

CITY OF ALBUQUERQUE

Planning Department
Alan Varela, Director



Mayor Timothy M. Keller

August 15, 2022

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

**RE: San Padro Apartments
Preliminary Grading and Drainage Plan
Engineer's Stamp Date: 08/15/22
Hydrology File: C18D108**

Dear Mr. Arfman:

Based upon the information provided in your submittal received 07/22/2022, the Preliminary Grading & Drainage Plan is preliminary approved for Grading Permit and action by the DRB on Site Plan for Building Permit.

PRIOR TO BUILDING PERMIT:

1. Please submit the Grading & Drainage Plan to Hydrology for review and approval. This digital (.pdf) submittal, emailed to PLNDRS@cabq.gov along with the Drainage Transportation Information Sheet.
2. Please also submit the Waiver Application from Stormwater Quality Volume Management On-site.

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.

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

Sincerely,

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



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

Project Title: San Pedro Apartments **Building Permit #** _____ **Hydrology File #** C18D108
DRB# _____ **EPC#** _____

Legal Description: Lots 1 thru 4 & 29 thru 32, Block 27, City Address OR Parcel 9320 San Pedro Dr. NE
North Albuquerque Acres, Tract A, Unit B

Applicant/Agent: Isaacson & Arfman, Inc. **Contact:** Fred C. Arfman or Bryan B. Bobrick
Address: 128 Monroe Street NE **Phone:** (505) 268-8828
Email: freda@iacivil.com or bryanb@iacivil.com

Applicant/Owner: Tekin & Associates, LLC **Contact:** Mark Tekin
Address: 2600 N Dallas Pkwy #370 - Frisco, TX 75034 **Phone:** (469) 458-0485
Email: mark.tekin@tekindevelopment.com

TYPE OF DEVELOPMENT: ☐ PLAT (#of lots) ☐ RESIDENCE ☒ DRB SITE ☐ ADMIN SITE: _____
RE-SUBMITTAL: ☒ YES ☐ NO

DEPARTMENT: ☐ TRANSPORTATION ☒ HYDROLOGY/DRAINAGE
Check all that apply:

TYPE OF SUBMITTAL:

☐ ENGINEER/ARCHITECT CERTIFICATION
☐ PAD CERTIFICATION
☐ CONCEPTUAL G&D PLAN
☒ GRADING PLAN (PRELIMINARY)
☒ DRAINAGE REPORT (PRELIMINARY)
☐ DRAINAGE MASTER PLAN
☐ FLOOD PLAN DEVELOPMENT PERMIT APP.
☐ ELEVATION CERTIFICATE
☐ CLOMR/LOMR
☐ TRAFFIC CIRCULATION LAYOUT (TCL)
ADMINISTRATIVE
☐ TRAFFIC CIRCULATION LAYOUT FOR DRB
APPROVAL
☐ TRAFFIC IMPACT STUDY (TIS)
☐ STREET LIGHT LAYOUT
☐ OTHER (SPECIFY)
☐ PRE-DESIGN MEETING?

TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

☐ BUILDING PERMIT APPROVAL
☐ CERTIFICATE OF OCCUPANCY
☐ CONCEPTUAL TCL DRB APPROVAL
☐ 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
☐ FLOOD PLAN DEVELOPMENT PERMIT
☒ OTHER (SPECIFY) DRB APPROVAL

DATE SUBMITTED: July 22, 2022

JULY 22, 2022

DRAINAGE REPORT

Preliminary

 for

08/15/2022 10:24:08 AM

SAN PEDRO APARTMENTS

LOTS 1, 2, 3, 4, 29, 30, 31 AND 32, BLOCK 27,
NORTH ALBUQUERQUE ACRES

9320 San Pedro Drive

ALBUQUERQUE, NM

BY

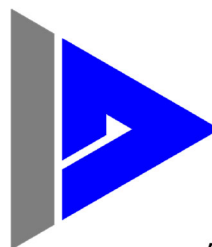


City of Albuquerque
Planning Department
Development Review Services
HYDROLOGY SECTION
PRELIMINARY APPROVED

DATE: 08/15/22
BY: *Renee C. Brisette*
HydroTrans # C18D108

THESE PLANS AND/OR REPORT ARE
CONCEPTUAL ONLY. MORE INFORMATION MAY
BE NEEDED IN THEM AND SUBMITTED TO
HYDROLOGY FOR BUILDING PERMIT APPROVAL.

Isaacson & Arfman, Inc.
Civil Engineering Consultants



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

I&A Project No. 2471

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INLET CAPACITY CHARTS

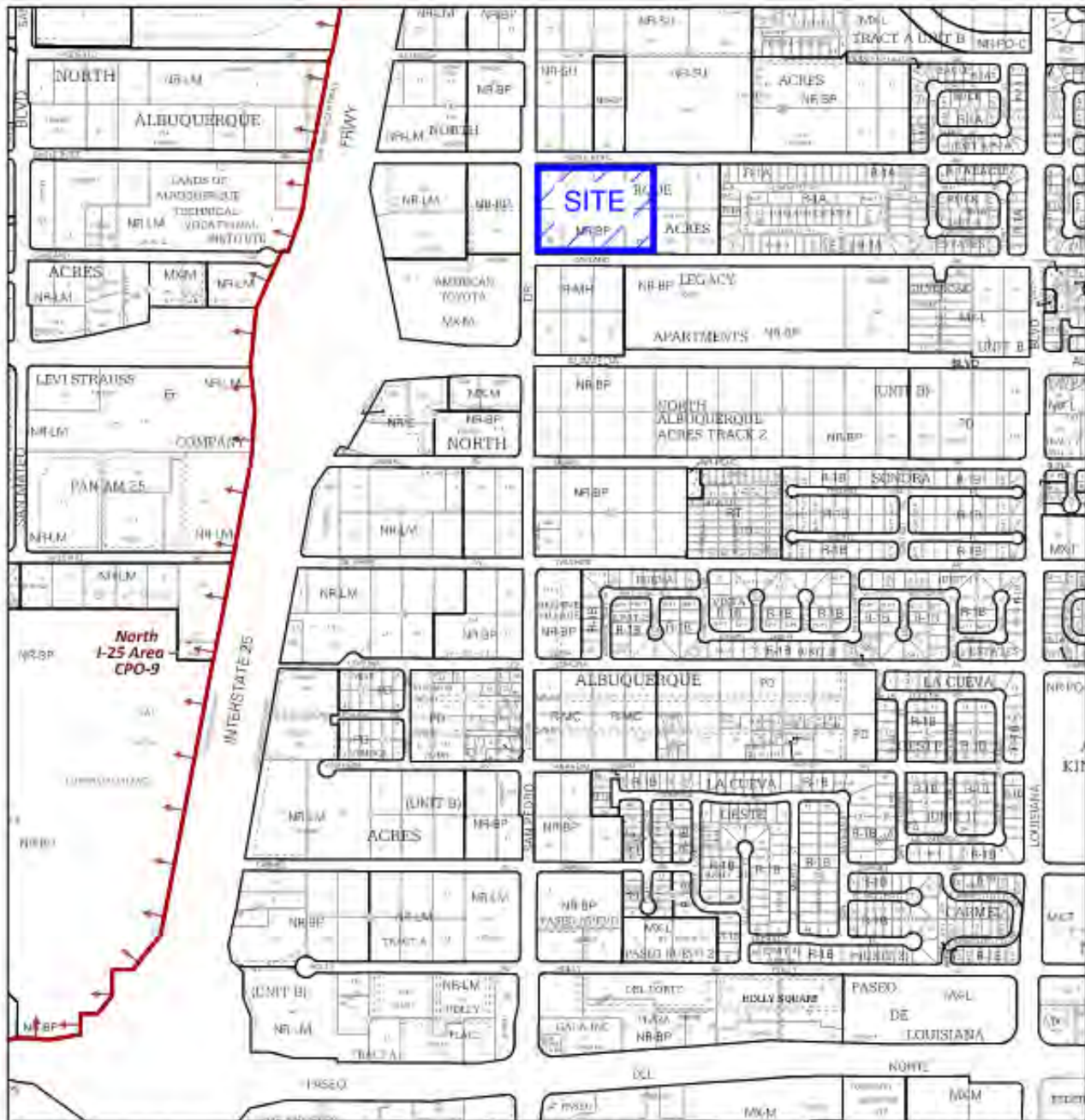
APPENDIX C

EXCERPTS FROM DESIGN ANALYSIS REPORT FOR SAN PEDRO STORM DRAIN PROJECT BY THOMPSON ENGINEERING CONSULTANTS, INC. CITY OF ALBUQUERQUE LETTER OF ACCEPTANCE FOR LOMR SUBMITTAL
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APPENDIX D

GRADING PLANS:	
CG-100	OVERALL GRADING PLAN
CG-101-103	GRADING PLANS
CG-501	GRADING DETAILS
CG-502	STORM DRAIN PLAN

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



100°34'52"W 35°13'27"N



0 250 500 1,000 1,500 2,000 1,600 Feet

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

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, X
- With BFE or Depth Zone AE, AO, AH, VE, AP
- Regulatory Floodway

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 Transect
 - Base Flood Elevation Line (BFE)
 - Limit of Study
 - Jurisdiction Boundary
 - Coastal Transect Baseline
 - Profile Baseline
 - Hydrographic Feature

MAP PANELS

- Digital Data Available
- No Digital Data Available
- Unmapped

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

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/18/2021 at 3:45 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

FIRM MAP

EXISTING CONDITIONS:

The site is a previously developed property and is bound to the west by San Pedro Dr., to the north by Eagle Rock Ave., to the south by Oakland Ave. and to the east by developed commercial property. The property slopes from east to west at approximately 3%. No offsite drainage impacts the property. Any existing wall openings along the east perimeter shall be grouted closed.



Existing Conditions Exhibit

DRAINAGE CRITERIA:

Based on the design analysis report for the San Pedro storm drain (City Project no. 5304.91) dated January 2010, prepared by Thompson Engineering Consultants, Inc., the proposed lots fall within drainage basins 116.2 (lots 1, 2, 3 and 4 = 3.29 acre @ 4.02 cfs/acre = 13.2 allowable discharge) and 117.2 (lots 29, 30, 31 and 32 = 3.29 acre @ 3.80 cfs/acre = 12.5 allowable discharge) for a total of 25.7 cfs. The site is allowed to discharge the allowable rate directly to the existing storm drains located within San Pedro.

The property will discharge, at a rate not to exceed 25.7 cfs, to the surrounding streets and to the existing storm drain infrastructure located within the adjacent streets. Surface storm water detention will be provided to limit the discharge to the allowable rate.

FLOODPLAIN:

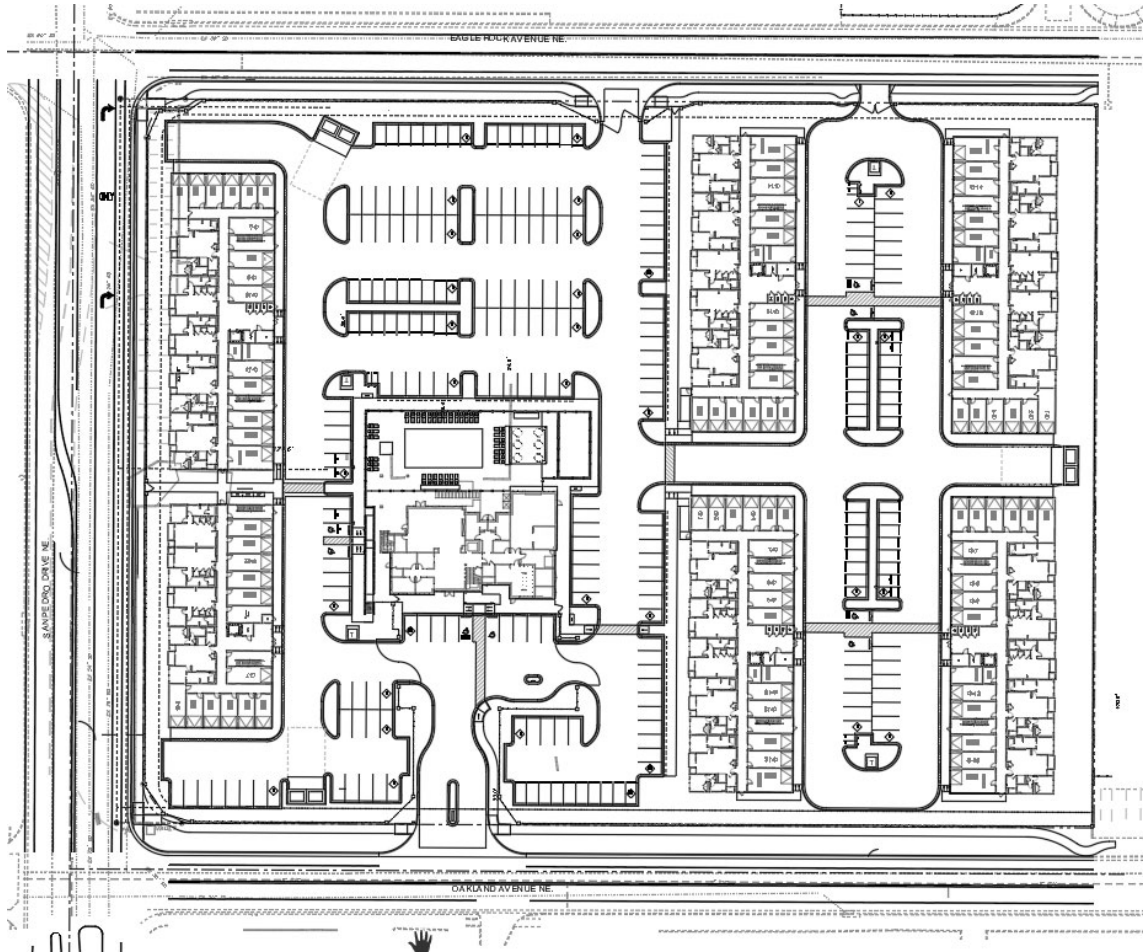
Per FEMA Flood Hazard Map 35001C0137H, effective date 8/16/2012, the site is located within flood zone 'X' designated as areas determined to be outside 500-year floodplain and in zone 'AO' - depth of 1



foot. A LOMR to eliminate the flood zone in the area has been submitted to and is being reviewed by FEMA. See Appendix C for a letter from City of Albuquerque accepting LOMR submittal.

PROPOSED CONDITIONS:

The proposed improvements include multi-story apartment buildings with associated asphalt paved access, parking, site amenities, and landscaping.



Proposed Conditions Exhibit

Offsite Improvements:

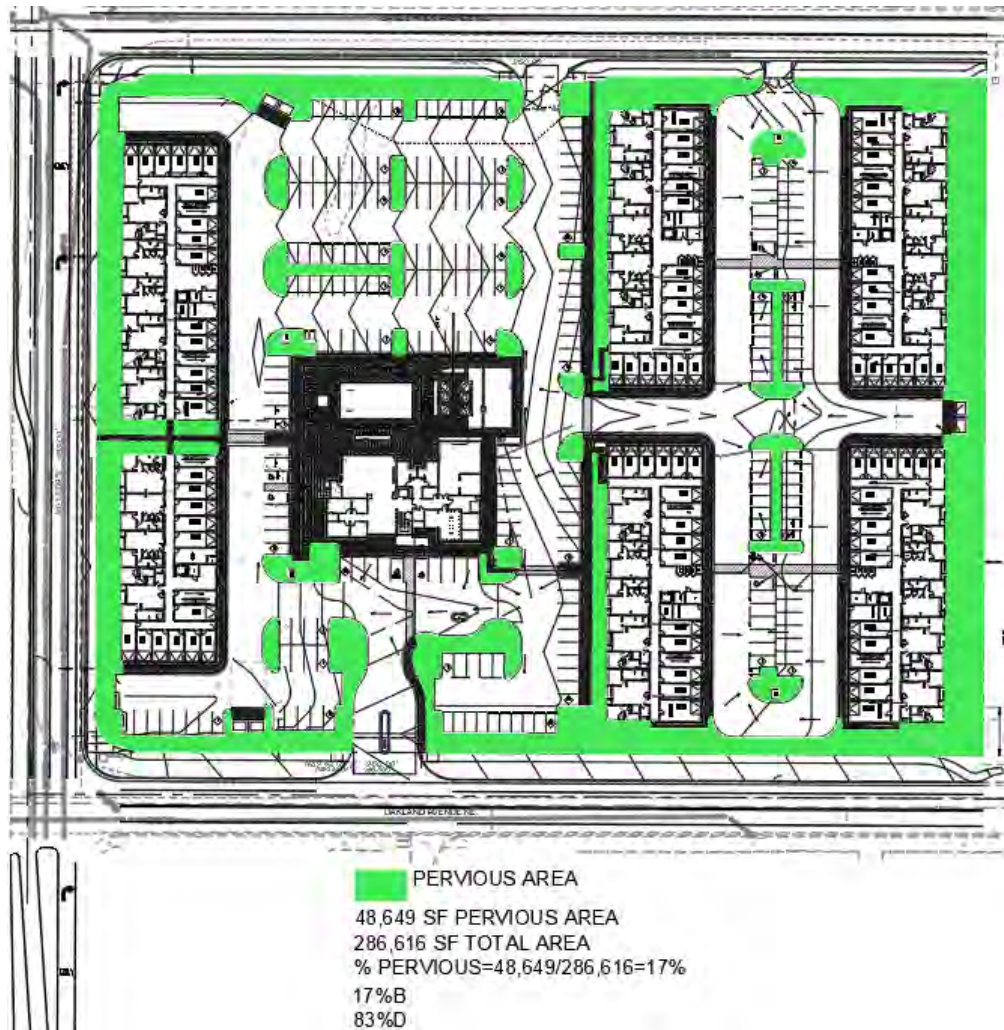
The offsite roadway improvements include an east-bound, right-turn lane, curb and gutter, bike lane and sidewalk in San Pedro Dr.; curb and gutter, bike lane and sidewalk in Eagle Rock Ave.; and curb and gutter and sidewalk in Oakland Ave. Storm drain connections and inlets shall be constructed in the adjacent streets. All improvements within the public rights-of-way shall be constructed with public work order plans.



Hydrology:

See Appendix A for a basin exhibit, NOAA Atlas 14 and hydrology calculations.

The land treatments were calculated at 83% Type D and 17% Type B based on calculations performed in AutoCAD for the pervious areas per exhibit below.



Land Treatment Calculation Exhibit

The 100-year, 6-hour storm flows were calculated for the basins using AHYMO-S4 with precipitation input from the NOAA Atlas 14 precipitation frequency chart.

The total developed flow from the site is 26.7 cfs and the allowable discharge rate is 25.7 cfs. The additional flow of 1 cfs will be detained in the onsite storm water quality ponds that are located throughout the site.



Storm Water Quality:

See sheet CG-101, overall grading plan, in Appendix D for SWQ ponds.

For redevelopment sites, the City of Albuquerque storm water quality volume (SWQV) is based on the 80th percentile storm event or 0.26 inches. The impervious area for this property is 237,891 sf (83% of total area). The total required SWQV storage = $0.26/12 \times 237,891 = 5,154$ cf.

The SWQV retention ponds will be provided in medians throughout the property and will capture 2,910 cf of the total 5,154 cf. A request for waiver payment in-lieu is provided with this submittal for the remaining 2,244 cf of SWQV not captured.

Curb Openings:

See Appendix A for curb opening orifice and weir calculations and Appendix D for the grading plan.

Two-foot curb openings will be provided to accept water into the SWQ ponds throughout the site. Each curb opening has a capacity of accepting 2.3 cfs.

Storm Drain:

See Appendix B for storm drain calculations using Stormwater Studio 2021 software and Nyloplast inlet capacity charts and Appendix D sheet CG-502 for the storm drain layout.

Two onsite storm drain systems will be constructed. Nyloplast basins with traffic-rated grates will be installed in paving and domed grates will be installed in landscaped areas.

The north storm drain will collect flows from Basins 1, 3 and 4 and discharge to a new inlet and storm drain manhole to be constructed on the existing 54-in. storm drain in Eagle Rock Ave., and the south storm drain system will collect flows from Basins 2, 5-9 and discharge to a new inlet connecting to an existing storm drain manhole on the existing 48-in. storm drain in Oakland Ave. Basin 10 will discharge to Eagle Rock Ave. and San Pedro Dr. An inlet at the low point in San Pedro Dr. shall also be constructed connecting to the existing 78-in. storm drain. All storm drain improvements in public right-of-way shall be designed and constructed by public work order.



SUMMARY:

The following drainage-related improvements shall be constructed with the building permit plans:

- North storm drain system (8-in. – 24-in. dia.) connecting at the Eagle Rock Ave. 48-in. storm drain;
- South storm drain system (8-in. – 18-in. dia.) connecting at the Oakland Ave. 30-in. storm drain;
- Nyloplast basins with traffic rated grates in paving and domed grates in landscaped areas;
- Storm water quality ponds;
- Curb openings.

The following drainage-related improvements shall be constructed with the public work order plans:

- Inlets and manholes connecting to the existing storm drain systems in Eagle Rock Ave. and San Pedro Dr.;
- Inlet connecting to the existing storm drain system in Oakland Ave.



APPENDIX A

BASIN EXHIBIT

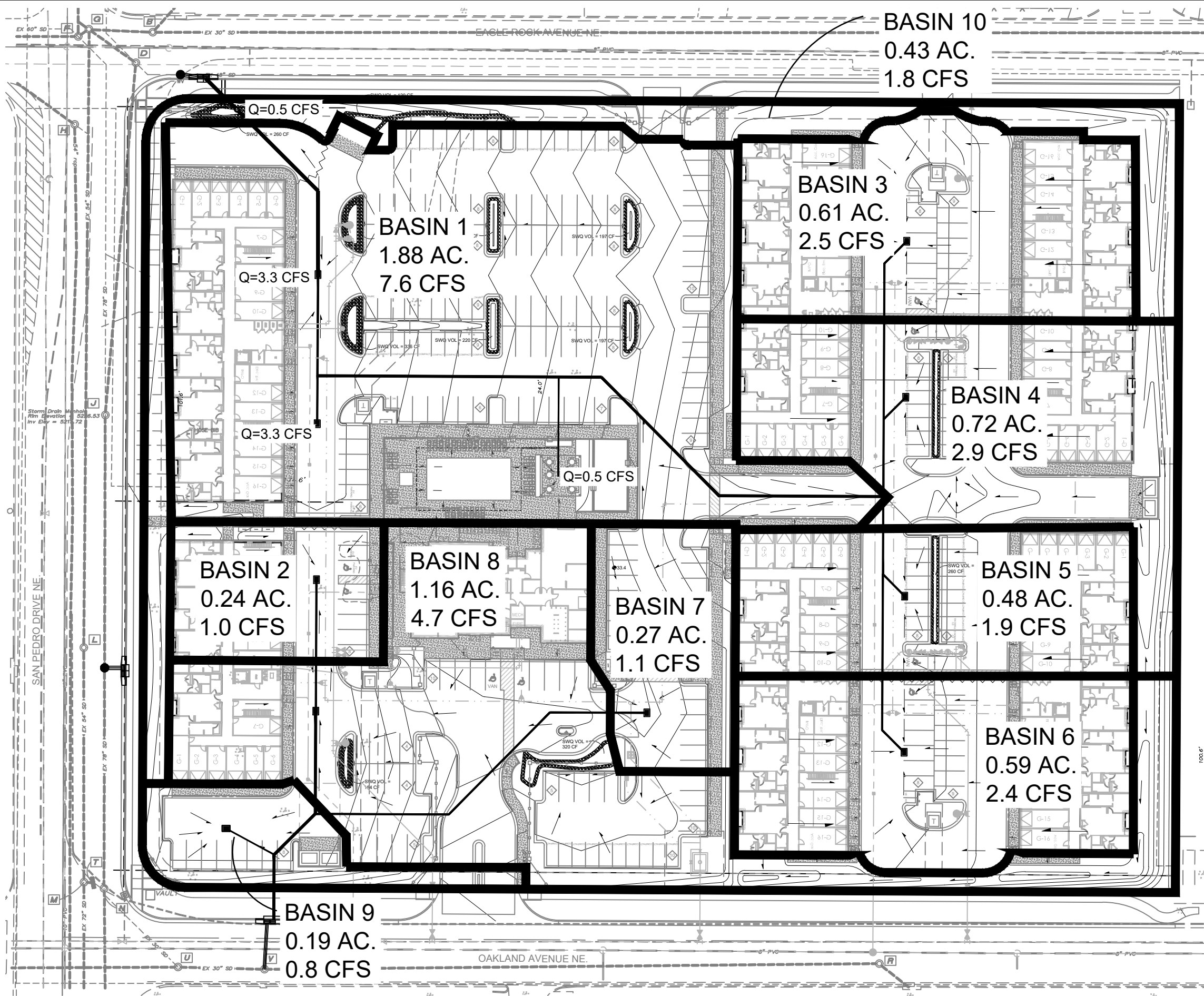
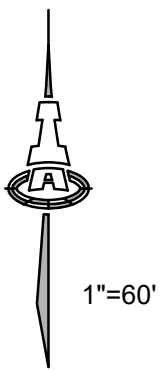
AHYMO INPUT AND SUMMARY

NOAA ATLAS 14 PRECIPITATION CHART

CURB OPENING CAPACITY CALCULATIONS



SAN PEDRO APARTMENTS
BASIN EXHIBIT
07/15/2022



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SAN PEDRO APARTMENTS
BASIN SUMMARY TABLE
7/8/2022

