.

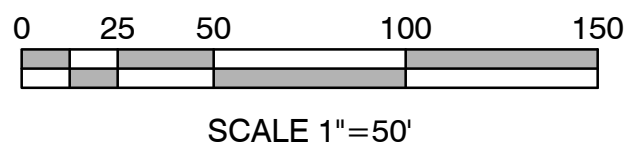
Luis Rodriguez, P.E., Chief
Engineering Management Branch
Federal Insurance and Mitigation Administration

FILE: \\A:\PROJECTS\2300-2399\2336\DWG\BUILDING PERMIT\2336 CG-101.dwg USER: Genny DATE: Oct, 13 2020 TIME: 03:40 pm



NOTES

- THIS SHEET IS A KEY FOR THE GRADING SHEETS FOLLOWING.
- CALCULATIONS ARE PROVIDED SEPARATELY WITHIN THE SUPPLEMENTAL INFORMATION PACKET.
- NOT ALL KEYED NOTES WILL BE USED ON EVERY SHEET.
- ALL ELEVATIONS SHOWN ARE TOP OF THE DESIGNED MATERIAL SUCH AS ASPHALT PAVING, SIDEWALK, FINISHED FLOOR, LANDSCAPING, ETC. THE CONTRACTOR SHALL GRADE TO TOP OF SUBGRADE ELEVATION AS NEEDED.
- ALL PRIVATE CURBS ARE 6" HIGH. WHERE ONLY FLOWLINE ELEVATIONS ARE SHOWN, TOP OF CURB ELEVATIONS ARE 0.5' HIGHER.
- STORM WATER QUALITY VOLUME WILL BE ADDRESSED BY FEE-IN-LIEU WITHIN THE PINO DAM POOL.
- PINO ARROYO CONCRETE BOX CULVERT, OPEN CHANNEL, PUBLIC STORM DRAIN, AND MAINTENANCE ACCESS ROAD TO BE CONSTRUCTED PER PUBLIC WORK ORDER PLANS (CPN 502980) BY SEPARATE CONTRACT. ALL GRADES ARE AT LEAST 1.0' ABOVE THE TOP OF BOX CULVERT. IF DISCREPACIES ARE FOUND, CONTACT THE ENGINEER IMMEDIATELY.
- WORK WITHIN TENNEYSON ST AND SAN ANTONIO DR PUBLIC RIGHT-OF-WAY TO BE CONSTRUCTED PER PUBLIC WORK ORDER PLANS BY SEPARATE CONTRACT.
- WORK WITHIN NMDOT RIGHT-OF-WAY TO BE PERMITTED BY NMDOT. CONTRACTOR TO CONTACT NMDOT PRIOR TO GRADING OPERATIONS.
- WORK WITHIN PINO DAM POOL TO BE INSPECTED BY AMAFCA. CONTACT AMAFCA PRIOR TO GRADING OPERATIONS.



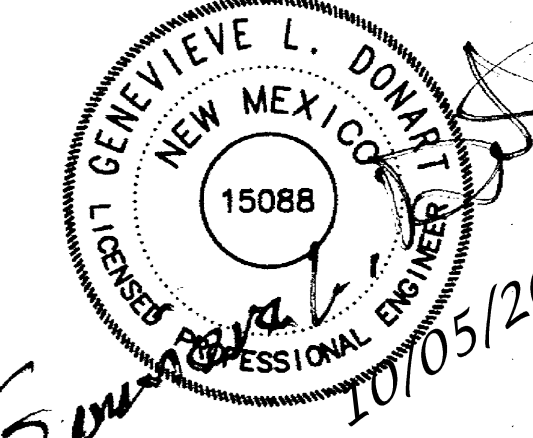
- | | |
|--------------|--------------------------------|
| --- | EXISTING CONTOUR |
| --- | EXISTING SPOT ELEVATION |
| --- | PROPOSED 1.0' CONTOUR |
| --- | PROPOSED 0.5' CONTOUR |
| --- | PROPOSED SPOT ELEVATION |
| --- | FLOW DIRECTION |
| FF = 4966.00 | FINISH FLOOR ELEVATION |
| --- | EXISTING STORM DRAIN / MANHOLE |
| --- | PROPOSED STORM DRAIN / INLET |

