



**MONTAGE 7 SUBDIVISION AT MESA DEL SOL
DRAINAGE STUDY**

CITY OF ALBUQUERQUE

PREPARED FOR:

City of Albuquerque
Planning Department
Development Review Services
HYDROLOGY SECTION
PRELIMINARY APPROVED
DATE: 3/17/2023
BY: *Hegner Chen*
HydroTrans # R16D100A

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



PREPARED BY:

HUITT-ZOLLARS

**333 RIO RANCHO BLVD., SUITE 101
RIO RANCHO, NEW MEXICO 87124**

MARCH 2023

HZI Project No. R315530.01



Montage 7 – Mesa Del Sol Drainage Study

I, Nina Leung-Villa, being first duly sworn upon my oath, state that I am a registered professional engineer, qualified in civil engineering and that the accompanying report was prepared by me or under my supervision and is true and correct to the best of my knowledge and belief.



City of Albuquerque
Planning Department
Development Review Services
HYDROLOGY SECTION
PRELIMINARY APPROVED
DATE: 3/17/2023
BY: Neguen Cho
HydroTrans # R16D100A

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INTRODUCTION

This drainage report addresses the infrastructure required to convey the storm water runoff from the Montage 7 subdivision in Mesa Del Sol. Both existing and proposed conditions have been analyzed to determine infrastructure requirements for the proposed development. This report will demonstrate that the development of this project complies with the City of Albuquerque ordinances and policies.

PROJECT LOCATION

Montage 7 is proposed to be a residential subdivision within the Mesa Del Sol development in Albuquerque. It is located on Bobby Foster Rd. between Newhall Dr. and Sagan Loop. The project site will have 57 residential detached units on 7.5 acres of land.

FLOOD HAZARD ZONE

The proposed site does not lie within a flood hazard area as shown on Flood Insurance Rate Map Number 35001C0555H, effective date August 16, 2012. See **Appendix A** for the FEMA Flood Insurance Rate Map.

RELATED REPORTS

This report references the drainage study for Bobby Foster Rd. and University Blvd. Amendment by Huitt-Zollars, Inc., dated January, 2023. That report provided analysis for this project site and the surrounding area. Hydrology calculations were completed for the 100-year, 6-hour storm. Pond volume calculations were completed for the 100-year, 10-day storm.

This report also references the Drainage Report for Mesa del Sol Residential Montage Unit 3 and 4 by Bohannon Huston, Inc., dated August 10, 2020. That report resulted in upsizing of Pond 2A which is a part of a network of ponds for the Bobby Foster and University Boulevard Project.

JURISDICTIONS OF PUBLIC AGENCIES

This project is located entirely within the City of Albuquerque (CoA) Municipal Limits and is therefore within its jurisdiction and must comply with the City's development requirements.

METHODOLOGY

This drainage report follows procedures outlined in the CoA Development Process Manual (DPM). This report will utilize AHYMO for hydrology modeling to match methodology used in the Bobby Foster Rd. and University Blvd. Amendment drainage report. AHYMO is utilized in this study to determine peak flow rates and volumes for Montage 7 subdivision. See **Appendix C** for the AHYMO input and output.

PRECIPITATION

The 100-yr, 24-hr design storm was used for this analysis. For these storms, the AHYMO Computer program requires the 1, 6, and 24-hr precipitation values. These values were obtained from the NOAA Atlas and are shown on **Table 1**. These precipitation values are consistent with current data obtained from NOAA Atlas 14 Precipitation Frequency Data Server. See **Appendix B** for site specific "Point Precipitation Frequency Estimates".



Table 1
Precipitation Values

Return Period (yrs)	24 hr Rainfall (in)	6 hr Rainfall (in)	1 hr Rainfall (in)
100	2.63	2.29	1.83

LAND TREATMENTS

The land treatments used in the AHYMO Computer model are as described by the CoA DPM, and are summarized in **Table 2**.

Table 2
Land Treatment Classifications

Treatment	Land Condition
A	Soil uncompacted by human activity with 0 to 10% slopes. Native grasses, weeds, and shrubs in typical densities with minimal disturbance to grading, ground cover, and infiltration capacity.
B	Irrigated lawns, parks and golf courses with 0 to 10% slopes. Native grasses, weeds and shrubs, and soil uncompacted by human activity with slopes greater than 10% and less than 20%.
C	Soil compacted by human activity. Minimal vegetation. Unpaved parking, roads, trails. Most vacant lots. Gravel or rock (desert landscaping). Irrigated lawns and parks with slopes greater than 10%. Native grasses, weeds and shrubs, and soil uncompacted by human activity with slopes at 20% or greater. Native grass, weed and shrub areas with clay or clay loam soils, and other soils of very low permeability as classified by SCS Hydrologic Soil Group D.
D	Impervious areas, pavement, and roofs. Ponds, channels, and wetlands, even if seasonally dry

Because this project site is comprised of Single-Family Detached Units, the corresponding Percent of Treatment D is determined by the equation: $7 * ((N * N) + (5 * N))^{0.5}$ where N = units/acre. The remaining percentage points are to be split between treatments B and C. "N" for Montage 7 Subdivision is calculated to be 7.7 units/acre. Please refer to **Exhibit 1** for specific basin land treatments.

EXISTING CONDITIONS

The project site is currently undeveloped and generally slopes from north to south towards an existing Pond. Due to the existing road network, there is currently no offsite flow that reaches the site. Pond 2a has been designed to accommodate the runoff retention of this project and other designated basins. See **Exhibit 5** for Pond 2a design details (Pond 2a provided by Bohannon Huston, Inc). Pond 1 currently is a natural pond and will require a design suitable to retain the runoff volume from this project and future projects.



PROPOSED CONDITIONS

The site is proposed for development of detached residential units. Please refer to the Developed Conditions Basin Map in **Exhibit 1** for basin characteristics including area, peak flow amounts, and land type. Montage 7 exists as Basin W-3 as established with the Bobby Foster and University Blvd Basin Report. As previously studied in the master drainage report, Pond 1 and Pond 2a will serve as the ponding facilities which will provide adequate volume to manage runoff from this project.

Montage 7 will utilize the hydraulic system in Bobby Foster Rd, Newhall Dr, Sagan Loop, Stieglitz Ave, and the internal subdivision network. See **Exhibit 1** for the basin schematic that will utilize the aforestated discharge routes.

Each lot on the perimeter of Montage 7 will face outwards with the driveway on the backside of the house. The internal lots will face south, west, and north respectively starting from the most northern internal lots and working your way down to the most southern internal lots.

The project discharge to the west will utilize three locations connecting to Newhall Dr and include Wood Rd, and two sidewalk culverts. One sidewalk culvert is located at Hopper Alley and another sidewalk culvert is located at Rose Alley. The sidewalk culvert connecting to Hopper Alley will discharge basins 100 and 200. This flow will combine with the surface flow coming from Bobby Foster Road. Flow will continue down Newhall Dr. and see additional flow from the adjacent basin 300 as well as basins discharging via Wood Rd which include basins 500 and 600. Existing on-grade inlets placed in Newhall Dr. will collect flow at this point and allow the remaining flow to carry down towards Pond 1. Additional runoff will be added from basins 700 and 800 before discharging into Pond 1 via a sump inlet at the intersection of Newhall Dr. and Steiglitz Ave.

Basins 400 and 900 will discharge to the east and will utilize Sagan Loop as the main network path. There are two sets of existing inlets in Sagan Loop, one set on the north end and one set on the south end. All basins, including surrounding roads, utilizing Sagan Loop and north of Aaron Rd. will enter the pipe network in the north inlets. Basins utilizing Sagan Loop and south of Aaron Rd. will enter the pipe network in the south inlets. This pipe network will ultimately drain into Pond 2a.

Basin 101 will surface drain into Stieglitz Ave. and utilize inlets located at the intersection with Newhall Rd. Refer to **Table 3** for a flowrate comparison of each proposed or utilized street section.

Pond 1 will be designed as a retention pond and will accommodate designated basins from this project and future related projects. The required retention volume for pond 1 is 427,009 CF and is designed to accommodate 721,371 CF. Refer to Bobby Foster Rd. and University Blvd. Amendment drainage report for more details.