Land Treatment: 17%B; 83%D
 Allowable Discharge: 25.7 cfs

BASIN	AREA (SF)	AREA (AC)	AREA (SQ.MI.)	Q100 (CFS)	TO EAGLE ROCK SD (CFS)	TO OAKLAND SD (CFS)	TO EAGLE ROCK & SAN PEDRO (CFS)
1	81994	1.88	0.002941	7.6	7.6		
2	10429	0.24	0.000374	1.0		1	
3	26607	0.61	0.000954	2.5	2.5		
4	31355	0.72	0.001125	2.9	2.9		
5	20700	0.48	0.000743	1.9	1.9		
6	25877	0.59	0.000928	2.4	2.4		
7	11858	0.27	0.000425	1.1		1.1	
8	50664	1.16	0.001817	4.7		4.7	
9	8248	0.19	0.000296	0.8		0.8	
10	18830	0.43	0.000675	1.8			1.8
TOTAL		6.58		26.7	17.3	7.6	1.8

```

*S      SAN PEDRO APARTMENTS
*S      9320 SAN PEDRO DR NE
*S      ALBUQUERQUE NM
*S      DEVELOPED CONDITIONS
*S      100-YR, 6-HR STORM
*S      2471.DAT
*S      JULY 2022
*S      ISAACSON & ARFMAN, INC.
*S*****
START      RAINFALL BEGINS AT 0.0 HRS
RAINFALL   TYPE=1 RAIN QUARTER=1.07 RAIN ONE=1.79
           RAIN SIX=2.39 RAIN DAY=2.72 DT=0.01HR

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*S      BASIN 4
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*S      BASIN 8
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*S      BASIN 9
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                     MASS RAINFALL=-1
PRINT HYD           ID=9  CODE=1
*S      BASIN 10
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                     TP=-0.1333 HR
                     MASS RAINFALL=-1
PRINT HYD           ID=10  CODE=1
FINISH

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RUN DATE (MON/DAY/YR) =07/15/2022

USER NO.= AHYMO Temp User:20122010

		FROM	TO			PEAK	RUNOFF	TIME TO	CFS	PAGE =	1
COMMAND	HYDROGRAPH IDENTIFICATION	ID NO.	ID NO.	AREA (SQ MI)	DISCHARGE (CFS)	VOLUME (AC-FT)	RUNOFF (INCHES)	PEAK (HOURS)	PER ACRE	NOTATION	
*S	SAN PEDRO APARTMENTS										
*S	9320 SAN PEDRO DR NE										
*S	ALBUQUERQUE NM										
*S	DEVELOPED CONDITIONS										
*S	100-YR, 6-HR STORM										
*S	2471.DAT										
*S	JULY 2022										
*S	ISAACSON & ARFMAN, INC.										

START										TIME=	0.00
RAINFALL TYPE= 1 NOAA 14										RAIN6=	2.390
*S	BASIN 1										
COMPUTE NM HYD	100.00	-	1	0.00294	7.59	0.300	1.91037	1.530	4.031	PER IMP=	83.00
*S	BASIN 2										
COMPUTE NM HYD	200.00	-	2	0.00037	0.98	0.038	1.91037	1.530	4.101	PER IMP=	83.00
*S	BASIN 300										
COMPUTE NM HYD	300.00	-	3	0.00095	2.47	0.097	1.91037	1.530	4.051	PER IMP=	83.00
*S	BASIN 4										
COMPUTE NM HYD	400.00	-	4	0.00113	2.91	0.115	1.91037	1.530	4.047	PER IMP=	83.00
*S	BASIN 5										
COMPUTE NM HYD	500.00	-	5	0.00074	1.93	0.076	1.91037	1.530	4.061	PER IMP=	83.00
*S	BASIN 6										
COMPUTE NM HYD	600.00	-	6	0.00093	2.41	0.095	1.91037	1.530	4.052	PER IMP=	83.00
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*S	BASIN 8										
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*S	BASIN 9										
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*S	BASIN 10										
COMPUTE NM HYD	1010.00	-	10	0.00068	1.76	0.069	1.91037	1.530	4.065	PER IMP=	83.00
FINISH											



NOAA Atlas 14, Volume 1, Version 5
Location name: Albuquerque, New Mexico, USA*
Latitude: 35.1866°, Longitude: -106.577°
Elevation: 5234.65 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	0.170 (0.144-0.202)	0.220 (0.185-0.261)	0.296 (0.250-0.351)	0.355 (0.298-0.420)	0.436 (0.364-0.516)	0.500 (0.416-0.592)	0.568 (0.468-0.671)	0.639 (0.524-0.754)	0.736 (0.598-0.870)	0.814 (0.657-0.959)
10-min	0.259 (0.219-0.307)	0.335 (0.282-0.397)	0.451 (0.380-0.535)	0.540 (0.453-0.639)	0.664 (0.555-0.785)	0.761 (0.633-0.901)	0.864 (0.713-1.02)	0.973 (0.797-1.15)	1.12 (0.910-1.32)	1.24 (1.00-1.46)
15-min	0.321 (0.272-0.381)	0.415 (0.349-0.493)	0.559 (0.471-0.663)	0.670 (0.561-0.793)	0.822 (0.687-0.973)	0.944 (0.785-1.12)	1.07 (0.883-1.26)	1.21 (0.988-1.42)	1.39 (1.13-1.64)	1.54 (1.24-1.81)
30-min	0.432 (0.365-0.512)	0.559 (0.471-0.664)	0.752 (0.634-0.893)	0.901 (0.756-1.07)	1.11 (0.926-1.31)	1.27 (1.06-1.50)	1.44 (1.19-1.70)	1.62 (1.33-1.92)	1.87 (1.52-2.21)	2.07 (1.67-2.44)
60-min	0.534 (0.452-0.634)	0.692 (0.582-0.821)	0.931 (0.785-1.11)	1.12 (0.936-1.32)	1.37 (1.15-1.62)	1.57 (1.31-1.86)	1.79 (1.47-2.11)	2.01 (1.65-2.37)	2.32 (1.88-2.73)	2.56 (2.07-3.02)
2-hr	0.646 (0.533-0.802)	0.829 (0.684-1.03)	1.10 (0.903-1.36)	1.31 (1.08-1.62)	1.61 (1.31-1.98)	1.86 (1.50-2.28)	2.11 (1.70-2.59)	2.38 (1.90-2.91)	2.76 (2.18-3.38)	3.07 (2.40-3.76)
3-hr	0.691 (0.574-0.851)	0.878 (0.727-1.08)	1.15 (0.956-1.42)	1.37 (1.13-1.68)	1.68 (1.38-2.05)	1.92 (1.57-2.35)	2.18 (1.77-2.66)	2.46 (1.98-3.00)	2.85 (2.27-3.46)	3.16 (2.50-3.86)
6-hr	0.809 (0.678-0.989)	1.02 (0.857-1.25)	1.32 (1.11-1.61)	1.55 (1.30-1.89)	1.88 (1.56-2.27)	2.12 (1.76-2.57)	2.39 (1.97-2.90)	2.67 (2.18-3.22)	3.05 (2.47-3.68)	3.36 (2.70-4.06)
12-hr	0.894 (0.764-1.06)	1.13 (0.960-1.33)	1.43 (1.22-1.69)	1.67 (1.42-1.97)	2.00 (1.69-2.35)	2.25 (1.89-2.64)	2.51 (2.10-2.95)	2.78 (2.31-3.26)	3.14 (2.59-3.70)	3.44 (2.81-4.10)
24-hr	1.00 (0.869-1.17)	1.26 (1.09-1.46)	1.58 (1.37-1.84)	1.83 (1.59-2.13)	2.18 (1.87-2.54)	2.44 (2.09-2.84)	2.72 (2.32-3.16)	3.01 (2.55-3.49)	3.39 (2.85-3.93)	3.69 (3.09-4.28)
2-day	1.05 (0.916-1.21)	1.32 (1.15-1.52)	1.66 (1.44-1.91)	1.93 (1.67-2.21)	2.29 (1.97-2.62)	2.56 (2.20-2.93)	2.85 (2.43-3.26)	3.14 (2.67-3.60)	3.53 (2.98-4.05)	3.83 (3.22-4.41)
3-day	1.17 (1.05-1.31)	1.46 (1.31-1.63)	1.81 (1.62-2.02)	2.08 (1.86-2.32)	2.45 (2.18-2.73)	2.73 (2.42-3.04)	3.02 (2.67-3.36)	3.30 (2.91-3.69)	3.69 (3.23-4.12)	3.98 (3.47-4.46)
4-day	1.29 (1.18-1.40)	1.60 (1.47-1.74)	1.95 (1.79-2.13)	2.24 (2.05-2.43)	2.61 (2.39-2.84)	2.90 (2.65-3.15)	3.19 (2.90-3.46)	3.47 (3.16-3.77)	3.85 (3.49-4.19)	4.13 (3.73-4.50)
7-day	1.47 (1.36-1.60)	1.83 (1.68-1.98)	2.22 (2.05-2.40)	2.52 (2.33-2.73)	2.92 (2.69-3.15)	3.22 (2.96-3.47)	3.51 (3.23-3.78)	3.79 (3.48-4.09)	4.15 (3.80-4.48)	4.41 (4.03-4.76)
10-day	1.63 (1.50-1.76)	2.02 (1.86-2.19)	2.46 (2.28-2.66)	2.81 (2.60-3.04)	3.27 (3.02-3.53)	3.62 (3.33-3.89)	3.96 (3.64-4.26)	4.29 (3.94-4.62)	4.72 (4.32-5.10)	5.04 (4.60-5.44)
20-day	2.04 (1.88-2.21)	2.53 (2.33-2.75)	3.07 (2.83-3.32)	3.47 (3.20-3.75)	3.98 (3.67-4.30)	4.35 (4.00-4.69)	4.70 (4.32-5.07)	5.03 (4.62-5.42)	5.45 (4.99-5.87)	5.73 (5.25-6.18)
30-day	2.43 (2.24-2.62)	3.01 (2.77-3.25)	3.61 (3.33-3.89)	4.06 (3.74-4.37)	4.61 (4.25-4.95)	5.00 (4.61-5.36)	5.36 (4.94-5.75)	5.70 (5.25-6.11)	6.10 (5.61-6.55)	6.38 (5.85-6.84)
45-day	2.97 (2.75-3.20)	3.67 (3.40-3.95)	4.36 (4.04-4.69)	4.85 (4.49-5.21)	5.44 (5.04-5.83)	5.83 (5.41-6.25)	6.19 (5.74-6.62)	6.49 (6.03-6.94)	6.81 (6.34-7.28)	7.00 (6.54-7.46)