ALLASO HIGH DESERT

SWC TENNEYSON STREET AND SAN ANTONIO DR.
Albuquerque, New Mexico



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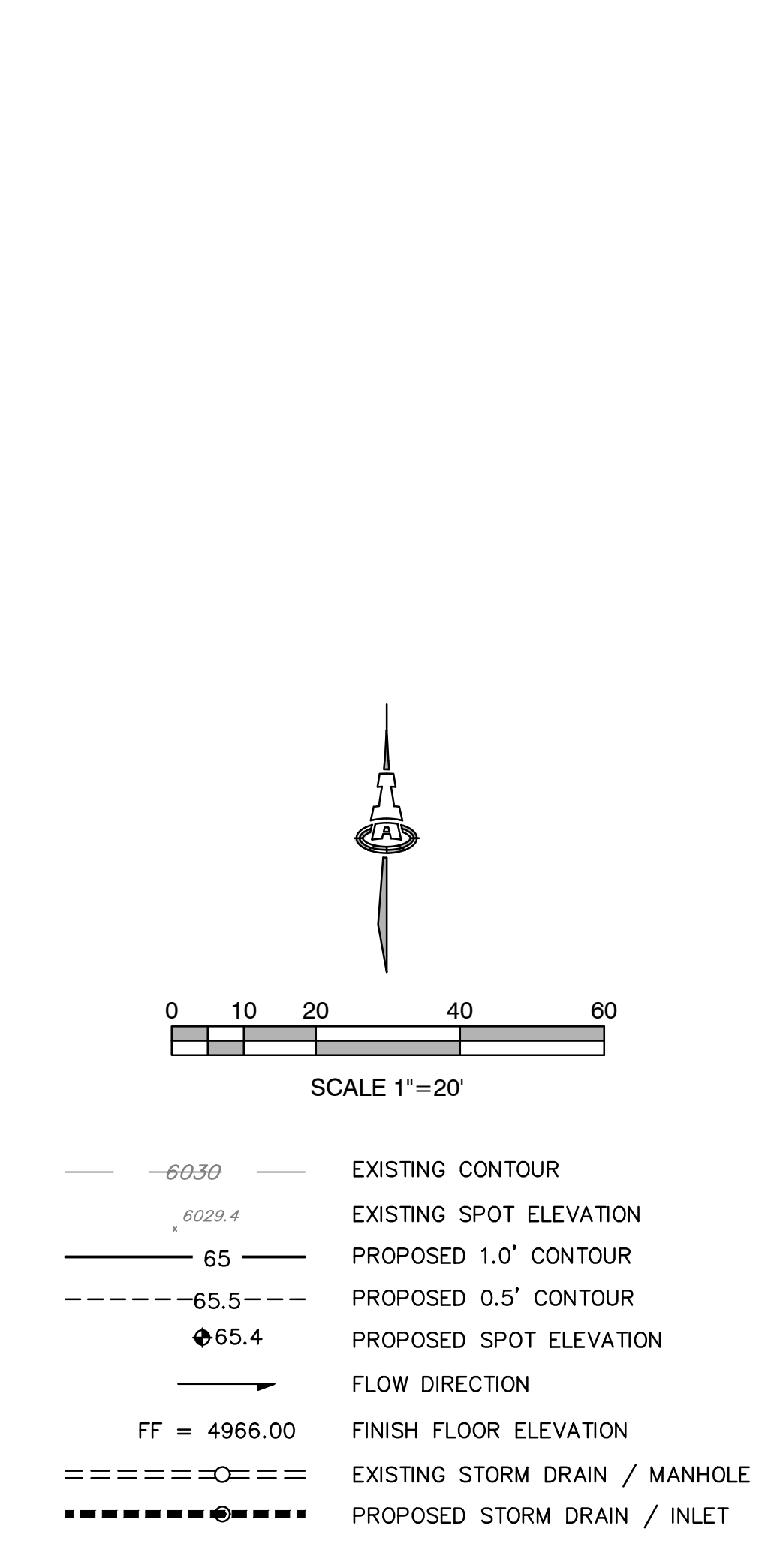
DATE: JULY 28, 2020 ORB # 19-209

OVERALL GRADING & DRAINAGE PLAN

CG-101



- ### KEYED NOTES
- PAVING TO BE INSTALLED AT GRADES SHOWN. SEE PAVING PLAN FOR PAVING SECTIONS.
 - CONCRETE SIDEWALK AND FLATWORK INSTALLED AT ELEVATIONS SHOWN. 5.0% MAXIMUM LONGITUDINAL SLOPE, 2.0% MAXIMUM CROSS-SLOPE. SEE ARCHITECTURAL SITE PLAN FOR DETAILS.
 - INSTALL RETAINING WALL WITH GROUND ELEVATIONS SHOWN IN THIS PLAN AT TOP AND BOTTOM OF RETAINING. SEE ARCHITECTURAL SITE PLAN/LANDSCAPING PLAN FOR MATERIALS, AND STRUCTURAL PLANS FOR STRUCTURAL DESIGN OF WALL.
 - STEPPED FINISHED FLOOR ELEVATION. SEE STRUCTURAL PLANS FOR FOUNDATION DESIGN.
 - RETAINING STEM WALL WITH FINISHED FLOOR AND GROUND ELEVATIONS SHOWN. SEE STRUCTURAL PLANS FOR STEM WALL DESIGN.
 - ADA PARKING. 1.5% PREFERRED, 2.0% MAXIMUM SLOPE IN ANY DIRECTION. SEE PAVING PLANS FOR DETAILS.
 - CURB RAMP PER DETAILS ON PAVING PLANS.
 - ADA RAMP AT 7.5% PREFERRED, 8.0% MAXIMUM SLOPE. SEE ARCHITECTURAL SITE PLAN FOR DETAILS.
 - STEPS. SEE ARCHITECTURAL SITE PLAN FOR DETAILS.
 - STORM INLET INSTALLED AT RIM ELEVATION SHOWN. STORM DRAIN DESIGN AND DETAILS ON SHEET CG-502.
 - TRENCH DRAINS INSTALLED AT RIM ELEVATIONS SHOWN. STORM DRAIN DESIGN AND DETAILS ON SHEET CG-502.
 - FRENCH DRAIN INSTALLED PER DETAIL ON SHEET CG-501.
 - 20 LF 6" PVC OR ADS N-12 PIPE @ 1.0% MINIMUM SLOPE.
 - CMU WALL OPENING PER DETAIL ON SHEET CG-501 TO ALLOW WATER TO PASS THROUGH.
 - COLLECTION POND FOR OFFSITE BASIN.
 - 2' WIDE CURB OPENING PER DETAIL ON SHEET CG-501.
 - 2' SIDEWALK CULVERT PER DETAIL ON SHEET CG-501.
 - AMAFCA MAINTENANCE ACCESS. SEE PAVING PLAN FOR DETAILS.
 - 4" HIGH ROLLED CURB.
 - 5' WIDE DIRT TRAIL. THIS PATH IS NOT ADA.
 - GARBAGE COMPACTORS. SEE ARCHITECTURAL SITE PLAN FOR DETAILS.
 - ROCK ARMOUR 2:1 SLOPE