**Table 3
Proposed Flow Capacity**

Street Section	Allowable Street Capacity Q (CFS)	Actual Q (CFS)
Alley A (Hopper Alley)	10.2	7.7
Alley B (Wood Alley)	10.2	5.5
Alley C (Aaron Alley)	10.2	2.7
Alley D (Rose Alley)	10.2	2.6
Parcel J	10.8	2.7
NewHall Dr.	23.6	22.1
Steiglitz Ave. down stream	26.1	6.1
Wood Rd.	20.8	5.5
Bobby Foster East Bound + Bobby Foster West Bound	41.5	11.10
Sagan Loop	48.4	9.3
Steiglitz Ave. up stream	18.6	1.4

Basin Montage 7, formerly named W-3 is part of the drainage report for Bobby Foster and University Boulevard Amendment and will discharge to Pond 1 and Pond 2a along with Basins T, U, V, Park, W-1, and W-2. For more details refer to the [Drainage study for Bobby Foster Rd. and University Blvd. Amendment.](#)

CONCLUSION

The proposed buildout of Montage 7 Subdivision will not exceed the capacity of the existing storm drain system in Newhall Dr. and Sagan Loop. Ponds 1 and Pond 2a will have enough capacity to retain the designated runoff. This drainage study substantially complies with the “Mesa Del Sol Master Plan” and the drainage study for “Bobby Foster Rd. and University Blvd. Amendment”

APPENDIX A

FEMA FLOOD INSURANCE RATE MAP

National Flood Hazard Layer FIRMMette



106°37'38"W 34°59'36"N



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

1:6,000

106°37'1"W 34°59'6"N

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

Legend

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

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
OTHER FEATURES		Levee, Dike, or Floodwall
		Cross Sections with 1% Annual Chance Water Surface Elevation
OTHER FEATURES		Coastal Transect
		Base Flood Elevation Line (BFE)
OTHER FEATURES		Limit of Study
		Jurisdiction Boundary
OTHER FEATURES		Coastal Transect Baseline
		Profile Baseline
MAP PANELS		Hydrographic Feature
		Digital Data Available
MAP PANELS		No Digital Data Available
		Unmapped



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

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **6/6/2022 at 7:03 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

APPENDIX B

NOAA Atlas Point Precipitation Frequency Estimates



NOAA Atlas 14, Volume 1, Version 5
Location name: Albuquerque, New Mexico, USA*
Latitude: 34.9893°, Longitude: -106.6223°
Elevation: 5304.6 ft**
* source: ESRI Maps
** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

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

NOAA, National Weather Service, Silver Spring, Maryland

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

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches) ¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.179 (0.155-0.207)	0.232 (0.200-0.268)	0.310 (0.267-0.358)	0.370 (0.318-0.426)	0.453 (0.387-0.520)	0.516 (0.439-0.593)	0.583 (0.493-0.670)	0.654 (0.548-0.750)	0.748 (0.621-0.860)	0.823 (0.679-0.946)
10-min	0.272 (0.236-0.315)	0.352 (0.304-0.408)	0.472 (0.406-0.545)	0.563 (0.484-0.648)	0.689 (0.589-0.791)	0.786 (0.668-0.903)	0.888 (0.750-1.02)	0.995 (0.833-1.14)	1.14 (0.945-1.31)	1.25 (1.03-1.44)
15-min	0.338 (0.293-0.390)	0.437 (0.377-0.506)	0.585 (0.503-0.675)	0.698 (0.599-0.803)	0.854 (0.730-0.981)	0.974 (0.829-1.12)	1.10 (0.929-1.26)	1.23 (1.03-1.41)	1.41 (1.17-1.62)	1.55 (1.28-1.79)
30-min	0.455 (0.394-0.525)	0.589 (0.508-0.681)	0.787 (0.678-0.909)	0.940 (0.807-1.08)	1.15 (0.983-1.32)	1.31 (1.12-1.51)	1.48 (1.25-1.70)	1.66 (1.39-1.90)	1.90 (1.58-2.19)	2.09 (1.72-2.40)
60-min	0.563 (0.488-0.650)	0.729 (0.629-0.842)	0.974 (0.839-1.13)	1.16 (0.999-1.34)	1.42 (1.22-1.64)	1.62 (1.38-1.86)	1.83 (1.55-2.11)	2.06 (1.72-2.36)	2.35 (1.95-2.70)	2.59 (2.13-2.98)
2-hr	0.640 (0.553-0.753)	0.819 (0.705-0.964)	1.08 (0.930-1.27)	1.29 (1.11-1.51)	1.58 (1.34-1.84)	1.82 (1.53-2.11)	2.06 (1.73-2.40)	2.32 (1.93-2.69)	2.68 (2.20-3.11)	2.97 (2.42-3.45)
3-hr	0.678 (0.591-0.794)	0.862 (0.749-1.01)	1.13 (0.980-1.32)	1.34 (1.16-1.56)	1.63 (1.40-1.90)	1.87 (1.59-2.16)	2.12 (1.79-2.45)	2.38 (2.00-2.76)	2.75 (2.28-3.18)	3.05 (2.50-3.53)
6-hr	0.788 (0.688-0.915)	0.991 (0.868-1.15)	1.27 (1.12-1.48)	1.50 (1.31-1.73)	1.80 (1.56-2.08)	2.04 (1.76-2.35)	2.29 (1.96-2.64)	2.55 (2.17-2.93)	2.91 (2.45-3.35)	3.20 (2.67-3.69)
12-hr	0.875 (0.771-0.994)	1.10 (0.973-1.25)	1.39 (1.23-1.58)	1.62 (1.42-1.84)	1.93 (1.69-2.19)	2.17 (1.89-2.45)	2.42 (2.09-2.73)	2.67 (2.29-3.02)	3.01 (2.56-3.42)	3.29 (2.77-3.74)
24-hr	0.985 (0.879-1.11)	1.23 (1.10-1.39)	1.54 (1.37-1.74)	1.79 (1.59-2.01)	2.12 (1.88-2.38)	2.37 (2.09-2.66)	2.63 (2.32-2.95)	2.90 (2.54-3.24)	3.25 (2.83-3.65)	3.53 (3.06-3.96)
2-day	1.05 (0.938-1.17)	1.31 (1.18-1.46)	1.63 (1.46-1.82)	1.88 (1.69-2.09)	2.22 (1.98-2.47)	2.48 (2.21-2.76)	2.75 (2.44-3.05)	3.02 (2.67-3.35)	3.38 (2.97-3.76)	3.65 (3.20-4.07)
3-day	1.13 (1.03-1.24)	1.41 (1.28-1.55)	1.74 (1.58-1.91)	2.00 (1.82-2.19)	2.34 (2.13-2.57)	2.61 (2.36-2.86)	2.88 (2.60-3.15)	3.15 (2.83-3.45)	3.50 (3.14-3.84)	3.77 (3.37-4.14)
4-day	1.22 (1.12-1.32)	1.51 (1.39-1.64)	1.84 (1.70-2.00)	2.11 (1.95-2.28)	2.47 (2.27-2.67)	2.74 (2.52-2.96)	3.01 (2.76-3.25)	3.27 (2.99-3.54)	3.63 (3.31-3.92)	3.89 (3.54-4.22)
7-day	1.40 (1.30-1.52)	1.74 (1.61-1.88)	2.11 (1.95-2.28)	2.40 (2.22-2.59)	2.78 (2.57-2.99)	3.07 (2.83-3.30)	3.35 (3.08-3.60)	3.61 (3.33-3.89)	3.96 (3.64-4.26)	4.21 (3.85-4.54)
10-day	1.54 (1.43-1.67)	1.92 (1.77-2.07)	2.34 (2.17-2.52)	2.67 (2.48-2.87)	3.11 (2.88-3.34)	3.43 (3.17-3.69)	3.76 (3.47-4.03)	4.08 (3.75-4.38)	4.49 (4.12-4.83)	4.80 (4.38-5.16)
20-day	1.96 (1.81-2.12)	2.43 (2.25-2.63)	2.95 (2.73-3.18)	3.34 (3.10-3.59)	3.84 (3.55-4.12)	4.19 (3.88-4.50)	4.54 (4.19-4.87)	4.86 (4.48-5.21)	5.27 (4.85-5.65)	5.55 (5.11-5.96)
30-day	2.34 (2.17-2.52)	2.90 (2.69-3.12)	3.49 (3.24-3.74)	3.92 (3.64-4.20)	4.46 (4.13-4.77)	4.85 (4.48-5.18)	5.21 (4.82-5.57)	5.55 (5.12-5.93)	5.95 (5.49-6.36)	6.23 (5.74-6.66)
45-day	2.84 (2.64-3.04)	3.51 (3.27-3.76)	4.18 (3.90-4.47)	4.65 (4.34-4.97)	5.22 (4.88-5.58)	5.61 (5.24-5.99)	5.96 (5.57-6.35)	6.27 (5.85-6.67)	6.60 (6.17-7.02)	6.79 (6.37-7.22)
60-day	3.28 (3.06-3.53)	4.06 (3.78-4.36)	4.84 (4.51-5.18)	5.39 (5.03-5.77)	6.05 (5.64-6.47)	6.50 (6.07-6.95)	6.91 (6.45-7.39)	7.28 (6.79-7.78)	7.68 (7.18-8.21)	7.94 (7.43-8.48)