60-day	3.42 (3.17-3.69)	4.22 (3.92-4.56)	5.02 (4.66-5.41)	5.59 (5.19-6.01)	6.27 (5.83-6.74)	6.73 (6.26-7.22)	7.14 (6.65-7.67)	7.50 (6.99-8.06)	7.90 (7.37-8.48)	8.14 (7.61-8.73)

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.

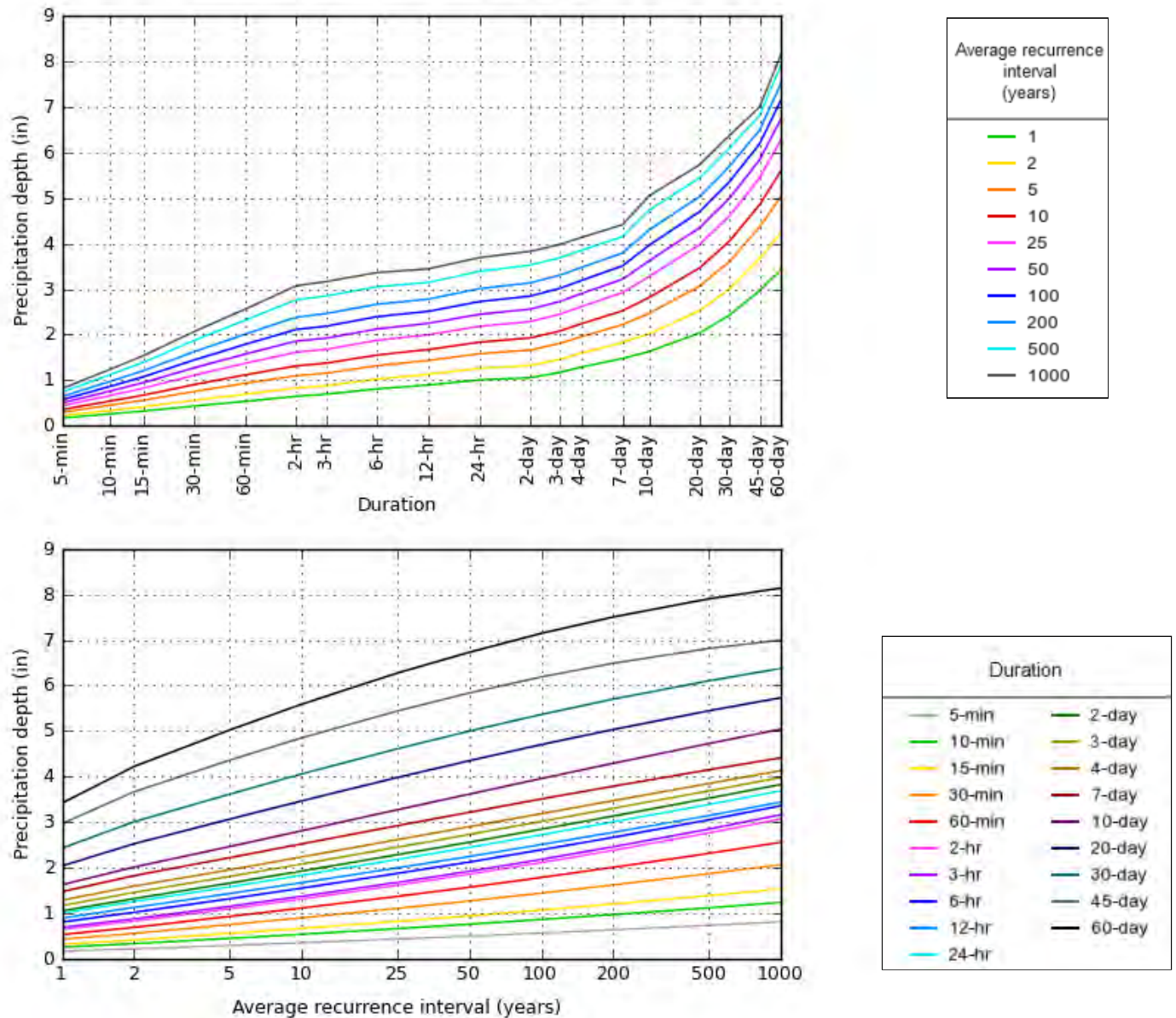
Please refer to NOAA Atlas 14 document for more information.

[Back to Top](#)

PF graphical

PDS-based depth-duration-frequency (DDF) curves

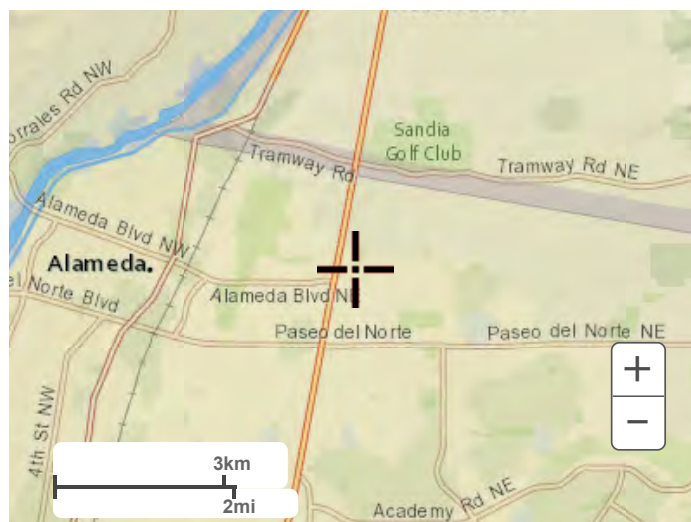
Latitude: 35.1866°, Longitude: -106.5770°



NOAA Atlas 14, Volume 1, Version 5

Created (GMT): Wed Feb 2 16:27:07 2022

[Back to Top](#)**Maps & aerials****Small scale terrain**



Large scale terrain



Large scale map



Large scale aerial



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1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

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San Pedro Apartments
2' Curb Opening Calculations

Q	=	CA * (2*g*h)^.5
Q	=	Discharge in cfs
C	=	Discharge coefficient from Handbook of Hydraulics, King and Brater, 5th Edition
A	=	Area of opening in square feet
g	=	32.2 ft/sec
h	=	Depth of water measured from the center of the opening

ORIFICE EQUATION - SOLVE FOR Q

$$Q = C * A * (2 * g * h)^{.5}$$

Where	Q	=	2.41	cfs
	C	=	0.6	
	A	=	1.00	sq.ft. 2'x0.5'
	g	=	32.2	ft/sec^2
	h	=	0.25	ft depth of flow at opening from the center of orifice

Weir Report

2-FOOT CURB OPENING WEIR CAPACITY

Rectangular Weir

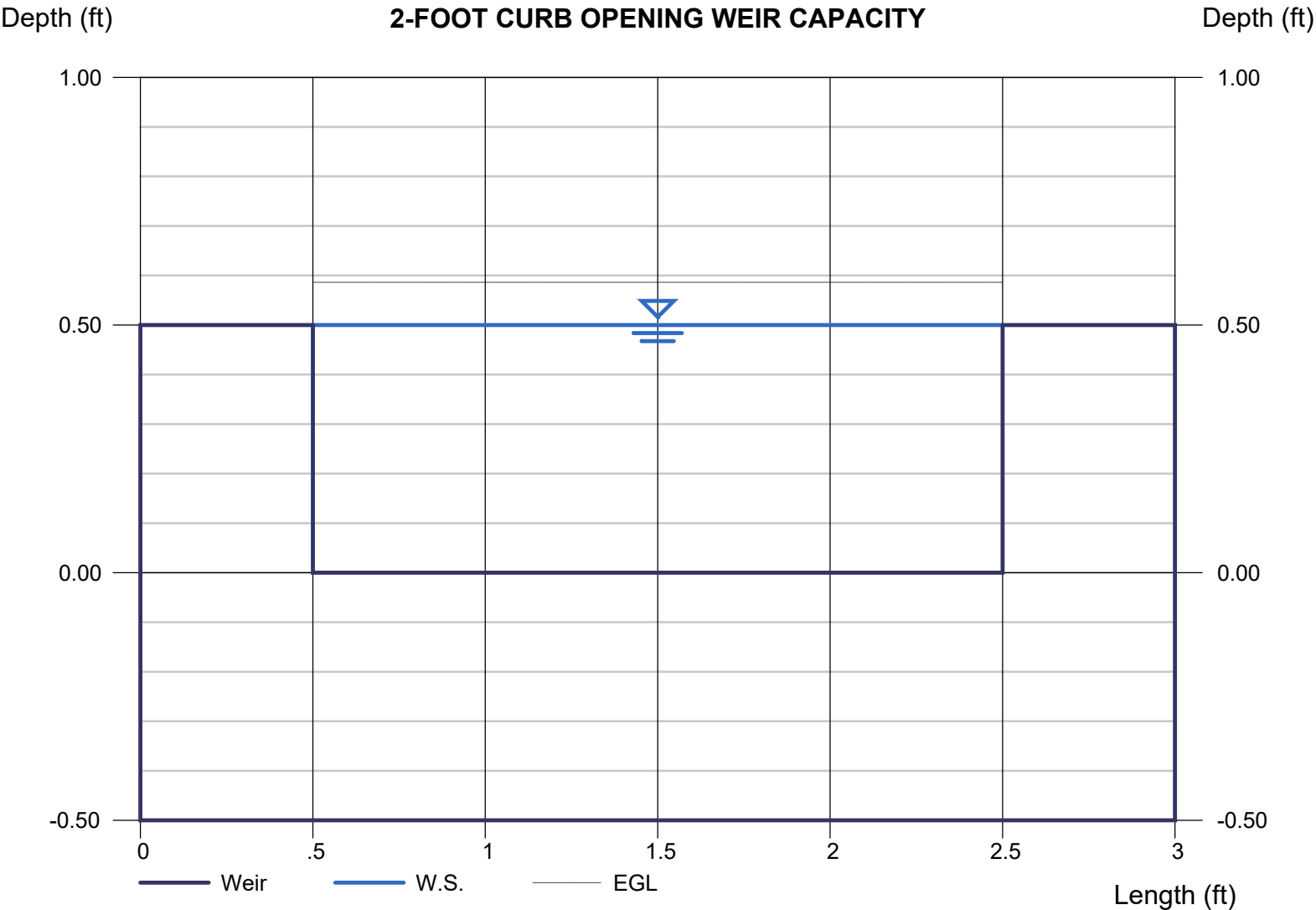
Crest = Sharp
Bottom Length (ft) = 2.00
Total Depth (ft) = 0.50

Highlighted

Depth (ft) = 0.50
Q (cfs) = 2.355
Area (sqft) = 1.00
Velocity (ft/s) = 2.35
Top Width (ft) = 2.00

Calculations

Weir Coeff. Cw = 3.33
Compute by: Known Depth
Known Depth (ft) = 0.50



APPENDIX B

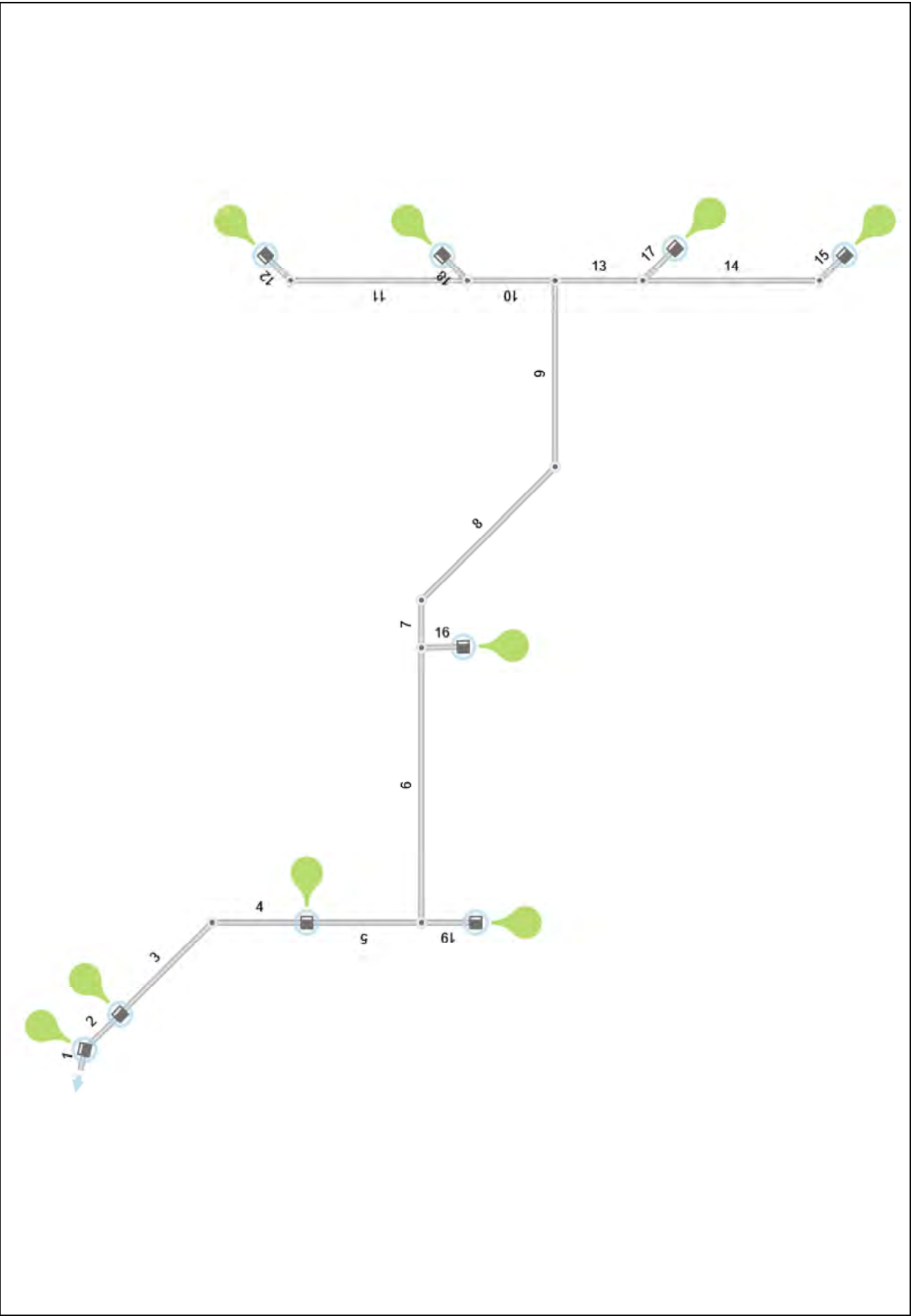
STORM DRAIN CALCULATIONS INLET CAPACITY CHARTS



Plan View

Stormwater Studio 2021 v 3.0.0.25

Project Name: 2471 SD NORTH-R3 (EAGLE ROCK CONNECTION)
07-14-2022



Energy Grade Line Calculations

Stormwater Studio 2021 v 3.0.0.25

Project Name: 2471 SD NORTH-R3 (EAGLE ROCK CONNECTION)

07-14-2022

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	Energy Loss (ft)	HGLa Elev (ft)	EGLa Elev (ft)	Energy Loss (ft)
1	24	22.30	21.10	1.56†	2.62	22.66	8.50	1.12	23.75	10.40	21.30	1.67 ²	2.81	22.97	7.95	0.98	23.95	0.013	0.200	22.97	23.95	0.00
2	24	17.30	21.50	2.00	3.14	23.67	5.51	0.47	24.14	26.30	21.82	1.98	3.13	23.80	5.52	0.47	24.27	0.012	0.126	23.89	24.37	0.10
3	24	16.80	21.82	2.00	3.14	24.10	5.35	0.44	24.55	68.10	22.50	1.88	3.06	24.38	5.49	0.47	24.84	0.012	0.299	24.63	25.10	0.26
4	24	16.80	22.50	2.00	3.14	24.83	5.35	0.44	25.28	49.60	23.00	2.00	3.14	25.07	5.35	0.44	25.51	0.012	0.233	25.17	25.61	0.10
5	24	13.50	23.00	2.00	3.14	25.44	4.30	0.29	25.73	60.00	24.20	1.30 ²	2.16	25.50	6.24	0.60	26.11	0.012	0.378	25.50	26.11	0.00
6	18	10.20	24.20	1.50	1.77	25.80	5.77	0.52	26.31	143.70	27.07	1.22 ²	1.54	28.29	6.63	0.68	28.97	0.012	2.659	28.29	28.97	0.00
7	18	9.70	27.07	1.50	1.77	28.69	5.49	0.47	29.16	24.80	27.68	1.19 ²	1.50	28.87	6.46	0.65	29.52	0.012	0.357	28.87	29.52	0.00
8	18	9.70	27.68	1.50	1.77	29.24	5.49	0.47	29.70	98.99	30.15	1.19 ²	1.50	31.34	6.46	0.65	31.99	0.012	2.283	31.34	31.99	0.00
9	18	9.70	30.15	1.50	1.77	31.71	5.49	0.47	32.17	97.55	31.13	1.19 ²	1.50	32.32	6.46	0.65	32.97	0.012	0.793	32.32	32.97	0.00
10	12	5.40	31.13	1.00	0.79	32.53	6.88	0.74	33.26	45.90	32.05	1.00	0.79	33.43	6.88	0.73	34.16	0.012	0.899	33.71	34.45	0.29
11	12	2.50	32.05	1.00	0.79	34.35	3.18	0.16	34.51	92.60	33.44	1.00	0.79	34.74	3.18	0.16	34.90	0.012	0.389	34.83	34.98	0.09
12	12	2.50	33.44	1.00	0.79	34.89	3.18	0.16	35.05	18.56	35.00	0.67 ²	0.56	35.67	4.46	0.31	35.98	0.012	0.933	35.67	35.98	0.00
13	12	4.30	31.13	1.00	0.73	32.69	5.48	0.47	33.15	46.00	32.74	0.87 ²	0.73	33.61	5.91	0.54	34.16	0.012	1.002	33.61	34.16	0.00
14	12	2.40	32.74	1.00	0.79	34.07	3.06	0.15	34.21	92.44	34.59	0.66 ²	0.55	35.25	4.39	0.30	35.55	0.012	1.332	35.25	35.55	0.00
15	12	2.40	34.59	0.53†	0.42	35.12	5.68	0.50	35.60	18.60	35.00	0.66 ²	0.55	35.66	4.39	0.30	35.96	0.012	0.357	35.66	35.96	0.00
16	8	0.50	27.07	0.19†	0.08	27.26	6.05	0.57	28.99	21.92	28.60	0.34	0.18	28.94	2.79	0.12	29.06	0.012	0.076	29.13	29.25	0.19
17	12	1.90	32.74	1.00	0.79	34.10	2.42	0.09	34.19	23.76	35.00	0.58 ²	0.48	35.58	3.98	0.25	35.83	0.012	1.639	35.58	35.83	0.00
18	12	2.90	32.05	1.00	0.79	34.32	3.69	0.21	34.53	18.60	35.00	0.72 ²	0.61	35.72	4.77	0.35	36.08	0.012	1.545	35.72	36.08	0.00
19	12	3.30	24.20	1.00	0.79	25.94	4.20	0.27	26.22	28.50	24.50	1.00	0.79	26.15	4.20	0.27	26.42	0.012	0.209	26.23	26.51	0.08

Notes: ² Critical depth. † Supercritical.

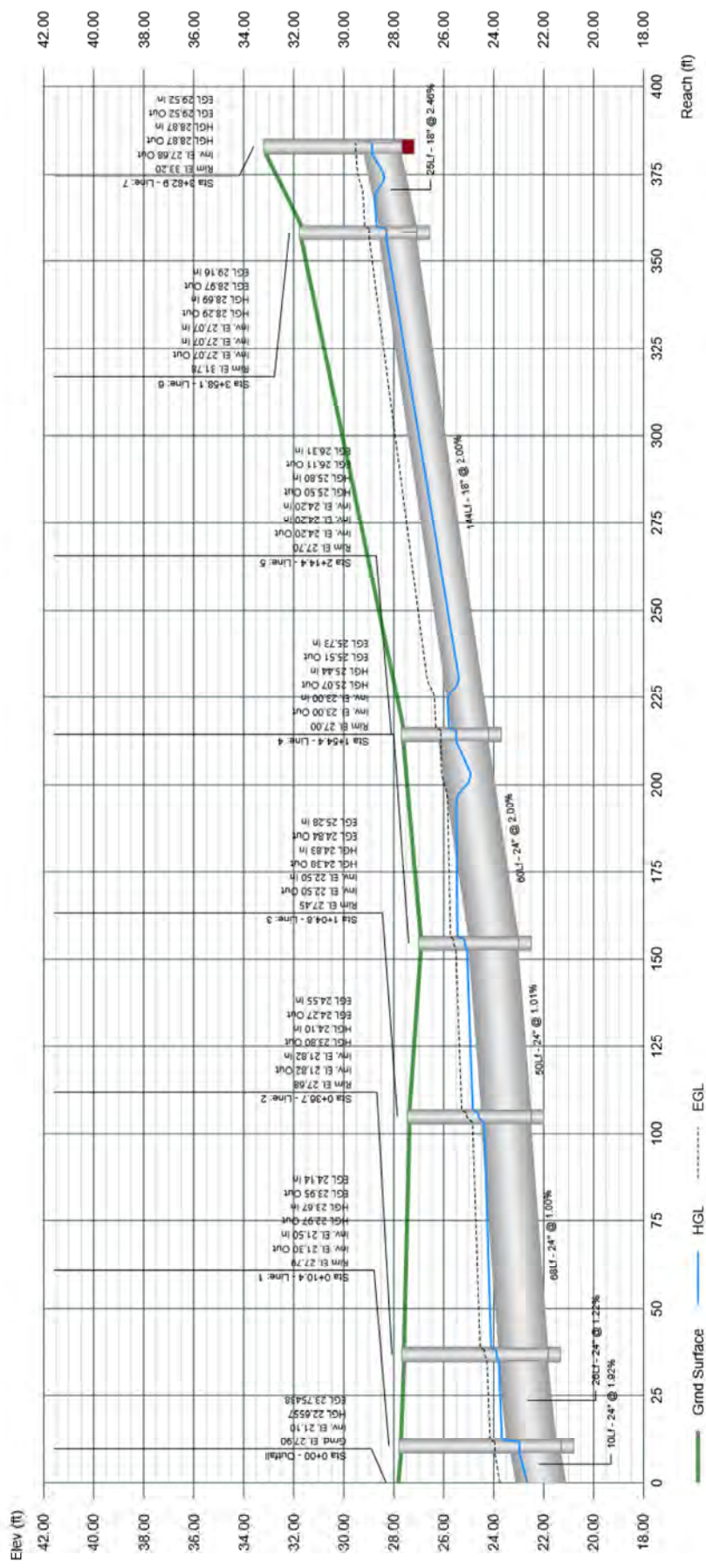
Project File: 2471 SD NORTH-R3.sws

Profile View

Stormwater Studio 2021 v 3.0.0.25

Project Name: 2471 SD NORTH-R3 (EAGLE ROCK CONNECTION)

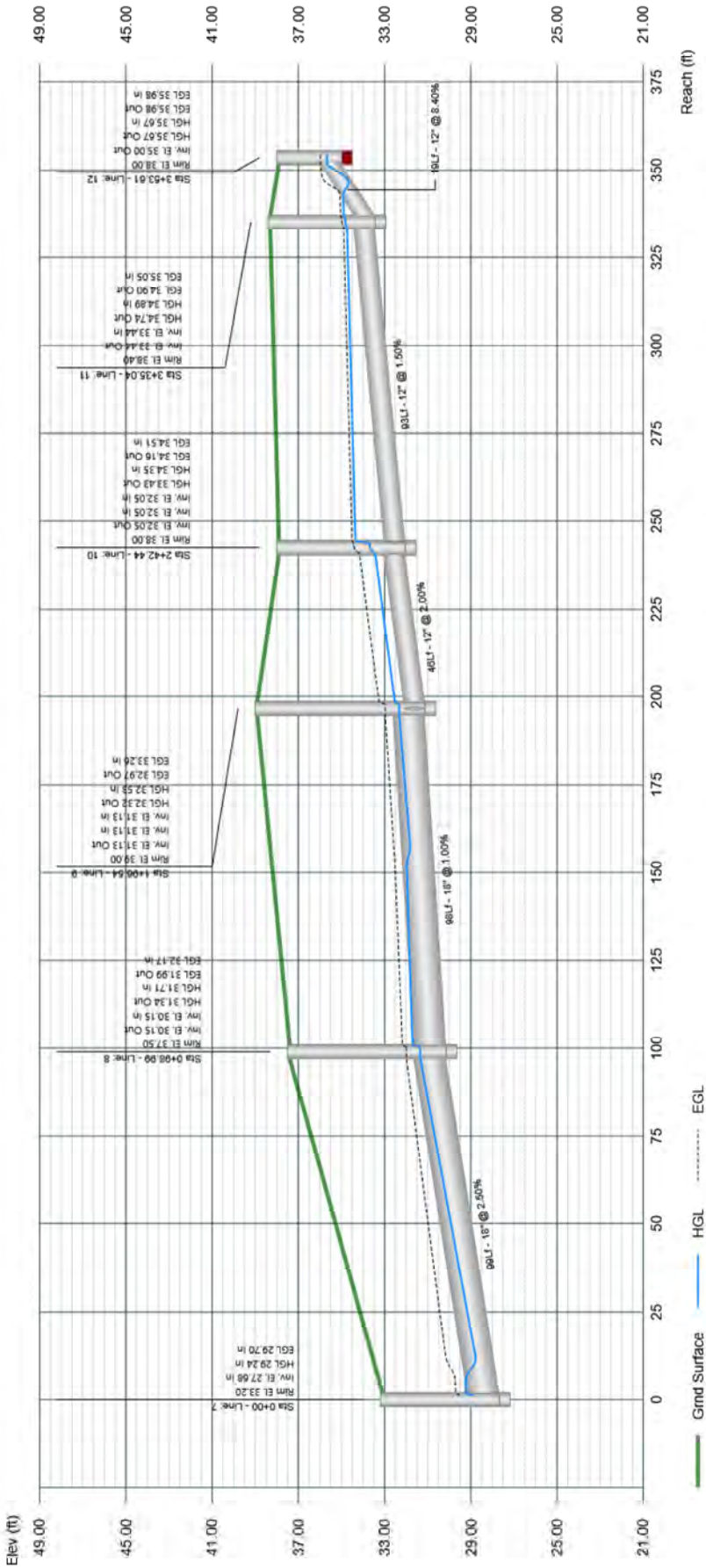
07-14-2022



Profile View

Stormwater Studio 2021 v 3.0.0.25

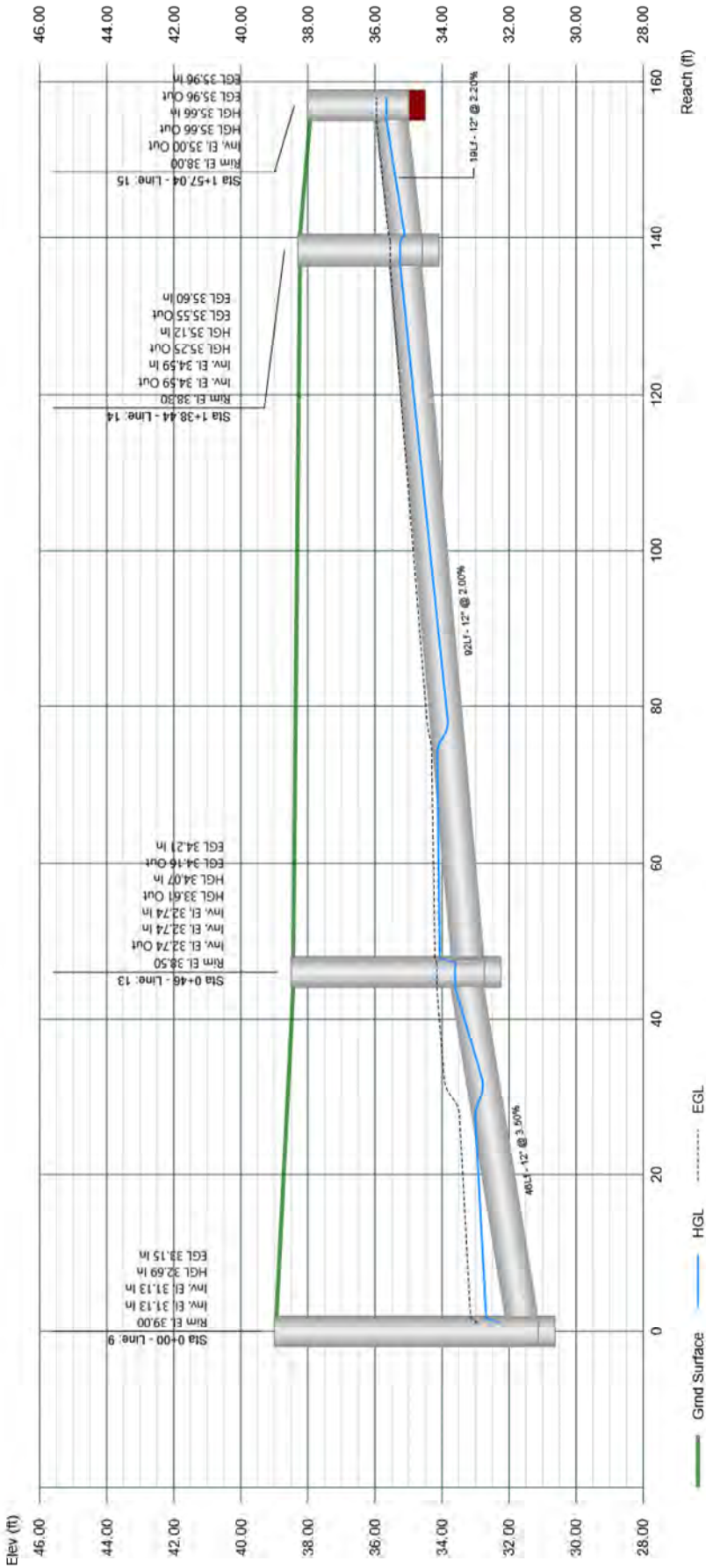
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Profile View

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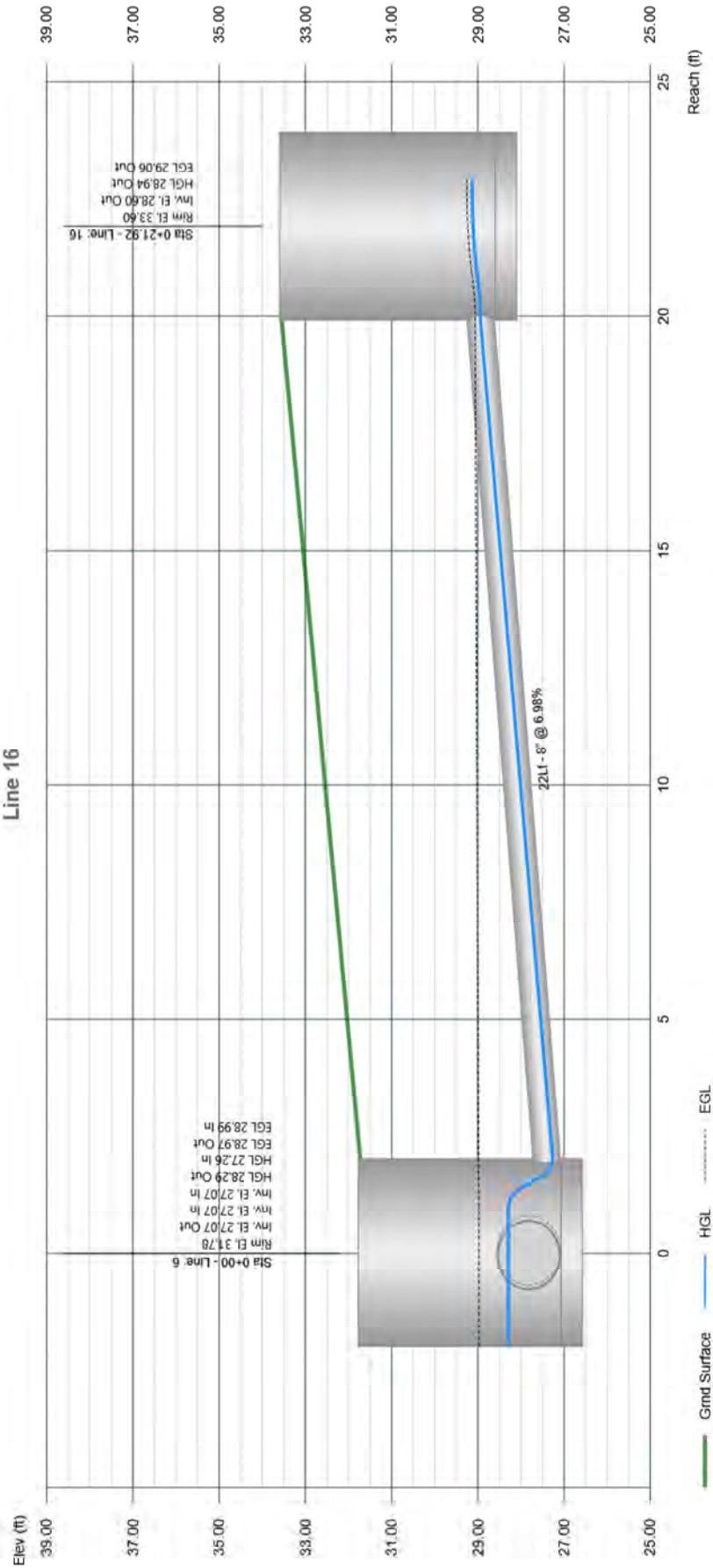
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07-14-2022



Profile View

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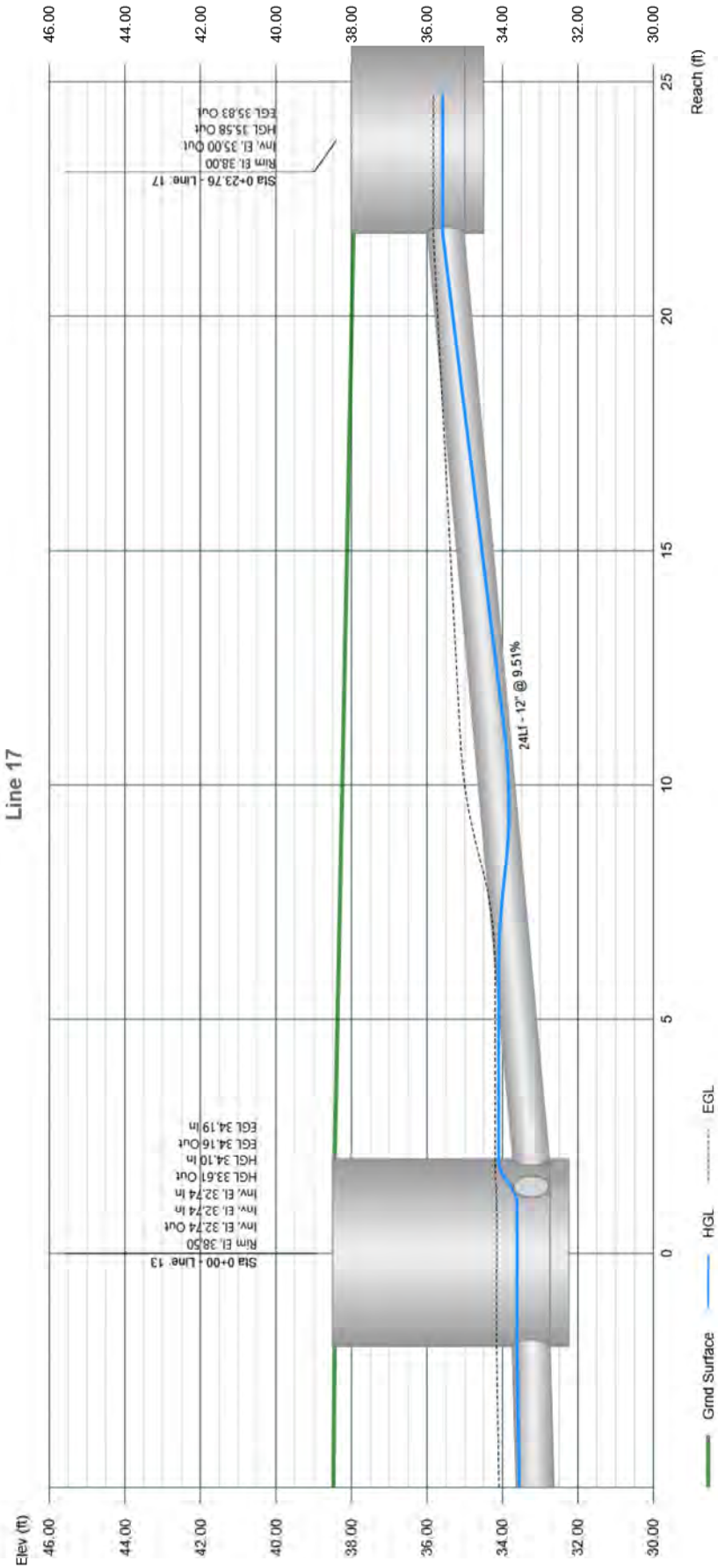
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07-14-2022



Profile View

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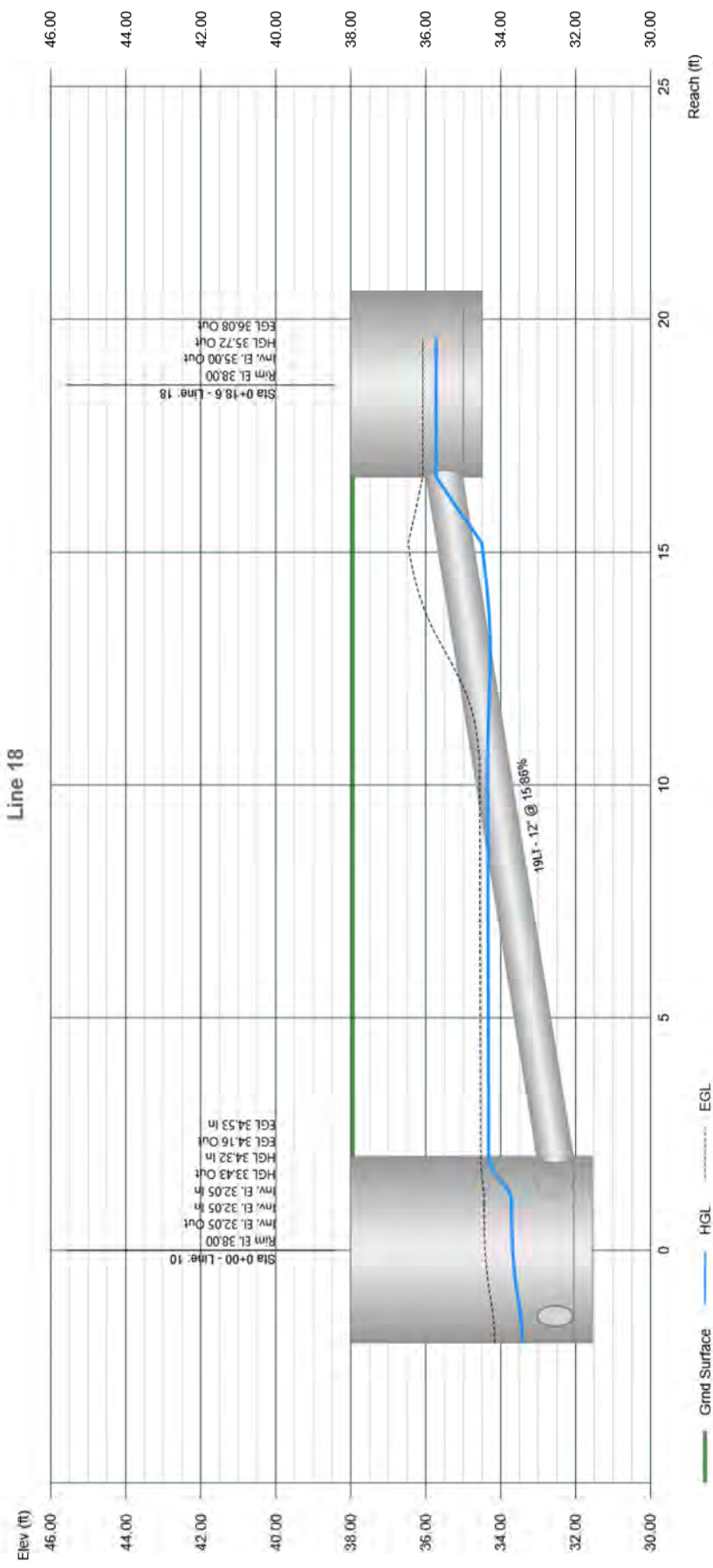
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07-14-2022



Profile View

Stormwater Studio 2021 v 3.0.0.25

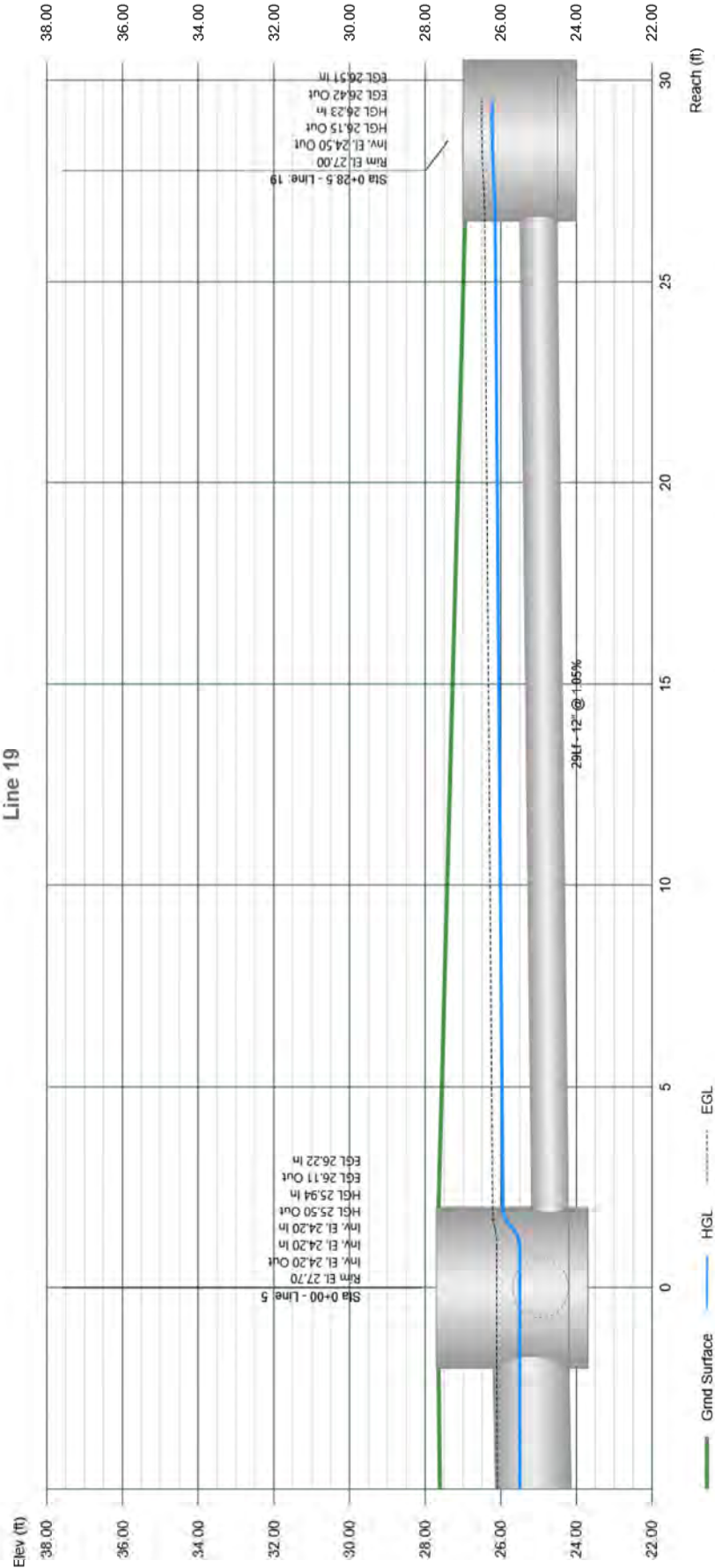
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Profile View

Stormwater Studio 2021 v 3.0.0.25

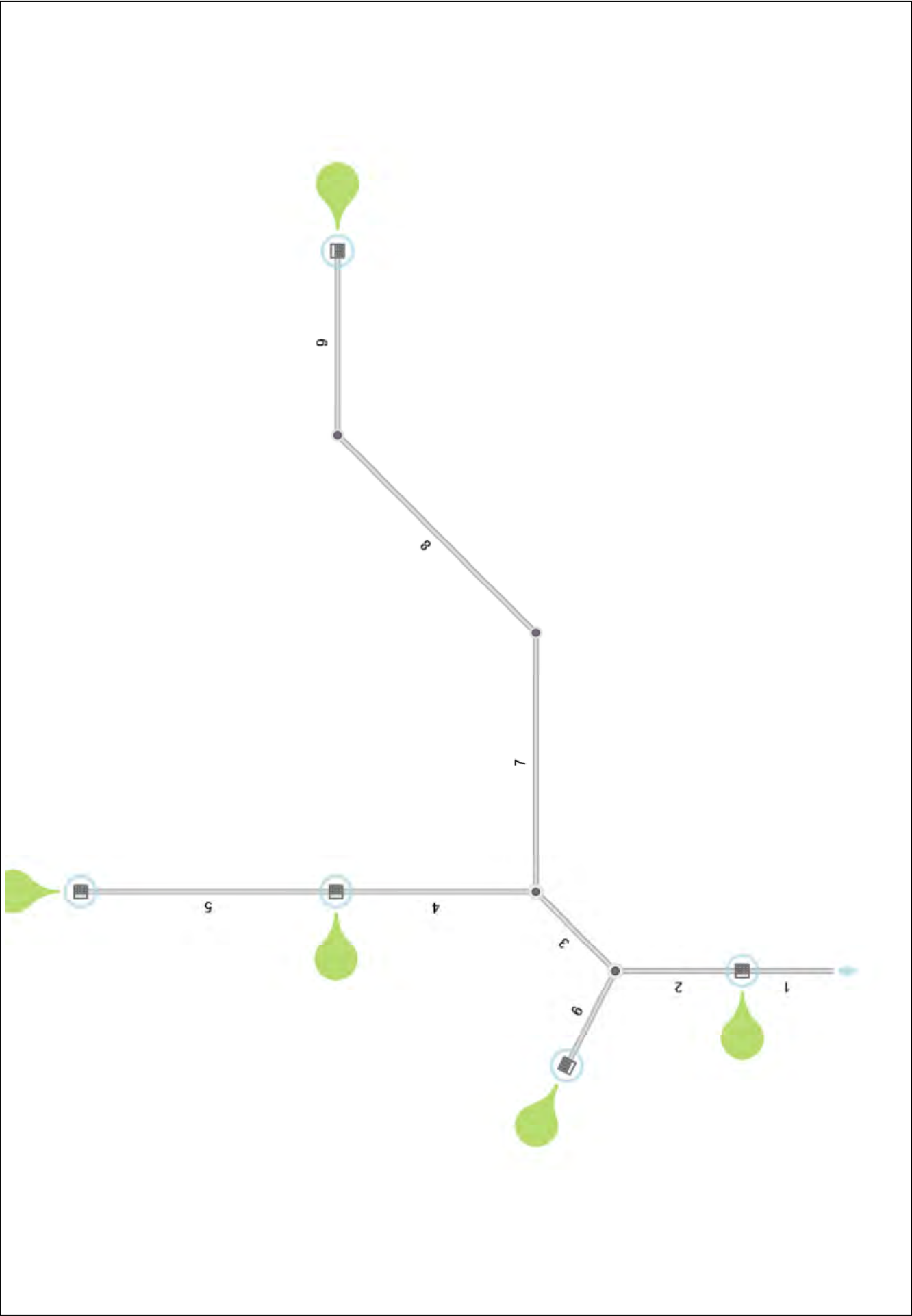
Project Name: 2471 SD NORTH-R3 (EAGLE ROCK CONNECTION)
07-14-2022



Plan View

Stormwater Studio 2021 v 3.0.0.25

Project Name: 2471 SD SOUTH-R (OAKLAND CONNECTION)
07-14-2022



Energy Grade Line Calculations

Stormwater Studio 2021 v 3.0.0.25

Project Name: 2471 SD SOUTH-R (OAKLAND CONNECTION)

07-14-2022

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	Energy Loss (ft)	HGLa Elev (ft)	EGLa Elev (ft)	Energy Loss (ft)
1	18	12.60	23.50	1.50	1.67	25.00	7.13	0.79	25.79	27.40	24.00	1.34 ²	1.67	25.34	7.57	0.89	26.23	0.013	0.439	25.34	26.23	0.00
2	18	7.60	24.30	1.50	1.77	26.06	4.30	0.29	26.34	38.80	24.49	1.50	1.77	26.23	4.30	0.29	26.52	0.012	0.173	26.39	26.68	0.16