ALLASO HIGH DESERT

SWC TENNYSON STREET AND SAN ANTONIO DR.
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GENEVEVE L. DONATI
NEW MEXICO
15088
PROFESSIONAL ENGINEER
10/05/20

TITAN
DEVELOPMENT

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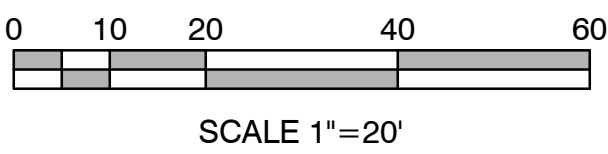
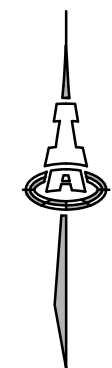
GRADING & DRAINAGE
PLAN 1 OF 4

CG-102



KEYED NOTES

- PAVING TO BE INSTALLED AT GRADES SHOWN. SEE PAVING PLAN FOR PAVING SECTIONS.
- CONCRETE SIDEWALK AND FLATWORK INSTALLED AT ELEVATIONS SHOWN. 5.0% MAXIMUM LONGITUDINAL SLOPE, 2.0% MAXIMUM CROSS-SLOPE. SEE ARCHITECTURAL SITE PLAN FOR DETAILS.
- INSTALL RETAINING WALL WITH GROUND ELEVATIONS SHOWN IN THIS PLAN AT TOP AND BOTTOM OF RETAINING. SEE ARCHITECTURAL SITE PLAN/LANDSCAPING PLAN FOR MATERIALS, AND STRUCTURAL PLANS FOR STRUCTURAL DESIGN OF WALL.
- STEPPED FINISHED FLOOR ELEVATION. SEE STRUCTURAL PLANS FOR FOUNDATION DESIGN.
- RETAINING STEM WALL WITH FINISHED FLOOR AND GROUND ELEVATIONS SHOWN. SEE STRUCTURAL PLANS FOR STEM WALL DESIGN.
- ADA PARKING. 1.5% PREFERRED, 2.0% MAXIMUM SLOPE IN ANY DIRECTION. SEE PAVING PLANS FOR DETAILS.
- CURB RAMP PER DETAILS ON PAVING PLANS.
- ADA RAMP AT 7.5% PREFERRED, 8.0% MAXIMUM SLOPE. SEE ARCHITECTURAL SITE PLAN FOR DETAILS.
- STEPS. SEE ARCHITECTURAL SITE PLAN FOR DETAILS.
- STORM INLET INSTALLED AT RIM ELEVATION SHOWN. STORM DRAIN DESIGN AND DETAILS ON SHEET CG-502.
- TRENCH DRAINS INSTALLED AT RIM ELEVATIONS SHOWN. STORM DRAIN DESIGN AND DETAILS ON SHEET CG-502.
- FRENCH DRAIN INSTALLED PER DETAIL ON SHEET CG-501.
- 20 LF 6" PVC OR ADS N-12 PIPE @ 1.0% MINIMUM SLOPE.
- CMU WALL OPENING PER DETAIL ON SHEET CG-501 TO ALLOW WATER TO PASS THROUGH.
- COLLECTION POND FOR OFFSITE BASIN.
- 2' WIDE CURB OPENING PER DETAIL ON SHEET CG-501.
- 2' SIDEWALK CULVERT PER DETAIL ON SHEET CG-501.
- AMAFCA MAINTENANCE ACCESS. SEE PAVING PLAN FOR DETAILS.
- 4" HIGH ROLLED CURB.
- 5' WIDE DIRT TRAIL. THIS PATH IS NOT ADA.
- GARBAGE COMPACTORS. SEE ARCHITECTURAL SITE PLAN FOR DETAILS.
- ROCK ARMOUR 2:1 SLOPE.