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

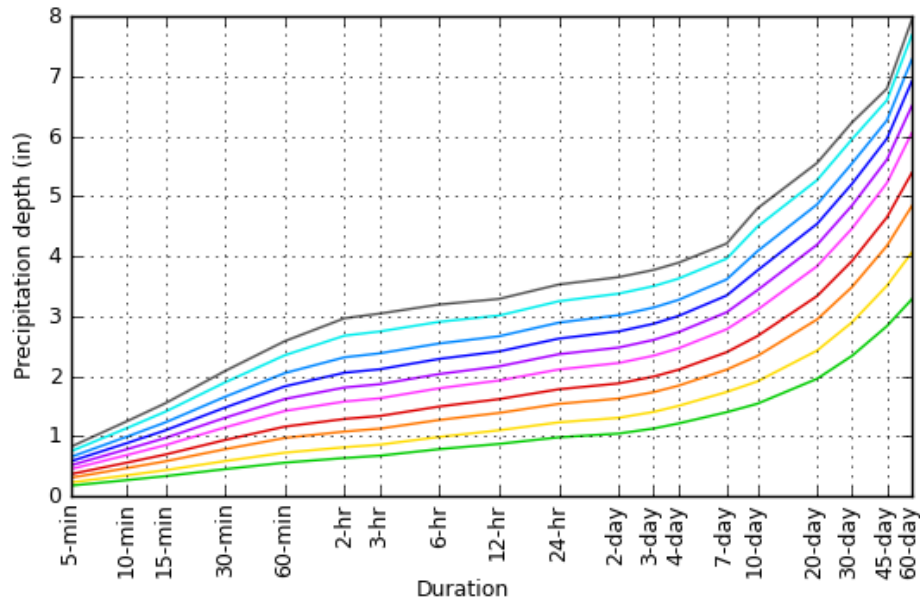
Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper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

Please refer to NOAA Atlas 14 document for more information.

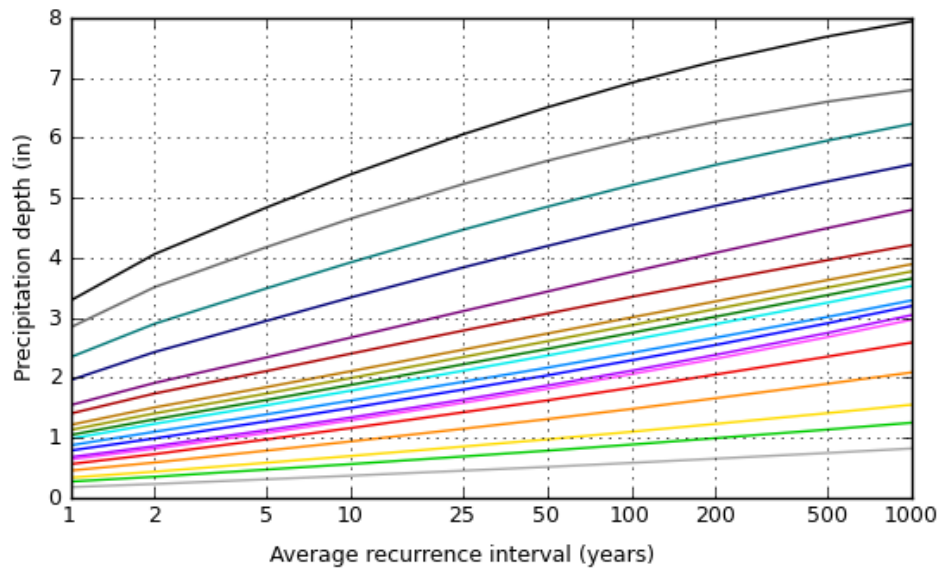
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PF graphical

PDS-based depth-duration-frequency (DDF) curves
Latitude: 34.9893°, Longitude: -106.6223°



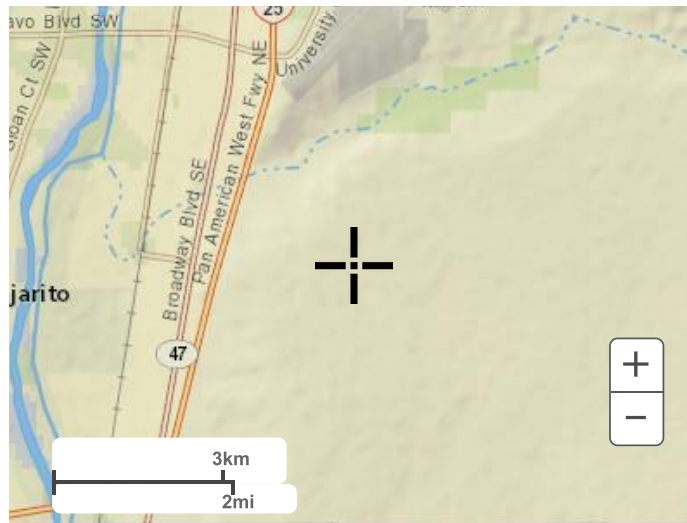
Average recurrence interval (years)
1
2
5
10
25
50
100
200
500
1000



Duration	
5-min	2-day
10-min	3-day
15-min	4-day
30-min	7-day
60-min	10-day
2-hr	20-day
3-hr	30-day
6-hr	45-day
12-hr	60-day
24-hr	

Maps & aerials

Small scale terrain



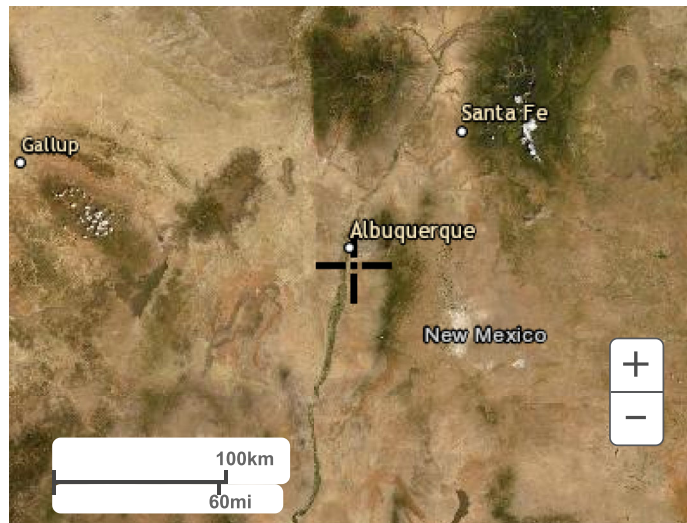
Large scale terrain



Large scale map



Large scale aerial



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

[Disclaimer](#)

APPENDIX C

AHYMO Input and Output

Developed Conditions Basin Map

Street Name	Capacity(CFS)
Bobby Foster - West Bound	20.6
Bobby Foster - East Bound	20.9
Newhall	23.6
Sagan	48.4
Stieglitz	18.6
Parcel J	10.2
Alley	10.3
Wood	20.8



TITLE: DEVELOPED CONDITIONS BASIN MAP
MONTAGE 7 - MESA DEL SOL

Design Review Committee	City Engineer	Last Update	Mo./Day/Yr.	Mo./Day/Yr.
City Project No.	Zone Map No.	Sheet	Of	EXHIBIT 1

AS BUILT INFORMATION	
CONTRACTOR	DATE
WORK STAGED BY	DATE
INSPECTORS	DATE
ACCEPTANCE BY	DATE
VERIFICATION BY	DATE
DRAWINGS CORRECTED BY	DATE
MICRO-FILM INFORMATION	
RECORDED BY	DATE
NO.	

