CITY OF ALBUQUERQUE

Planning Department
Alan Varela, Director

Mayor Timothy M. Keller

May 2, 2025

Yolanda Padilla Moyer, PE
Bohannan Huston, Inc.
7500 Jefferson St NE
Albuquerque, NM 87109

RE: Savio Ridge Subdivision
9601 Tierra Pintada NW
Grading and Drainage Plan and Drainage Report
Engineer's Stamp Date: 04/07/2025
Hydrology File: J08D003B
Case # HYDR-2025-00082

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

Dear Ms. Padilla Moyer:

Based upon the information provided in your submittal received 05/01/2025, 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.

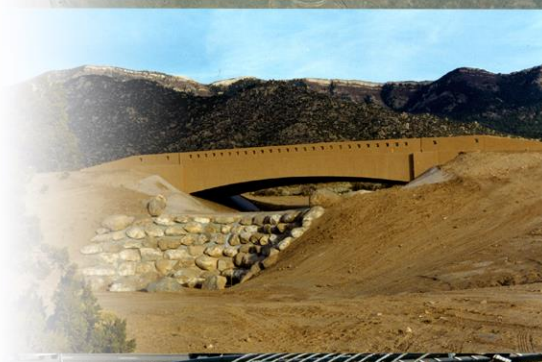
As a reminder, if the project total area of disturbance (including the staging area and any work within the adjacent Right-of-Way) is 1 acre or more, then an Erosion and Sediment Control (ESC) Plan and Owner's certified Notice of Intent (NOI) is required to be submitted to the Stormwater Quality Engineer (Doug Hughes, PE, jhughes@cabq.gov , 505-924-3420) 14 days prior to any earth disturbance.

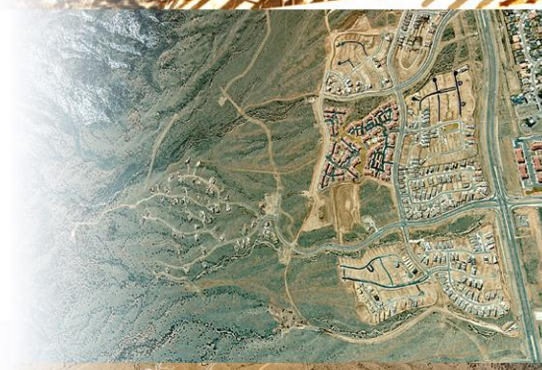
If you have any questions, please contact me at 505-924-3314 or amontoya@cabq.gov.

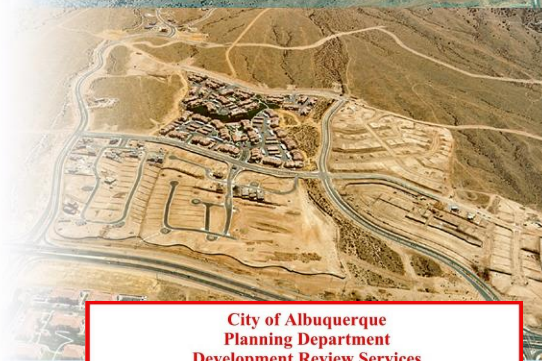
Sincerely,

Anthony Montoya, Jr., P.E., CFM
Senior Engineer, Hydrology
Planning Department, Development Review Services

DRAINAGE REPORT FOR SAVIO RIDGE







APRIL 2025

Prepared for:

PULTE DEVELOPMENT OF NEW MEXICO, INC

7601 JEFFERSON ST NE, SUITE 320

ALBUQUERQUE, NM 87109

Prepared by:

Bohannan Huston

Engineering

Spatial Data

Advanced Technologies

City of Albuquerque
Planning Department
Development Review Services
HYDROLOGY SECTION
APPROVED

DATE: 5/2/2025

BY:

HydroTrans # J08D003B

THE APPROVAL OF THESE PLANS/REPORTS SHALL NOT BE CONSTRUED TO PERMIT VIOLATIONS OF ANY CITY ORDINANCE OR STATE LAW, AND SHALL NOT PREVENT THE CITY OF ALBUQUERQUE FROM REQUIRING CORRECTIONS FOR ERRORS OR DIMENSIONS IN PLANS, SPECIFICATIONS, OR CONSTRUCTION DOCUMENTS. SUCH APPROVED PLANS/REPORTS SHALL NOT BE CHANGED, MODIFIED OR ALTERED WITHOUT AUTHORIZATION.

THE APPROVAL OF THESE PLANS/REPORTS SHALL EXPIRE TWO (2) YEARS AFTER THE APPROVAL DATE IF NO BUILDING PERMIT HAS BEEN PULLED ON THE DEVELOPMENT.

DRAINAGE REPORT
FOR
SAVIO RIDGE SUBDIVISION
ALBUQUERQUE, NM

APRIL 2025

Prepared for:

PULTE DEVELOPMENT OF NEW MEXICO, INC
7601 JEFFERSON ST NE, SUITE 320
ALBUQUERQUE, NM 87109

Prepared by:

BOHANNAN HUSTON, INC.
7500 JEFFERSON STREET NE
ALBUQUERQUE, NM 87109

PREPARED BY:

YOLANDA PADILLA MOYER NEW MEXICO 16035 04-07-2025 PROFFESIONAL ENGINEER

Yolanda Padilla Moyer, PE Date

Saiqa Mustari 04-07-2025

Saiqa Mustari Susmita, EIT Date

TABLE OF CONTENTS

I. INTRODUCTION 1
II. PURPOSE OF REPORT 1
III. METHODOLOGY AND REFERENCES 2
IV. SITE LOCATION AND CHARACTERISTICS 2
V. EXISTING CONDITIONS 3
VI. DEVELOPED CONDITIONS 4
A. ALLOWABLE 4
B. OFFSITE FLOW MANAGEMENT 5
C. ONSITE 5
VII. STORMWATER QUALITY REQUIRMENTS 8
VIII. SENSITIVE LANDS 9
IX. GRADING PLAN 9
X. CONCLUSION 9

APPENDICES

APPENDIX A BASIN ANALYSIS AND SUMMARY OF LAND TREATMENTS
APPENDIX B INLET/STREET HYDRAULICS
APPENDIX C STORM DRAIN PIPE ANALYSIS
APPENDIX D DETENTION PONDS ANALYSIS
APPENDIX E EMERGENCY SPILLWAY CALCULATIONS
APPENDIX F MANUFACTURES CURVILINEAR PIPE RECOMMENDATIONS

EXHIBITS

EXHIBIT A SUBDIVISION LOCATION MAP AND PRELIMINARY PLAT
EXHIBIT B ORIGINAL MASTER DRAINAGE PLAN FULL BUILDOUT
EXHIBIT C DRAINAGE BASINS EXISTING CONDITIONS
EXHIBIT D DRAINAGE BASINS PROPOSED CONDITIONS
EXHIBIT E STORM DRAIN EXHIBIT
EXHIBIT F GRADING PLAN

I. INTRODUCTION

Savio Ridge Subdivision is a gated-private single-family residential development consisting of 214 lots on approximately 60 acres within IDO zoning PC. The site is located north of Arroyo Vista Boulevard, east of Inspiration Subdivision, and south of Petroglyph National Monument. The proposed development will occur in two phases, but the entire site will be graded with the construction of the first phase to balance the earthwork. The site currently drains from northwest to southeast. In the proposed conditions the site will have the same drainage pattern and will accept any offsite flows. Storm runoff will be conveyed by the internal street network and collected by an internal storm drain network to the onsite ponds, with one pond located at the east most corner of the site and the other pond located northwest of Arroyo Vista and access road to the school intersection. The ponds will reduce the discharge from the site to be within the allowable discharge. Installation of a new storm drain network at Arroyo Vista Blvd and removal and upsizing of the existing storm drain in Tierra Pintada will be required to safely convey the outflow from the detention pond and ultimately carry the flow to the existing 60” Storm Drain (S-1 Structure) in the same manner as in the existing conditions.

In addition, the site currently has an AMAFCA, man-made diversion which conveyed offsite flow to Ladera Dam 5S via storm drain under Arroyo Vista. A FEMA floodplain is located along this diversion. This development will be removing this diversion, as it is no longer necessary with the majority of the upstream flow being cut-off by the Inspiration Subdivision, and a CLOMR and\or LOMR will be prepared to remove the floodplain. We will work with the COA, AMAFCA, and FEMA for this process.

II. PURPOSE OF REPORT

The purpose of this report is to provide site-specific drainage analysis for existing and ultimate conditions for the subdivision development referred to as Savio Ridge. This plan is prepared and submitted to support the design and grading of the subdivision and internal streets for preliminary, final plat, and construction plan approvals.

III. METHODOLOGY AND REFERENCES

All analysis was completed for the offsite and fully developed conditions. The runoff flow rates and volumes for the onsite basins were computed for the 100 year – 6 hour and 100 year – 24 hour storms in accordance with the City of Albuquerque Development Process Manual (DPM), Chapter 6. Rational Method is used in this report for the hydrology analysis to size storm and inlet capacity. The storm drain system hydraulic grade line (HGL) has been computed using the software Stormwater Studio. To analyze the detention ponds, HEC-HMS V14.2 was utilized. Street hydraulic capacities were computed in accordance with the COA DPM and using 8" standard curb & gutter for the subdivision. Manufactures curvilinear pipe recommendations can be found in APPENDIX F.

This report is consistent with previously approved drainage reports for this development. The following City of Albuquerque approved documents will be referenced throughout this report:

Drainage Analysis report for Arroyo Vista Blvd and Tierra Pintada Blvd, prepared by Bohannan Huston Inc., April 2012. This document provides the allowable flow to Arroyo Vista Blvd and to the existing storm drain at Tierra Pintada Blvd.

APS NW Educational Corridor Master Drainage Plan, prepared by High Mesa Consulting Group, August 2016. This document provides the drainage master plan for full buildout condition of the APS Property.

West I-40 Uplands Drainage Management Plan (DMP), prepared by Bohannan Huston Inc., February 2020. This document provides information on the proposed drainage system for fully developed conditions.

IV. SITE LOCATION AND CHARACTERISTICS

The site is approximately 60 acres, located north of Arroyo Vista Boulevard, east of Inspiration Subdivision (see EXHIBIT A). The existing topography slopes primarily from northwest to southeast across the site with the majority of the slopes less than 9%.

As mentioned, there is an existing diversion channel within the site that conveys storm runoff to AMAFCA Dam 5S through the existing storm drain located in Arroyo Vista. There are some existing detention ponds onsite that were built with the school to the east of the proposed site to collect and convey upstream flows downstream.

V. EXISTING CONDITIONS

Based on the existing topography, the site is broken into three offsite and five onsite basins. The existing basin and drainage patterns are shown graphically on the Existing Drainage Conditions Map in EXHIBIT C. The site consists of undeveloped land and currently drains from northwest to southeast. There is an existing diversion channel and existing detention ponds within the property boundary.

Offsite Basin-1 drains southeast and enters the site from the north. This basin contributes to the majority of the offsite flow that is entering the site. Offsite Basin-3 is located along the west boundary of the site and drains east. The total existing flow from Offsite Basin-1, Offsite Basin-3 and onsite Existing Basin-1 drains east towards the diversion channel. This channel conveys the flow to the AMAFCA Dam 5S Diversion Channel through an existing culvert located at Arroyo Vista Blvd.

Similarly, Offsite Basin-2 drains south and enters the site from the north. The runoff from this basin combines with Existing Basin-2 and drains southeast. There are existing natural swales that ultimately discharge the flow into existing detention ponds located at the southeast corner of the site. These ponds were built to support the development (K-8 School) to the east. These ponds discharge to the internal storm drain system in the K-8 School site and ultimately to the existing 60” storm drain in Tierra Pintada Blvd.

Existing Basin-3 drains northeast and leaves the site from the northeast corner of the property boundary. Existing Basin-4 and Existing Basin-5 both drain southeast and enter into existing detention ponds built with the K-8 School development east of the proposed site. The outlets of these ponds were built and discharge in the same manner above.

VI. DEVELOPED CONDITIONS

A. ALLOWABLE

Per the APS NW Education Corridor Master Drainage Plan, there is an allowable discharge of 106.0 cfs to the existing 60" storm drain pipe (S-1 Structure) located at the entrance to the school (Stormcloud Ave) and Tierra Pintada Blvd intersection. See EXHIBIT B-1 Phase 1 (Current Condition) and Exhibit B-2 Full Buildout (Ultimate Design) of the above-mentioned plan.

In the current condition, the K-8 school is discharging 53.0 cfs to the existing 60" storm drain pipe (S-1 Structure) and ultimately 103.6cfs. There is a second storm drain (S-2 Structure) which the northern portion of the APS site drains to. This storm drain has an allowable discharge of 215.2 cfs and a current discharge of 105.7 cfs. In addition, there is a third storm drain (49 - Structure) that bifurcates from at the S-1 junction to discharge the 53.0 cfs to S-1 and 94.6 cfs to S-2. The 49- Structure has a capacity of 160.6 cfs.

With the development of Savio Ridge, the upstream flow into the APS Site will be cut off and that developed flow reroute through onsite ponds and discharging in a new storm drain system in Arroyo Vista which will ultimately tie to the existing storm drain at the intersection of Arroyo Vista and Tierra Pintada and the S-1 Structure. Additionally, in order to utilize the full capacity (106.0 cfs) of S-1 Structure for our development, the APS storm drain will need to be disconnected from the S-1 structure and the current 53.0 cfs discharge directly to the 49-Structure. This would have an ultimate discharge of 147.6 cfs (capacity of 160.6 cfs) to 49-Structure and 154.9 cfs to S-2 structure which has an allow discharge of 215.2 cfs. All flows, current, allowable and ultimate, are shown on the above referenced Exhibits B-1 and B-2.

In addition, which will be discussed in the Onsite section below. Savio Ridge is discharging Q_{100}=96.3 cfs to the S-1 Structure which is below the allowable of Q_{100}=106 cfs.

The subdivision falls withing the West I-40 Uplands DMP. See EXHIBIT B-3 for the subbasins, developed flow and allowable discharge from the site.

Per the above mentioned DMP, the west portion of the site falls within subbasin L9.1A1, majority of the site falls within subbasin L9.2A, a small portion of the north falls within subbasin L9.1B and a small portion of the south falls within subbasin UD.4A.

The peak discharge from subbasin L9.1A1 is 64.4 cfs. With the development of this subdivision, the drainage will be routed east making the discharge from this subbasin 0.0 cfs.

The peak discharge from subbasin L9.2A is 130.0 cfs. This subbasin includes the site of the proposed subdivision as well as the K-8 school. As mentioned earlier, the total developed flow from K-8 School is being routed to Structure 49, which leaves the subdivision with total allowable discharge of 130.0 cfs. Savio Ridge is discharging Q_{100}=96.3 cfs which is well below 130.0 cfs. Therefore, the drainage management plan for the subdivision is in compliance with the West I-40 Uplands DMP.

The portion of the site that falls within subbasin L9.1B remains undeveloped. Therefore, there is no change in the drainage from this subbasin.

Lastly, the peak discharge from subbasin UD.4A is 60.8 cfs. This subbasin includes the south portion of the proposed subdivision and K-8 School, and Arroyo Vista Blvd. Drainage report of Arroyo Vista and Tierra Pintada discuss this subbasin further. The allowable discharge to Arroyo Vista from the proposed site is 8.0 cfs, where Savio Ridge is discharging 6.2 cfs.

B. OFFSITE FLOW MANAGEMENT

The total offsite flow entering the site in proposed conditions remains the same as in the existing conditions. The offsite flow will be accepted by the proposed development and safely conveyed by the proposed streets and storm drain network. There will be a proposed detention pond located at the northwest corner of the site to help reduce the silt and slow down the flow before it enters the roadway and storm drain network.

C. ONSITE

In the proposed conditions, the site is divided into thirty onsite basins for analysis purposes. Using Section 6-1(A)(2) of the City's DPM, a land treatment was assigned to each onsite basin. Since the number of residential units per acre is less than 6, the percent D land treatment area was determined by "Single Family Residential" equation listed in the City's DPM Table 6.2.10. The remaining area was split between land treatments B and C.

Developed flows are calculated for the 100 year – 24 hour storm event and are shown in APPENDIX A. The developed flows from the subdivision will be conveyed by the internal streets and proposed storm drain networks to the pond located at the southeast corner of the site to the new offsite storm drain in Arroyo Vista Blvd and Tierra Pintada Blvd and ultimately to the existing 60" storm drain (S-1 Structure) previously mentioned.

The Drainage Basins Proposed Conditions, EXHIBIT D, illustrates the basin locations and flow directions for the proposed development as well as the proposed street configurations for the subdivision.

There are multiple water blocks and low points planned and placed strategically throughout the site to direct the flow to the detention ponds. The sections below will discuss the basins and their flow path to each pond and discharge points.

Drainage to Pond-1:

Basin-1 drains south on Logic Lane and combines with Basin-9, Basin-6, Basin-10, Basin-4, and Basin-7 which drain east on Quest Trail which will be captured by inlets/storm drains and lowpoint (AP 27, see Analysis Points Exhibit in APPENDIX B) in Quest Trail and ultimately discharge into Pond 1.

Basin-15 drains north on Logic Lane and combines with Basin-16. The total flow from these two basins then drains south on Discovery Trail and combines with Basin-2 and Basin-3 where they will discharge down Wisdom Way and into Basin-6 mentioned above and ultimately to the same lowpoint in Quest Trail and Pond 1.

Offsite Basin-2 drains south and combines with Basin-24. The combined flow then enters Basin-18 on Pi R Squared Way. Approximately. 64% of this flow combines with Basin-17 which drains south on Wisdom Way. The remaining, approximately 36%, of the flow from Offsite Basin-2, Basin-24, and Basin-18 continues to drain east on Pi R Squared Way and combines with Basin-20 and drains south on Clever Lane.

Basin-17 combined with approximately 24% of Basin-19 where inlet will capture some of the flow with in Mentor Lane with the residual flow draining south on Tutor Trail and combines with Basin-5 and into Basin-7 and ultimately to the same lowpoint in Quest Trail and Pond 1.

A remaining portion, approx. 76% of Basin 19 drains east on Mentor Lane and combines with the flow from Basin-20 and Basin-8. The total flow will discharge down Quest Trail toward the lowpoint and into Pond 1.

Storm drain inlets are proposed at locations where the total upstream flow exceeds the street capacity. Inlets located at the sump condition have the capacity of 2 times the 100-year flow going into the inlet. For detailed breakdown of street capacity, analysis and location of inlet locations see APPENDIX B. The inlets proposed at the sump condition at Basin-7/ Quest Trail will collect any residual flow and discharge it into Pond-1.

Pond-1 is located within the basin boundary of Basin 29. The land treatment percentages of this basin have been assigned based on the steeper slope of the proposed pond and the developed flow from this basin have been taken into account in calculating the required volume for Pond-1.

An emergency spillway has been proposed at the southeast corner of the pond for the safe passage of 100-year design flow entering the pond. The emergency spillway will discharge into Arroyo Vista Blvd. APPENDIX E includes the calculations for Emergency Spillway.

Drainage to Pond-2:

Basin-21 drains south on Literacy Lane and combines with Basin-22 which drains toward a lowpoint located on Mentor Lane at the southeast corner of Basin-22. Inlets located at the sump condition have the capacity of 2 times the 100-year flow going into the inlet. For detailed breakdown of street capacity, analysis and location of inlet locations see APPENDIX B. The total flow will be collected by the proposed storm drain inlets at the sump condition and discharge into Pond-2. This pond will outfall into Pond-1 via storm drain.

Pond-2 is located within the basin boundary of Basin 27. The land treatment percentages of this basin have been assigned based on the steeper slope of the proposed pond and the developed flow from this basin have been taken into account in calculating the required volume for Pond-2.

Drainage to Pond-3:

The total flow from Offsite Basin-1, Offsite Basin-3B, and Basin-23 drains into Pond-3 where it will be collected by the proposed storm drain stub into the pond and discharge into the internal storm drain system and ultimately discharge into Pond-1.

Pond-3 is located within the basin boundary of Basin 23. The land treatment percentages of this basin have been assigned based on the steeper slope of the proposed pond and the developed flow from this basin have been taken into account in calculating the required volume for Pond-3.

An emergency spillway has been proposed at the southeast corner of the pond for the safe passage of 100-year design flow entering the pond. The emergency spillway will discharge into the lowpoint located at Pi R Squared Way. APPENDIX E includes the calculations for Emergency Spillway.

Drainage to 60" Storm drain:

Pond-1 is designed to discharge 96.3 cfs which is less than the allowable 106.0 cfs and retain the required storm water quality volume, see section below. The outlet from Pond-1 will connect to a new storm drain system at Arroyo Vista Blvd which will be built with this development. This new storm drain system will ultimately tie into an existing 60" storm drain located at Tierra Pintada Blvd and Stormcloud Ave intersection. To make that connection, the existing 36" storm drain at Tierra Pintada Blvd will need to be removed and upsized. The existing 60" storm drain will convey the flow to the Existing Ladera Dam System in the same manner as it is in existing conditions.

Drainage to Arroyo Vista:

Proposed Basin-11, Basin-12, Basin-13, Basin-14, Basin 30 and Offsite Basin-3A will sheet flow toward Arroyo Vista Blvd. The total flow from these four basins is 6.2 cfs which is less than the allowable discharge of 8.0 cfs.

Drainage away from Site:

Proposed Basin-25, Basin-26, and Basin-28 will drain away from the site following the drainage pattern and same location as in existing conditions. This development will reduce the flow going downstream from these points than it was in the existing conditions. The total flow leaving the site from Basin-25 is 1.2 cfs, Basin-26 is 1.0 cfs, and Basin-28 is 0.5 cfs in the proposed conditions, where in the existing conditions it was 3.7 cfs, 3.1 cfs and 8.0 cfs respectively. Therefore, it will not have any negative impact on the existing drainage infrastructures downstream.

EXHIBIT E, shows the flow, street grade, water depth, flow captured, and type of each inlet and the size, slope, flow, and capacity of the storm drain system. All upstream flows were within the depth of flow in the street and did not exceed the curb height. See APPENDIX B and APPENDIX C for additional information.

VII. STORMWATER QUALITY REQUIRMENTS

This project is required to meet the stormwater quality volume (SWQV) requirements of the new City Drainage Ordinance per Section 6-12 of the City's DPM. The stormwater quality requirement will be met via a detention volume. Pond-1 at the southeast corner of the site will capture the flow from the entire site. The required storage is calculated as 0.42 inch times the subdivision acreage times the percent impervious, and is equal to 0.85 ac-ft.

The retention volume of 0.85 ac-ft is provided in Pond 1, thus fulfilling the water quality requirement for this project. The results of the detention pond analysis are included in APPENDIX D.

VIII. SENSITIVE LANDS

The City of Albuquerque standard specifications for public works construction (city standard specifications) section 1014 'sensitive lands preservation and construction mitigation' outlines the actions that are required prior to grubbing or grading a site and the additional actions required during the entire span of construction to preserve lands identified for permanent preservation. These requirements shall be consistently applied for the purpose of preserving sensitive land features that are irreplaceable and are essential to the cultural and natural resource heritage of Albuquerque. Sensitive lands preservation location will be determined by the approved EPC site plan per IDO section 5-2(c)(4).

IX. GRADING PLAN

The grading plan for Savio Ridge Subdivision is included in EXHIBIT F of this report.

X. CONCLUSION

This drainage report is in compliance with previously approved drainage master plans and drainage reports and summarizes the hydrologic and hydraulic analysis for the new subdivision. With the proposed storm drain network there are no adverse effects anticipated to the existing infrastructure. The proposed storm drain infrastructure and drainage management schemes allow for the safe management of storm runoff. The implementation of these concepts would result in the safe passage of the 100 year - 24 hour storm event.

APPENDICES

APPENDIX A: BASIN ANALYSIS AND SUMMARY OF LAND TREATMENTS

APPENDIX B: INLET/STREET HYDRAULICS

APPENDIX C: STORM DRAIN PIPE ANALYSIS

APPENDIX D: DETENTION PONDS ANALYSIS

APPENDIX E: EMERGENCY SPILLWAY CALCULATIONS

APPENDIX F: MANUFACTURES CURVILINEAR PIPE RECOMMENDATIONS

APPENDIX A
BASIN ANALYSIS AND SUMMARY OF LAND TREATMENTS

EXISTING CONDITIONS

BASIN I.D.	AREA (AC)	% LAND TREATMENT A	B	C	D	DISCHARGE (CFS) 10 YR	100YR	VOLUME (AC-FT) 10 YR	100YR
								6 HOUR STORM	
EXISTING BASIN -1	17.7	79.0%	15.0%	6.0%	0.0%	**8.0**	**30.5**	**0.2**	**0.9**
EXISTING BASIN -2	33.8	79.0%	15.0%	6.0%	0.0%	**15.4**	**58.4**	**0.4**	**1.7**
EXISTING BASIN -3	2.2	79.0%	15.0%	6.0%	0.0%	**1.0**	**3.7**	**0.0**	**0.1**
EXISTING BASIN -4	1.8	79.0%	15.0%	6.0%	0.0%	**0.8**	**3.1**	**0.0**	**0.1**
EXISTING BASIN -5	4.6	79.0%	15.0%	6.0%	0.0%	**2.1**	**8.0**	**0.1**	**0.2**
OFFSITE BASIN -1	12.7	79.0%	15.0%	6.0%	0.0%	**5.8**	**22.0**	**0.2**	**0.6**
OFFSITE BASIN -2	1.9	79.0%	15.0%	6.0%	0.0%	**0.9**	**3.3**	**0.0**	**0.1**
OFFSITE BASIN -3	1.2	79.0%	15.0%	6.0%	0.0%	**0.5**	**2.0**	**0.0**	**0.1**
TOTAL	**76.0**					**34.5**	**131.0**	**1.0**	**3.8**

PROPOSED CONDITIONS

BASIN I.D.	AREA (AC)	UNITS #	% LAND TREATMENT				DISCHARGE (CFS)		VOLUME (AC-FT)		**SWQV (AC-FT)**
			A	B	C	D	10 YR	100YR	10 YR	100YR	
BASIN - 1	4.5	21	0.0%	27.5%	27.5%	45.0%	8.0	14.7	0.3	0.6	0.072
BASIN - 2	7.5	31	0.0%	27.5%	27.5%	45.0%	13.2	24.1	0.5	0.9	0.118
BASIN - 3	2.9	12	0.0%	27.5%	27.5%	45.0%	5.2	9.4	0.2	0.4	0.046
BASIN - 4	1.6	0	0.0%	0.0%	90.0%	10.0%	2.6	4.9	0.1	0.1	0.006
BASIN - 5	2.6	13	0.0%	27.5%	27.5%	45.0%	4.6	8.5	0.2	0.3	0.042
BASIN - 6	2.8	11	0.0%	27.5%	27.5%	45.0%	4.9	8.9	0.2	0.3	0.044
BASIN - 7	3.6	17	0.0%	27.5%	27.5%	45.0%	6.4	11.7	0.3	0.4	0.057
BASIN - 8	3.8	20	0.0%	27.5%	27.5%	45.0%	6.8	12.5	0.3	0.5	0.061
BASIN - 9	0.2	0	0.0%	0.0%	10.0%	90.0%	0.5	0.8	0.0	0.0	0.007
BASIN - 10	0.2	0	0.0%	0.0%	10.0%	90.0%	0.5	0.8	0.0	0.0	0.007
BASIN - 11	0.8	0	0.0%	0.0%	90.0%	10.0%	1.2	2.3	0.0	0.1	0.003
BASIN - 12	0.1	0	0.0%	0.0%	10.0%	90.0%	0.2	0.3	0.0	0.0	0.003
BASIN - 13	0.4	0	0.0%	0.0%	90.0%	10.0%	0.6	1.1	0.0	0.0	0.002
BASIN - 14	0.1	0	0.0%	0.0%	10.0%	90.0%	0.2	0.3	0.0	0.0	0.003
BASIN - 15	4.0	18	0.0%	27.5%	27.5%	45.0%	7.1	12.9	0.3	0.5	0.063
BASIN - 16	0.6	0	0.0%	0.0%	10.0%	90.0%	1.6	2.6	0.1	0.1	0.021
BASIN - 17	4.4	18	0.0%	27.5%	27.5%	45.0%	7.9	14.4	0.3	0.5	0.07
BASIN - 18	0.6	0	0.0%	0.0%	10.0%	90.0%	1.4	2.2	0.1	0.1	0.018
BASIN - 19	2.2	8	0.0%	27.5%	27.5%	45.0%	3.9	7.1	0.2	0.3	0.035
BASIN - 20	2.7	13	0.0%	27.5%	27.5%	45.0%	4.9	8.9	0.2	0.3	0.044
BASIN - 21	2.3	12	0.0%	27.5%	27.5%	45.0%	4.1	7.5	0.2	0.3	0.037
BASIN - 22	4.6	20	0.0%	27.5%	27.5%	45.0%	8.1	14.9	0.3	0.6	0.073
BASIN - 23	1.4	0	0.0%	0.0%	90.0%	10.0%	2.2	4.2	0.1	0.1	0.005
BASIN - 24	2.0	0	79.0%	15.0%	6.0%	0.0%	0.9	3.5	0.0	0.1	0
BASIN - 25	0.7	0	79.0%	15.0%	6.0%	0.0%	0.3	1.2	0.0	0.0	0
BASIN - 26	0.6	0	79.0%	15.0%	6.0%	0.0%	0.3	1.0	0.0	0.0	0
BASIN - 27	0.9	0	0.0%	0.0%	90.0%	10.0%	1.4	2.7	0.0	0.1	0.004
BASIN - 28	0.3	0	79.0%	15.0%	6.0%	0.0%	0.1	0.5	0.0	0.0	0
BASIN - 29	1.5	0	0.0%	0.0%	90.0%	10.0%	2.3	4.4	0.1	0.1	0.006
BASIN - 30	0.4	0	0.0%	0.0%	90.0%	10.0%	0.6	1.2	0.0	0.0	0.002
OFFSITE BASIN -1	12.7	0	79.0%	15.0%	6.0%	0.0%	5.8	22.0	0.2	0.6	0
OFFSITE BASIN -2	1.9	0	79.0%	15.0%	6.0%	0.0%	0.9	3.3	0.0	0.1	0
OFFSITE BASIN -3A	0.6	0	79.0%	15.0%	6.0%	0.0%	0.3	1.0	0.0	0.0	0
OFFSITE BASIN -3B	0.6	0	79.0%	15.0%	6.0%	0.0%	0.3	1.0	0.0	0.0	0
**BASIN L.9.2A - 3	0.9	0	0.0%	0.0%	100.0%	0.0%	1.3	2.7	0.0	0.1	0
**BASIN L.9.2A - 4	1.3	0	0.0%	0.0%	100.0%	0.0%	1.8	3.6	0.0	0.1	0
TOTAL	76.0	214					109.1	216.8	4.1	7.8	**0.849**

**These Basins are not apart of the total site

APPENDIX B
INLET/STREET HYDRAULICS

AP1
Q = 1.0 CFS

AP2
Q = 22.0 CFS

AP3
Q = 3.3 CFS

AP32
Q = 1.2 CFS

AP4
AP5
AP6A
AP6B
AP7A
AP7B
AP8
AP9
AP10
AP11
AP12
AP13
AP14
AP15
AP16
AP17
AP18
AP19
AP20
AP21
AP22
AP23
AP24
AP25
AP26
AP27
AP28
AP29
AP30
AP31
AP33
Q = 1.0 CFS
AP34
Q = 3.6 CFS
AP35
Q = 1.4 CFS
AP36
Q = 1.0 CFS
AP37
Q = 0.5 CFS

5.00%
0.57%
1.14%
0.61%
5.20%
0.60%
4.00%
0.68%
0.68%
8.00%
3.15%
2.65%
2.10%
0.60%
1.18%
0.60%
7.91%
8.00%
3.60%
0.60%
0.60%
3.98%
4.53%
3.77%
3.15%
1.23%
0.60%
1.90%
2.08%
1.00%
0.60%
0.61%
3.56%
1.06%
1.62%
4.00%
0.60%
4.35%
3.79%
3.79%
3.96%

LEGEND

EXISTING STORM DRAIN

PROPOSED STORM DRAIN

PROPOSED STORM DRAIN MANHOLE

PROPOSED STORM DRAIN INLET

Bohannan Huston
www.bhinc.com 800.877.5332

N

100 50 0 100
1"=100'

ANALYSIS POINTS EXHIBIT

SAVIO RIDGE

DRAWN BY:	DATE:	
SS	03/2025	
CHECKED BY:	BHI PROJECT NO.	SHEET NO.
YPM	20240457	1 OF 1

Thu, 6-Mar-2025 - 8:45 am Plotted by: BENTON
P:\2024\0457\COP\Plans\General\20240457_BMC_Schematics.dwg

40.5 ROW 2% Cross Slope_S=5.00% AP4

MANNING'S N = 0.017 SLOPE = 0.050 (ft/ft)

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.000	0.850	4.000	11.500	0.130	7.000	35.500	0.650
2.0	8.880	0.670	5.000	22.000	0.350	8.000	36.130	1.320
3.0	9.500	0.000	6.000	33.500	0.560	9.000	40.500	1.410

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOPWID WATER	TOTAL ENERGY (FT)	FROUDE NO.
0.025	0.025	0.005	0.005	0.419	1.033	0.408	0.408	0.042	1.629
0.050	0.050	0.020	0.033	0.839	1.640	0.815	0.815	0.092	1.828
0.075	0.075	0.046	0.099	1.258	2.149	1.223	1.223	0.147	1.956
0.100	0.100	0.082	0.212	1.678	2.603	1.631	1.631	0.205	2.052
0.125	0.125	0.127	0.385	2.097	3.021	2.039	2.039	0.267	2.130
0.150	0.150	0.190	0.569	3.163	2.997	3.093	3.093	0.290	2.132
0.175	0.175	0.282	0.887	4.391	3.138	4.310	4.310	0.328	2.161
0.200	0.200	0.405	1.374	5.618	3.388	5.526	5.526	0.379	2.205
0.225	0.225	0.559	2.055	6.846	3.678	6.742	6.742	0.435	2.252
0.250	0.250	0.743	2.957	8.073	3.983	7.959	7.959	0.497	2.299
0.275	0.275	0.957	4.105	9.301	4.291	9.175	9.175	0.561	2.343
0.300	0.300	1.201	5.524	10.528	4.598	10.391	10.391	0.629	2.384
0.325	0.325	1.476	7.236	11.756	4.902	11.608	11.608	0.699	2.423
0.350	0.350	1.782	9.265	12.983	5.200	12.824	12.824	0.771	2.460
0.375	0.375	2.120	11.557	14.387	5.452	14.216	14.216	0.837	2.489
0.400	0.400	2.492	14.229	15.790	5.709	15.608	15.608	0.907	2.519
0.425	0.425	2.900	17.305	17.193	5.967	17.000	17.000	0.979	2.547
0.450	0.450	3.343	20.807	18.597	6.225	18.393	18.393	1.053	2.574
0.475	0.475	3.820	24.760	20.000	6.482	19.785	19.785	1.129	2.601
0.500	0.500	4.332	29.186	21.403	6.738	21.177	21.177	1.206	2.626
0.525	0.525	4.879	34.106	22.807	6.991	22.569	22.569	1.285	2.651
0.550	0.550	5.460	39.543	24.210	7.242	23.961	23.961	1.366	2.675
0.575	0.575	6.073	46.059	25.126	7.584	24.865	24.865	1.470	2.706
0.600	0.600	6.702	53.446	25.716	7.975	25.444	25.444	1.589	2.739
0.625	0.625	7.345	61.332	26.306	8.350	26.023	26.023	1.709	2.771
0.650	0.650	8.003	69.719	26.896	8.712	26.601	26.601	1.830	2.800
0.675	0.675	8.669	79.055	27.204	9.119	26.890	26.890	1.968	2.831
0.700	0.700	9.357	87.099	28.472	9.308	28.147	28.147	2.048	2.846
0.725	0.725	10.077	95.722	29.740	9.500	29.404	29.404	2.129	2.861
0.750	0.750	10.827	104.941	31.008	9.692	30.661	30.661	2.211	2.875
0.775	0.775	11.610	114.771	32.276	9.886	31.918	31.918	2.295	2.890
0.800	0.800	12.423	125.229	33.544	10.080	33.174	33.174	2.380	2.904
0.825	0.825	13.268	136.332	34.812	10.275	34.431	34.431	2.467	2.918

Q = 12.9 cfs
d= 0.39'
E = 0.87'

40.5 ROW 2% Cross Slope_S=0.57% AP5

MANNING'S N = 0.017 SLOPE = 0.006 (ft/ft)

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.000	0.850	4.000	11.500	0.130	7.000	35.500	0.650
2.0	8.880	0.670	5.000	22.000	0.350	8.000	36.130	1.320
3.0	9.500	0.000	6.000	33.500	0.560	9.000	40.500	1.410

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOPWID WATER	TOTAL ENERGY (FT)	FROUDE NO.	
0.025	0.025	0.005	0.002	0.419	0.349	0.408	0.408	0.027	0.550	
0.050	0.050	0.020	0.011	0.839	0.554	0.815	0.815	0.055	0.617	
0.075	0.075	0.046	0.033	1.258	0.726	1.223	1.223	0.083	0.661	
0.100	0.100	0.082	0.072	1.678	0.879	1.631	1.631	0.112	0.693	
0.125	0.125	0.127	0.130	2.097	1.020	2.039	2.039	0.141	0.719	
0.150	0.150	0.190	0.192	3.163	1.012	3.093	3.093	0.166	0.720	
0.175	0.175	0.282	0.299	4.391	1.060	4.310	4.310	0.192	0.730	
0.200	0.200	0.405	0.464	5.618	1.144	5.526	5.526	0.220	0.745	
0.225	0.225	0.559	0.694	6.846	1.242	6.742	6.742	0.249	0.760	
0.250	0.250	0.743	0.999	8.073	1.345	7.959	7.959	0.278	0.776	
0.275	0.275	0.957	1.386	9.301	1.449	9.175	9.175	0.308	0.791	
0.300	0.300	1.201	1.865	10.528	1.553	10.391	10.391	0.337	0.805	
0.325	0.325	1.476	2.443	11.756	1.655	11.608	11.608	0.368	0.818	
0.350	0.350	1.782	3.128	12.983	1.756	12.824	12.824	0.398	0.830	
0.375	0.375	2.120	3.902	14.387	1.841	14.216	14.216	0.428	0.841	
0.400	0.400	2.492	4.804	15.790	1.928	15.608	15.608	0.458	0.850	
0.425	0.425	2.900	5.843	17.193	2.015	17.000	17.000	0.488	0.860	
0.450	0.450	3.343	7.025	18.597	2.102	18.393	18.393	0.519	0.869	
0.475	0.475	3.820	8.360	20.000	2.189	19.785	19.785	0.550	0.878	
0.500	0.500	4.332	9.854	21.403	2.275	21.177	21.177	0.580	0.887	
0.525	0.525	4.879	11.516	22.807	2.360	22.569	22.569	0.612	0.895	
0.550	0.550	5.460	13.351	24.210	2.445	23.961	23.961	0.643	0.903	Q = 15.5 cfs d= 0.58' E = 0.68'
0.575	0.575	6.073	15.551	25.126	2.561	24.865	24.865	0.677	0.914	
0.600	0.600	6.702	18.045	25.716	2.693	25.444	25.444	0.713	0.925	
0.625	0.625	7.345	20.708	26.306	2.819	26.023	26.023	0.749	0.936	
0.650	0.650	8.003	23.540	26.896	2.941	26.601	26.601	0.785	0.945	
0.675	0.675	8.669	26.692	27.204	3.079	26.890	26.890	0.822	0.956	
0.700	0.700	9.357	29.408	28.472	3.143	28.147	28.147	0.854	0.961	
0.725	0.725	10.077	32.320	29.740	3.207	29.404	29.404	0.885	0.966	
0.750	0.750	10.827	35.432	31.008	3.272	30.661	30.661	0.917	0.971	
0.775	0.775	11.610	38.751	32.276	3.338	31.918	31.918	0.948	0.976	
0.800	0.800	12.423	42.282	33.544	3.403	33.174	33.174	0.980	0.981	
0.825	0.825	13.268	46.031	34.812	3.469	34.431	34.431	1.012	0.985	

48 ROW 2% Cross Slope_S=1.18% AP6A

MANNING'S N = 0.017 SLOPE = 0.012 (ft/ft)

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.000	0.860	4.000	12.000	0.130	7.000	38.000	0.690
2.0	9.380	0.670	5.000	24.000	0.370	8.000	38.630	1.360
3.0	10.000	0.000	6.000	36.000	0.610	9.000	48.000	1.550

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOPWID WATER	TOTAL ENERGY (FT)	FROUDE NO.
0.025	0.025	0.005	0.003	0.419	0.502	0.408	0.408	0.029	0.791
0.050	0.050	0.020	0.016	0.839	0.797	0.815	0.815	0.060	0.888
0.075	0.075	0.046	0.048	1.258	1.044	1.223	1.223	0.092	0.950
0.100	0.100	0.082	0.103	1.678	1.265	1.631	1.631	0.125	0.997
0.125	0.125	0.127	0.187	2.097	1.467	2.039	2.039	0.158	1.035
0.150	0.150	0.190	0.275	3.209	1.445	3.139	3.139	0.182	1.034
0.175	0.175	0.285	0.430	4.493	1.510	4.412	4.412	0.210	1.047
0.200	0.200	0.411	0.670	5.777	1.630	5.685	5.685	0.241	1.069
0.225	0.225	0.569	1.008	7.062	1.771	6.958	6.958	0.274	1.092
0.250	0.250	0.759	1.457	8.346	1.920	8.231	8.231	0.307	1.115
0.275	0.275	0.981	2.030	9.630	2.071	9.504	9.504	0.342	1.136
0.300	0.300	1.234	2.740	10.915	2.220	10.778	10.778	0.377	1.157
0.325	0.325	1.519	3.599	12.199	2.368	12.051	12.051	0.412	1.176
0.350	0.350	1.837	4.617	13.483	2.514	13.324	13.324	0.448	1.194
0.375	0.375	2.186	5.807	14.768	2.657	14.597	14.597	0.485	1.210
0.400	0.400	2.567	7.179	16.052	2.797	15.870	15.870	0.522	1.226
0.425	0.425	2.979	8.744	17.336	2.935	17.143	17.143	0.559	1.241
0.450	0.450	3.424	10.512	18.621	3.070	18.416	18.416	0.597	1.255
0.475	0.475	3.900	12.493	19.905	3.203	19.690	19.690	0.635	1.269
0.500	0.500	4.408	14.696	21.189	3.334	20.963	20.963	0.673	1.282
0.525	0.525	4.948	17.132	22.473	3.462	22.236	22.236	0.711	1.294
0.550	0.550	5.520	19.809	23.758	3.589	23.509	23.509	0.750	1.306
0.575	0.575	6.124	22.737	25.042	3.713	24.782	24.782	0.789	1.317
0.600	0.600	6.759	25.926	26.326	3.836	26.055	26.055	0.829	1.328
0.625	0.625	7.424	29.633	27.236	3.992	26.953	26.953	0.873	1.341
0.650	0.650	8.105	33.764	27.895	4.166	27.601	27.601	0.920	1.355
0.675	0.675	8.804	37.942	28.795	4.309	28.492	28.492	0.964	1.367
0.700	0.700	9.539	41.805	30.419	4.383	30.110	30.110	0.999	1.373
0.725	0.725	10.307	46.289	31.687	4.491	31.368	31.368	1.039	1.381
0.750	0.750	11.107	51.076	32.956	4.599	32.626	32.626	1.079	1.389
0.775	0.775	11.938	56.172	34.225	4.705	33.884	33.884	1.119	1.397
0.800	0.800	12.801	61.587	35.494	4.811	35.141	35.141	1.160	1.405
0.825	0.825	13.695	67.329	36.762	4.916	36.399	36.399	1.201	1.413
0.850	0.850	14.621	73.404	38.031	5.020	37.657	37.657	1.242	1.420

Q = 27.2 cfs
d= 0.61'
E = 0.84'

48 ROW 2% Cross Slope_S=1.00% AP6B

MANNING'S N = 0.017   SLOPE = 0.010 (ft/ft)

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.000	0.860	4.000	12.000	0.130	7.000	38.000	0.690
2.0	9.380	0.670	5.000	24.000	0.370	8.000	38.630	1.360
3.0	10.000	0.000	6.000	36.000	0.610	9.000	48.000	1.550

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOPWID WATER	TOTAL ENERGY (FT)	FROUDE NO.
0.025	0.025	0.005	0.002	0.419	0.462	0.408	0.408	0.028	0.728
0.050	0.050	0.020	0.015	0.839	0.733	0.815	0.815	0.058	0.818
0.075	0.075	0.046	0.044	1.258	0.961	1.223	1.223	0.089	0.875
0.100	0.100	0.082	0.095	1.678	1.164	1.631	1.631	0.121	0.918
0.125	0.125	0.127	0.172	2.097	1.351	2.039	2.039	0.153	0.953
0.150	0.150	0.190	0.253	3.209	1.330	3.139	3.139	0.178	0.952
0.175	0.175	0.285	0.396	4.493	1.390	4.412	4.412	0.205	0.964
0.200	0.200	0.411	0.617	5.777	1.501	5.685	5.685	0.235	0.984
0.225	0.225	0.569	0.928	7.062	1.631	6.958	6.958	0.266	1.005
0.250	0.250	0.759	1.341	8.346	1.768	8.231	8.231	0.299	1.026
0.275	0.275	0.981	1.869	9.630	1.906	9.504	9.504	0.332	1.046
0.300	0.300	1.234	2.523	10.915	2.044	10.778	10.778	0.365	1.065
0.325	0.325	1.519	3.313	12.199	2.180	12.051	12.051	0.399	1.082
0.350	0.350	1.837	4.250	13.483	2.314	13.324	13.324	0.433	1.099
0.375	0.375	2.186	5.346	14.768	2.446	14.597	14.597	0.468	1.114
0.400	0.400	2.567	6.609	16.052	2.575	15.870	15.870	0.503	1.129
0.425	0.425	2.979	8.049	17.336	2.702	17.143	17.143	0.539	1.143
0.450	0.450	3.424	9.677	18.621	2.826	18.416	18.416	0.574	1.156
0.475	0.475	3.900	11.500	19.905	2.949	19.690	19.690	0.610	1.168
0.500	0.500	4.408	13.529	21.189	3.069	20.963	20.963	0.647	1.180
0.525	0.525	4.948	15.771	22.473	3.187	22.236	22.236	0.683	1.191
0.550	0.550	5.520	18.236	23.758	3.304	23.509	23.509	0.720	1.202
0.575	0.575	6.124	20.932	25.042	3.418	24.782	24.782	0.757	1.212
0.600	0.600	6.759	23.866	26.326	3.531	26.055	26.055	0.794	1.222
0.625	0.625	7.424	27.279	27.236	3.675	26.953	26.953	0.835	1.234
0.650	0.650	8.105	31.082	27.895	3.835	27.601	27.601	0.879	1.248
0.675	0.675	8.804	34.928	28.795	3.967	28.492	28.492	0.920	1.258
0.700	0.700	9.539	38.484	30.419	4.035	30.110	30.110	0.953	1.264
0.725	0.725	10.307	42.612	31.687	4.134	31.368	31.368	0.991	1.272
0.750	0.750	11.107	47.019	32.956	4.233	32.626	32.626	1.029	1.279
0.775	0.775	11.938	51.711	34.225	4.331	33.884	33.884	1.067	1.286
0.800	0.800	12.801	56.696	35.494	4.429	35.141	35.141	1.105	1.294
0.825	0.825	13.695	61.981	36.762	4.526	36.399	36.399	1.144	1.301
0.850	0.850	14.621	67.574	38.031	4.622	37.657	37.657	1.182	1.308

Q = 12.4 cfs
d= 0.49'
E = 0.63'

48 ROW 2% Crown_S=1.90% AP7A

MANNING'S N = 0.017   SLOPE = 0.019 (ft/ft)

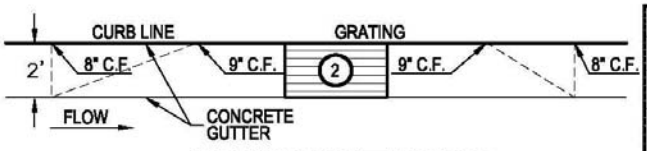
POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.000	0.860	4.000	12.000	0.130	7.000	38.000	0.000
2.0	9.380	0.670	5.000	24.000	0.370	8.000	38.630	0.670
3.0	10.000	0.000	6.000	36.000	0.130	9.000	48.000	0.860

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOPWID WATER	TOTAL ENERGY (FT)	FROUDE NO.
0.025	0.025	0.010	0.006	0.839	0.637	0.816	0.816	0.031	1.004
0.050	0.050	0.041	0.041	1.678	1.011	1.632	1.632	0.066	1.127
0.075	0.075	0.092	0.122	2.518	1.325	2.448	2.448	0.102	1.206
0.100	0.100	0.163	0.262	3.357	1.605	3.263	3.263	0.140	1.265
0.125	0.125	0.255	0.475	4.196	1.862	4.079	4.079	0.179	1.313
0.150	0.150	0.381	0.698	6.419	1.833	6.280	6.280	0.202	1.312
0.175	0.175	0.570	1.092	8.988	1.916	8.826	8.826	0.232	1.329
0.200	0.200	0.822	1.701	11.557	2.069	11.373	11.373	0.267	1.356
0.225	0.225	1.138	2.559	14.126	2.248	13.920	13.920	0.304	1.386
0.250	0.250	1.518	3.700	16.695	2.437	16.466	16.466	0.342	1.415
0.275	0.275	1.962	5.155	19.263	2.628	19.013	19.013	0.382	1.442
0.300	0.300	2.469	6.957	21.832	2.818	21.560	21.560	0.423	1.468
0.325	0.325	3.040	9.136	24.401	3.005	24.106	24.106	0.465	1.492
0.350	0.350	3.674	11.721	26.970	3.190	26.653	26.653	0.508	1.515
0.375	0.375	4.371	14.904	29.039	3.410	28.700	28.700	0.556	1.540
0.400	0.400	5.089	19.174	29.107	3.767	28.746	28.746	0.621	1.579
0.425	0.425	5.808	23.862	29.176	4.108	28.793	28.793	0.687	1.613
0.450	0.450	6.529	28.950	29.244	4.434	28.840	28.840	0.756	1.643
0.475	0.475	7.250	34.424	29.312	4.748	28.886	28.886	0.826	1.671
0.500	0.500	7.973	40.268	29.381	5.050	28.933	28.933	0.897	1.696
0.525	0.525	8.697	46.472	29.449	5.343	28.979	28.979	0.969	1.720
0.550	0.550	9.422	53.025	29.518	5.628	29.026	29.026	1.043	1.741
0.575	0.575	10.148	59.918	29.586	5.904	29.073	29.073	1.117	1.762
0.600	0.600	10.876	67.142	29.654	6.173	29.119	29.119	1.193	1.781
0.625	0.625	11.604	74.689	29.723	6.436	29.166	29.166	1.269	1.799
0.650	0.650	12.334	82.554	29.791	6.693	29.213	29.213	1.347	1.816
0.675	0.675	13.066	89.783	30.339	6.871	29.743	29.743	1.409	1.828
0.700	0.700	13.841	93.806	32.807	6.778	32.211	32.211	1.414	1.823
0.725	0.725	14.677	98.557	35.275	6.715	34.678	34.678	1.426	1.820
0.750	0.750	15.575	104.013	37.742	6.678	37.145	37.145	1.444	1.818
0.775	0.775	16.534	110.160	40.210	6.663	39.612	39.612	1.465	1.818
0.800	0.800	17.555	116.992	42.677	6.664	42.079	42.079	1.491	1.819
0.825	0.825	18.638	124.510	45.145	6.680	44.546	44.546	1.519	1.821
0.850	0.850	19.782	132.719	47.613	6.709	47.013	47.013	1.550	1.823

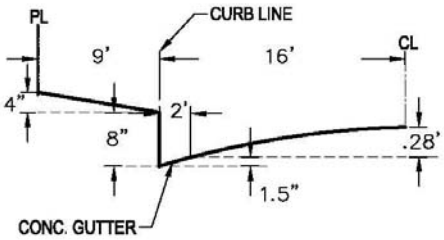
IN 3 & IN 4
Q = 25.2 cfs
d= 0.43'
E = 0.71'

IN 1 & IN2
Q = 39.6 cfs
d= 0.50'
E = 0.88'

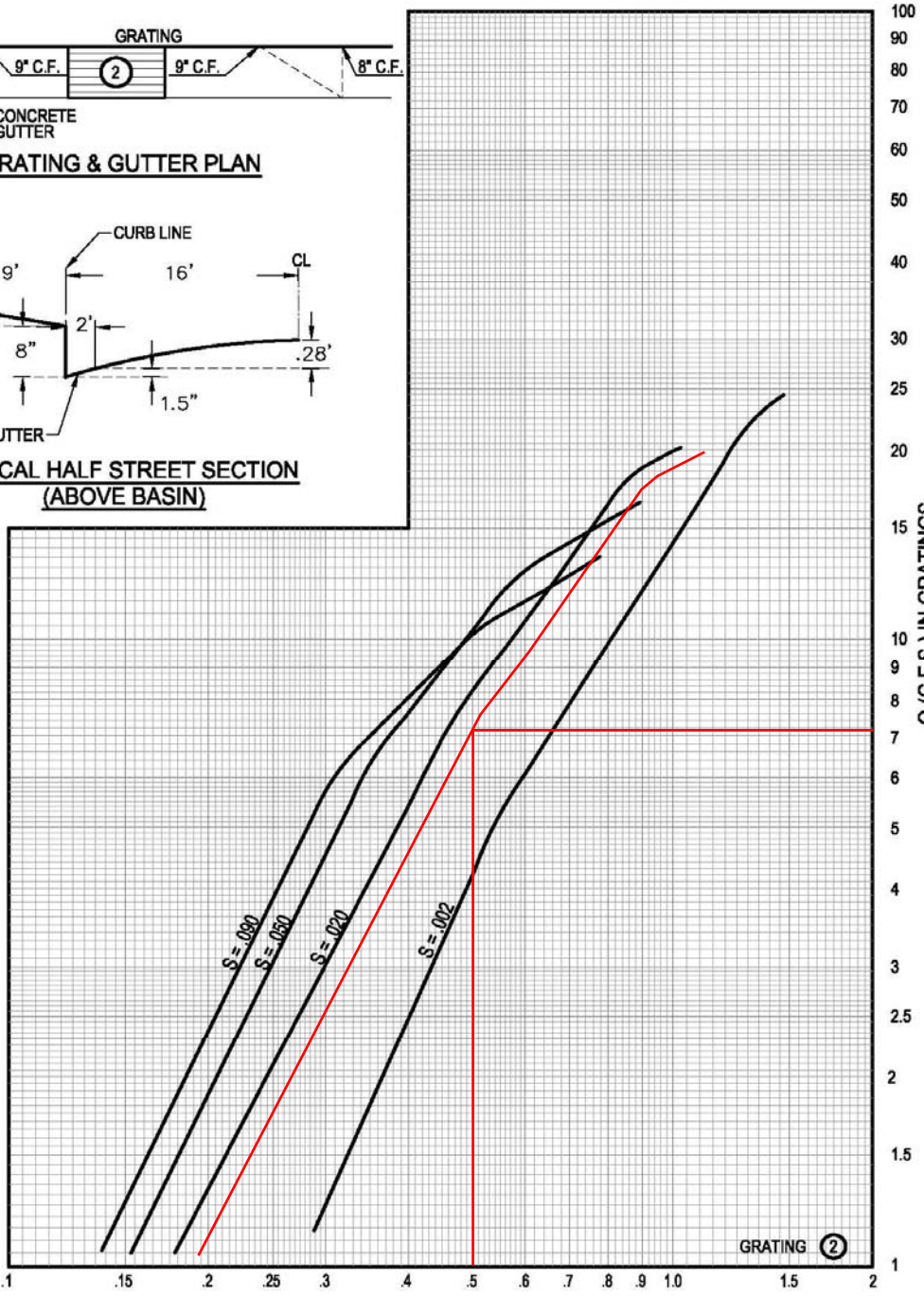
GRATING CAPACITIES FOR TYPE "A", "C" AND "D"