3	18	6.80	24.49	1.50	1.77	26.54	3.85	0.23	26.77	34.30	24.66	1.50	1.77	26.66	3.85	0.23	26.89	0.012	0.123	26.79	27.02	0.13
4	18	5.70	24.66	1.50	1.77	26.92	3.23	0.16	27.08	61.00	24.97	1.50	1.77	27.07	3.23	0.16	27.24	0.012	0.153	27.12	27.28	0.05
5	12	1.00	24.96	1.00	0.79	27.27	1.27	0.03	27.29	78.00	25.35	1.00	0.79	27.32	1.27	0.03	27.34	0.012	0.052	27.33	27.35	0.01
6	8	0.80	24.49	0.67	0.35	26.63	2.29	0.08	26.71	32.50	25.00	0.67	0.35	26.75	2.29	0.08	26.83	0.012	0.122	26.77	26.85	0.02
7	12	1.10	24.66	1.00	0.79	27.00	1.40	0.03	27.03	79.04	27.43	0.44 ²	0.34	27.87	3.26	0.17	28.04	0.012	1.010	27.87	28.04	0.00
8	12	1.10	27.43	0.34 [‡]	0.24	27.77	4.67	0.34	28.06	85.60	28.74	0.44 ²	0.34	29.18	3.26	0.17	29.35	0.012	1.292	29.18	29.35	0.00
9	12	1.10	28.74	0.35 [‡]	0.24	29.09	4.54	0.32	29.37	56.30	29.60	0.44 ²	0.34	30.04	3.26	0.17	30.21	0.012	0.842	30.04	30.21	0.00

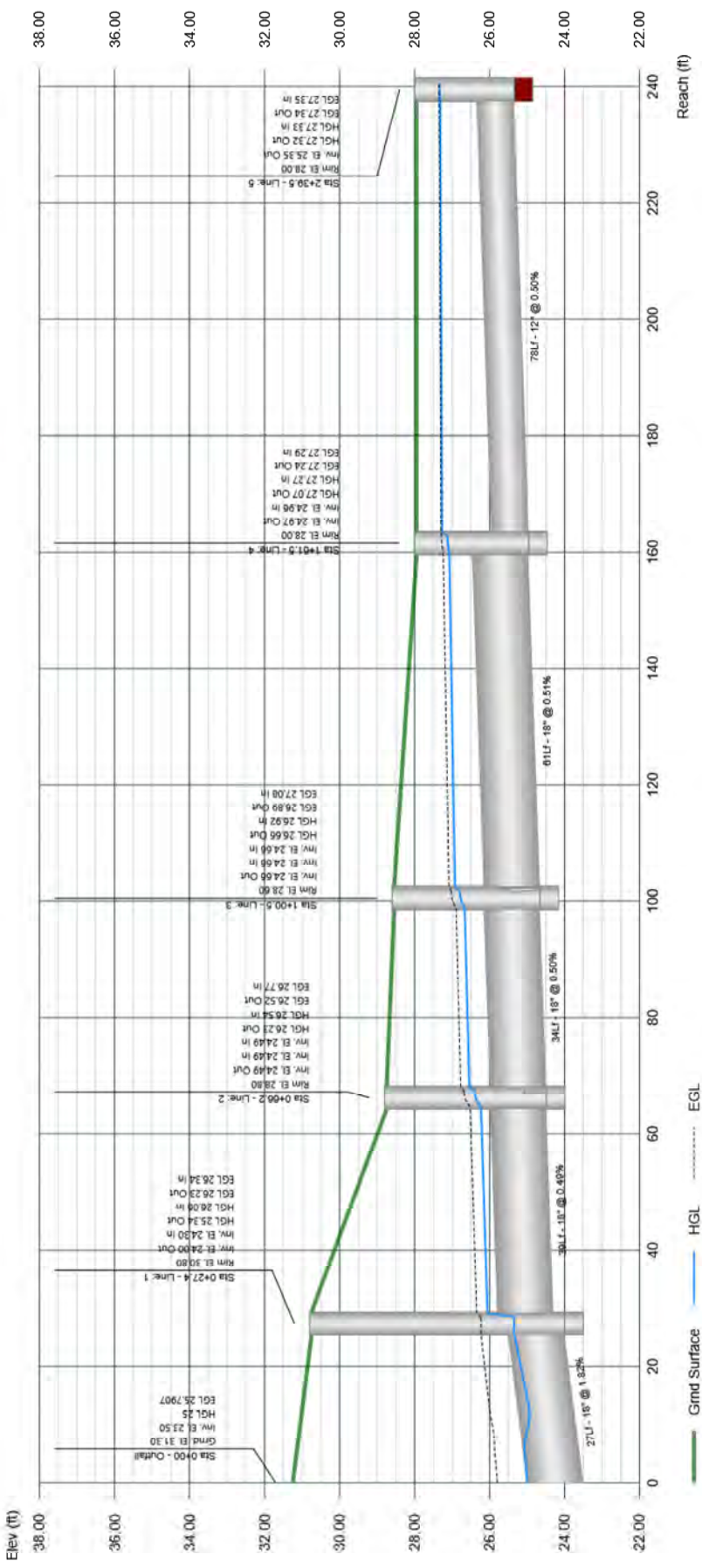
Notes: ² Critical depth. [‡] Supercritical.

Project File: 2471 SD SOUTH-R.sws

Profile View

Stormwater Studio 2021 v 3.0.0.25

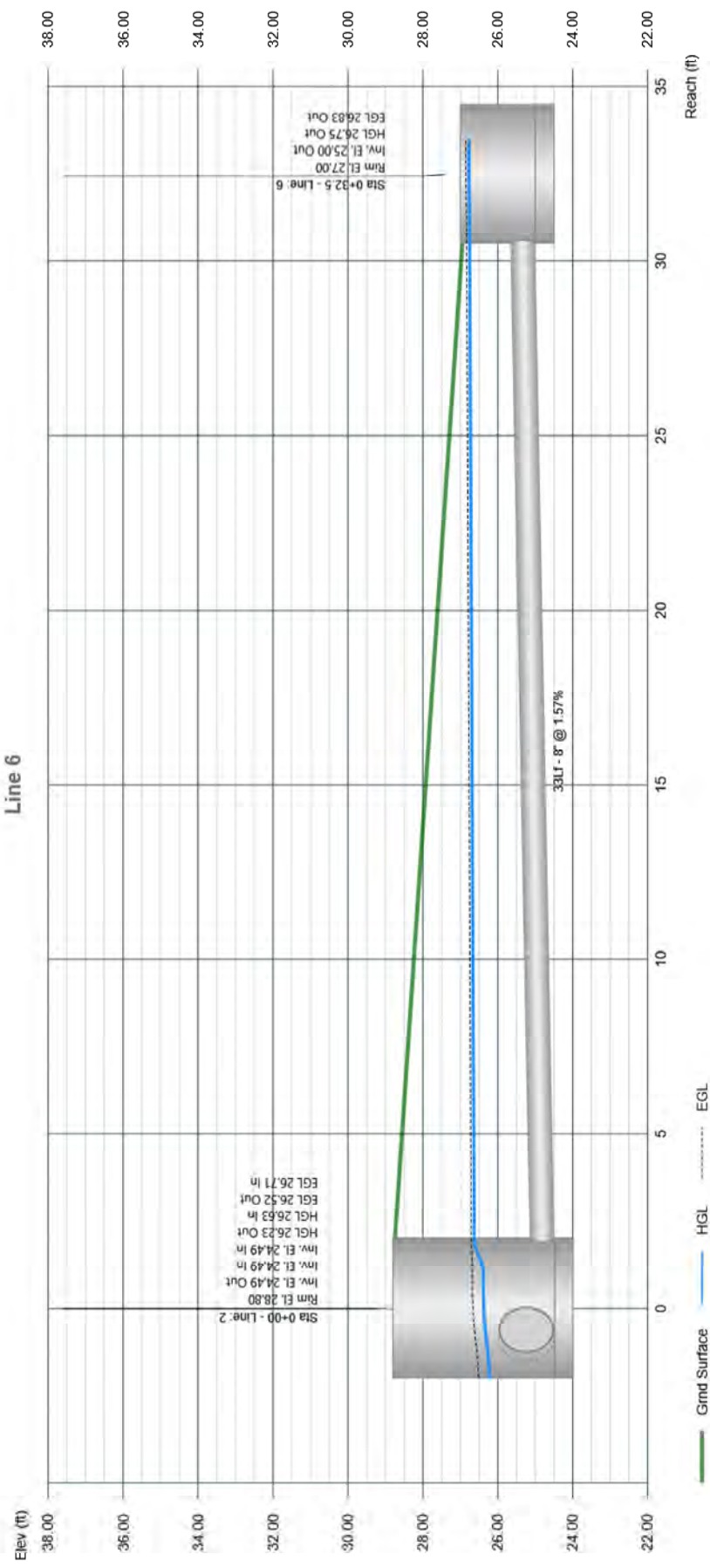
Project Name: 2471 SD SOUTH-R (OAKLAND CONNECTION)
07-14-2022



Profile View

Stormwater Studio 2021 v 3.0.0.25

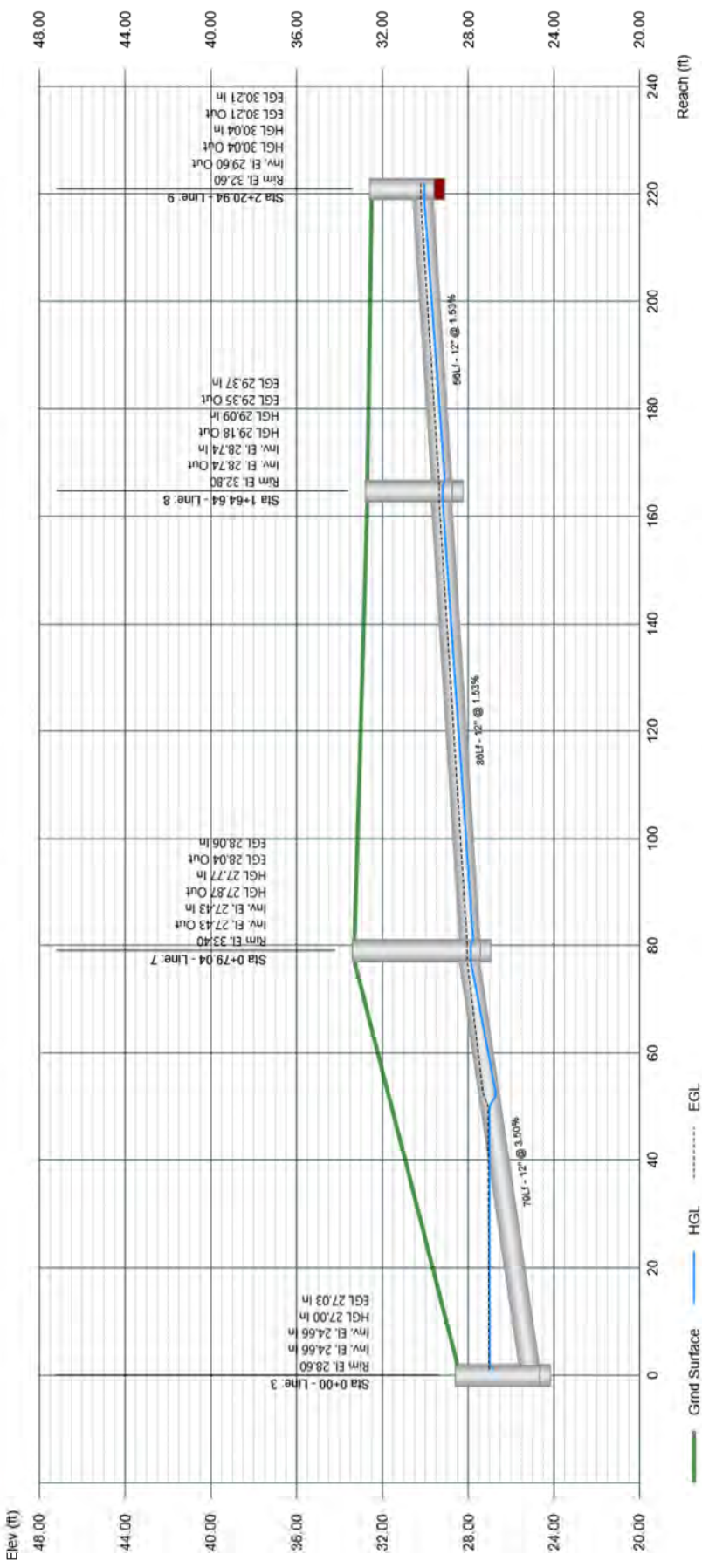
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07-14-2022



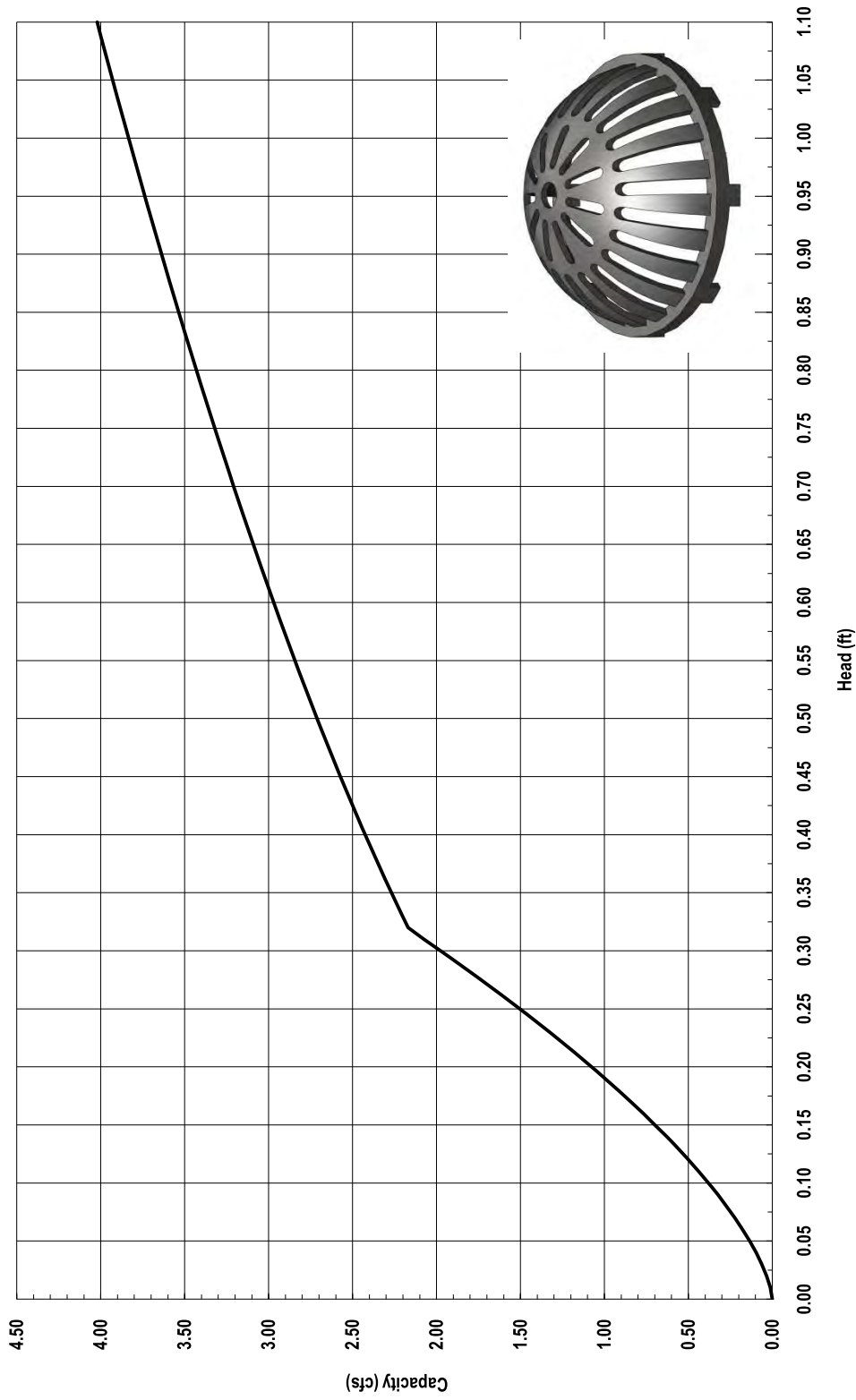
Profile View

Stormwater Studio 2021 v 3.0.0.25

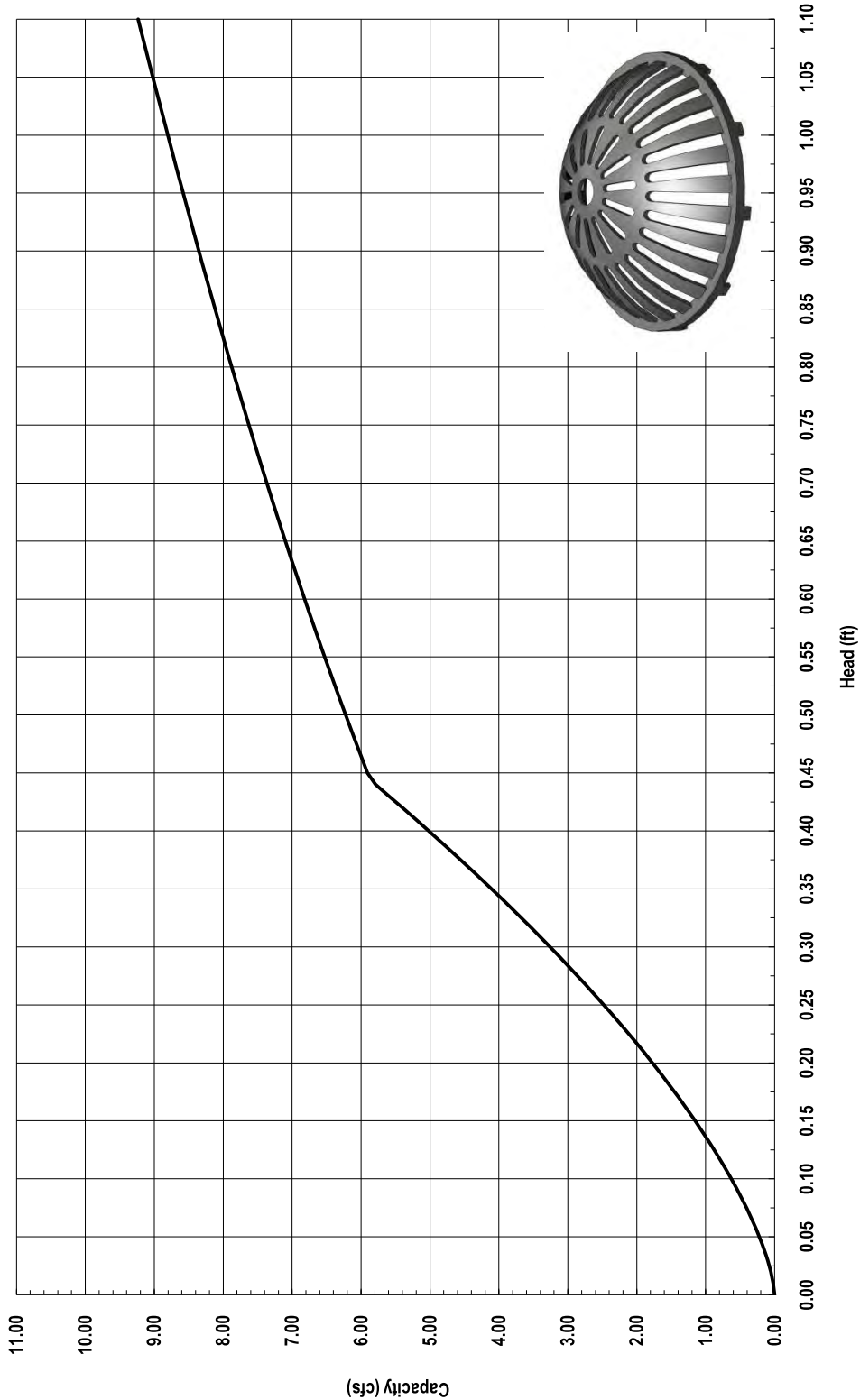
Project Name: 2471 SD SOUTH-R (OAKLAND CONNECTION)
07-14-2022



Nyloplast 15" Dome Grate Inlet Capacity Chart

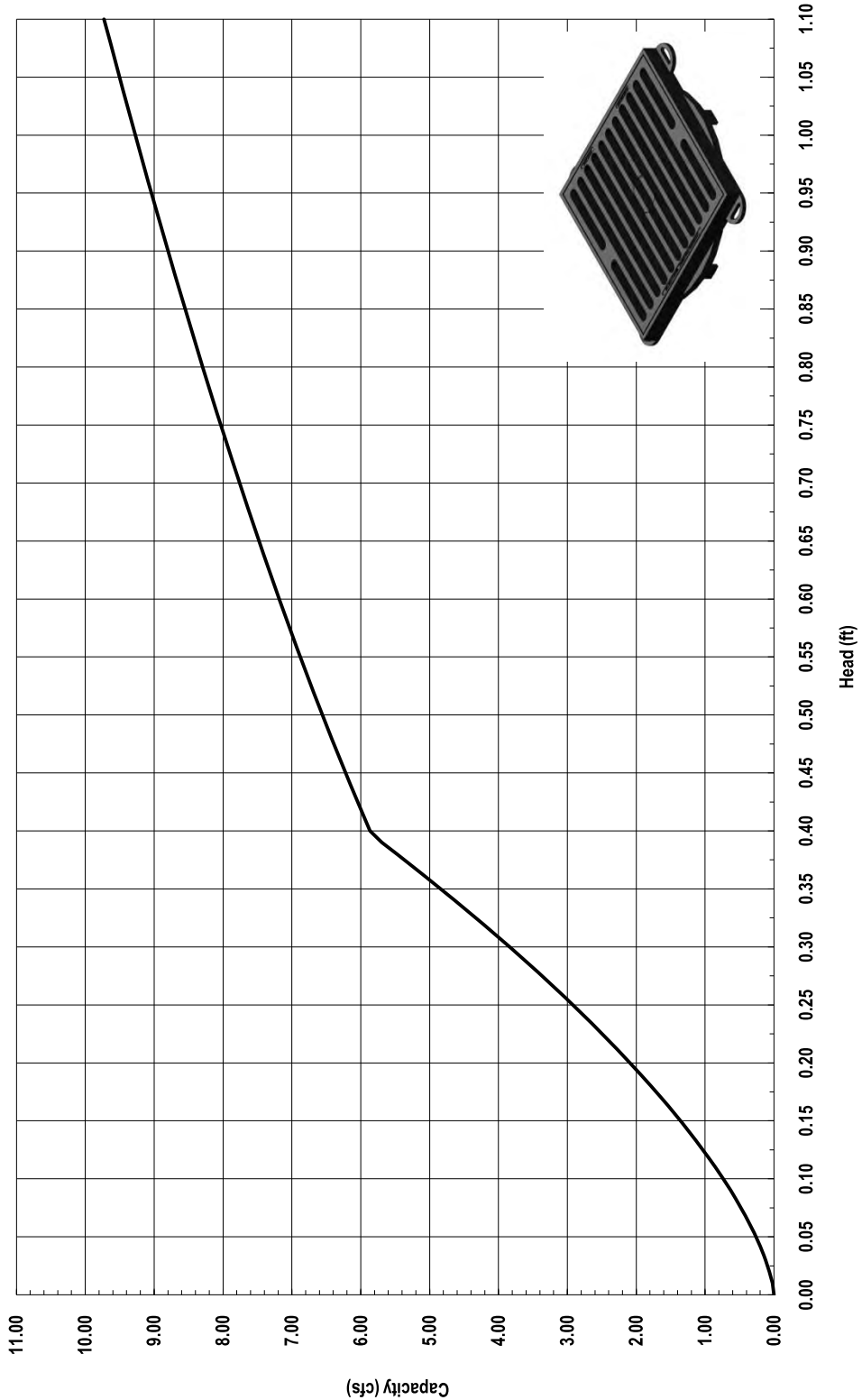


Nyloplast 24" Dome Grate Inlet Capacity Chart



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Nyloplast 2' x 2' Road & Highway Grate Inlet Capacity Chart



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APPENDIX C

**EXCERPTS FROM DESIGN ANALYSIS REPORT FOR SAN
PEDRO STORM DRAIN PROJECT BY THOMPSON
ENGINEERING CONSULTANTS, INC.**

**CITY OF ALBUQUERQUE LETTER OF ACCEPTANCE FOR
LOMR SUBMITTAL**



DESIGN ANALYSIS REPORT
FOR
SAN PEDRO STORM DRAIN PROJECT
CITY PROJECT NO. 5304.91

Prepared by:
Thompson Engineering Consultants, Inc.
P.O. Box 65760
Albuquerque, NM 87193

January 2010

IV. SUMMARY OF STUDY CONCLUSIONS

A. HYDROLOGY

The scope of work identified reviewing the drainage basins in the NAADMP and revising those basins based on subsequent drainage reports that affect the basins that drain to San Pedro within the project area. The NAADMP identified basins 116.2, 117.2, 117.3 and 117.4 draining to San Pedro Boulevard from the east (refer to Appendix A). Also basin 116.21 drains to the I-25 culverts north of Alameda Place. For the developed condition, these basins have Land Treatment Type D percentages ranging from 40% to 60%. The ERSDAP included diverting flows from the NAADMP basin 117.2 to basin 116.2. This diversion reduced the peak flows reaching San Pedro at Oakland, but increased the peak flows reaching San Pedro at Eagle Rock.

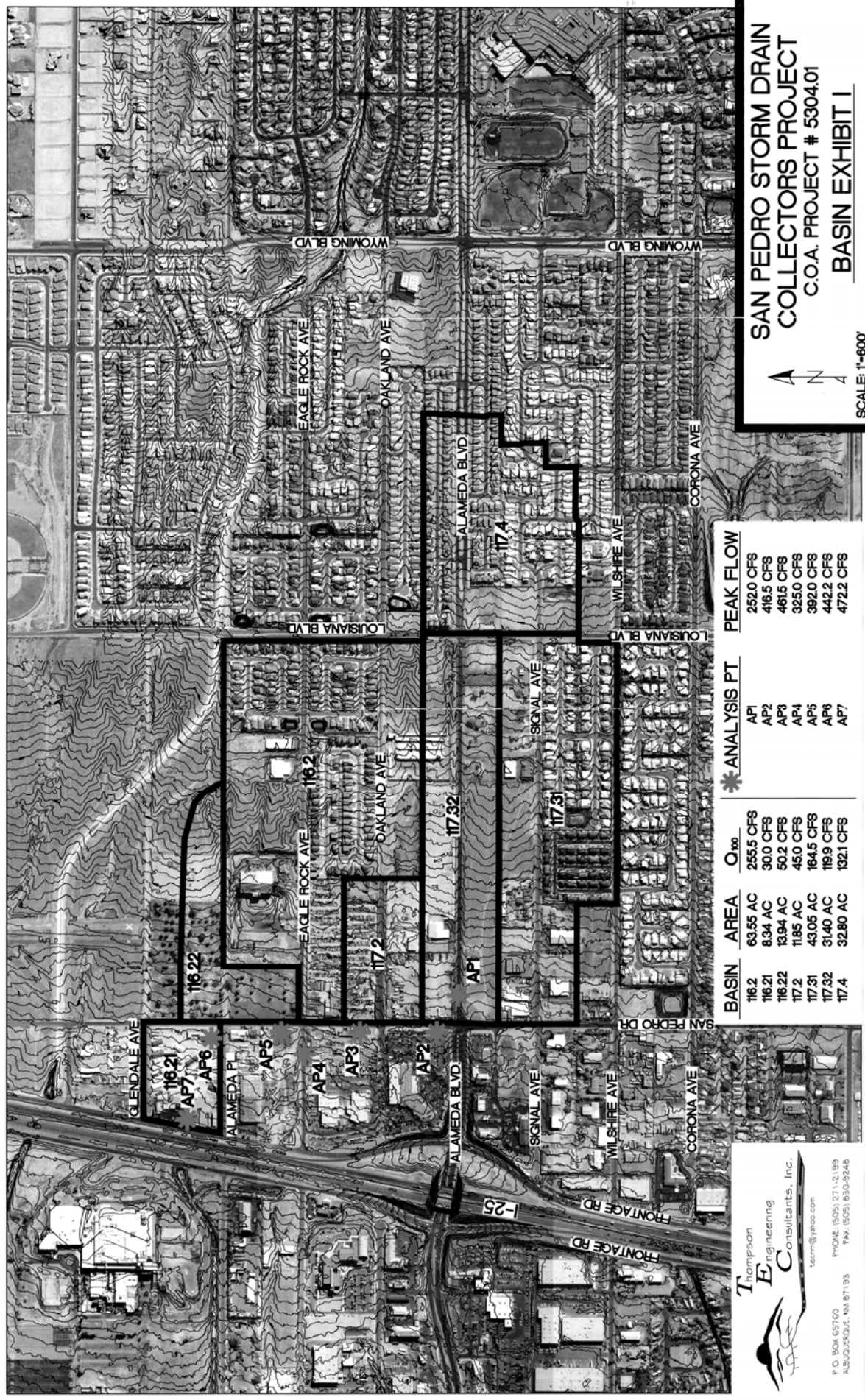
Based on the City of Albuquerque 2 foot contour mapping, other basins were revised for this study from those shown in the NAADMP to more closely follow existing conditions. Basin 116.21 was revised to include the area bounded by Alameda Place, I-25 frontage road, Glendale Avenue, and San Pedro. Basin 116.22 was added to help determine the runoff that reaches the intersection of San Pedro and Alameda Place from the east. Also, basin 117.3 was divided into two basins, 117.31 and 117.32, to determine the flows that reach San Pedro at Signal and at Alameda Boulevard.

For each of the revised basins it was assumed that the Land Treatment D percentage would be the same for the similar basins in the NAADMP. Therefore, the revised basin area was multiplied by the unit peak flow (CFS/ACRE) to determine the peak flow from that basin. To be conservative, the peak flows from each basin were added instead of routed. Exhibit I shows the revised drainage basins and peak flows for each basin and at critical analysis points. Table 1 shows the peak flows for the revised drainage basins.

Table 1 Revised Drainage Basin Peak Flows

Basins	Area (acres)	Type D Land Treatment (%)	CFS/Acre	100yr Peak Flow (CFS)
116.2	63.55	50	4.02	255.5
116.21	8.34	40	3.60	30.0
116.22	13.94	40	3.60	50.2
117.2	11.85	50	3.80	45.0
117.31	43.05	50	3.82	164.5
117.32	31.40	50	3.82	119.9
117.4	32.80	60	4.03	132.1

Exhibit I also shows critical Analysis Points along the San Pedro Storm Drain. Table 2 shows the analysis point locations and peak flow to be conveyed by the San Pedro storm drain. At Eagle Rock west of San Pedro, it is assumed that 325 CFS will be diverted from the San Pedro storm drain to the Eagle Rock storm drain and then to the I-25



SAN PEDRO STORM DRAIN COLLECTORS PROJECT C.O.A. PROJECT # 5304.01 **BASIN EXHIBIT I**

SCALE: 1"=600'

BASIN	AREA	Q ₁₀₀	ANALYSIS PT	PEAK FLOW
116.2	63.55 AC	255.5 CFS	AP1	2520 CFS
116.21	8.34 AC	30.0 CFS	AP2	416.5 CFS
116.22	13.94 AC	50.2 CFS	AP3	461.5 CFS
117.2	11.85 AC	45.0 CFS	AP4	3250 CFS
117.31	43.05 AC	164.5 CFS	AP5	3920 CFS
117.32	31.40 AC	119.9 CFS	AP6	4422 CFS
117.4	32.80 AC	1321 CFS	AP7	4722 CFS

**Thompson
Engineering
Consultants, Inc.**
tccn@yahoo.com

P.O. BOX 65760
ALBUQUERQUE, NM 87193

PHONE: (505) 271-2199
FAX: (505) 850-9246

City of Albuquerque
Planning Department
Development Review Services
HYDROLOGY SECTION

APPROVED

DATE: 10/20/21
BY: Renee C. Brissett
HydroTrans # C18D108

THE APPROVAL OF THESE PLANS/REPORT SHALL NOT BE
CONSTRUED TO PERMIT VIOLATIONS OF ANY CITY
ORDINANCE OR STATE LAW, AND SHALL NOT PREVENT
THE CITY OF ALBUQUERQUE FROM REQUIRING
CORRECTION, OR ERROR OR DIMENSIONS IN PLANS,
SPECIFICATIONS, OR CONSTRUCTIONS. SUCH APPROVED PLANS
SHALL NOT BE CHANGED, MODIFIED OR ALTERED WITHOUT
AUTHORIZATION.

AUGUST 2021 EAG

LOMR

FOR

South La Cueva Arroyo

**OAKLAND AVE & SAN
PEDRO BLVD**

ZONE AO
(DEPTH 1')

BY

**Isaacson &
Arfman, Inc.**
Civil Engineering Consultants
128 Monroe Street NE
Albuquerque, New Mexico | 505-268-8828 | www.iacivil.com



I&A Project No. 2408

CITY OF ALBUQUERQUE

Planning Department
Alan Varela, Interim Director



Mayor Timothy M. Keller

October 20, 2021

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

RE: Oakland Ave & San Pedro (aka Sierra Vista Apartments)
LOMR Request Engineer's Stamp Date: 08/22/2021
Hydrology File: C18D108

Dear Ms. Donart:

Based on the information provided in the LOMR Request received on 08/23/2021, the above-referenced application can be submitted to FEMA with the City's concurrence (see attached Community Acknowledgement, MT-2 Form 1)

You will need to submit the entire package to FEMA and pay FEMA's review fee. Please be sure to copy me with all FEMA correspondence.

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

Sincerely,

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

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

APPENDIX D

GRADING PLANS:

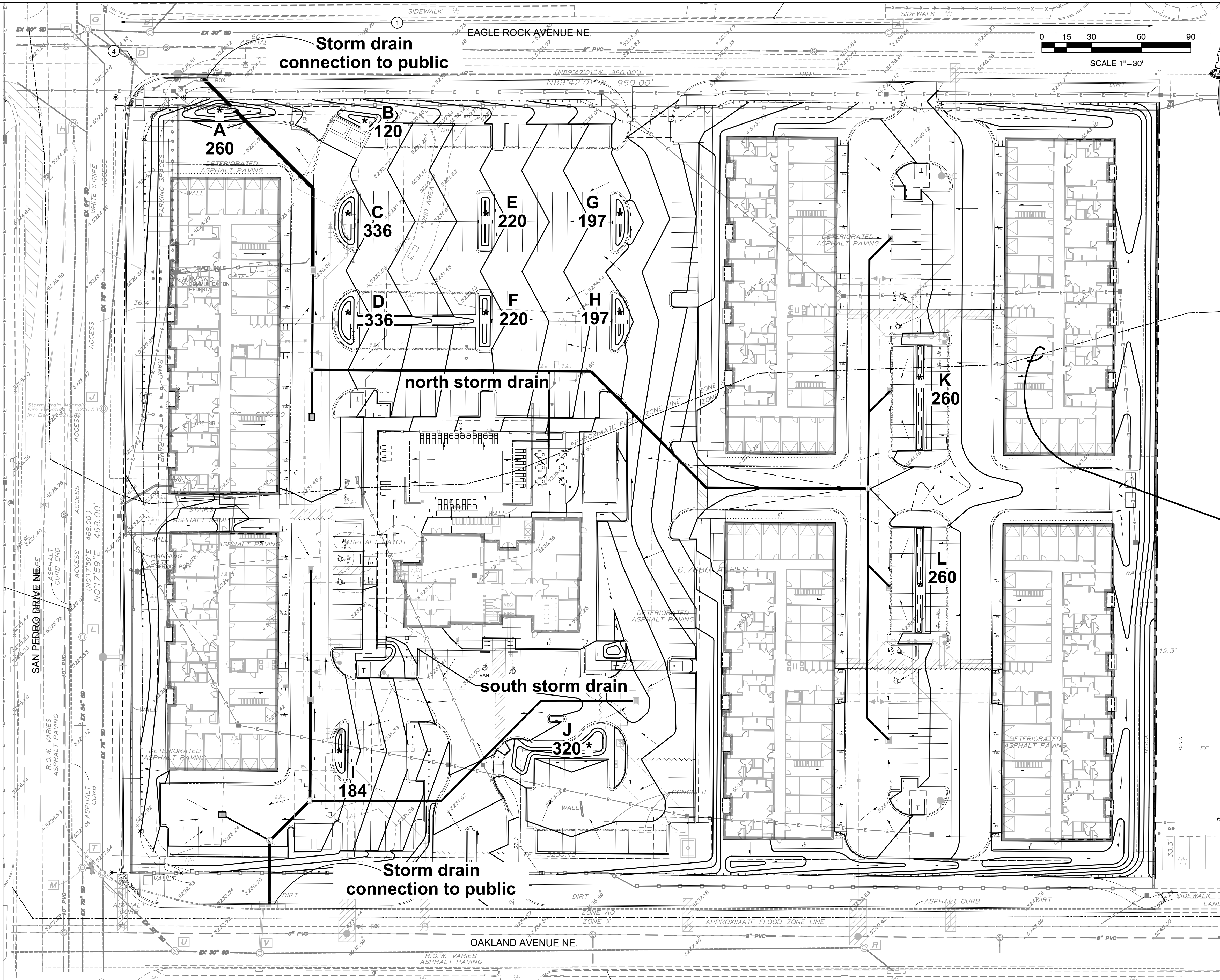
CG-100 OVERALL GRADING PLAN

CG-101-103 GRADING PLANS

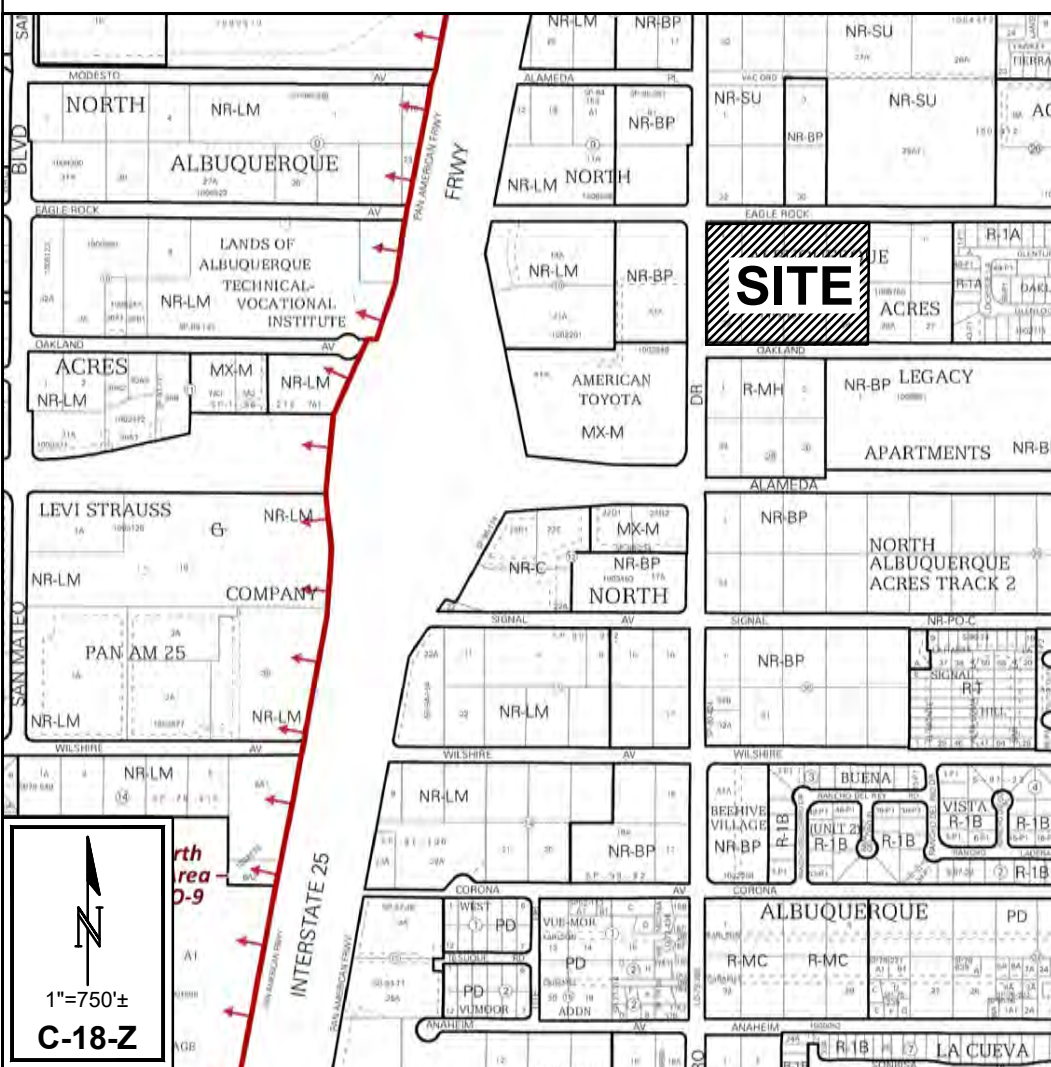
CG-501 GRADING DETAILS

CG-502 STORM DRAIN PLAN





VICINITY MAP C-18



PROJECT INFORMATION

PROPERTY: THE SITE IS A PREVIOUSLY DEVELOPED PROPERTY LOCATED WITHIN C.O.A. VICINITY MAP C-18. THE SITE IS BOUND TO THE WEST BY SAN PEDRO BLVD., TO THE NORTH BY EAGLE ROCK AVE., TO THE SOUTH BY OAKLAND AVE. AND TO THE EAST BY DEVELOPED COMMERCIAL PROPERTY. THE PROPERTY SLOPES FROM EAST TO WEST AT APPROXIMATELY 3%.

PROPOSED IMPROVEMENTS: THE PROPOSED IMPROVEMENTS INCLUDE MULTI-STORY APARTMENT BUILDINGS WITH ASSOCIATED ASPHALT PAVED ACCESS, PARKING, SITE AMENITIES, AND LANDSCAPING.

LEGAL: LOTS 1, 2, 3, 4, 29, 30, 31 AND 32, BLOCK 27, NORTH ALBUQUERQUE ACRES, ALBUQUERQUE, NEW MEXICO.

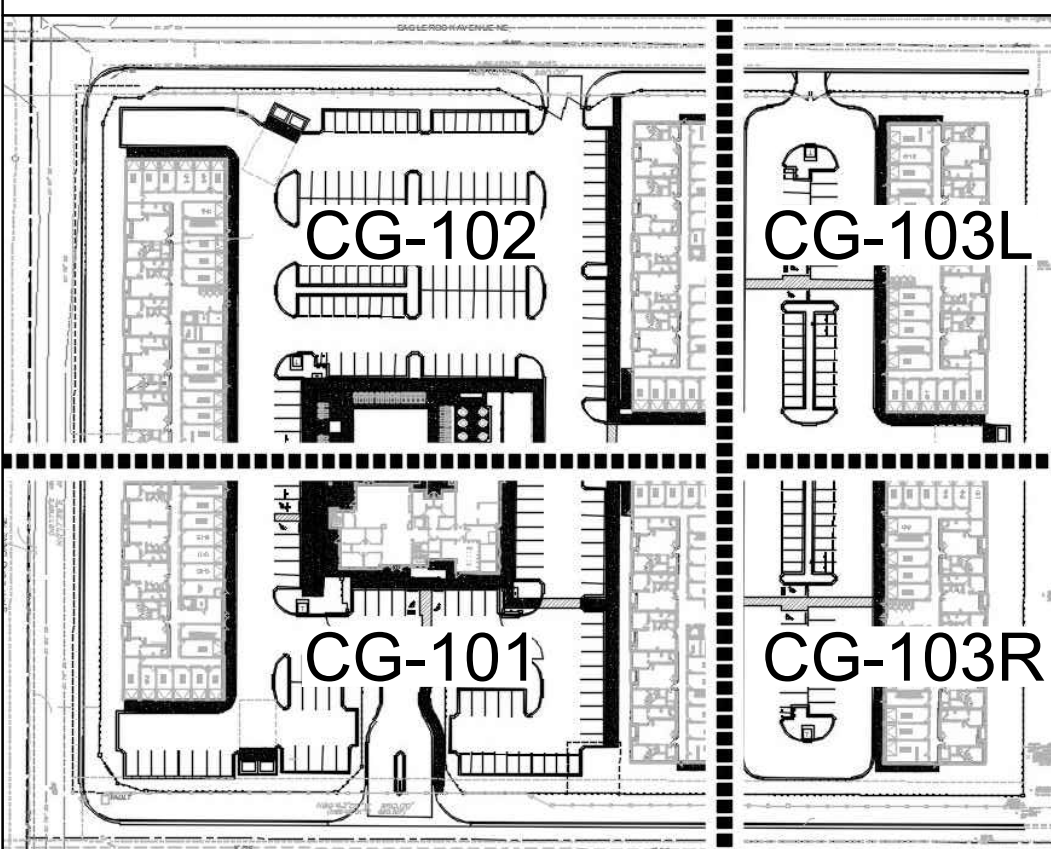
AREA: 6.580 AC

BENCHMARKS:
ALBUQUERQUE CONTROL SURVEY MONUMENT 10C_18, ELEVATION (FEET) = 5222.09 (NAVD88)
ALBUQUERQUE CONTROL SURVEY MONUMENT 9C_18, ELEVATION (FEET) = 5232.47 (NAVD88)

OFF-SITE: NO OFF-SITE DRAINAGE IMPACTS THIS PROPERTY. ALL OPENINGS IN THE EXISTING CMU WALL TO THE EAST WILL BE GROUTED TO PREVENT OFFSITE STORMWATER FROM ENTERING THIS PROPERTY.

FLOOD HAZARD: PER FEMA FLOOD HAZARD MAP 35001C0137H, EFFECTIVE DATE 8/16/2012, THE SITE IS LOCATED WITHIN FLOODZONE 'X' DESIGNATED AS AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOODPLAIN AND IN ZONE 'AO' - DEPTH 1 FOOT. A L.O.M.R. IS UNDERWAY TO ELIMINATE THE FLOOD ZONE IN THE AREA.

GRADING & DRAINAGE KEY



ADA COMPLIANCE

SIDEWALK(S) AND RAMP(S):
* LONGITUDINAL SLOPE SHALL NOT EXCEED 20:1
* TARGET CROSS SLOPE = 1% TO 1.5%. CROSS SLOPE SHALL NOT EXCEED 2%
ACCESSIBLE RAMP(S):
* TARGET LONGITUDINAL SLOPE = 7% LONGITUDINAL SLOPE SHALL NOT EXCEED 12:1 (8.3%)
* TARGET CROSS SLOPE = 1% TO 1.5%. CROSS SLOPE SHALL NOT EXCEED 2%
ACCESSIBLE PARKING: TARGET SLOPE = 1% TO 1.5%. SHALL NOT EXCEED 2% SLOPE IN ANY DIRECTION

STORMWATER QUALITY

FOR REDEVELOPMENT SITES, THE CABQ STORMWATER QUALITY VOLUME (SWQV) IS BASED ON THE 80TH PERCENTILE STORM EVENT OR 0.26". THE IMPERVIOUS AREA FOR THIS PROPERTY IS 237,891 SF (83% OF TOTAL AREA). THE TOTAL REQUIRED S.Q. RETENTION VOLUME = 0.26" * TYPE 'D' AREA: 0.26/12 * 237,891 SF) = 5,154 CF.

SWQV RETENTION WILL BE PROVIDED THROUGHOUT THE PROPERTY. THE TOTAL AVAILABLE VOLUME IS 2,910 CF (56% OF REQUIRED). AN IN-LIEU-OF WAIVER IS REQUESTED FOR THE REMAINING 2,244 CF.

LEGEND

— 39 — PROPOSED 1.0' CONTOUR
— SURFACE FLOW DIRECTION
FF = 5237.5 FINISH FLOOR ELEVATION
- - - - - PROPOSED STORM DRAIN SYSTEM
J 320 * PROPOSED STORMWATER QUALITY RETENTION POND (ID & VOLUME CF)

Isaacson & Arfman, Inc.
Civil Engineering Consultants

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Albuquerque, NM 87108
505-266-8828 | www.iaacfi.com

FRED C. ARFMAN
NEW MEXICO
7322
Professional Engineer
07.22.22

Engineer

SAN PEDRO APARTMENTS

San Pedro & Eagle Rock
Albuquerque, New Mexico

No	Date	Description

DESIGN DEVELOPMENT
ISSUE: DEVELOPMENT
PROJECT NUMBER: IA 2471
FILE:
DRAWN BY: BJB/tor
CHECKED BY: FCA
DATE: 05-25-2022

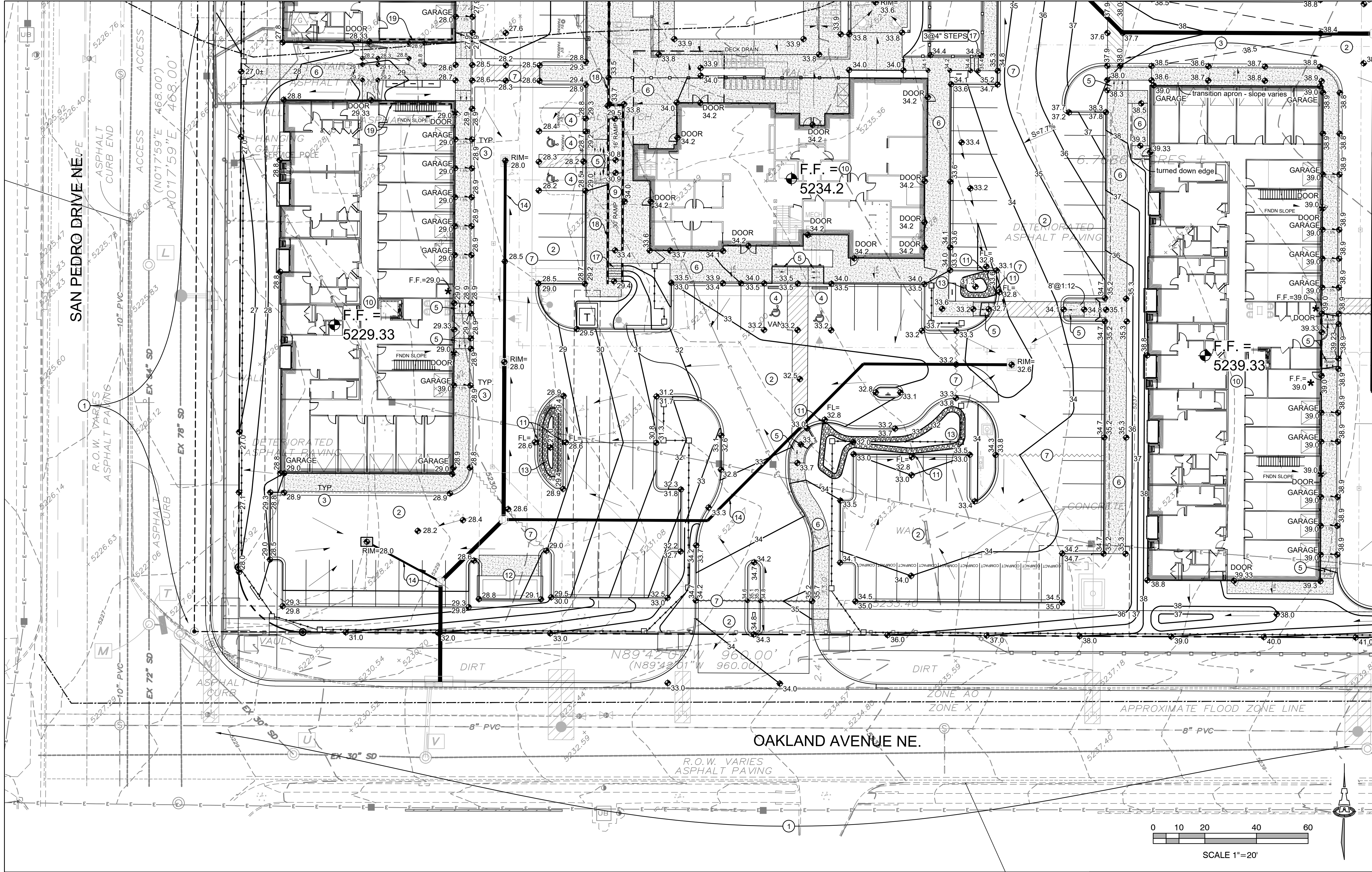
SHEET TITLE

OVERALL
GRADING &
DRAINAGE
PLAN

SHEET NUMBER

CG-100

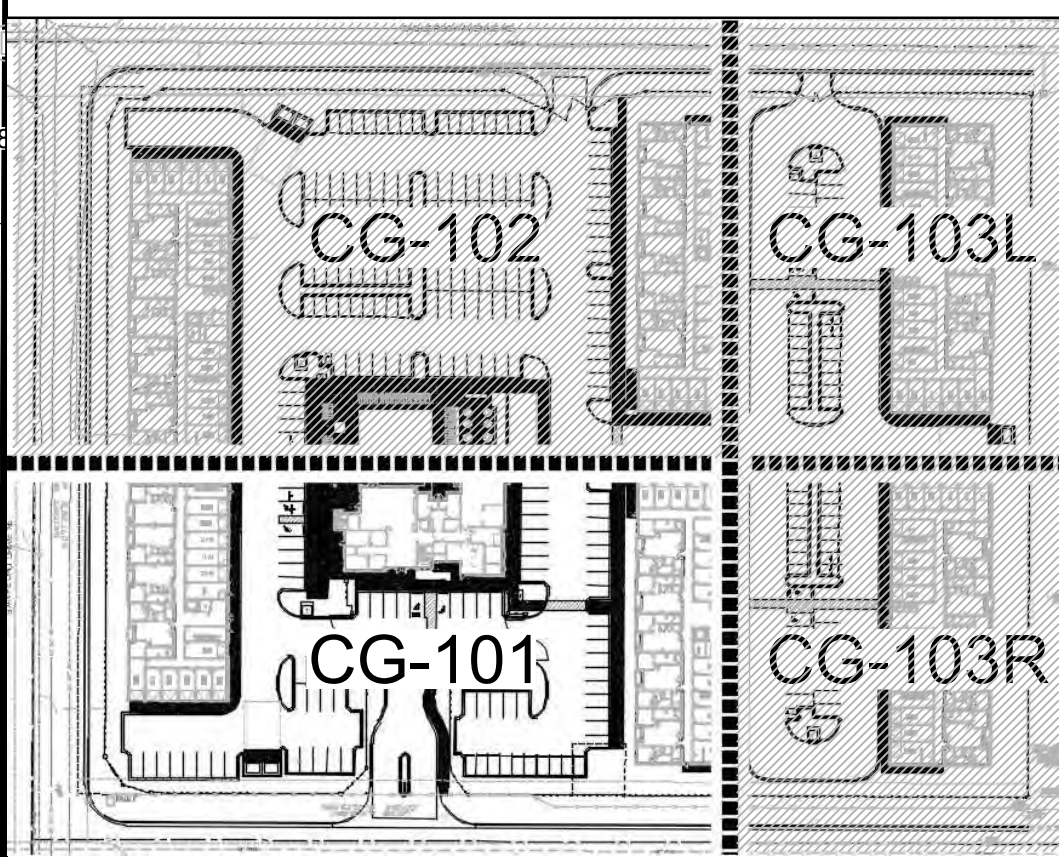
\\PROJECTS\ARCH\ARCH\PROJECTS\18 SAN PEDRO\18 SAN PEDRO.dwg 12/22/2023 1:18 PM



LEGEND

- 39 PROPOSED 1.0' CONTOUR
- 38.5 PROPOSED 0.5' CONTOUR
- 37.5 PROPOSED SPOT ELEVATION
- SURFACE FLOW DIRECTION
- FF = 5237.5 FINISH FLOOR ELEVATION
- PROPOSED STORM DRAIN SYSTEM
- PROPOSED STORMWATER QUALITY RETENTION (CONCEPTUAL)
- LOWERED 4" BELOW MAIN F.F. BUILDING ELEV. SEE FOUNDATION PLANS.

GRADING & DRAINAGE KEY



KEYED NOTES

THESE NOTES ARE REFERENCED ON SHEETS CG-101, CG-102 AND CG-103. NOT ALL NOTES ARE USED ON EACH SHEET.

- CONSTRUCTION WITHIN THE R/W INCLUDING ENTRANCE DRIVES, CONCRETE VALLEY GUTTER, PUBLIC SIDEWALK AND RAMPS, STREET PAVEMENT, UTILITIES, ETC. SHALL BE CONSTRUCTED UNDER SEPARATE PUBLIC WORK ORDER. NO WORK SHALL BE PERFORMED IN THE PUBLIC ROW WITHOUT AN APPROVED WORK ORDER OR EXCAVATION PERMIT.
- CONSTRUCT NEW PAVING AT ELEVATIONS SHOWN. SEE PAVING PLAN FOR MATERIAL, EXTENTS, JOINTS AND PAVING SECTIONS. NOTE: TO ENSURE READABILITY, 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 MEDIAN CURB / TOP OF ADJACENT TURNED DOWN WALK / TOP OF HEADER CURB ELEVATIONS. SEE PAVING PLAN FOR CURB AND WALK TYPES AND LOCATIONS.
- FLUSH TRANSITION FROM TOP OF ASPHALT TO TOP OF CONCRETE ESTATE CURB AT ALL GARAGE DRIVE APRONS AND ADA ACCESS LOCATIONS.
- ADA COMPLIANT PARKING AREAS @ TARGET SLOPE = 1% TO 1.5%. SLOPE SHALL NOT EXCEED 2% SLOPE IN ANY DIRECTION.
- ADA COMPLIANT ACCESS RAMP (4" 6" 8" RISE - SEE PLAN). TARGET CROSS SLOPE = 1% TO 1.5%. CROSS SLOPE SHALL NOT EXCEED 2%. TARGET LONGITUDINAL SLOPE = 7% LONGITUDINAL SLOPE SHALL NOT EXCEED 12.1 (8.3%).
- CONSTRUCT ADA COMPLIANT PEDESTRIAN ACCESS WALK AT ELEVATIONS SHOWN. TARGET CROSS SLOPE = 1% TO 1.5%. CROSS SLOPE SHALL NOT EXCEED 2%. LONGITUDINAL SLOPE = 5% MAX.
- HIGH POINT / GRADE BREAK LOCATION.
- DRAINAGE FROM ADJACENT PROPERTY IS NOT PERMITTED TO ENTER THIS PROPERTY. CONTRACTOR TO FILL IN ALL OPENINGS.
- CONSTRUCT ADA COMPLIANT RAMP WITH INTERMEDIATE LANDINGS AS SHOWN. SEE ARCHITECTURAL FOR ADDITIONAL INFORMATION.
- APARTMENT UNITS: ROOF DISCHARGE TO BE CONCRETE DRIVEPAD (TYPICAL). CLUBHOUSE: EXTEND ROOF DISCHARGE PIPE THROUGH FACE OF ADJACENT CURB.
- PROVIDE 24" WIDE OPENING IN CURB TO PASS FLOW. SEE DETAIL FOR GUTTER TRANSITION TO DIRECT FLOW TO / FROM LANDSCAPING.
- CONSTRUCT CONCRETE DUMPSTER PAD AT ELEVATIONS SHOWN.
- CONSTRUCT 18" MAX. DEPTH STORMWATER QUALITY RETENTION POND AT ELEVATIONS SHOWN. 2:1 SIDESLOPES WITH 6" DEEP (3" AVG. DIA.) ANGULAR ROCK EROSION PROTECTION. ALL STORMWATER QUALITY PONDING VOLUMES WILL BE VERIFIED AS PART OF AS-BUILT CERTIFICATION. PONDS WHICH DO NOT PROVIDE THE VOLUME NOTED WILL BE CORRECTED AT CONTRACTOR'S EXPENSE. SEE CG-100 FOR POND VOLUMES.