[illegible]

NO.	DATE	REMARKS	BY
REVISIONS			
DESIGN			
DESIGNED BY: CAT		DATE: January, 4 2023	
DRAWN BY: CAT		DATE: January, 4 2023	
DWG NAME: Z:\MDS MONTAGE\7BASINS.dwg		PROJ #:	
CHECKED BY: SAE		DATE: January, 4 2023	

START TIME=0.0 CODE=0 LINES=0

*S MESA DEL SOL MONTAGE 7 DECEMBER 2022 HZI NO. R315530.01

*S-----

*S 100 - YEAR RAINFALL -----

RAINFALL TYPE=-1 RAIN QUAR=0.0 RAIN ONE= 1.83
RAIN SIX= 2.29 RAIN DAY=2.63 DT=0.0

*S-----

*S-----THE FOLLOWING BASINS DRAIN INTO POND 1-----

*S-----

*S-----

*S BASIN 100 - DISCHARGE TO HOPPER ALLEY

COMPUTE NM HYD ID=10 HYD NO=100 DA=0.0015 SQ MI
PER A=0.0 PER B=6.0 PER C=6.0 PER D=88.0
TP=-.1333 HR MASSRAIN=-1

PRINT HYD ID=10 CODE=1

*S-----

*S BASIN 200 - DISCHARGE VIA AARON ALLEY AND HOPPER ALLEY

COMPUTE NM HYD ID=20 HYD NO=200 DA=0.0015 SQ MI
PER A=0.0 PER B=21.0 PER C=21.0 PER D=58.0
TP=-.1333 HR MASSRAIN=-1

PRINT HYD ID=20 CODE=1

*S-----

*S BASIN 300 - DISCHARGE TO NEWHALL DRIVE

COMPUTE NM HYD ID=30 HYD NO=300 DA=0.0010 SQ MI
PER A=0.0 PER B=14.0 PER C=14.0 PER D=72.0
TP=-.1333 HR MASSRAIN=-1

PRINT HYD ID=30 CODE=1

*S-----

*S BASIN 400 - DISCHARGE TO SAGAN LOOP TO NORTH SUMP INLET

COMPUTE NM HYD ID=40 HYD NO=400 DA=0.0013 SQ MI
PER A=0.0 PER B=13.0 PER C=13.0 PER D=74.0
TP=-.1333 HR MASSRAIN=-1

PRINT HYD ID=40 CODE=1

*S-----

*S BASIN 500 - DISCHARGE TO NEWHALL VIA WOOD ROAD

COMPUTE NM HYD ID=50 HYD NO=500 DA=0.0010 SQ MI
PER A=0.0 PER B=5.0 PER C=5.0 PER D=90.0
TP=-.1333 HR MASSRAIN=-1

PRINT HYD ID=50 CODE=1

*S-----

*S BASIN 600 - DISCHARGE TO AARON ALLEY TO PARCEL J TO WOOD ALLEY TO

COMPUTE NM HYD ID=60 HYD NO=600 DA=0.0011 SQ MI
PER A=0.0 PER B=18.0 PER C=18.0 PER D=64.0
TP=-.1333 HR MASSRAIN=-1

PRINT HYD ID=60 CODE=1

*S-----

*S BASIN 700 - DISCHARGE TO NEWHALL DR

COMPUTE NM HYD ID=70 HYD NO=700 DA=0.0005 SQ MI
PER A=0.0 PER B=18.0 PER C=18.0 PER D=64.0
TP=-.1333 HR MASSRAIN=-1

PRINT HYD ID=70 CODE=1

*S-----

*S BASIN 800 - DISCHARGE TO ROSE ALLEY TO NEWHALL

COMPUTE NM HYD ID=80 HYD NO=800 DA=0.0009 SQ MI
PER A=0.0 PER B=24.0 PER C=24.0 PER D=52.0
TP=-.1333 HR MASSRAIN=-1

PRINT HYD ID=80 CODE=1

*S-----

*S BASIN 900 - DISCHARGE TO SAGAN LOOP AND TRAVELS SOUTH

COMPUTE NM HYD ID=90 HYD NO=900 DA=0.0014 SQ MI
PER A=0.0 PER B=11.0 PER C=11.0 PER D=78.0
TP=-.1333 HR MASSRAIN=-1

PRINT HYD ID=90 CODE=1

*S-----

*S BASIN 101 - DISCHARGE TO STIEGLITZ

COMPUTE NM HYD ID=91 HYD NO=910 DA=0.0015 SQ MI
PER A=0.0 PER B=6.0 PER C=6.0 PER D=88.0
TP=-.1333 HR MASSRAIN=-1

PRINT HYD ID=91 CODE=1

*S-----

*S BASIN 102A - DISCHARGE CONTINUE ON BOBBY FOSTER

COMPUTE NM HYD ID=92 HYD NO=920 DA=0.0020 SQ MI
PER A=0.0 PER B=5.0 PER C=5.0 PER D=90.0
TP=-.1333 HR MASSRAIN=-1

PRINT HYD ID=92 CODE=1

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*S-----
*S PARTIAL BASIN 102A - DISCHARGE OF 92 THAT DISCHARGES DOWN NEWHALL
COMPUTE NM HYD ID=93 HYD NO=930 DA=0.000685 SQ MI
PER A=0.0 PER B=5.0 PER C=5.0 PER D=90.0
TP=-.1333 HR MASSRAIN=-1
PRINT HYD ID=93 CODE=1
*S-----
*S PARTIAL BASIN 102A - DISCHARGE OF 92 THAT DISCHARGES DOWN SAGAN
COMPUTE NM HYD ID=85 HYD NO=850 DA=0.000685 SQ MI
PER A=0.0 PER B=5.0 PER C=5.0 PER D=90.0
TP=-.1333 HR MASSRAIN=-1
PRINT HYD ID=85 CODE=1
*S-----
*S BASIN 102B - DISCHARGE TO DIEBENKORN
COMPUTE NM HYD ID=94 HYD NO=940 DA=0.0020 SQ MI
PER A=0.0 PER B=5.0 PER C=5.0 PER D=90.0
TP=-.1333 HR MASSRAIN=-1
PRINT HYD ID=94 CODE=1
*S-----
*S BASIN 103A - DISCHARGE CONTINUE ON BOBBY FOSTER
COMPUTE NM HYD ID=95 HYD NO=950 DA=0.0008 SQ MI
PER A=0.0 PER B=5.0 PER C=5.0 PER D=90.0
TP=-.1333 HR MASSRAIN=-1
PRINT HYD ID=95 CODE=1
*S-----
*S BASIN 103B - DISCHARGE TO NEWHALL DR
COMPUTE NM HYD ID=96 HYD NO=960 DA=0.0008 SQ MI
PER A=0.0 PER B=5.0 PER C=5.0 PER D=90.0
TP=-.1333 HR MASSRAIN=-1
PRINT HYD ID=96 CODE=1
*S-----
*S BASIN 104 - DISCHARGE TO SAGAN LOOP
COMPUTE NM HYD ID=97 HYD NO=970 DA=0.0018 SQ MI
PER A=0.0 PER B=5.0 PER C=5.0 PER D=90.0
TP=-.1333 HR MASSRAIN=-1
PRINT HYD ID=97 CODE=1
*S-----
*S BASIN NEWHALL1 - DISCHARGE FROM NORTH HALF OF NEWHALL
COMPUTE NM HYD ID=98 HYD NO=980 DA=0.0008 SQ MI
PER A=0.0 PER B=5.0 PER C=5.0 PER D=90.0
TP=-.1333 HR MASSRAIN=-1
PRINT HYD ID=98 CODE=1
*S-----
*S BASIN NEWHALL2 - DISCHARGE FROM SOUTH HALF OF NEWHALL, TO POND 1 INLET
COMPUTE NM HYD ID=99 HYD NO=990 DA=0.0004 SQ MI
PER A=0.0 PER B=5.0 PER C=5.0 PER D=90.0
TP=-.1333 HR MASSRAIN=-1
PRINT HYD ID=99 CODE=1
*S-----
*S BASIN SAGAN1 - DISCHARGE FROM NORTH HALF OF SAGAN
COMPUTE NM HYD ID=81 HYD NO=810 DA=0.0009 SQ MI
PER A=0.0 PER B=5.0 PER C=5.0 PER D=90.0
TP=-.1333 HR MASSRAIN=-1
PRINT HYD ID=81 CODE=1
*S-----
*S BASIN SAGAN2 - DISCHARGE FROM SOUTH HALF OF SAGAN
COMPUTE NM HYD ID=82 HYD NO=820 DA=0.0010 SQ MI
PER A=0.0 PER B=5.0 PER C=5.0 PER D=90.0
TP=-.1333 HR MASSRAIN=-1
PRINT HYD ID=82 CODE=1
*S-----
*S BASIN STIEGLITZ1 - DISCHARGE FROM EAST HALF OF STIEGLITZ
COMPUTE NM HYD ID=83 HYD NO=830 DA=0.0005 SQ MI
PER A=0.0 PER B=5.0 PER C=5.0 PER D=90.0
TP=-.1333 HR MASSRAIN=-1
PRINT HYD ID=83 CODE=1
*S-----
*S BASIN STIEGLITZ2 - DISCHARGE FROM WEST HALF OF STIEGLITZ
COMPUTE NM HYD ID=84 HYD NO=840 DA=0.0002 SQ MI
PER A=0.0 PER B=5.0 PER C=5.0 PER D=90.0
TP=-.1333 HR MASSRAIN=-1
PRINT HYD ID=84 CODE=1
*S-----
*S ADD BASINS 100, 200 - AP HOPPER ALLEY
ADD HYD ID=75 HYD=SUM IDi=10 IDii=20
PRINT HYD ID=75 CODE=1
*S-----
*S ADD BASINS 500, 600 - AP WOOD ALLEY