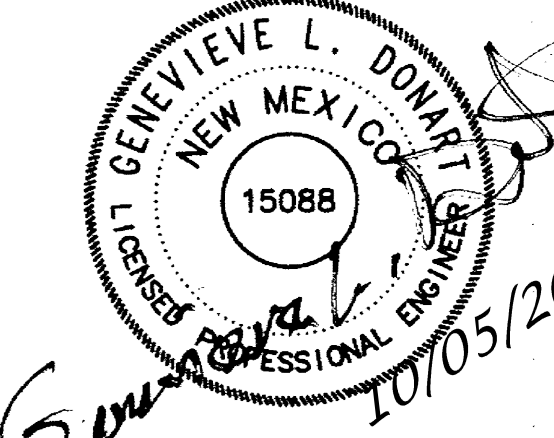
- | | |
|------|--------------------------------|
| --- | EXISTING CONTOUR |
| --- | EXISTING SPOT ELEVATION |
| --- | PROPOSED 1.0' CONTOUR |
| --- | PROPOSED 0.5' CONTOUR |
| ◆ | PROPOSED SPOT ELEVATION |
| → | FLOW DIRECTION |
| FF = | FINISH FLOOR ELEVATION |
| --- | EXISTING STORM DRAIN / MANHOLE |
| --- | PROPOSED STORM DRAIN / INLET |

ALLASO HIGH DESERT

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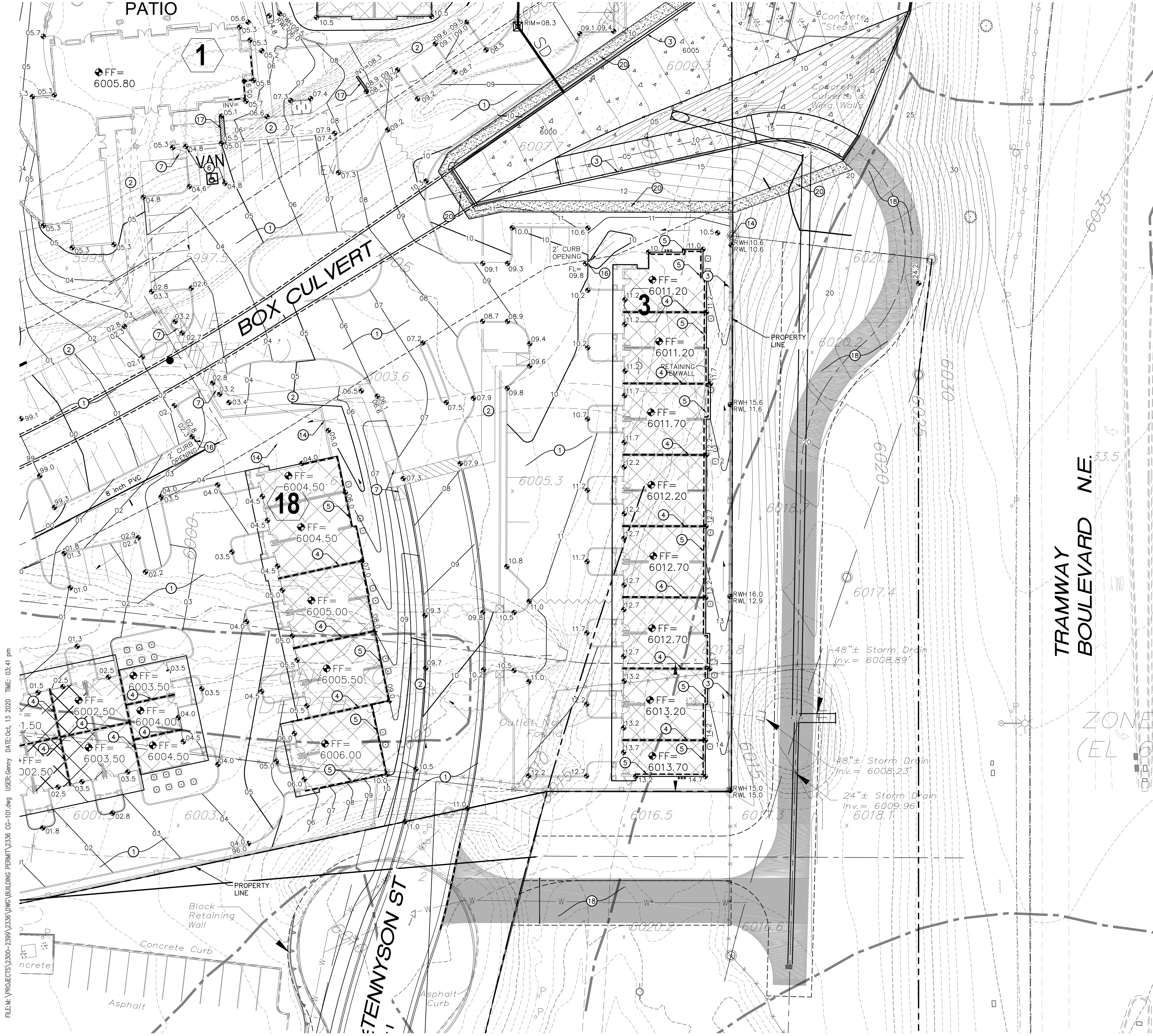
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GRADING & DRAINAGE
PLAN 3 OF 4

CG-104



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KEYED NOTES

1.

PAVING TO BE INSTALLED AT GRADES SHOWN. SEE PAVING PLAN FOR PAVING SECTIONS.

2.