GRATING & GUTTER PLAN



TYPICAL HALF STREET SECTION
(ABOVE BASIN)

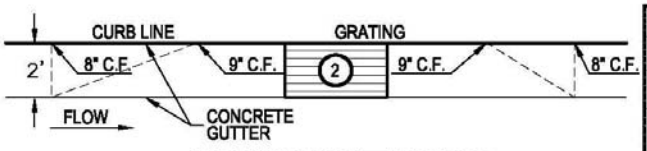


IN-1 & IN-2
Qin = 7.2 cfs

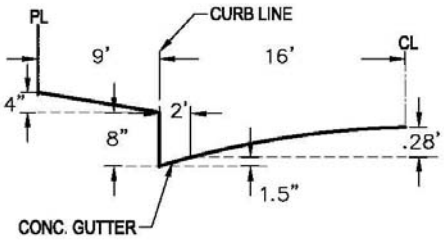
PLATE 22.3 D-5

d = 0.5'

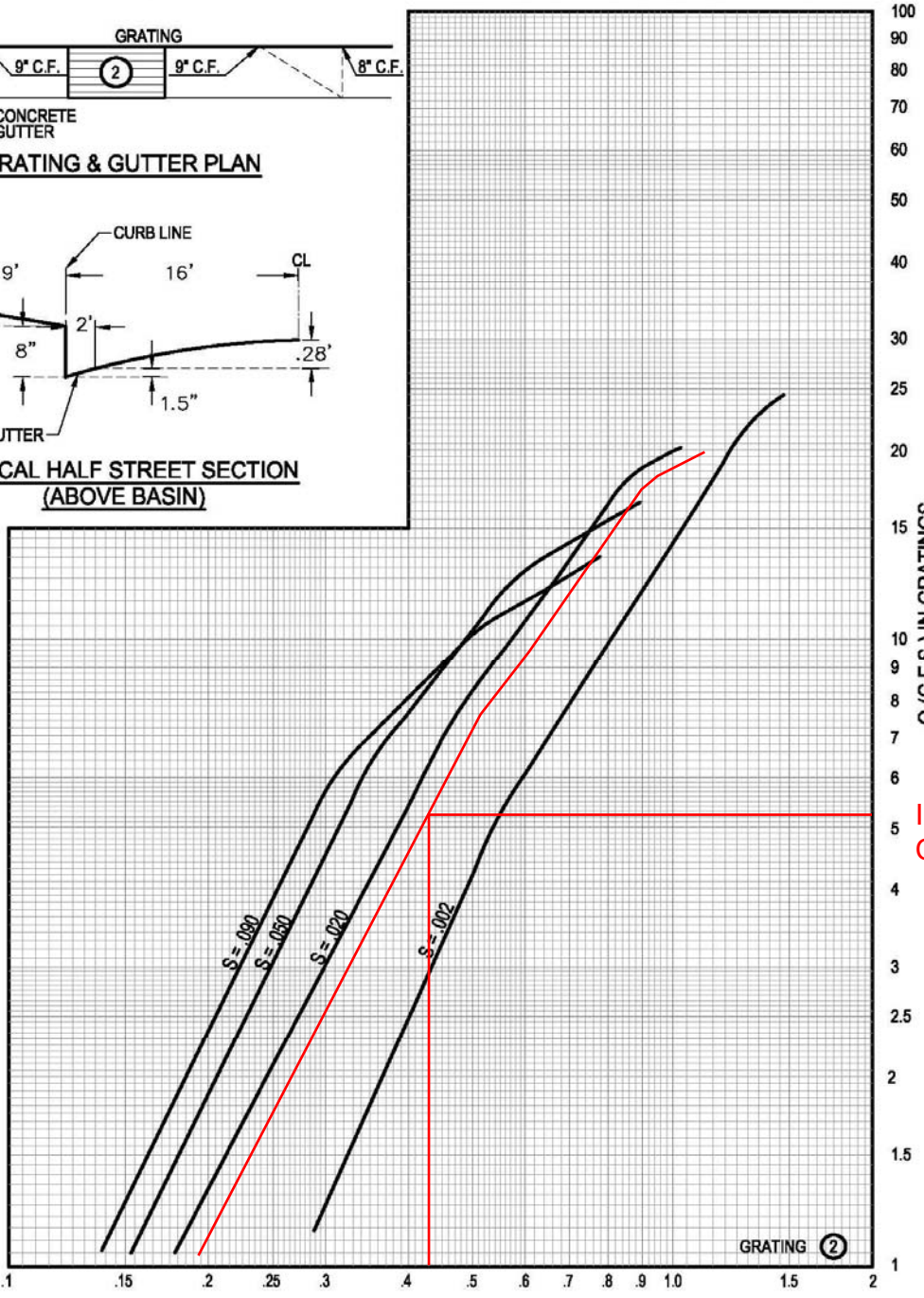
GRATING CAPACITIES FOR TYPE "A", "C" AND "D"



GRATING & GUTTER PLAN



TYPICAL HALF STREET SECTION
(ABOVE BASIN)



D = DEPTH OF FLOW (FT.) ABOVE NORMAL GUTTER GRADE

IN-3 & IN-4
Qin = 5.2 cfs

PLATE 22.3 D-5

d = 0.43'

LEGEND

EXISTING STORM DRAIN

PROPOSED STORM DRAIN

PROPOSED STORM DRAIN MANHOLE

PROPOSED STORM DRAIN INLET

N

60 30 0 60

1"=60'

INLET SCHEMATICS EXHIBIT

SAVIO RIDGE

DRAWN BY:	DATE:	
SS	03/2025	
CHECKED BY:	BHI PROJECT NO.	SHEET NO.
YPM	20240457	1 OF 4

Bohannan Huston
www.bhinc.com 800.877.5332

Thu, 6-Mar-2025 - 4:47 pm - Plotted by: BRENTON
P:\20240457\CDP\Revit\General\20240457_Mist_Schematic2d.dwg

48 ROW 2% Cross Slope_S=0.60% AP8

MANNING'S N = 0.017 SLOPE = 0.006 (ft/ft)

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.000	0.860	4.000	12.000	0.130	7.000	38.000	0.690
2.0	9.380	0.670	5.000	24.000	0.370	8.000	38.630	1.360
3.0	10.000	0.000	6.000	36.000	0.610	9.000	48.000	1.550

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOPWID WATER	TOTAL ENERGY (FT)	FROUDE NO.
0.025	0.025	0.005	0.002	0.419	0.358	0.408	0.408	0.027	0.564
0.050	0.050	0.020	0.012	0.839	0.568	0.815	0.815	0.055	0.633
0.075	0.075	0.046	0.034	1.258	0.744	1.223	1.223	0.084	0.678
0.100	0.100	0.082	0.074	1.678	0.902	1.631	1.631	0.113	0.711
0.125	0.125	0.127	0.133	2.097	1.046	2.039	2.039	0.142	0.738
0.150	0.150	0.190	0.196	3.209	1.030	3.139	3.139	0.167	0.737
0.175	0.175	0.285	0.307	4.493	1.076	4.412	4.412	0.193	0.747
0.200	0.200	0.411	0.478	5.777	1.162	5.685	5.685	0.221	0.762
0.225	0.225	0.569	0.719	7.062	1.263	6.958	6.958	0.250	0.779
0.250	0.250	0.759	1.039	8.346	1.369	8.231	8.231	0.279	0.795
0.275	0.275	0.981	1.448	9.630	1.476	9.504	9.504	0.309	0.810
0.300	0.300	1.234	1.954	10.915	1.583	10.778	10.778	0.339	0.825
0.325	0.325	1.519	2.566	12.199	1.689	12.051	12.051	0.369	0.838
0.350	0.350	1.837	3.292	13.483	1.793	13.324	13.324	0.400	0.851
0.375	0.375	2.186	4.141	14.768	1.895	14.597	14.597	0.431	0.863
0.400	0.400	2.567	5.119	16.052	1.995	15.870	15.870	0.462	0.874
0.425	0.425	2.979	6.235	17.336	2.093	17.143	17.143	0.493	0.885
0.450	0.450	3.424	7.496	18.621	2.189	18.416	18.416	0.525	0.895
0.475	0.475	3.900	8.908	19.905	2.284	19.690	19.690	0.556	0.905
0.500	0.500	4.408	10.479	21.189	2.377	20.963	20.963	0.588	0.914
0.525	0.525	4.948	12.216	22.473	2.469	22.236	22.236	0.620	0.923
0.550	0.550	5.520	14.125	23.758	2.559	23.509	23.509	0.652	0.931
0.575	0.575	6.124	16.213	25.042	2.648	24.782	24.782	0.684	0.939
0.600	0.600	6.759	18.487	26.326	2.735	26.055	26.055	0.716	0.947
0.625	0.625	7.424	21.130	27.236	2.846	26.953	26.953	0.751	0.956
0.650	0.650	8.105	24.076	27.895	2.970	27.601	27.601	0.787	0.966
0.675	0.675	8.804	27.055	28.795	3.073	28.492	28.492	0.822	0.975
0.700	0.700	9.539	29.810	30.419	3.125	30.110	30.110	0.852	0.979
0.725	0.725	10.307	33.007	31.687	3.202	31.368	31.368	0.885	0.985
0.750	0.750	11.107	36.421	32.956	3.279	32.626	32.626	0.917	0.991
0.775	0.775	11.938	40.055	34.225	3.355	33.884	33.884	0.950	0.997
0.800	0.800	12.801	43.916	35.494	3.431	35.141	35.141	0.983	1.002
0.825	0.825	13.695	48.010	36.762	3.506	36.399	36.399	1.016	1.008
0.850	0.850	14.621	52.342	38.031	3.580	37.657	37.657	1.049	1.013

Q = 24.2 cfs
d= 0.65'
E = 0.79'

52 ROW 2% Cross Slope_S=4.35% AP9

MANNING'S N = 0.017 SLOPE = 0.044 (ft/ft)

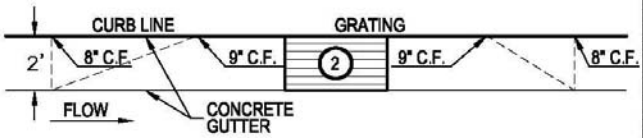
POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.000	0.860	4.000	12.000	0.130	7.000	42.000	0.770
2.0	9.380	0.670	5.000	26.000	0.410	8.000	42.630	1.440
3.0	10.000	0.000	6.000	40.000	0.690	9.000	52.000	1.640

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOPWID WATER	TOTAL ENERGY (FT)	FROUDE NO.
0.025	0.025	0.005	0.005	0.419	0.964	0.408	0.408	0.039	1.519
0.050	0.050	0.020	0.031	0.839	1.530	0.815	0.815	0.086	1.705
0.075	0.075	0.046	0.092	1.258	2.004	1.223	1.223	0.137	1.825
0.100	0.100	0.082	0.198	1.678	2.428	1.631	1.631	0.192	1.914
0.125	0.125	0.127	0.359	2.097	2.817	2.039	2.039	0.248	1.987
0.150	0.150	0.190	0.528	3.209	2.774	3.139	3.139	0.270	1.985
0.175	0.175	0.285	0.825	4.493	2.898	4.412	4.412	0.306	2.011
0.200	0.200	0.411	1.286	5.777	3.130	5.685	5.685	0.352	2.052
0.225	0.225	0.569	1.935	7.062	3.401	6.958	6.958	0.405	2.097
0.250	0.250	0.759	2.798	8.346	3.687	8.231	8.231	0.461	2.140
0.275	0.275	0.981	3.898	9.630	3.975	9.504	9.504	0.521	2.182
0.300	0.300	1.234	5.261	10.915	4.263	10.778	10.778	0.583	2.221
0.325	0.325	1.519	6.909	12.199	4.547	12.051	12.051	0.647	2.258
0.350	0.350	1.837	8.865	13.483	4.827	13.324	13.324	0.712	2.292
0.375	0.375	2.186	11.150	14.768	5.101	14.597	14.597	0.780	2.324
0.400	0.400	2.567	13.784	16.052	5.371	15.870	15.870	0.849	2.354
0.425	0.425	2.979	16.788	17.336	5.635	17.143	17.143	0.919	2.383
0.450	0.450	3.424	20.183	18.621	5.895	18.416	18.416	0.991	2.410
0.475	0.475	3.900	23.986	19.905	6.150	19.690	19.690	1.063	2.436
0.500	0.500	4.408	28.216	21.189	6.401	20.963	20.963	1.137	2.461
0.525	0.525	4.948	32.893	22.473	6.648	22.236	22.236	1.212	2.484
0.550	0.550	5.520	38.034	23.758	6.890	23.509	23.509	1.288	2.507
0.575	0.575	6.124	43.656	25.042	7.129	24.782	24.782	1.366	2.528
0.600	0.600	6.759	49.777	26.326	7.365	26.055	26.055	1.444	2.549
0.625	0.625	7.426	56.414	27.611	7.596	27.328	27.328	1.523	2.569
0.650	0.650	8.125	63.584	28.895	7.825	28.601	28.601	1.602	2.588
0.675	0.675	8.857	70.935	30.419	8.009	30.117	30.117	1.673	2.604
0.700	0.700	9.640	77.917	32.654	8.083	32.351	32.351	1.716	2.611
0.725	0.725	10.472	86.202	34.514	8.232	34.210	34.210	1.779	2.623
0.750	0.750	11.350	95.199	36.374	8.387	36.069	36.069	1.844	2.636
0.775	0.775	12.275	105.142	38.116	8.566	37.808	37.808	1.916	2.650
0.800	0.800	13.236	116.641	39.385	8.812	39.066	39.066	2.008	2.669
0.825	0.825	14.228	128.826	40.653	9.054	40.324	40.324	2.100	2.687
0.850	0.850	15.252	141.710	41.922	9.291	41.582	41.582	2.193	2.705

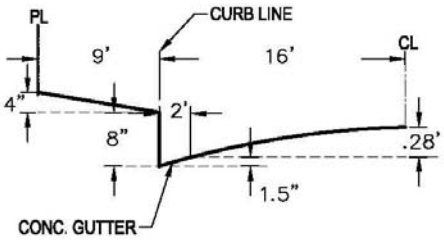
IN-6
Q = 8.3 cfs
d= 0.35'
E = 0.69'

IN-5
Q = 15.5 cfs
d= 0.41'
E = 0.88'

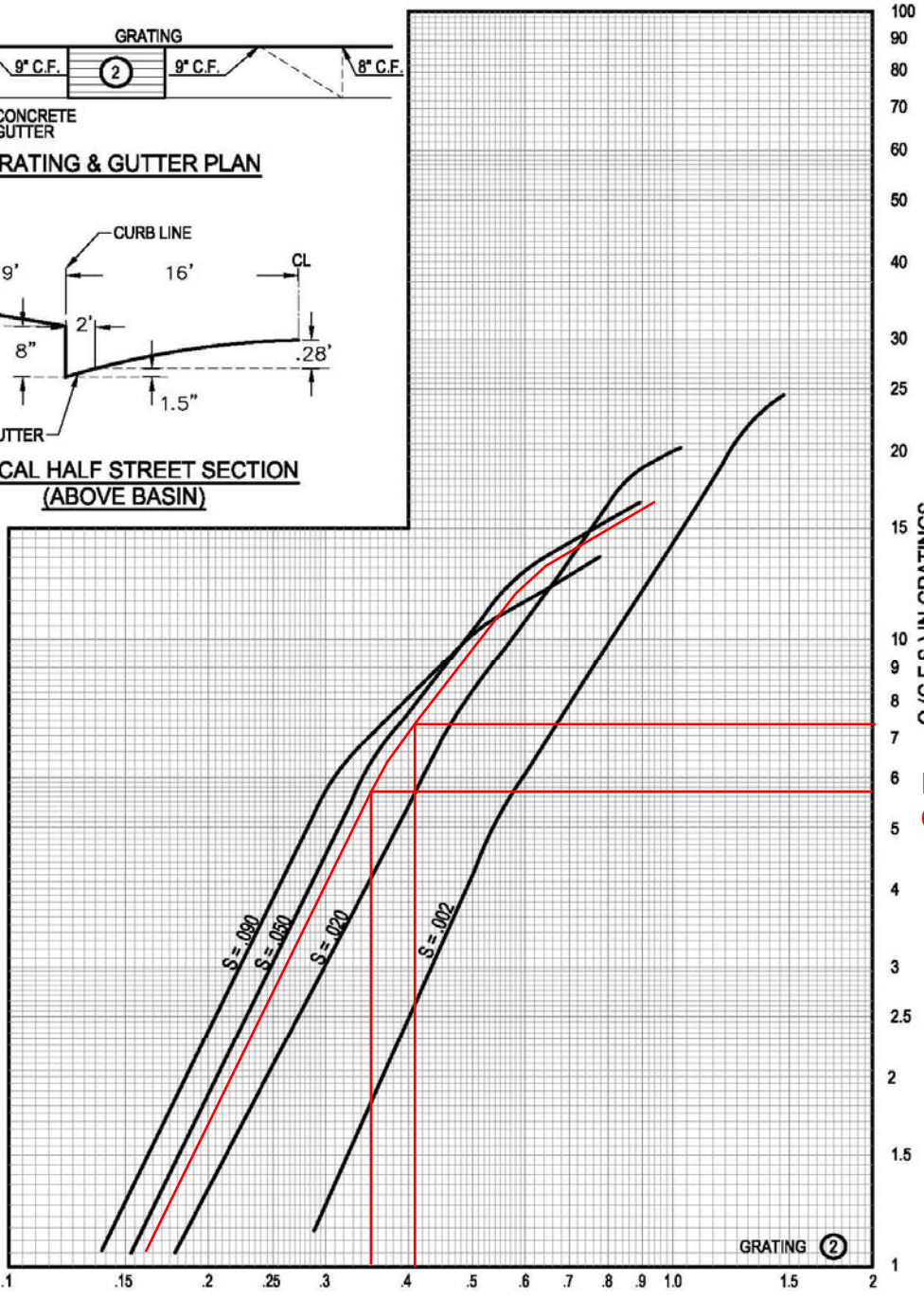
GRATING CAPACITIES FOR TYPE "A", "C" AND "D"



GRATING & GUTTER PLAN



TYPICAL HALF STREET SECTION
(ABOVE BASIN)



IN-5
Qin = 7.2 cfs

IN-6
Qin = 5.8 cfs

d = 0.35' d = 0.41'

PLATE 22.3 D-5

52 ROW 2% Cross Slope_S=3.79% AP10

MANNING'S N = 0.017 SLOPE = 0.038 (ft/ft)

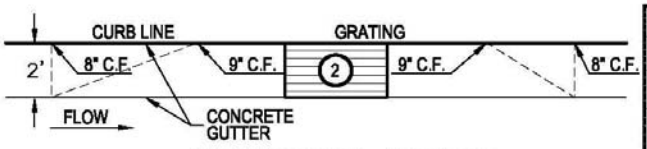
POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.000	0.860	4.000	12.000	0.130	7.000	42.000	0.770
2.0	9.380	0.670	5.000	26.000	0.410	8.000	42.630	1.440
3.0	10.000	0.000	6.000	40.000	0.690	9.000	52.000	1.640

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOPWID WATER	TOTAL ENERGY (FT)	FROUDE NO.
0.025	0.025	0.005	0.005	0.419	0.899	0.408	0.408	0.038	1.418
0.050	0.050	0.020	0.029	0.839	1.428	0.815	0.815	0.082	1.592
0.075	0.075	0.046	0.086	1.258	1.871	1.223	1.223	0.129	1.703
0.100	0.100	0.082	0.185	1.678	2.266	1.631	1.631	0.180	1.787
0.125	0.125	0.127	0.335	2.097	2.630	2.039	2.039	0.233	1.855
0.150	0.150	0.190	0.493	3.209	2.589	3.139	3.139	0.254	1.853
0.175	0.175	0.285	0.770	4.493	2.705	4.412	4.412	0.289	1.877
0.200	0.200	0.411	1.201	5.777	2.922	5.685	5.685	0.333	1.916
0.225	0.225	0.569	1.807	7.062	3.175	6.958	6.958	0.382	1.957
0.250	0.250	0.759	2.612	8.346	3.441	8.231	8.231	0.434	1.998
0.275	0.275	0.981	3.639	9.630	3.711	9.504	9.504	0.489	2.037
0.300	0.300	1.234	4.911	10.915	3.979	10.778	10.778	0.546	2.073
0.325	0.325	1.519	6.449	12.199	4.244	12.051	12.051	0.605	2.107
0.350	0.350	1.837	8.275	13.483	4.505	13.324	13.324	0.666	2.139
0.375	0.375	2.186	10.407	14.768	4.761	14.597	14.597	0.728	2.169
0.400	0.400	2.567	12.866	16.052	5.013	15.870	15.870	0.791	2.198
0.425	0.425	2.979	15.671	17.336	5.260	17.143	17.143	0.855	2.224
0.450	0.450	3.424	18.839	18.621	5.502	18.416	18.416	0.921	2.250
0.475	0.475	3.900	22.389	19.905	5.741	19.690	19.690	0.988	2.274
0.500	0.500	4.408	26.338	21.189	5.975	20.963	20.963	1.055	2.297
0.525	0.525	4.948	30.703	22.473	6.205	22.236	22.236	1.124	2.319
0.550	0.550	5.520	35.501	23.758	6.431	23.509	23.509	1.193	2.340
0.575	0.575	6.124	40.749	25.042	6.654	24.782	24.782	1.264	2.360
0.600	0.600	6.759	46.463	26.326	6.874	26.055	26.055	1.335	2.379
0.625	0.625	7.426	52.658	27.611	7.091	27.328	27.328	1.407	2.398
0.650	0.650	8.125	59.350	28.895	7.304	28.601	28.601	1.480	2.416
0.675	0.675	8.857	66.212	30.419	7.476	30.117	30.117	1.544	2.430
0.700	0.700	9.640	72.729	32.654	7.545	32.351	32.351	1.585	2.437
0.725	0.725	10.472	80.462	34.514	7.684	34.210	34.210	1.643	2.448
0.750	0.750	11.350	88.860	36.374	7.829	36.069	36.069	1.703	2.460
0.775	0.775	12.275	98.141	38.116	7.995	37.808	37.808	1.769	2.474
0.800	0.800	13.236	108.875	39.385	8.226	39.066	39.066	1.852	2.491
0.825	0.825	14.228	120.248	40.653	8.451	40.324	40.324	1.936	2.508
0.850	0.850	15.252	132.274	41.922	8.673	41.582	41.582	2.020	2.525

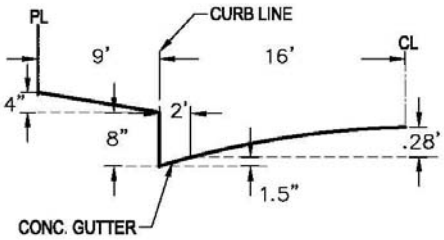
IN-8
Q = 3.2 cfs
d= 0.26'
E = 0.47'

IN-7
Q = 8.2 cfs
d= 0.35'
E = 0.66'

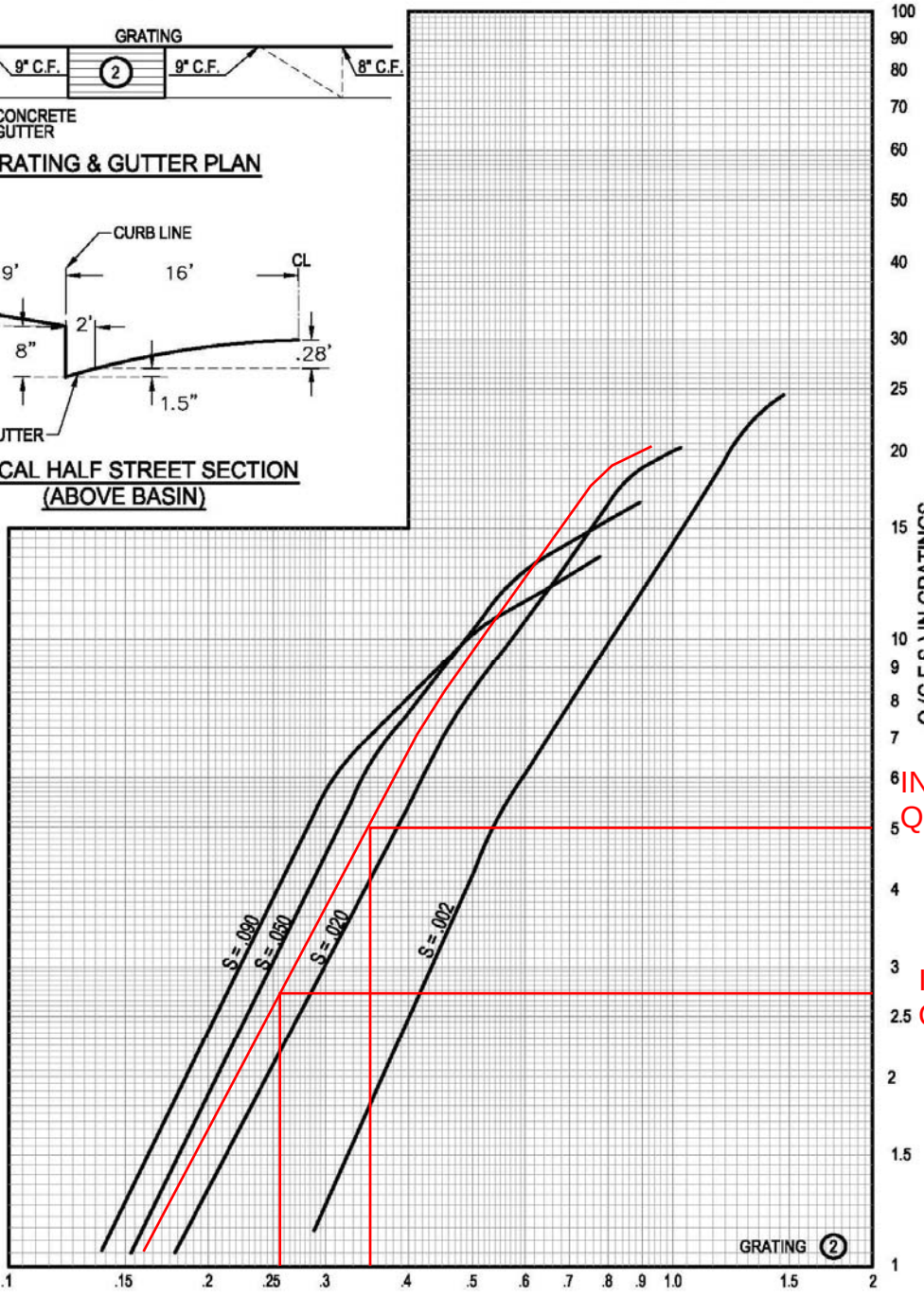
GRATING CAPACITIES FOR TYPE "A", "C" AND "D"



GRATING & GUTTER PLAN



TYPICAL HALF STREET SECTION
(ABOVE BASIN)



IN-7
Qin = 5.0 cfs

IN-8
Qin = 2.7 cfs

PLATE 22.3 D-5

d = 0.26' d = 0.35'

52 ROW 2% Cross Slope_S=3.79% AP11

MANNING'S N = 0.017 SLOPE = 0.038 (ft/ft)

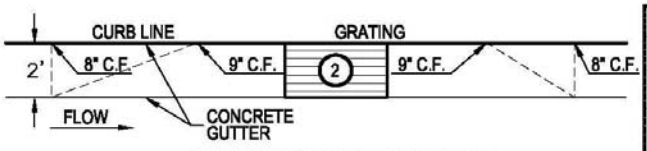
POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.000	0.860	4.000	12.000	0.130	7.000	42.000	0.770
2.0	9.380	0.670	5.000	26.000	0.410	8.000	42.630	1.440
3.0	10.000	0.000	6.000	40.000	0.690	9.000	52.000	1.640

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOPWID WATER	TOTAL ENERGY (FT)	FROUDE NO.
0.025	0.025	0.005	0.005	0.419	0.899	0.408	0.408	0.038	1.418
0.050	0.050	0.020	0.029	0.839	1.428	0.815	0.815	0.082	1.592
0.075	0.075	0.046	0.086	1.258	1.871	1.223	1.223	0.129	1.703
0.100	0.100	0.082	0.185	1.678	2.266	1.631	1.631	0.180	1.787
0.125	0.125	0.127	0.335	2.097	2.630	2.039	2.039	0.233	1.855
0.150	0.150	0.190	0.493	3.209	2.589	3.139	3.139	0.254	1.853
0.175	0.175	0.285	0.770	4.493	2.705	4.412	4.412	0.289	1.877
0.200	0.200	0.411	1.201	5.777	2.922	5.685	5.685	0.333	1.916
0.225	0.225	0.569	1.807	7.062	3.175	6.958	6.958	0.382	1.957
0.250	0.250	0.759	2.612	8.346	3.441	8.231	8.231	0.434	1.998
0.275	0.275	0.981	3.639	9.630	3.711	9.504	9.504	0.489	2.037
0.300	0.300	1.234	4.911	10.915	3.979	10.778	10.778	0.546	2.073
0.325	0.325	1.519	6.449	12.199	4.244	12.051	12.051	0.605	2.107
0.350	0.350	1.837	8.275	13.483	4.505	13.324	13.324	0.666	2.139
0.375	0.375	2.186	10.407	14.768	4.761	14.597	14.597	0.728	2.169
0.400	0.400	2.567	12.866	16.052	5.013	15.870	15.870	0.791	2.198
0.425	0.425	2.979	15.671	17.336	5.260	17.143	17.143	0.855	2.224
0.450	0.450	3.424	18.839	18.621	5.502	18.416	18.416	0.921	2.250
0.475	0.475	3.900	22.389	19.905	5.741	19.690	19.690	0.988	2.274
0.500	0.500	4.408	26.338	21.189	5.975	20.963	20.963	1.055	2.297
0.525	0.525	4.948	30.703	22.473	6.205	22.236	22.236	1.124	2.319
0.550	0.550	5.520	35.501	23.758	6.431	23.509	23.509	1.193	2.340
0.575	0.575	6.124	40.749	25.042	6.654	24.782	24.782	1.264	2.360
0.600	0.600	6.759	46.463	26.326	6.874	26.055	26.055	1.335	2.379
0.625	0.625	7.426	52.658	27.611	7.091	27.328	27.328	1.407	2.398
0.650	0.650	8.125	59.350	28.895	7.304	28.601	28.601	1.480	2.416
0.675	0.675	8.857	66.212	30.419	7.476	30.117	30.117	1.544	2.430
0.700	0.700	9.640	72.729	32.654	7.545	32.351	32.351	1.585	2.437
0.725	0.725	10.472	80.462	34.514	7.684	34.210	34.210	1.643	2.448
0.750	0.750	11.350	88.860	36.374	7.829	36.069	36.069	1.703	2.460
0.775	0.775	12.275	98.141	38.116	7.995	37.808	37.808	1.769	2.474
0.800	0.800	13.236	108.875	39.385	8.226	39.066	39.066	1.852	2.491
0.825	0.825	14.228	120.248	40.653	8.451	40.324	40.324	1.936	2.508
0.850	0.850	15.252	132.274	41.922	8.673	41.582	41.582	2.020	2.525

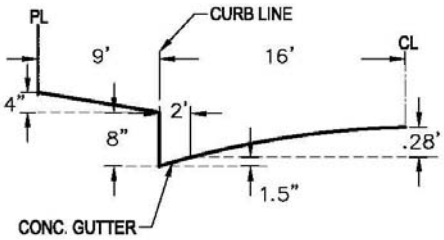
IN-10
Q = 16.8 cfs
d= 0.43'
E = 0.88'

IN-9
Q = 26.3 cfs
d= 0.50'
E = 1.0'

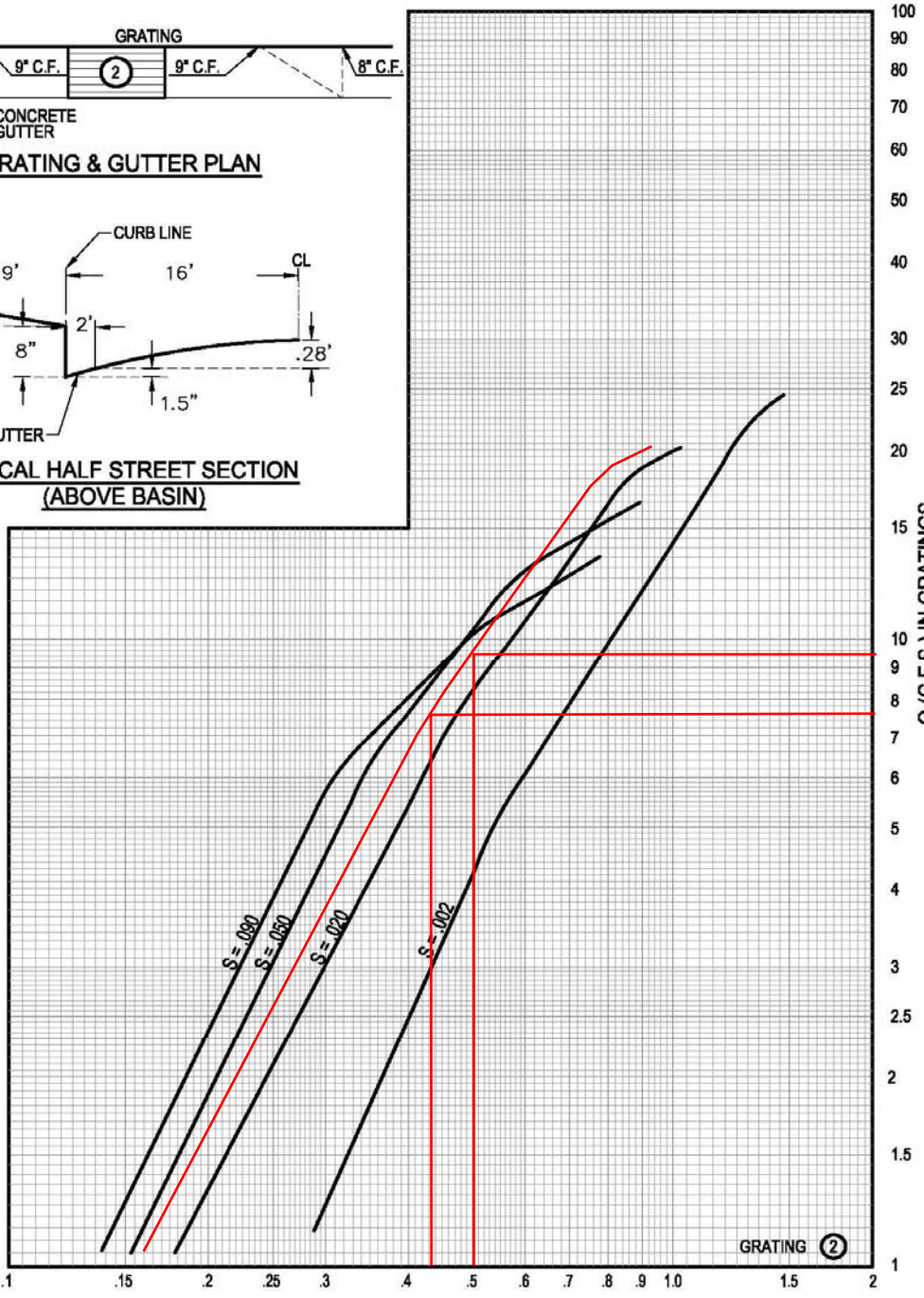
GRATING CAPACITIES FOR TYPE "A", "C" AND "D"



GRATING & GUTTER PLAN



TYPICAL HALF STREET SECTION
(ABOVE BASIN)

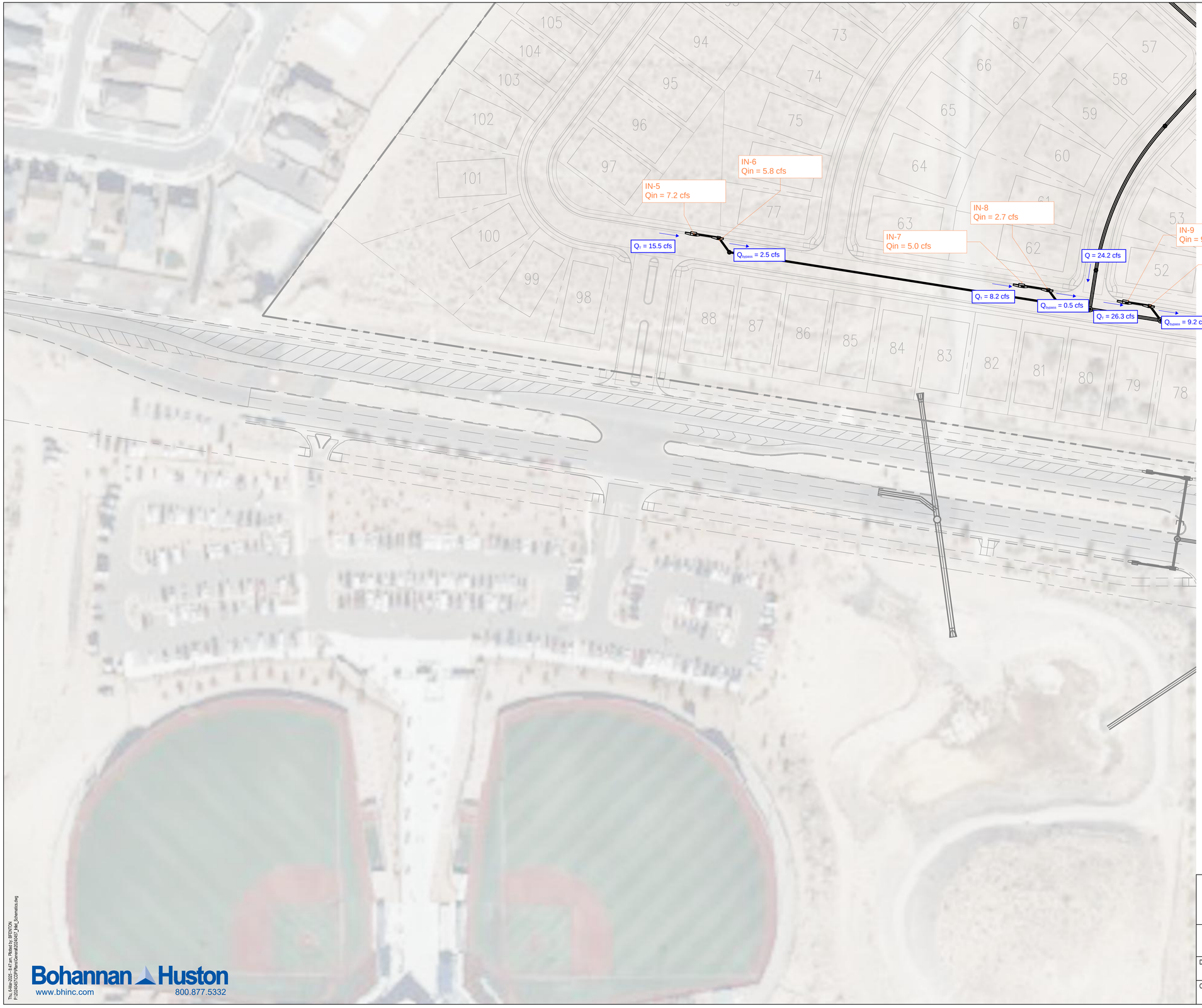


IN-9
Qin = 9.5 cfs

IN-10
Qin = 7.6 cfs

d = 0.43' d = 0.50'

PLATE 22.3 D-5



LEGEND

EXISTING STORM DRAIN

PROPOSED STORM DRAIN

PROPOSED STORM DRAIN MANHOLE

PROPOSED STORM DRAIN INLET

N

60 30 0 60

1"=60'

INLET SCHEMATICS EXHIBIT

SAVIO RIDGE

DRAWN BY:	DATE:	
SS	03/2025	
CHECKED BY:	BHI PROJECT NO.	SHEET NO.
YPM	20240457	3 OF 4

Bohannan Huston
www.bhinc.com 800.877.5332

Thu, 4-Mar-2025 - 8:47 am, Plotted by: JEFFSTON
P:\20240457\COP\Plans\General\20240457_Inlet_Schematics.dwg

52 ROW 2% Cross Slope_S=3.79% AP12 & AP13

MANNING'S N = 0.017 SLOPE = 0.038 (ft/ft)

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.000	0.860	4.000	12.000	0.130	7.000	42.000	0.770
2.0	9.380	0.670	5.000	26.000	0.410	8.000	42.630	1.440
3.0	10.000	0.000	6.000	40.000	0.690	9.000	52.000	1.640

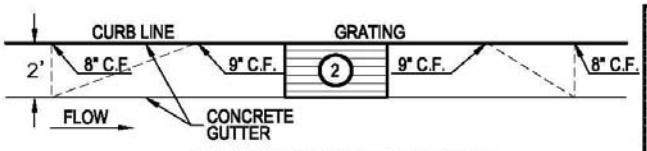
WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOPWID WATER	TOTAL ENERGY (FT)	FROUDE NO.
0.025	0.025	0.005	0.005	0.419	0.899	0.408	0.408	0.038	1.418
0.050	0.050	0.020	0.029	0.839	1.428	0.815	0.815	0.082	1.592
0.075	0.075	0.046	0.086	1.258	1.871	1.223	1.223	0.129	1.703
0.100	0.100	0.082	0.185	1.678	2.266	1.631	1.631	0.180	1.787
0.125	0.125	0.127	0.335	2.097	2.630	2.039	2.039	0.233	1.855
0.150	0.150	0.190	0.493	3.209	2.589	3.139	3.139	0.254	1.853
0.175	0.175	0.285	0.770	4.493	2.705	4.412	4.412	0.289	1.877
0.200	0.200	0.411	1.201	5.777	2.922	5.685	5.685	0.333	1.916
0.225	0.225	0.569	1.807	7.062	3.175	6.958	6.958	0.382	1.957
0.250	0.250	0.759	2.612	8.346	3.441	8.231	8.231	0.434	1.998
0.275	0.275	0.981	3.639	9.630	3.711	9.504	9.504	0.489	2.037
0.300	0.300	1.234	4.911	10.915	3.979	10.778	10.778	0.546	2.073
0.325	0.325	1.519	6.449	12.199	4.244	12.051	12.051	0.605	2.107
0.350	0.350	1.837	8.275	13.483	4.505	13.324	13.324	0.666	2.139
0.375	0.375	2.186	10.407	14.768	4.761	14.597	14.597	0.728	2.169
0.400	0.400	2.567	12.866	16.052	5.013	15.870	15.870	0.791	2.198
0.425	0.425	2.979	15.671	17.336	5.260	17.143	17.143	0.855	2.224
0.450	0.450	3.424	18.839	18.621	5.502	18.416	18.416	0.921	2.250
0.475	0.475	3.900	22.389	19.905	5.741	19.690	19.690	0.988	2.274
0.500	0.500	4.408	26.338	21.189	5.975	20.963	20.963	1.055	2.297
0.525	0.525	4.948	30.703	22.473	6.205	22.236	22.236	1.124	2.319
0.550	0.550	5.520	35.501	23.758	6.431	23.509	23.509	1.193	2.340
0.575	0.575	6.124	40.749	25.042	6.654	24.782	24.782	1.264	2.360
0.600	0.600	6.759	46.463	26.326	6.874	26.055	26.055	1.335	2.379
0.625	0.625	7.426	52.658	27.611	7.091	27.328	27.328	1.407	2.398
0.650	0.650	8.125	59.350	28.895	7.304	28.601	28.601	1.480	2.416
0.675	0.675	8.857	66.212	30.419	7.476	30.117	30.117	1.544	2.430
0.700	0.700	9.640	72.729	32.654	7.545	32.351	32.351	1.585	2.437
0.725	0.725	10.472	80.462	34.514	7.684	34.210	34.210	1.643	2.448
0.750	0.750	11.350	88.860	36.374	7.829	36.069	36.069	1.703	2.460
0.775	0.775	12.275	98.141	38.116	7.995	37.808	37.808	1.769	2.474
0.800	0.800	13.236	108.875	39.385	8.226	39.066	39.066	1.852	2.491
0.825	0.825	14.228	120.248	40.653	8.451	40.324	40.324	1.936	2.508
0.850	0.850	15.252	132.274	41.922	8.673	41.582	41.582	2.020	2.525

Q = 11.6 cfs
d= 0.38'
E = 0.76'

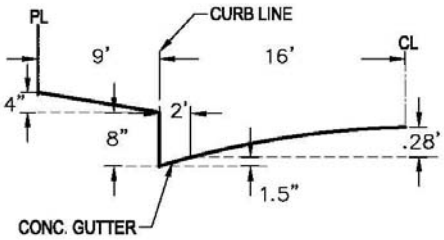
IN-12
Q = 10.9 cfs
d= 0.38'
E = 0.73'

IN-11
Q = 19.3 cfs
d= 0.45'
E = 0.92'

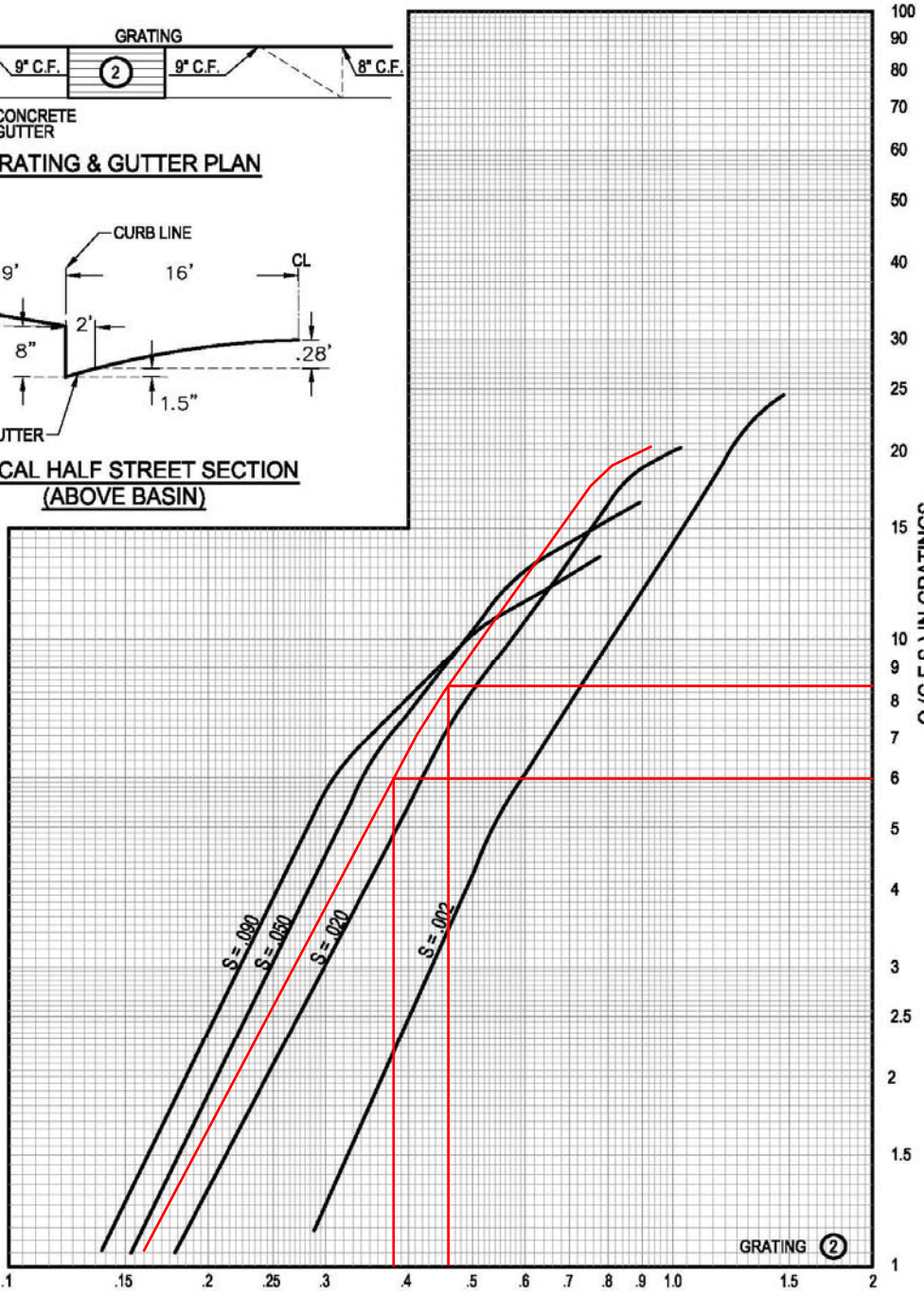
GRATING CAPACITIES FOR TYPE "A", "C" AND "D"



GRATING & GUTTER PLAN



TYPICAL HALF STREET SECTION
(ABOVE BASIN)

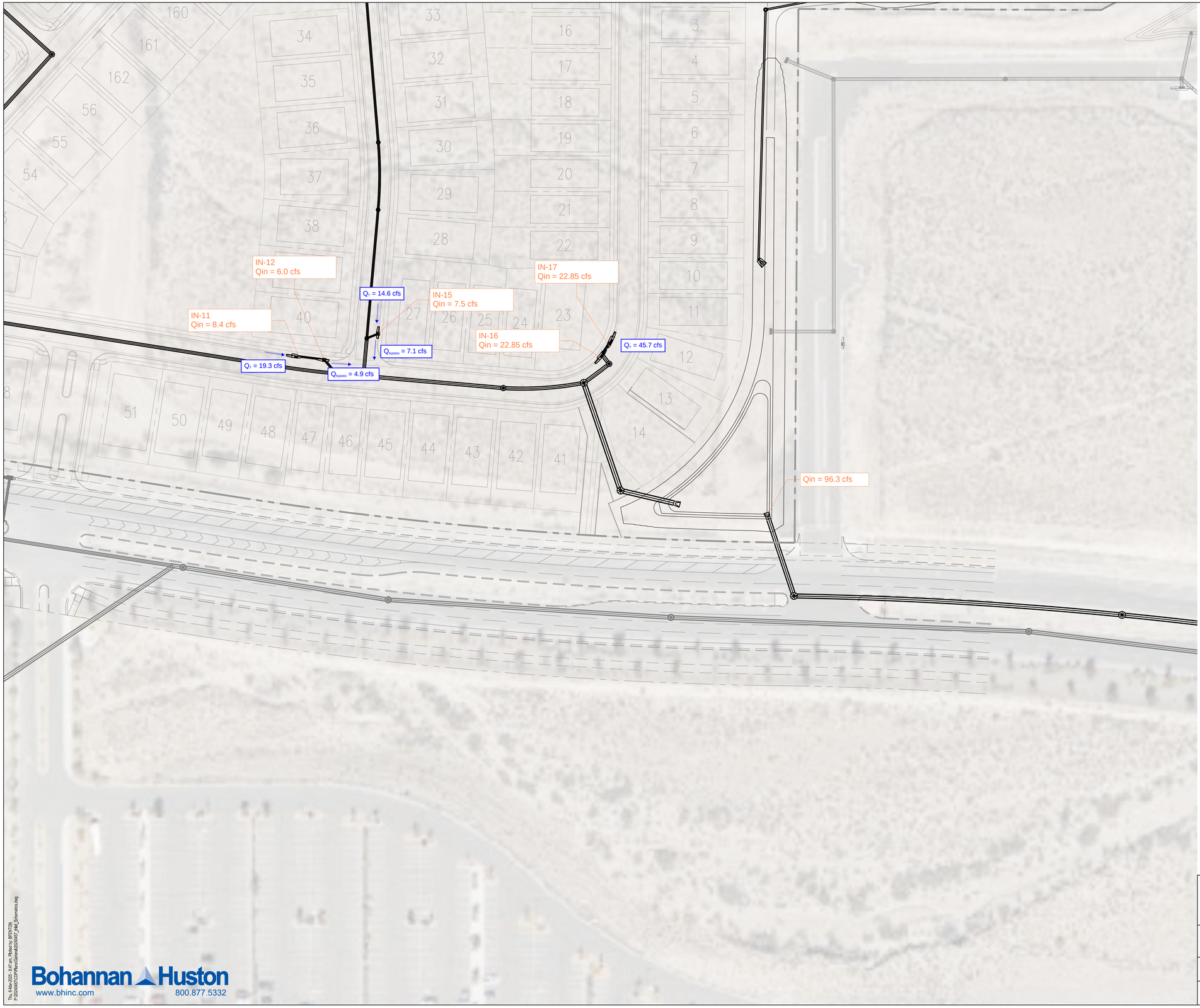


IN-11
Qin = 8.4 cfs

IN-12
Qin = 6.0 cfs

d = 0.38' d = 0.45'

PLATE 22.3 D-5



LEGEND

EXISTING STORM DRAIN	
PROPOSED STORM DRAIN	
PROPOSED STORM DRAIN MANHOLE	•
PROPOSED STORM DRAIN INLET	

N

60 30 0 60

1"=60'

INLET SCHEMATICS EXHIBIT

SAVIO RIDGE

DRAWN BY: SS	DATE: 03/2025	
CHECKED BY: YPM	BHI PROJECT NO. 20240457	SHEET NO. 4 OF 4

Bohannan Huston
www.bhinc.com 800.877.5332

Thu, 6-May-2025, 9:47 am, Plotted by: BRENTON
P:\2024\0457\COP\Plans\Grinnell\20240457_Inlet_Schematics.dwg

40.5 ROW 2% Cross Slope_S=5.20% AP14

MANNING'S N = 0.017 SLOPE = 0.052 (ft/ft)

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.000	0.850	4.000	11.500	0.130	7.000	35.500	0.650
2.0	8.880	0.670	5.000	22.000	0.350	8.000	36.130	1.320
3.0	9.500	0.000	6.000	33.500	0.560	9.000	40.500	1.410