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ADD HYD                ID=65 HYD=SUM IDi=60 IDii=50
PRINT HYD              ID=65 CODE=1
*S-----
*S ADD BASINS 102A/2(93), 103B(96), NH1(98), 100, 200, 300, 500, 600 - AP NEWHALL
ADD HYD                ID=75 HYD=SUM IDi=96 IDii=98
ADD HYD                ID=75 HYD=SUM IDi=75 IDii=10
ADD HYD                ID=75 HYD=SUM IDi=75 IDii=20
ADD HYD                ID=75 HYD=SUM IDi=75 IDii=30
ADD HYD                ID=75 HYD=SUM IDi=75 IDii=65
ADD HYD                ID=75 HYD=SUM IDi=75 IDii=93
PRINT HYD              ID=75 CODE=1
*S-----
*S ADD BASINS 700, NH2(99) - AP NEWHALL
ADD HYD                ID=75 HYD=SUM IDi=70 IDii=99
PRINT HYD              ID=75 CODE=1
*S-----
*S ADD BASINS 102A/2(93), 103A(95), 104(97) - AP SAGAN AND BOBBY FOSTER
ADD HYD                ID=75 HYD=SUM IDi=97 IDii=95
ADD HYD                ID=75 HYD=SUM IDi=75 IDii=85
PRINT HYD              ID=75 CODE=1
*S-----
*S ADD BASINS 400, SG1(81) - AP SAGAN LOOP
ADD HYD                ID=75 HYD=SUM IDi=40 IDii=81
PRINT HYD              ID=75 CODE=1
*S-----
*S ADD BASINS 900, SG2(82) - AP SAGAN LOOP
ADD HYD                ID=74 HYD=SUM IDi=90 IDii=82
PRINT HYD              ID=74 CODE=1
*S-----
*S ADD BASINS (900, SG2(82)), ST1(81), 0.70*101(85) - AP STIEGLITZ
DIVIDE HYD             ID=91 PER=-75 IDi=85 HYD NO=75.PER
                                IDii=86 HYD NO=25.PER
ADD HYD                ID=75 HYD=SUM IDi=85 IDii=74
ADD HYD                ID=75 HYD=SUM IDi=75 IDii=81
PRINT HYD              ID=75 CODE=1
*S-----
*S ADD BASINS (900, SG2, ST1, 0.70*101), 0.30*101(86), ST2(84) - AP WEST END OF STIEGLITZ
ADD HYD                ID=75 HYD=SUM IDi=74 IDii=84
ADD HYD                ID=75 HYD=SUM IDi=75 IDii=86
PRINT HYD              ID=75 CODE=1
*S-----
FINISH

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COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 1 NOTATION
START										TIME= 0.00
*S	ESA DEL SOL MONTAGE 7			DECEMBER 2022	HZI NO. R315530.01					
*S										
*S										
*S	100 - YEAR RAINFALL									
RAINFALL	TYPE= 1 NOAA 14									RAIN6= 2.290
*S										
*S										
*S	-----THE FOLLOWING BASINS DRAIN INTO POND 1-----									
*S										
*S										
*S	BASIN 100 - DISCHARGE TO HOPPER ALLEY									
COMPUTE NM HYD	100.00	-	10	0.00150	4.10	0.152	1.90601	1.530	4.276 PER IMP=	88.00
*S										
*S	BASIN 200 - DISCHARGE VIA AARON ALLEY AND HOPPER ALLEY									
COMPUTE NM HYD	200.00	-	20	0.00150	3.62	0.126	1.57789	1.530	3.769 PER IMP=	58.00
*S										
*S	BASIN 300 - DISCHARGE TO NEWHALL DRIVE									
COMPUTE NM HYD	300.00	-	30	0.00100	2.57	0.092	1.73101	1.530	4.016 PER IMP=	72.00
*S										
*S	BASIN 400 - DISCHARGE TO SAGAN LOOP TO NORTH SUMP INLET									
COMPUTE NM HYD	400.00	-	40	0.00130	3.36	0.122	1.75289	1.530	4.043 PER IMP=	74.00
*S										
*S	BASIN 500 - DISCHARGE TO NEWHALL VIA WOOD ROAD									
COMPUTE NM HYD	500.00	-	50	0.00100	2.76	0.103	1.92788	1.530	4.320 PER IMP=	90.00
*S										
*S	BASIN 600 - DISCHARGE TO AARON ALLEY TO PARCEL J TO WOOD ALLEY TO									
COMPUTE NM HYD	600.00	-	60	0.00110	2.73	0.096	1.64352	1.530	3.878 PER IMP=	64.00
*S										
*S	BASIN 700 - DISCHARGE TO NEWHALL DR									
COMPUTE NM HYD	700.00	-	70	0.00050	1.25	0.044	1.64351	1.530	3.912 PER IMP=	64.00
*S	BASIN 800 - DISCHARGE TO ROSE ALLEY TO NEWHALL									
COMPUTE NM HYD	800.00	-	80	0.00090	2.12	0.073	1.51227	1.530	3.682 PER IMP=	52.00
*S	BASIN 900 - DISCHARGE TO SAGAN LOOP AND TRAVELS SOUTH									
COMPUTE NM HYD	900.00	-	90	0.00140	3.68	0.134	1.79664	1.530	4.108 PER IMP=	78.00
*S										
*S	BASIN 101 - DISCHARGE TO STIEGLITZ									
COMPUTE NM HYD	910.00	-	91	0.00150	4.10	0.152	1.90601	1.530	4.276 PER IMP=	88.00
*S										
*S	BASIN 102A - DISCHARGE CONTINUE ON BOBBY FOSTER									
COMPUTE NM HYD	920.00	-	92	0.00200	5.51	0.206	1.92788	1.530	4.305 PER IMP=	90.00
*S										
*S	PARTIAL BASIN 102A - DISCHARGE OF 92 THAT DISCHARGES DOWN NEWHALL									
COMPUTE NM HYD	930.00	-	93	0.00069	1.90	0.070	1.92788	1.530	4.335 PER IMP=	90.00
*S										
*S	PARTIAL BASIN 102A - DISCHARGE OF 92 THAT DISCHARGES DOWN SAGAN									
COMPUTE NM HYD	850.00	-	85	0.00069	1.90	0.070	1.92788	1.530	4.335 PER IMP=	90.00
*S										
*S	BASIN 102B - DISCHARGE TO DIEBENKORN									