- CONSTRUCT PRIVATE STORM DRAIN SYSTEM. SEE SHEET CG-502 FOR SIZES / SLOPES / INLET INFORMATION / MATERIALS.
- POOL DECK DRAIN BY POOL CONTRACTOR. EXTEND OUTFALL TO STORM DRAIN.
- INSTALL 8" DEEP 'MEDIUM' ANGULAR ROCK EDGE PROTECTION TO LIMITS HATCHED.
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- BUILDING EXTENDED / RETAINING STEPMALL REQUIRED TO ACHIEVE GRADES SHOWN. SEE ARCHITECTURAL / STRUCTURAL PLANS.

Isaacson & Arfman, Inc.
Civil Engineering Consultants
128 Monroe Street NE
Albuquerque, NM 87108
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Engineer

SAN PEDRO APARTMENTS

San Pedro & Eagle Rock
Albuquerque, New Mexico

DESIGN DEVELOPMENT		No		Date		Description	
ISSUE:	PROJECT NUMBER: IA 2471						
FILE:	DRAWN BY:						
BUILDER:	CHECKED BY:						
FCA	DATE:						
	JULY 2022						

SHEET TITLE

GRADING &
DRAINAGE
PLAN 1 OF 3

SHEET NUMBER

CG-101

THESE NOTES ARE REFERENCED ON SHEETS CG-101, CG-102 AND CG-103.
NOT ALL NOTES ARE USED ON EACH SHEET.

-

SAN PEDRO APARTMENTS

**San Pedro & Eagle Rock
Albuquerque, New Mexico**

No	Date	Description
DESIGN DEVELOPMENT		
PROJECT NUMBER: IA 2471		
FILE: -		
DRAWN BY: BJB/lor		
CHECKED BY: FCA		
DATE: JULY 2022		

GRADING &
DRAINAGE
PLAN 2 OF 3

CG-102

39

38.5

37.5

FF = 5237.5

PROPOSED 1.0' CONTOUR

PROPOSED 0.5' CONTOUR

PROPOSED SPOT ELEVATION

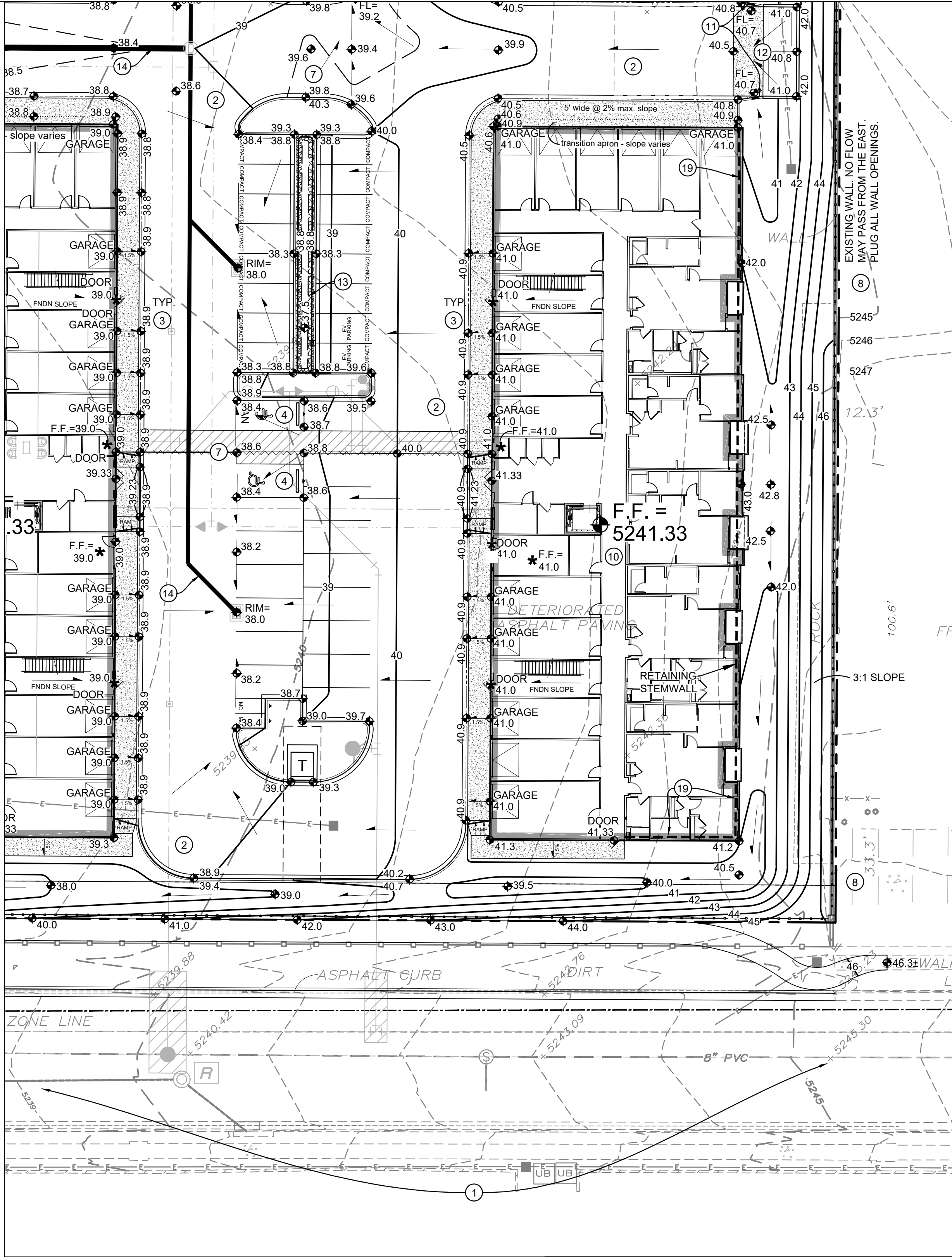
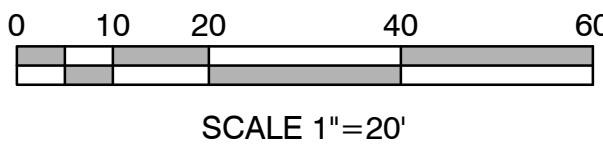
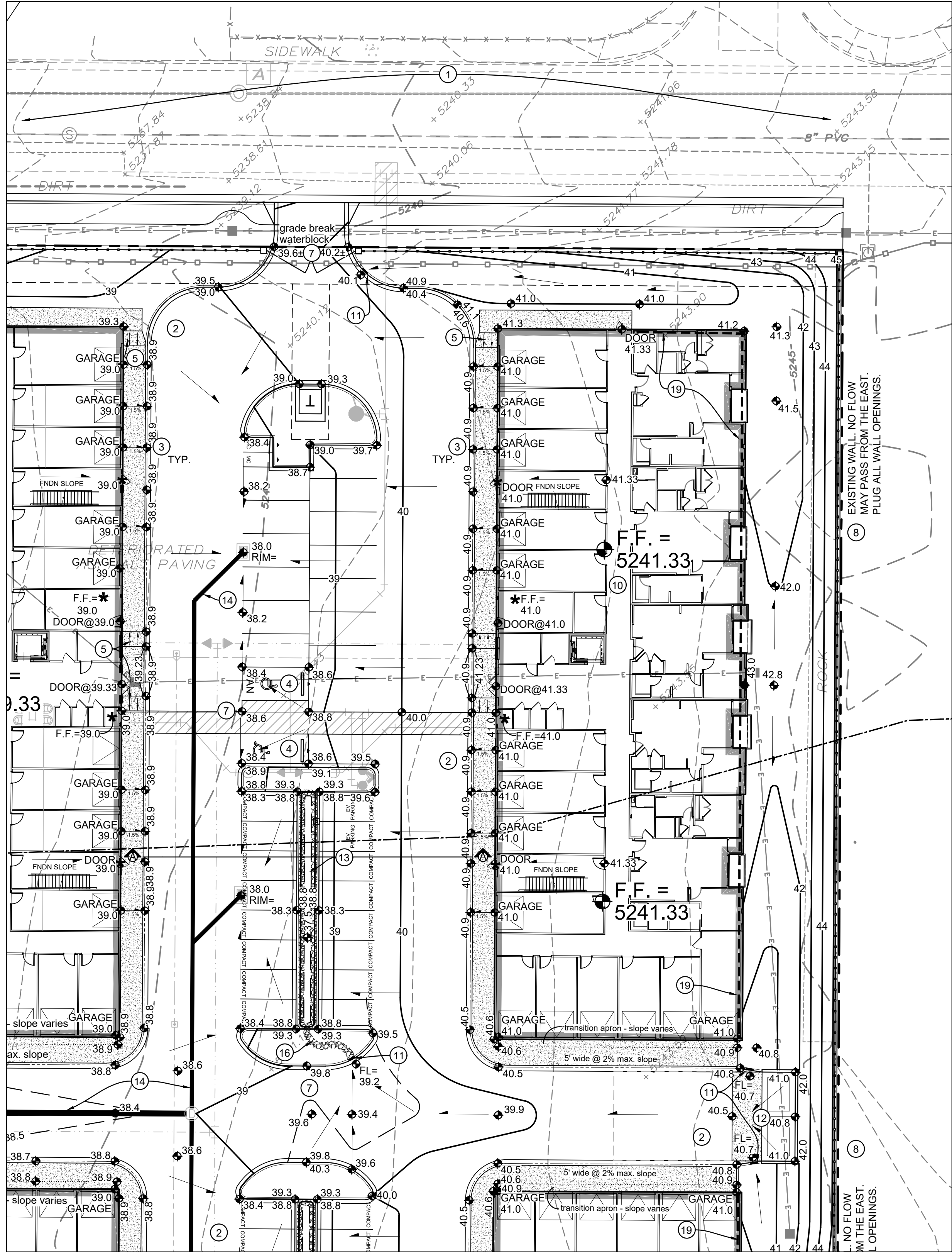
SURFACE FLOW DIRECTION

FINISH FLOOR ELEVATION

PROPOSED STORM DRAIN SYSTEM

PROPOSED STORMWATER QUALITY RETENTION (CONCEPTUAL)

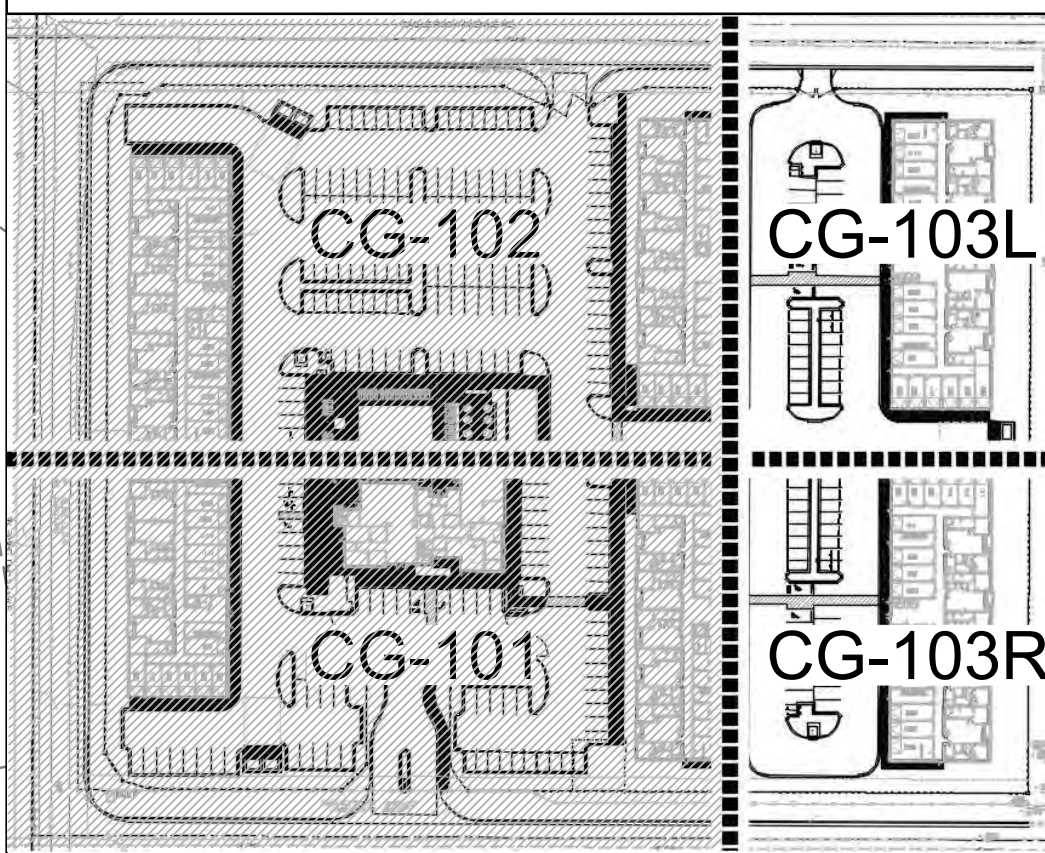
LOWERED 4" BELOW MAIN F.F. BUILDING ELEV. SEE FOUNDATION PLANS.



LEGEND

- 39 PROPOSED 1.0' CONTOUR
- 38.5 PROPOSED 0.5' CONTOUR
- 37.5 PROPOSED SPOT ELEVATION
- SURFACE FLOW DIRECTION
- FF = 5237.5 FINISH FLOOR ELEVATION
- PROPOSED STORM DRAIN SYSTEM
- PROPOSED STORMWATER QUALITY RETENTION (CONCEPTUAL)
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GRADING & DRAINAGE KEY



KEYED NOTES

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- CONSTRUCT PRIVATE STORM DRAIN SYSTEM. SEE SHEET CG-502 FOR SIZES / SLOPES / INLET INFORMATION / MATERIALS.
- POOL DECK DRAIN BY POOL CONTRACTOR. EXTEND OUTFALL TO STORM DRAIN.
- INSTALL 8" DEEP 'MEDIUM' ANGULAR ROCK EDGE PROTECTION TO LIMITS HATCHED.
- CONSTRUCT CONCRETE STEPS TO ACHIEVE REQUIRED GRADE DIFFERENCE. SEE ARCHITECTURAL FOR DETAILS INCLUDING GUARDRAILS. PAINT STEPS YELLOW.
- CONSTRUCT SITE RETAINING WALL(S) (RETAINING >12") TO ACHIEVE GRADE DIFFERENCE SHOWN. TOP OF FINISHED GRADE SHOWN ON EACH SIDE OF WALL. SEE STRUCTURAL FOR DETAILS INCLUDING TOTAL HEIGHT, FOOTING, GUARDRAIL, REINFORCING, ETC.
- BUILDING EXTENDED / RETAINING STEMWALL REQUIRED TO ACHIEVE GRADES SHOWN. SEE ARCHITECTURAL / STRUCTURAL PLANS.

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Engineer

SAN PEDRO APARTMENTS
San Pedro & Eagle Rock
Albuquerque, New Mexico

No	Date	Description
DESIGN ISSUE: DEVELOPMENT		
PROJECT NUMBER: IA 2471		
FILE: -		
DRAWN BY: BJB/hor		
CHECKED BY: FCA		
DATE: JULY 2022		

SHEET TITLE

GRADING &
DRAINAGE
PLAN 3 OF 3

SHEET NUMBER

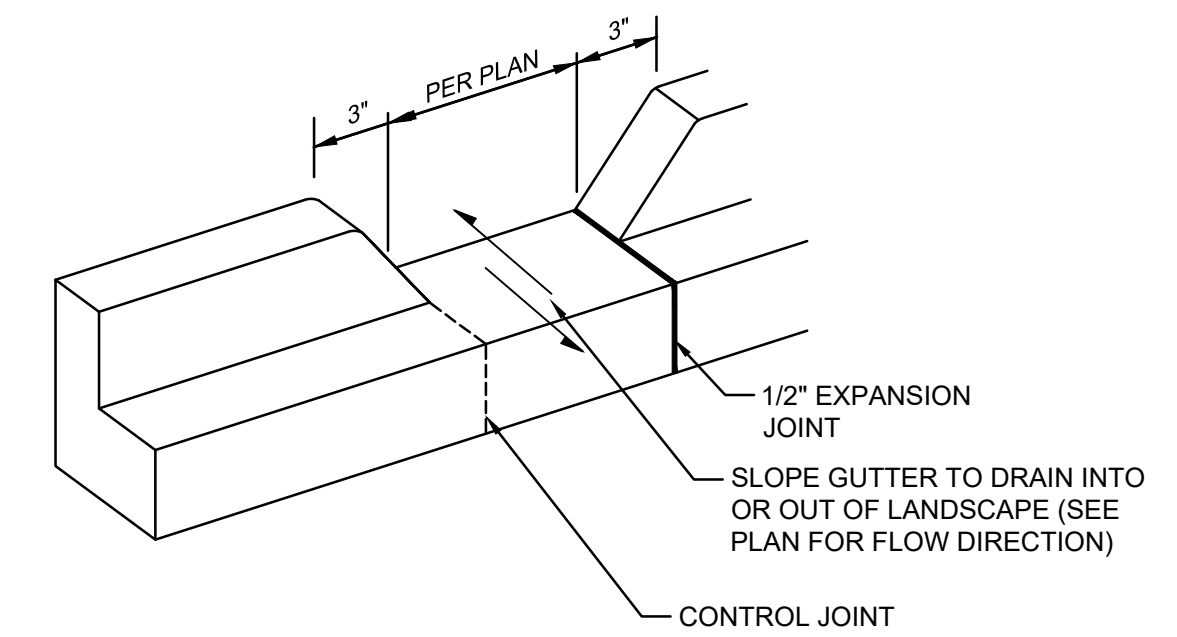
CG-103

Diagram illustrating the placement of rock and geotextile for erosion protection on a slope. The diagram shows a cross-section of a slope with a dashed line representing the original ground surface and a solid line representing the stabilized surface. The stabilized surface is covered by a layer of rock, and a geotextile is placed beneath the rock layer.

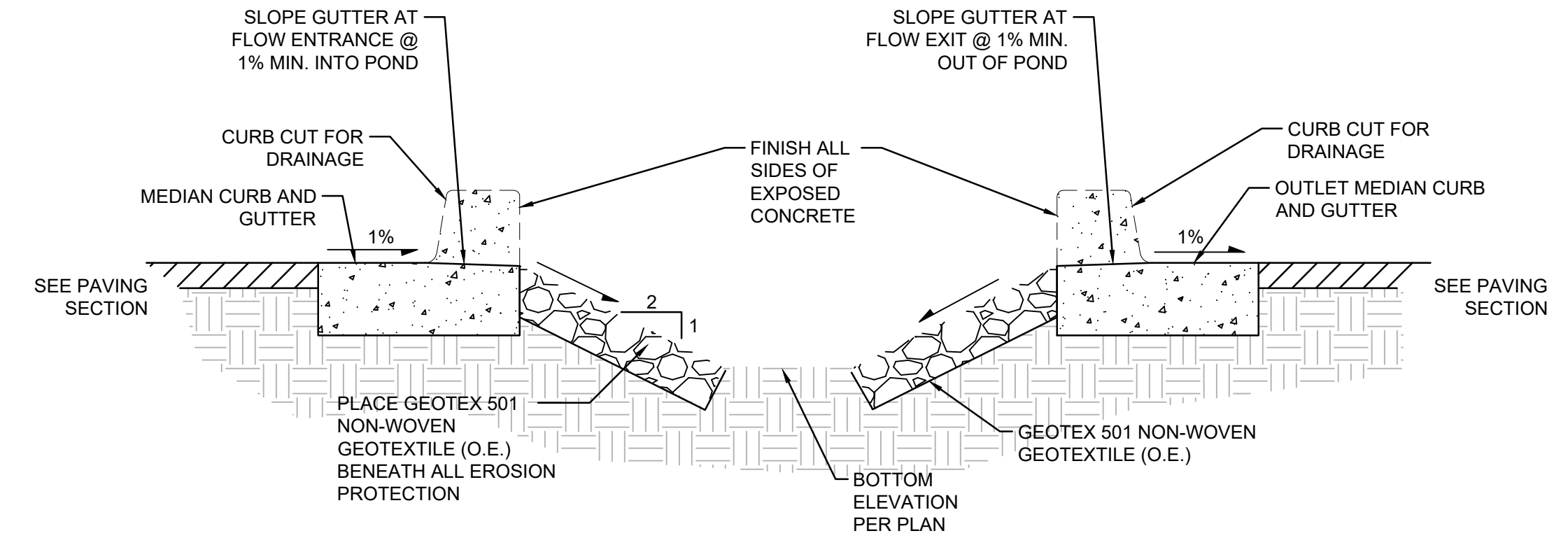
Labels and Callouts:

- PLACE 8" THICK FRACTURED FACE ROCK, 4" AVG. DIA.
- PLACE GEOTEX 501 NON-WOVEN GEOTEXTILE (O.E.) BENEATH ALL EROSION PROTECTION

SCALE: N.T.S.

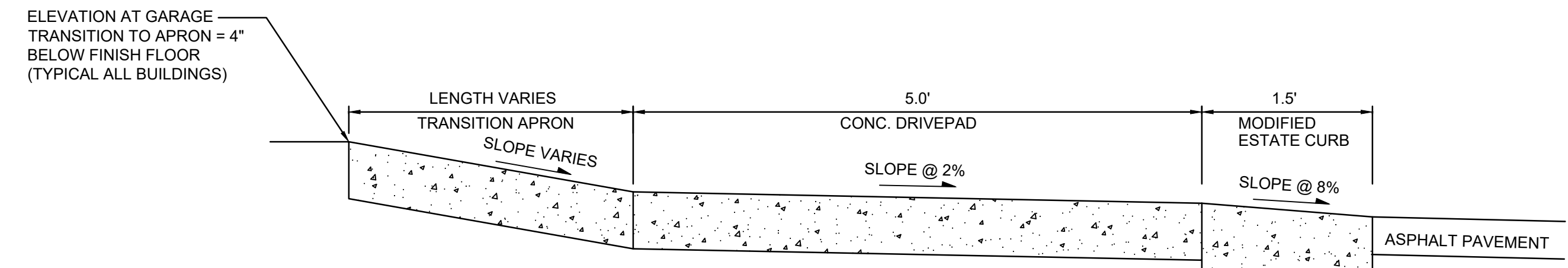


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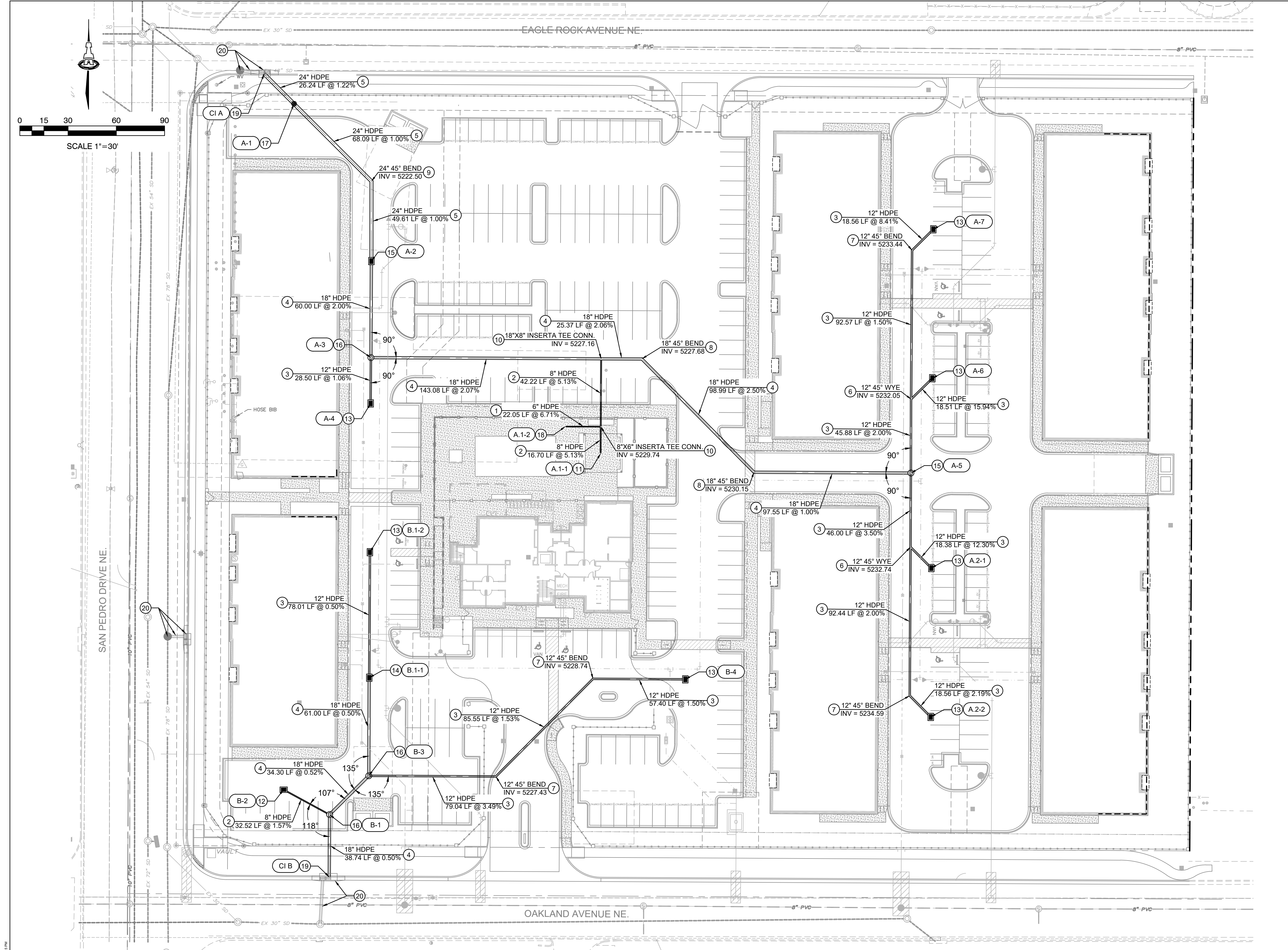
STORMWATER QUALITY POND LOCATOINS

SCALE: N.T.S.



SCALE: N.T.S.

NO	Date	Description
DESIGN		
ISSUE DEVELOPMENT		
PROJECT NUMBER: IA 2471		
FILE: -		
DRAWN BY: BJB/lhar		
CHECKED BY: FCA		
DATE: 05-25-2022		



\\projects\2020\2020 SAN PEDRO APARTMENTS\11 CG-502.dwg 12/22/2020 11:14 PM

KEYED NOTES

- | | | | |
|---------------------------------|--|--|---|
| 1. 6" HDPE STORM DRAINAGE PIPE | 10. INSERTA TEE CONNECTION TO LARGER STORM LINE. SEE DETAIL ON SHEET CG-501 | 14. 18" DIA. NYLOPLAST DRAIN BASIN W/ 2'X3' ADS ROAD & HIGHWAY TRAFFIC RATED GRATE (LOCKING) AND CONCRETE COLLAR, 2' SUMP. | 18. CONNECT TO DECK DRAIN. SEE LANDSCAPE SHEETS FOR CONTINUATION. |
| 2. 8" HDPE STORM DRAINAGE PIPE | 11. 8" DIA. NYLOPLAST DRAIN BASIN W/ 12" PEDESTRIAN GRATE (LOCKING & HEEL PROOF) AND CONCRETE COLLAR, 2' SUMP. | 15. 24" DIA. NYLOPLAST DRAIN BASIN W/ 2'X3' ADS ROAD & HIGHWAY TRAFFIC RATED GRATE (LOCKING) AND CONCRETE COLLAR, 2' SUMP. | 19. CONNECT TO CURB INLET CONSTRUCTED UNDER COA PWO PROJECT 759287. |
| 3. 12" HDPE STORM DRAINAGE PIPE | 12. 8" DIA. NYLOPLAST DRAIN BASIN W/ 2'X3' ADS ROAD & HIGHWAY TRAFFIC RATED GRATE (LOCKING) AND CONCRETE COLLAR, 2' SUMP. | 16. 24" DIA. NYLOPLAST DRAIN BASIN W/ SOLID TRAFFIC RATED COVER (LOCKING) AND CONCRETE COLLAR, 2' SUMP. | 20. PUBLIC STORM SYSTEM CONSTRUCTED UNDER COA PWO PROJECT 759287. |
| 4. 18" HDPE STORM DRAINAGE PIPE | 13. 12" DIA. NYLOPLAST DRAIN BASIN W/ 2'X3' ADS ROAD & HIGHWAY TRAFFIC RATED GRATE (LOCKING) AND CONCRETE COLLAR, 2' SUMP. | 17. 24" DIA. NYLOPLAST DRAIN BASIN W/ 12" LANDSCAPE DOME GRATE (LOCKING) AND CONCRETE COLLAR, 2' SUMP. | |
| 5. 24" HDPE STORM DRAINAGE PIPE | | | |
| 6. 12" 45° WYE | | | |
| 7. 12" 45° BEND | | | |
| 8. 18" 45° BEND | | | |
| 9. 24" 45° BEND | | | |

LEGEND

- | | |
|--|---|
| | PROPOSED TRAFFIC RATED INLET |
| | PROPOSED LANDSCAPE AREA DRAIN W/ DOME GRATE |
| | PROPOSED DRAIN BASIN WITH SOLID GRATE |

STORM DRAIN NOTES

- A. ALL PRIVATE STORM DRAIN LINES AND FITTINGS SHALL BE THE FOLLOWING MATERIAL:
- < 12" DIA. SHALL BE ADS N-12 WT PIPE
 - = 12" DIA. SHALL BE EITHER ADS N-12 WT PIPE OR ADS MEGA GREEN WT PIPE
 - > 12" DIA. SHALL BE ADS N-12 WT PIPE OR ADS MEGA GREEN WT PIPE
- B. INSTALL ALL STORM DRAIN INLETS AND PIPE PER MANUFACTURER'S SPECIFICATIONS
- C. STORM DRAIN SYSTEM WILL REQUIRE REGULAR MAINTENANCE TO ENSURE PROPER FUNCTIONING DURING STORM EVENTS. ENGINEER RECOMMENDS THAT OWNER PUT IN PLACE INSPECTION AND MAINTENANCE REQUIREMENTS SCHEDULED TO OCCUR YEARLY AND AFTER MAJOR STORM EVENTS