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOPWID WATER	TOTAL ENERGY (FT)	FROUDE NO.
0.025	0.025	0.005	0.005	0.419	1.053	0.408	0.408	0.042	1.661
0.050	0.050	0.020	0.034	0.839	1.672	0.815	0.815	0.093	1.865
0.075	0.075	0.046	0.101	1.258	2.191	1.223	1.223	0.150	1.995
0.100	0.100	0.082	0.216	1.678	2.655	1.631	1.631	0.210	2.093
0.125	0.125	0.127	0.393	2.097	3.080	2.039	2.039	0.273	2.172
0.150	0.150	0.190	0.581	3.163	3.057	3.093	3.093	0.295	2.175
0.175	0.175	0.282	0.904	4.391	3.200	4.310	4.310	0.334	2.204
0.200	0.200	0.405	1.401	5.618	3.455	5.526	5.526	0.386	2.249
0.225	0.225	0.559	2.096	6.846	3.751	6.742	6.742	0.444	2.297
0.250	0.250	0.743	3.016	8.073	4.062	7.959	7.959	0.507	2.344
0.275	0.275	0.957	4.187	9.301	4.376	9.175	9.175	0.573	2.389
0.300	0.300	1.201	5.633	10.528	4.689	10.391	10.391	0.642	2.431
0.325	0.325	1.476	7.379	11.756	4.999	11.608	11.608	0.714	2.471
0.350	0.350	1.782	9.448	12.983	5.303	12.824	12.824	0.787	2.508
0.375	0.375	2.120	11.786	14.387	5.560	14.216	14.216	0.856	2.539
0.400	0.400	2.492	14.511	15.790	5.822	15.608	15.608	0.927	2.568
0.425	0.425	2.900	17.647	17.193	6.085	17.000	17.000	1.001	2.597
0.450	0.450	3.343	21.219	18.597	6.348	18.393	18.393	1.077	2.625
0.475	0.475	3.820	25.250	20.000	6.611	19.785	19.785	1.155	2.652
0.500	0.500	4.332	29.764	21.403	6.871	21.177	21.177	1.234	2.678
0.525	0.525	4.879	34.782	22.807	7.129	22.569	22.569	1.316	2.703
0.550	0.550	5.460	40.326	24.210	7.385	23.961	23.961	1.398	2.728
0.575	0.575	6.073	46.971	25.126	7.734	24.865	24.865	1.505	2.759
0.600	0.600	6.702	54.504	25.716	8.133	25.444	25.444	1.629	2.794
0.625	0.625	7.345	62.547	26.306	8.515	26.023	26.023	1.753	2.826
0.650	0.650	8.003	71.099	26.896	8.884	26.601	26.601	1.878	2.856
0.675	0.675	8.669	80.620	27.204	9.300	26.890	26.890	2.020	2.887
0.700	0.700	9.357	88.824	28.472	9.493	28.147	28.147	2.102	2.903
0.725	0.725	10.077	97.618	29.740	9.688	29.404	29.404	2.185	2.918
0.750	0.750	10.827	107.019	31.008	9.884	30.661	30.661	2.270	2.932
0.775	0.775	11.610	117.043	32.276	10.082	31.918	31.918	2.356	2.947
0.800	0.800	12.423	127.709	33.544	10.280	33.174	33.174	2.444	2.962
0.825	0.825	13.268	139.032	34.812	10.478	34.431	34.431	2.533	2.976

Q = 5.78 cfs
d= 0.30'
E = 0.64'

48 ROW 2% Crown_S=7.91% AP15

MANNING'S N = 0.017   SLOPE = 0.079 (ft/ft)

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.000	0.860	4.000	12.000	0.130	7.000	38.000	0.000
2.0	9.380	0.670	5.000	24.000	0.370	8.000	38.630	0.670
3.0	10.000	0.000	6.000	36.000	0.130	9.000	48.000	0.860

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOPWID WATER	TOTAL ENERGY (FT)	FROUDE NO.
0.025	0.025	0.010	0.013	0.839	1.299	0.816	0.816	0.051	2.049
0.050	0.050	0.041	0.084	1.678	2.063	1.632	1.632	0.116	2.300
0.075	0.075	0.092	0.248	2.518	2.703	2.448	2.448	0.189	2.461
0.100	0.100	0.163	0.534	3.357	3.274	3.263	3.263	0.267	2.582
0.125	0.125	0.255	0.969	4.196	3.800	4.079	4.079	0.350	2.679
0.150	0.150	0.381	1.425	6.419	3.741	6.280	6.280	0.368	2.677
0.175	0.175	0.570	2.227	8.988	3.909	8.826	8.826	0.413	2.712
0.200	0.200	0.822	3.471	11.557	4.221	11.373	11.373	0.477	2.768
0.225	0.225	1.138	5.222	14.126	4.587	13.920	13.920	0.552	2.828
0.250	0.250	1.518	7.549	16.695	4.972	16.466	16.466	0.634	2.887
0.275	0.275	1.962	10.518	19.263	5.361	19.013	19.013	0.722	2.943
0.300	0.300	2.469	14.194	21.832	5.749	21.560	21.560	0.814	2.995
0.325	0.325	3.040	18.640	24.401	6.132	24.106	24.106	0.910	3.044
0.350	0.350	3.674	23.916	26.970	6.509	26.653	26.653	1.009	3.091
0.375	0.375	4.371	30.409	29.039	6.957	28.700	28.700	1.128	3.143
0.400	0.400	5.089	39.121	29.107	7.687	28.746	28.746	1.319	3.221
0.425	0.425	5.808	48.687	29.176	8.382	28.793	28.793	1.518	3.290
0.450	0.450	6.529	59.070	29.244	9.047	28.840	28.840	1.723	3.352
0.475	0.475	7.250	70.237	29.312	9.687	28.886	28.886	1.935	3.409
0.500	0.500	7.973	82.162	29.381	10.305	28.933	28.933	2.152	3.461
0.525	0.525	8.697	94.820	29.449	10.903	28.979	28.979	2.374	3.509
0.550	0.550	9.422	108.191	29.518	11.483	29.026	29.026	2.601	3.553
0.575	0.575	10.148	122.255	29.586	12.047	29.073	29.073	2.832	3.595
0.600	0.600	10.876	136.994	29.654	12.596	29.119	29.119	3.068	3.634
0.625	0.625	11.604	152.395	29.723	13.133	29.166	29.166	3.307	3.670
0.650	0.650	12.334	168.441	29.791	13.657	29.213	29.213	3.551	3.705
0.675	0.675	13.066	183.191	30.339	14.020	29.743	29.743	3.732	3.729
0.700	0.700	13.841	191.400	32.807	13.829	32.211	32.211	3.675	3.719
0.725	0.725	14.677	201.095	35.275	13.702	34.678	34.678	3.645	3.713
0.750	0.750	15.575	212.226	37.742	13.626	37.145	37.145	3.638	3.710
0.775	0.775	16.534	224.768	40.210	13.594	39.612	39.612	3.649	3.710
0.800	0.800	17.555	238.708	42.677	13.598	42.079	42.079	3.676	3.711
0.825	0.825	18.638	254.048	45.145	13.631	44.546	44.546	3.715	3.715
0.850	0.850	19.782	270.797	47.613	13.689	47.013	47.013	3.765	3.720

Q = 8.98 cfs
d= 0.26'
E = 0.67'

48 ROW 2% Cross Slope_S=0.60% AP16

MANNING'S N = 0.017 SLOPE = 0.006 (ft/ft)

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.000	0.860	4.000	12.000	0.130	7.000	38.000	0.690
2.0	9.380	0.670	5.000	24.000	0.370	8.000	38.630	1.360
3.0	10.000	0.000	6.000	36.000	0.610	9.000	48.000	1.550

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOPWID WATER	TOTAL ENERGY (FT)	FROUDE NO.
0.025	0.025	0.005	0.002	0.419	0.358	0.408	0.408	0.027	0.564
0.050	0.050	0.020	0.012	0.839	0.568	0.815	0.815	0.055	0.633
0.075	0.075	0.046	0.034	1.258	0.744	1.223	1.223	0.084	0.678
0.100	0.100	0.082	0.074	1.678	0.902	1.631	1.631	0.113	0.711
0.125	0.125	0.127	0.133	2.097	1.046	2.039	2.039	0.142	0.738
0.150	0.150	0.190	0.196	3.209	1.030	3.139	3.139	0.167	0.737
0.175	0.175	0.285	0.307	4.493	1.076	4.412	4.412	0.193	0.747
0.200	0.200	0.411	0.478	5.777	1.162	5.685	5.685	0.221	0.762
0.225	0.225	0.569	0.719	7.062	1.263	6.958	6.958	0.250	0.779
0.250	0.250	0.759	1.039	8.346	1.369	8.231	8.231	0.279	0.795
0.275	0.275	0.981	1.448	9.630	1.476	9.504	9.504	0.309	0.810
0.300	0.300	1.234	1.954	10.915	1.583	10.778	10.778	0.339	0.825
0.325	0.325	1.519	2.566	12.199	1.689	12.051	12.051	0.369	0.838
0.350	0.350	1.837	3.292	13.483	1.793	13.324	13.324	0.400	0.851
0.375	0.375	2.186	4.141	14.768	1.895	14.597	14.597	0.431	0.863
0.400	0.400	2.567	5.119	16.052	1.995	15.870	15.870	0.462	0.874
0.425	0.425	2.979	6.235	17.336	2.093	17.143	17.143	0.493	0.885
0.450	0.450	3.424	7.496	18.621	2.189	18.416	18.416	0.525	0.895
0.475	0.475	3.900	8.908	19.905	2.284	19.690	19.690	0.556	0.905
0.500	0.500	4.408	10.479	21.189	2.377	20.963	20.963	0.588	0.914
0.525	0.525	4.948	12.216	22.473	2.469	22.236	22.236	0.620	0.923
0.550	0.550	5.520	14.125	23.758	2.559	23.509	23.509	0.652	0.931
0.575	0.575	6.124	16.213	25.042	2.648	24.782	24.782	0.684	0.939
0.600	0.600	6.759	18.487	26.326	2.735	26.055	26.055	0.716	0.947
0.625	0.625	7.424	21.130	27.236	2.846	26.953	26.953	0.751	0.956
0.650	0.650	8.105	24.076	27.895	2.970	27.601	27.601	0.787	0.966
0.675	0.675	8.804	27.055	28.795	3.073	28.492	28.492	0.822	0.975
0.700	0.700	9.539	29.810	30.419	3.125	30.110	30.110	0.852	0.979
0.725	0.725	10.307	33.007	31.687	3.202	31.368	31.368	0.885	0.985
0.750	0.750	11.107	36.421	32.956	3.279	32.626	32.626	0.917	0.991
0.775	0.775	11.938	40.055	34.225	3.355	33.884	33.884	0.950	0.997
0.800	0.800	12.801	43.916	35.494	3.431	35.141	35.141	0.983	1.002
0.825	0.825	13.695	48.010	36.762	3.506	36.399	36.399	1.016	1.008
0.850	0.850	14.621	52.342	38.031	3.580	37.657	37.657	1.049	1.013

Q = 20.2 cfs
d= 0.62'
E = 0.74'

48 ROW 2% Cross Slope_S=4.53% AP17

MANNING'S N = 0.017 SLOPE = 0.045 (ft/ft)

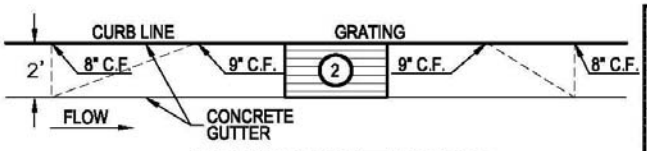
POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.000	0.860	4.000	12.000	0.130	7.000	38.000	0.690
2.0	9.380	0.670	5.000	24.000	0.370	8.000	38.630	1.360
3.0	10.000	0.000	6.000	36.000	0.610	9.000	48.000	1.550

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOPWID WATER	TOTAL ENERGY (FT)	FROUDE NO.
0.025	0.025	0.005	0.005	0.419	0.983	0.408	0.408	0.040	1.550
0.050	0.050	0.020	0.032	0.839	1.561	0.815	0.815	0.088	1.740
0.075	0.075	0.046	0.094	1.258	2.045	1.223	1.223	0.140	1.862
0.100	0.100	0.082	0.202	1.678	2.478	1.631	1.631	0.195	1.953
0.125	0.125	0.127	0.366	2.097	2.875	2.039	2.039	0.254	2.028
0.150	0.150	0.190	0.539	3.209	2.830	3.139	3.139	0.275	2.026
0.175	0.175	0.285	0.842	4.493	2.958	4.412	4.412	0.311	2.052
0.200	0.200	0.411	1.313	5.777	3.194	5.685	5.685	0.359	2.094
0.225	0.225	0.569	1.975	7.062	3.471	6.958	6.958	0.412	2.140
0.250	0.250	0.759	2.855	8.346	3.762	8.231	8.231	0.470	2.184
0.275	0.275	0.981	3.978	9.630	4.057	9.504	9.504	0.531	2.227
0.300	0.300	1.234	5.369	10.915	4.350	10.778	10.778	0.594	2.266
0.325	0.325	1.519	7.051	12.199	4.640	12.051	12.051	0.660	2.304
0.350	0.350	1.837	9.046	13.483	4.925	13.324	13.324	0.727	2.339
0.375	0.375	2.186	11.378	14.768	5.206	14.597	14.597	0.796	2.372
0.400	0.400	2.567	14.066	16.052	5.481	15.870	15.870	0.867	2.403
0.425	0.425	2.979	17.132	17.336	5.751	17.143	17.143	0.939	2.432
0.450	0.450	3.424	20.596	18.621	6.016	18.416	18.416	1.013	2.460
0.475	0.475	3.900	24.477	19.905	6.276	19.690	19.690	1.088	2.486
0.500	0.500	4.408	28.794	21.189	6.532	20.963	20.963	1.164	2.511
0.525	0.525	4.948	33.567	22.473	6.784	22.236	22.236	1.241	2.535
0.550	0.550	5.520	38.813	23.758	7.031	23.509	23.509	1.319	2.558
0.575	0.575	6.124	44.550	25.042	7.275	24.782	24.782	1.398	2.580
0.600	0.600	6.759	50.797	26.326	7.515	26.055	26.055	1.478	2.601
0.625	0.625	7.424	58.060	27.236	7.821	26.953	26.953	1.576	2.627
0.650	0.650	8.105	66.155	27.895	8.162	27.601	27.601	1.686	2.655
0.675	0.675	8.804	74.341	28.795	8.444	28.492	28.492	1.784	2.678
0.700	0.700	9.539	81.909	30.419	8.587	30.110	30.110	1.847	2.690
0.725	0.725	10.307	90.695	31.687	8.799	31.368	31.368	1.929	2.706
0.750	0.750	11.107	100.074	32.956	9.010	32.626	32.626	2.013	2.722
0.775	0.775	11.938	110.060	34.225	9.219	33.884	33.884	2.097	2.738
0.800	0.800	12.801	120.670	35.494	9.427	35.141	35.141	2.182	2.753
0.825	0.825	13.695	131.919	36.762	9.632	36.399	36.399	2.268	2.768
0.850	0.850	14.621	143.822	38.031	9.837	37.657	37.657	2.355	2.783

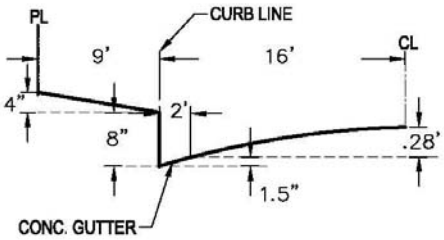
IN-14
Q = 13.3 cfs
d= 0.40'
E = 0.84'

IN-13
Q = 21.9 cfs
d= 0.46'
E = 1.01'

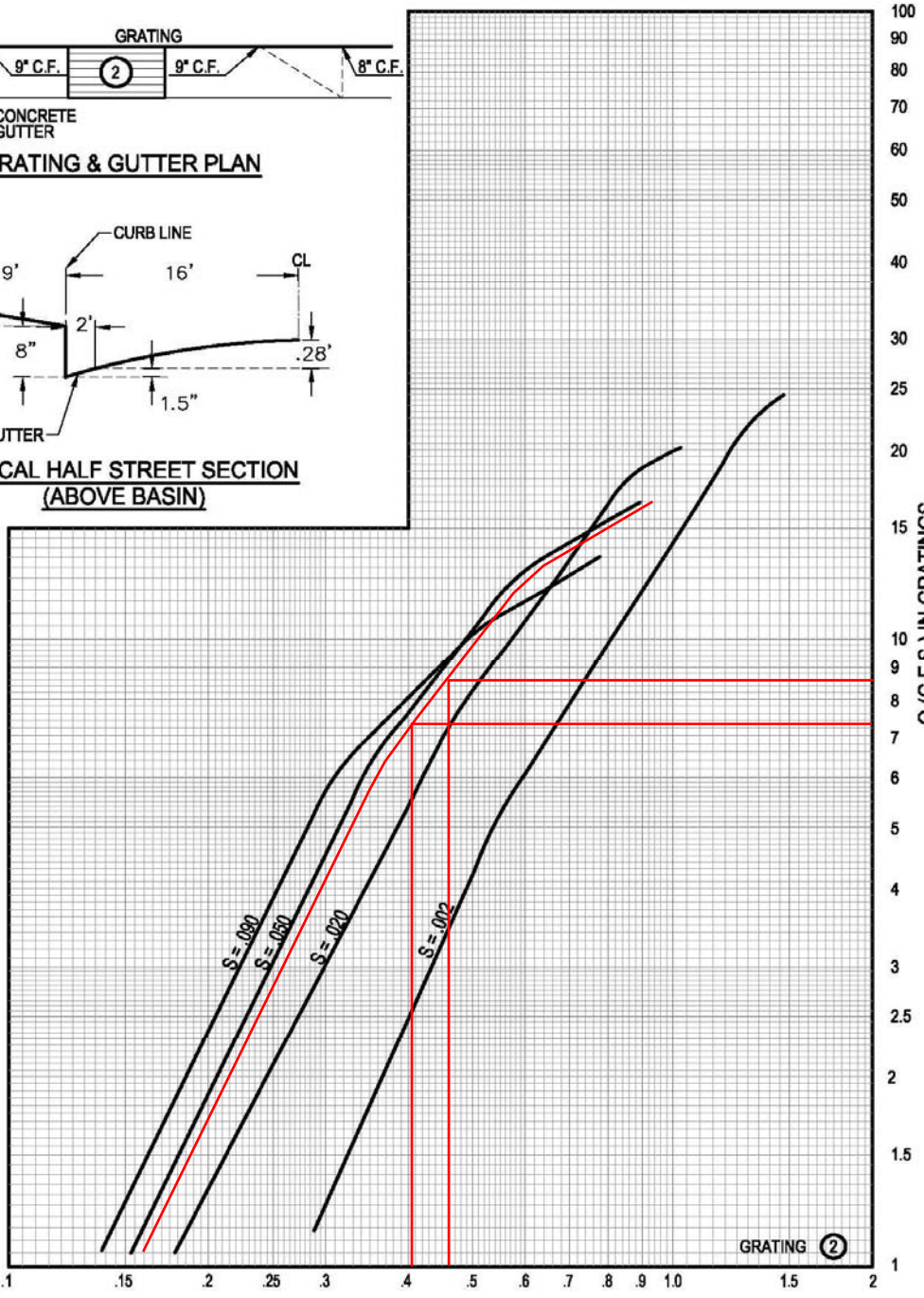
GRATING CAPACITIES FOR TYPE "A", "C" AND "D"



GRATING & GUTTER PLAN



TYPICAL HALF STREET SECTION
(ABOVE BASIN)



IN-13
Qin = 8.6 cfs

IN-14
Qin = 7.2 cfs

PLATE 22.3 D-5

d = 0.40' d = 0.46'

LEGEND

EXISTING STORM DRAIN

PROPOSED STORM DRAIN

PROPOSED STORM DRAIN MANHOLE

PROPOSED STORM DRAIN INLET

IN-14
Qin = 7.2 cfs

IN-13
Qin = 8.6 cfs

Q_t = 21.9 cfs

Q_{bypass} = 6.1 cfs

IN-18
Qin = 11.2 cfs

IN-19
Qin = 11.2 cfs

Q_t = 22.4 cfs

Qin = 5.4 cfs

N

60 30 0 60

1"=60'

INLET SCHEMATICS EXHIBIT

SAVIO RIDGE

DRAWN BY:	DATE:		
SS	03/2025		
CHECKED BY:	BHI PROJECT NO.	SHEET NO.	
YPM	20240457	2 OF 4	

Bohannan Huston
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Thu, 6-May-2025 - 8:47 am - Plotted by: RPENTYK
P:\20240457\CDP\Plans\Grading\20240457_Mid_Schematic.dwg

48 ROW 2% Crown_S=3.56% AP18

MANNING'S N = 0.017 SLOPE = 0.036 (ft/ft)

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.000	0.860	4.000	12.000	0.130	7.000	38.000	0.000
2.0	9.380	0.670	5.000	24.000	0.370	8.000	38.630	0.670
3.0	10.000	0.000	6.000	36.000	0.130	9.000	48.000	0.860

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOPWID WATER	TOTAL ENERGY (FT)	FROUDE NO.
0.025	0.025	0.010	0.009	0.839	0.872	0.816	0.816	0.037	1.375
0.050	0.050	0.041	0.056	1.678	1.384	1.632	1.632	0.080	1.543
0.075	0.075	0.092	0.166	2.518	1.813	2.448	2.448	0.126	1.651
0.100	0.100	0.163	0.358	3.357	2.197	3.263	3.263	0.175	1.732
0.125	0.125	0.255	0.650	4.196	2.549	4.079	4.079	0.226	1.798
0.150	0.150	0.381	0.956	6.419	2.509	6.280	6.280	0.248	1.796
0.175	0.175	0.570	1.494	8.988	2.622	8.826	8.826	0.282	1.819
0.200	0.200	0.822	2.329	11.557	2.832	11.373	11.373	0.325	1.857
0.225	0.225	1.138	3.503	14.126	3.077	13.920	13.920	0.372	1.897
0.250	0.250	1.518	5.064	16.695	3.335	16.466	16.466	0.423	1.936
0.275	0.275	1.962	7.056	19.263	3.597	19.013	19.013	0.476	1.974
0.300	0.300	2.469	9.522	21.832	3.857	21.560	21.560	0.531	2.009
0.325	0.325	3.040	12.505	24.401	4.114	24.106	24.106	0.588	2.042
0.350	0.350	3.674	16.044	26.970	4.367	26.653	26.653	0.647	2.073
0.375	0.375	4.371	20.400	29.039	4.667	28.700	28.700	0.714	2.108
0.400	0.400	5.089	26.245	29.107	5.157	28.746	28.746	0.814	2.161
0.425	0.425	5.808	32.663	29.176	5.623	28.793	28.793	0.917	2.207
0.450	0.450	6.529	39.628	29.244	6.070	28.840	28.840	1.023	2.249
0.475	0.475	7.250	47.120	29.312	6.499	28.886	28.886	1.132	2.287
0.500	0.500	7.973	55.120	29.381	6.913	28.933	28.933	1.243	2.322
0.525	0.525	8.697	63.612	29.449	7.314	28.979	28.979	1.357	2.354
0.550	0.550	9.422	72.582	29.518	7.703	29.026	29.026	1.473	2.384
0.575	0.575	10.148	82.017	29.586	8.082	29.073	29.073	1.591	2.412
0.600	0.600	10.876	91.905	29.654	8.450	29.119	29.119	1.711	2.438
0.625	0.625	11.604	102.237	29.723	8.810	29.166	29.166	1.832	2.462
0.650	0.650	12.334	113.002	29.791	9.162	29.213	29.213	1.956	2.486
0.675	0.675	13.066	122.897	30.339	9.406	29.743	29.743	2.051	2.502
0.700	0.700	13.841	128.404	32.807	9.277	32.211	32.211	2.039	2.495
0.725	0.725	14.677	134.908	35.275	9.192	34.678	34.678	2.039	2.491
0.750	0.750	15.575	142.376	37.742	9.142	37.145	37.145	2.050	2.489
0.775	0.775	16.534	150.789	40.210	9.120	39.612	39.612	2.069	2.489
0.800	0.800	17.555	160.141	42.677	9.122	42.079	42.079	2.094	2.490
0.825	0.825	18.638	170.432	45.145	9.144	44.546	44.546	2.126	2.492
0.850	0.850	19.782	181.669	47.613	9.183	47.013	47.013	2.162	2.496

Q = 10.0 cfs
d= 0.30'
E = 0.54'

48 ROW 2% Cross Slope_S=4.00% AP19

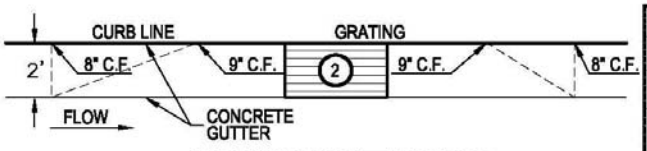
MANNING'S N = 0.017 SLOPE = 0.040 (ft/ft)

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.000	0.860	4.000	12.000	0.130	7.000	38.000	0.690
2.0	9.380	0.670	5.000	24.000	0.370	8.000	38.630	1.360
3.0	10.000	0.000	6.000	36.000	0.610	9.000	48.000	1.550

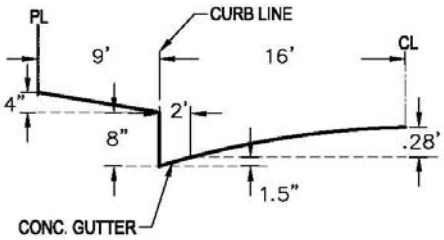
WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOPWID WATER	TOTAL ENERGY (FT)	FROUDE NO.
0.025	0.025	0.005	0.005	0.419	0.924	0.408	0.408	0.038	1.457
0.050	0.050	0.020	0.030	0.839	1.467	0.815	0.815	0.083	1.635
0.075	0.075	0.046	0.088	1.258	1.922	1.223	1.223	0.132	1.750
0.100	0.100	0.082	0.190	1.678	2.328	1.631	1.631	0.184	1.836
0.125	0.125	0.127	0.344	2.097	2.702	2.039	2.039	0.239	1.905
0.150	0.150	0.190	0.506	3.209	2.660	3.139	3.139	0.260	1.904
0.175	0.175	0.285	0.792	4.493	2.779	4.412	4.412	0.295	1.929
0.200	0.200	0.411	1.234	5.777	3.002	5.685	5.685	0.340	1.968
0.225	0.225	0.569	1.856	7.062	3.262	6.958	6.958	0.390	2.011
0.250	0.250	0.759	2.683	8.346	3.535	8.231	8.231	0.444	2.053
0.275	0.275	0.981	3.738	9.630	3.812	9.504	9.504	0.501	2.092
0.300	0.300	1.234	5.045	10.915	4.088	10.778	10.778	0.560	2.130
0.325	0.325	1.519	6.625	12.199	4.360	12.051	12.051	0.621	2.165
0.350	0.350	1.837	8.501	13.483	4.628	13.324	13.324	0.683	2.198
0.375	0.375	2.186	10.692	14.768	4.892	14.597	14.597	0.747	2.229
0.400	0.400	2.567	13.218	16.052	5.150	15.870	15.870	0.813	2.258
0.425	0.425	2.979	16.099	17.336	5.404	17.143	17.143	0.879	2.285
0.450	0.450	3.424	19.354	18.621	5.653	18.416	18.416	0.947	2.311
0.475	0.475	3.900	23.001	19.905	5.898	19.690	19.690	1.016	2.336
0.500	0.500	4.408	27.058	21.189	6.138	20.963	20.963	1.086	2.360
0.525	0.525	4.948	31.542	22.473	6.375	22.236	22.236	1.157	2.382
0.550	0.550	5.520	36.472	23.758	6.607	23.509	23.509	1.229	2.404
0.575	0.575	6.124	41.863	25.042	6.836	24.782	24.782	1.302	2.425
0.600	0.600	6.759	47.733	26.326	7.062	26.055	26.055	1.376	2.444
0.625	0.625	7.424	54.558	27.236	7.349	26.953	26.953	1.465	2.469
0.650	0.650	8.105	62.165	27.895	7.669	27.601	27.601	1.565	2.495
0.675	0.675	8.804	69.856	28.795	7.934	28.492	28.492	1.654	2.516
0.700	0.700	9.539	76.968	30.419	8.069	30.110	30.110	1.713	2.528
0.725	0.725	10.307	85.225	31.687	8.269	31.368	31.368	1.788	2.543
0.750	0.750	11.107	94.038	32.956	8.467	32.626	32.626	1.865	2.558
0.775	0.775	11.938	103.422	34.225	8.663	33.884	33.884	1.942	2.573
0.800	0.800	12.801	113.392	35.494	8.858	35.141	35.141	2.020	2.587
0.825	0.825	13.695	123.962	36.762	9.051	36.399	36.399	2.099	2.601
0.850	0.850	14.621	135.147	38.031	9.243	37.657	37.657	2.179	2.615

IN-15
Q = 14.6 cfs
d= 0.41'
E = 0.84'

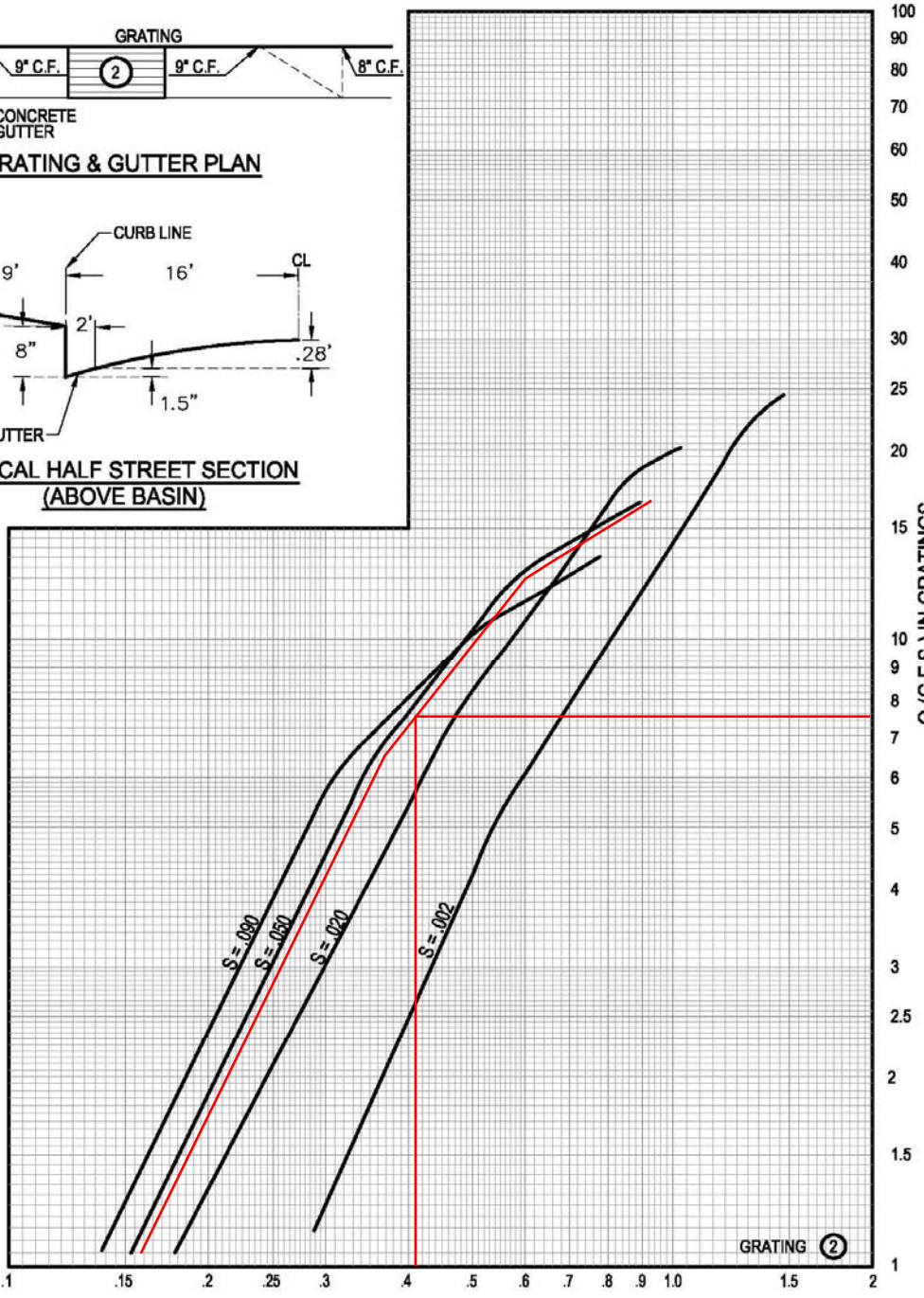
GRATING CAPACITIES FOR TYPE "A", "C" AND "D"



GRATING & GUTTER PLAN



TYPICAL HALF STREET SECTION
(ABOVE BASIN)



IN-15
Qin = 7.5 cfs

PLATE 22.3 D-5

d = 0.41'

52 ROW 2% Cross Slope_S=3.96% AP20

MANNING'S N = 0.017   SLOPE = 0.040 (ft/ft)

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.000	0.860	4.000	12.000	0.130	7.000	42.000	0.770
2.0	9.380	0.670	5.000	26.000	0.410	8.000	42.630	1.440
3.0	10.000	0.000	6.000	40.000	0.690	9.000	52.000	1.640

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOPWID WATER	TOTAL ENERGY (FT)	FROUDE NO.
0.025	0.025	0.005	0.005	0.419	0.919	0.408	0.408	0.038	1.450
0.050	0.050	0.020	0.030	0.839	1.459	0.815	0.815	0.083	1.627
0.075	0.075	0.046	0.088	1.258	1.912	1.223	1.223	0.132	1.741
0.100	0.100	0.082	0.189	1.678	2.317	1.631	1.631	0.183	1.826
0.125	0.125	0.127	0.343	2.097	2.688	2.039	2.039	0.237	1.896
0.150	0.150	0.190	0.504	3.209	2.646	3.139	3.139	0.259	1.894
0.175	0.175	0.285	0.788	4.493	2.765	4.412	4.412	0.294	1.919
0.200	0.200	0.411	1.227	5.777	2.986	5.685	5.685	0.339	1.958
0.225	0.225	0.569	1.847	7.062	3.245	6.958	6.958	0.389	2.001
0.250	0.250	0.759	2.669	8.346	3.517	8.231	8.231	0.442	2.042
0.275	0.275	0.981	3.720	9.630	3.793	9.504	9.504	0.499	2.082
0.300	0.300	1.234	5.020	10.915	4.067	10.778	10.778	0.557	2.119
0.325	0.325	1.519	6.592	12.199	4.338	12.051	12.051	0.618	2.154
0.350	0.350	1.837	8.458	13.483	4.605	13.324	13.324	0.680	2.187
0.375	0.375	2.186	10.638	14.768	4.867	14.597	14.597	0.743	2.217
0.400	0.400	2.567	13.152	16.052	5.124	15.870	15.870	0.808	2.246
0.425	0.425	2.979	16.018	17.336	5.377	17.143	17.143	0.875	2.274
0.450	0.450	3.424	19.257	18.621	5.625	18.416	18.416	0.942	2.300
0.475	0.475	3.900	22.885	19.905	5.868	19.690	19.690	1.011	2.324
0.500	0.500	4.408	26.922	21.189	6.107	20.963	20.963	1.080	2.348
0.525	0.525	4.948	31.384	22.473	6.343	22.236	22.236	1.151	2.370
0.550	0.550	5.520	36.289	23.758	6.574	23.509	23.509	1.222	2.392
0.575	0.575	6.124	41.653	25.042	6.802	24.782	24.782	1.295	2.412
0.600	0.600	6.759	47.494	26.326	7.027	26.055	26.055	1.368	2.432
0.625	0.625	7.426	53.826	27.611	7.248	27.328	27.328	1.442	2.451
0.650	0.650	8.125	60.667	28.895	7.466	28.601	28.601	1.517	2.470
0.675	0.675	8.857	67.681	30.419	7.641	30.117	30.117	1.583	2.484
0.700	0.700	9.640	74.342	32.654	7.712	32.351	32.351	1.625	2.491
0.725	0.725	10.472	82.247	34.514	7.854	34.210	34.210	1.684	2.503
0.750	0.750	11.350	90.831	36.374	8.003	36.069	36.069	1.746	2.515
0.775	0.775	12.275	100.318	38.116	8.173	37.808	37.808	1.814	2.529
0.800	0.800	13.236	111.290	39.385	8.408	39.066	39.066	1.900	2.547
0.825	0.825	14.228	122.915	40.653	8.639	40.324	40.324	1.986	2.564
0.850	0.850	15.252	135.208	41.922	8.865	41.582	41.582	2.072	2.581

Q = 18.9 cfs
d= 0.45'
E = 0.93'

40.5 ROW 2% Cross Slope_S=4.00% AP21

MANNING'S N = 0.017 SLOPE = 0.040 (ft/ft)

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.000	0.850	4.000	11.500	0.130	7.000	35.500	0.650
2.0	8.880	0.670	5.000	22.000	0.350	8.000	36.130	1.320
3.0	9.500	0.000	6.000	33.500	0.560	9.000	40.500	1.410

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOPWID WATER	TOTAL ENERGY (FT)	FROUDE NO.
0.025	0.025	0.005	0.005	0.419	0.924	0.408	0.408	0.038	1.457
0.050	0.050	0.020	0.030	0.839	1.467	0.815	0.815	0.083	1.635
0.075	0.075	0.046	0.088	1.258	1.922	1.223	1.223	0.132	1.750
0.100	0.100	0.082	0.190	1.678	2.328	1.631	1.631	0.184	1.836
0.125	0.125	0.127	0.344	2.097	2.702	2.039	2.039	0.239	1.905
0.150	0.150	0.190	0.509	3.163	2.681	3.093	3.093	0.262	1.907
0.175	0.175	0.282	0.793	4.391	2.807	4.310	4.310	0.298	1.933
0.200	0.200	0.405	1.229	5.618	3.030	5.526	5.526	0.343	1.972
0.225	0.225	0.559	1.838	6.846	3.290	6.742	6.742	0.393	2.015
0.250	0.250	0.743	2.645	8.073	3.562	7.959	7.959	0.447	2.056
0.275	0.275	0.957	3.672	9.301	3.838	9.175	9.175	0.504	2.095
0.300	0.300	1.201	4.941	10.528	4.113	10.391	10.391	0.563	2.132
0.325	0.325	1.476	6.472	11.756	4.384	11.608	11.608	0.624	2.167
0.350	0.350	1.782	8.287	12.983	4.651	12.824	12.824	0.686	2.200
0.375	0.375	2.120	10.337	14.387	4.877	14.216	14.216	0.745	2.227
0.400	0.400	2.492	12.727	15.790	5.106	15.608	15.608	0.806	2.253
0.425	0.425	2.900	15.478	17.193	5.337	17.000	17.000	0.868	2.278
0.450	0.450	3.343	18.611	18.597	5.568	18.393	18.393	0.932	2.303
0.475	0.475	3.820	22.146	20.000	5.798	19.785	19.785	0.998	2.326
0.500	0.500	4.332	26.105	21.403	6.026	21.177	21.177	1.065	2.349
0.525	0.525	4.879	30.506	22.807	6.253	22.569	22.569	1.133	2.371
0.550	0.550	5.460	35.369	24.210	6.478	23.961	23.961	1.203	2.392
0.575	0.575	6.073	41.196	25.126	6.784	24.865	24.865	1.291	2.420
0.600	0.600	6.702	47.803	25.716	7.133	25.444	25.444	1.391	2.450
0.625	0.625	7.345	54.857	26.306	7.468	26.023	26.023	1.493	2.478
0.650	0.650	8.003	62.358	26.896	7.792	26.601	26.601	1.594	2.504
0.675	0.675	8.669	70.709	27.204	8.156	26.890	26.890	1.710	2.532
0.700	0.700	9.357	77.904	28.472	8.326	28.147	28.147	1.778	2.546
0.725	0.725	10.077	85.617	29.740	8.497	29.404	29.404	1.848	2.559
0.750	0.750	10.827	93.862	31.008	8.669	30.661	30.661	1.919	2.572
0.775	0.775	11.610	102.654	32.276	8.842	31.918	31.918	1.991	2.585
0.800	0.800	12.423	112.008	33.544	9.016	33.174	33.174	2.064	2.597
0.825	0.825	13.268	121.939	34.812	9.190	34.431	34.431	2.139	2.610

Q = 3.22 cfs
d= 0.27'
E = 0.50'

48 ROW 2% Crown_S=8.00% AP22

MANNING'S N = 0.017 SLOPE = 0.080 (ft/ft)

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.000	0.860	4.000	12.000	0.130	7.000	38.000	0.000
2.0	9.380	0.670	5.000	24.000	0.370	8.000	38.630	0.670
3.0	10.000	0.000	6.000	36.000	0.130	9.000	48.000	0.860

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOPWID WATER	TOTAL ENERGY (FT)	FROUDE NO.
0.025	0.025	0.010	0.013	0.839	1.307	0.816	0.816	0.052	2.061
0.050	0.050	0.041	0.085	1.678	2.074	1.632	1.632	0.117	2.313
0.075	0.075	0.092	0.250	2.518	2.718	2.448	2.448	0.190	2.475
0.100	0.100	0.163	0.537	3.357	3.293	3.263	3.263	0.269	2.596
0.125	0.125	0.255	0.974	4.196	3.821	4.079	4.079	0.352	2.695
0.150	0.150	0.381	1.433	6.419	3.762	6.280	6.280	0.370	2.693
0.175	0.175	0.570	2.240	8.988	3.931	8.826	8.826	0.415	2.728
0.200	0.200	0.822	3.491	11.557	4.245	11.373	11.373	0.480	2.783
0.225	0.225	1.138	5.252	14.126	4.613	13.920	13.920	0.556	2.844
0.250	0.250	1.518	7.591	16.695	5.000	16.466	16.466	0.639	2.903
0.275	0.275	1.962	10.577	19.263	5.392	19.013	19.013	0.727	2.959
0.300	0.300	2.469	14.275	21.832	5.782	21.560	21.560	0.820	3.012
0.325	0.325	3.040	18.746	24.401	6.167	24.106	24.106	0.917	3.062
0.350	0.350	3.674	24.052	26.970	6.546	26.653	26.653	1.016	3.108
0.375	0.375	4.371	30.582	29.039	6.996	28.700	28.700	1.136	3.160
0.400	0.400	5.089	39.343	29.107	7.731	28.746	28.746	1.330	3.239
0.425	0.425	5.808	48.964	29.176	8.430	28.793	28.793	1.530	3.309
0.450	0.450	6.529	59.405	29.244	9.099	28.840	28.840	1.738	3.371
0.475	0.475	7.250	70.636	29.312	9.742	28.886	28.886	1.951	3.428
0.500	0.500	7.973	82.628	29.381	10.363	28.933	28.933	2.170	3.480
0.525	0.525	8.697	95.358	29.449	10.964	28.979	28.979	2.395	3.528
0.550	0.550	9.422	108.805	29.518	11.548	29.026	29.026	2.624	3.573
0.575	0.575	10.148	122.948	29.586	12.115	29.073	29.073	2.858	3.615
0.600	0.600	10.876	137.772	29.654	12.668	29.119	29.119	3.096	3.654
0.625	0.625	11.604	153.259	29.723	13.207	29.166	29.166	3.338	3.691
0.650	0.650	12.334	169.397	29.791	13.734	29.213	29.213	3.584	3.726
0.675	0.675	13.066	184.231	30.339	14.100	29.743	29.743	3.767	3.750
0.700	0.700	13.841	192.486	32.807	13.907	32.211	32.211	3.708	3.740
0.725	0.725	14.677	202.236	35.275	13.779	34.678	34.678	3.678	3.734
0.750	0.750	15.575	213.430	37.742	13.704	37.145	37.145	3.671	3.731
0.775	0.775	16.534	226.043	40.210	13.671	39.612	39.612	3.682	3.731
0.800	0.800	17.555	240.062	42.677	13.675	42.079	42.079	3.709	3.732
0.825	0.825	18.638	255.489	45.145	13.708	44.546	44.546	3.748	3.736
0.850	0.850	19.782	272.333	47.613	13.766	47.013	47.013	3.798	3.741

Q = 10.1 cfs
d= 0.27'
E = 0.72'

48 ROW 2% Crown_S=3.60% AP23

MANNING'S N = 0.017 SLOPE = 0.036 (ft/ft)

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.000	0.860	4.000	12.000	0.130	7.000	38.000	0.000
2.0	9.380	0.670	5.000	24.000	0.370	8.000	38.630	0.670
3.0	10.000	0.000	6.000	36.000	0.130	9.000	48.000	0.860

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOPWID WATER	TOTAL ENERGY (FT)	FROUDE NO.
0.025	0.025	0.010	0.009	0.839	0.877	0.816	0.816	0.037	1.382
0.050	0.050	0.041	0.057	1.678	1.392	1.632	1.632	0.080	1.552
0.075	0.075	0.092	0.167	2.518	1.823	2.448	2.448	0.127	1.660
0.100	0.100	0.163	0.360	3.357	2.209	3.263	3.263	0.176	1.742
0.125	0.125	0.255	0.654	4.196	2.563	4.079	4.079	0.227	1.808
0.150	0.150	0.381	0.961	6.419	2.524	6.280	6.280	0.249	1.806
0.175	0.175	0.570	1.503	8.988	2.637	8.826	8.826	0.283	1.830
0.200	0.200	0.822	2.342	11.557	2.848	11.373	11.373	0.326	1.867
0.225	0.225	1.138	3.523	14.126	3.095	13.920	13.920	0.374	1.908
0.250	0.250	1.518	5.093	16.695	3.354	16.466	16.466	0.425	1.947
0.275	0.275	1.962	7.096	19.263	3.617	19.013	19.013	0.478	1.985
0.300	0.300	2.469	9.576	21.832	3.878	21.560	21.560	0.534	2.021
0.325	0.325	3.040	12.575	24.401	4.137	24.106	24.106	0.591	2.054
0.350	0.350	3.674	16.134	26.970	4.391	26.653	26.653	0.650	2.085
0.375	0.375	4.371	20.515	29.039	4.693	28.700	28.700	0.718	2.120
0.400	0.400	5.089	26.392	29.107	5.186	28.746	28.746	0.818	2.173
0.425	0.425	5.808	32.846	29.176	5.655	28.793	28.793	0.922	2.220
0.450	0.450	6.529	39.850	29.244	6.104	28.840	28.840	1.029	2.262
0.475	0.475	7.250	47.384	29.312	6.535	28.886	28.886	1.139	2.300
0.500	0.500	7.973	55.429	29.381	6.952	28.933	28.933	1.252	2.335
0.525	0.525	8.697	63.968	29.449	7.355	28.979	28.979	1.366	2.367
0.550	0.550	9.422	72.988	29.518	7.746	29.026	29.026	1.483	2.397
0.575	0.575	10.148	82.476	29.586	8.127	29.073	29.073	1.602	2.425
0.600	0.600	10.876	92.420	29.654	8.498	29.119	29.119	1.723	2.451
0.625	0.625	11.604	102.809	29.723	8.860	29.166	29.166	1.846	2.476
0.650	0.650	12.334	113.635	29.791	9.213	29.213	29.213	1.970	2.500
0.675	0.675	13.066	123.586	30.339	9.458	29.743	29.743	2.066	2.516
0.700	0.700	13.841	129.124	32.807	9.329	32.211	32.211	2.054	2.509
0.725	0.725	14.677	135.664	35.275	9.243	34.678	34.678	2.054	2.505
0.750	0.750	15.575	143.173	37.742	9.193	37.145	37.145	2.064	2.503
0.775	0.775	16.534	151.634	40.210	9.171	39.612	39.612	2.083	2.503
0.800	0.800	17.555	161.038	42.677	9.173	42.079	42.079	2.109	2.504
0.825	0.825	18.638	171.387	45.145	9.196	44.546	44.546	2.140	2.506
0.850	0.850	19.782	182.686	47.613	9.235	47.013	47.013	2.176	2.510

Q = 12.1 cfs
d= 0.32'
E = 0.58'

48 ROW 2% Cross Slope_S=3.77%

MANNING'S N = 0.100 SLOPE = 0.038 (ft/ft) AP24

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.000	0.860	4.000	12.000	0.130	7.000	38.000	0.690
2.0	9.380	0.670	5.000	24.000	0.370	8.000	38.630	1.360
3.0	10.000	0.000	6.000	36.000	0.610	9.000	48.000	1.550

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOPWID WATER	TOTAL ENERGY (FT)	FROUDE NO.
0.025	0.025	0.005	0.001	0.419	0.152	0.408	0.408	0.025	0.240
0.050	0.050	0.020	0.005	0.839	0.242	0.815	0.815	0.051	0.270
0.075	0.075	0.046	0.015	1.258	0.317	1.223	1.223	0.077	0.289
0.100	0.100	0.082	0.031	1.678	0.384	1.631	1.631	0.102	0.303
0.125	0.125	0.127	0.057	2.097	0.446	2.039	2.039	0.128	0.314
0.150	0.150	0.190	0.084	3.209	0.439	3.139	3.139	0.153	0.314
0.175	0.175	0.285	0.131	4.493	0.459	4.412	4.412	0.178	0.318
0.200	0.200	0.411	0.204	5.777	0.495	5.685	5.685	0.204	0.325
0.225	0.225	0.569	0.306	7.062	0.538	6.958	6.958	0.230	0.332
0.250	0.250	0.759	0.443	8.346	0.583	8.231	8.231	0.255	0.339
0.275	0.275	0.981	0.617	9.630	0.629	9.504	9.504	0.281	0.345
0.300	0.300	1.234	0.833	10.915	0.675	10.778	10.778	0.307	0.351
0.325	0.325	1.519	1.093	12.199	0.720	12.051	12.051	0.333	0.357
0.350	0.350	1.837	1.403	13.483	0.764	13.324	13.324	0.359	0.363
0.375	0.375	2.186	1.765	14.768	0.807	14.597	14.597	0.385	0.368
0.400	0.400	2.567	2.181	16.052	0.850	15.870	15.870	0.411	0.373
0.425	0.425	2.979	2.657	17.336	0.892	17.143	17.143	0.437	0.377
0.450	0.450	3.424	3.194	18.621	0.933	18.416	18.416	0.464	0.381
0.475	0.475	3.900	3.796	19.905	0.973	19.690	19.690	0.490	0.386
0.500	0.500	4.408	4.466	21.189	1.013	20.963	20.963	0.516	0.389
0.525	0.525	4.948	5.206	22.473	1.052	22.236	22.236	0.542	0.393
0.550	0.550	5.520	6.019	23.758	1.090	23.509	23.509	0.568	0.397
0.575	0.575	6.124	6.909	25.042	1.128	24.782	24.782	0.595	0.400
0.600	0.600	6.759	7.878	26.326	1.166	26.055	26.055	0.621	0.403
0.625	0.625	7.424	9.004	27.236	1.213	26.953	26.953	0.648	0.407
0.650	0.650	8.105	10.260	27.895	1.266	27.601	27.601	0.675	0.412
0.675	0.675	8.804	11.529	28.795	1.309	28.492	28.492	0.702	0.415
0.700	0.700	9.539	12.703	30.419	1.332	30.110	30.110	0.728	0.417
0.725	0.725	10.307	14.066	31.687	1.365	31.368	31.368	0.754	0.420
0.750	0.750	11.107	15.520	32.956	1.397	32.626	32.626	0.780	0.422
0.775	0.775	11.938	17.069	34.225	1.430	33.884	33.884	0.807	0.425
0.800	0.800	12.801	18.714	35.494	1.462	35.141	35.141	0.833	0.427
0.825	0.825	13.695	20.459	36.762	1.494	36.399	36.399	0.860	0.429
0.850	0.850	14.621	22.305	38.031	1.526	37.657	37.657	0.886	0.432

Q = 5.3 cfs
d= 0.53'
E = 0.54'

48 ROW 2% Crown_S=3.15% AP25

MANNING'S N = 0.017 SLOPE = 0.032 (ft/ft)

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.000	0.860	4.000	12.000	0.130	7.000	38.000	0.000
2.0	9.380	0.670	5.000	24.000	0.370	8.000	38.630	0.670
3.0	10.000	0.000	6.000	36.000	0.130	9.000	48.000	0.860

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOPWID WATER	TOTAL ENERGY (FT)	FROUDE NO.
0.025	0.025	0.010	0.008	0.839	0.820	0.816	0.816	0.035	1.293
0.050	0.050	0.041	0.053	1.678	1.302	1.632	1.632	0.076	1.451
0.075	0.075	0.092	0.157	2.518	1.706	2.448	2.448	0.120	1.553
0.100	0.100	0.163	0.337	3.357	2.066	3.263	3.263	0.166	1.629
0.125	0.125	0.255	0.611	4.196	2.398	4.079	4.079	0.214	1.691
0.150	0.150	0.381	0.899	6.419	2.361	6.280	6.280	0.237	1.690
0.175	0.175	0.570	1.406	8.988	2.467	8.826	8.826	0.270	1.712
0.200	0.200	0.822	2.191	11.557	2.664	11.373	11.373	0.310	1.747
0.225	0.225	1.138	3.296	14.126	2.895	13.920	13.920	0.355	1.784
0.250	0.250	1.518	4.764	16.695	3.137	16.466	16.466	0.403	1.822
0.275	0.275	1.962	6.637	19.263	3.383	19.013	19.013	0.453	1.857
0.300	0.300	2.469	8.957	21.832	3.628	21.560	21.560	0.505	1.890
0.325	0.325	3.040	11.763	24.401	3.870	24.106	24.106	0.558	1.921
0.350	0.350	3.674	15.092	26.970	4.108	26.653	26.653	0.612	1.950
0.375	0.375	4.371	19.190	29.039	4.390	28.700	28.700	0.675	1.983
0.400	0.400	5.089	24.688	29.107	4.851	28.746	28.746	0.766	2.033
0.425	0.425	5.808	30.724	29.176	5.290	28.793	28.793	0.860	2.076
0.450	0.450	6.529	37.276	29.244	5.709	28.840	28.840	0.957	2.116
0.475	0.475	7.250	44.324	29.312	6.113	28.886	28.886	1.056	2.151
0.500	0.500	7.973	51.849	29.381	6.503	28.933	28.933	1.158	2.184
0.525	0.525	8.697	59.837	29.449	6.880	28.979	28.979	1.261	2.214
0.550	0.550	9.422	68.274	29.518	7.246	29.026	29.026	1.367	2.242
0.575	0.575	10.148	77.149	29.586	7.602	29.073	29.073	1.474	2.268
0.600	0.600	10.876	86.451	29.654	7.949	29.119	29.119	1.583	2.293
0.625	0.625	11.604	96.169	29.723	8.287	29.166	29.166	1.693	2.316
0.650	0.650	12.334	106.296	29.791	8.618	29.213	29.213	1.805	2.338
0.675	0.675	13.066	115.604	30.339	8.848	29.743	29.743	1.893	2.353
0.700	0.700	13.841	120.784	32.807	8.727	32.211	32.211	1.885	2.347
0.725	0.725	14.677	126.902	35.275	8.646	34.678	34.678	1.888	2.343
0.750	0.750	15.575	133.926	37.742	8.599	37.145	37.145	1.900	2.341
0.775	0.775	16.534	141.841	40.210	8.579	39.612	39.612	1.920	2.341
0.800	0.800	17.555	150.638	42.677	8.581	42.079	42.079	1.945	2.342
0.825	0.825	18.638	160.318	45.145	8.602	44.546	44.546	1.976	2.344
0.850	0.850	19.782	170.887	47.613	8.638	47.013	47.013	2.011	2.348

Q = 20.5 cfs
d= 0.38'
E = 0.70'

48 ROW 2% Crown_S=1.23% AP26

MANNING'S N = 0.017 SLOPE = 0.012 (ft/ft)

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.000	0.860	4.000	12.000	0.130	7.000	38.000	0.000
2.0	9.380	0.670	5.000	24.000	0.370	8.000	38.630	0.670
3.0	10.000	0.000	6.000	36.000	0.130	9.000	48.000	0.860

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOPWID WATER	TOTAL ENERGY (FT)	FROUDE NO.
0.025	0.025	0.010	0.005	0.839	0.512	0.816	0.816	0.029	0.808
0.050	0.050	0.041	0.033	1.678	0.813	1.632	1.632	0.060	0.907
0.075	0.075	0.092	0.098	2.518	1.066	2.448	2.448	0.093	0.970
0.100	0.100	0.163	0.211	3.357	1.291	3.263	3.263	0.126	1.018
0.125	0.125	0.255	0.382	4.196	1.498	4.079	4.079	0.160	1.057
0.150	0.150	0.381	0.562	6.419	1.475	6.280	6.280	0.184	1.056
0.175	0.175	0.570	0.878	8.988	1.541	8.826	8.826	0.212	1.069
0.200	0.200	0.822	1.369	11.557	1.665	11.373	11.373	0.243	1.091
0.225	0.225	1.138	2.059	14.126	1.809	13.920	13.920	0.276	1.115
0.250	0.250	1.518	2.977	16.695	1.961	16.466	16.466	0.310	1.138
0.275	0.275	1.962	4.148	19.263	2.114	19.013	19.013	0.345	1.160
0.300	0.300	2.469	5.597	21.832	2.267	21.560	21.560	0.380	1.181
0.325	0.325	3.040	7.351	24.401	2.418	24.106	24.106	0.416	1.201
0.350	0.350	3.674	9.431	26.970	2.567	26.653	26.653	0.452	1.219
0.375	0.375	4.371	11.991	29.039	2.743	28.700	28.700	0.492	1.239
0.400	0.400	5.089	15.427	29.107	3.031	28.746	28.746	0.543	1.270
0.425	0.425	5.808	19.199	29.176	3.305	28.793	28.793	0.595	1.297
0.450	0.450	6.529	23.293	29.244	3.568	28.840	28.840	0.648	1.322
0.475	0.475	7.250	27.697	29.312	3.820	28.886	28.886	0.702	1.344
0.500	0.500	7.973	32.399	29.381	4.064	28.933	28.933	0.757	1.365
0.525	0.525	8.697	37.391	29.449	4.299	28.979	28.979	0.812	1.384
0.550	0.550	9.422	42.663	29.518	4.528	29.026	29.026	0.869	1.401
0.575	0.575	10.148	48.209	29.586	4.750	29.073	29.073	0.926	1.417
0.600	0.600	10.876	54.022	29.654	4.967	29.119	29.119	0.984	1.433
0.625	0.625	11.604	60.094	29.723	5.179	29.166	29.166	1.042	1.447
0.650	0.650	12.334	66.422	29.791	5.385	29.213	29.213	1.101	1.461
0.675	0.675	13.066	72.239	30.339	5.529	29.743	29.743	1.150	1.471
0.700	0.700	13.841	75.476	32.807	5.453	32.211	32.211	1.163	1.467
0.725	0.725	14.677	79.299	35.275	5.403	34.678	34.678	1.179	1.464
0.750	0.750	15.575	83.688	37.742	5.373	37.145	37.145	1.199	1.463
0.775	0.775	16.534	88.634	40.210	5.361	39.612	39.612	1.222	1.463
0.800	0.800	17.555	94.131	42.677	5.362	42.079	42.079	1.247	1.464
0.825	0.825	18.638	100.180	45.145	5.375	44.546	44.546	1.274	1.465
0.850	0.850	19.782	106.784	47.613	5.398	47.013	47.013	1.303	1.467

Q = 26.8 cfs
d= 0.47'
E = 0.69'

52 ROW 2% Cross Slope_S=0.60% AP27

MANNING'S N = 0.017 SLOPE = 0.006 (ft/ft)

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.000	0.860	4.000	12.000	0.130	7.000	42.000	0.770
2.0	9.380	0.670	5.000	26.000	0.410	8.000	42.630	1.440
3.0	10.000	0.000	6.000	40.000	0.690	9.000	52.000	1.640

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOPWID WATER	TOTAL ENERGY (FT)	FROUDE NO.
0.025	0.025	0.005	0.002	0.419	0.358	0.408	0.408	0.027	0.564
0.050	0.050	0.020	0.012	0.839	0.568	0.815	0.815	0.055	0.633
0.075	0.075	0.046	0.034	1.258	0.744	1.223	1.223	0.084	0.678
0.100	0.100	0.082	0.074	1.678	0.902	1.631	1.631	0.113	0.711
0.125	0.125	0.127	0.133	2.097	1.046	2.039	2.039	0.142	0.738
0.150	0.150	0.190	0.196	3.209	1.030	3.139	3.139	0.167	0.737
0.175	0.175	0.285	0.307	4.493	1.076	4.412	4.412	0.193	0.747
0.200	0.200	0.411	0.478	5.777	1.162	5.685	5.685	0.221	0.762
0.225	0.225	0.569	0.719	7.062	1.263	6.958	6.958	0.250	0.779
0.250	0.250	0.759	1.039	8.346	1.369	8.231	8.231	0.279	0.795
0.275	0.275	0.981	1.448	9.630	1.476	9.504	9.504	0.309	0.810
0.300	0.300	1.234	1.954	10.915	1.583	10.778	10.778	0.339	0.825
0.325	0.325	1.519	2.566	12.199	1.689	12.051	12.051	0.369	0.838
0.350	0.350	1.837	3.292	13.483	1.793	13.324	13.324	0.400	0.851
0.375	0.375	2.186	4.141	14.768	1.895	14.597	14.597	0.431	0.863
0.400	0.400	2.567	5.119	16.052	1.995	15.870	15.870	0.462	0.874
0.425	0.425	2.979	6.235	17.336	2.093	17.143	17.143	0.493	0.885
0.450	0.450	3.424	7.496	18.621	2.189	18.416	18.416	0.525	0.895
0.475	0.475	3.900	8.908	19.905	2.284	19.690	19.690	0.556	0.905
0.500	0.500	4.408	10.479	21.189	2.377	20.963	20.963	0.588	0.914
0.525	0.525	4.948	12.216	22.473	2.469	22.236	22.236	0.620	0.923
0.550	0.550	5.520	14.125	23.758	2.559	23.509	23.509	0.652	0.931
0.575	0.575	6.124	16.213	25.042	2.648	24.782	24.782	0.684	0.939
0.600	0.600	6.759	18.487	26.326	2.735	26.055	26.055	0.716	0.947
0.625	0.625	7.426	20.952	27.611	2.821	27.328	27.328	0.749	0.954
0.650	0.650	8.125	23.615	28.895	2.906	28.601	28.601	0.781	0.961
0.675	0.675	8.857	26.345	30.419	2.974	30.117	30.117	0.813	0.967
0.700	0.700	9.640	28.938	32.654	3.002	32.351	32.351	0.840	0.970
0.725	0.725	10.472	32.015	34.514	3.057	34.210	34.210	0.870	0.974
0.750	0.750	11.350	35.356	36.374	3.115	36.069	36.069	0.901	0.979
0.775	0.775	12.275	39.049	38.116	3.181	37.808	37.808	0.932	0.984
0.800	0.800	13.236	43.319	39.385	3.273	39.066	39.066	0.967	0.991
0.825	0.825	14.228	47.845	40.653	3.363	40.324	40.324	1.001	0.998
0.850	0.850	15.252	52.630	41.922	3.451	41.582	41.582	1.035	1.004

IN-16 & IN-17
Q = 45.7 cfs
d= 0.81'
E = 0.98'

ANALYSIS OF AN INLET IN A SUMP CONDITION - **IN 16 & IN 17**

INLET TYPE: Double Grate Type "A" with curb opening wings on both sides on inlet.