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 2 NOTATION
COMPUTE NM HYD	940.00	-	94	0.00200	5.51	0.206	1.92788	1.530	4.305 PER IMP=	90.00
*S										
*S	BASIN 103A - DISCHARGE CONTINUE ON BOBBY FOSTER									
COMPUTE NM HYD	950.00	-	95	0.00080	2.22	0.082	1.92788	1.530	4.328 PER IMP=	90.00
*S										
*S	BASIN 103B - DISCHARGE TO NEWHALL DR									
COMPUTE NM HYD	960.00	-	96	0.00080	2.22	0.082	1.92788	1.530	4.328 PER IMP=	90.00
*S										
*S	BASIN 104 - DISCHARGE TO SAGAN LOOP									
COMPUTE NM HYD	970.00	-	97	0.00180	4.96	0.185	1.92788	1.530	4.306 PER IMP=	90.00
*S										
*S	BASIN NEWHALL1 - DISCHARGE FROM NORTH HALF OF NEWHALL									
COMPUTE NM HYD	980.00	-	98	0.00080	2.22	0.082	1.92788	1.530	4.328 PER IMP=	90.00
*S										
*S	BASIN NEWHALL2 - DISCHARGE FROM SOUTH HALF OF NEWHALL, TO POND 1 INLET									
COMPUTE NM HYD	990.00	-	99	0.00040	1.12	0.041	1.92788	1.530	4.370 PER IMP=	90.00
*S										

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*S BASIN SAGAN1 - DISCHARGE FROM NORTH HALF OF SAGAN
COMPUTE NM HYD      810.00  -   81      0.00090      2.49      0.093      1.92788      1.530      4.324 PER IMP=  90.00
*S-----
*S BASIN SAGAN2 - DISCHARGE FROM SOUTH HALF OF SAGAN
COMPUTE NM HYD      820.00  -   82      0.00100      2.76      0.103      1.92788      1.530      4.320 PER IMP=  90.00
*S-----
*S BASIN STIEGLITZ1 - DISCHARGE FROM EAST HALF OF STIEGLITZ
COMPUTE NM HYD      830.00  -   83      0.00050      1.39      0.051      1.92788      1.530      4.353 PER IMP=  90.00
*S-----
*S BASIN STIEGLITZ2 - DISCHARGE FROM WEST HALF OF STIEGLITZ
COMPUTE NM HYD      840.00  -   84      0.00020      0.56      0.021      1.92788      1.530      4.407 PER IMP=  90.00
*S-----
*S ADD BASINS 100, 200 - AP HOPPER ALLEY
ADD HYD              SUM 10&20  75      0.00300      7.72      0.279      1.74177      1.530      4.023
*S-----
*S ADD BASINS 500, 600 - AP WOOD ALLEY
ADD HYD              SUM 60&50  65      0.00210      5.49      0.199      1.77867      1.530      4.088
*S-----
*S ADD BASINS 102A/2(93), 103B(96), NH1(98), 100, 200, 300, 500, 600 - AP NEWHAL
ADD HYD              SUM 96&98  75      0.00160      4.43      0.164      1.92754      1.530      4.328
ADD HYD              SUM 75&10  75      0.00310      8.54      0.317      1.91703      1.530      4.303
ADD HYD              SUM 75&20  75      0.00460     12.16      0.443      1.80638      1.530      4.129
ADD HYD              SUM 75&30  75      0.00560     14.73      0.535      1.79287      1.530      4.109
ADD HYD              SUM 75&65  75      0.00770     20.22      0.735      1.78900      1.530      4.103
ADD HYD              SUM 75&93  75      0.00839     22.12      0.805      1.80031      1.530      4.122
*S-----
*S ADD BASINS 700, NH2(99) - AP NEWHALL
ADD HYD              SUM 70&99  75      0.00090      2.37      0.085      1.76931      1.530      4.115
*S-----
*S ADD BASINS 102A/2(93), 103A(95), 104(97) - AP SAGAN AND BOBBY FOSTER
ADD HYD              SUM 97&95  75      0.00260      7.18      0.267      1.92767      1.530      4.313
ADD HYD              SUM 75&85  75      0.00329      9.08      0.338      1.92763      1.530      4.318
*S-----
*S ADD BASINS 400, SG1(81) - AP SAGAN LOOP
ADD HYD              SUM 40&81  75      0.00220      5.85      0.214      1.82423      1.530      4.158
*S-----

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COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 3 NOTATION
*S ADD BASINS 900, SG2(82) - AP SAGAN LOOP										
ADD HYD	SUM 90&82	74		0.00240	6.45	0.237	1.85109	1.530	4.197	
*S-----										
*S ADD BASINS (900, SG2(82)), ST1(81), 0.70*101(85) - AP STIEGLITZ										
DIVIDE HYD	75.PER	91	85	0.00113	3.08	0.114	1.90583	1.530	4.276	
	25.PER and		86	0.00037	1.03	0.038	1.90583	1.530	4.276	
ADD HYD	SUM 85&74	75		0.00353	9.52	0.351	1.86854	1.530	4.222	
ADD HYD	SUM 75&81	75		0.00442	12.01	0.444	1.88054	1.530	4.243	
*S-----										
*S ADD BASINS (900, SG2, ST1, 0.70*101), 0.30*101(86), ST2(84) - AP WEST END OF										
ADD HYD	SUM 74&84	75		0.00260	7.01	0.257	1.85692	1.530	4.213	
ADD HYD	SUM 75&86	75		0.00298	8.04	0.296	1.86300	1.530	4.221	
*S-----										
FINISH										

AHYMO PROGRAM (AHYMO-S4) - Version: S4.02a - Rel: 02a
RUN DATE (MON/DAY/YR) = 01/19/2023
START TIME (HR:MIN:SEC) = 15:00:56 USER NO.= AHYMO-S4TempUser05901704
INPUT FILE = C:\Users\ctrujillo\Desktop\3_Montage 7 INPUT.txt

START TIME=0.0 CODE=0 LINES=0

*S ESA DEL SOL MONTAGE 7 DECEMBER 2022 HZI NO. R315530.01

*S-----

*S-----

*S 100 - YEAR RAINFALL -----

RAINFALL TYPE=-1 RAIN QUAR=0.0 RAIN ONE= 1.83

RAIN SIX= 2.29 RAIN DAY=2.63 DT=0.0

6-HOUR RAINFALL DIST. - BASED ON NOAA ATLAS 14 FOR CONVECTIVE AREAS (NM & AZ) - D1

DT = 0.005000 HOURS END TIME = 6.000000 HOURS

*S-----

*S-----

*S-----THE FOLLOWING BASINS DRAIN INTO POND 1-----

*S-----

*S-----

*S BASIN 100 - DISCHARGE TO HOPPER ALLEY

COMPUTE NM HYD ID=10 HYD NO=100 DA=0.0015 SQ MI

PER A=0.0 PER B=6.0 PER C=6.0 PER D=88.0

TP=-.1333 HR MASSRAIN=-1

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

UNIT PEAK = 5.2114 CFS UNIT VOLUME = 0.9975 B = 526.28 P60 = 1.8300

AREA = 0.001320 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR

RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

K = 0.118556HR TP = 0.133300HR K/TP RATIO = 0.889390 SHAPE CONSTANT, N = 3.987797

UNIT PEAK = 0.47851 CFS UNIT VOLUME = 0.9698 B = 354.36 P60 = 1.8300

AREA = 0.000180 SQ MI IA = 0.42500 INCHES INF = 1.04000 INCHES PER HOUR

RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

PRINT HYD ID=10 CODE=1

PARTIAL HYDROGRAPH 100.00

RUNOFF VOLUME = 1.90601 INCHES = 0.1525 ACRE-FEET

PEAK DISCHARGE RATE = 4.10 CFS AT 1.530 HOURS BASIN AREA = 0.0015 SQ. MI.