CONCRETE SIDEWALK AND FLATWORK INSTALLED AT ELEVATIONS SHOWN. 5.0% MAXIMUM LONGITUDINAL SLOPE, 2.0% MAXIMUM CROSS-SLOPE. SEE ARCHITECTURAL SITE PLAN FOR DETAILS.

3.

INSTALL RETAINING WALL WITH GROUND ELEVATIONS SHOWN IN THIS PLAN AT TOP AND BOTTOM OF RETAINING. SEE ARCHITECTURAL SITE PLAN/LANDSCAPING PLAN FOR MATERIALS, AND STRUCTURAL PLANS FOR STRUCTURAL DESIGN OF WALL.

4.

STEPPED FINISHED FLOOR ELEVATION. SEE STRUCTURAL PLANS FOR FOUNDATION DESIGN.

5.

RETAINING STEM WALL WITH FINISHED FLOOR AND GROUND ELEVATIONS SHOWN. SEE STRUCTURAL PLANS FOR STEM WALL DESIGN.

6.

ADA PARKING. 1.5% PREFERRED, 2.0% MAXIMUM SLOPE IN ANY DIRECTION. SEE PAVING PLANS FOR DETAILS.

7.

CURB RAMP PER DETAILS ON PAVING PLANS.

8.

ADA RAMP AT 7.5% PREFERRED, 8.0% MAXIMUM SLOPE. SEE ARCHITECTURAL SITE PLAN FOR DETAILS.

9.

STEPS. SEE ARCHITECTURAL SITE PLAN FOR DETAILS.

10.

STORM INLET INSTALLED AT RIM ELEVATION SHOWN. STORM DRAIN DESIGN AND DETAILS ON SHEET CG-502.

11.

TRENCH DRAINS INSTALLED AT RIM ELEVATIONS SHOWN. STORM DRAIN DESIGN AND DETAILS ON SHEET CG-502.

12.

FRENCH DRAIN INSTALLED PER DETAIL ON SHEET CG-501.

13.

20 LF 6" PVC OR ADS N-12 PIPE @ 1.0% MINIMUM SLOPE.

14.

CMU WALL OPENING PER DETAIL ON SHEET CG-501 TO ALLOW WATER TO PASS THROUGH.

15.

COLLECTION POND FOR OFFSITE BASIN.

16.

2' WIDE CURB OPENING PER DETAIL ON SHEET CG-501.

17.

2' SIDEWALK CULVERT PER DETAIL ON SHEET CG-501.

18.

AMAFCA MAINTENANCE ACCESS. SEE PAVING PLAN FOR DETAILS.

19.

4" HIGH ROLLED CURB.

20.

5' WIDE DIRT TRAIL. THIS PATH IS NOT ADA.

21.

GARBAGE COMPACTORS. SEE ARCHITECTURAL SITE PLAN FOR DETAILS.

22.

ROCK ARMOUR 2:1 SLOPE

0

10

20

40

60

SCALE 1"=20'

6030

EXISTING CONTOUR

6029.4

EXISTING SPOT ELEVATION

65

PROPOSED 1.0' CONTOUR

65.5

PROPOSED 0.5' CONTOUR

◆

65.4

PROPOSED SPOT ELEVATION

→

FLOW DIRECTION

FF = 4966.00

FINISH FLOOR ELEVATION

=====○=====

EXISTING STORM DRAIN / MANHOLE

-----●-----

PROPOSED STORM DRAIN / INLET

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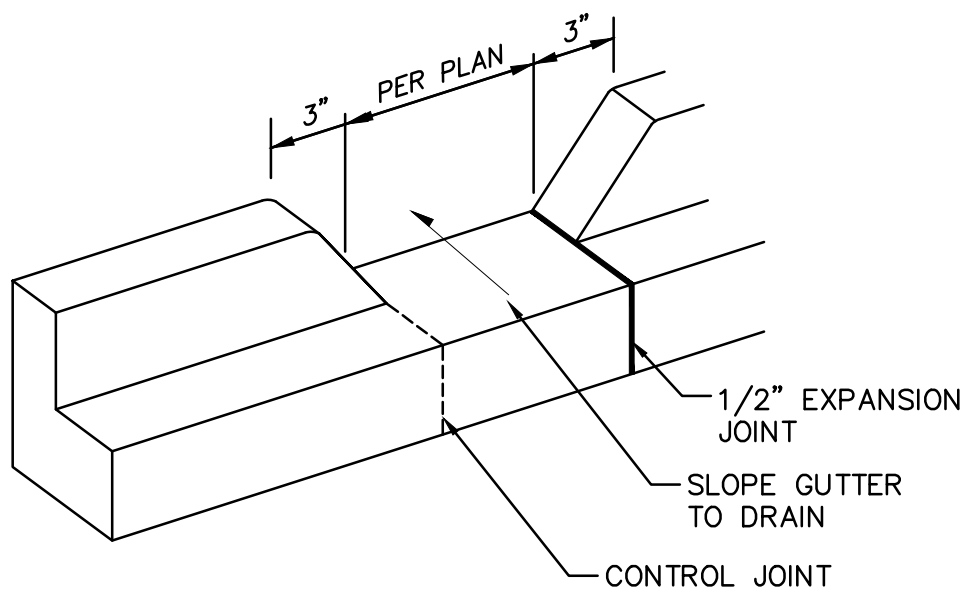
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GRADING & DRAINAGE
PLAN 4 OF 4