- D. ALL INLETS, MANHOLES AND CONNECTOR PIPES IN PUBLIC RIGHT-OF-WAY SHALL BE INSTALLED UNDER COA PUBLIC WORK ORDER #759287

STRUCTURE TABLE

STRUCTURE NAME & TYPE:	STRUCTURE INFO:
A-1 24" NYLOPLAST DRAIN BASIN W/ 12" DOME COVER (LOCKING)	RIM = 5225.00 INV 24", IN = 5221.82 (SE) INV 24", OUT = 5221.82 (NW)
A-2 24" NYLOPLAST DRAIN BASIN W/ 2'X3' ADS RD & HWY GRATE (LOCKING)	RIM = 5227.00 INV 18", IN = 5223.00 (S) INV 24", OUT = 5223.00 (N)
A-3 18" NYLOPLAST DRAIN BASIN W/ SOLID COVER (LOCKING)	RIM = 5227.70 INV 18", IN = 5224.20 (E) INV 12", IN = 5224.20 (S) INV 18", OUT = 5224.20 (N)
A-4 12" NYLOPLAST DRAIN BASIN W/ 2'X3' ADS RD & HWY GRATE (LOCKING)	RIM = 5227.00 INV 12", OUT = 5224.50 (N)
A-5 24" NYLOPLAST DRAIN BASIN W/ SOLID COVER (LOCKING)	RIM = 5238.95 INV 12", IN = 5231.13 (N) INV 12", IN = 5231.13 (S) INV 18", OUT = 5231.13 (W)
A-6 12" NYLOPLAST DRAIN BASIN W/ 2'X3' ADS RD & HWY GRATE (LOCKING)	RIM = 5238.00 INV 12", OUT = 5235.00 (SW)
A-7 12" NYLOPLAST DRAIN BASIN W/ 2'X3' ADS RD & HWY GRATE (LOCKING)	RIM = 5238.00 INV 12", OUT = 5235.00 (SW)
A.1-1 8" NYLOPLAST DRAIN BASIN W/ 12" PEDESTRIAN GRATE INLET (LOCKING & HEEL PROOF)	RIM = 5233.60 INV 8", OUT = 5230.60 (N)
A.1-2 DECK DRAIN CONN.	RIM = 5233.80 INV 6", OUT = 5231.30 (E)
A.2-1 12" NYLOPLAST DRAIN BASIN W/ 2'X3' ADS RD & HWY GRATE (LOCKING)	RIM = 5238.00 INV 12", OUT = 5235.00 (NW)
A.2-2 12" NYLOPLAST DRAIN BASIN W/ 2'X3' ADS RD & HWY GRATE (LOCKING)	RIM = 5238.00 INV 12", OUT = 5235.00 (NW)
CI A CONN. TO NEW PUBL. CURB INLET	RIM = 5225.60 INV 24", IN = 5221.50 (SE)
B-1 24" NYLOPLAST DRAIN BASIN W/ SOLID COVER	RIM = 5228.90 INV 18", IN = 5224.49 (NE) INV 8", IN = 5224.49 (NW) INV 18", OUT = 5224.49 (S)
B-2 8" NYLOPLAST DRAIN BASIN W/ 2'X3' ADS RD & HWY GRATE (LOCKING)	RIM = 5228.00 INV 8", OUT = 5225.00 (SE)
B-3 24" NYLOPLAST DRAIN BASIN W/ SOLID COVER (LOCKING)	RIM = 5228.55 INV 12", IN = 5224.67 (E) INV 18", IN = 5224.67 (N) INV 18", OUT = 5224.67 (SW)
B-4 12" NYLOPLAST DRAIN BASIN W/ 2'X3' ADS RD & HWY GRATE (LOCKING)	RIM = 5232.60 INV 12", OUT = 5229.60 (W)
B.1-1 18" NYLOPLAST DRAIN BASIN W/ 2'X3' ADS RD & HWY GRATE (LOCKING)	RIM = 5228.00 INV 12", IN = 5224.98 (N) INV 18", OUT = 5224.98 (S)
B.1-2 12" NYLOPLAST DRAIN BASIN W/ 2'X3' ADS RD & HWY GRATE (LOCKING)	RIM = 5228.00 INV 12", OUT = 5225.37 (S)
CI B CONN. TO NEW PUBL. CURB INLET	RIM = 5231.00 INV 18", IN = 5224.30 (N)

Isaacson & Arfman, Inc.
Civil Engineering Consultants



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Engineer

SAN PEDRO APARTMENTS

San Pedro & Eagle Rock Albuquerque, New Mexico

DESIGN	DEVELOPMENT			
	ISSUE:	PROJECT NUMBER:	FILE:	BUILDER:
		IA 2471		
			DRAWN BY:	FCA
			CHECKED BY:	
			DATE:	05 - 25 - 2022

No	Date	Description

SHEET TITLE

STORM DRAIN DETAILS

SHEET NUMBER

CG-502

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Engineer

**San Pedro & Eagle Rock
Albuquerque, New Mexico**

[illegible]

CG-102

Diagram illustrating the proposed storm drain system and spot elevation. The diagram shows a cross-section of the ground surface and the proposed storm drain system. The ground surface is represented by a solid line with a spot elevation of 37.5. The proposed storm drain system is shown as a dashed line with a spot elevation of 37.5. The diagram also indicates the proposed 1.0' contour and the proposed 0.5' contour. The finish floor elevation (FF) is 5237.5. The diagram shows the storm drain system flowing from the building towards the street. The building is represented by a hatched rectangle. The street is represented by a dashed line. The diagram also shows the proposed storm drain system flowing from the building towards the street. The building is represented by a hatched rectangle. The street is represented by a dashed line. The diagram also shows the proposed storm drain system flowing from the building towards the street. The building is represented by a hatched rectangle. The street is represented by a dashed line.

39

38.5

37.5

FF = 5237.5

PROPOSED 1.0' CONTOUR

PROPOSED 0.5' CONTOUR

PROPOSED SPOT ELEVATION

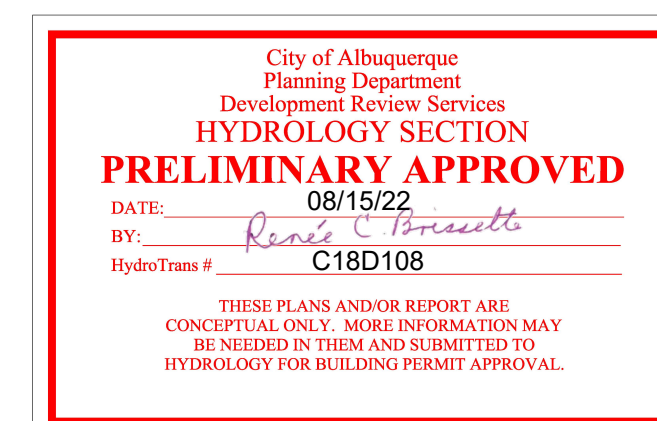
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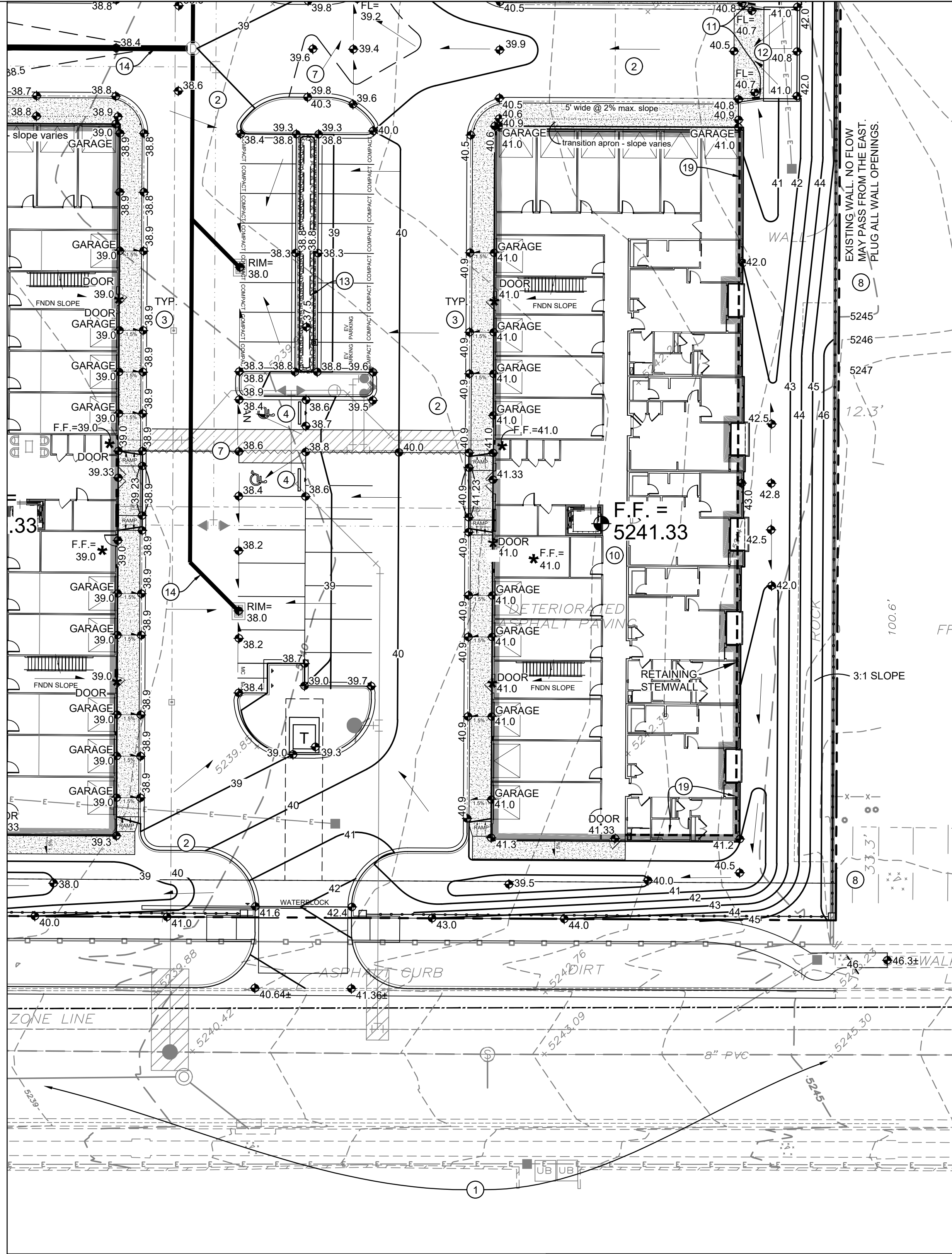
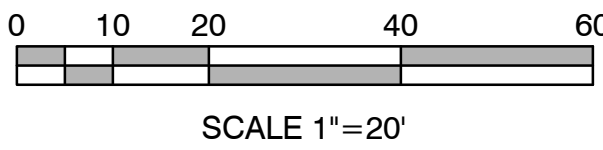
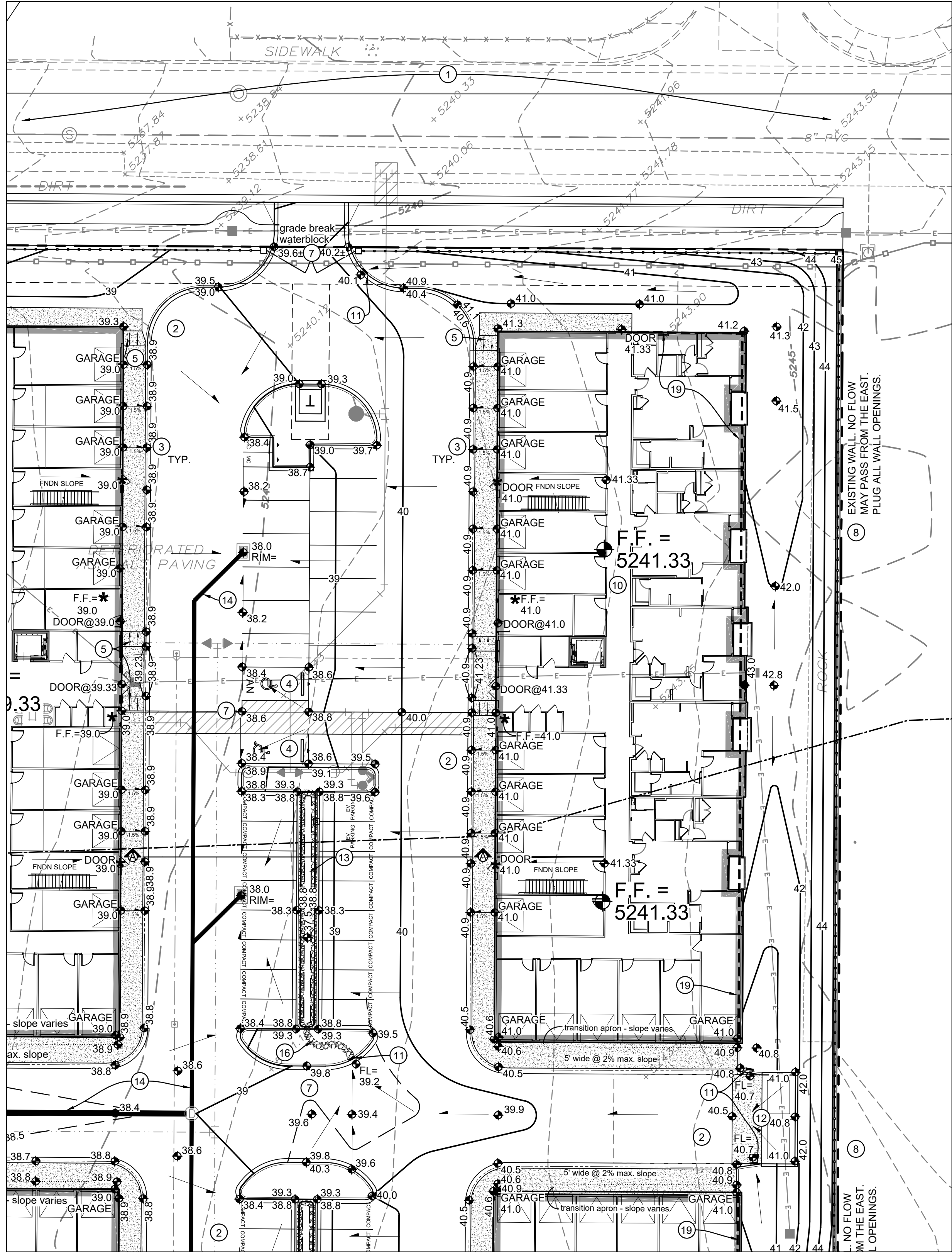
FINISH FLOOR ELEVATION

PROPOSED STORM DRAIN SYSTEM

PROPOSED STORMWATER QUALITY RETENTION (CONCEPTUAL)

LOWERED 4" BELOW MAIN F.F. BUILDING ELEV. SEE FOUNDATION PLANS.

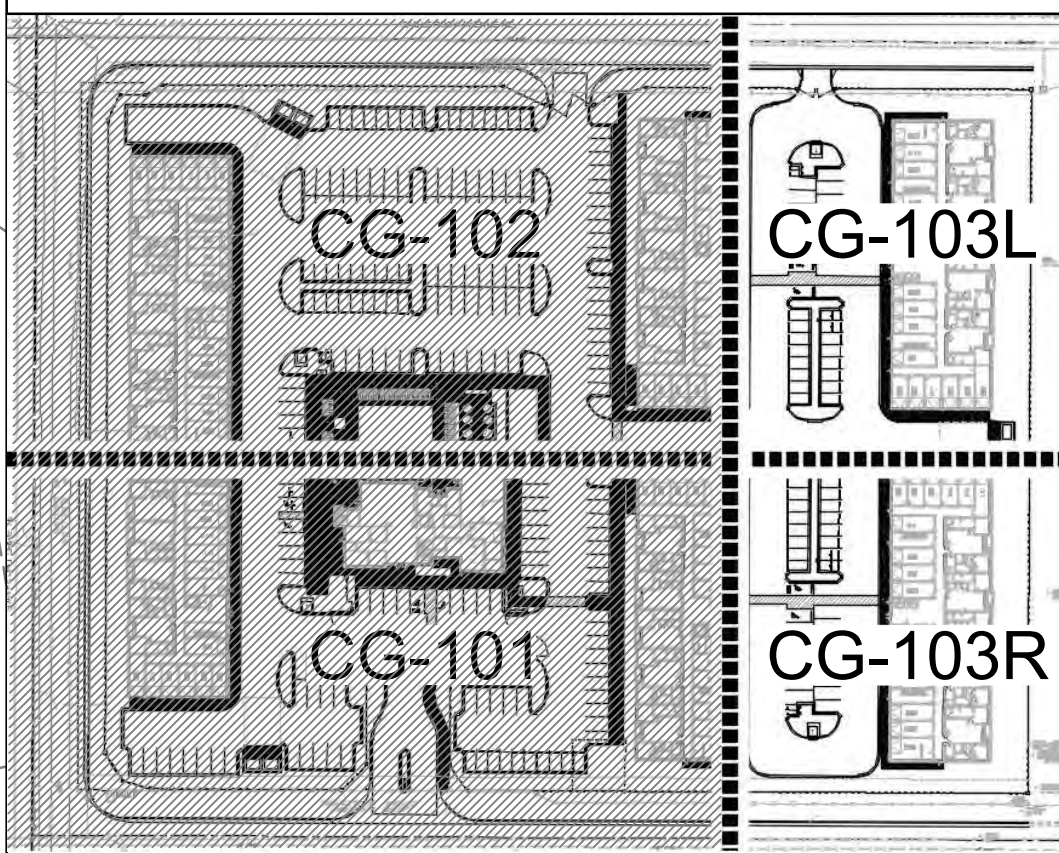




LEGEND

- 39 — PROPOSED 1.0' CONTOUR
- - - 38.5 - - - PROPOSED 0.5' CONTOUR
- ◆ 37.5 PROPOSED SPOT ELEVATION
- SURFACE FLOW DIRECTION
- FF = 5237.5 FINISH FLOOR ELEVATION
- - - - - PROPOSED STORM DRAIN SYSTEM
- ▨ PROPOSED STORMWATER QUALITY RETENTION (CONCEPTUAL)
- * LOWERED 4" BELOW MAIN F.F. BUILDING ELEV. SEE FOUNDATION PLANS.

GRADING & DRAINAGE KEY



KEYED NOTES

THESE NOTES ARE REFERENCED ON SHEETS CG-101, CG-102 AND CG-103. NOT ALL NOTES ARE USED ON EACH SHEET.

- CONSTRUCTION WITHIN THE R/W INCLUDING ENTRANCE DRIVES, CONCRETE VALLEY GUTTER, PUBLIC SIDEWALK AND RAMPS, STREET PAVEMENT, UTILITIES, ETC. SHALL BE CONSTRUCTED UNDER SEPARATE PUBLIC WORK ORDER. NO WORK SHALL BE PERFORMED IN THE PUBLIC ROW WITHOUT AN APPROVED WORK ORDER OR EXCAVATION PERMIT.
- CONSTRUCT NEW PAVING AT ELEVATIONS SHOWN. SEE PAVING PLAN FOR MATERIAL, EXTENTS, JOINTS AND PAVING SECTIONS. NOTE: TO ENSURE READABILITY, 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 MEDIAN CURB / TOP OF ADJACENT TURNED DOWN WALK / TOP OF HEADER CURB ELEVATIONS. SEE PAVING PLAN FOR CURB AND WALK TYPES AND LOCATIONS.
- FLUSH TRANSITION FROM TOP OF ASPHALT TO TOP OF CONCRETE ESTATE CURB AT ALL GARAGE DRIVE APRONS AND ADA ACCESS LOCATIONS.
- ADA COMPLIANT PARKING AREAS @ TARGET SLOPE = 1% TO 1.5%. SLOPE SHALL NOT EXCEED 2% SLOPE IN ANY DIRECTION.
- ADA COMPLIANT ACCESS RAMP (4" 6" 8" RISE - SEE PLAN). TARGET CROSS SLOPE = 1% TO 1.5%. CROSS SLOPE SHALL NOT EXCEED 2%. TARGET LONGITUDINAL SLOPE = 7% LONGITUDINAL SLOPE SHALL NOT EXCEED 12.1 (8.3%).
- CONSTRUCT ADA COMPLIANT PEDESTRIAN ACCESS WALK AT ELEVATIONS SHOWN. TARGET CROSS SLOPE = 1% TO 1.5%. CROSS SLOPE SHALL NOT EXCEED 2%. LONGITUDINAL SLOPE = 5% MAX.
- HIGH POINT / GRADE BREAK LOCATION.
- DRAINAGE FROM ADJACENT PROPERTY IS NOT PERMITTED TO ENTER THIS PROPERTY. CONTRACTOR TO FILL IN ALL OPENINGS.