*S-----

*S BASIN 200 - DISCHARGE VIA AARON ALLEY AND HOPPER ALLEY

COMPUTE NM HYD ID=20 HYD NO=200 DA=0.0015 SQ MI

PER A=0.0 PER B=21.0 PER C=21.0 PER D=58.0

TP=-.1333 HR MASSRAIN=-1

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

UNIT PEAK = 3.4348 CFS UNIT VOLUME = 0.9962 B = 526.28 P60 = 1.8300

AREA = 0.000870 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR

RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

K = 0.118556HR TP = 0.133300HR K/TP RATIO = 0.889390 SHAPE CONSTANT, N = 3.987797

UNIT PEAK = 1.6748 CFS UNIT VOLUME = 0.9914 B = 354.36 P60 = 1.8300

AREA = 0.000630 SQ MI IA = 0.42500 INCHES INF = 1.04000 INCHES PER HOUR

RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

PRINT HYD ID=20 CODE=1

PARTIAL HYDROGRAPH 200.00

RUNOFF VOLUME = 1.57789 INCHES = 0.1262 ACRE-FEET

PEAK DISCHARGE RATE = 3.62 CFS AT 1.530 HOURS BASIN AREA = 0.0015 SQ. MI.

*S-----

*S BASIN 300 - DISCHARGE TO NEWHALL DRIVE

COMPUTE NM HYD ID=30 HYD NO=300 DA=0.0010 SQ MI

APPENDIX C

PER A=0.0 PER B=14.0 PER C=14.0 PER D=72.0
TP=-.1333 HR MASSRAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 2.8426 CFS UNIT VOLUME = 0.9955 B = 526.28 P60 = 1.8300
AREA = 0.000720 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

K = 0.118556HR TP = 0.133300HR K/TP RATIO = 0.889390 SHAPE CONSTANT, N = 3.987797
UNIT PEAK = 0.74434 CFS UNIT VOLUME = 0.9805 B = 354.36 P60 = 1.8300
AREA = 0.000280 SQ MI IA = 0.42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

PRINT HYD ID=30 CODE=1

HYDROGRAPH FROM AREA 300.00

RUNOFF VOLUME = 1.73101 INCHES = 0.0923 ACRE-FEET
PEAK DISCHARGE RATE = 2.57 CFS AT 1.530 HOURS BASIN AREA = 0.0010 SQ. MI.

*S-----

*S BASIN 400 - DISCHARGE TO SAGAN LOOP TO NORTH SUMP INLET

COMPUTE NM HYD ID=40 HYD NO=400 DA=0.0013 SQ MI
PER A=0.0 PER B=13.0 PER C=13.0 PER D=74.0
TP=-.1333 HR MASSRAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 3.7980 CFS UNIT VOLUME = 0.9966 B = 526.28 P60 = 1.8300
AREA = 0.000962 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

K = 0.118556HR TP = 0.133300HR K/TP RATIO = 0.889390 SHAPE CONSTANT, N = 3.987797
UNIT PEAK = 0.89853 CFS UNIT VOLUME = 0.9840 B = 354.36 P60 = 1.8300
AREA = 0.000338 SQ MI IA = 0.42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

PRINT HYD ID=40 CODE=1

HYDROGRAPH FROM AREA 400.00

RUNOFF VOLUME = 1.75289 INCHES = 0.1215 ACRE-FEET
PEAK DISCHARGE RATE = 3.36 CFS AT 1.530 HOURS BASIN AREA = 0.0013 SQ. MI.

*S-----

*S BASIN 500 - DISCHARGE TO NEWHALL VIA WOOD ROAD

COMPUTE NM HYD ID=50 HYD NO=500 DA=0.0010 SQ MI
PER A=0.0 PER B=5.0 PER C=5.0 PER D=90.0
TP=-.1333 HR MASSRAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 3.5532 CFS UNIT VOLUME = 0.9964 B = 526.28 P60 = 1.8300
AREA = 0.000900 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

K = 0.118556HR TP = 0.133300HR K/TP RATIO = 0.889390 SHAPE CONSTANT, N = 3.987797
UNIT PEAK = 0.26584 CFS UNIT VOLUME = 0.9456 B = 354.36 P60 = 1.8300
AREA = 0.000100 SQ MI IA = 0.42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

PRINT HYD ID=50 CODE=1

OUTFLOW HYDROGRAPH RESERVOIR 500.00

RUNOFF VOLUME = 1.92788 INCHES = 0.1028 ACRE-FEET
PEAK DISCHARGE RATE = 2.76 CFS AT 1.530 HOURS BASIN AREA = 0.0010 SQ. MI.

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*S-----
*S BASIN 600 - DISCHARGE TO AARON ALLEY TO PARCEL J TO WOOD ALLEY TO
COMPUTE NM HYD      ID=60 HYD NO=600  DA=0.0011 SQ MI
                    PER A=0.0 PER B=18.0 PER C=18.0 PER D=64.0
                    TP=-.1333 HR      MASSRAIN=-1

K = 0.072649HR    TP = 0.133300HR    K/TP RATIO = 0.545000    SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 2.7794 CFS    UNIT VOLUME = 0.9953    B = 526.28    P60 = 1.8300
AREA = 0.000704 SQ MI    IA = 0.10000 INCHES    INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

K = 0.118556HR    TP = 0.133300HR    K/TP RATIO = 0.889390    SHAPE CONSTANT, N = 3.987797
UNIT PEAK = 1.0527 CFS    UNIT VOLUME = 0.9863    B = 354.36    P60 = 1.8300
AREA = 0.000396 SQ MI    IA = 0.42500 INCHES    INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

```

PRINT HYD ID=60 CODE=1

HYDROGRAPH FROM AREA 600.00

RUNOFF VOLUME = 1.64352 INCHES = 0.0964 ACRE-FEET
 PEAK DISCHARGE RATE = 2.73 CFS AT 1.530 HOURS BASIN AREA = 0.0011 SQ. MI.

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*S-----
*S BASIN 700 - DISCHARGE TO NEWHALL DR
COMPUTE NM HYD      ID=70 HYD NO=700  DA=0.0005 SQ MI
                    PER A=0.0 PER B=18.0 PER C=18.0 PER D=64.0
                    TP=-.1333 HR      MASSRAIN=-1

K = 0.072649HR    TP = 0.133300HR    K/TP RATIO = 0.545000    SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 1.2634 CFS    UNIT VOLUME = 0.9896    B = 526.28    P60 = 1.8300
AREA = 0.000320 SQ MI    IA = 0.10000 INCHES    INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

K = 0.118556HR    TP = 0.133300HR    K/TP RATIO = 0.889390    SHAPE CONSTANT, N = 3.987797
UNIT PEAK = 0.47851 CFS    UNIT VOLUME = 0.9698    B = 354.36    P60 = 1.8300
AREA = 0.000180 SQ MI    IA = 0.42500 INCHES    INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

```

PRINT HYD ID=70 CODE=1

HYDROGRAPH FROM AREA 700.00

RUNOFF VOLUME = 1.64351 INCHES = 0.0438 ACRE-FEET
 PEAK DISCHARGE RATE = 1.25 CFS AT 1.530 HOURS BASIN AREA = 0.0005 SQ. MI.

```

*S-----
*S BASIN 800 - DISCHARGE TO ROSE ALLEY TO NEWHALL
COMPUTE NM HYD      ID=80 HYD NO=800  DA=0.0009 SQ MI
                    PER A=0.0 PER B=24.0 PER C=24.0 PER D=52.0
                    TP=-.1333 HR      MASSRAIN=-1

K = 0.072649HR    TP = 0.133300HR    K/TP RATIO = 0.545000    SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 1.8477 CFS    UNIT VOLUME = 0.9930    B = 526.28    P60 = 1.8300
AREA = 0.000468 SQ MI    IA = 0.10000 INCHES    INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

K = 0.118556HR    TP = 0.133300HR    K/TP RATIO = 0.889390    SHAPE CONSTANT, N = 3.987797
UNIT PEAK = 1.1484 CFS    UNIT VOLUME = 0.9874    B = 354.36    P60 = 1.8300
AREA = 0.000432 SQ MI    IA = 0.42500 INCHES    INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

```

PRINT HYD ID=80 CODE=1

HYDROGRAPH FROM AREA 800.00

RUNOFF VOLUME = 1.51227 INCHES = 0.0726 ACRE-FEET
 PEAK DISCHARGE RATE = 2.12 CFS AT 1.530 HOURS BASIN AREA = 0.0009 SQ. MI.