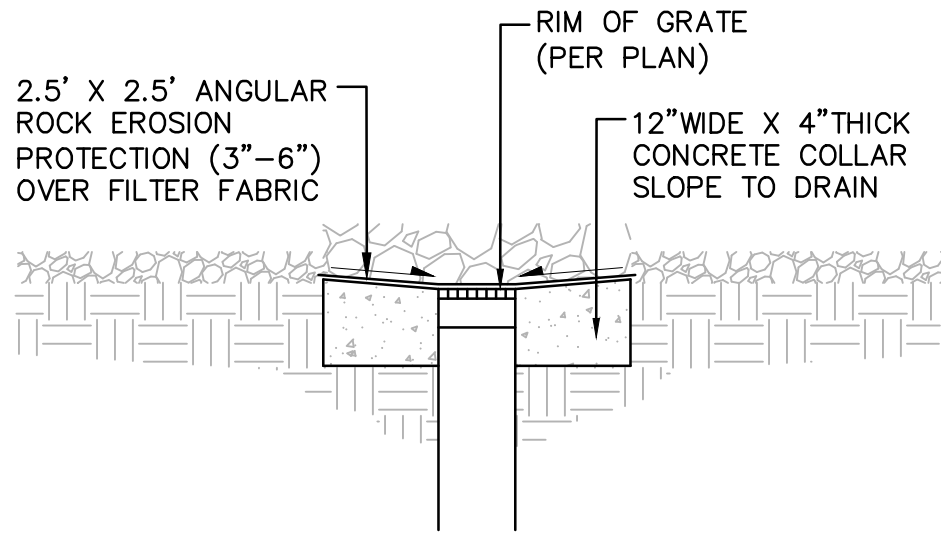
CG-105

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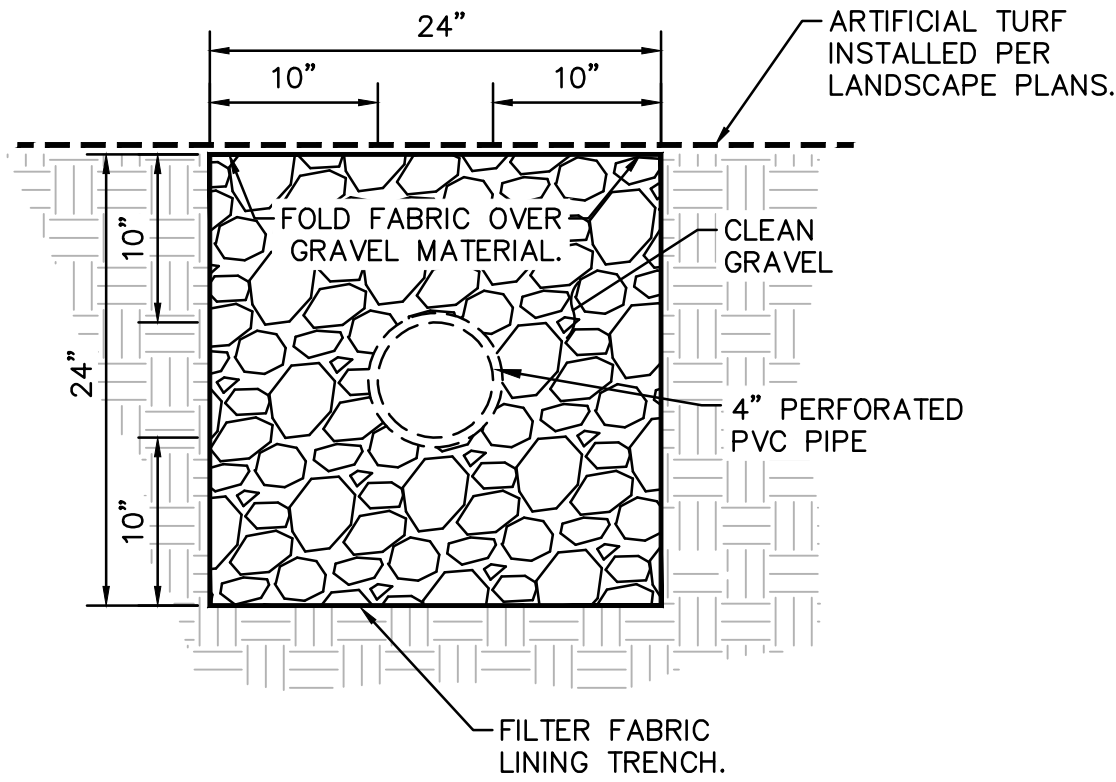
CURB OPENING

SCALE: N.T.S.