WEIR: Q=C*L*H^1.5

Wing opening
C= 3.0
L= 4.0 ft
Q=3.0(4.0')H^1.5= 12.0H^1.5

Grate opening
C=3.0
L(double grate)=[2(2.67')+2(1.8')]=8.94 ft
Q=3.0(8.94)H^1.5=26.82*H^1.5

ORIFICE: Q=C*A*(2*G*H)^0.5

Grate opening
C=0.6
A(double grate)=8.19 sf
Q=0.6(7.14)((64.4*H))^0.5

Wing opening*
C=0.6
A=2.0 sf
Q=1.2*(64.4*H)^0.5
*not included in the orifice calcs

	WS ELEVATION	HEIGHT ABOVE INLET	Q (CFS) WEIR "A" OPENING	Q (CFS) WEIR DOUBLE GRATE	Q (CFS) ORIFICE DOUBLE GRATE	TOTAL Q (CFS)	Q=51.23 cfs/2 = 25.62 cfs per inlet **COMMENTS:**
~FL @ INLET	0.00	0.00	0.00	0.00	0.00	0.00	Flow at double "A" inlet w/ two wing openings
	0.10	0.10	0.38	0.85	12.47	1.61	Weir controls on grate analysis
	0.20	0.20	1.07	2.40	17.64	4.55	
	0.30	0.30	1.97	4.41	21.60	8.35	
	0.40	0.40	3.04	6.78	24.94	12.86	
	0.50	0.50	4.24	9.48	27.88	17.97	
	0.60	0.60	5.58	12.46	30.55	23.62	@ Q(100 yr) = 22.85 cfs
TOP OF CURB	0.70	0.70	7.03	15.71	32.99	29.76	
	0.80	0.80	8.59	19.19	35.27	36.36	
ROW LIMIT	0.86	0.86	9.52	21.28	36.51	40.32	
	0.90	0.90	10.25	22.90	37.41	43.39	
	1.00	1.00	12.00	26.82	39.43	50.82	@ Q(2 x100 yr) = 45.7 cfs
	1.10	1.10	13.84	30.94	41.36	58.63	

NOTE: The total runoff intercepted by the inlet at the low point in the road is:

Qr(100) = 2*[(runoff of the wing opening) + (the lesser of the weir or orifice amount taken by the double grate)].

48 ROW 2% Crown_S=8.00% AP28

MANNING'S N = 0.017 SLOPE = 0.080 (ft/ft)

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.000	0.860	4.000	12.000	0.130	7.000	38.000	0.000
2.0	9.380	0.670	5.000	24.000	0.370	8.000	38.630	0.670
3.0	10.000	0.000	6.000	36.000	0.130	9.000	48.000	0.860

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOPWID WATER	TOTAL ENERGY (FT)	FROUDE NO.
0.025	0.025	0.010	0.013	0.839	1.307	0.816	0.816	0.052	2.061
0.050	0.050	0.041	0.085	1.678	2.074	1.632	1.632	0.117	2.313
0.075	0.075	0.092	0.250	2.518	2.718	2.448	2.448	0.190	2.475
0.100	0.100	0.163	0.537	3.357	3.293	3.263	3.263	0.269	2.596
0.125	0.125	0.255	0.974	4.196	3.821	4.079	4.079	0.352	2.695
0.150	0.150	0.381	1.433	6.419	3.762	6.280	6.280	0.370	2.693
0.175	0.175	0.570	2.240	8.988	3.931	8.826	8.826	0.415	2.728
0.200	0.200	0.822	3.491	11.557	4.245	11.373	11.373	0.480	2.783
0.225	0.225	1.138	5.252	14.126	4.613	13.920	13.920	0.556	2.844
0.250	0.250	1.518	7.591	16.695	5.000	16.466	16.466	0.639	2.903
0.275	0.275	1.962	10.577	19.263	5.392	19.013	19.013	0.727	2.959
0.300	0.300	2.469	14.275	21.832	5.782	21.560	21.560	0.820	3.012
0.325	0.325	3.040	18.746	24.401	6.167	24.106	24.106	0.917	3.062
0.350	0.350	3.674	24.052	26.970	6.546	26.653	26.653	1.016	3.108
0.375	0.375	4.371	30.582	29.039	6.996	28.700	28.700	1.136	3.160
0.400	0.400	5.089	39.343	29.107	7.731	28.746	28.746	1.330	3.239
0.425	0.425	5.808	48.964	29.176	8.430	28.793	28.793	1.530	3.309
0.450	0.450	6.529	59.405	29.244	9.099	28.840	28.840	1.738	3.371
0.475	0.475	7.250	70.636	29.312	9.742	28.886	28.886	1.951	3.428
0.500	0.500	7.973	82.628	29.381	10.363	28.933	28.933	2.170	3.480
0.525	0.525	8.697	95.358	29.449	10.964	28.979	28.979	2.395	3.528
0.550	0.550	9.422	108.805	29.518	11.548	29.026	29.026	2.624	3.573
0.575	0.575	10.148	122.948	29.586	12.115	29.073	29.073	2.858	3.615
0.600	0.600	10.876	137.772	29.654	12.668	29.119	29.119	3.096	3.654
0.625	0.625	11.604	153.259	29.723	13.207	29.166	29.166	3.338	3.691
0.650	0.650	12.334	169.397	29.791	13.734	29.213	29.213	3.584	3.726
0.675	0.675	13.066	184.231	30.339	14.100	29.743	29.743	3.767	3.750
0.700	0.700	13.841	192.486	32.807	13.907	32.211	32.211	3.708	3.740
0.725	0.725	14.677	202.236	35.275	13.779	34.678	34.678	3.678	3.734
0.750	0.750	15.575	213.430	37.742	13.704	37.145	37.145	3.671	3.731
0.775	0.775	16.534	226.043	40.210	13.671	39.612	39.612	3.682	3.731
0.800	0.800	17.555	240.062	42.677	13.675	42.079	42.079	3.709	3.732
0.825	0.825	18.638	255.489	45.145	13.708	44.546	44.546	3.748	3.736
0.850	0.850	19.782	272.333	47.613	13.766	47.013	47.013	3.798	3.741

Q = 4.2 cfs
d= 0.22'
E = 0.51'

48 ROW 2% Crown_S=3.15% AP29

MANNING'S N = 0.017   SLOPE = 0.032 (ft/ft)

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.000	0.860	4.000	12.000	0.130	7.000	38.000	0.000
2.0	9.380	0.670	5.000	24.000	0.370	8.000	38.630	0.670
3.0	10.000	0.000	6.000	36.000	0.130	9.000	48.000	0.860

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOPWID WATER	TOTAL ENERGY (FT)	FROUDE NO.
0.025	0.025	0.010	0.008	0.839	0.820	0.816	0.816	0.035	1.293
0.050	0.050	0.041	0.053	1.678	1.302	1.632	1.632	0.076	1.451
0.075	0.075	0.092	0.157	2.518	1.706	2.448	2.448	0.120	1.553
0.100	0.100	0.163	0.337	3.357	2.066	3.263	3.263	0.166	1.629
0.125	0.125	0.255	0.611	4.196	2.398	4.079	4.079	0.214	1.691
0.150	0.150	0.381	0.899	6.419	2.361	6.280	6.280	0.237	1.690
0.175	0.175	0.570	1.406	8.988	2.467	8.826	8.826	0.270	1.712
0.200	0.200	0.822	2.191	11.557	2.664	11.373	11.373	0.310	1.747
0.225	0.225	1.138	3.296	14.126	2.895	13.920	13.920	0.355	1.784
0.250	0.250	1.518	4.764	16.695	3.137	16.466	16.466	0.403	1.822
0.275	0.275	1.962	6.637	19.263	3.383	19.013	19.013	0.453	1.857
0.300	0.300	2.469	8.957	21.832	3.628	21.560	21.560	0.505	1.890
0.325	0.325	3.040	11.763	24.401	3.870	24.106	24.106	0.558	1.921
0.350	0.350	3.674	15.092	26.970	4.108	26.653	26.653	0.612	1.950
0.375	0.375	4.371	19.190	29.039	4.390	28.700	28.700	0.675	1.983
0.400	0.400	5.089	24.688	29.107	4.851	28.746	28.746	0.766	2.033
0.425	0.425	5.808	30.724	29.176	5.290	28.793	28.793	0.860	2.076
0.450	0.450	6.529	37.276	29.244	5.709	28.840	28.840	0.957	2.116
0.475	0.475	7.250	44.324	29.312	6.113	28.886	28.886	1.056	2.151
0.500	0.500	7.973	51.849	29.381	6.503	28.933	28.933	1.158	2.184
0.525	0.525	8.697	59.837	29.449	6.880	28.979	28.979	1.261	2.214
0.550	0.550	9.422	68.274	29.518	7.246	29.026	29.026	1.367	2.242
0.575	0.575	10.148	77.149	29.586	7.602	29.073	29.073	1.474	2.268
0.600	0.600	10.876	86.451	29.654	7.949	29.119	29.119	1.583	2.293
0.625	0.625	11.604	96.169	29.723	8.287	29.166	29.166	1.693	2.316
0.650	0.650	12.334	106.296	29.791	8.618	29.213	29.213	1.805	2.338
0.675	0.675	13.066	115.604	30.339	8.848	29.743	29.743	1.893	2.353
0.700	0.700	13.841	120.784	32.807	8.727	32.211	32.211	1.885	2.347
0.725	0.725	14.677	126.902	35.275	8.646	34.678	34.678	1.888	2.343
0.750	0.750	15.575	133.926	37.742	8.599	37.145	37.145	1.900	2.341
0.775	0.775	16.534	141.841	40.210	8.579	39.612	39.612	1.920	2.341
0.800	0.800	17.555	150.638	42.677	8.581	42.079	42.079	1.945	2.342
0.825	0.825	18.638	160.318	45.145	8.602	44.546	44.546	1.976	2.344
0.850	0.850	19.782	170.887	47.613	8.638	47.013	47.013	2.011	2.348

Q = 7.2 cfs
d= 0.28'
E = 0.47'

48 ROW 2% Crown_S=2.65% AP30

MANNING'S N = 0.017 SLOPE = 0.027 (ft/ft)

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.000	0.860	4.000	12.000	0.130	7.000	38.000	0.000
2.0	9.380	0.670	5.000	24.000	0.370	8.000	38.630	0.670
3.0	10.000	0.000	6.000	36.000	0.130	9.000	48.000	0.860

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOPWID WATER	TOTAL ENERGY (FT)	FROUDE NO.
0.025	0.025	0.010	0.008	0.839	0.752	0.816	0.816	0.034	1.186
0.050	0.050	0.041	0.049	1.678	1.194	1.632	1.632	0.072	1.331
0.075	0.075	0.092	0.144	2.518	1.564	2.448	2.448	0.113	1.424
0.100	0.100	0.163	0.309	3.357	1.895	3.263	3.263	0.156	1.494
0.125	0.125	0.255	0.561	4.196	2.199	4.079	4.079	0.200	1.551
0.150	0.150	0.381	0.825	6.419	2.165	6.280	6.280	0.223	1.550
0.175	0.175	0.570	1.289	8.988	2.262	8.826	8.826	0.255	1.570
0.200	0.200	0.822	2.009	11.557	2.443	11.373	11.373	0.293	1.602
0.225	0.225	1.138	3.023	14.126	2.655	13.920	13.920	0.335	1.637
0.250	0.250	1.518	4.369	16.695	2.878	16.466	16.466	0.379	1.671
0.275	0.275	1.962	6.088	19.263	3.103	19.013	19.013	0.425	1.703
0.300	0.300	2.469	8.216	21.832	3.328	21.560	21.560	0.472	1.734
0.325	0.325	3.040	10.789	24.401	3.549	24.106	24.106	0.521	1.762
0.350	0.350	3.674	13.843	26.970	3.767	26.653	26.653	0.571	1.789
0.375	0.375	4.371	17.601	29.039	4.027	28.700	28.700	0.627	1.819
0.400	0.400	5.089	22.644	29.107	4.449	28.746	28.746	0.708	1.864
0.425	0.425	5.808	28.181	29.176	4.852	28.793	28.793	0.791	1.904
0.450	0.450	6.529	34.190	29.244	5.237	28.840	28.840	0.877	1.940
0.475	0.475	7.250	40.654	29.312	5.607	28.886	28.886	0.964	1.973
0.500	0.500	7.973	47.556	29.381	5.964	28.933	28.933	1.053	2.003
0.525	0.525	8.697	54.883	29.449	6.310	28.979	28.979	1.144	2.031
0.550	0.550	9.422	62.622	29.518	6.646	29.026	29.026	1.237	2.057
0.575	0.575	10.148	70.762	29.586	6.973	29.073	29.073	1.331	2.081
0.600	0.600	10.876	79.294	29.654	7.291	29.119	29.119	1.427	2.103
0.625	0.625	11.604	88.207	29.723	7.601	29.166	29.166	1.524	2.125
0.650	0.650	12.334	97.495	29.791	7.904	29.213	29.213	1.622	2.145
0.675	0.675	13.066	106.033	30.339	8.115	29.743	29.743	1.699	2.159
0.700	0.700	13.841	110.784	32.807	8.004	32.211	32.211	1.697	2.153
0.725	0.725	14.677	116.395	35.275	7.931	34.678	34.678	1.703	2.149
0.750	0.750	15.575	122.838	37.742	7.887	37.145	37.145	1.718	2.147
0.775	0.775	16.534	130.097	40.210	7.868	39.612	39.612	1.738	2.147
0.800	0.800	17.555	138.166	42.677	7.870	42.079	42.079	1.763	2.148
0.825	0.825	18.638	147.045	45.145	7.890	44.546	44.546	1.793	2.150
0.850	0.850	19.782	156.739	47.613	7.923	47.013	47.013	1.826	2.153

Q = 7.5 cfs
d= 0.29'
E = 0.46'

48 ROW 2% Crown_S=0.60% AP31

MANNING'S N = 0.017 SLOPE = 0.006 (ft/ft)

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.000	0.860	4.000	12.000	0.130	7.000	38.000	0.000
2.0	9.380	0.670	5.000	24.000	0.370	8.000	38.630	0.670
3.0	10.000	0.000	6.000	36.000	0.130	9.000	48.000	0.860

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOPWID WATER	TOTAL ENERGY (FT)	FROUDE NO.
0.025	0.025	0.010	0.004	0.839	0.358	0.816	0.816	0.027	0.564
0.050	0.050	0.041	0.023	1.678	0.568	1.632	1.632	0.055	0.633
0.075	0.075	0.092	0.068	2.518	0.744	2.448	2.448	0.084	0.678
0.100	0.100	0.163	0.147	3.357	0.902	3.263	3.263	0.113	0.711
0.125	0.125	0.255	0.267	4.196	1.046	4.079	4.079	0.142	0.738
0.150	0.150	0.381	0.393	6.419	1.030	6.280	6.280	0.167	0.737
0.175	0.175	0.570	0.613	8.988	1.077	8.826	8.826	0.193	0.747
0.200	0.200	0.822	0.956	11.557	1.163	11.373	11.373	0.221	0.762
0.225	0.225	1.138	1.438	14.126	1.263	13.920	13.920	0.250	0.779
0.250	0.250	1.518	2.079	16.695	1.369	16.466	16.466	0.279	0.795
0.275	0.275	1.962	2.897	19.263	1.477	19.013	19.013	0.309	0.810
0.300	0.300	2.469	3.909	21.832	1.583	21.560	21.560	0.339	0.825
0.325	0.325	3.040	5.134	24.401	1.689	24.106	24.106	0.369	0.838
0.350	0.350	3.674	6.587	26.970	1.793	26.653	26.653	0.400	0.851
0.375	0.375	4.371	8.375	29.039	1.916	28.700	28.700	0.432	0.866
0.400	0.400	5.089	10.775	29.107	2.117	28.746	28.746	0.470	0.887
0.425	0.425	5.808	13.409	29.176	2.309	28.793	28.793	0.508	0.906
0.450	0.450	6.529	16.269	29.244	2.492	28.840	28.840	0.547	0.923
0.475	0.475	7.250	19.344	29.312	2.668	28.886	28.886	0.586	0.939
0.500	0.500	7.973	22.629	29.381	2.838	28.933	28.933	0.625	0.953
0.525	0.525	8.697	26.115	29.449	3.003	28.979	28.979	0.665	0.966
0.550	0.550	9.422	29.797	29.518	3.162	29.026	29.026	0.706	0.979
0.575	0.575	10.148	33.671	29.586	3.318	29.073	29.073	0.746	0.990
0.600	0.600	10.876	37.730	29.654	3.469	29.119	29.119	0.787	1.001
0.625	0.625	11.604	41.972	29.723	3.617	29.166	29.166	0.828	1.011
0.650	0.650	12.334	46.391	29.791	3.761	29.213	29.213	0.870	1.020
0.675	0.675	13.066	50.454	30.339	3.861	29.743	29.743	0.907	1.027
0.700	0.700	13.841	52.714	32.807	3.809	32.211	32.211	0.926	1.024
0.725	0.725	14.677	55.385	35.275	3.774	34.678	34.678	0.946	1.023
0.750	0.750	15.575	58.450	37.742	3.753	37.145	37.145	0.969	1.022
0.775	0.775	16.534	61.904	40.210	3.744	39.612	39.612	0.993	1.022
0.800	0.800	17.555	65.744	42.677	3.745	42.079	42.079	1.018	1.022
0.825	0.825	18.638	69.969	45.145	3.754	44.546	44.546	1.044	1.023
0.850	0.850	19.782	74.581	47.613	3.770	47.013	47.013	1.071	1.025

IN-18 & IN-19
Q = 23.6 cfs
d= 0.51'
E = 0.64'

ANALYSIS OF AN INLET IN A SUMP CONDITION **IN-18 & IN-19**

INLET TYPE: Single Grate Type "A" with curb opening wings on both sides on inlet.

WEIR: Q=C*L*H^1.5

Wing opening
C= 3.0
L= 4.0 ft
Q=3.0(4.0')H^1.5= 12.0H**1.5

Grate opening
C=3.0
L(single grate)=[(2.67')+2(1.8')]=6.27 ft
Q=3.0(6.27)H^1.5=18.81*H^1.5

ORIFICE: Q=C*A*(2*G*H)^0.5

Grate opening
C=0.6
A(single grate)=3.72 sf
Q=0.6*3.72*(64.4*H)^0.5

Wing opening*
C=0.6
A=2.0 sf
Q=1.2*(64.4*H)^0.5
*not included in the orifice calcs

	WS ELEVATION	HEIGHT ABOVE INLET	Q (CFS) WEIR WING OPENING	Q (CFS) WEIR SINGLE GRATE	Q (CFS) ORIFICE SINGLE GRATE	TOTAL Q (CFS)	**COMMENTS:**
~FL @ INLET	0.00	0.00	0.00	0.00	0.00	0.00	Flow at single "A" inlet w/ two wing openings
	0.10	0.10	0.38	0.59	5.66	1.35	Weir controls on grate analysis
	0.20	0.20	1.07	1.68	8.01	3.83	
	0.30	0.30	1.97	3.09	9.81	7.03	
	0.40	0.40	3.04	4.76	11.33	10.83	
	0.50	0.50	4.24	6.65	12.67	15.14	@ Q(100 yr) = 11.8 cfs
	0.60	0.60	5.58	8.74	13.87	19.90	
TOP OF CURB	0.70	0.70	7.03	11.02	14.99	25.07	@ Q(2 x100 yr) = 23.6 cfs
	0.80	0.80	8.59	13.46	16.02	30.63	
ROW LIMIT	0.86	0.86	9.52	14.92	16.58	33.96	
	0.90	0.90	10.25	16.06	16.99	36.55	
	1.00	1.00	12.00	18.81	17.91	41.91	

NOTE: The total runoff intercepted by the inlet at the low point in the road is:

Q(100) = 2*[(runoff of the wing opening) + (the lesser of the weir or orifice amount taken by the double grate)].

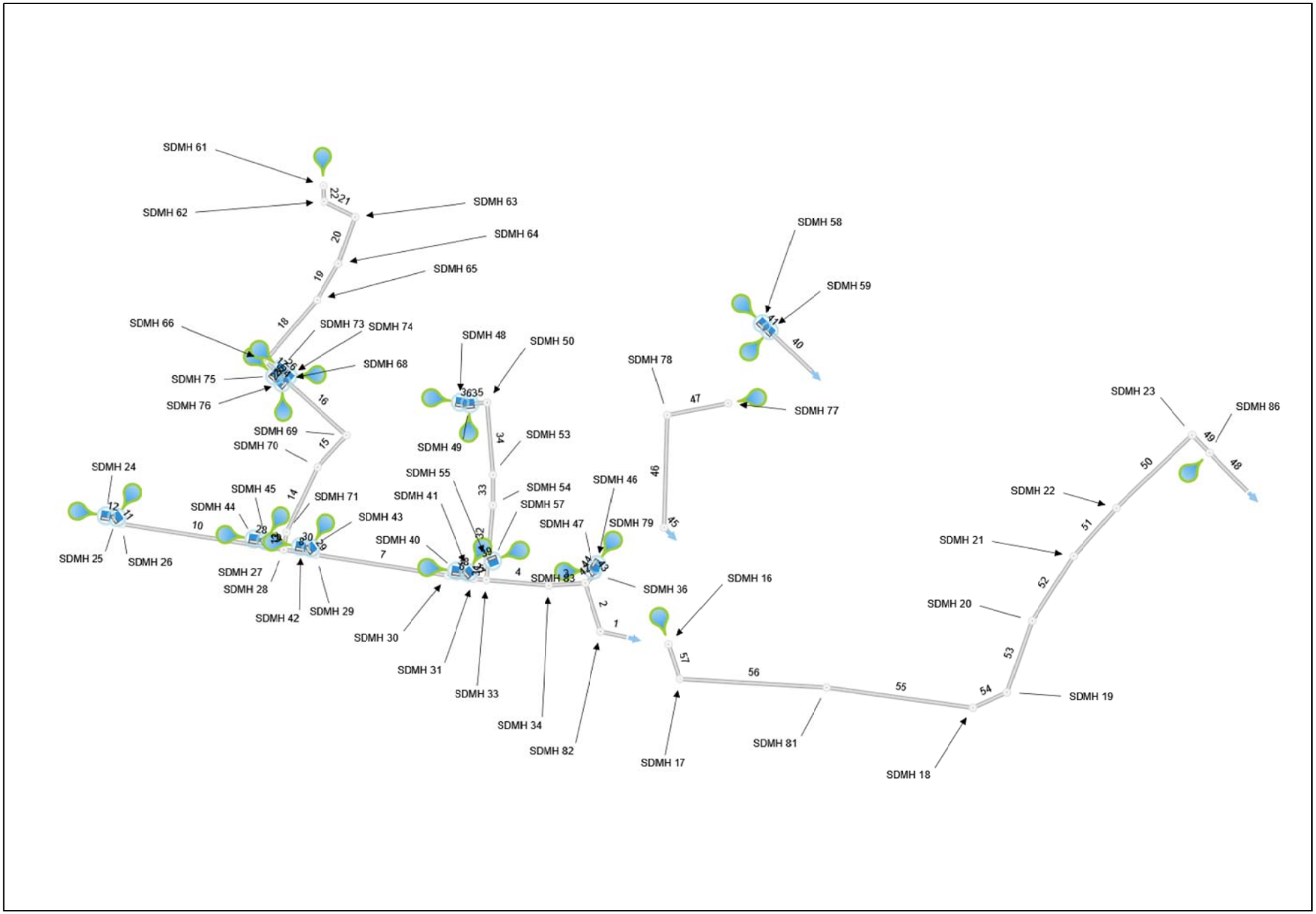
APPENDIX C
STORM DRAIN PIPE ANALYSIS

Plan View

Stormwater Studio 2024 v 3.0.0.35

Project Name: SD

03-05-2025



Project File: 20240457StormCAD.sws

LineNo.	LineNo.	LineID	LineSize (in)	FlowRate (cfs)	VelAve (ft/s)	nd/RimElev (ft)	HGLDn (ft)	nd/RimElev (ft)	HGLUp (ft)	EGLDn (ft)	EGLUp (ft)	VelDn (ft/s)	VelUp (ft/s)
1	1	SDP 32 (1)	60	164.1	8.36	5402.23	5406.8	5415.56	5407.07	5407.89	5408.16	8.36	8.36
2	2	SDP 32	60	164.1	8.79	5415.56	5408.2	5412.66	5408.51	5409.28	5409.83	8.36	9.23
3	3	SDP 30	42	118.3	15.49	5412.66	5406.65	5415.96	5412.1	5412.55	5414.61	18.26	12.72
4	4	SDP 29	42	118.3	16.15	5415.96	5411.06	5422.79	5419.9	5415.55	5422.42	19.57	12.72
5	5	SDP 28	42	95	9.88	5422.79	5421.51	5423.97	5421.82	5423.03	5423.34	9.88	9.87
6	6	SDP 26	36	80.6	13.76	5423.97	5420.2	5426.79	5423.72	5424.55	5425.88	15.74	11.79
7	7	SDP 25	36	80.6	14.93	5426.79	5422.85	5440.94	5437.73	5426.69	5439.89	18.06	11.79
8	8	SDP 24	36	63.5	12.23	5440.94	5436.83	5444.5	5440.71	5440.4	5442.25	14.51	9.95
9	9	SDP 23	24	20.7	6.59	5444.5	5443.29	5445.85	5443.62	5443.96	5444.29	6.59	6.59
10	10	SDP 22	18	13	7.55	5445.85	5444.01	5463.53	5459.21	5444.85	5460.15	7.36	7.75
11	11	SDP 21	18	13	7.55	5463.53	5459.64	5463.7	5460.27	5460.48	5461.21	7.36	7.75
12	12	SDP 20	18	7.2	4.84	5463.7	5461.05	5465.02	5461.33	5461.31	5461.82	4.08	5.6
13	13	SDP 63	36	42.8	6.06	5444.5	5443.35	5444.34	5443.56	5443.92	5444.13	6.06	6.05
14	14	SDP 62	36	42.8	6.06	5444.34	5443.97	5445.64	5444.8	5444.54	5445.37	6.06	6.05
15	15	SDP 61	36	42.8	6.06	5445.64	5445.22	5446.41	5445.71	5445.79	5446.28	6.06	6.05
16	16	SDP 60	36	42.8	7.11	5446.41	5446.42	5451.09	5447.53	5446.99	5448.57	6.06	8.16
17	17	SDP 58	24	18	6.42	5451.09	5448.26	5452.58	5448.98	5448.77	5449.77	5.73	7.11
18	18	SDP 57	24	18	6.54	5452.58	5449.41	5454.75	5451.74	5449.96	5452.53	5.98	7.11
19	19	SDP 72	24	18	7.49	5454.75	5451.7	5456.13	5453.1	5452.72	5453.89	7.88	7.11
20	20	SDP 55	24	18	7.83	5456.13	5452.97	5458.24	5455.06	5454.09	5455.85	8.55	7.11
21	21	SDP 54	24	18	6.18	5458.24	5455.49	5458.73	5455.96	5456.04	5456.6	5.98	6.38
22	22	SDP 53	24	18	5.73	5458.73	5457.07	5457.38	5457.35	5457.58	5457.86	5.73	5.73
23	23	SDP 68	18	12.4	7.02	5451.09	5448.11	5450.85	5448.29	5448.87	5449.06	7.02	7.02
24	24	SDP 67	18	7.2	4.07	5450.85	5449.12	5451.43	5449.26	5449.38	5449.52	4.08	4.07
25	25	SDP 66	18	12.4	7.02	5451.09	5448.11	5450.78	5448.29	5448.87	5449.06	7.02	7.02
26	26	SDP 65	18	7.2	4.07	5450.78	5449.12	5451.33	5449.26	5449.38	5449.52	4.08	4.07
27	27	SDP 38	18	7.7	4.36	5445.85	5444.34	5445.93	5444.46	5444.63	5444.76	4.36	4.36
28	28	SDP 37	18	5	2.83	5445.93	5444.76	5447.16	5444.83	5444.88	5444.95	2.83	2.83
29	29	SDP 36	18	17.1	9.68	5440.94	5439.02	5441.04	5439.63	5440.48	5441.09	9.68	9.68
30	30	SDP 35	18	9.5	5.38	5441.04	5441.08	5442.14	5441.32	5441.53	5441.77	5.38	5.38
31	31	SDP 48	36	23.3	3.3	5422.79	5422.32	5423.26	5422.38	5422.49	5422.55	3.3	3.3

LineNo.	LineNo.	LineID	LineSize (in)	FlowRate (cfs)	VelAve (ft/s)	nd/RimElev (ft)	HGLDn (ft)	nd/RimElev (ft)	HGLUp (ft)	EGLDn (ft)	EGLUp (ft)	VelDn (ft/s)	VelUp (ft/s)
32	32	SDP 47	24	15.8	5.08	5423.26	5422.37	5426.07	5423.09	5422.77	5423.5	5.03	5.13
33	33	SDP 46	24	15.8	5.86	5426.07	5423.36	5427.5	5424.07	5423.76	5424.76	5.03	6.69
34	34	SDP 45	24	15.8	8.99	5427.5	5423.67	5433.84	5430.75	5424.91	5431.45	11.29	6.69
35	35	SDP 42	24	15.8	8.16	5433.84	5430.28	5435.28	5432.1	5431.6	5432.79	9.64	6.69
36	36	SDP 41	18	8.6	5.47	5435.28	5432.57	5436.41	5432.82	5432.94	5433.4	4.87	6.08
37	37	SDP 34	24	14.4	4.58	5423.97	5423.55	5424.06	5423.64	5423.88	5423.97	4.58	4.58
38	38	SDP 33	18	8.4	4.75	5424.06	5423.82	5425.43	5424.05	5424.17	5424.4	4.75	4.75
39	39	SDP 50	18	7.5	4.24	5423.26	5422.44	5423.02	5422.52	5422.72	5422.8	4.24	4.24
40	40	SDP 52	18	23.6	13.37	5404.8	5405.5	5419.78	5414	5408.27	5416.78	13.36	13.38
41	41	SDP 51	18	11.8	6.68	5419.78	5416.36	5419.77	5416.72	5417.06	5417.41	6.68	6.68
42	42	SDP 31 (1)	42	45.8	4.76	5412.66	5411.4	5412.34	5411.48	5411.75	5411.83	4.76	4.76
43	43	SDP 40	42	45.8	4.76	5412.34	5411.92	5411.81	5411.95	5412.27	5412.3	4.76	4.76
44	44	SDP 39	24	22.9	7.29	5411.81	5411.87	5411.9	5412.06	5412.7	5412.89	7.29	7.29
45	45	SDP 71	18	5.4	3.06	5405.8	5405.5	5405.8	5405.53	5405.65	5405.67	3.06	3.06
46	46	SDP 70	18	5.4	3.06	5405.8	5405.67	5416.2	5406.5	5405.81	5406.64	3.06	3.06
47	47	SDP 69	18	5.4	3.06	5416.2	5406.66	5406.21	5407.13	5406.81	5407.27	3.06	3.06
48	48	SDP 74	60	110.3	9.34	5373.85	5362.77	5369.04	5363.57	5364.15	5364.89	9.45	9.22
49	49	SDP 76	60	96.3	6.13	5369.04	5364.5	5369.15	5364.6	5365.08	5365.19	6.07	6.18
50	50	SDP 19	54	96.3	6.27	5369.15	5365.34	5368.06	5365.9	5365.92	5366.55	6.08	6.46
51	51	SDP 18	54	96.3	6.16	5368.06	5366.35	5369.13	5366.71	5366.93	5367.31	6.11	6.2
52	52	SDP 17	54	96.3	6.06	5369.13	5367.32	5372.1	5367.83	5367.89	5368.4	6.06	6.05
53	53	SDP 16	54	96.3	12.08	5372.1	5365.16	5375.8	5371.75	5368.81	5373.06	14.96	9.2
54	54	SDP 15	54	96.3	6.06	5375.8	5373.52	5377.79	5373.77	5374.09	5374.34	6.06	6.05
55	55	SDP 14 (1)	54	96.3	13.41	5377.79	5370.83	5391.01	5386.38	5374.83	5387.7	17.62	9.2
56	56	SDP 14	54	96.3	13.89	5391.01	5385.3	5407.01	5403.21	5387.95	5404.52	18.58	9.2
57	57	SDP 13	54	96.3	8.15	5407.01	5403.91	5406.23	5403.9	5404.77	5405.13	7.42	8.88