- CONSTRUCT ADA COMPLIANT RAMP WITH INTERMEDIATE LANDINGS AS SHOWN. SEE ARCHITECTURAL FOR ADDITIONAL INFORMATION.
- APARTMENT UNITS: ROOF DISCHARGE TO BE CONCRETE DRIVEPAD (TYPICAL). CLUBHOUSE: EXTEND ROOF DISCHARGE PIPE THROUGH FACE OF ADJACENT CURB.
- PROVIDE 24" WIDE OPENING IN CURB TO PASS FLOW. SEE DETAIL FOR GUTTER TRANSITION TO DIRECT FLOW TO / FROM LANDSCAPING.
- CONSTRUCT CONCRETE DUMPSTER PAD AT ELEVATIONS SHOWN.
- CONSTRUCT 18" MAX. DEPTH STORMWATER QUALITY RETENTION POND AT ELEVATIONS SHOWN. 2:1 SIDESLOPES WITH 6" DEEP (3" AVG. DIA.) ANGULAR ROCK EROSION PROTECTION. ALL STORMWATER QUALITY PONDING VOLUMES WILL BE VERIFIED AS PART OF AS-BUILT CERTIFICATION. PONDS WHICH DO NOT PROVIDE THE VOLUME NOTED WILL BE CORRECTED AT CONTRACTOR'S EXPENSE. SEE CG-100 FOR POND VOLUMES.
- CONSTRUCT PRIVATE STORM DRAIN SYSTEM. SEE SHEET CG-502 FOR SIZES / SLOPES / INLET INFORMATION / MATERIALS.
- POOL DECK DRAIN BY POOL CONTRACTOR. EXTEND OUTFALL TO STORM DRAIN.
- INSTALL 8" DEEP 'MEDIUM' ANGULAR ROCK EDGE PROTECTION TO LIMITS HATCHED.
- CONSTRUCT CONCRETE STEPS TO ACHIEVE REQUIRED GRADE DIFFERENCE. SEE ARCHITECTURAL FOR DETAILS INCLUDING GUARDRAILS. PAINT STEPS YELLOW.
- CONSTRUCT SITE RETAINING WALL(S) (RETAINING >12") TO ACHIEVE GRADE DIFFERENCE SHOWN. TOP OF FINISHED GRADE SHOWN ON EACH SIDE OF WALLS. SEE STRUCTURAL FOR DETAILS INCLUDING TOTAL HEIGHT, FOOTING, GUARDRAIL, REINFORCING, ETC.
- BUILDING EXTENDED / RETAINING STEMWALL REQUIRED TO ACHIEVE GRADES SHOWN. SEE ARCHITECTURAL / STRUCTURAL PLANS.

Preliminary
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SAN PEDRO APARTMENTS

San Pedro & Eagle Rock
Albuquerque, New Mexico

DESIGN DEVELOPMENT
ISSUE:
PROJECT NUMBER: IA 2471
FILE:
DRAWN BY:
CHECKED BY:
DATE:

No Date Description

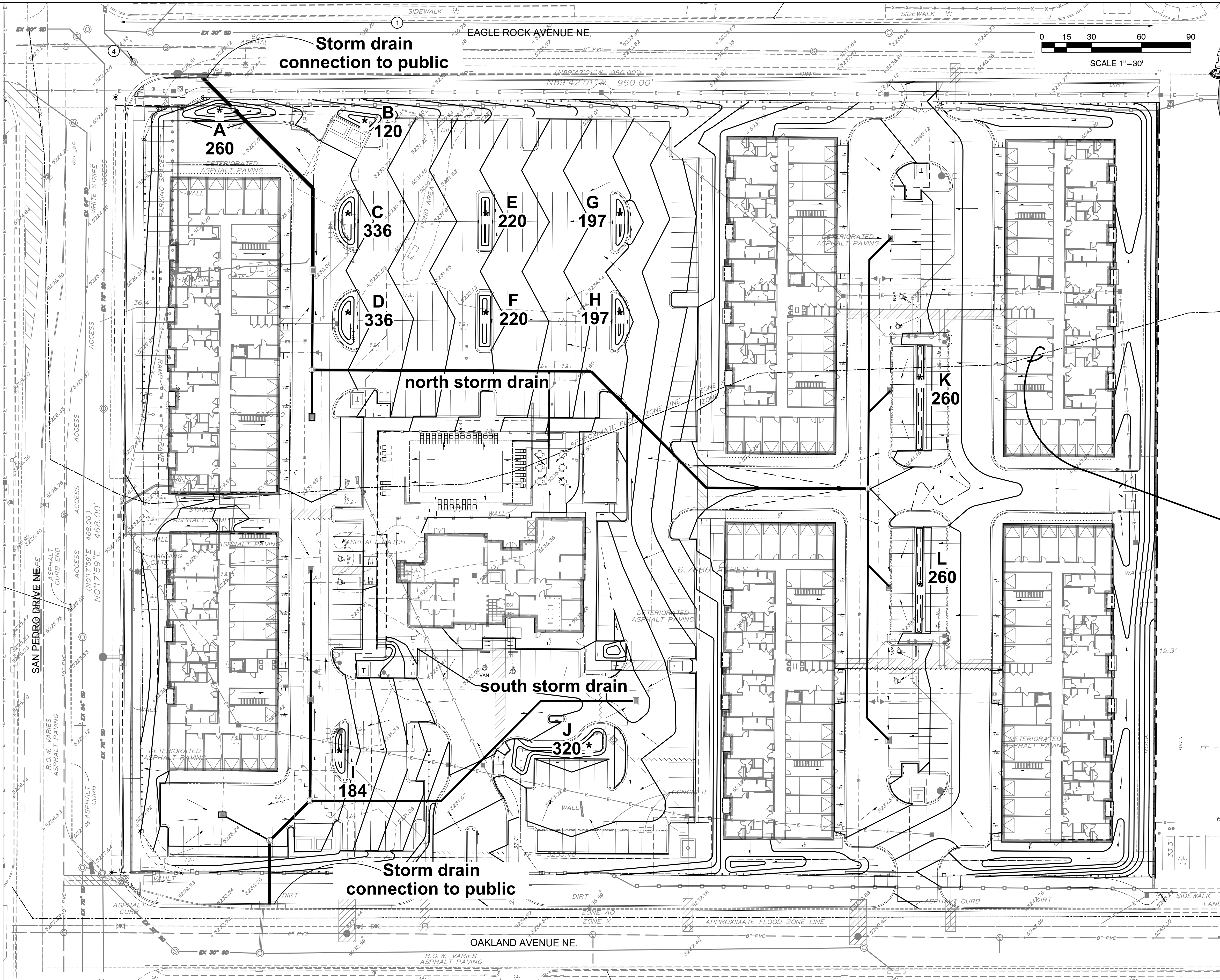
SHEET TITLE

GRADING &
DRAINAGE
PLAN 3 OF 3

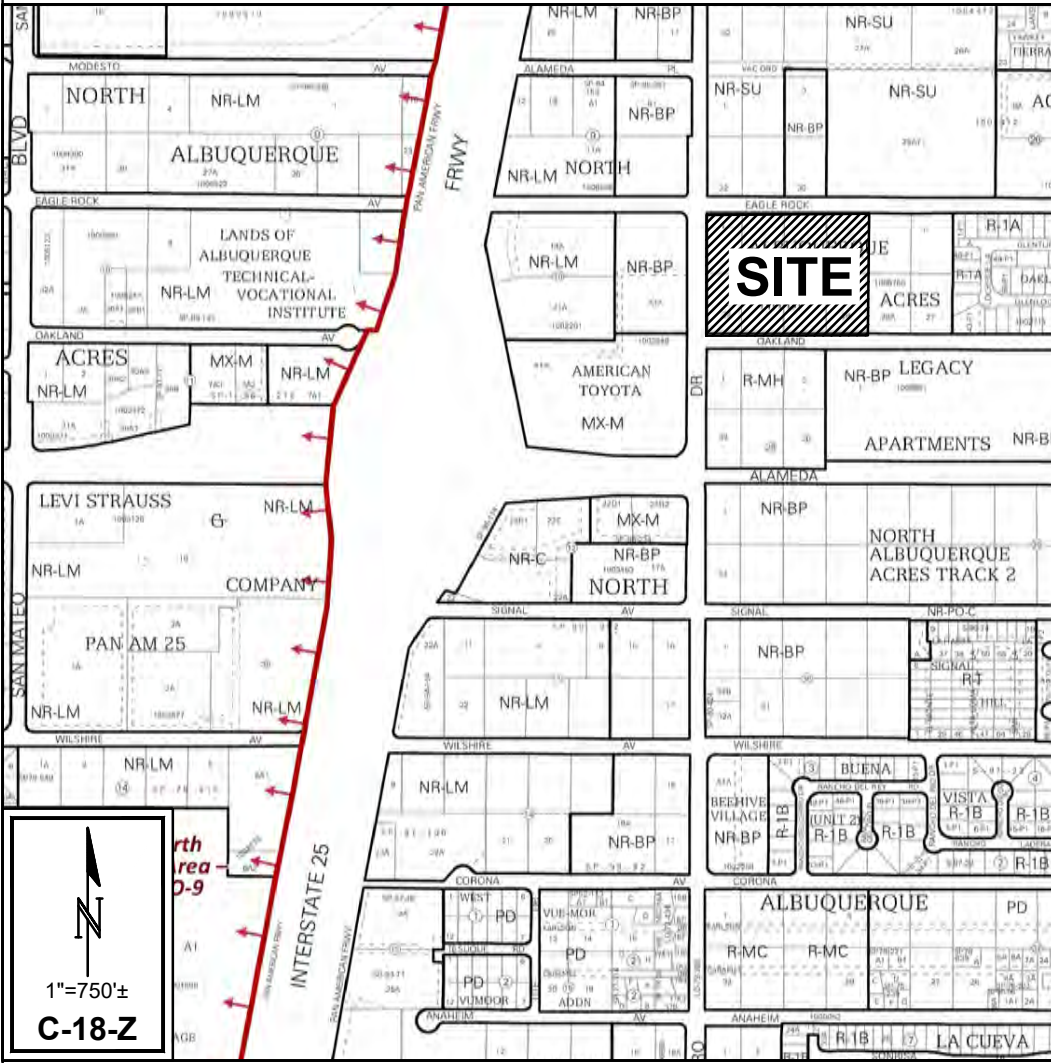
SHEET NUMBER

CG-103

City of Albuquerque
Planning Department
Development Review Services
HYDROLOGY SECTION
PRELIMINARY APPROVED
DATE: 08/15/22
BY: *Randy C. Brumfield*
HydroTeam # C18D108
THESE PLANS AND/OR REPORT ARE
CONCEPTUAL ONLY. MORE INFORMATION MAY
BE NEEDED IN THEM AND SUBMITTED TO
HYDROLOGY FOR BUILDING PERMIT APPROVAL.



VICINITY MAP C-18



PROJECT INFORMATION

PROPERTY: THE SITE IS A PREVIOUSLY DEVELOPED PROPERTY LOCATED WITHIN C.O.A. VICINITY MAP C-18. THE SITE IS BOUND TO THE WEST BY SAN PEDRO BLVD., TO THE NORTH BY EAGLE ROCK AVE., TO THE SOUTH BY OAKLAND AVE. AND TO THE EAST BY DEVELOPED COMMERCIAL PROPERTY. THE PROPERTY SLOPES FROM EAST TO WEST AT APPROXIMATELY 3%.

PROPOSED IMPROVEMENTS: THE PROPOSED IMPROVEMENTS INCLUDE MULTI-STORY APARTMENT BUILDINGS WITH ASSOCIATED ASPHALT PAVED ACCESS, PARKING, SITE AMENITIES, AND LANDSCAPING.

LEGAL: LOTS 1, 2, 3, 4, 29, 30, 31 AND 32, BLOCK 27, NORTH ALBUQUERQUE ACRES, ALBUQUERQUE, NEW MEXICO.

AREA: 6.580 AC

BENCHMARKS:
ALBUQUERQUE CONTROL SURVEY MONUMENT 10C_18,
ELEVATION (FEET) = 5222.09 (NAVD88)

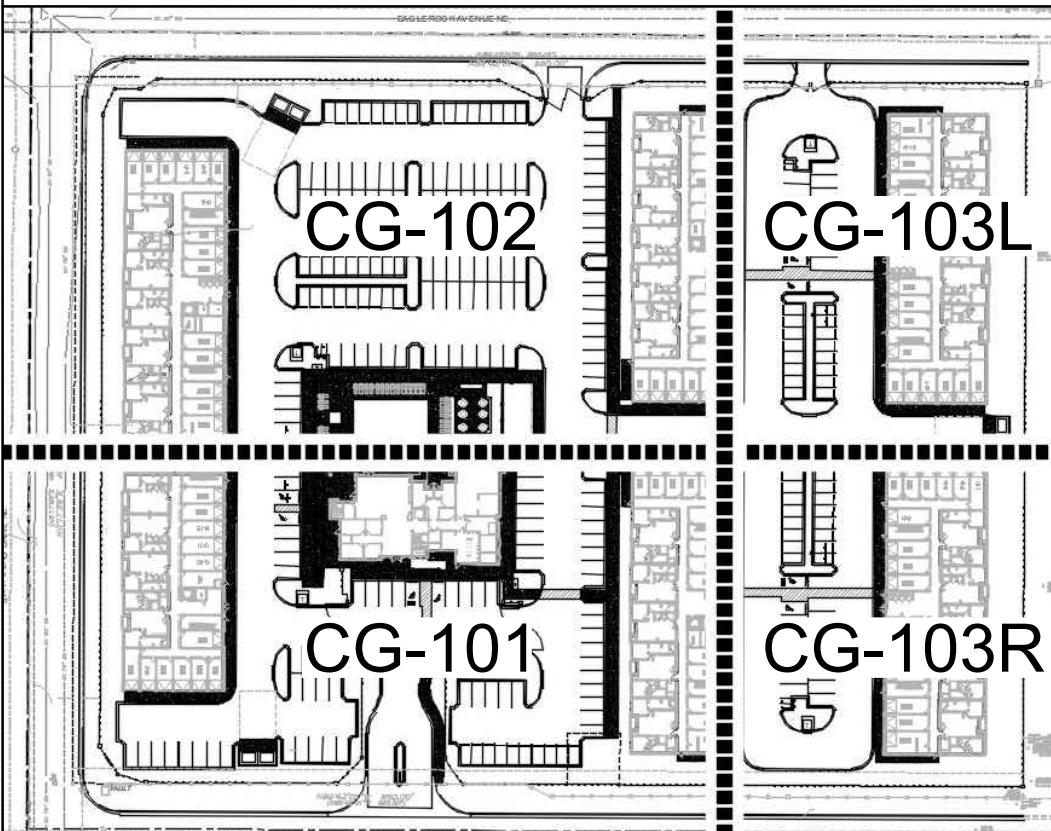
ALBUQUERQUE CONTROL SURVEY MONUMENT 9C_18,
ELEVATION (FEET) = 5232.47 (NAVD88)

OFF-SITE: NO OFF-SITE DRAINAGE IMPACTS THIS PROPERTY. ALL OPENINGS IN THE EXISTING CMU WALL TO THE EAST WILL BE GROUTED TO PREVENT OFFSITE STORMWATER FROM ENTERING THIS PROPERTY.

FLOOD HAZARD: PER FEMA FLOOD HAZARD MAP 35001C0137H, EFFECTIVE DATE 8/16/2012, THE SITE IS LOCATED WITHIN FLOODZONE 'X' DESIGNATED AS AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOODPLAIN AND IN ZONE 'AO' - DEPTH 1 FOOT. A L.O.M.R. IS UNDERWAY TO ELIMINATE THE FLOOD ZONE IN THE AREA.



GRADING & DRAINAGE KEY



ADA COMPLIANCE

SIDEWALK(S) AND RAMP(S):
* LONGITUDINAL SLOPE SHALL NOT EXCEED 20:1
* TARGET CROSS SLOPE = 1% TO 1.5%. CROSS SLOPE SHALL NOT EXCEED 2%
ACCESSIBLE RAMP(S):
* TARGET LONGITUDINAL SLOPE = 7% LONGITUDINAL SLOPE SHALL NOT EXCEED 12:1 (8.3%)
* TARGET CROSS SLOPE = 1% TO 1.5%. CROSS SLOPE SHALL NOT EXCEED 2%
ACCESSIBLE PARKING: TARGET SLOPE = 1% TO 1.5%. SHALL NOT EXCEED 2% SLOPE IN ANY DIRECTION

STORMWATER QUALITY

FOR REDEVELOPMENT SITES, THE CABQ STORMWATER QUALITY VOLUME (SWQV) IS BASED ON THE 80TH PERCENTILE STORM EVENT OR 0.26". THE IMPERVIOUS AREA FOR THIS PROPERTY IS 237,891 SF (83% OF TOTAL AREA). THE TOTAL REQUIRED S.Q. RETENTION VOLUME = 0.26" * TYPE 'D' AREA: 0.26/12 * 237,891 SF) = 5,154 CF.
SWQV RETENTION WILL BE PROVIDED THROUGHOUT THE PROPERTY. THE TOTAL AVAILABLE VOLUME IS 2,910 CF (56% OF REQUIRED). AN IN-LIEU-OF WAIVER IS REQUESTED FOR THE REMAINING 2,244 CF.

LEGEND

— 39 — PROPOSED 1.0' CONTOUR
— SURFACE FLOW DIRECTION
— FINISH FLOOR ELEVATION
— PROPOSED STORM DRAIN SYSTEM
— PROPOSED STORMWATER QUALITY RETENTION POND (ID & VOLUME CF)

Isaacson & Arfman, Inc.
Civil Engineering Consultants

128 Monroe Street NE
Albuquerque, NM 87108
505-266-8828 | www.iaacfi.com

Preliminary
08/15/2022 10:09:49 AM

San Pedro Apartments
San Pedro & Eagle Rock
Albuquerque, New Mexico

DESIGN	ISSUE: DEVELOPMENT	PROJECT NUMBER: IA 2471	FILE:	DRAWN BY: BJB/tor	CHECKED BY: FCA	DATE: 05-25-2022
No	Date	Description				

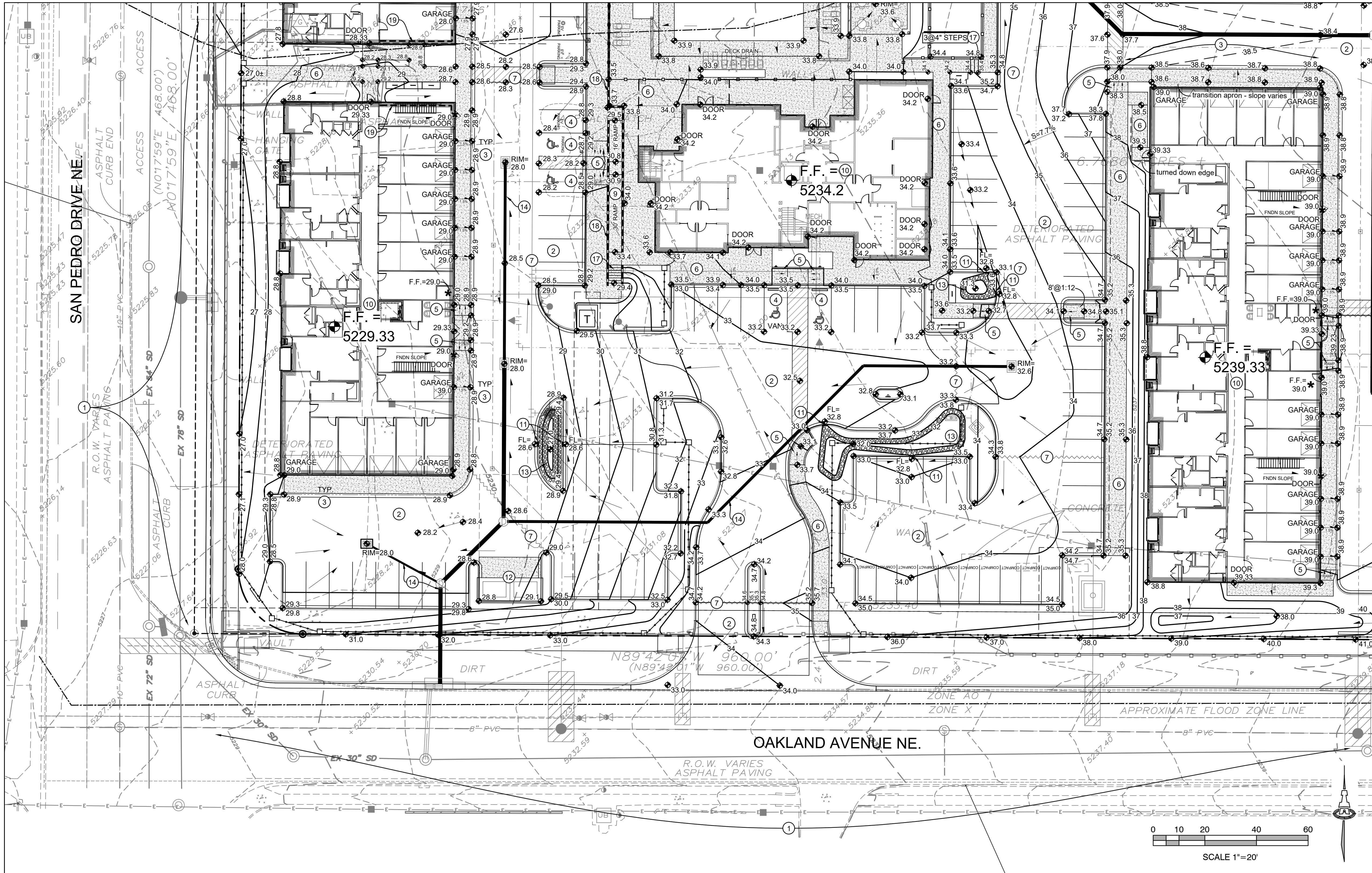
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OVERALL GRADING & DRAINAGE PLAN

SHEET NUMBER

CG-100

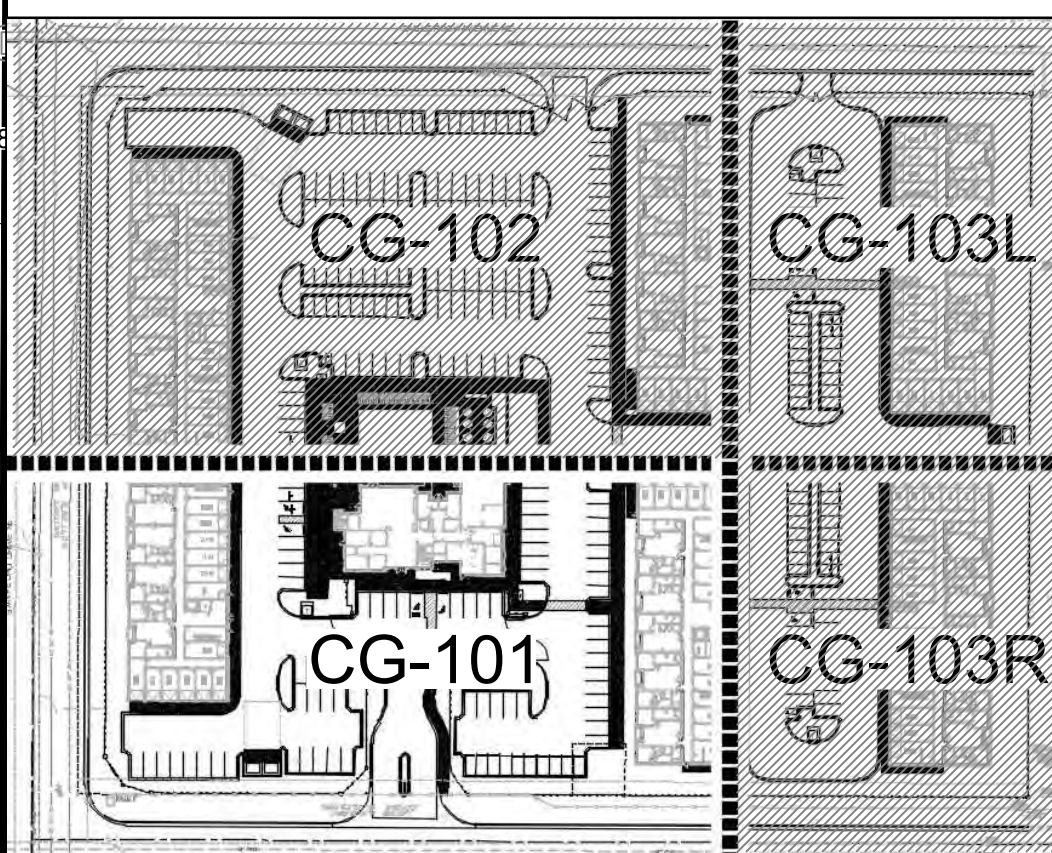
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LEGEND

- 39 — PROPOSED 1.0' CONTOUR
- - - 38.5 - - - PROPOSED 0.5' CONTOUR
- ◆ 37.5 PROPOSED SPOT ELEVATION
- SURFACE FLOW DIRECTION
- FF = 5237.5 FINISH FLOOR ELEVATION
- - - - - PROPOSED STORM DRAIN SYSTEM
- ▨ PROPOSED STORMWATER QUALITY RETENTION (CONCEPTUAL)
- * LOWERED 4" BELOW MAIN F.F. BUILDING ELEV. SEE FOUNDATION PLANS.

GRADING & DRAINAGE KEY



KEYED NOTES

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Preliminary
08/15/2022 10:10:07 AM

FRED C. ARFMAN
NEW MEXICO
7322
Professional Engineer
08-15-22

SAN PEDRO APARTMENTS

San Pedro & Eagle Rock
Albuquerque, New Mexico

DESIGN	ISSUE:	DEVELOPMENT
PROJECT NUMBER:	IA 2471	
FILE:		
DRAWN BY:	Bulfinch	
CHECKED BY:	FC	
DATE:	JULY 2022	

No	Date	Description
SHEET TITLE		

GRADING &
DRAINAGE
PLAN 1 OF 3

SHEET NUMBER

CG-101

City of Albuquerque
Planning Department
Development Review Services
HYDROLOGY SECTION
PRELIMINARY APPROVED
DATE: 08/15/22
BY: *Rosalee C. Brissette*
HydroTrans # C18D108

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CONCEPTUAL ONLY. MORE INFORMATION MAY
BE NEEDED IN THEM AND SUBMITTED TO
HYDROLOGY FOR BUILDING PERMIT APPROVAL.

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