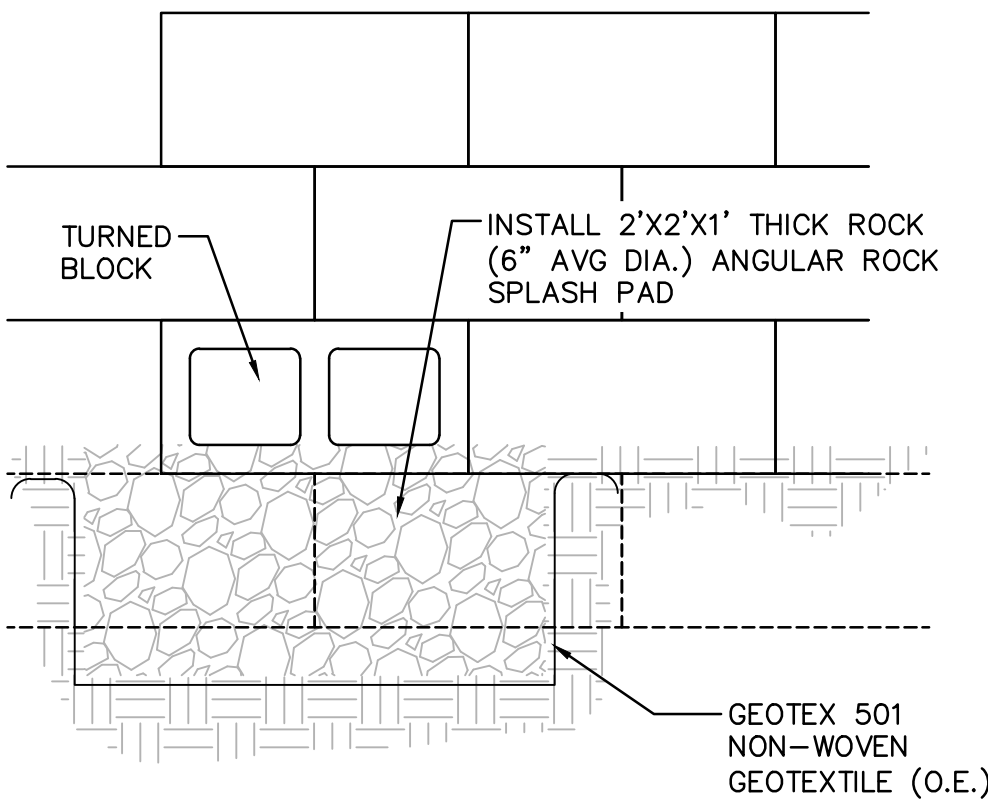
LANDSCAPE AREA DRAIN

SCALE: N.T.S.



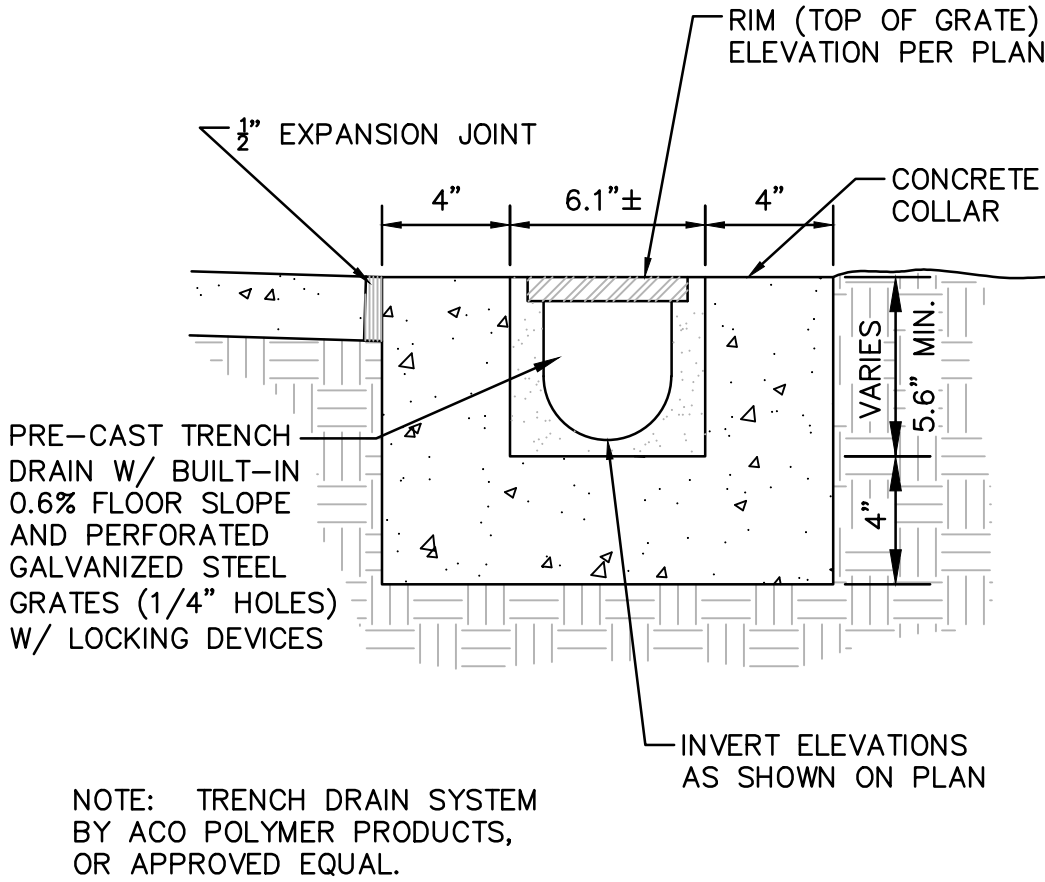
FRENCH DRAIN

SCALE: N.T.S.