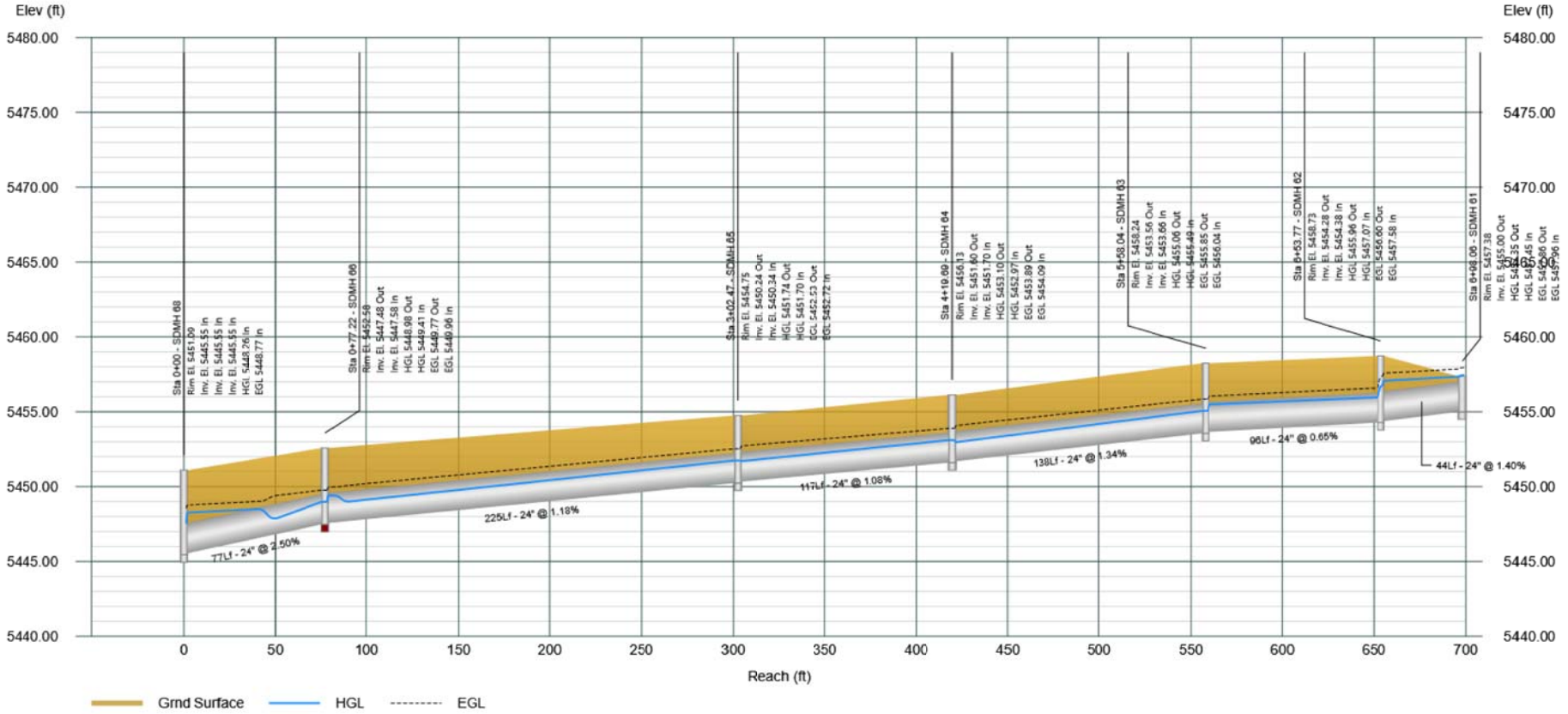
Profile View

Stormwater Studio 2024 v 3.0.0.35

SD - #22, 21, 20, 19, 18, 17

Project Name: SD

03-05-2025



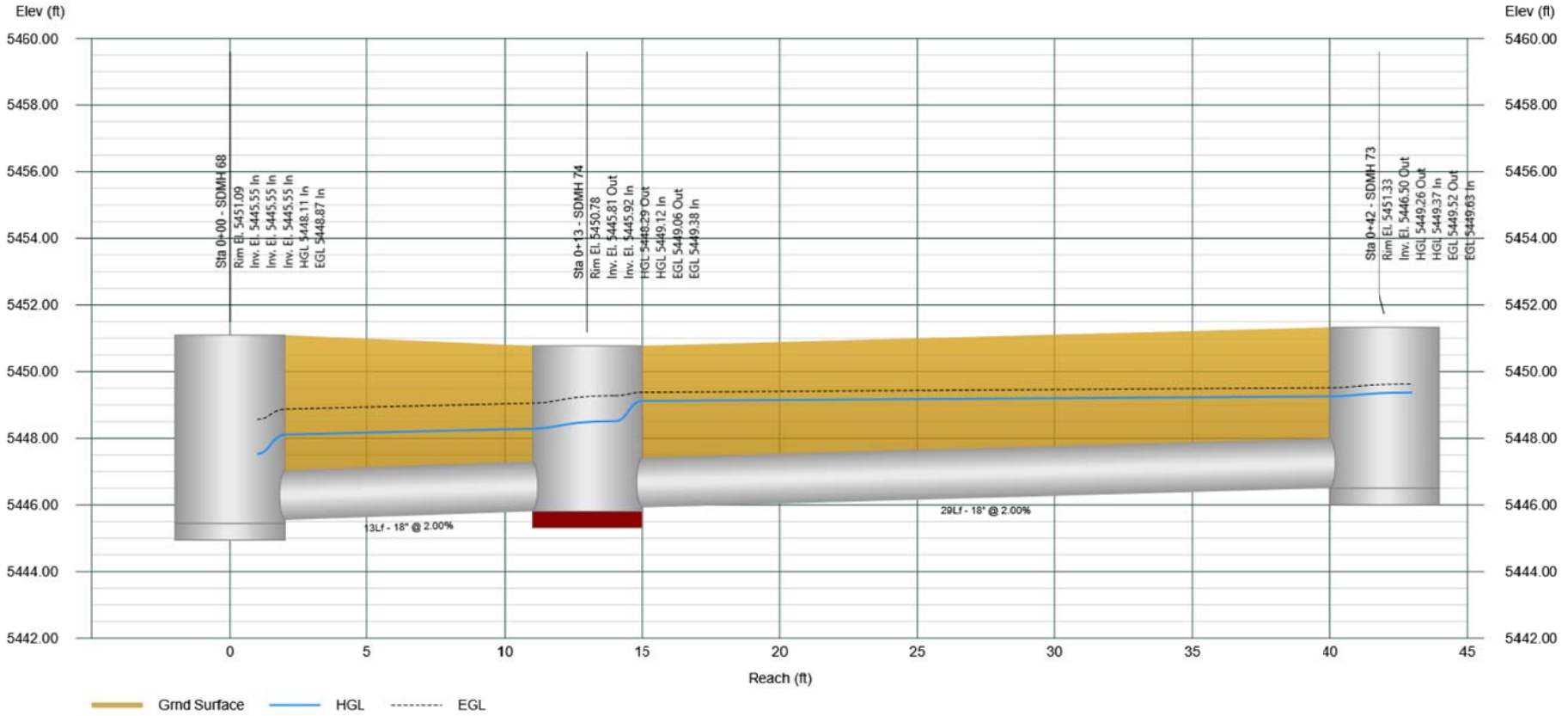
Profile View

Stormwater Studio 2024 v 3.0.0.35

SD - #26, 25

Project Name: SD

03-05-2025



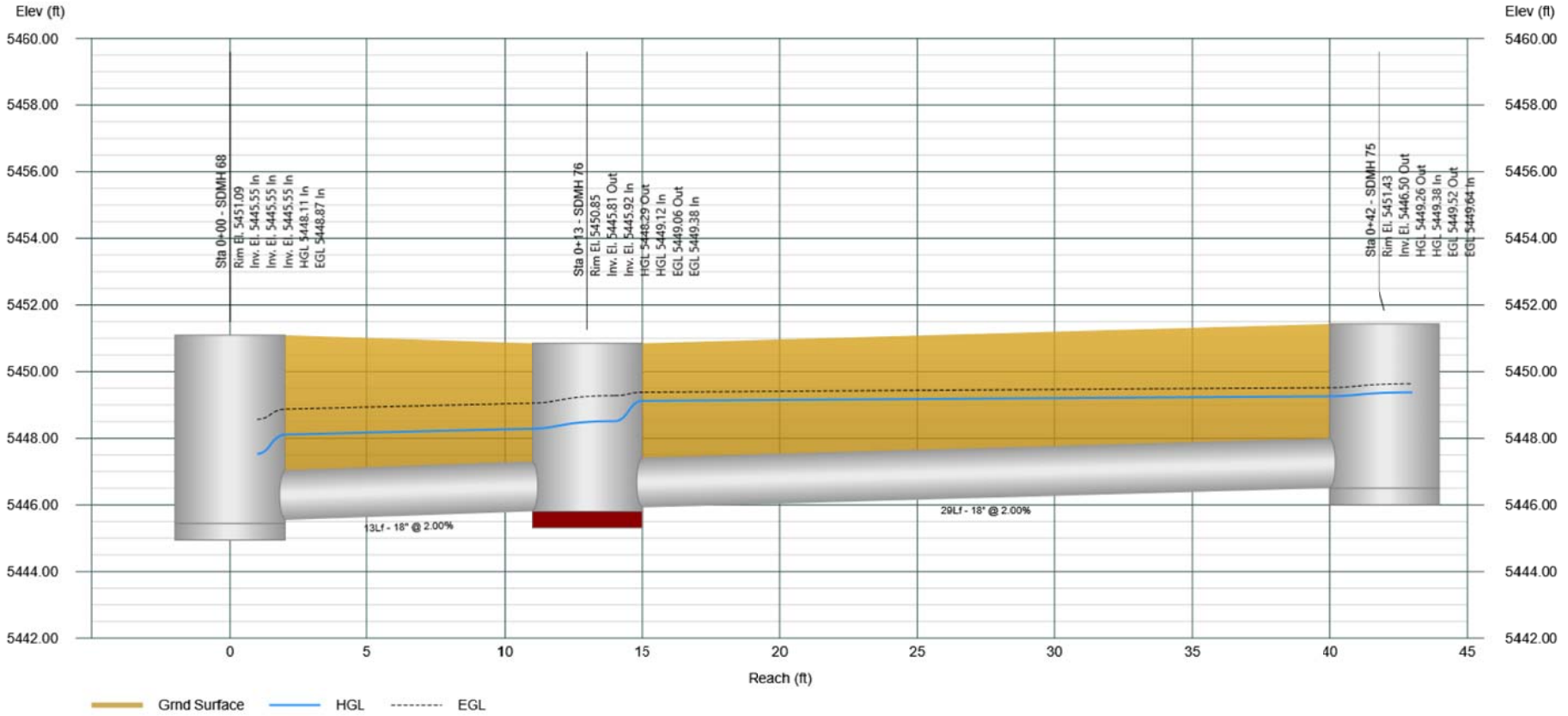
Profile View

Stormwater Studio 2024 v 3.0.0.35

SD #24, 23

Project Name: SD

03-05-2025



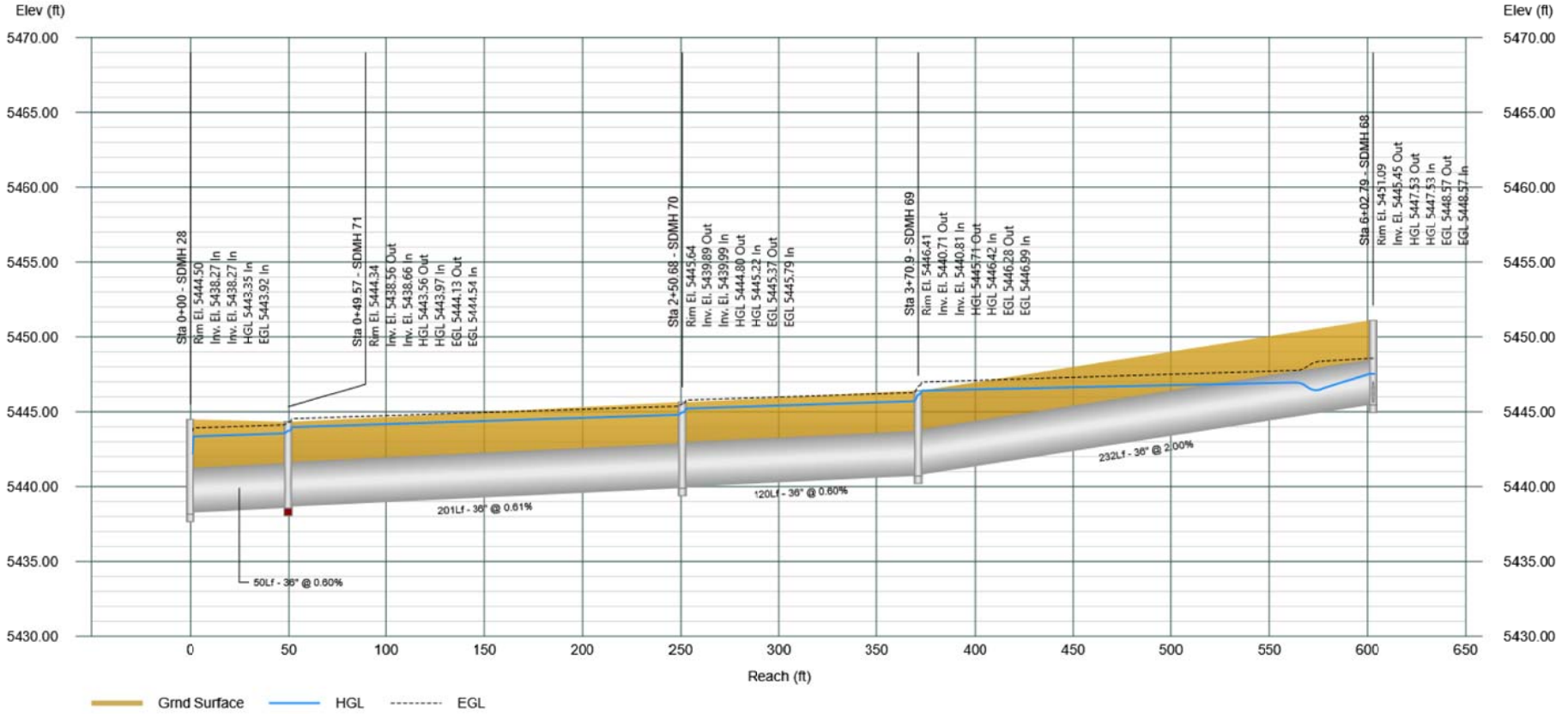
Profile View

Stormwater Studio 2024 v 3.0.0.35

SD #16, 15, 14, 13

Project Name: SD

03-05-2025



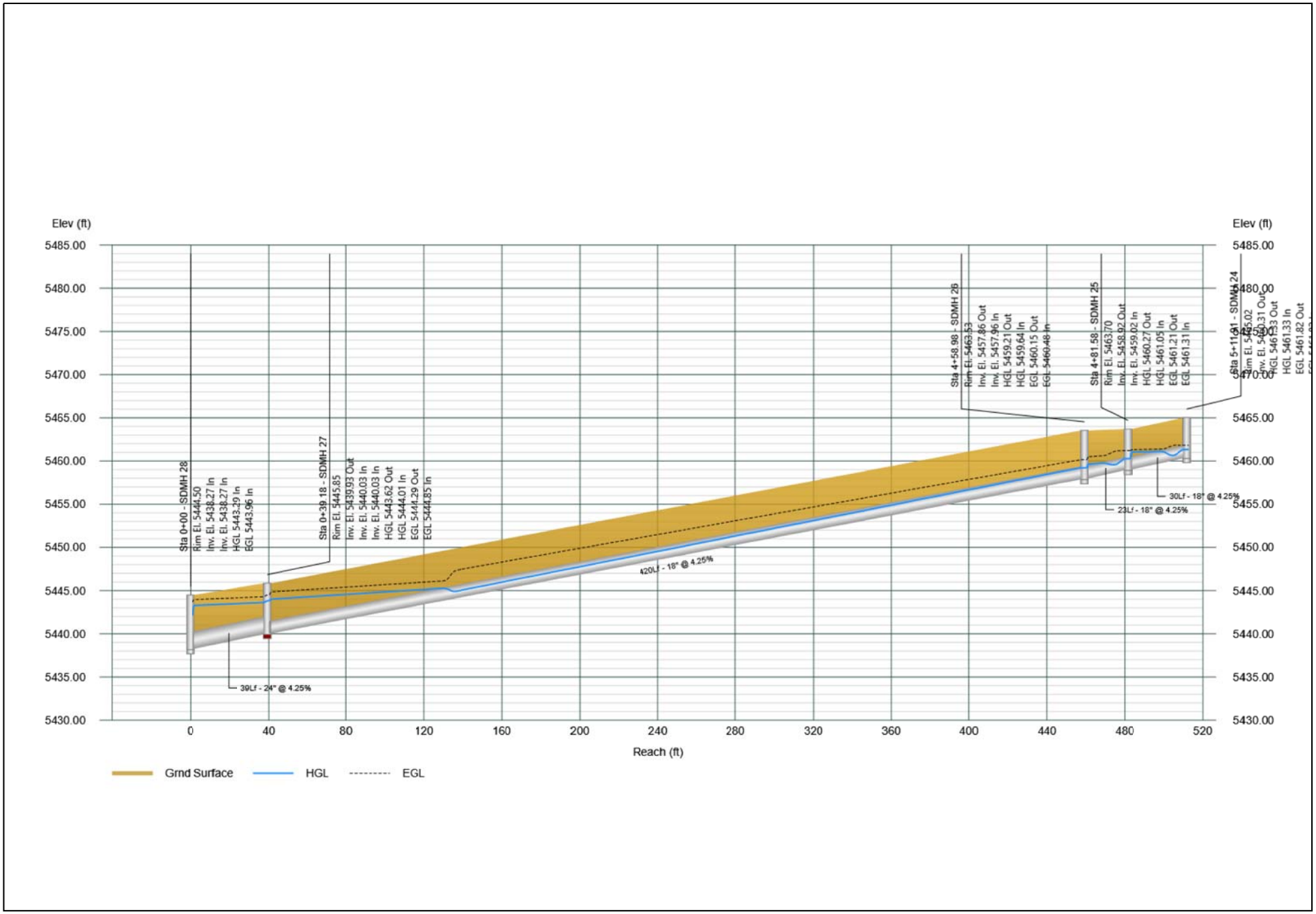
Profile View

Stormwater Studio 2024 v 3.0.0.35

SD #12, 11, 10, 9

Project Name: SD

03-05-2025



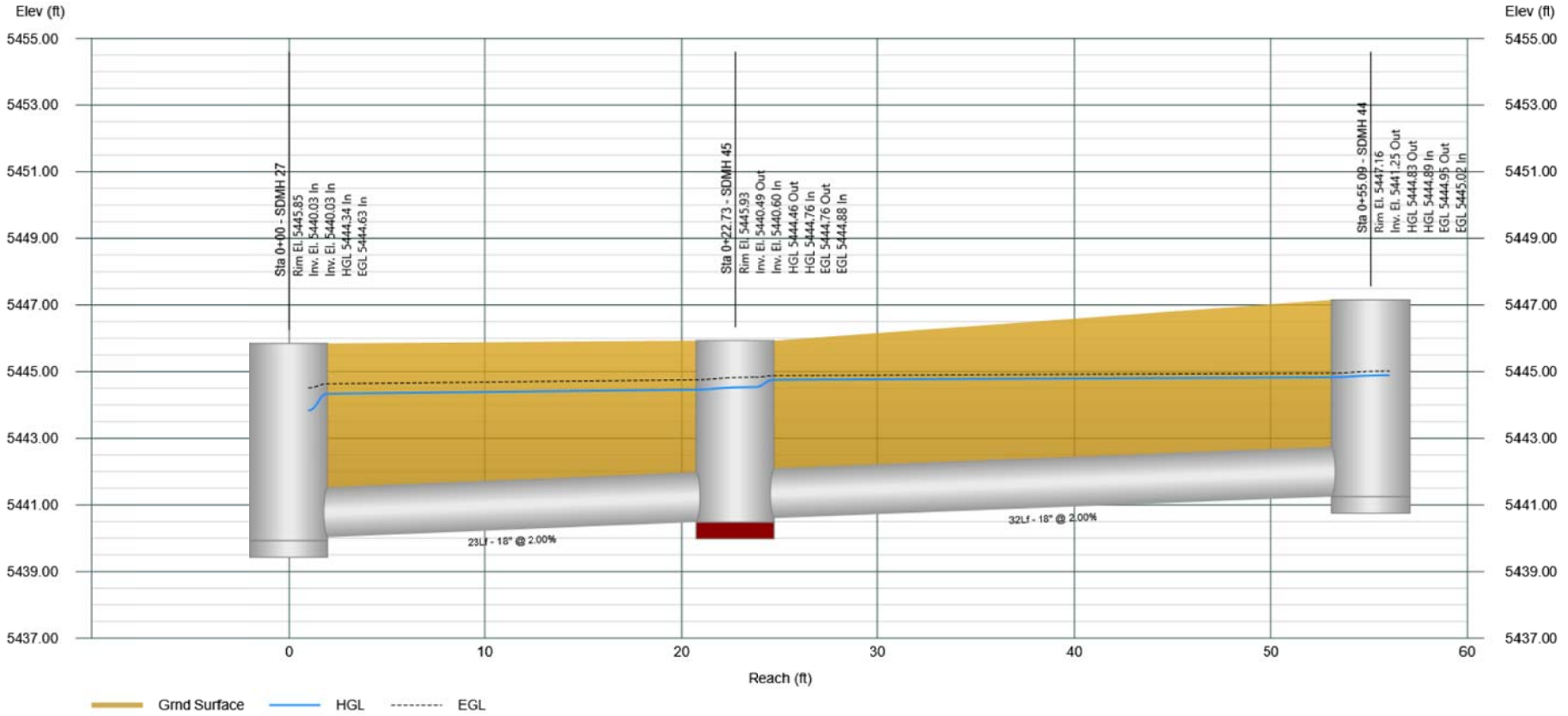
Profile View

Stormwater Studio 2024 v 3.0.0.35

SD #28, 27

Project Name: SD

03-05-2025



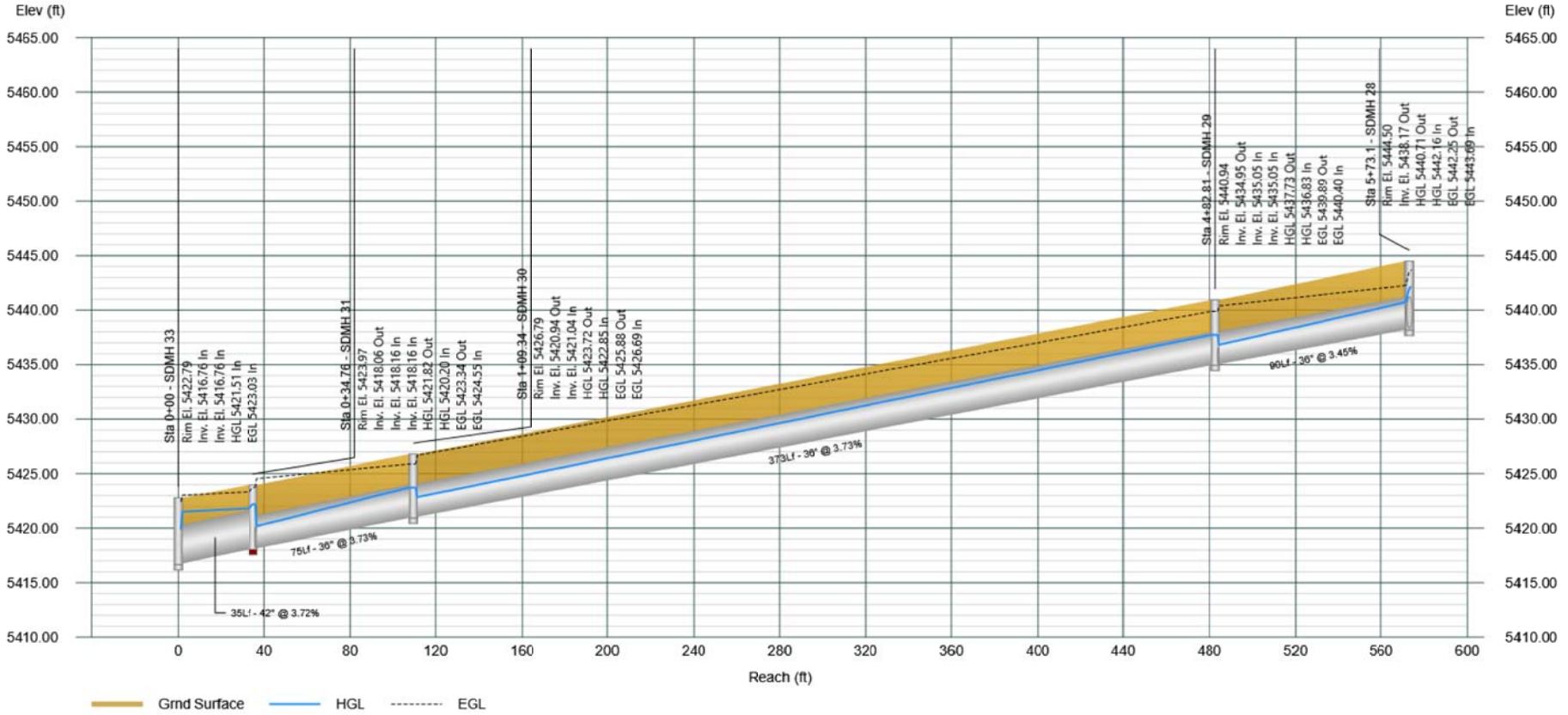
Profile View

Stormwater Studio 2024 v 3.0.0.35

SD #8, 7, 6, 5

Project Name: SD

03-05-2025



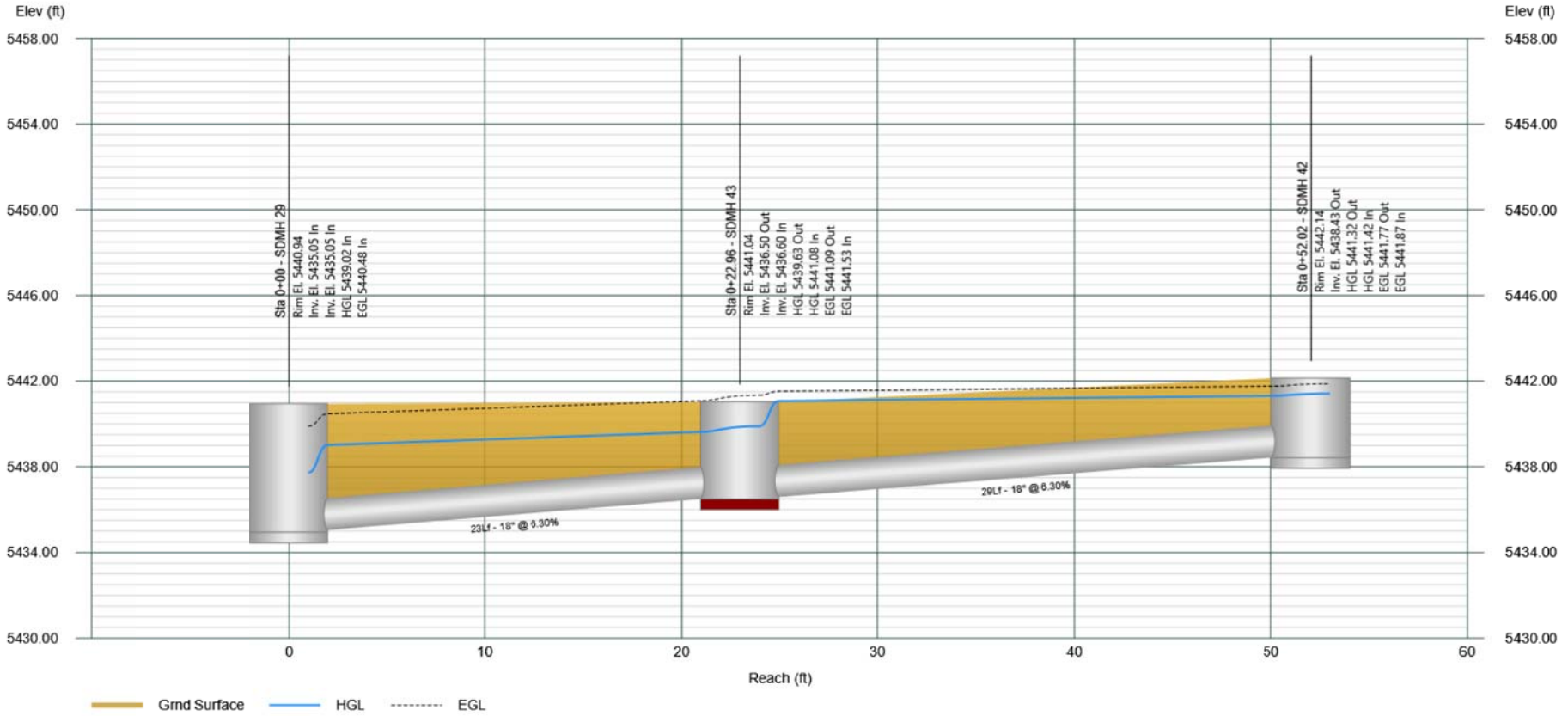
Profile View

Stormwater Studio 2024 v 3.0.0.35

SD #30, 29

Project Name: SD

03-05-2025



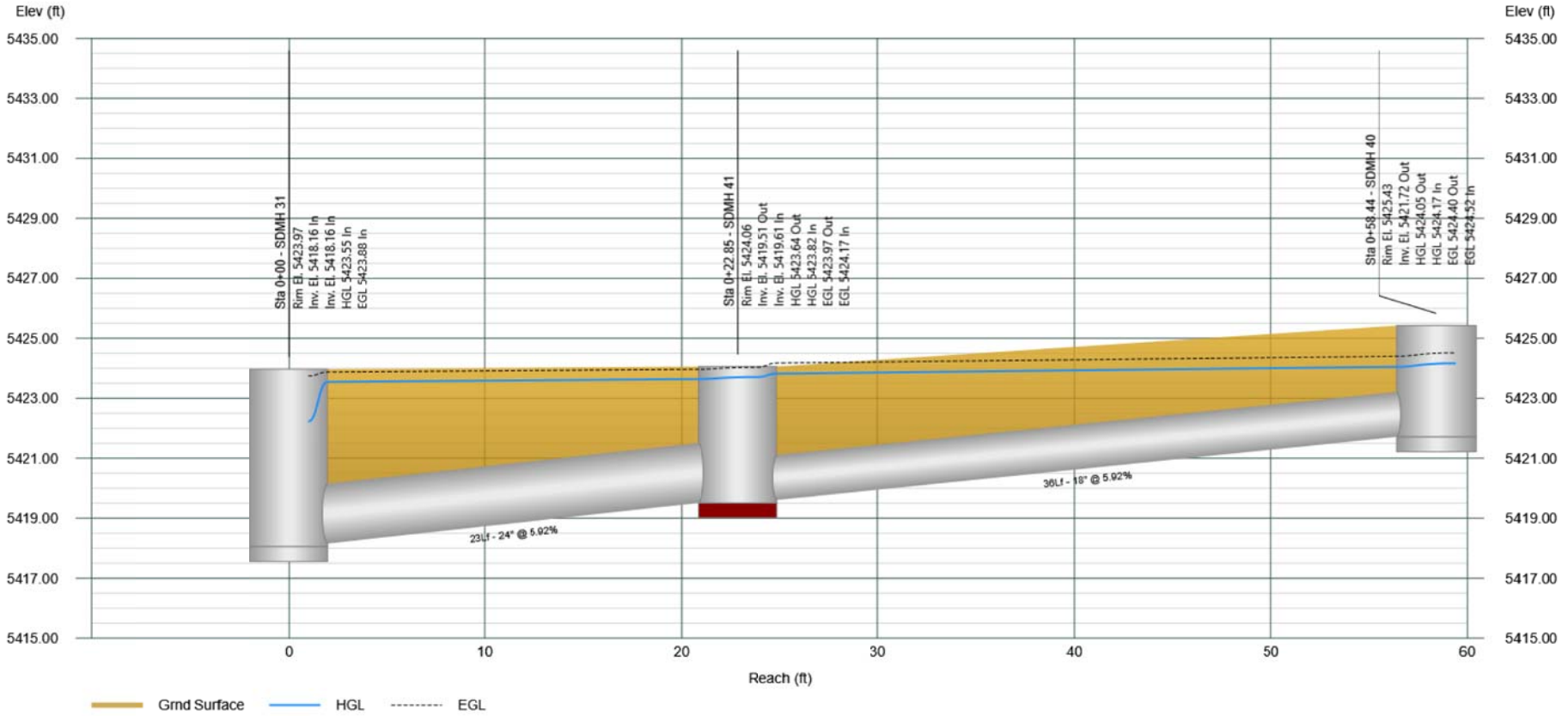
Profile View

Stormwater Studio 2024 v 3.0.0.35

SD #38, 37

Project Name: SD

03-05-2025



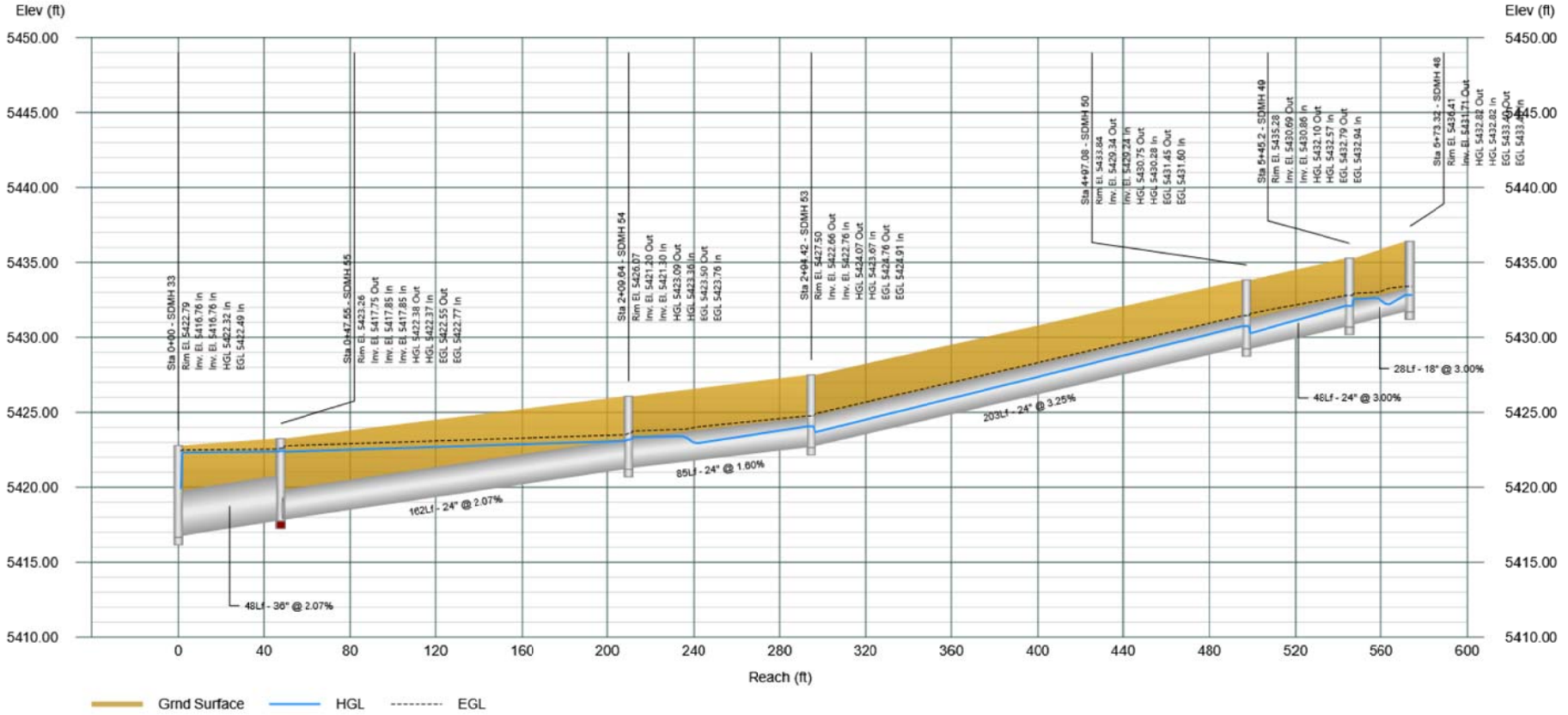
Profile View

Stormwater Studio 2024 v 3.0.0.35

SD #36, 35, 34, 33, 32, 31

Project Name: SD

03-05-2025



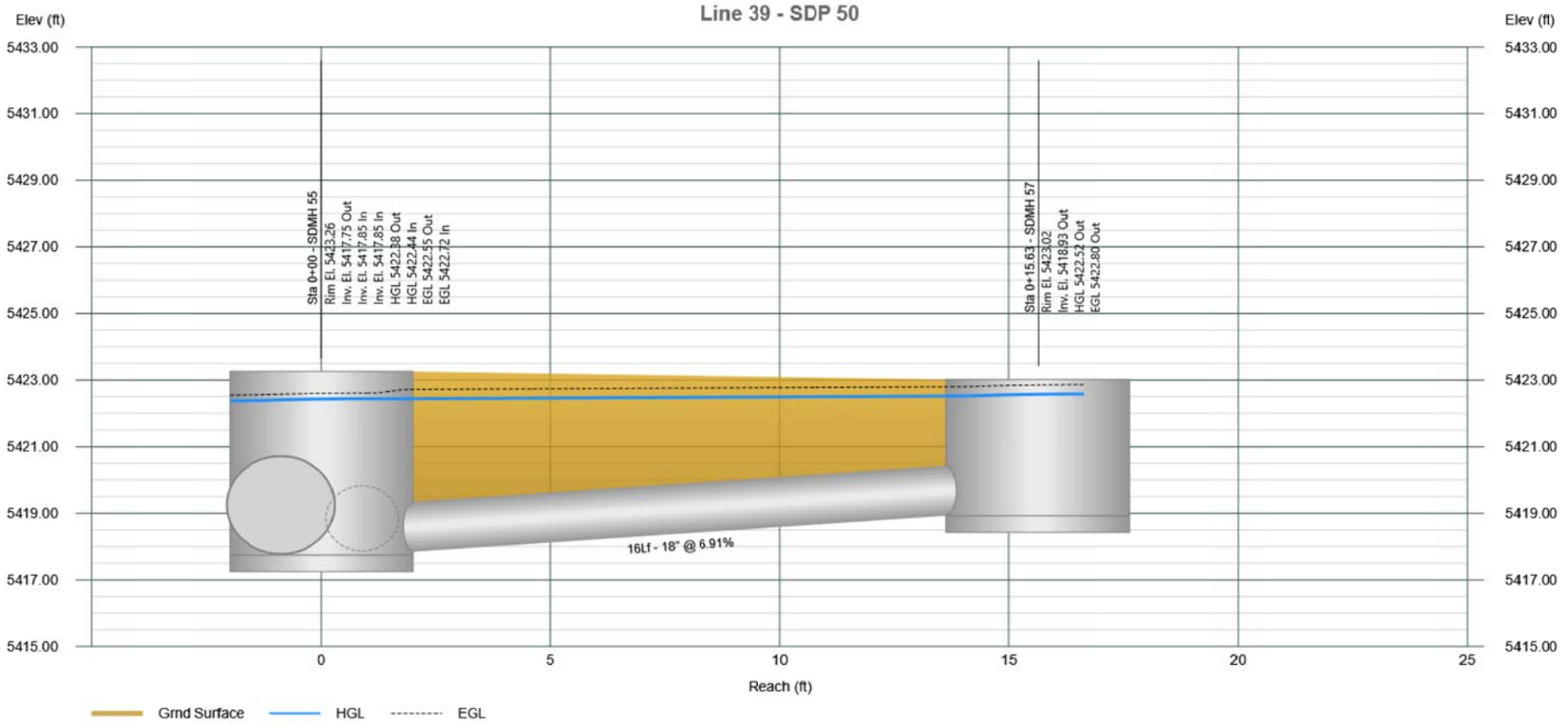
Profile View

Stormwater Studio 2024 v 3.0.0.35

SD #39

Project Name: SD

03-05-2025



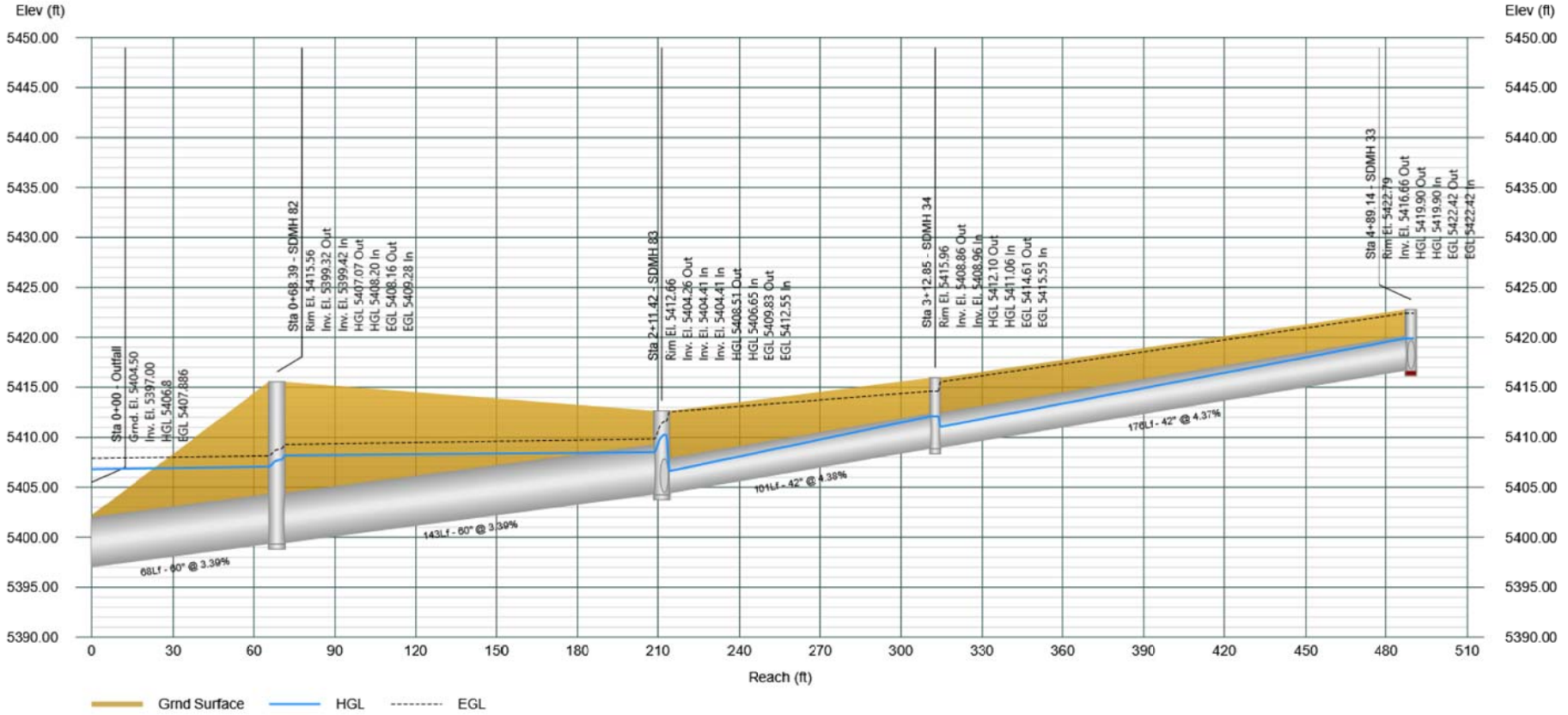
Profile View

Stormwater Studio 2024 v 3.0.0.35

SD #4, 3, 2, 1

Project Name: SD

03-05-2025



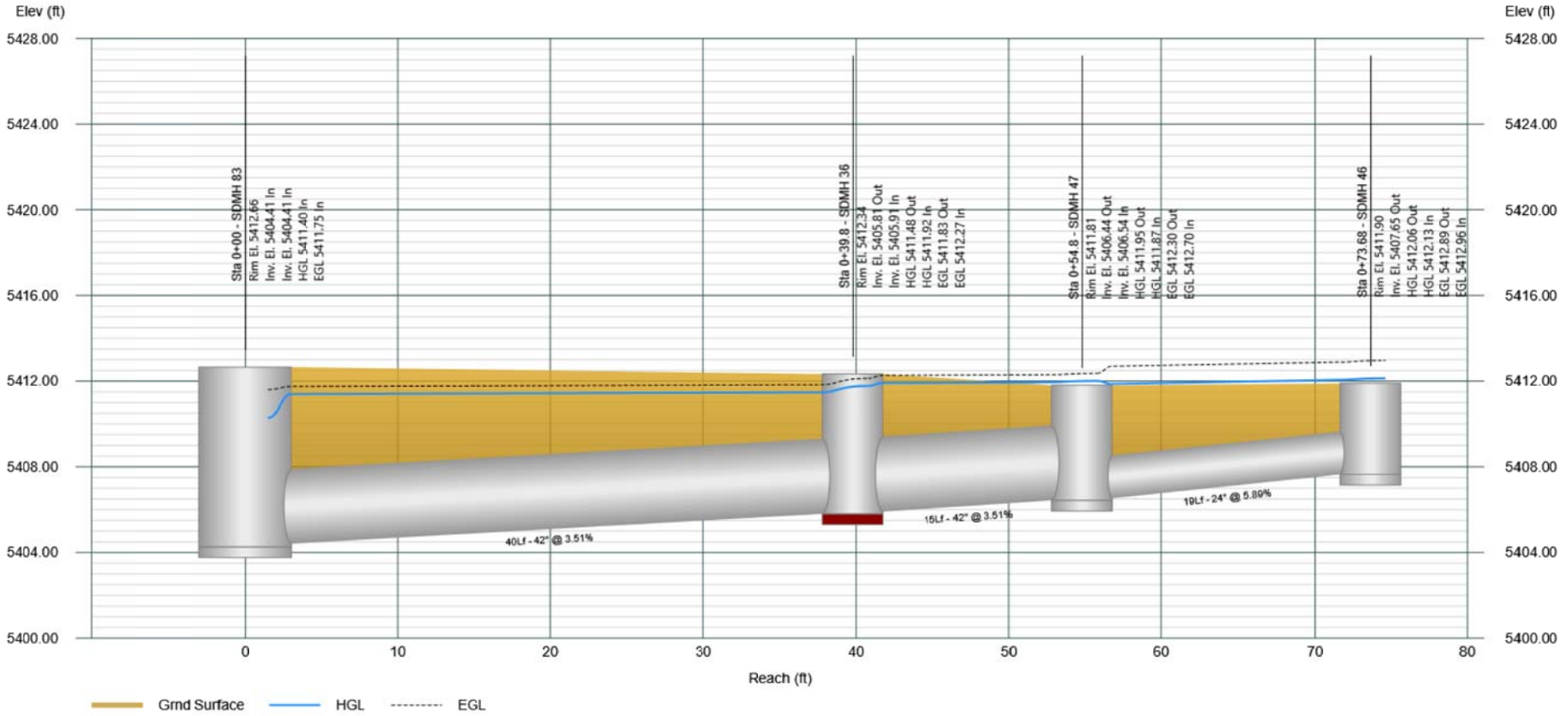
Profile View

Stormwater Studio 2024 v 3.0.0.35

SD #44, 43, 42

Project Name: SD

03-05-2025



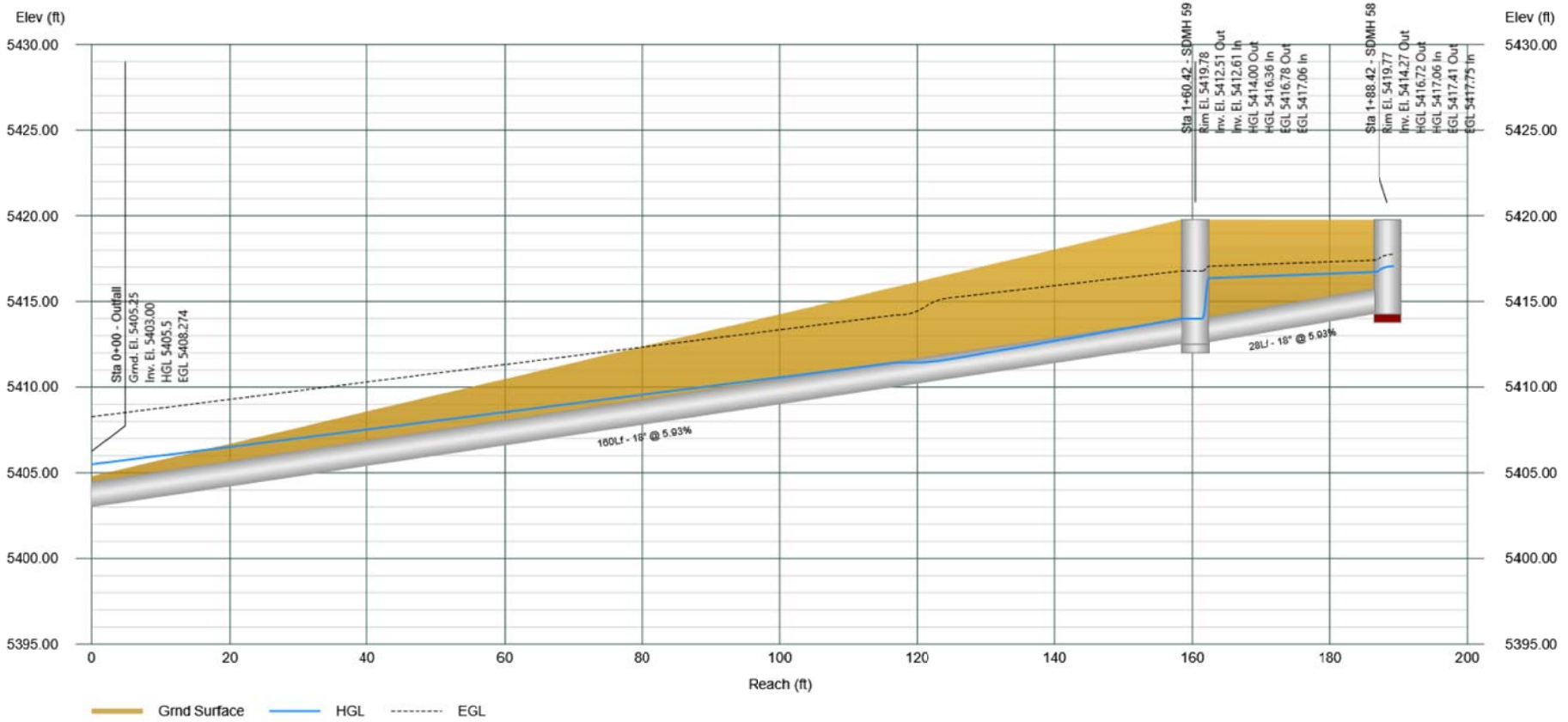
Profile View

SD #41, 40

Project Name: SD

Stormwater Studio 2024 v 3.0.0.35

03-05-2025



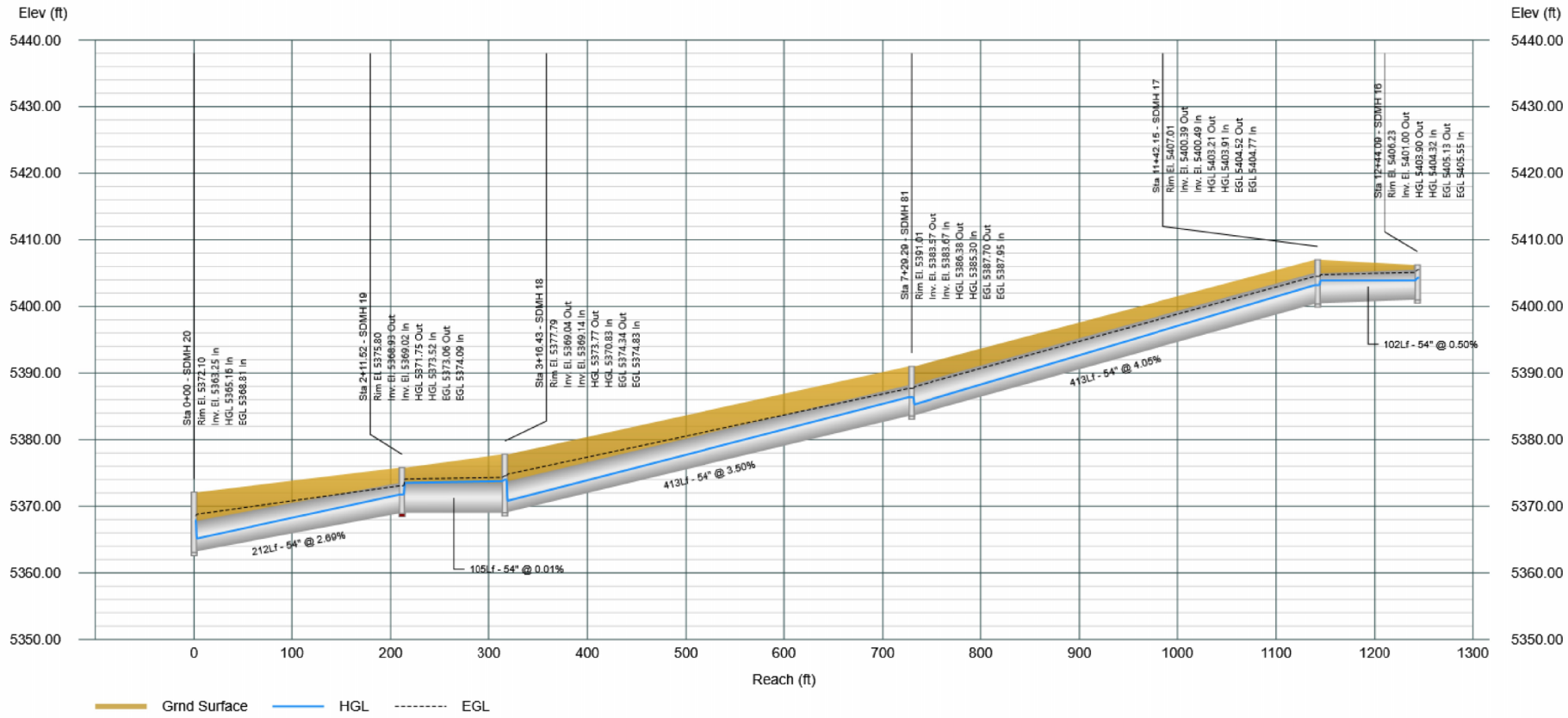
Profile View

Stormwater Studio 2024 v 3.0.0.35

SD #57, 56, 55, 54, 53

Project Name: SD

04-07-2025



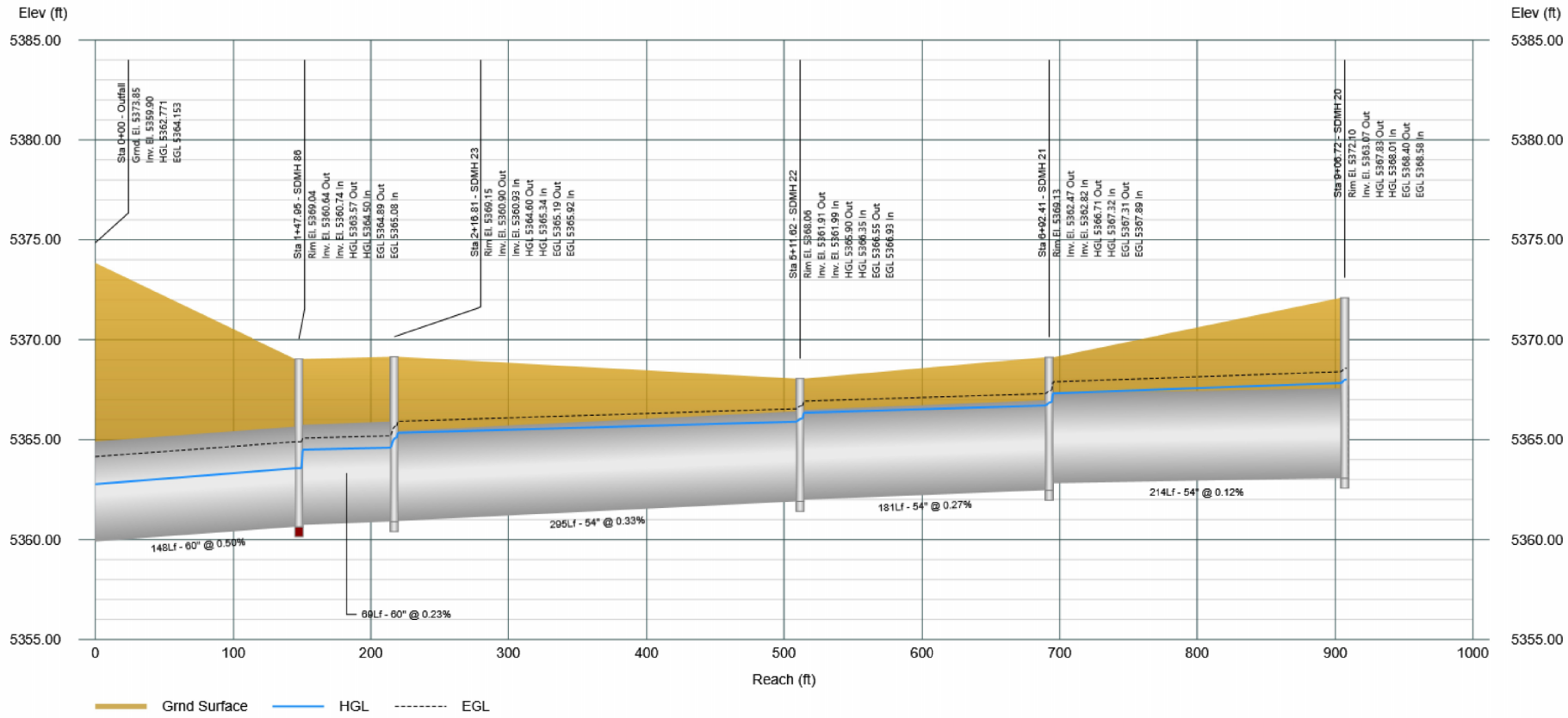
Profile View

Stormwater Studio 2024 v 3.0.0.35

SD #52, 51, 50, 49, 48

Project Name: SD

04-07-2025



APPENDIX D
DETENTION PONDS ANALYSIS

POND 1 – STAGED STORAGE

Select a Paired Data

Select | Table | Graph

Elevation (FT)	Storage (ACRE-FT)
5397	0.0
5398	0.18196
5399	0.39492
5400	0.64548
5401	0.94039
5402	1.2957
5403	1.7196
5404	2.2085
5405	2.7697
5406	3.4107
5407	4.1388

Select | Apply | Cancel

Summary Results for Reservoir "Pond-1"

Project: APS Property Pond Simulation Run: Proposed - 100yr 24hr
Reservoir: Pond-1

Start of Run: 05Sep2024, 12:00
End of Run: 06Sep2024, 12:00
Compute Time: DATA CHANGED, RECOMPUTE
Basin Model: Proposed Basins
Meteorologic Model: 100year-24hr
Control Specifications: Control 1

Volume Units: ○ IN ◉ ACRE-FT

Computed Results

Peak Inflow:	168.7 (CFS)	Date/Time of Peak Inflow:	06Sep2024, 00:09
Peak Discharge:	96.3 (CFS)	Date/Time of Peak Discharge:	06Sep2024, 00:19
Inflow Volume:	8.3 (ACRE-FT)	Peak Storage:	3.2 (ACRE-FT)
Discharge Volume:	8.1 (ACRE-FT)	Peak Elevation:	5405.7 (FT)

POND 2 – STAGED STORAGE

Select a Paired Data

Select | Table | Graph

Elevation (FT)	Storage (ACRE-FT)
5400	0.0000000
5401	0.0866540
5402	0.2491000
5403	0.4932500
5404	0.7956100
5405	1.1586000
5406	1.5848000

Select | Apply | Cancel

Summary Results for Reservoir "Pond-2"

Project: APS Property Pond Simulation Run: Proposed - 100yr 24hr
Reservoir: Pond-2

Start of Run: 05Sep2024, 12:00
End of Run: 06Sep2024, 12:00
Compute Time: DATA CHANGED, RECOMPUTE

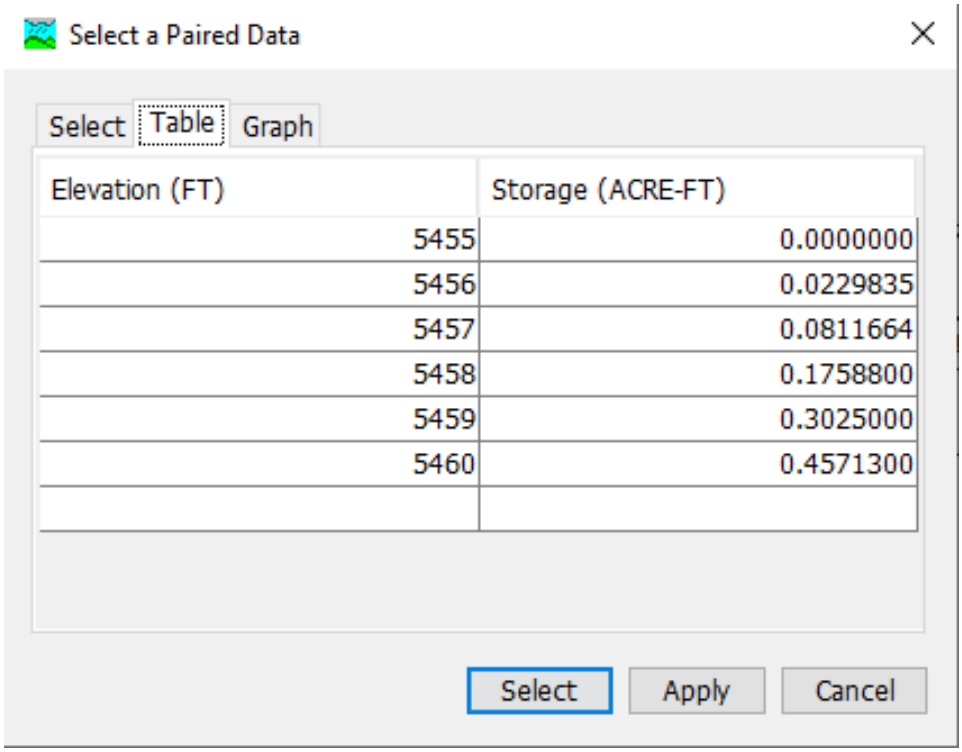
Basin Model: Proposed Basins
Meteorologic Model: 100year-24hr
Control Specifications: Control 1

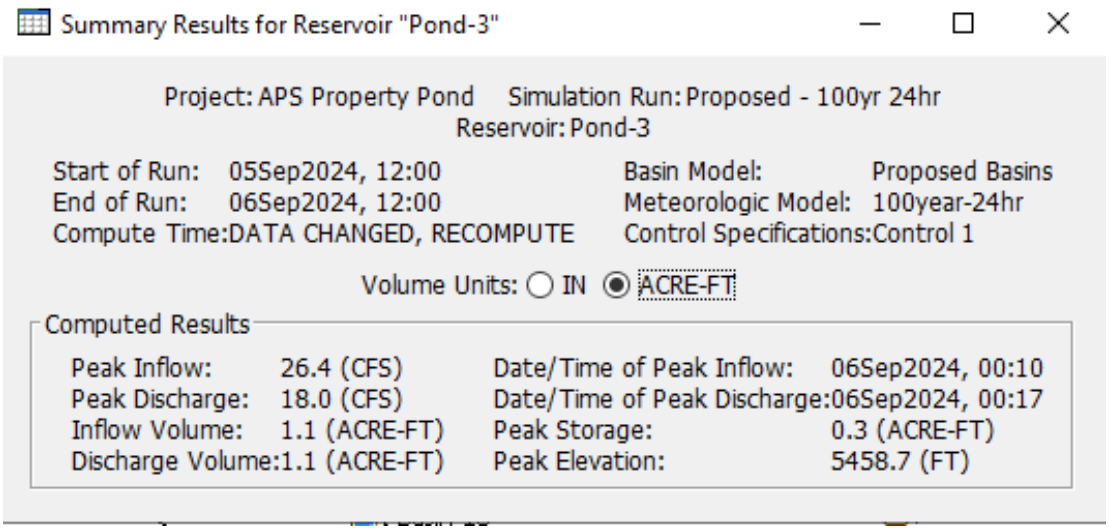
Volume Units: ○ IN ◉ ACRE-FT

Computed Results

Peak Inflow:	26.5 (CFS)	Date/Time of Peak Inflow:	06Sep2024, 00:09
Peak Discharge:	5.4 (CFS)	Date/Time of Peak Discharge:	06Sep2024, 00:31
Inflow Volume:	1.1 (ACRE-FT)	Peak Storage:	1.4 (ACRE-FT)
Discharge Volume:	0.9 (ACRE-FT)	Peak Elevation:	5405.6 (FT)

POND 3 – STAGED STORAGE





APPENDIX E
EMERGENCY SPILLWAY CALCULATIONS

Emergency Spillway Pond-1

WEIR COEFFICIENT = 2.650 X-SECTION DISTANCE = 0.100

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.0	3.1	3.0	14.5	0.7	5.0	29.0	3.0
2.0	4.5	1.1	4.0	24.5	0.0			

WSEL FT.	DEPTH INC FT.	FLOW AREA SQ.FT.	FLOW RATE (CFS)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS
0.010	0.010	0.001	0.000	0.203	0.169
0.020	0.020	0.003	0.001	0.293	0.338
0.030	0.030	0.008	0.003	0.362	0.507
0.040	0.040	0.014	0.006	0.418	0.675
0.050	0.050	0.021	0.010	0.468	0.844
0.060	0.060	0.030	0.016	0.513	1.013
0.070	0.070	0.041	0.023	0.555	1.182
0.080	0.080	0.054	0.032	0.596	1.351
0.090	0.090	0.068	0.043	0.633	1.520
0.100	0.100	0.084	0.056	0.668	1.688
0.110	0.110	0.102	0.072	0.701	1.857
0.120	0.120	0.122	0.089	0.732	2.026
0.130	0.130	0.143	0.109	0.762	2.195
0.140	0.140	0.165	0.131	0.791	2.364
0.150	0.150	0.190	0.156	0.819	2.533
0.160	0.160	0.216	0.183	0.847	2.702
0.170	0.170	0.244	0.213	0.873	2.870
0.180	0.180	0.274	0.246	0.898	3.039
0.190	0.190	0.305	0.281	0.923	3.208
0.200	0.200	0.338	0.320	0.947	3.377
0.210	0.210	0.372	0.361	0.970	3.546
0.220	0.220	0.409	0.406	0.993	3.715
0.230	0.230	0.447	0.454	1.016	3.883
0.240	0.240	0.486	0.505	1.038	4.052
0.250	0.250	0.528	0.559	1.059	4.221
0.260	0.260	0.571	0.616	1.080	4.390
0.270	0.270	0.615	0.677	1.101	4.559
0.280	0.280	0.662	0.742	1.121	4.728
0.290	0.290	0.710	0.810	1.141	4.897
0.300	0.300	0.760	0.882	1.161	5.065
0.310	0.310	0.811	0.957	1.180	5.234
0.320	0.320	0.864	1.036	1.199	5.403
0.330	0.330	0.919	1.119	1.217	5.572
0.340	0.340	0.976	1.206	1.236	5.741
0.350	0.350	1.034	1.297	1.254	5.910
0.360	0.360	1.094	1.391	1.271	6.078
0.370	0.370	1.156	1.490	1.289	6.247

WSEL FT.	DEPTH INC FT.	FLOW AREA SQ.FT.	FLOW RATE (CFS)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS
0.380	0.380	1.219	1.593	1.306	6.416
0.390	0.390	1.284	1.699	1.323	6.585
0.400	0.400	1.351	1.810	1.340	6.754
0.410	0.410	1.419	1.926	1.357	6.923
0.420	0.420	1.489	2.045	1.373	7.092
0.430	0.430	1.561	2.169	1.390	7.260
0.440	0.440	1.634	2.298	1.406	7.429
0.450	0.450	1.710	2.431	1.422	7.598
0.460	0.460	1.786	2.568	1.437	7.767
0.470	0.470	1.865	2.710	1.453	7.936
0.480	0.480	1.945	2.856	1.468	8.105
0.490	0.490	2.027	3.007	1.484	8.273
0.500	0.500	2.111	3.163	1.499	8.442
0.510	0.510	2.196	3.324	1.514	8.611
0.520	0.520	2.283	3.489	1.528	8.780
0.530	0.530	2.371	3.659	1.543	8.949
0.540	0.540	2.462	3.834	1.558	9.118
0.550	0.550	2.554	4.014	1.572	9.287
0.560	0.560	2.648	4.199	1.586	9.455
0.570	0.570	2.743	4.389	1.600	9.624
0.580	0.580	2.840	4.585	1.614	9.793
0.590	0.590	2.939	4.785	1.628	9.962
0.600	0.600	3.039	4.990	1.642	10.131
0.610	0.610	3.141	5.201	1.656	10.300
0.620	0.620	3.245	5.416	1.669	10.468
0.630	0.630	3.351	5.638	1.682	10.637
0.640	0.640	3.458	5.864	1.696	10.806
0.650	0.650	3.567	6.096	1.709	10.975
0.660	0.660	3.678	6.333	1.722	11.194
0.670	0.670	3.791	6.576	1.735	11.413
0.680	0.680	3.906	6.824	1.747	11.632
0.690	0.690	4.023	7.079	1.759	11.851
0.700	0.700	4.143	7.340	1.772	12.070
0.710	0.710	4.265	7.606	1.783	12.289
0.720	0.720	4.389	7.879	1.795	12.509
0.730	0.730	4.515	8.158	1.807	12.728
0.740	0.740	4.643	8.443	1.818	12.947
0.750	0.750	4.774	8.735	1.830	13.166
0.760	0.760	4.907	9.033	1.841	13.385
0.770	0.770	5.042	9.337	1.852	13.604
0.780	0.780	5.179	9.648	1.863	13.823
0.790	0.790	5.318	9.966	1.874	14.042
0.800	0.800	5.460	10.291	1.885	14.261
0.810	0.810	5.603	10.622	1.896	14.480
0.820	0.820	5.749	10.960	1.906	14.699
0.830	0.830	5.897	11.305	1.917	14.918

0.840	0.840	6.048	11.657	1.928	15.138
0.850	0.850	6.200	12.016	1.938	15.357
0.860	0.860	6.355	12.382	1.949	15.576
0.870	0.870	6.512	12.755	1.959	15.795
0.880	0.880	6.671	13.136	1.969	16.014
0.890	0.890	6.832	13.524	1.980	16.233
0.900	0.900	6.995	13.919	1.990	16.452
0.910	0.910	7.161	14.321	2.000	16.671
0.920	0.920	7.329	14.731	2.010	16.890
0.930	0.930	7.499	15.148	2.020	17.109
0.940	0.940	7.671	15.573	2.030	17.328
0.950	0.950	7.845	16.005	2.040	17.547
0.960	0.960	8.022	16.445	2.050	17.767
0.970	0.970	8.201	16.893	2.060	17.986
0.980	0.980	8.382	17.348	2.070	18.205
0.990	0.990	8.565	17.811	2.080	18.424
1.000	1.000	8.750	18.282	2.089	18.643
1.010	1.010	8.938	18.761	2.099	18.862
1.020	1.020	9.127	19.248	2.109	19.081
1.030	1.030	9.319	19.743	2.119	19.300
1.040	1.040	9.513	20.246	2.128	19.519
1.050	1.050	9.710	20.757	2.138	19.738
1.060	1.060	9.908	21.276	2.147	19.957
1.070	1.070	10.109	21.804	2.157	20.176
1.080	1.080	10.312	22.339	2.166	20.396
1.090	1.090	10.517	22.883	2.176	20.615
WSEL	DEPTH INC	FLOW AREA	FLOW RATE	FLOW VEL	TOPWID PLUS
FT.	FT.	SQ.FT.	(CFS)	(FPS)	OBSTRUCTIONS
1.100	1.100	10.724	23.435	2.185	20.834
1.110	1.110	10.933	23.996	2.195	21.053
1.120	1.120	11.145	24.565	2.204	21.272
1.130	1.130	11.359	25.142	2.214	21.491
1.140	1.140	11.575	25.729	2.223	21.710
1.150	1.150	11.792	26.323	2.232	21.748
1.160	1.160	12.010	26.925	2.242	21.785
1.170	1.170	12.228	27.535	2.252	21.823
1.180	1.180	12.446	28.152	2.262	21.860
1.190	1.190	12.665	28.777	2.272	21.898
1.200	1.200	12.884	29.409	2.283	21.935
1.210	1.210	13.104	30.048	2.293	21.973
1.220	1.220	13.324	30.694	2.304	22.010
1.230	1.230	13.544	31.346	2.314	22.048
1.240	1.240	13.764	32.006	2.325	22.085
1.250	1.250	13.985	32.672	2.336	22.123
1.260	1.260	14.207	33.345	2.347	22.160
1.270	1.270	14.429	34.025	2.358	22.198
1.280	1.280	14.651	34.711	2.369	22.235
1.290	1.290	14.873	35.403	2.380	22.273