CMU WALL OPENING(S)

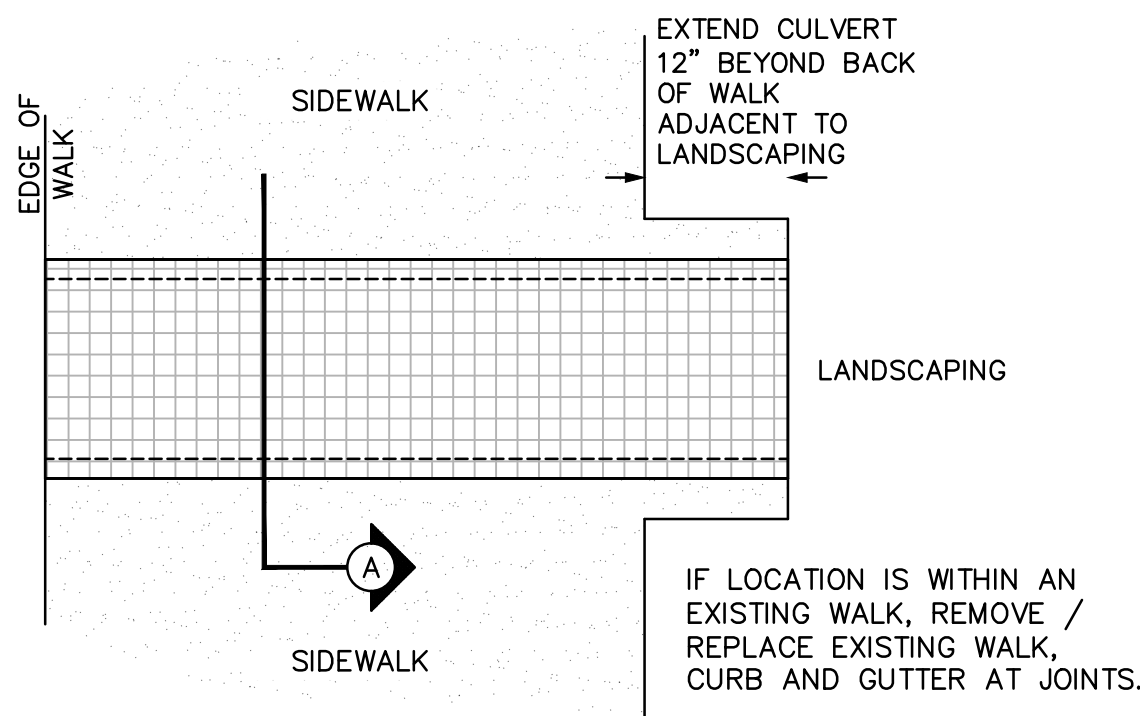
SCALE: N.T.S.



NOTE: TRENCH DRAIN SYSTEM BY ACO POLYMER PRODUCTS, OR APPROVED EQUAL.

TRENCH DRAIN

SCALE: N.T.S.



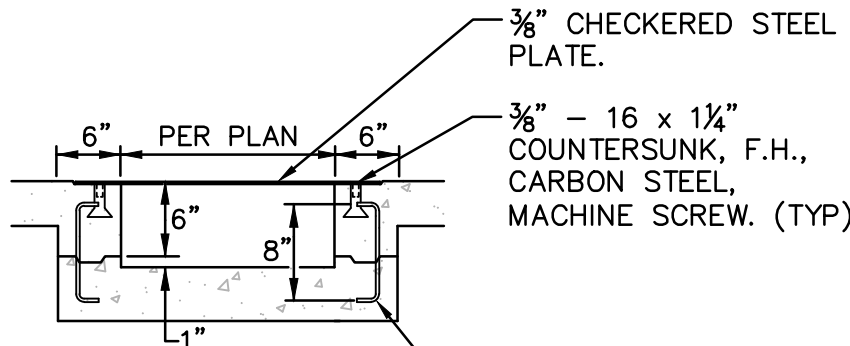
COVERED SIDEWALK CULVERT

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

SCALE: N.T.S.

WELD 1/8" THICK, 5/8" 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. SPACED DOWELS AT 18" O.C. MAXIMUM. 1-1/2" MINIMUM FROM FACE OF CONCRETE

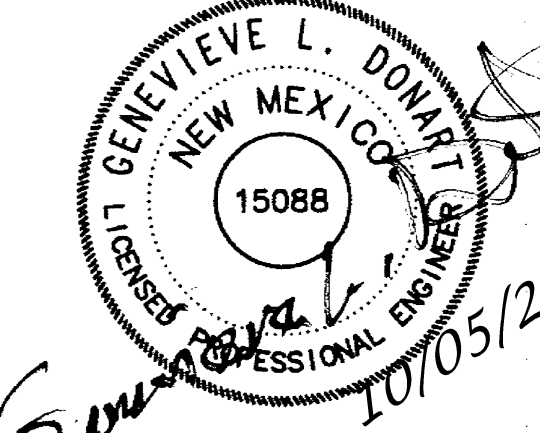
SECTION A

ALLASO HIGH DESERT

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GRADING DETAILS

CG-501