1.300	1.300	15.096	36.102	2.391	22.310
1.310	1.310	15.320	36.808	2.403	22.348
1.320	1.320	15.543	37.519	2.414	22.385
1.330	1.330	15.767	38.237	2.425	22.423
1.340	1.340	15.992	38.962	2.436	22.460
1.350	1.350	16.216	39.692	2.448	22.498
1.360	1.360	16.442	40.428	2.459	22.535
1.370	1.370	16.667	41.171	2.470	22.573
1.380	1.380	16.893	41.920	2.481	22.610
1.390	1.390	17.119	42.675	2.493	22.648
1.400	1.400	17.346	43.436	2.504	22.685
1.410	1.410	17.573	44.202	2.515	22.723
1.420	1.420	17.801	44.975	2.527	22.760
1.430	1.430	18.028	45.754	2.538	22.798
1.440	1.440	18.256	46.539	2.549	22.835
1.450	1.450	18.485	47.329	2.560	22.873
1.460	1.460	18.714	48.125	2.572	22.910
1.470	1.470	18.943	48.928	2.583	22.948
1.480	1.480	19.173	49.736	2.594	22.985
1.490	1.490	19.403	50.549	2.605	23.023
1.500	1.500	19.633	51.369	2.616	23.060
1.510	1.510	19.864	52.194	2.628	23.098
1.520	1.520	20.095	53.025	2.639	23.135
1.530	1.530	20.327	53.862	2.650	23.173
1.540	1.540	20.559	54.704	2.661	23.210
1.550	1.550	20.791	55.552	2.672	23.248
1.560	1.560	21.024	56.406	2.683	23.285
1.570	1.570	21.257	57.265	2.694	23.323
1.580	1.580	21.490	58.130	2.705	23.360
1.590	1.590	21.724	59.000	2.716	23.398
1.600	1.600	21.958	59.876	2.727	23.435
1.610	1.610	22.193	60.757	2.738	23.473
1.620	1.620	22.428	61.644	2.749	23.510
1.630	1.630	22.663	62.537	2.759	23.548
1.640	1.640	22.898	63.435	2.770	23.585
1.650	1.650	23.134	64.338	2.781	23.623
1.660	1.660	23.371	65.247	2.792	23.660
1.670	1.670	23.608	66.161	2.803	23.698
1.680	1.680	23.845	67.081	2.813	23.735
WSEL	DEPTH INC	FLOW AREA	FLOW RATE	FLOW VEL	TOPWID PLUS
FT.	FT.	SQ.FT.	(CFS)	(FPS)	OBSTRUCTIONS
1.690	1.690	24.082	68.007	2.824	23.773
1.700	1.700	24.320	68.937	2.835	23.810
1.710	1.710	24.559	69.873	2.845	23.848
1.720	1.720	24.797	70.815	2.856	23.885
1.730	1.730	25.036	71.761	2.866	23.923
1.740	1.740	25.276	72.714	2.877	23.960
1.750	1.750	25.515	73.671	2.887	23.998

1.760	1.760	25.756	74.634	2.898	24.035
1.770	1.770	25.996	75.602	2.908	24.073
1.780	1.780	26.237	76.576	2.919	24.110
1.790	1.790	26.478	77.554	2.929	24.148
1.800	1.800	26.720	78.538	2.939	24.185
1.810	1.810	26.962	79.528	2.950	24.223
1.820	1.820	27.205	80.522	2.960	24.260
1.830	1.830	27.447	81.522	2.970	24.298
1.840	1.840	27.690	82.527	2.980	24.335
1.850	1.850	27.934	83.538	2.991	24.373
1.860	1.860	28.178	84.553	3.001	24.410
1.870	1.870	28.422	85.574	3.011	24.448
1.880	1.880	28.667	86.600	3.021	24.485
1.890	1.890	28.912	87.632	3.031	24.523
1.900	1.900	29.157	88.668	3.041	24.560
1.910	1.910	29.403	89.710	3.051	24.598
1.920	1.920	29.649	90.757	3.061	24.635
1.930	1.930	29.896	91.808	3.071	24.673
1.940	1.940	30.143	92.866	3.081	24.710
1.950	1.950	30.390	93.928	3.091	24.748
1.960	1.960	30.638	94.996	3.101	24.785
1.970	1.970	30.886	96.068	3.110	24.823
1.980	1.980	31.134	97.146	3.120	24.860
1.990	1.990	31.383	98.229	3.130	24.898
2.000	2.000	31.632	99.317	3.140	24.935
2.010	2.010	31.882	100.410	3.149	24.973
2.020	2.020	32.132	101.508	3.159	25.010
2.030	2.030	32.382	102.612	3.169	25.048
2.040	2.040	32.632	103.720	3.178	25.085
2.050	2.050	32.883	104.834	3.188	25.123
2.060	2.060	33.135	105.952	3.198	25.160
2.070	2.070	33.387	107.076	3.207	25.198
2.080	2.080	33.639	108.205	3.217	25.235
2.090	2.090	33.891	109.339	3.226	25.273
2.100	2.100	34.144	110.478	3.236	25.310
2.110	2.110	34.398	111.622	3.245	25.348
2.120	2.120	34.651	112.771	3.254	25.385
2.130	2.130	34.905	113.925	3.264	25.423
2.140	2.140	35.160	115.084	3.273	25.460
2.150	2.150	35.414	116.248	3.283	25.498
2.160	2.160	35.670	117.417	3.292	25.535
2.170	2.170	35.925	118.592	3.301	25.573
2.180	2.180	36.181	119.771	3.310	25.610
2.190	2.190	36.437	120.955	3.320	25.648
2.200	2.200	36.694	122.145	3.329	25.685
2.210	2.210	36.951	123.339	3.338	25.723
2.220	2.220	37.208	124.538	3.347	25.760
2.230	2.230	37.466	125.743	3.356	25.798
2.240	2.240	37.724	126.952	3.365	25.835
2.250	2.250	37.983	128.166	3.374	25.873

WSEL FT.	DEPTH INC FT.	FLOW AREA SQ.FT.	FLOW RATE (CFS)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS
2.260	2.260	38.242	129.385	3.383	25.910
2.270	2.270	38.501	130.610	3.392	25.948
2.280	2.280	38.761	131.839	3.401	25.985
2.290	2.290	39.021	133.073	3.410	26.023
2.300	2.300	39.281	134.312	3.419	26.060
2.310	2.310	39.542	135.557	3.428	26.098
2.320	2.320	39.803	136.806	3.437	26.135
2.330	2.330	40.065	138.060	3.446	26.173
2.340	2.340	40.327	139.319	3.455	26.210
2.350	2.350	40.589	140.583	3.464	26.248
2.360	2.360	40.852	141.852	3.472	26.285
2.370	2.370	41.115	143.126	3.481	26.323
2.380	2.380	41.378	144.405	3.490	26.360
2.390	2.390	41.642	145.689	3.499	26.398
2.400	2.400	41.906	146.977	3.507	26.435
2.410	2.410	42.171	148.271	3.516	26.473
2.420	2.420	42.435	149.570	3.525	26.510
2.430	2.430	42.701	150.873	3.533	26.548
2.440	2.440	42.966	152.182	3.542	26.585
2.450	2.450	43.232	153.495	3.550	26.623
2.460	2.460	43.499	154.813	3.559	26.660
2.470	2.470	43.766	156.137	3.568	26.698
2.480	2.480	44.033	157.465	3.576	26.735
2.490	2.490	44.300	158.798	3.585	26.773
2.500	2.500	44.568	160.136	3.593	26.810
2.510	2.510	44.837	161.479	3.601	26.848
2.520	2.520	45.105	162.827		
2.530	2.530	45.374	164.179	3.618	26.923
2.540	2.540	45.644	165.537	3.627	26.960
2.550	2.550	45.913	166.900	3.635	26.998
2.560	2.560	46.184	168.267	3.643	27.035
2.570	2.570	46.454	169.639	3.652	27.073
2.580	2.580	46.725	171.017	3.660	27.110
2.590	2.590	46.996	172.399	3.668	27.148
2.600	2.600	47.268	173.786	3.677	27.185
2.610	2.610	47.540	175.178	3.685	27.223
2.620	2.620	47.812	176.574	3.693	27.260
2.630	2.630	48.085			27.298
2.640	2.640	48.358			27.335
2.650	2.650	48.632			27.373
2.660	2.660	48.906			27.410
2.670	2.670	49.180			27.448
2.680	2.680	49.455			27.485
2.690	2.690	49.730			27.522
2.700	2.700	50.005			27.560
2.710	2.710	50.281			27.598

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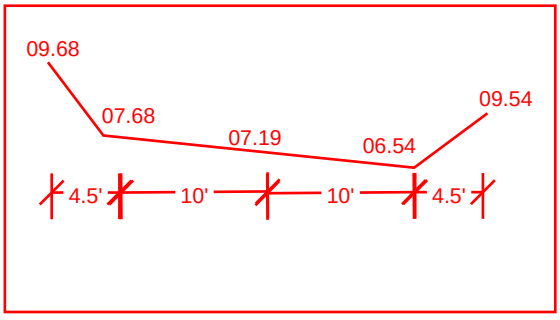


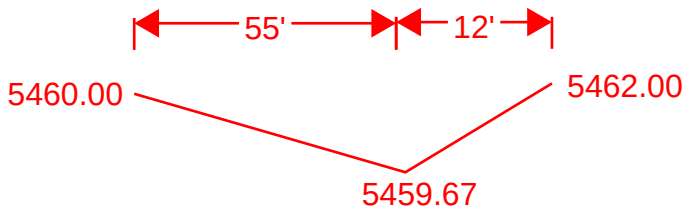
2.720	2.720	50.557	190.811	3.774	27.635
2.730	2.730	50.834	192.261	3.782	27.672
2.740	2.740	51.111	193.716	3.790	27.710
2.750	2.750	51.388	195.177	3.798	27.747
2.760	2.760	51.666	196.642	3.806	27.785
2.770	2.770	51.944	198.112	3.814	27.822
2.780	2.780	52.222	199.586	3.822	27.860
2.790	2.790	52.501	201.066	3.830	27.897
2.800	2.800	52.780	202.550	3.838	27.935
2.810	2.810	53.060	204.040	3.845	27.972
2.820	2.820	53.339	205.534	3.853	28.010
2.830	2.830	53.620	207.033	3.861	28.047
2.840	2.840	53.900	208.537	3.869	28.085
2.850	2.850	54.181	210.046	3.877	28.122
2.860	2.860	54.463	211.559	3.884	28.160
WSEL	DEPTH	FLOW	FLOW	FLOW	TOPWID
	INC	AREA	RATE	VEL	PLUS
FT.	FT.	SQ.FT.	(CFS)	(FPS)	OBSTRUCTIONS
2.870	2.870	54.745	213.078	3.892	28.197
2.880	2.880	55.027	214.601	3.900	28.235
2.890	2.890	55.309	216.129	3.908	28.272
2.900	2.900	55.592	217.663	3.915	28.310
2.910	2.910	55.876	219.200	3.923	28.347
2.920	2.920	56.159	220.743	3.931	28.385
2.930	2.930	56.443	222.291	3.938	28.422
2.940	2.940	56.728	223.843	3.946	28.460
2.950	2.950	57.012	225.400	3.954	28.497
2.960	2.960	57.298	226.962	3.961	28.535
2.970	2.970	57.583	228.529	3.969	28.572
2.980	2.980	57.869	230.101	3.976	28.610
2.990	2.990	58.155	231.678	3.984	28.647
3.000	3.000	58.442	233.259	3.991	28.685

Emergency Spillway Pond-3

WEIR COEFFICIENT = 2.650 X-SECTION DISTANCE = 0.100

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.0	0.3	2.0	55.0	0.0	3.0	67.0	2.3

WSEL FT.	DEPTH INC FT.	FLOW AREA SQ.FT.	FLOW RATE (CFS)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS
0.010	0.010	0.009	0.002	0.211	1.718
0.020	0.020	0.034	0.010	0.299	3.436
0.030	0.030	0.077	0.028	0.367	5.155
0.040	0.040	0.137	0.058	0.424	6.873
0.050	0.050	0.215	0.102	0.474	8.591
0.060	0.060	0.309	0.161	0.519	10.309
0.070	0.070	0.421	0.236	0.561	12.027
0.080	0.080	0.550	0.330	0.599	13.745
0.090	0.090	0.696	0.442	0.636	15.464
0.100	0.100	0.859	0.576	0.670	17.182
0.110	0.110	1.039	0.731	0.703	18.900
0.120	0.120	1.237	0.908	0.734	20.618
0.130	0.130	1.452	1.110	0.764	22.336
0.140	0.140	1.684	1.336	0.793	24.054
0.150	0.150	1.933	1.587	0.821	25.773
0.160	0.160	2.199	1.865	0.848	27.491
0.170	0.170	2.483	2.170	0.874	29.209
0.180	0.180	2.783	2.503	0.899	30.927
0.190	0.190	3.101	2.866	0.924	32.645
0.200	0.200	3.436	3.258	0.948	34.363
0.210	0.210	3.789	3.680	0.971	36.082
0.220	0.220	4.158	4.134	0.994	37.800
0.230	0.230	4.545	4.620	1.017	39.518
0.240	0.240	4.948	5.139	1.039	41.236
0.250	0.250	5.369	5.691	1.060	42.954
0.260	0.260	5.807	6.278	1.081	44.672
0.270	0.270	6.263	6.899	1.102	46.391
0.280	0.280	6.735	7.555	1.122	48.109
0.290	0.290	7.225	8.248	1.142	49.827
0.300	0.300	7.732	8.978	1.161	51.545
0.310	0.310	8.256	9.745	1.180	53.263
0.320	0.320	8.797	10.550	1.199	54.981



APPENDIX F
MANUFACTURES CURVILINEAR PIPE RECOMMENDATIONS

6560 Langfield Rd. Bldg. 3
Houston, Texas 77092
832-590-5300
832-590-5399 (fax)

September 13, 2018

12" – 108" Gasketed Joint Concrete Pipe (RCP)
Bernalillo Facility
Albuquerque, New Mexico

The 12" – 108" RCP rubber gasket pipe joint that is currently produced at our Bernalillo facility is designed to provide an adequate seal when the joint is not fully 'homed'. The allowable joint gaps that will still maintain an adequate seal for these sizes are listed below.

Pipe Diameter	Allowable Joint Gap
12"	0.75"
15"	0.75"
18"	0.75"
24"	0.75"
30"	1.00"
36"	1.00"
48"	1.00"
54"	1.00"
60"	1.00"
66"	1.00"
72"	1.00"
78"	1.00"
84"	1.00"
90"	1.00"
96	1.00"
102"	1.00"
108"	1.00"

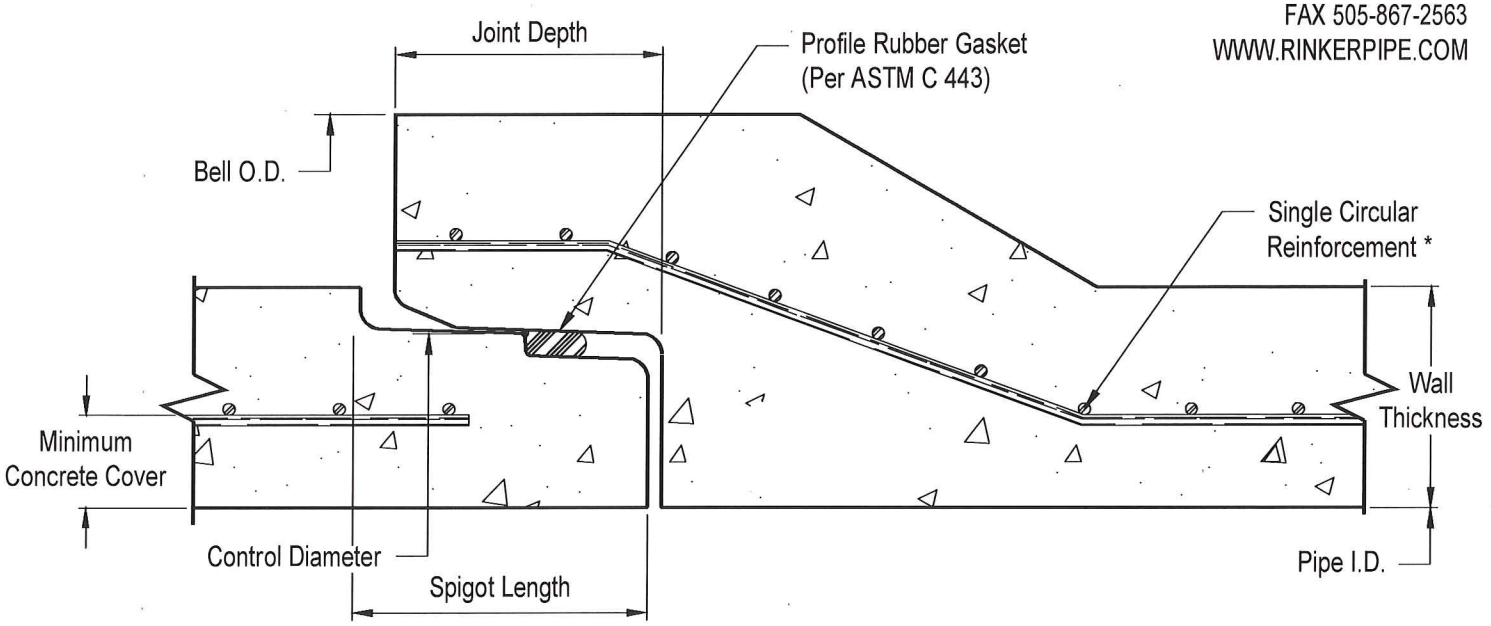
Steve Hiner, P.E.
Director – Product Development/Corporate Engineer
Rinker Materials
6560 Langfield Road
Houston, TX 77092
832-590-5351 (work)
281-435-8237 (cell)
www.lovicks.hiner@rinkerpipe.com

Rinker MATERIALS™
A QUIKRETE® COMPANY

Concrete Pipe Division

ALBUQUERQUE, NM PIPE (BERNALILLO)
3700 HIGHWAY 528
BERNALILLO, NM 87004-6600
PHONE 505-867-2394
FAX 505-867-2563
WWW.RINKERPIPE.COM

Reinforced Concrete Pipe (RCP)
Single Offset Joint 12"Ø - 36"Ø Diameter



Section Thru Joint

12"Ø to 36"Ø RCP (Big Bell Single Offset Joint) w/ Single Cage Reinforcement								
Pipe I.D. (Nom.)	Wall Thickness	Joint Depth	Spigot Length	Control Diameter	Gasket Height	Bell O.D.	RCP Length	Weight (Lbs./Foot)
12"Ø	2" (B)	3 5/8"	3 3/4"	15 1/4"Ø	3/4"	20"Ø	8'	95
15"Ø	2 1/4" (B)	3 5/8"	3 3/4"	18 3/4"Ø	3/4"	23 7/8"Ø	8'	130
18"Ø	2 1/2" (B)	3 5/8"	3 3/4"	22 1/8"Ø	3/4"	27 3/4"Ø	8'	175
24"Ø	3" (B)	3 7/8"	4"	29"Ø	3/4"	35 1/2"Ø	8'	275
30"Ø	3 1/2" (B)	4 5/8"	4 3/4"	35 5/8"Ø	13/16"	42 1/4"Ø	8'	395
36"Ø	4" (B)	4 7/8"	5"	42 5/16"Ø	13/16"	50 1/4"Ø	8'	540
"X" RCP (size & class) are included as part of the submittal for the project identified on the cover letter herein.								

NOTES:

1. Reinforced Concrete Pipe (RCP) manufactured to meet ASTM C76 & AASHTO M170 specifications (latest edition). RCP strength classification requirements as per project requirements and or determined by a qualified engineer.
* 2. Product Data subject to change without notice, reinforcement shown may vary.
3. Profile rubber gaskets are furnished with the pipe and will meet the performance requirements of ASTM C443.
4. Consult a Rinker Materials representative for further details and information not shown.

Rinker MATERIALS™
A QUIKRETE® COMPANY

Concrete Pipe Division

ALBUQUERQUE, NM PIPE (BERNALILLO)
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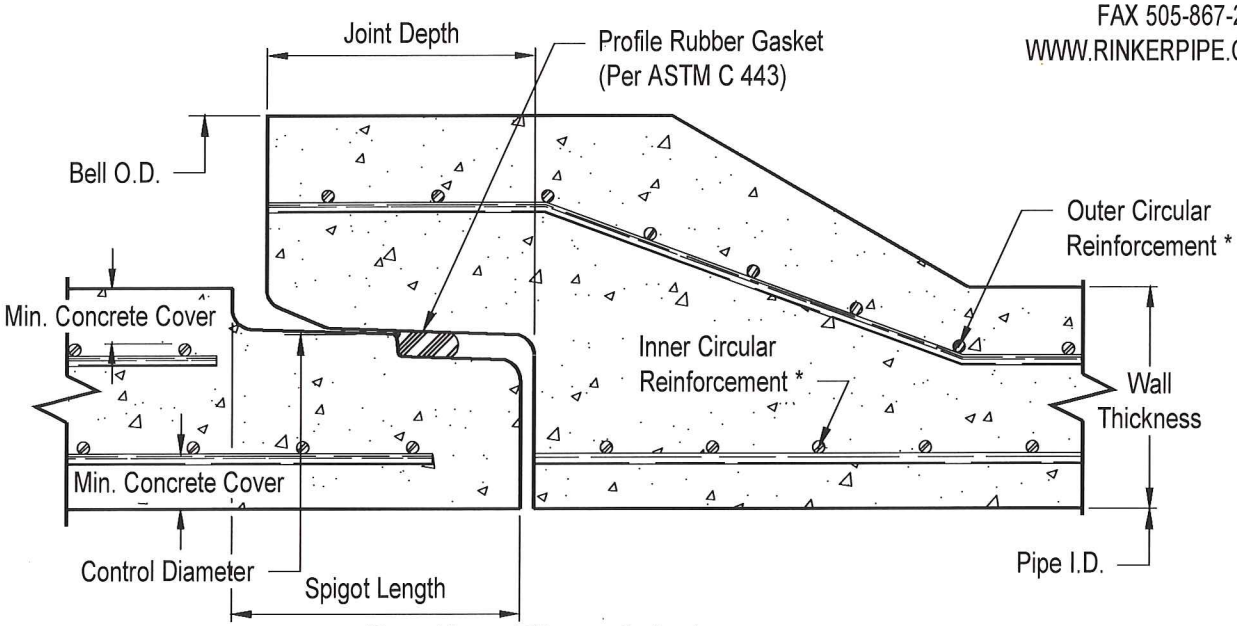
WWW.RINKERPIPE.COM

Reinforced Concrete Pipe (RCP)
Single Offset Joint 30"Ø - 72"Ø Diameter



Section Thru Joint

30"Ø to 72"Ø RCP (Big Bell Single Offset Joint) w/ Double Cage Reinforcement

Pipe I.D. (Nom.)	Wall Thickness	Joint Depth	Spigot Length	Control Diameter	Gasket Height	Bell O.D.	RCP Length	Weight (Lbs./Foot)
30"Ø	3 1/2" (B)	4 5/8"	4 3/4"	35 5/8"Ø	13/16"	42 1/4"Ø	8'	395
36"Ø	4" (B)	4 7/8"	5"	42 5/16"Ø	13/16"	50 1/4"Ø	8'	540
42"Ø	4 1/2" (B)	5 1/4"	5 3/8"	49 5/16"Ø	13/16"	58"Ø	8'	705
48"Ø	5" (B)	5 1/2"	5 5/8"	55 5/16"Ø	13/16"	64"Ø	8'	895
54"Ø	6 1/4" (C)	5 1/2"	5 5/8"	61 1/4"Ø	13/16"	70"Ø	8'	1270
60"Ø	6 3/4" (C)	5 1/2"	5 5/8"	67 1/4"Ø	13/16"	76"Ø	8'	1525
66"Ø	7 1/4" (C)	5 1/2"	5 5/8"	73 1/4"Ø	13/16"	82"Ø	8'	1800
72"Ø	7 3/4" (C)	5 1/2"	5 5/8"	79 1/4"Ø	13/16"	88"Ø	8'	2090

"X" RCP (size & class) are included as part of the submittal for the project identified on the cover letter herein.

NOTES:

1. Reinforced Concrete Pipe (RCP) manufactured to meet ASTM C76 & AASHTO M170 specifications (latest edition). RCP strength classification requirements as per project requirements and or determined by a qualified engineer.
* 2. Product Data subject to change without notice, reinforcement shown may vary.
3. Profile rubber gaskets are furnished with the pipe and will meet the performance requirements of ASTM C443.
4. Consult a Rinker Materials representative for further details and information not shown.

Rinker MATERIALS™
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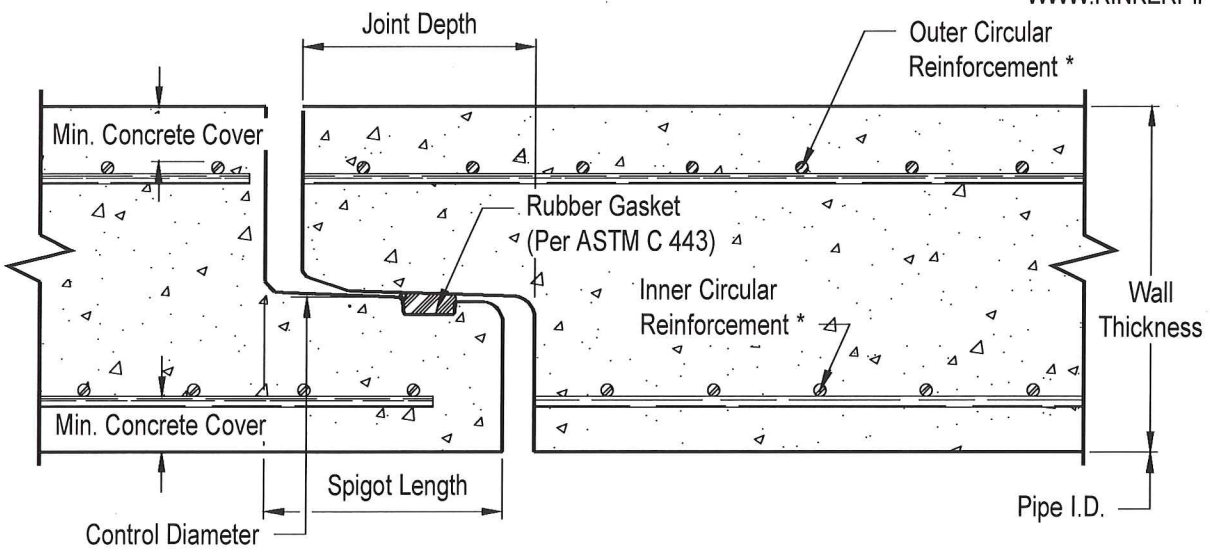
Reinforced Concrete Pipe (RCP)
Rubber Gasket Joint 78"Ø - 96"Ø Diameter



Section Thru Joint

78"Ø to 96"Ø RCP (Flush Bell Rubber Gasket Joint) w/ Double Cage Reinforcement								
Pipe I.D. (Nom.)	Wall Thickness	Joint Depth	Spigot Length	Control Diameter	Gasket Height	Pipe O.D.	RCP Length	Weight (Lbs./Foot)
78"Ø	8 1/4" (C)	5 1/2"	5 5/8"	85 1/4"Ø	13/16"	94 1/2"Ø	8'	2410
84"Ø	8" (B)	5 3/4"	5 7/8"	91"Ø	13/16"	100"Ø	8'	2490
90"Ø	8 1/2" (B)	6 1/8"	6 1/4"	97 1/2"Ø	13/16"	107"Ø	8'	2830
96"Ø	9" (B)	6 5/8"	6 3/4"	104"Ø	13/16"	114"Ø	8'	3195
"X" RCP (size & class) are included as part of the submittal for the project identified on the cover letter herein.								

NOTES:

1. Reinforced Concrete Pipe (RCP) manufactured to meet ASTM C76 & AASHTO M170 specifications (latest edition). RCP strength classification requirements as per project requirements and or determined by a qualified engineer.
* 2. Product Data subject to change without notice, reinforcement shown may vary.
3. Rubber gaskets are furnished with the pipe and will meet the performance requirements of ASTM C443.
4. Consult a Rinker Materials representative for further details and information not shown.

Curved Alignment

Changes in direction of sewer lines are usually accomplished at manhole structures. Grade and alignment changes in concrete pipe sewers, however, can be incorporated into the line through the use of deflected straight pipe, radius pipe or specials.

DEFLECTED STRAIGHT PIPE

With concrete pipe installed in straight alignment and the joints in a home (or normal) position, the joint space, or distance between the ends of adjacent pipe sections, is essentially uniform around the periphery of the pipe. Starting from this home position any joint may be opened up to the maximum permissible on one side while the other side remains in the home position. The difference between the home and opened joint space is generally designated as the pull. The maximum permissible pull must be limited to that opening which will provide satisfactory joint performance. This varies for different joint configurations and is best obtained from the pipe manufacturer.

The radius of curvature which may be obtained by this method is a function of the deflection angle per joint (joint opening), diameter of the pipe and the length of the pipe sections.

The radius of curvature is computed by the equation:

$$R = \frac{L}{2\left(\text{TAN}\ \frac{1}{2}\ \frac{\Delta}{N}\right)} \qquad (1)$$

where:

- R = radius of curvature, feet
- L = length of pipe sections measured along the centerline, feet
- Δ = total deflection angle of curve, degrees
- N = number of pipe with pulled joints
- $\frac{\Delta}{N}$ = total deflection of each pipe, degrees

From Figure 1, the deflection angle $\frac{1}{2}\ \frac{D}{N}$ is further defined as:

$$\frac{1}{2}\ \frac{\Delta}{N} = \text{SIN}^{-1}\ \frac{\text{PULL}}{2(D + 2t)} \text{ or } \text{SIN}^{-1}\ \frac{\text{PULL}}{2B_c} \qquad (2)$$

where:

- PULL = joint opening, inches
- D = inside pipe diameter, inches
- t = wall thickness, inches

Figure 1 Deflected Straight Pipe

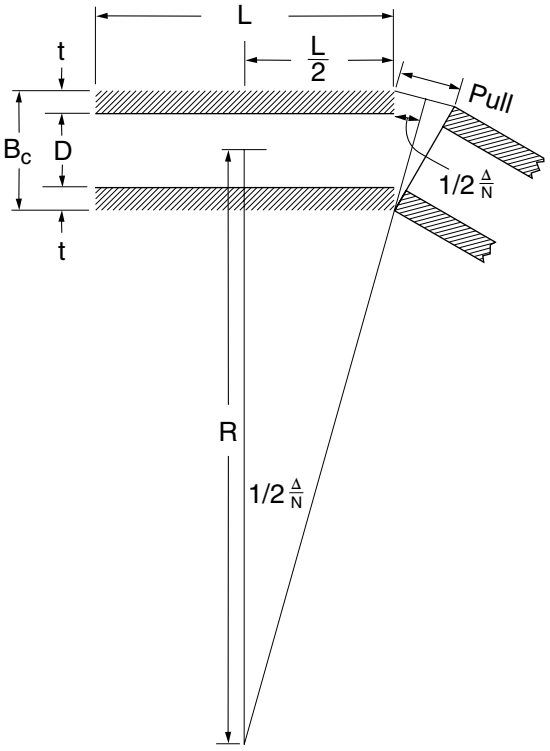
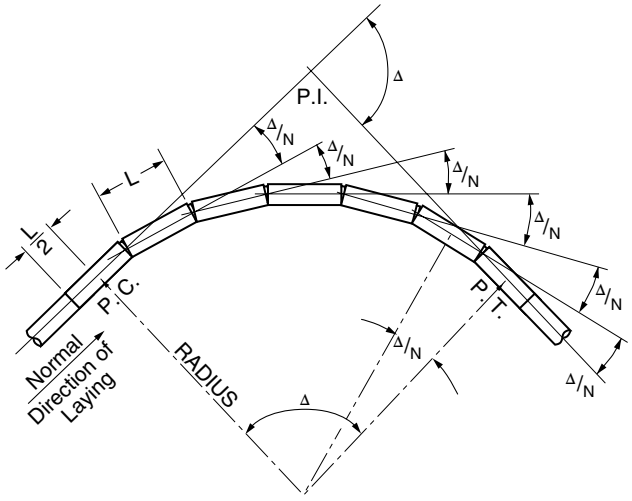


Figure 2 Curved Alignment Using Deflected Straight Pipe



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B_c = outside pipe diameter, inches

The joint opening and pipe length required to provide a curved pipeline alignment may be calculated using the unit values found in Table 1 on page 3. The table tabulates the radius of a pipeline constructed of standard eight-foot laying length pipe with a 1-inch joint opening (PULL). Other pipeline radii may be calculated by changing, first, the joint opening, and if necessary, the pipe laying length. An eight-foot laying length is standard for most concrete pipe manufacturers. Other lengths may require special manufacturing procedures. Changes in the design radius are directly proportional to the pipe laying length and inversely proportional to the joint opening. The specific pull per pipe joint is found by the equation:

$$PULL_x = \left(\frac{L_x}{L_8}\right)\left(\frac{R_u}{R_x}\right)\left(PULL_8\right) \quad (3)$$

$$R_x = (L_x/L_8)(PULL_8/PULL_x)\, R_u \quad (4)$$

where:

PULL = the joint opening
Ru = the Unit Radius (Taken from Table 1)
Lx = Length of deflected pipe

Specific radii may be calculated by the following procedure:

- Select the unit radius of curvature for the specified diameter pipe from the chart.
- Increase or decrease the joint opening (PULL) in Equation 1 to obtain the design radius. If the required joint opening exceeds the pipe manufacturers recommendations, select a pipe with a shorter laying length. Four and six foot are common non-standard pipe lengths. Check with the pipe manufacturer for availability of non-standard lengths.
- Recalculate the pull for the shorter pipe.

As illustrated in Figure 2, when concrete pipe is installed on curved alignment using deflected straight pipe, the point of curve (P.C.) is at the midpoint of the last undeflected pipe section and the point of tangent (P.T.) is at the midpoint of the last pulled pipe.

RADIUS PIPE

Radius pipe, also referred to as bevelled or mitered pipe, incorporates the deflection angle into the pipe joint. The pipe is manufactured by shortening one side of the pipe. The amount of shortening or drop for any given pipe is dependent on manufacturing feasibility. Because of the possibility of greater deflection angles per joint, sharper curvature with correspondingly shorter radii can be obtained with radius pipe than with deflected straight pipe. As in the case of deflected straight pipe, the radius of curvature which may be obtained by radius pipe is a function of the deflection angle per joint, diameter of the pipe, length of pipe sections and wall thickness.

The radius of curvature is computed by the equation:

$$R = \frac{L}{\text{TAN}\ \frac{\Delta}{N}} - \left(\frac{D}{2} + t\right) \quad (5)$$

where:

Δ = total deflection angle of curve, degrees
N = number of radius pipe
L = standard pipe length being used, feet
$\frac{\Delta}{N}$ = total deflection angle of each pipe

From Figure 3, the radius of curvature can be expressed in terms of the drop and is given by the equation:

$$R = \frac{L(D + 2t)}{DROP} - \left(\frac{D}{2} + t\right) \quad (6)$$

$$R = B_c\left(\frac{L}{DROP} - \frac{1}{2}\right) \quad (7)$$

$$DROP = \frac{LB_c}{R + B_{c/2}} \quad (8)$$

where:

B_c = outside diameter of the pipe, feet

Figure 5 presents R/Bc ratios for drops from one inch through 15 inches and commonly manufactured pipe lengths. **Since the maximum permissible drop for any given pipe is dependent on manufacturing feasibility, it is essential to coordinate the design of radius pipe with the pipe manufacturer. Many manufacturers have standardized joint configurations and deflections for specific radii and economics may be realized by utilizing standard radius pipe.**

As illustrated in Figure 4, when concrete pipe is installed on curved alignment using radius pipe, the pipe sections are oriented such that the plane of the dropped joint is tangent to the theoretical circular curve. Projection of the joints do not converge at a common point, but are tangents to a common circle of diameter equal to the length of pipe sections. The point of curve (P.C.) is at the midpoint of the last straight pipe and the point of tangent (P.T.) is one half of the standard pipe length back from the straight end of the last radius pipe. The required number of pieces of radius pipe is equal to the length of the circular curve in feet divided by the centerline length of the radius pipe (L-1/2 DROP). Where possible, minor modifications in the radius are normally made so this quotient will be a whole number.

Minimum radius of curvature obtained from equations (1) and (5) are approximate, but are within a range of accuracy that will enable the pipe to be readily installed to fit the required alignment. A reasonable amount of field adjustment is possible for radius pipe by pulling the joints in the same manner as with deflected straight pipe.

BENDS AND SPECIAL SECTIONS

Special precast sections can be used for extremely

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short radius curves which cannot be negotiated with either deflected straight pipe or with conventional radius pipe. Sharper curves can be handled by using special short lengths of radius pipe rather than standard lengths. These may be computed in accordance with the methods discussed for radius pipe. Certain types of manufacturing processes permit the use of a dropped joint on both ends of the pipe, which effectively doubles the deflection. Special bends, or elbows can be manufactured to meet any required deflection angle and some manufacturers produce standard bends which provide given angular deflection per section.

One or more of these methods may be employed to meet the most severe alignment requirements. **Since manufacturing processes and local standards vary, local concrete pipe manufacturers should be consulted to determine the availability and geometric configuration of special sections.**

The following example illustrates proper use of the Tables and Figures.

Given: A 42-inch diameter concrete pipe storm sewer is to be installed on curved alignment corresponding to the roadway curvature. The pipe will be manufactured in 7-1/2 foot lengths with a 4-1/2-inch wall thickness. The curve data for the roadway curb is:

point of intersection station	P.I.	= 50+00
point of curve station	P.C.	= 49+29.6
point of tangent station	P.T.	= 50+63.1
total deflection angle	Δ	= 45°
radius of curvature	R	= 170 feet

Find: The required pull per joint for deflected straight pipe or the required drop for radius pipe.

Solution: From Table 1, for a 42-inch diameter pipe, the radius of curvature for a 1-inch pull is 408 feet. The required pull for 170 feet is:

$$PULL_X = \left(\frac{7.5}{8}\right)\left(\frac{408}{170}\right)\left(1\right) = 1.125"$$

To evaluate the required drop for radius pipe to negotiate the roadway curvature, it is first necessary to calculate the R/Bc ratio:

$$\frac{R}{B_c} = \frac{170}{4.25} = 40$$

Enter Figure 5 on the vertical scale at R/Bc 40. Proceed horizontally until the line representing L = 7.5 feet is intersected. At this point the horizontal scale shows the required drop to be 2.2 inches. Or

$$\text{Drop} = \frac{(7.5)\ (4.25)}{170 + 4.25/2} = 0.185 \text{ ft.} = 2.2 \text{ in.}$$

Answer: Radius pipe with a 2-1/4-inch drop would be required. **It is important to consult local concrete pipe manufacturers to determine the feasibility of manufacturing a 42-inch diameter pipe with the required drop.**

Figure 3 Radius Pipe

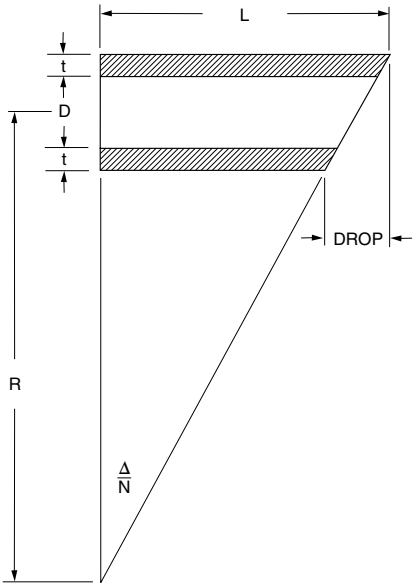

Figure 4 Curved Alignment Using Radius Pipe

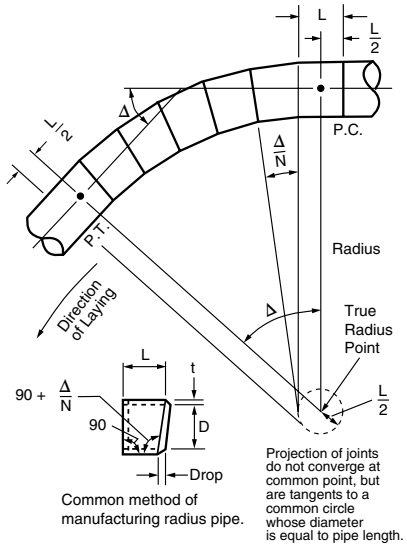

Table 1 Unit Radius of Curature For 8-Foot Straight Deflected Pipe With 1" Pull

Size	12	15	18	20	24	27	30	33	36	42	48	54	60	66	72	78	84	90	96
Radius	128	156	184	212	240	268	286	364	352	408	464	520	576	632	688	744	780	856	912

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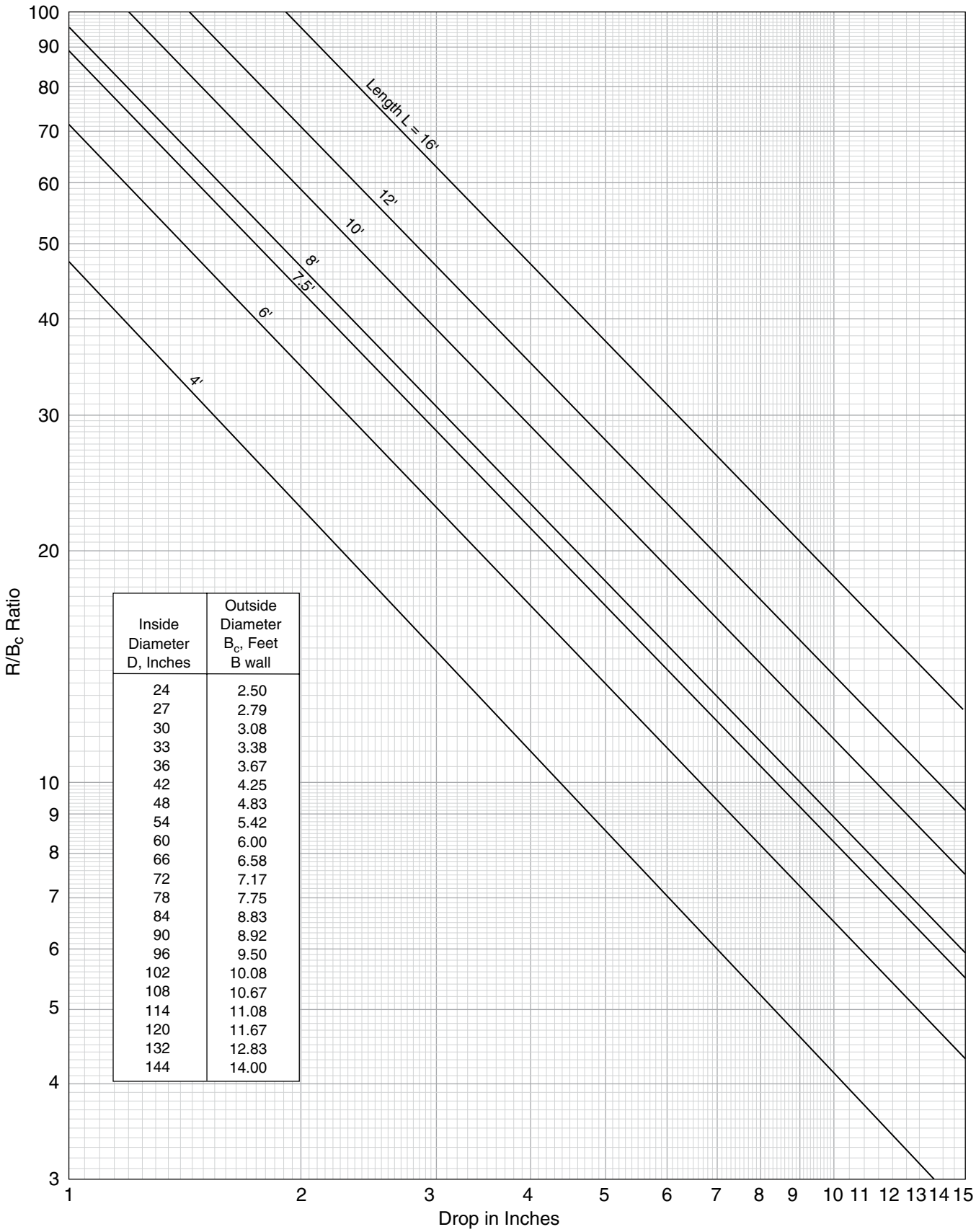
Figure 5 Radius of Curature For Radius Pipe



Inside Diameter D, Inches	Outside Diameter B_c, Feet B wall
24	2.50
27	2.79
30	3.08
33	3.38
36	3.67
42	4.25
48	4.83
54	5.42
60	6.00
66	6.58
72	7.17
78	7.75
84	8.83
90	8.92
96	9.50
102	10.08
108	10.67
114	11.08
120	11.67
132	12.83
144	14.00

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Technical data herein is considered reliable, but no guarantee is made or liability assumed.

	PULL*	D	t	Bc		
SD Size	**Allowable joint gap[1]**	**Inside Dia**	**Wall Thickness**	**Outer Dia**	**1/2*theta/N**	**R**
inch	inch	inch	inch	inch		ft
54	1	54	5.5	65	0.007692384	520.00
42	1	42	4.5	51	0.009804079	408.00
36	1	36	4	44	0.011363881	352.00
30	1	30	5	40	0.012500326	320.00
24	0.75	24	3	30	0.012500326	320.00
18	0.75	18	2.5	23	0.01630507	246.00

[1] Allowable joint gap provided by Rinker 09-13-18

* max joint gap suggested by manufacturer
is 1/2 Dimension "A" + 3/8"

min Radius** = $\dfrac{L}{2(\tan 1/2^* \text{ theta}/N)}$ L=8'

** see formula on enclosed data sheet for american concrete pipe association

1/2 *theta/N= $\sin^{-1} * \dfrac{(PULL)}{2(D+2t)} = \sin\text{-}1 * \dfrac{(PULL)}{2Bc}$

D= inside pipe diameter
t=wall thickness

EXHIBITS

EXHIBIT A: SUBDIVISION LOCATION MAP AND PRELIMINARY PLAT

EXHIBIT B: ORIGINAL MASTER DRAINAGE PLAN FULL BUILDOUT

EXHIBIT C: DRAINAGE BASINS EXISTING CONDITIONS

EXHIBIT D: DRAINAGE BASINS PROPOSED CONDITIONS

EXHIBIT E: STORM DRAIN EXHIBIT

EXHIBIT F: GRADING PLAN

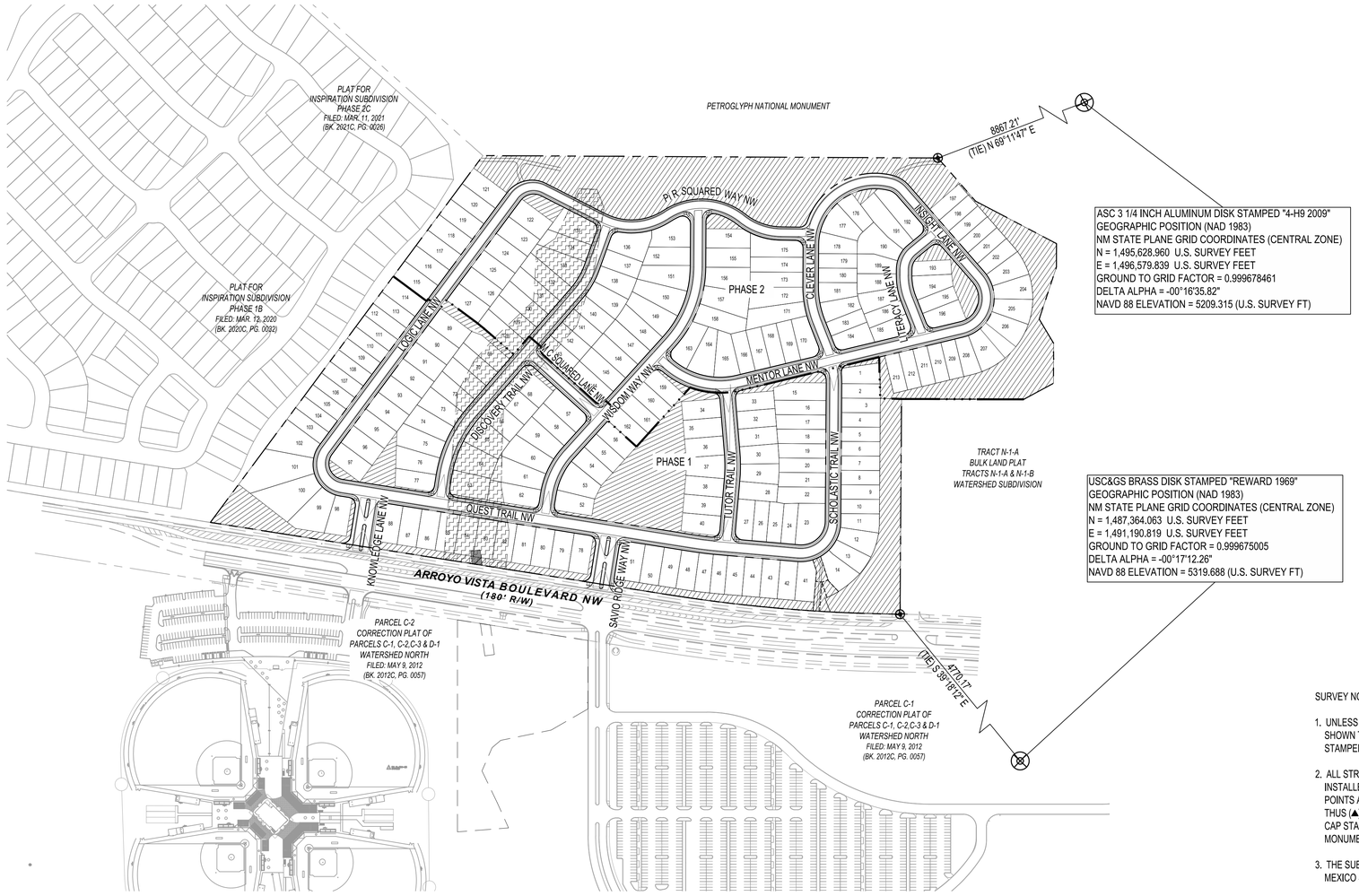
EXHIBIT A
SUBDIVISION LOCATION MAP AND PRELIMINARY PLAT

PRELIMINARY PLAT
SAVIO RIDGE SUBDIVISION

(TRACT N-1-B WATERSHED SUBDIVISION)

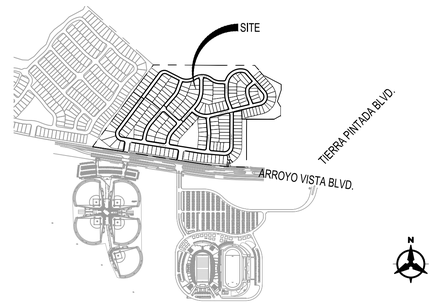
CITY OF ALBUQUERQUE
BERNALILLO COUNTY, NEW MEXICO

MARCH, 2025



ASC 3 1/4 INCH ALUMINUM DISK STAMPED "4-H9 2009"
GEOGRAPHIC POSITION (NAD 1983)
NM STATE PLANE GRID COORDINATES (CENTRAL ZONE)
N = 1,495,628.960 U.S. SURVEY FEET
E = 1,496,579.839 U.S. SURVEY FEET
GROUND TO GRID FACTOR = 0.999678461
DELTA ALPHA = -00°16'35.82"
NAVD 88 ELEVATION = 5209.315 (U.S. SURVEY FT)

USC&GS BRASS DISK STAMPED "REWARD 1969"
GEOGRAPHIC POSITION (NAD 1983)
NM STATE PLANE GRID COORDINATES (CENTRAL ZONE)
N = 1,487,364.063 U.S. SURVEY FEET
E = 1,491,190.819 U.S. SURVEY FEET
GROUND TO GRID FACTOR = 0.999675005
DELTA ALPHA = -00°17'12.26"
NAVD 88 ELEVATION = 5319.688 (U.S. SURVEY FT)



VICINITY MAP (ZONE ATLAS J-07-Z, J-08-Z)
NOT TO SCALE

LEGEND

- SUBDIVISION BOUNDARY LINE
- PHASE LINE
- TRACT LINE
- ADJOINING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- PROPOSED HOA TRACT
- EXISTING EASEMENT

N

200 100 0 200
1"=200'

SURVEY NOTES:

1. UNLESS OTHERWISE NOTED, ALL BOUNDARY CORNERS SHOWN THUS (⊕) SHALL BE MARKED BY A #5 REBAR STAMPED "PLOTNER, PS 14271".
2. ALL STREET CENTERLINE MONUMENTATION SHALL BE INSTALLED AT ALL CENTERLINE PC'S, PT'S, ANGLE POINTS AND STREET INTERSECTIONS AND SHOWN THUS (▲) WILL BE MARKED BY A FOUR (4") ALUMINUM CAP STAMPED "CITY OF ALBUQUERQUE CENTERLINE MONUMENTATION MARKED. DO NOT DISTURB, P.L.S. 14271".
3. THE SUBDIVISION BOUNDARY WILL BE TIED TO THE NEW MEXICO STATE PLANE COORDINATE SYSTEM AS SHOWN.
4. BASIS OF BEARINGS WILL BE NEW MEXICO STATE PLANE GRID BEARINGS.
5. DISTANCES SHALL BE GROUND DISTANCES.
6. MANHOLES WILL BE OFFSET AT ALL POINTS OF CURVATURE POINTS OF TANGENCY, STREET INTERSECTIONS AND ALL OTHER ANGLE POINTS TO ALLOW THE USE OF CENTERLINE MONUMENTATION.

APPROVED FOR MONUMENTATION AND STREET NAMES

Loren N. Risenhoover P.S. 3/25/2025
CITY SURVEYOR DATE

Solar Collection Note

NO PROPERTY WITHIN THE AREA OF REQUESTED FINAL ACTION SHALL AT ANY TIME BE SUBJECT TO A DEED RESTRICTION, COVENANT, OR BUILDING AGREEMENT PROHIBITING SOLAR COLLECTORS FROM BEING INSTALLED ON BUILDINGS OR ERECTED ON THE LOTS OR PARCELS WITHIN THE AREA OF PROPOSED PLAT, THE FOREGOING REQUIREMENT SHALL BE A CONDITION TO APPROVAL OF THIS PLAT.

Purpose of Plat

1. SUBDIVIDE AS SHOWN HEREON.
2. GRANT EASEMENTS AS SHOWN HEREON.
3. DEDICATE ADDITIONAL RIGHT-OF-WAY AS SHOWN HEREON.

PLAT IS LOCATED WITHIN PROJECTED SECTIONS 17 & 18, TOWNSHIP 10 NORTH, RANGE 2 EAST, NEW MEXICO PRINCIPAL MERIDIAN AS PROJECTED INTO THE TOWN OF ATRISCO GRANT, CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO.

Bohannan Huston
www.bhinc.com 800.877.5332

Tue, 25-Mar-2025 - 8:44 am, Plotted by: AROMERO
P:\2024\04\57\CDP\Plans\General\20240457_Preplat.dwg

Line Table		
Line #	Length	Direction
L1	178.034	N41° 04' 53.29"W
L2	285.296	N62° 16' 52.87"W
L3	73.572	N00° 18' 22.71"E
L4	170.243	N18° 20' 55.95"E
L5	88.137	N30° 46' 03.55"W
L6	124.695	N00° 18' 22.71"E
L7	105.431	N61° 49' 01.12"E

CURVE TABLE				
ID	RADIUS	ARC	DELTA	TANGENT
C1	5090.00'	15.49'	0° 10' 28"	7.74'
C2	4922.00'	704.68'	8° 12' 11"	352.94'

PRELIMINARY PLAT
SAVIO RIDGE SUBDIVISION

(TRACT N-1-B WATERSHED SUBDIVISION)

CITY OF ALBUQUERQUE
BERNALILLO COUNTY, NEW MEXICO

MARCH, 2025

Bohannan Huston
www.bhinc.com
800.877.5332

Mon, 7-Apr-2025 - 3:38 pm. Plotted by: AROMERO
P:\202404\457\CDP\Plans\General\202404457_Preplat.dwg

LEGAL DESCRIPTION:

TRACT 'N-1-B', OF THE BULK LAND PLAT OF TRACTS N-1-A AND N-1-B WATERSHED SUBDIVISION WITHIN PROJECTED SECTION 17 AND 18, TOWNSHIP 10 NORTH, RANGE 2 EAST OF THE NEW MEXICO PRINCIPAL MERIDIAN AS PROJECTED INTO THE TOWN OF ATRISCO GRANT, ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO AS THE SAME IS SHOWN AND DESIGNATED ON SAID PLAT FILED FOR RECORD IN THE OFFICE OF THE COUNTY CLERK OF BERNALILLO COUNTY, NEW MEXICO

1. EXISTING ZONING: PC
   PROPOSED ZONING: PC

   PROPOSED RESIDENTIAL DEVELOPMENT:
   SINGLE FAMILY DETACHED RESIDENTIAL

2. TOTAL ACREAGE:
   EXISTING TRACT 'N-1-B' = 60.08 ACRES

ACREAGE:

	ENCUMBERED BY EASEMENT
TRACT '1' = 0.5703 Acres	B
TRACT '2' = 0.4151 Acres	B
TRACT '3' = 0.3626 Acres	B
TRACT '4' = 0.0529 Acres	B
TRACT '5' = 0.2341 Acres	B
TRACT '6' = 0.0412 Acres	B
TRACT '7' = 1.7558 Acres	B
TRACT '8' = 0.1533 Acres	B
TRACT '9' = 0.0411 Acres	B
TRACT '10' = 0.1274 Acres	B
TRACT '11' = 0.0320 Acres	B
TRACT '12' = 0.0359 Acres	B
TRACT '13' = 0.1243 Acres	B
TRACT '14' = 0.0845 Acres	B
TRACT '15' = 0.0428 Acres	B
TRACT '16' = 0.2809 Acres	B
TRACT '17' = 4.4958 Acres	B
TRACT '18' = 1.8486 Acres	B
TRACT '19' = 1.4395 Acres	B
TRACT '20' = 0.1597 Acres	B, C, D, F
TRACT '21' = 5.6481 Acres	A, C, D, E
TRACT '22' = 5.555 Acres	A, C, D, E, F

EASEMENT LEGEND

A PRIVATE DRAINAGE EASEMENT SEE NOTE 4

B PRIVATE DRAINAGE EASEMENT SEE NOTE 10

C PUBLIC SANITARY AND WATERLINE EASEMENT SEE NOTE 4

D PRIVATE PEDESTRIAN EASEMENT SEE NOTE 4

E VEHICULAR ACCESS EASEMENT SEE NOTE 4

F AMAFCA VEHICULAR ACCESS EASEMENT SEE NOTE 4

NUMBER OF LOTS:
PHASE 1 = 113
PHASE 2 = 101

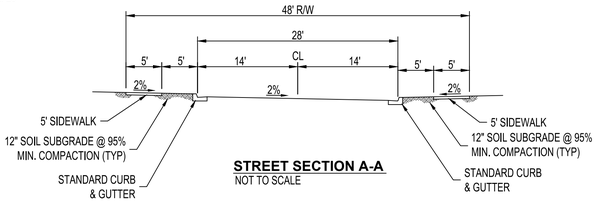
PROPOSED DENSITY: 3.54 D.U./ACRE

3. MINIMUM LOT DIMENSIONS: 45'x120'
   MINIMUM LOT AREA: 5,400 SF

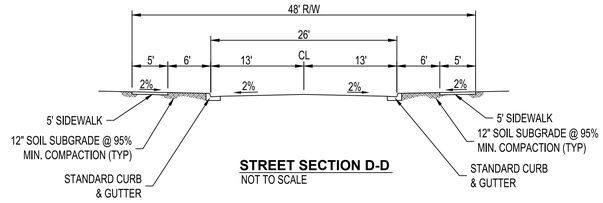
4. TRACT 21 & 22 TO BE OWNED BY THE H.O.A. AND CONTAINS THE FOLLOWING BLANKET EASEMENTS:

   - PUBLIC SANITARY SEWER, PUBLIC WATERLINE EASEMENT TO BE GRANTED TO ABCWUA WITH THE FILING OF THIS PLAT, FOR OPERATIONS AND MAINTENANCE OF THE PUBLIC WATER AND SANITARY SEWER INFRASTRUCTURE.
   - PRIVATE SURFACE DRAINAGE EASEMENT INCLUDING PONDS AND INLETS, SUBSURFACE LATERALS TO THE SUBSURFACE MAINLINE TO BE GRANTED TO THE H.O.A. WITH THE FILING OF THIS PLAT, SEE SHEET 3 OF 3 FOR 'DRAINAGE FACILITIES MAINTENANCE NOTE' FOR OWNERSHIP AND MAINTENANCE RESPONSIBILITY.
   - PRIVATE PEDESTRIAN AND VEHICULAR ACCESS EASEMENT TO SERVICE THE RESIDENTS IN SAVIO RIDGE, TO BE GRANTED TO THE H.O.A. WITH THE FILING OF THIS PLAT, FOR THE OWNERSHIP, OPERATIONS AND MAINTENANCE OF THE SIDEWALK AND ROADWAY INFRASTRUCTURE.
   - PUBLIC SUBSURFACE DRAINAGE EASEMENT TO BE GRANTED TO THE CITY OF ALBUQUERQUE FOR OWNERSHIP, OPERATIONS AND MAINTENANCE OF ALL MAINLINE SUBSURFACE DRAINAGE INFRASTRUCTURE, SEE SHEET 3 OF 3 FOR 'DRAINAGE FACILITIES MAINTENANCE NOTE' FOR OWNERSHIP AND MAINTENANCE RESPONSIBILITY.
   - A PRIVATE VEHICULAR ACCESS EASEMENT TO BE GRANTED TO AMAFCA FOR ACCESS TO THEIR FLOOD CONTROL FACILITY WITHIN THE PETROGLYPH MONUMENT . THE AMAFCA AND THE H.O.A. WILL COORDINATE ON ACCESS THROUGH ANY GATED ENTRANCE TO THE SUBDIVISION.

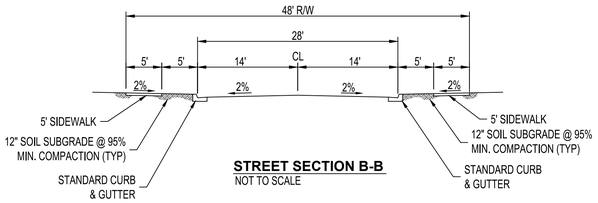
5. LOT SETBACKS:
   FRONT: 15'
   SIDE : 5'
   REAR: 20'



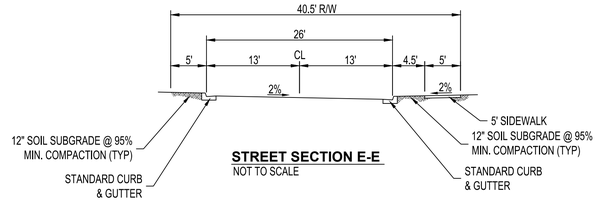
STREET SECTION A-A
NOT TO SCALE



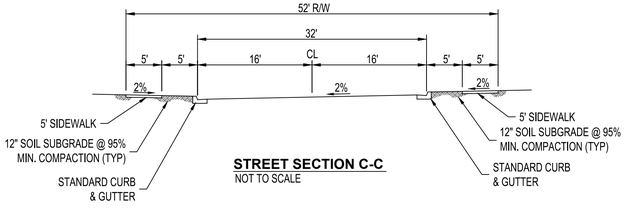
STREET SECTION D-D
NOT TO SCALE



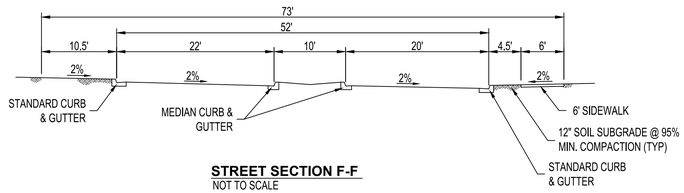
STREET SECTION B-B
NOT TO SCALE



STREET SECTION E-E
NOT TO SCALE



STREET SECTION C-C
NOT TO SCALE



STREET SECTION F-F
NOT TO SCALE

6. PROPOSED SOLAR ACCESS PROVISIONS, SHALL BE IN ACCORDANCE WITH INTEGRATED DEVELOPMENT ORDINANCE 14-16-5-10.

7. THE H.O.A. SHALL MAINTAIN ALL TRAILS LOCATED WITHIN H.O.A. TRACTS AND ITS CONNECTIONS TO ANY PUBLIC OWNED AND MAINTAINED SIDEWALK / TRAIL.

8. TRACT '1' THROUGH TRACT '22' TO BE OWNED AND MAINTAINED BY THE HOME OWNERS ASSOCIATION.

9. TRACTS '1' - '20' CONTAIN A PRIVATE DRAINAGE EASEMENT GRANTED TO THE H.O.A. SEE THIS SHEET FOR 'DRAINAGE FACILITIES MAINTENANCE NOTE' FOR OWNERSHIP AND MAINTENANCE RESPONSIBILITY

ABCWUA PUBLIC WATER & SANITARY SEWER EASEMENTS:

ALBUQUERQUE BERNALILLO COUNTY WATER UTILITY AUTHORITY (ABCWUA) IS GRANTED EASEMENT(S) IN THE DIMENSIONS NOTED ON THIS PLAT FOR THE CONSTRUCTION, INSTALLATION, MAINTENANCE, REPAIR, MODIFICATIONS, REPLACEMENT AND OPERATION OF PUBLIC WATER AND SANITARY SERVICE LINES, EQUIPMENT AND FACILITIES REASONABLY NECESSARY TO PROVIDE SERVICE TOGETHER WITH FREE ACCESS ON AND OVER THE EASEMENT AND THE RIGHT TO REMOVE TREES, SHRUBS, UNDERGROWTH AND ANY OTHER OBSTACLES, MODIFICATIONS, OR STRUCTURES WHICH INTERFERE WITH USE OF THE EASEMENT.

DRAINAGE FACILITIES MAINTENANCE NOTES:

AREAS DESIGNATED ON THE ACCOMPANYING PLAT AS "DRAINAGE EASEMENTS" ["DETENTION AREAS"] ARE HEREBY DEDICATED BY THE OWNER AS A PERPETUAL EASEMENT FOR THE COMMON USE AND BENEFIT OF THE VARIOUS LOTS WITHIN THE SUBDIVISIONS FOR THE PURPOSE OF PERMITTING THE CONVEYANCE OF STORM WATER RUNOFF AND THE CONSTRUCTING AND MAINTAINING OF DRAINAGE FACILITIES [STORM WATER DETENTION FACILITIES] IN ACCORDANCE WITH STANDARDS PRESCRIBED BY THE CITY OF ALBUQUERQUE. NO FENCE, WALL, BUILDING OR OTHER OBSTRUCTION (UNLESS SHOWN ON THE APPROVED GRADING PLAN) MAY BE PLACED OR MAINTAINED IN THE EASEMENT AREA WITHOUT APPROVAL OF THE CITY ENGINEER OF THE CITY OF ALBUQUERQUE. THERE ALSO SHALL BE NO ALTERATION OF THE GRADES OR CONTOURS IN SAID EASEMENT AREA WITHOUT THE APPROVAL OF THE CITY ENGINEER. IT SHALL BE THE DUTY OF THE LOT OWNERS OF THIS SUBDIVISION TO MAINTAIN SAID DRAINAGE EASEMENT [DETENTION AREA] AND FACILITIES AT THEIR COST IN ACCORDANCE WITH STANDARDS PRESCRIBED BY THE CITY OF ALBUQUERQUE. THE CITY SHALL HAVE THE RIGHT TO ENTER PERIODICALLY TO INSPECT THE FACILITIES. IN THE EVENT SAID LOT OWNERS FAIL TO ADEQUATELY AND PROPERLY MAINTAIN DRAINAGE EASEMENT [DETENTION AREA] AND FACILITIES, AT ANY TIME FOLLOWING FIFTEEN (15) DAYS WRITTEN NOTICE TO SAID LOT OWNERS, THE CITY MAY ENTER UPON SAID AREA, PERFORM SAID MAINTENANCE, AND THE COST OF PERFORMING SAID MAINTENANCE SHALL BE PAID BY APPLICABLE LOT OWNERS PROPORTIONATELY ON THE BASIS OF LOT OWNERSHIP. IN THE EVENT LOT OWNERS FAIL TO PAY THE COST OF MAINTENANCE WITHIN THIRTY (30) DAYS AFTER DEMAND FOR PAYMENT MADE BY THE CITY, THE CITY MAY FILE A LIEN AGAINST ALL LOTS IN THE SUBDIVISION FOR WHICH PROPORTIONATE PAYMENT HAS NOT BEEN MADE. THE OBLIGATIONS IMPOSED HEREIN SHALL BE BINDING UPON THE OWNER, HIS HEIRS, AND ASSIGNS AND SHALL RUN WITH ALL LOTS WITHIN THIS SUBDIVISION.

THE GRANTOR AGREES TO DEFEND, INDEMNIFY, AND HOLD HARMLESS, THE CITY, ITS OFFICIALS, AGENTS AND EMPLOYEES FROM AND AGAINST ANY AND ALL CLAIMS, ACTIONS, SUITS, OR PROCEEDINGS OF ANY KIND BROUGHT AGAINST SAID PARTIES FOR OR ON ACCOUNT OF ANY MATTER ARISING FROM THE DRAINAGE FACILITY PROVIDED FOR HEREIN OR THE GRANTOR'S FAILURE TO CONSTRUCT, MAINTAIN, OR MODIFY SAID DRAINAGE FACILITY.

Free Consent & Dedication

THE SUBDIVISION SHOWN AND DESCRIBED HEREON IS WITH THE FREE CONSENT AND IN ACCORDANCE WITH THE DESIRES OF THE UNDERSIGNED OWNER(S) THEREOF AND GRANT ALL EASEMENTS AS SHOWN HEREON. EXISTING AND/OR GRANTED PUBLIC UTILITY EASEMENTS (P.U.E) AS SHOWN HEREON, UNLESS NOTED OTHERWISE, ARE FOR THE COMMON AND JOINT USE OF GAS, ELECTRICAL POWER AND COMMUNICATION SERVICES FOR BURIED AND/OR OVERHEAD DISTRIBUTION LINES, CONDUIT AND PIPES FOR UNDERGROUND UTILITIES. SAID UTILITY COMPANIES HAVE THE RIGHT OF INGRESS/EGRESS FOR CONSTRUCTION OF, MAINTENANCE OF AND REPLACEMENT OF SAID UTILITIES INCLUDING THE RIGHT TO TRIM INTERFERING TREES AND SHRUBS WITHIN SAID P.U.E., SAID OWNERS CERTIFY THAT THIS SUBDIVISION IS THEIR FREE ACT AND DEED.

THE PLAT SHOWN HEREON IS MADE WITH FREE CONSENT AND IN ACCORDANCE OF THE DESIRES OF THE UNDERSIGNED OWNER(S), THE EXECUTION OF THIS PLAT IS THEIR FREE ACT AND DEED. THOSE SIGNING AS OWNER(S) WARRANT THAT THEY HOLD AMONG THEM, COMPLETE INDEFEASIBLE TITLE IN FEE SIMPLE TO THE LAND SHOWN ON THIS PLAT. OWNER(S) HEREBY AFFIRM THAT THE DESCRIBED PROPERTY SHOWN ON THIS PLAT LIES WITHIN THE PLATTING AND SUBDIVISION JURISDICTION OF CITY OF ALBUQUERQUE, NEW MEXICO. SAID OWNER(S) HEREBY GRANT ALL EASEMENTS AS MAY BE SHOWN ON THIS PLAT TO THE CITY OF ALBUQUERQUE, NEW MEXICO IN FEE SIMPLE WITH WARRANTY COVENANTS.

BY: _____
Karen Alarid
APS Executive Director of Capital Construction

STATE OF NEW MEXICO }
} SS
COUNTY OF BERNALILLO }

THIS INSTRUMENT WAS ACKNOWLEDGED BEFORE ME ON _____DAY OF_____, 20___
BY Karen Alarid, APS Executive Director of cpital Construction

MY COMMISSION EXPIRES _____
NOTARY PUBLIC

PRELIMINARY PLAT
SAVIO RIDGE SUBDIVISION

(TRACT N-1-B WATERSHED SUBDIVISION)

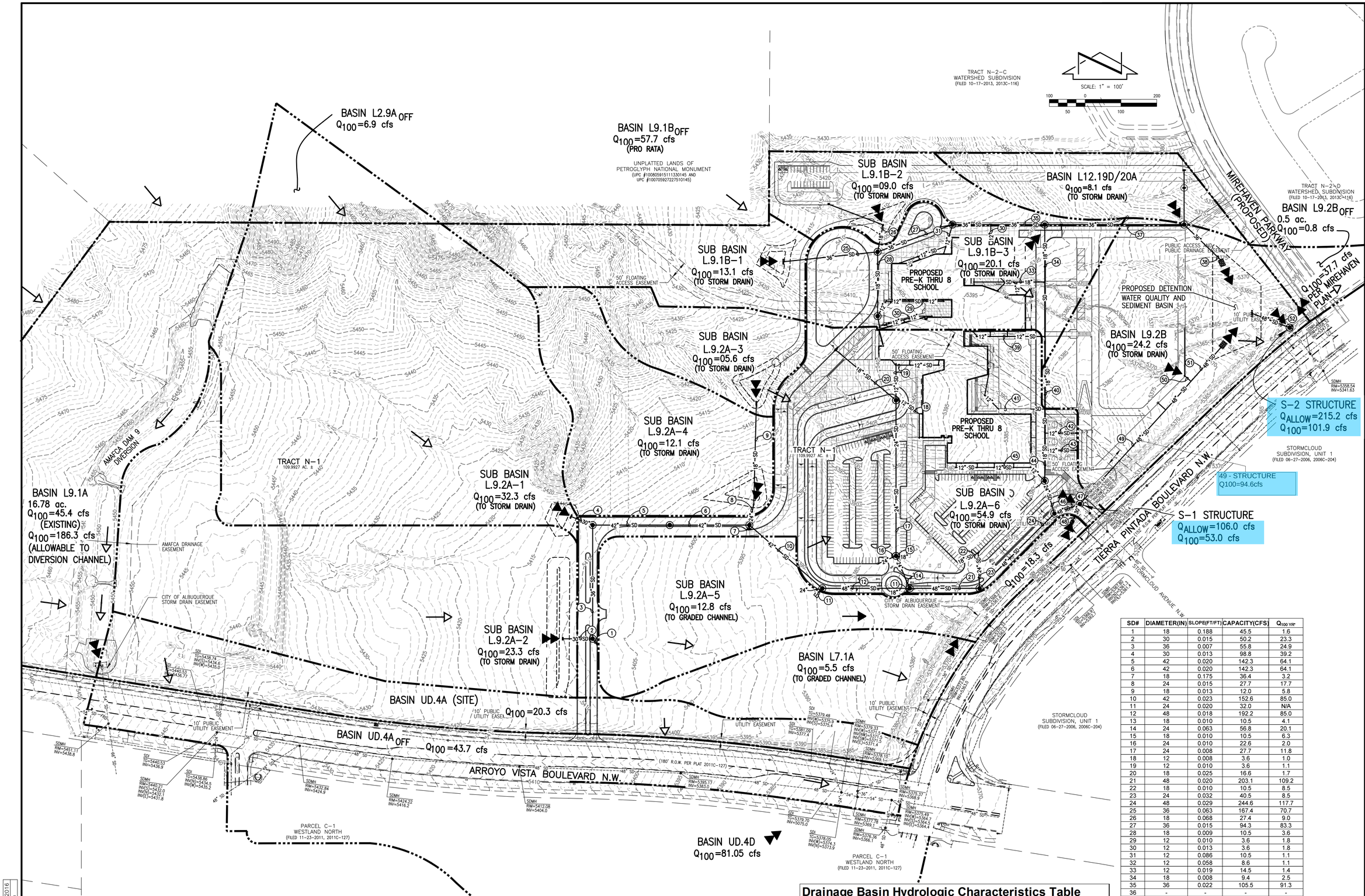
CITY OF ALBUQUERQUE
BERNALILLO COUNTY, NEW MEXICO

MARCH, 2025

Bohannan Huston
www.bhinc.com 800.877.5332

Mon, 7-Apr-2025 - 3:39 pm. Plotted by: AROMERO
P:\202404567\CDP\Plans\General\20240457_Preplat.dwg

EXHIBIT B
ORIGINAL MASTER DRAINAGE PLAN FULL BUILDOUT



Drainage Basin Hydrologic Characteristics Table

DRAINAGE BASIN	AREA (AC)	LAND TREATMENTS (COA D.P.M)				VOLUME OF RUNOFF(CF)	PEAK DISCHARGE (CFS)
	DEVELOPED	DEVELOPED(%)				DEVELOPED	DEVELOPED
		A	B	C	D	100 YR	100 YR
L9.2A-1	17.2	78	22	0	0	32,757	32.3
L9.2A-2	12.6	97	3	0	0	28,706	23.3
L9.2A-3	2.8	70	15	15	0	7,100	5.6
L9.2A-4	6.0	70	15	15	0	15,377	12.1
L9.2A-5	6.7	95	5	0	0	15,333	11.8
L9.2A-6	13.9	0	46	46	8	90,474	54.9
L9.1B-1	2.7	0	47	47	6	16,683	13.1
L9.1B-2	2.7	0	40	40	20	12,327	9.0
L9.1B-3	5.4	0	18	18	64	32,060	20.1
L9.2B	7.7	0	43	42	15	32,409	24.2
L12.9/D20A	2.7	0	43	43	14	10,716	8.1
L7.1A	3.5	-	-	-	-	13,634	5.5
UD.4A	6.1	-	-	-	-	26,441	11.7
L9.1BOFF	29.6	-	-	-	-	-	57.7
TOTAL	119.5	-	-	-	-	334,018	289.3

SD#	DIAMETER(IN)	SLOPE(FT/FT)	CAPACITY(CFS)	$Q_{100\ YR}$
1	18	0.188	45.5	1.6
2	30	0.015	50.2	23.3
3	36	0.007	55.8	24.9
4	30	0.013	98.8	39.2
5	42	0.020	142.3	64.1
6	42	0.020	142.3	64.1
7	18	0.175	36.4	3.2
8	24	0.015	27.7	17.7
9	18	0.013	12.0	5.8
10	42	0.023	152.6	85.0
11	24	0.020	32.0	N/A
12	48	0.018	192.2	85.0
13	18	0.010	10.5	4.1
14	24	0.063	56.8	20.1
15	18	0.010	10.5	6.3
16	24	0.010	22.6	2.0
17	24	0.008	27.7	11.8
18	12	0.008	3.6	1.0
19	12	0.010	3.6	1.1
20	18	0.025	16.6	1.7
21	48	0.020	203.1	109.2
22	18	0.010	10.5	8.5
23	24	0.032	40.5	8.5
24	48	0.029	244.6	117.7
25	36	0.063	167.4	70.7
26	18	0.068	27.4	9.0
27	36	0.015	94.3	83.3
28	18	0.009	10.5	3.6
29	12	0.010	3.6	1.8
30	12	0.013	3.6	1.8
31	12	0.086	10.5	1.1
32	12	0.058	8.6	1.1
33	12	0.019	14.5	1.4
34	18	0.008	9.4	2.5
35	36	0.022	105.5	91.3
36	-	-	-	-
37	36	0.042	128.3	99.9
38	36	0.077	185.1	107.9
39	12	0.012	3.9	1.1
40	18	0.011	10.5	4.7
41	12	0.100	11.3	3.2
42	12	0.020	5.0	0.6
43	12	0.026	5.7	0.6
44	18	0.015	12.9	9.1
45	12	0.052	8.1	3.9
46	24	0.101	71.9	13.0
47	48	0.096	445.0	147.6
48	30	0.100	129.7	10.6
49	48	0.0125	160.6	94.6
50	24	0.745	23.5	15.3
51	48	0.0190	198.0	109.9
52	48	0.020	203.1	101.9

SURVEY NOTE:

THIS IS NOT A BOUNDARY SURVEY; DATA IS SHOWN FOR ORIENTATION ONLY. THE BOUNDARY, TOPOGRAPHIC & UTILITY SURVEY INFORMATION DEPICTED BY THIS PLAN IS BASED UPON THE BOUNDARY, TOPOGRAPHIC AND UTILITY SURVEY PREPARED BY HIGH MESA CONSULTING GROUP, NMPS 11184, DATED 01/08/2016 (2014.181.9).

HIGH MESA Consulting Group
6010-B MIDWAY PARK BLVD. NE
ALBUQUERQUE, NEW MEXICO 87109
PHONE: 505-345-4250 FAX: 505-345-4254
www.highmesacg.com

I JESSE LEE MEANS NEW MEXICO (3676) REGISTERED PROFESSIONAL ENGINEER

8-24-2016

MASTER DRAINAGE PLAN
APS NORTHWEST EDUCATION CORRIDOR

NO.	DATE	BY	REVISIONS

PROJECT No. 2014.184.4
DESIGNED BY G.M.
DRAWN BY J.Y.R./S.C.C.
APPROVED BY G.M.
SHEET TITLE

PHASE 1
CONDITIONS
PLAN

MDP-101
SHEET 2 OF 3

EXHIBIT B-1

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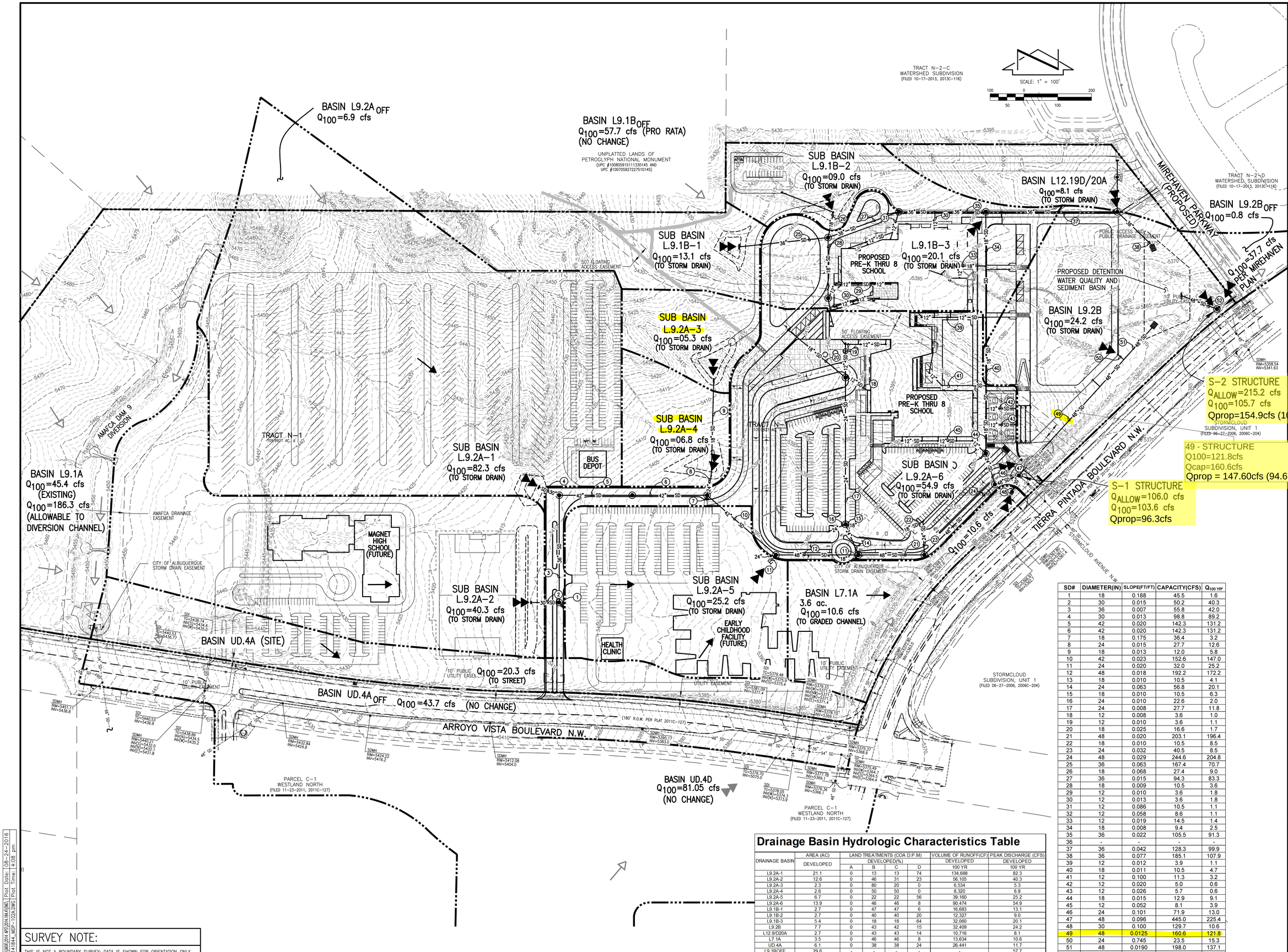
File Name: 141844_MDP-101.DWG | Plot Time: 3:49 pm



SURVEY NOTE:

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Drainage Basin Hydrologic Characteristics Table

DRAINAGE BASIN	AREA (AC) DEVELOPED	LAND TREATMENTS (COA D.P.M) DEVELOPED(%) A	B	C	D	VOLUME OF RUNOFF(CF) DEVELOPED 100 YR	PEAK DISCHARGE (CFS) DEVELOPED 100 YR
L9.2A-1	21.1	0	13	13	74	134,688	82.3
L9.2A-2	12.6	0	46	31	23	56,105	40.3
L9.2A-3	2.3	0	80	20	0	6,534	5.3
L9.2A-4	2.6	0	50	50	0	8,320	6.8
L9.2A-5	6.7	0	22	22	56	39,160	25.2
L9.2A-6	13.9	0	46	46	8	90,474	54.9
L9.1B-1	2.7	0	47	47	6	16,683	13.1
L9.1B-2	2.7	0	40	40	20	12,327	9.0
L9.1B-3	5.4	0	18	18	64	32,060	20.1
L9.2B	7.7	0	43	42	15	32,409	24.2
L12.9/D20A	2.7	0	43	43	14	10,716	8.1
L7.1A	3.5	0	46	46	8	13,634	10.6
UD.4A	6.1	0	38	38	24	26,441	11.7
L9.1BOFF	29.6	-	-	-	-	-	57.7
TOTAL	119.5	-	-	-	-	479,552	369.3

SD#	DIAMETER(IN)	SLOPE(FT/FT)	CAPACITY(CFS)	$Q_{100\ YR}$
1	18	0.188	45.5	1.6
2	30	0.015	50.2	40.3
3	36	0.007	55.8	42.0
4	30	0.013	98.8	89.2
5	42	0.020	142.3	131.2
6	42	0.020	142.3	131.2
7	18	0.175	36.4	3.2
8	24	0.015	27.7	12.6
9	18	0.013	12.0	5.8
10	42	0.023	152.6	147.0
11	24	0.020	32.0	25.2
12	48	0.018	192.2	172.2
13	18	0.010	10.5	4.1
14	24	0.063	56.8	20.1
15	18	0.010	10.5	6.3
16	24	0.010	22.6	2.0
17	24	0.008	27.7	11.8
18	12	0.008	3.6	1.0
19	12	0.010	3.6	1.1
20	18	0.025	16.6	1.7
21	48	0.020	203.1	196.4
22	18	0.010	10.5	8.5
23	24	0.032	40.5	8.5
24	48	0.029	244.6	204.8
25	36	0.063	167.4	70.7
26	18	0.068	27.4	9.0
27	36	0.015	94.3	83.3
28	18	0.009	10.5	3.6
29	12	0.010	3.6	1.8
30	12	0.013	3.6	1.8
31	12	0.086	10.5	1.1
32	12	0.058	8.6	1.1
33	12	0.019	14.5	1.4
34	18	0.008	9.4	2.5
35	36	0.022	105.5	91.3
36	-	-	-	-
37	36	0.042	128.3	99.9
38	36	0.077	185.1	107.9
39	12	0.012	3.9	1.1
40	18	0.011	10.5	4.7
41	12	0.100	11.3	3.2
42	12	0.020	5.0	0.6
43	12	0.026	5.7	0.6
44	18	0.015	12.9	9.1
45	12	0.052	8.1	3.9
46	24	0.101	71.9	13.0
47	48	0.096	445.0	225.4
48	30	0.100	129.7	10.6
49	48	0.0125	160.6	121.8
50	24	0.745	23.5	15.3
51	48	0.0190	198.0	137.1
52	48	0.020	203.1	105.7

HIGH MESA Consulting Group
6010-B MIDWAY PARK BLVD. NE
ALBUQUERQUE, NEW MEXICO 87109
PHONE: 505-345-4250 FAX: 505-345-4254
www.highmesacg.com

JEREMIAH MEANS NEW MEXICO 13676 REGISTERED PROFESSIONAL ENGINEER

8-24-2016

MASTER DRAINAGE PLAN
APS NORTHWEST EDUCATION CORRIDOR

NO.	DATE	BY	REVISIONS

PROJECT No. 2014.184.4
DESIGNED BY G.M.
DRAWN BY J.Y.R./S.C.C.
APPROVED BY G.M.
SHEET TITLE

MASTER DRAINAGE PLAN – FULL BUILDOUT

MDP-102
SHEET 3 OF 3

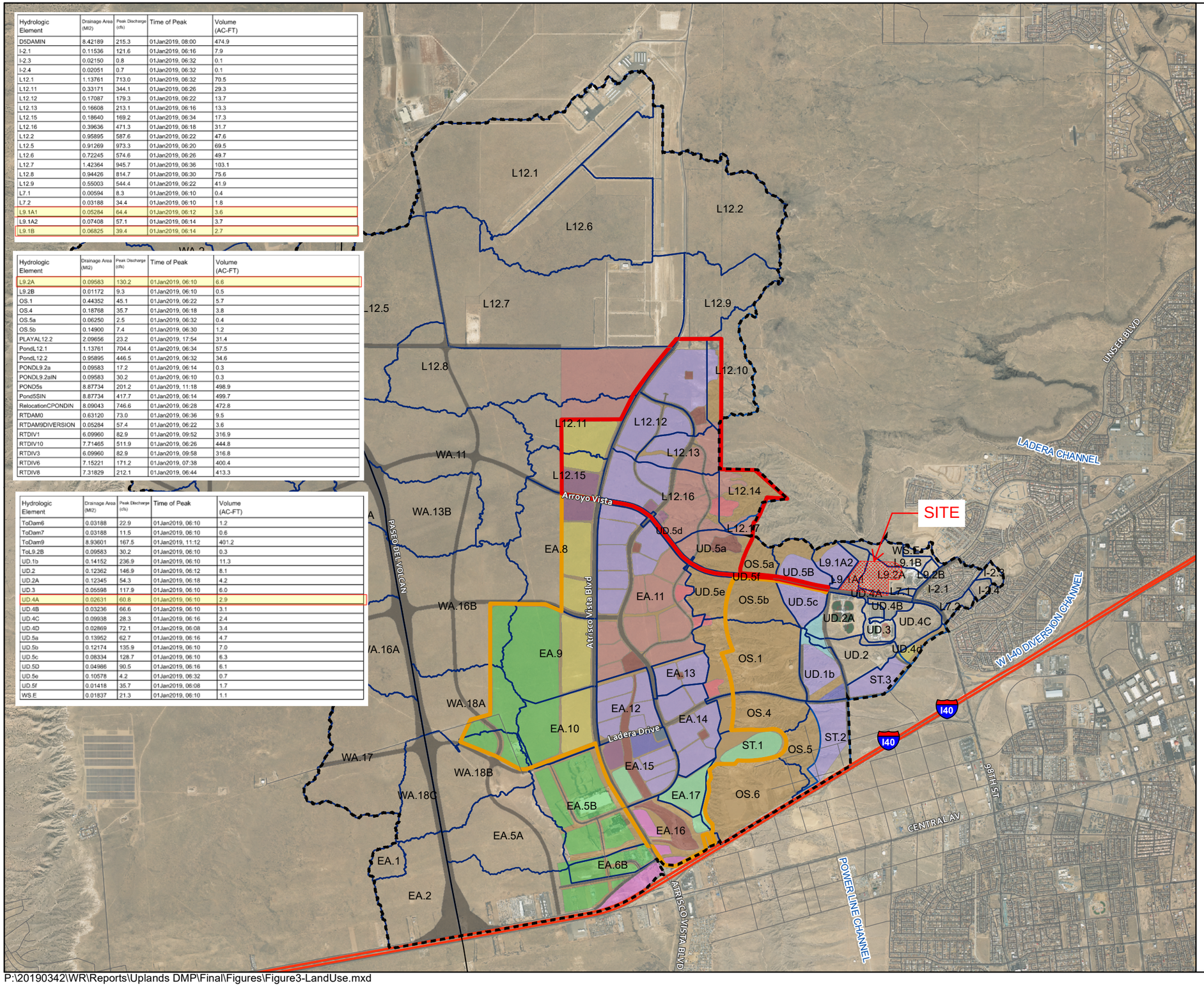
EXHIBIT B-2

File Path: P:\WORK\2014\#PS\2014.184.4\DWG\
File Name: 141844_MDP-102A.DWG | Plot Date: 08-24-2016 | Plot Time: 14:08 pm

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (cfs)	Time of Peak	Volume (AC-FT)
D5DAMIN	8.42189	215.3	01Jan2019, 08:00	474.9
I-2.1	0.11536	121.6	01Jan2019, 06:16	7.9
I-2.3	0.02150	0.8	01Jan2019, 06:32	0.1
I-2.4	0.02051	0.7	01Jan2019, 06:32	0.1
L12.1	1.13761	713.0	01Jan2019, 06:32	70.5
L12.11	0.33171	344.1	01Jan2019, 06:26	29.3
L12.12	0.17087	179.3	01Jan2019, 06:22	13.7
L12.13	0.16608	213.1	01Jan2019, 06:16	13.3
L12.15	0.18640	169.2	01Jan2019, 06:34	17.3
L12.16	0.39636	471.3	01Jan2019, 06:18	31.7
L12.2	0.95895	587.6	01Jan2019, 06:22	47.6
L12.5	0.91269	973.3	01Jan2019, 06:20	69.5
L12.6	0.72245	574.6	01Jan2019, 06:26	49.7
L12.7	1.42364	945.7	01Jan2019, 06:36	103.1
L12.8	0.94426	814.7	01Jan2019, 06:30	75.6
L12.9	0.55003	544.4	01Jan2019, 06:22	41.9
L7.1	0.00594	8.3	01Jan2019, 06:10	0.4
L7.2	0.03188	34.4	01Jan2019, 06:10	1.8
L9.1A1	0.05284	64.4	01Jan2019, 06:12	3.6
L9.1A2	0.07408	57.1	01Jan2019, 06:14	3.7
L9.1B	0.06825	39.4	01Jan2019, 06:14	2.7

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (cfs)	Time of Peak	Volume (AC-FT)
L9.2A	0.09583	130.2	01Jan2019, 06:10	6.6
L9.2B	0.01172	9.3	01Jan2019, 06:10	0.5
OS.1	0.44352	45.1	01Jan2019, 06:22	5.7
OS.4	0.18768	35.7	01Jan2019, 06:18	3.8
OS.5a	0.06250	2.5	01Jan2019, 06:32	0.4
OS.5b	0.14900	7.4	01Jan2019, 06:30	1.2
PLAYAL12.2	2.09656	23.2	01Jan2019, 17:54	31.4
PondL12.1	1.13761	704.4	01Jan2019, 06:34	57.5
PondL12.2	0.95895	446.5	01Jan2019, 06:32	34.6
PONDL9.2a	0.09583	17.2	01Jan2019, 06:14	0.3
PONDL9.2aIN	0.09583	30.2	01Jan2019, 06:10	0.3
POND5s	8.87734	201.2	01Jan2019, 11:18	498.9
Pond5SIN	8.87734	417.7	01Jan2019, 06:14	499.7
RelocationCPONDIN	8.09043	746.6	01Jan2019, 06:28	472.8
RTDAM0	0.63120	73.0	01Jan2019, 06:36	9.5
RTDAM9DIVERSION	0.05284	57.4	01Jan2019, 06:22	3.6
RTDIV1	6.09960	82.9	01Jan2019, 09:52	316.9
RTDIV10	7.71465	511.9	01Jan2019, 06:26	444.8
RTDIV3	6.09960	82.9	01Jan2019, 09:58	316.8
RTDIV6	7.15221	171.2	01Jan2019, 07:38	400.4
RTDIV8	7.31829	212.1	01Jan2019, 06:44	413.3

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (cfs)	Time of Peak	Volume (AC-FT)
ToDam6	0.03188	22.9	01Jan2019, 06:10	1.2
ToDam7	0.03188	11.5	01Jan2019, 06:10	0.6
ToDam9	8.93601	167.5	01Jan2019, 11:12	401.2
ToL9.2B	0.09583	30.2	01Jan2019, 06:10	0.3
UD.1b	0.14152	236.9	01Jan2019, 06:10	11.3
UD.2	0.12362	146.9	01Jan2019, 06:12	8.1
UD.2A	0.12345	54.3	01Jan2019, 06:18	4.2
UD.3	0.05598	117.9	01Jan2019, 06:10	6.0
UD.4A	0.02631	60.8	01Jan2019, 06:10	2.9
UD.4B	0.03236	66.6	01Jan2019, 06:10	3.1
UD.4C	0.09938	28.3	01Jan2019, 06:16	2.4
UD.4D	0.02869	72.1	01Jan2019, 06:08	3.4
UD.5a	0.13952	62.7	01Jan2019, 06:16	4.7
UD.5b	0.12174	135.9	01Jan2019, 06:10	7.0
UD.5c	0.08334	128.7	01Jan2019, 06:10	6.3
UD.5D	0.04986	90.5	01Jan2019, 06:16	6.1
UD.5e	0.10578	4.2	01Jan2019, 06:32	0.7
UD.5f	0.01418	35.7	01Jan2019, 06:08	1.7
WS.E	0.01837	21.3	01Jan2019, 06:10	1.1



Legend

- Study Area
- Upper Petroglyphs - 2020 to 2040
- Upper Petroglyphs Lands North - After 2040
- Watersheds
- Subbasins
- Commercial/Light Industrial
- Corporate Office
- Fire/Sheriff
- Highway Commercial
- Major Right of Way
- Manufacturing/Light Industrial Park
- Mixed Use (Town Center)
- Neighborhood Commercial
- Open Space
- Park/Drainage
- Recreation/Amenity Center
- Residential 20 du/ac average
- Residential 5.5 du/ac average
- Residential 5.5 du/ac average (Active Adult)

West I-40 Uplands DMP

Figure 3
Land Use

EXHIBIT B-3

N

0 8,200 Feet

1 " = 4,000 feet

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www.bhinc.com 800.877.5332

P:\20190342\WR\Reports\Uplands DMP\Final\Figures\Figure3-LandUse.mxd
Author: mmeroni

February 2020

EXHIBIT C

DRAINAGE BASINS EXISTING CONDITIONS

EXISTING CONDITIONS

BASIN I.D.	AREA (AC)	% LAND TREATMENT A	B	C	D	DISCHARGE (CFS) 10 YR	100YR
EXISTING BASIN -1	17.7	79.0%	15.0%	6.0%	0.0%	**8.0**	**30.5**
EXISTING BASIN -2	33.8	79.0%	15.0%	6.0%	0.0%	**15.4**	**58.4**
EXISTING BASIN -3	2.2	79.0%	15.0%	6.0%	0.0%	**1.0**	**3.7**
EXISTING BASIN -4	1.8	79.0%	15.0%	6.0%	0.0%	**0.8**	**3.1**
EXISTING BASIN -5	4.6	79.0%	15.0%	6.0%	0.0%	**2.1**	**8.0**
OFFSITE BASIN -1	12.7	79.0%	15.0%	6.0%	0.0%	**5.8**	**22.0**
OFFSITE BASIN -2	1.9	79.0%	15.0%	6.0%	0.0%	**0.9**	**3.3**
OFFSITE BASIN -3	1.2	79.0%	15.0%	6.0%	0.0%	**0.5**	**2.0**
TOTAL	**76.0**					**34.5**	**131.0**

LEGEND

BASIN BOUNDARY

FLOW ARROW

EXISTING STORM DRAIN

OFFSITE BASIN -1

OFFSITE BASIN -2

OFFSITE BASIN -3

EXISTING BASIN -1

EXISTING BASIN -2

EXISTING BASIN -3

EXISTING BASIN -4

EXISTING BASIN -5

N

150 75 0 150

1"=150'

DRAINAGE BASINS EXISTING CONDITIONS

SAVIO RIDGE

DRAWN BY:	DATE:	
SS	03//2025	
CHECKED BY:	BHI PROJECT NO.	SHEET NO.
YPM	20240457	1 OF 1

Bohannan Huston

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Thu, 6-May-2025 - 4:50pm Plotted by: BERTON
P:\20240457\CIVIL\Plans\General\20240457_ExistingBasinMap.dwg

EXHIBIT D
DRAINAGE BASINS PROPOSED CONDITIONS

PROPOSED CONDITIONS

BASIN I.D.	AREA (AC)	UNITS #	% LAND TREATMENT A	B	C	D	DISCHARGE (CFS) 10 YR	100YR
BASIN - 1	4.5	21	0.0%	27.5%	27.5%	45.0%	8.0	14.7
BASIN - 2	7.5	31	0.0%	27.5%	27.5%	45.0%	13.2	24.1
BASIN - 3	2.9	12	0.0%	27.5%	27.5%	45.0%	5.2	9.4
BASIN - 4	1.6	0	0.0%	0.0%	90.0%	10.0%	2.6	4.9
BASIN - 5	2.6	13	0.0%	27.5%	27.5%	45.0%	4.6	8.5
BASIN - 6	2.8	11	0.0%	27.5%	27.5%	45.0%	4.9	8.9
BASIN - 7	3.6	17	0.0%	27.5%	27.5%	45.0%	6.4	11.7
BASIN - 8	3.8	20	0.0%	27.5%	27.5%	45.0%	6.8	12.5
BASIN - 9	0.2	0	0.0%	0.0%	10.0%	90.0%	0.5	0.8
BASIN - 10	0.2	0	0.0%	0.0%	10.0%	90.0%	0.5	0.8
BASIN - 11	0.8	0	0.0%	0.0%	90.0%	10.0%	1.2	2.3
BASIN - 12	0.1	0	0.0%	0.0%	10.0%	90.0%	0.2	0.3
BASIN - 13	0.4	0	0.0%	0.0%	90.0%	10.0%	0.6	1.1
BASIN - 14	0.1	0	0.0%	0.0%	10.0%	90.0%	0.2	0.3
BASIN - 15	4.0	18	0.0%	27.5%	27.5%	45.0%	7.1	12.9
BASIN - 16	0.6	0	0.0%	0.0%	10.0%	90.0%	1.6	2.6
BASIN - 17	4.4	18	0.0%	27.5%	27.5%	45.0%	7.9	14.4
BASIN - 18	0.6	0	0.0%	0.0%	10.0%	90.0%	1.4	2.2
BASIN - 19	2.2	8	0.0%	27.5%	27.5%	45.0%	3.9	7.1
BASIN - 20	2.7	13	0.0%	27.5%	27.5%	45.0%	4.9	8.9
BASIN - 21	2.3	12	0.0%	27.5%	27.5%	45.0%	4.1	7.5
BASIN - 22	4.6	20	0.0%	27.5%	27.5%	45.0%	8.1	14.9
BASIN - 23	1.4	0	0.0%	0.0%	90.0%	10.0%	2.2	4.2
BASIN - 24	2.0	0	79.0%	15.0%	6.0%	0.0%	0.9	3.5
BASIN - 25	0.7	0	79.0%	15.0%	6.0%	0.0%	0.3	1.2
BASIN - 26	0.6	0	79.0%	15.0%	6.0%	0.0%	0.3	1.0
BASIN - 27	0.9	0	0.0%	0.0%	90.0%	10.0%	1.4	2.7
BASIN - 28	0.3	0	79.0%	15.0%	6.0%	0.0%	0.1	0.5
BASIN - 29	1.5	0	0.0%	0.0%	90.0%	10.0%	2.3	4.4
BASIN - 30	0.4	0	0.0%	0.0%	90.0%	10.0%	0.6	1.2
OFFSITE BASIN -1	12.7	0	79.0%	15.0%	6.0%	0.0%	5.8	22.0
OFFSITE BASIN -2	1.9	0	79.0%	15.0%	6.0%	0.0%	0.9	3.3
OFFSITE BASIN -3A	0.6	0	79.0%	15.0%	6.0%	0.0%	0.3	1.0
OFFSITE BASIN -3B	0.6	0	79.0%	15.0%	6.0%	0.0%	0.3	1.0
**BASIN L.9.2A - 3	0.9	0	0.0%	0.0%	100.0%	0.0%	1.3	2.7
**BASIN L.9.2A - 4	1.3	0	0.0%	0.0%	100.0%	0.0%	1.8	3.6
TOTAL	76.0	214					109.1	216.8

**These Basins are not apart of the total site

OFFSITE BASIN -1

POND 3
REQUIRED VOLUME 0.3 AC-FT TO BE DESIGN WITH INFRASTRUCTURE PLANS.

OFFSITE BASIN -2

BASIN -23

BASIN -25

BASIN -24

BASIN -26

BASIN - L.9.2A - 3

BASIN -27

BASIN -28

BASIN - L.9.2A - 4

OFFSITE BASIN -3B

BASIN -15

BASIN -16

BASIN -18

BASIN -17

BASIN -20

BASIN -21

BASIN -22

BASIN -19

OFFSITE BASIN -3A

BASIN -1

BASIN -2

BASIN -3

BASIN -8

BASIN -5

BASIN -4

BASIN -29

POND 2
REQUIRED VOLUME 1.3 AC-FT TO BE DESIGN WITH INFRASTRUCTURE PLANS.

BASIN -9

BASIN -11

BASIN -6

BASIN -12

BASIN -10

BASIN -13

BASIN -7

BASIN -14

BASIN -30

POND 1
REQUIRED VOLUME 3.3 AC-FT TO BE DESIGN WITH INFRASTRUCTURE PLANS. REQUIRED SWQV = 0.85 AC-FT

LEGEND

- BASIN BOUNDARY
- FLOW ARROW
- EXISTING STORM DRAIN
- PROPOSED STORM DRAIN
- PROPOSED STORM DRAIN MANHOLE
- PROPOSED STORM DRAIN INLET
- HIGH POINT (HP)

N

150 75 0 150

1"=150'

DRAINAGE BASINS PROPOSED CONDITIONS

SAVIO RIDGE

DRAWN BY:	DATE:	
SS	01/2025	
CHECKED BY: YPM	BHI PROJECT NO. 20240457	SHEET NO. 1 OF 1

Bohannan Huston
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Mon, 7-Apr-2025 - 4:28pm, Plotted by: SSOSMATA
P:\2024\457\CDP\Plans\General\20240457_ProposedBasinMap.dwg

EXHIBIT E

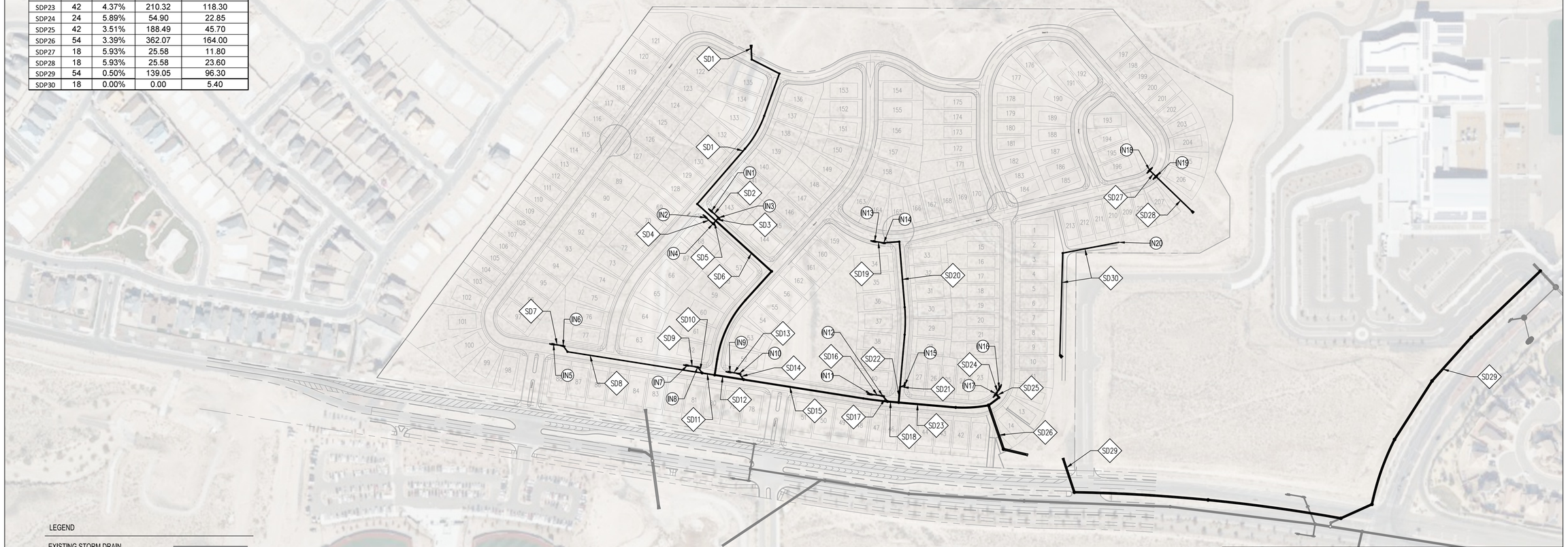
STORM DRAIN EXHIBIT

STORM DRAIN PIPE TABLE

PIPE #	Size in.	Slope	Capacity1 cfs	ACTUAL FLOW cfs
ONSITE				
SDP1	24	0.65%	18.2	18.0
SDP2	18	2.00%	14.9	7.2
SDP3	18	2.00%	14.9	12.4
SDP4	18	2.00%	14.86	7.20
SDP5	18	2.00%	14.86	12.40
SDP6	36	0.60%	51.66	42.80
SDP7	18	4.25%	21.66	7.20
SDP8	18	4.25%	21.66	13.00
SDP9	18	2.00%	14.86	5.00
SDP10	18	2.00%	14.86	7.70
SDP11	24	4.25%	46.64	20.70
SDP12	36	3.45%	123.89	63.50
SDP13	18	6.30%	26.37	9.50
SDP14	18	6.30%	26.37	17.10
SDP15	36	3.73%	128.82	80.60
SDP16	18	5.92%	25.56	8.40
SDP17	24	5.92%	55.04	14.40
SDP18	42	3.73%	194.31	95.00
SDP19	18	3.00%	18.19	8.60
SDP20	24	1.60%	28.62	15.80
SDP21	18	6.91%	27.61	7.50
SDP22	36	2.07%	95.96	23.30
SDP23	42	4.37%	210.32	118.30
SDP24	24	5.89%	54.90	22.85
SDP25	42	3.51%	188.49	45.70
SDP26	54	3.39%	362.07	164.00
SDP27	18	5.93%	25.58	11.80
SDP28	18	5.93%	25.58	23.60
SDP29	54	0.50%	139.05	96.30
SDP30	18	0.00%	0.00	5.40

INLET TABLE

Inlet #	UPSTREAM FLOW (cfs)	Inlet Type	FLOW CAPTURED (cfs)	BYPASS FLOW (cfs)
IN1	39.6	1-SGL TYPE A	7.2	32.4
IN2	32.4	1-SGL TYPE A	7.2	25.2
IN3	25.2	1-SGL TYPE C	5.2	20.0
IN4	20.0	1-SGL TYPE C	5.2	14.8
IN5	15.5	1-SGL TYPE A	7.2	8.3
IN6	8.3	1-SGL TYPE C	5.8	2.5
IN7	8.2	1-SGL TYPE A	5.0	3.2
IN8	3.2	1-SGL TYPE C	2.7	0.5
IN9	26.3	1-SGL TYPE A	9.5	16.8
IN10	16.8	1-SGL TYPE C	7.6	9.2
IN11	19.3	1-SGL TYPE A	8.4	10.9
IN12	10.9	1-SGL TYPE C	6.0	4.9
IN13	21.9	1-SGL TYPE A	8.6	13.3
IN14	13.3	1-SGL TYPE C	7.2	6.1
IN15	14.6	1-SGL TYPE A	7.5	7.1
IN16	45.7	1-SGL TYPE C	22.9	22.9
IN17	22.9	1-DBL TYPE A	22.9	0.0
IN18	23.6	1-DBL TYPE A	11.8	11.8
IN19	11.8	1-DBL TYPE A	11.8	0.0
IN20	5.4	OPEN PIPE	5.4	N/A



LEGEND

- EXISTING STORM DRAIN
- PROPOSED STORM DRAIN
- PROPOSED STORM DRAIN MANHOLE
- PROPOSED STORM DRAIN INLET

N

150 75 0 150

1"=150'

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Mon, 7-Apr-2025 - 4:00 pm Plotted by: SSSMITA
P:\20240457\COP\Plans\General\20240457_00_Exhibit.dwg

STORM DRAIN EXHIBIT

SAVIO RIDGE

DRAWN BY:	DATE:	
SS	03/2025	
CHECKED BY:	BHI PROJECT NO.	SHEET NO.
YPM	20240457	1 OF 1

EXHIBIT F

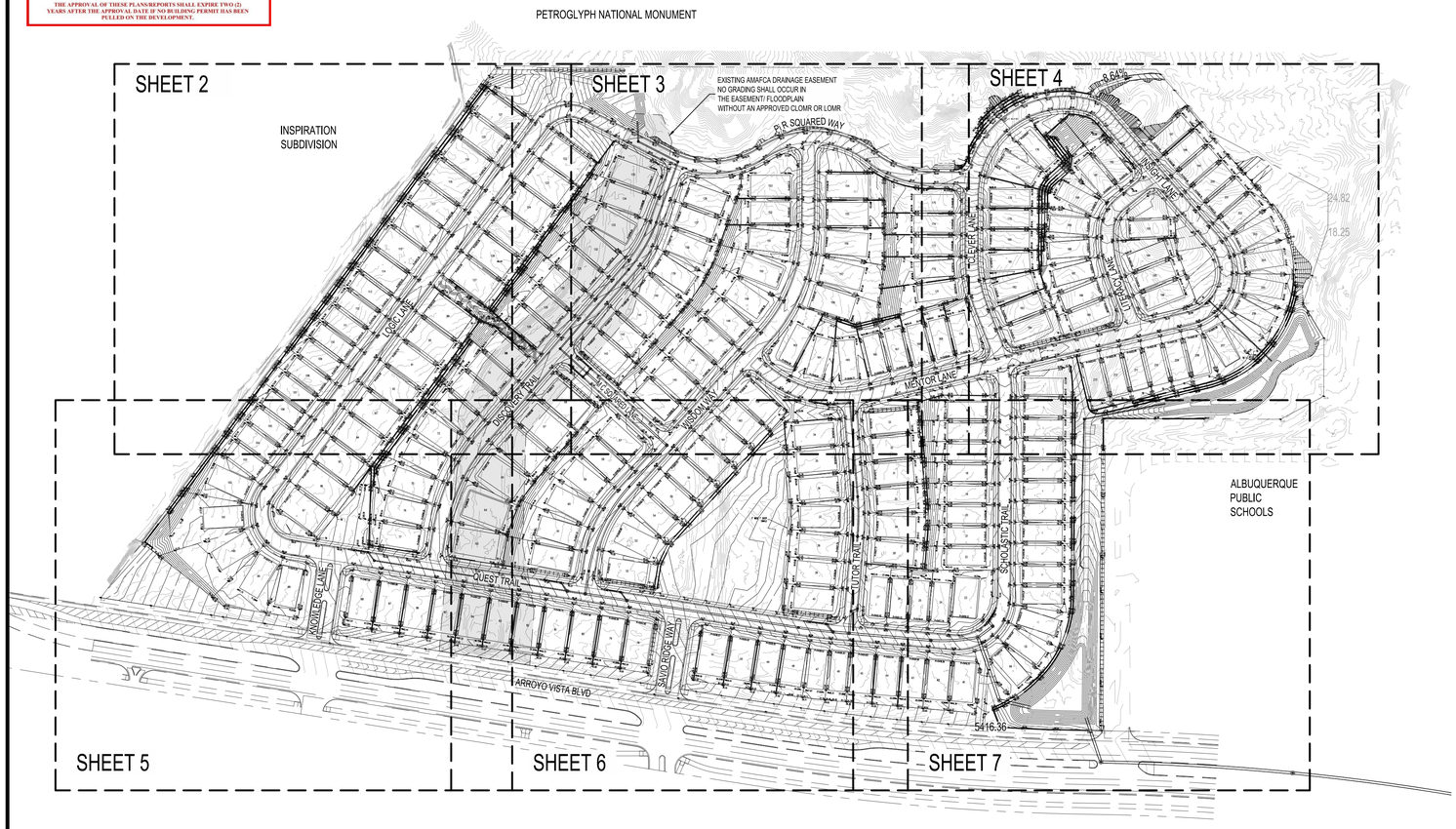
GRADING PLAN

City of Albuquerque
Planning Department
Development Review Services
HYDROLOGY SECTION
APPROVED
DATE: 5/2/2025
BY:
HydroTrans # J08D003B

THE APPROVAL OF THESE PLANS/REPORTS SHALL NOT BE CONSTRUED TO PERMIT VIOLATIONS OF ANY CITY ORDINANCE OR STATE LAW, AND SHALL NOT PREVENT THE CITY OF ALBUQUERQUE FROM REQUIRING CORRECTIONS FOR ERRORS OR DIMENSIONS IN PLANS, SPECIFICATIONS, OR CONSTRUCTION DOCUMENTS. SUCH APPROVED PLANS/REPORTS SHALL NOT BE CHANGED, MODIFIED OR ALTERED WITHOUT AUTHORIZATION.

THE APPROVAL OF THESE PLANS/REPORTS SHALL EXPIRE TWO (2) YEARS AFTER THE APPROVAL DATE IF NO BUILDING PERMIT HAS BEEN PULLED ON THE DEVELOPMENT.

NOTE:
SEE SAVIO RIDGE DRAINAGE REPORT DATED MARCH 2025 FOR DETAILS RELATED TO THE PROJECT CONDITIONS, REQUIREMENTS AND CALCULATIONS.



GENERAL NOTES

1. ALL WORK DETAILED ON THESE PLANS AND PERFORMED UNDER THIS CONTRACT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE PROJECT GEOTECHNICAL REPORT. WHERE APPLICABLE, CITY OF ABUQUERQUE PUBLIC WORKS STANDARDS SHALL APPLY.

2. THE CONTRACTOR SHALL ABIDE BY ALL LOCAL, STATE, AND FEDERAL LAWS, RULES AND REGULATIONS WHICH APPLY TO THE CONSTRUCTION OF THESE IMPROVEMENTS, INCLUDING EPA REQUIREMENTS WITH RESPECT TO STORM WATER DISCHARGE.

3. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL POTENTIAL OBSTRUCTIONS INCLUDING ALL UNDERGROUND UTILITIES. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION OBSERVER OR ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.

4. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL CONTACT LINE LOCATING SERVICE FOR LOCATION OF EXISTING UTILITIES.

5. ALL ELECTRICAL, TELEPHONE, CABLE TV, GAS AND OTHER UTILITY LINES, CABLES, AND APPURTENANCES ENCOUNTERED DURING CONSTRUCTION THAT REQUIRE RELOCATION, SHALL BE COORDINATED WITH THAT UTILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ALL NECESSARY UTILITY ADJUSTMENTS. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR DELAYS OR INCONVENIENCES CAUSED BY UTILITY COMPANY WORK CREWS. THE CONTRACTOR MAY BE REQUIRED TO RESCHEDULE HIS ACTIVITIES TO ALLOW UTILITY CREWS TO PERFORM THEIR REQUIRED WORK.

6. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITY LINES WITHIN THE CONSTRUCTION AREA. ANY DAMAGE TO EXISTING FACILITIES CAUSED BY CONSTRUCTION ACTIVITY SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE AND APPROVED BY THE CONSTRUCTION OBSERVER.

7. CONSTRUCTION ACTIVITY SHALL BE LIMITED TO THE PROPERTY AND/OR PROJECT LIMITS. ANY DAMAGE TO ADJACENT PROPERTIES RESULTING FROM THE CONSTRUCTION PROCESS SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.

8. OVERNIGHT PARKING OF CONSTRUCTION EQUIPMENT SHALL NOT OBSTRUCT DRIVEWAYS OR DESIGNATED TRAFFIC LANES. THE CONTRACTOR SHALL NOT STORE ANY EQUIPMENT OR MATERIAL WITHIN THE PUBLIC RIGHT-OF-WAY.

9. THE CONTRACTOR SHALL OBTAIN ALL THE NECESSARY PERMITS FOR THE PROJECT PRIOR TO COMMENCING CONSTRUCTION (I.E., BARRICADING, TOPSOIL DISTURBANCE, EXCAVATION PERMITS, EPA STORM WATER PERMITS, ETC.).

10. ALL PROPERTY CORNERS DESTROYED DURING CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. ALL PROPERTY CORNERS MUST BE RESET BY A REGISTERED LAND SURVEYOR.

11. THE CONTRACTOR SHALL PREPARE A CONSTRUCTION TRAFFIC CONTROL AND SIGNING PLAN AND OBTAIN APPROVAL OF SUCH PLAN FROM THE CITY OF ALBUQUERQUE, TRAFFIC ENGINEERING DEPARTMENT, PRIOR TO BEGINNING ANY CONSTRUCTION WORK ON OR ADJACENT TO EXISTING STREETS.

12. ALL BARRICADES AND CONSTRUCTION SIGNING SHALL CONFORM TO APPLICABLE SECTIONS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD), US DEPARTMENT OF TRANSPORTATION, LATEST EDITION.

13. THE CONTRACTOR SHALL MAINTAIN ALL CONSTRUCTION BARRICADES AND SIGNING AT ALL TIMES. THE CONTRACTOR SHALL VERIFY THE PROPER LOCATION OF ALL BARRICADING AT THE END AND BEGINNING OF EACH DAY.

14. THE CONTRACTOR SHALL TAKE ALL STEPS NECESSARY TO CONFORM WITH EPA REQUIREMENTS, INCLUDING COMPLIANCE WITH NPDES REQUIREMENTS.

GRADING NOTES

1. EXCEPT AS PROVIDED HERIN, GRADING SHALL BE PERFORMED AT THE ELEVATIONS AND IN ACCORDANCE WITH THE DETAILS SHOWN ON THIS PLAN.

2. CONTRACTOR SHALL OBTAIN AND ABIDE BY A TOPSOIL DISTURBANCE PERMIT FROM THE CITY OF ALBUQUERQUE ENVIRONMENTAL HEALTH DIVISION, PRIOR TO CONSTRUCTION. THE COST FOR REQUIRED CONSTRUCTION DUST AND EROSION CONTROL MEASURES SHALL BE INCIDENTAL TO THE PROJECT COST. THE CONTRACTOR SHALL CONFORM TO ALL CITY, COUNTY, STATE, AND FEDERAL DUST CONTROL MEASURES AND REQUIREMENTS AND WILL BE RESPONSIBLE FOR PREPARING AND OBTAINING ALL NECESSARY APPLICATIONS AND APPROVALS.

3. ALL WORK RELATIVE TO FOUNDATION CONSTRUCTION, SITE PREPARATION, AND PAVEMENT INSTALLATION, AS SHOWN ON THIS PLAN, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SOILS REPORT. ALL OTHER WORK, UNLESS OTHERWISE STATED OR PROVIDED FOR HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS (FIRST PRIORITY), AND/OR THE CITY OF ALBUQUERQUE (COA) STANDARD SPECIFICATIONS FOR PUBLIC WORKS (SECOND PRIORITY)

4. TWO WORKING DAYS PRIOR TO EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE FOR LOCATION OF EXISTING UTILITIES.

5. PRIOR TO GRADING, ALL VEGETATION DEBRIS, AND NEAR SURFACE ORGANICALLY CONTAMINATED SOIL SHALL BE STRIPPED FROM ALL AREAS TO BE GRADED. VEGETATION AND DEBRIS SHALL BE DISPOSED OF OFF-SITE OR STOCK-PILED FOR USE IN PLANTERS AND NON-STRUCTURAL FILLS.

6. EARTH SLOPES SHALL NOT EXCEED 4 HORIZONTAL TO 1 VERTICAL UNLESS SHOWN OTHERWISE.

7. IT IS THE INTENT OF THESE PLANS THAT THIS CONTRACTOR SHALL NOT PERFORM ANY WORK OUTSIDE OF THE PROPERTY BOUNDARIES EXCEPT AS REQUIRED BY THIS PLAN.

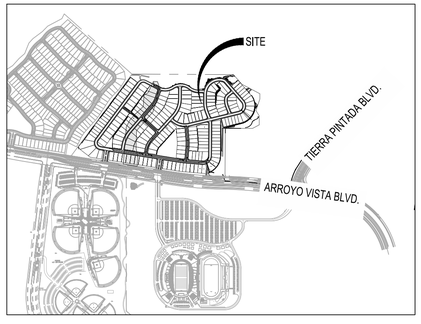
8. THE CONTRACTOR IS TO ENSURE THAT NO SOIL ERODES FROM THE SITE ONTO ADJACENT PROPERTY OR PUBLIC RIGHT-OF-WAY. THIS SHOULD BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AT THE PROPERTY LINES WETTING THE SOIL TO PROTECT IT FROM WIND EROSION.

9. A DISPOSAL SITE FOR ALL EXCESS EXCAVATION AND UNSUITABLE MATERIAL SHALL BE OBTAINED BY THE CONTRACTOR IN COMPLIANCE WITH APPLICABLE ENVIRONMENTAL REGULATIONS AND APPROVED BY THE OBSERVER. ALL COSTS INCURRED IN OBTAINING A DISPOSAL SITE AND HAUL THERETO SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT, AND NO SEPARATE MEASUREMENT OR PAYMENT SHALL BE MADE.

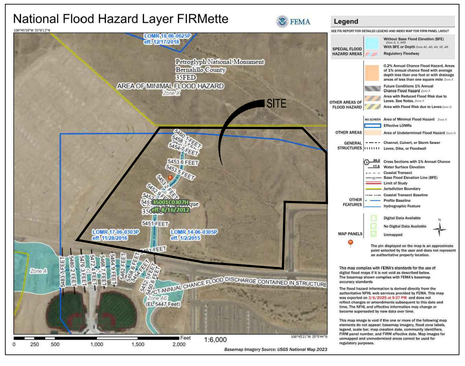
10. PAVING AND ROADWAY GRADES SHALL BE +/- 0.1' FROM PLAN ELEVATIONS. PAD ELEVATION SHALL BE +/- 0.05' FROM BUILDING PLAN ELEVATIONS.

11. ALL SPOT ELEVATIONS ARE TO FLOWLINE UNLESS OTHERWISE NOTED. VALLEY GUTTER ELEVATIONS ARE SHOWN AT FLOWLINE ELEVATION.

12. GRADING SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.



VICINITY MAP (ZONE ATLAS J-07-Z, J-08-Z)
NOT TO SCALE



LEGEND

PROPOSED SPOT ELEVATION	5235.25
EXISTING SPOT ELEVATION	EX 5235.25
PROPOSED CONTOUR	5225
EXISTING STORM DRAIN LINE	
PROPOSED STORM DRAIN INLET	
PROPOSED STORM DRAIN LINE	
PROPOSED STORM DRAIN MANHOLE	
PERIMETER WALL	
RETAINING WALL	
GARDEN WALL	
PAD	10 P=5300.00
TURNED BLOCK	TB
STREET SLOPE	XX
DIRECTION OF FLOW	

811
CALL NM ONE-CALL SYSTEM SEVEN (7) DAYS PRIOR TO ANY EXCAVATION

BHI JOB NO. 20240457

CONSULTANTS
Bohannan Huston
www.bhinc.com
800.877.5332

BENCH MARKS
USC&GS BRASS DISK STAMPED "REVARD 1969"
GEOGRAPHIC POSITION (NAD 1983)
NM STATE PLANE GRID COORDINATES (CENTRAL ZONE)
N = 1,487,364.063 U.S. SURVEY FEET
E = 1,491,190.819 U.S. SURVEY FEET
GROUND TO GRID FACTOR = 0.999675005
DELTA ALPHA = -00°17'12.26"
NAVD 88 ELEVATION = 5319.688 (U.S. SURVEY FT)

SEAL
YOLANDA PADILLA ARMENTA
NEW MEXICO
16035
04-07-2025
REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION	BY
		AS-BUILT INFORMATION	
		CONTRACTOR:	
		WORK STAKED BY: DATE:	
		INSPECTOR'S ACCEPTANCE BY: DATE:	
		FIELD VERIFICATION BY: DATE:	
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DESIGNED BY: YPM
DRAWN BY: DO
CHECKED BY: YPM
DATE DECEMBER 2024

CITY OF ALBUQUERQUE
DEPARTMENT OF MUNICIPAL DEVELOPMENT
ENGINEERING DIVISION

SAVIO RIDGE SUBDIVISION
OVERALL GRADING PLAN

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL

ZONE MAP NO. J-07-Z, J-08-Z
CITY PROJECT NO. —
SHEET NO. 1 OF 9

Mon, 7-Apr-2025 - 4:03 pm. Plotted by: AROMERO
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LEGEND

- PROPOSED SPOT ELEVATION — 5235.25
- EXISTING SPOT ELEVATION — EX 5235.25
- PROPOSED CONTOUR — 5025
- EXISTING STORM DRAIN LINE
- PROPOSED STORM DRAIN INLET
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- PERIMETER WALL
- RETAINING WALL
- GARDEN WALL
- PAD — 10 P=5300.00
- TURNED BLOCK — TB XX
- STREET SLOPE
- DIRECTION OF FLOW

City of Albuquerque
Planning Department
Development Review Services
HYDROLOGY SECTION
APPROVED

DATE: 5/2/2025
BY:
HydroTrans # J08D003B

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N

40 20 0 40
1"=40'

811
CALL NM ONE-CALL
SYSTEM SEVEN (7) DAYS
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CONSULTANTS

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BENCH MARKS

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SEAL

YOLANDA PADILLA MORALES
NEW MEXICO
16035
REGISTERED PROFESSIONAL ENGINEER
04-07-2025

NO.	DATE	DESCRIPTION	BY
		AS-BUILT INFORMATION	
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DESIGNED BY: YPM
DRAWN BY: DO
CHECKED BY: YPM
DATE: DECEMBER 2024

CITY OF ALBUQUERQUE
DEPARTMENT OF MUNICIPAL DEVELOPMENT
ENGINEERING DIVISION

SAVIO RIDGE SUBDIVISION
GRADING PLAN

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	ZONE MAP NO. J-07-Z, J-08-Z
		CITY PROJECT NO. —
		SHEET NO. 2 OF 9

Mon, 7-Apr-2025 - 4:03 pm. Plotted by: AROMERO
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EXISTING AMAFCA DRAINAGE EASEMENT
NO GRADING SHALL OCCUR IN
THE EASEMENT/ FLOODPLAIN
WITHOUT AN APPROVED CLOMR OR LOMR

POND 3
REQUIRED VOLUME
0.3 AC FT
TO BE DESIGNED WITH
INFRASTRUCTURE PLANS

PETROGLYPH
NATIONAL
MONUMENT

PI R SQUARED WAY

LOGIC LANE

DISCOVERY TRAIL

WISDOM WAY

MENTOR LANE

TUTOR TRAIL

MATCHLINE SEE SHEET 2

MATCHLINE SEE SHEET 4

MATCHLINE SEE SHEET 6

MATCHLINE SEE SHEET 7

LEGEND

PROPOSED SPOT ELEVATION	5235.25
EXISTING SPOT ELEVATION	EX 5235.25
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EXISTING STORM DRAIN LINE	
PROPOSED STORM DRAIN INLET	
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PERIMETER WALL	
RETAINING WALL	
GARDEN WALL	
PAD	10 P=5300.00
TURNED BLOCK	TB
STREET SLOPE	XX
DIRECTION OF FLOW	

City of Albuquerque
Planning Department
Development Review Services
HYDROLOGY SECTION
APPROVED

DATE: 5/2/2025
BY:
HydroTrans # J08D003B

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CONSULTANTS

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BENCH MARKS

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SEAL

YOLANDA PADILLA MORALES
NEW MEXICO
16035
REGISTERED PROFESSIONAL ENGINEER
04-07-2025

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N

40 20 0 40
1"=40'

811
CALL NM ONE-CALL
SYSTEM SEVEN (7) DAYS
PRIOR TO ANY EXCAVATION

DESIGNED BY: YPM
DRAWN BY: DO
CHECKED BY: YPM
DATE DECEMBER 2024

CITY OF ALBUQUERQUE
DEPARTMENT OF MUNICIPAL DEVELOPMENT
ENGINEERING DIVISION

SAVIO RIDGE SUBDIVISION
GRADING PLAN

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	ZONE MAP NO. J-07-Z, J-08-Z
		CITY PROJECT NO. —
		SHEET NO. 3 OF 9

BHI JOB NO. 2024045717

Mon, 7-Apr-25 @ 14:03 pm. Plotted by: ARCHIEROOT
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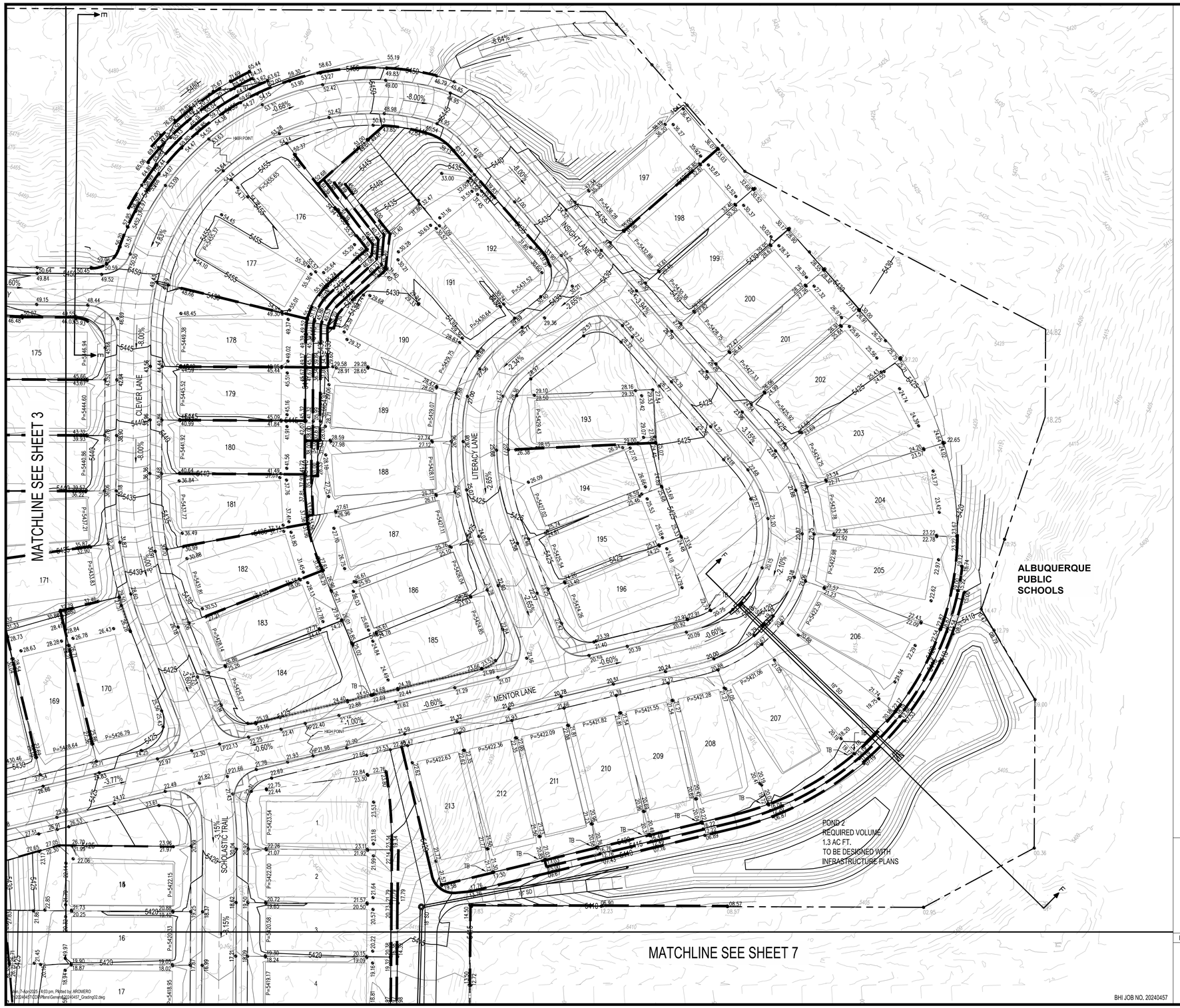

LEGEND

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EXISTING SPOT ELEVATION	EX 5235.25
PROPOSED CONTOUR	5025
EXISTING STORM DRAIN LINE	
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PERIMETER WALL	
RETAINING WALL	
GARDEN WALL	
PAD	10 P=5300.00
TURNED BLOCK	TB
STREET SLOPE	XX
DIRECTION OF FLOW	

City of Albuquerque
Planning Department
Development Review Services
HYDROLOGY SECTION
APPROVED

DATE: 5/2/2025
BY:
HydroTrans # J08D003B

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1"=40'

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DESIGN REVIEW COMMITTEE | CITY ENGINEER APPROVAL

CONSULTANTS

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BENCH MARKS

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SEAL

YOLANDA PADILLA MIRANDA
NEW MEXICO
16035
REGISTERED PROFESSIONAL ENGINEER
04-07-2025

NO.	DATE	DESCRIPTION	BY
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		CONTRACTOR:	
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		DRAWINGS CORRECTED BY: DATE:	

DESIGNED BY: YPM
DRAWN BY: DO
CHECKED BY: YPM
DATE DECEMBER 2024

CITY OF ALBUQUERQUE
DEPARTMENT OF MUNICIPAL DEVELOPMENT
ENGINEERING DIVISION

SAVIO RIDGE SUBDIVISION
GRADING PLAN

ZONE MAP NO. J-07-Z, J-08-Z
CITY PROJECT NO. —
SHEET NO. 4 OF 9

BHI JOB NO. 20240457

Jun 1-Apr-2025 4:03 pm, Plotted by: AROMERO
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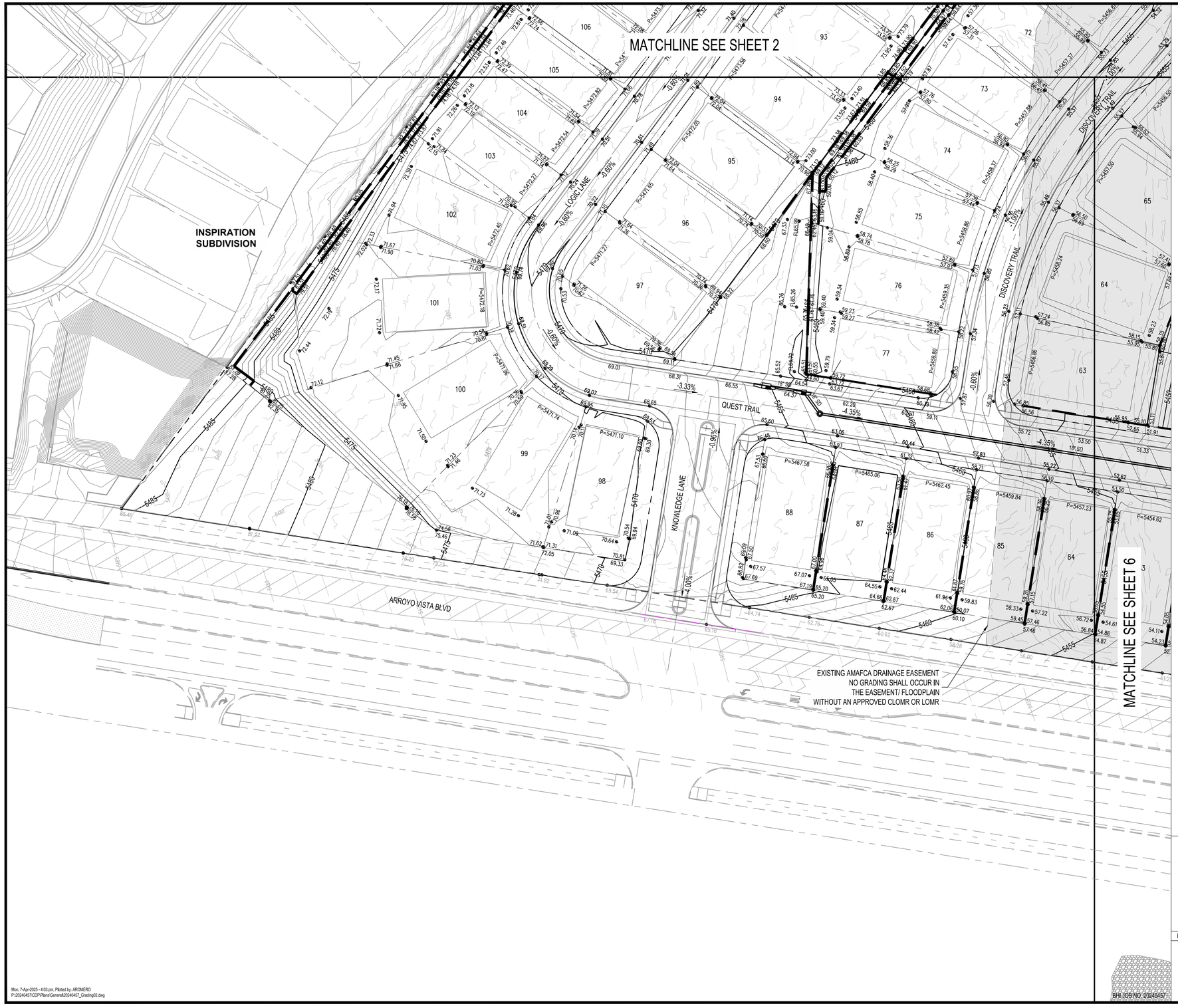

LEGEND

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- GARDEN WALL
- PAD — 10 P=5300.00
- TURNED BLOCK — TB XX
- STREET SLOPE
- DIRECTION OF FLOW

City of Albuquerque
Planning Department
Development Review Services
HYDROLOGY SECTION
APPROVED

DATE: 5/2/2025
BY:
HydroTrans # J08D003B

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N

40 20 0 40
1"=40'

811
CALL NM ONE-CALL
SYSTEM SEVEN (7) DAYS
PRIOR TO ANY EXCAVATION

BH JOB NO. 2024057

CONSULTANTS

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BENCH MARKS

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SEAL

YOLANDA PADILLA MIRANDA
NEW MEXICO
16035
04-07-2025
REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION	BY
		AS-BUILT INFORMATION CONTRACTOR:	
		WORK STAKED BY: DATE:	
		INSPECTOR'S ACCEPTANCE BY: DATE:	
		FIELD VERIFICATION BY: DATE:	
		DRAWINGS CORRECTED BY: DATE:	

DESIGNED BY: YPM
DRAWN BY: DO
CHECKED BY: YPM
DATE DECEMBER 2024

CITY OF ALBUQUERQUE
DEPARTMENT OF MUNICIPAL DEVELOPMENT
ENGINEERING DIVISION

SAVIO RIDGE SUBDIVISION
GRADING PLAN

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL

ZONE MAP NO. J-07-Z, J-08-Z
CITY PROJECT NO. —
SHEET NO. 5 OF 9

Mon, 7-Apr-2025 - 4:03 pm, Plotted by: AROMERO
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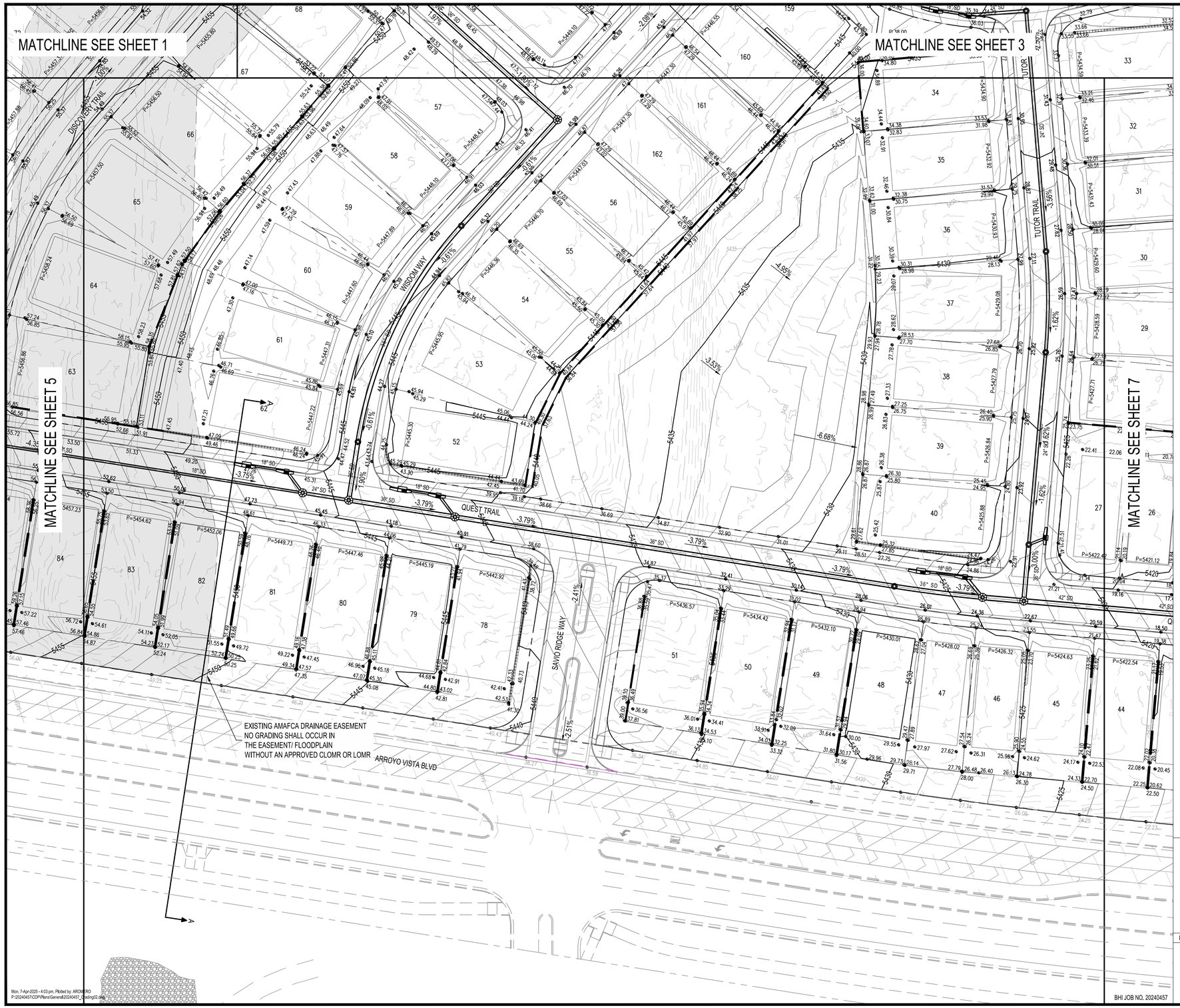

LEGEND

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- PROPOSED CONTOUR — 5025
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- PROPOSED STORM DRAIN LINE
- PROPOSED STORM DRAIN MANHOLE
- PERIMETER WALL
- RETAINING WALL
- GARDEN WALL
- PAD — 10 P=5300.00
- TURNED BLOCK — TB XX
- STREET SLOPE
- DIRECTION OF FLOW

City of Albuquerque
Planning Department
Development Review Services
HYDROLOGY SECTION
APPROVED

DATE: 5/2/2025
BY:
HydroTrans #: J08D003B

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N

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1"=40'

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CONSULTANTS

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BENCH MARKS

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SEAL

YOLANDA PADILLA MANUEL — NEW MEXICO — 16035 — REGISTERED PROFESSIONAL ENGINEER — 04-07-2025

NO.	DATE	DESCRIPTION	BY
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		WORK STAKED BY:	
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DESIGNED BY: YPM
DRAWN BY: DO
CHECKED BY: YPM
DATE DECEMBER 2024

CITY OF ALBUQUERQUE
DEPARTMENT OF MUNICIPAL DEVELOPMENT
ENGINEERING DIVISION

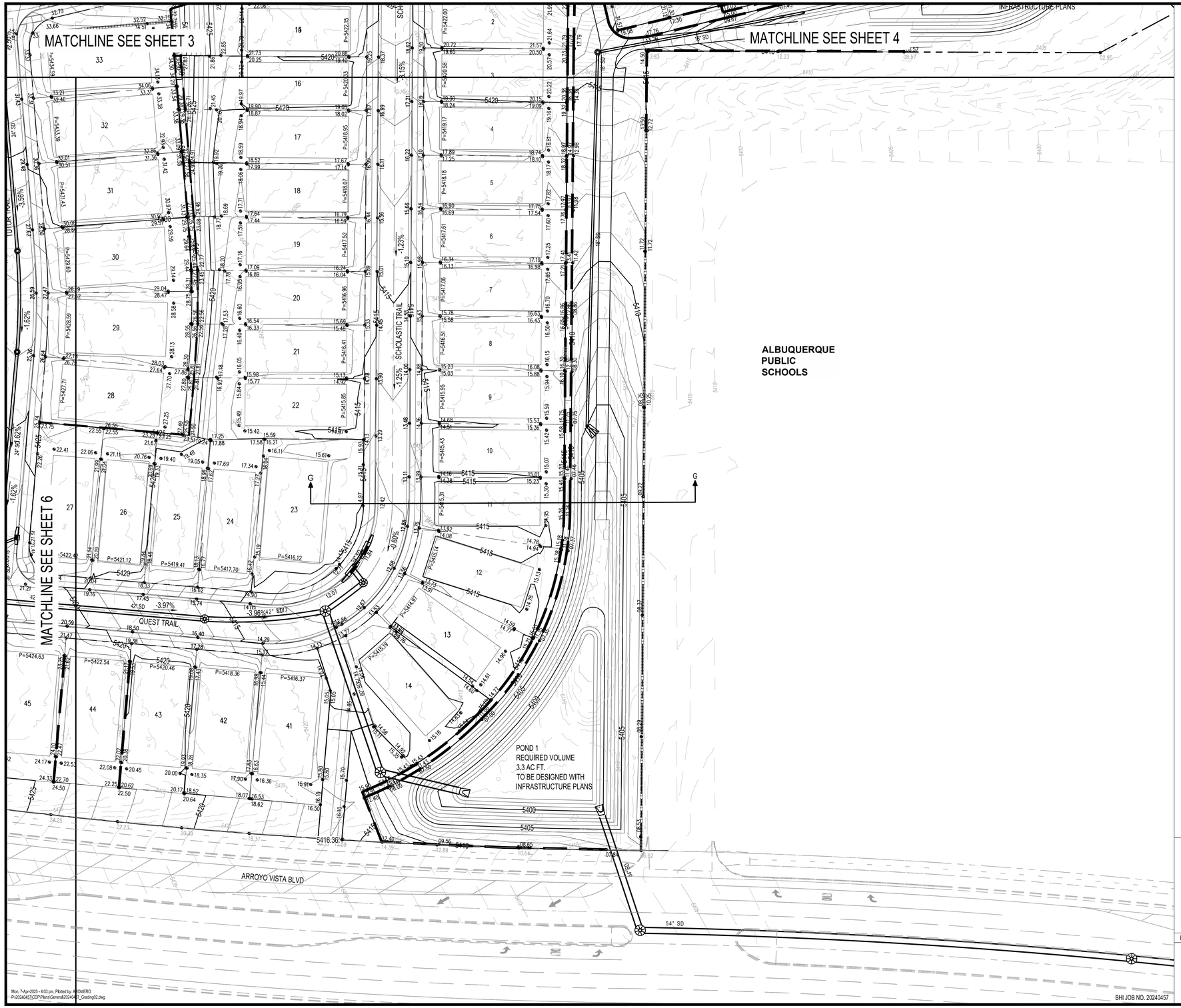
SAVIO RIDGE SUBDIVISION
GRADING PLAN

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL

ZONE MAP NO. J-07-Z, J-08-Z
CITY PROJECT NO. —
SHEET NO. 6 OF 9

BHI JOB NO. 20240457

Mon, 7-Apr-2025 - 4:03 pm. Plotted by: AROMERO
P:\20240457\CDP\Plans\General\20240457_Grading02.dwg



LEGEND

PROPOSED SPOT ELEVATION	5235.25
EXISTING SPOT ELEVATION	EX 5235.25
PROPOSED CONTOUR	5025
EXISTING STORM DRAIN LINE	
PROPOSED STORM DRAIN INLET	
PROPOSED STORM DRAIN LINE	
PROPOSED STORM DRAIN MANHOLE	
PERIMETER WALL	
RETAINING WALL	
GARDEN WALL	
PAD	10 P=5300.00
TURNED BLOCK	TB XX
STREET SLOPE	
DIRECTION OF FLOW	

City of Albuquerque
Planning Department
Development Review Services
HYDROLOGY SECTION
APPROVED

DATE: 5/2/2025
BY:
HydroTrans # J08D003B

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CONSULTANTS

Bohannan Huston
www.bhinc.com
800.877.5332

BENCH MARKS

USC&GS BRASS DISK STAMPED "REVARD 1969"
GEOGRAPHIC POSITION (NAD 1983)
NM STATE PLANE GRID COORDINATES (CENTRAL ZONE)
N = 1,487,364.063 U.S. SURVEY FEET
E = 1,491,190.819 U.S. SURVEY FEET
GROUND TO GRID FACTOR = 0.999675005
DELTA ALPHA = -00°17'12.26"
NAVD 88 ELEVATION = 5319.688 (U.S. SURVEY FT)

SEAL

YOLANDA PADILLA MORALES
NEW MEXICO
16035
REGISTERED PROFESSIONAL ENGINEER
04-07-2025

NO.	DATE	DESCRIPTION	BY
		AS-BUILT INFORMATION	
		CONTRACTOR:	
		WORK STAKED BY: DATE:	
		INSPECTOR'S ACCEPTANCE BY: DATE:	
		FIELD VERIFICATION BY: DATE:	
		DRAWINGS CORRECTED BY: DATE:	

N

40 20 0 40
1"=40'

811
CALL NM ONE-CALL
SYSTEM SEVEN (7) DAYS
PRIOR TO ANY EXCAVATION

DESIGNED BY:	YPM
DRAWN BY:	DO
CHECKED BY:	YPM
DATE	DECEMBER 2024

CITY OF ALBUQUERQUE
DEPARTMENT OF MUNICIPAL DEVELOPMENT
ENGINEERING DIVISION

SAVIO RIDGE SUBDIVISION
GRADING PLAN

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	ZONE MAP NO. J-07-Z, J-08-Z
		CITY PROJECT NO. —
		SHEET NO. 7 OF 9

Mon, 7-Apr-2025 - 4:03 pm, Plotted by: AROMERO
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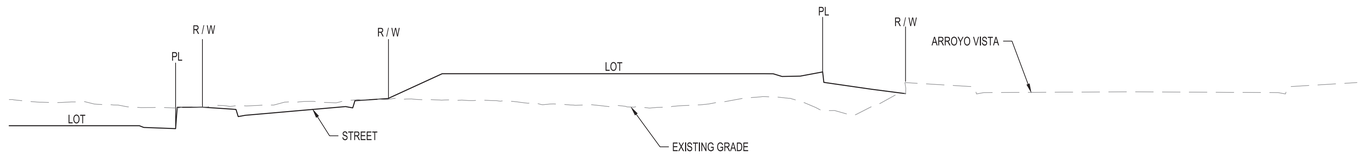
BHI JOB NO. 20240457



SECTION A-A
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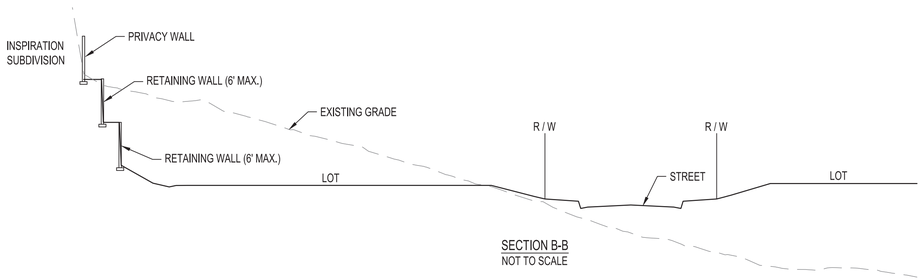

SECTION B-B
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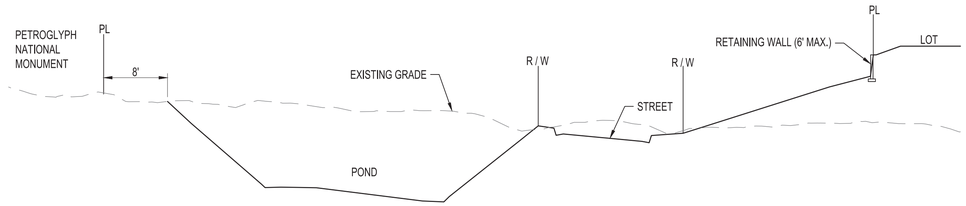
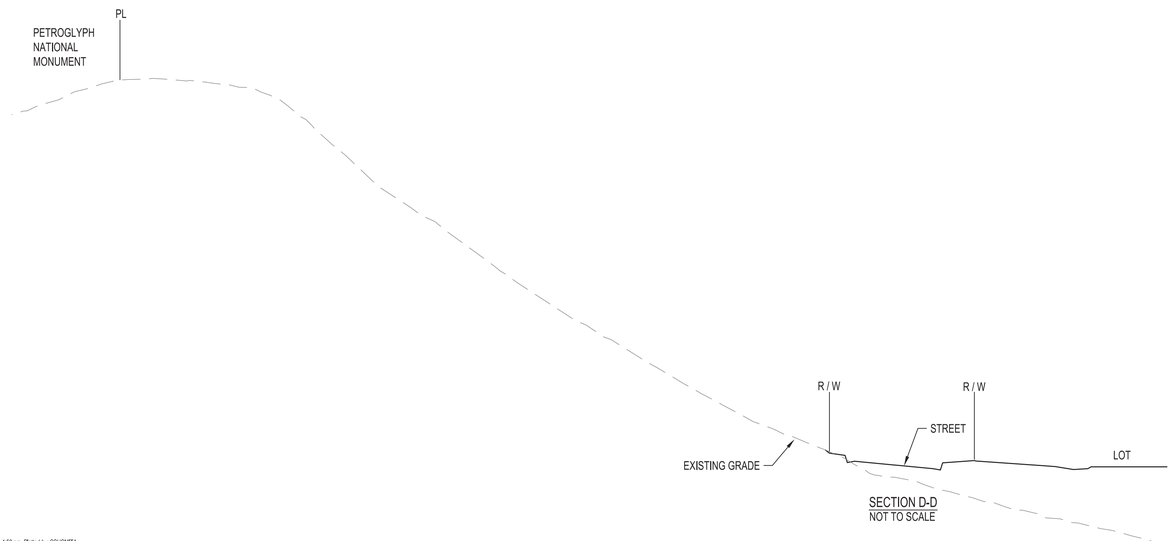


SECTION C-C
NOT TO SCALE



SECTION D-D
NOT TO SCALE

Wed, 12-Mar-2025 - 4:50 pm. Plotted by: SSUSMITA
C:\Users\ssusmita\appdata\local\temp\AcPub\ph_21132\20240457Grading_sections.dwg

BHI JOB NO. 20240457

City of Albuquerque
Planning Department
Development Review Services
HYDROLOGY SECTION
APPROVED
DATE: 5/2/2025
BY:
HydroTrans # J08D003B

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CONSULTANTS

Bohannan Huston
www.bhinc.com
800.877.5332

BENCH MARKS

SEAL

YOLANDA PADILLA MONTOYA
NEW MEXICO
16035
REGISTERED PROFESSIONAL ENGINEER
04-07-2025

NO.	DATE	DESCRIPTION	BY
		AS-BUILT INFORMATION	
		CONTRACTOR:	
		WORK STAKED BY: DATE:	
		INSPECTOR'S ACCEPTANCE BY: DATE:	
		FIELD VERIFICATION BY: DATE:	
		DRAWINGS CORRECTED BY: DATE:	

811
CALL NM ONE-CALL SYSTEM
SEVEN (7) DAYS PRIOR TO
ANY EXCAVATION

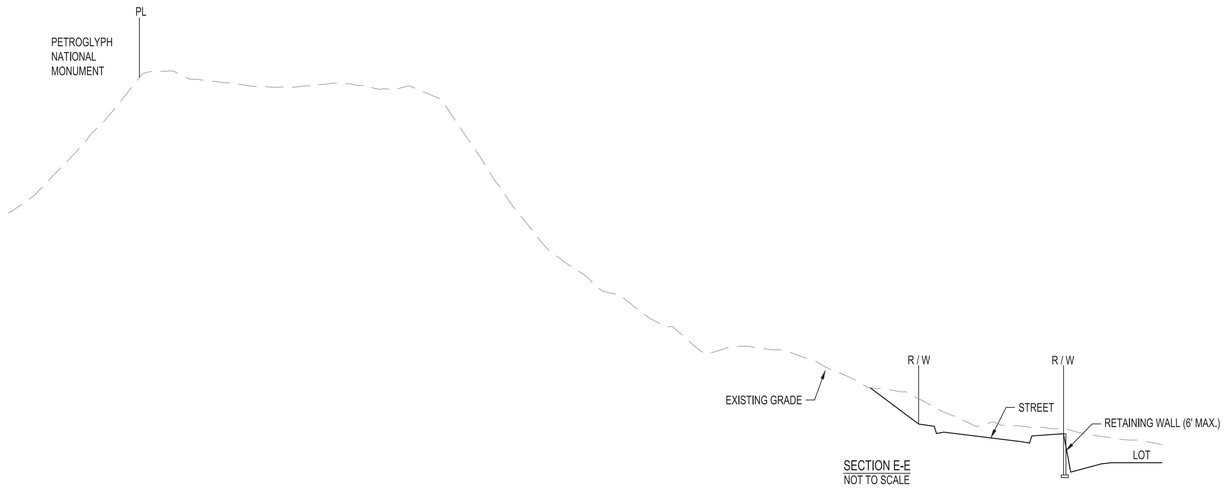
DESIGNED BY: YPM
DRAWN BY: AR
CHECKED BY: YPM
DATE DECEMBER 2024

CITY OF ALBUQUERQUE
DEPARTMENT OF MUNICIPAL DEVELOPMENT
ENGINEERING DIVISION

SAVIO RIDGE SUBDIVISION
GRADING SECTIONS

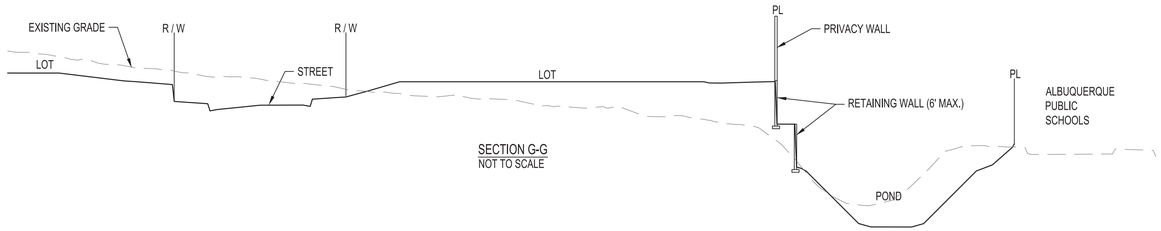
DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL

ZONE MAP NO. J-07-Z, J-08-Z
CITY PROJECT NO. —
SHEET NO. 8 OF 9



SECTION E-E
NOT TO SCALE

SECTION F-F
NOT TO SCALE



SECTION G-G
NOT TO SCALE

City of Albuquerque
Planning Department
Development Review Services
HYDROLOGY SECTION
APPROVED
DATE: 5/2/2025
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CONSULTANTS

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www.bhinc.com
800.877.5332

BENCH MARKS

SEAL

YOLANDA PADILLA MOYA
NEW MEXICO
16035
04-07-2025
LICENSED PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION	BY
		AS-BUILT INFORMATION	
		CONTRACTOR:	
		WORK STAKED BY:	DATE:
		INSPECTORS ACCEPTANCE BY:	DATE:
		FIELD VERIFICATION BY:	DATE:
		DRAWINGS CORRECTED BY:	DATE:

811
CALL NM ONE-CALL SYSTEM
SEVEN (7) DAYS PRIOR TO
ANY EXCAVATION

DESIGNED BY: YPM
DRAWN BY: AR
CHECKED BY: YPM
DATE DECEMBER 2024

CITY OF ALBUQUERQUE
DEPARTMENT OF MUNICIPAL DEVELOPMENT
ENGINEERING DIVISION

SAVIO RIDGE SUBDIVISION
GRADING SECTIONS

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL

ZONE MAP NO. J-07-Z, J-08-Z
CITY PROJECT NO. —
SHEET NO. 9 OF 9

BHI JOB NO. 20240457

Wed, 12-Mar-2025 - 4:50 pm, Plotted by: SSUSMITA
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