APPENDIX C

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*S-----
*S BASIN 900 - DISCHARGE TO SAGAN LOOP AND TRAVELS SOUTH
COMPUTE NM HYD      ID=90 HYD NO=900  DA=0.0014 SQ MI
                    PER A=0.0 PER B=11.0 PER C=11.0 PER D=78.0
                    TP=-.1333 HR      MASSRAIN=-1

K = 0.072649HR      TP = 0.133300HR      K/TP RATIO = 0.545000      SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 4.3113 CFS      UNIT VOLUME = 0.9970      B = 526.28      P60 = 1.8300
AREA = 0.001092 SQ MI      IA = 0.10000 INCHES      INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

K = 0.118556HR      TP = 0.133300HR      K/TP RATIO = 0.889390      SHAPE CONSTANT, N = 3.987797
UNIT PEAK = 0.81878 CFS      UNIT VOLUME = 0.9823      B = 354.36      P60 = 1.8300
AREA = 0.000308 SQ MI      IA = 0.42500 INCHES      INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

PRINT HYD      ID=90      CODE=1

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HYDROGRAPH FROM AREA 900.00

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RUNOFF VOLUME = 1.79664 INCHES = 0.1341 ACRE-FEET
PEAK DISCHARGE RATE = 3.68 CFS AT 1.530 HOURS BASIN AREA = 0.0014 SQ. MI.

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*S-----
*S BASIN 101 - DISCHARGE TO STIEGLITZ
COMPUTE NM HYD      ID=91 HYD NO=910  DA=0.0015 SQ MI
                    PER A=0.0 PER B=6.0 PER C=6.0 PER D=88.0
                    TP=-.1333 HR      MASSRAIN=-1

K = 0.072649HR      TP = 0.133300HR      K/TP RATIO = 0.545000      SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 5.2114 CFS      UNIT VOLUME = 0.9975      B = 526.28      P60 = 1.8300
AREA = 0.001320 SQ MI      IA = 0.10000 INCHES      INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

K = 0.118556HR      TP = 0.133300HR      K/TP RATIO = 0.889390      SHAPE CONSTANT, N = 3.987797
UNIT PEAK = 0.47851 CFS      UNIT VOLUME = 0.9698      B = 354.36      P60 = 1.8300
AREA = 0.000180 SQ MI      IA = 0.42500 INCHES      INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

PRINT HYD      ID=91      CODE=1

```

HYDROGRAPH FROM AREA 910.00

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RUNOFF VOLUME = 1.90601 INCHES = 0.1525 ACRE-FEET
PEAK DISCHARGE RATE = 4.10 CFS AT 1.530 HOURS BASIN AREA = 0.0015 SQ. MI.

```

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*S-----
*S BASIN 102A - DISCHARGE CONTINUE ON BOBBY FOSTER
COMPUTE NM HYD      ID=92 HYD NO=920  DA=0.0020 SQ MI
                    PER A=0.0 PER B=5.0 PER C=5.0 PER D=90.0
                    TP=-.1333 HR      MASSRAIN=-1

K = 0.072649HR      TP = 0.133300HR      K/TP RATIO = 0.545000      SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 7.1065 CFS      UNIT VOLUME = 0.9982      B = 526.28      P60 = 1.8300
AREA = 0.001800 SQ MI      IA = 0.10000 INCHES      INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

K = 0.118556HR      TP = 0.133300HR      K/TP RATIO = 0.889390      SHAPE CONSTANT, N = 3.987797
UNIT PEAK = 0.53167 CFS      UNIT VOLUME = 0.9727      B = 354.36      P60 = 1.8300
AREA = 0.000200 SQ MI      IA = 0.42500 INCHES      INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

PRINT HYD      ID=92      CODE=1

```

HYDROGRAPH FROM AREA 920.00

RUNOFF VOLUME = 1.92788 INCHES = 0.2056 ACRE-FEET
PEAK DISCHARGE RATE = 5.51 CFS AT 1.530 HOURS BASIN AREA = 0.0020 SQ. MI.

*S-----
*S PARTIAL BASIN 102A - DISCHARGE OF 92 THAT DISCHARGES DOWN NEWHALL
COMPUTE NM HYD ID=93 HYD NO=930 DA=0.000685 SQ MI
PER A=0.0 PER B=5.0 PER C=5.0 PER D=90.0
TP=-.1333 HR MASSRAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 2.4340 CFS UNIT VOLUME = 0.9947 B = 526.28 P60 = 1.8300
AREA = 0.000617 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

K = 0.118556HR TP = 0.133300HR K/TP RATIO = 0.889390 SHAPE CONSTANT, N = 3.987797
UNIT PEAK = 0.18210 CFS UNIT VOLUME = 0.9204 B = 354.36 P60 = 1.8300
AREA = 0.000069 SQ MI IA = 0.42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

PRINT HYD ID=93 CODE=1

HYDROGRAPH FROM AREA 930.00

RUNOFF VOLUME = 1.92788 INCHES = 0.0704 ACRE-FEET
PEAK DISCHARGE RATE = 1.90 CFS AT 1.530 HOURS BASIN AREA = 0.0007 SQ. MI.

*S-----
*S PARTIAL BASIN 102A - DISCHARGE OF 92 THAT DISCHARGES DOWN SAGAN
COMPUTE NM HYD ID=85 HYD NO=850 DA=0.000685 SQ MI
PER A=0.0 PER B=5.0 PER C=5.0 PER D=90.0
TP=-.1333 HR MASSRAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 2.4340 CFS UNIT VOLUME = 0.9947 B = 526.28 P60 = 1.8300
AREA = 0.000617 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

K = 0.118556HR TP = 0.133300HR K/TP RATIO = 0.889390 SHAPE CONSTANT, N = 3.987797
UNIT PEAK = 0.18210 CFS UNIT VOLUME = 0.9204 B = 354.36 P60 = 1.8300
AREA = 0.000069 SQ MI IA = 0.42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

PRINT HYD ID=85 CODE=1

HYDROGRAPH FROM AREA 850.00

RUNOFF VOLUME = 1.92788 INCHES = 0.0704 ACRE-FEET
PEAK DISCHARGE RATE = 1.90 CFS AT 1.530 HOURS BASIN AREA = 0.0007 SQ. MI.

*S-----
*S BASIN 102B - DISCHARGE TO DIEBENKORN
COMPUTE NM HYD ID=94 HYD NO=940 DA=0.0020 SQ MI
PER A=0.0 PER B=5.0 PER C=5.0 PER D=90.0
TP=-.1333 HR MASSRAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 7.1065 CFS UNIT VOLUME = 0.9982 B = 526.28 P60 = 1.8300
AREA = 0.001800 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

K = 0.118556HR TP = 0.133300HR K/TP RATIO = 0.889390 SHAPE CONSTANT, N = 3.987797
UNIT PEAK = 0.53167 CFS UNIT VOLUME = 0.9727 B = 354.36 P60 = 1.8300
AREA = 0.000200 SQ MI IA = 0.42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

PRINT HYD ID=94 CODE=1

APPENDIX C

HYDROGRAPH FROM AREA 940.00

RUNOFF VOLUME = 1.92788 INCHES = 0.2056 ACRE-FEET
 PEAK DISCHARGE RATE = 5.51 CFS AT 1.530 HOURS BASIN AREA = 0.0020 SQ. MI.

*S-----

*S BASIN 103A - DISCHARGE CONTINUE ON BOBBY FOSTER

COMPUTE NM HYD ID=95 HYD NO=950 DA=0.0008 SQ MI
 PER A=0.0 PER B=5.0 PER C=5.0 PER D=90.0
 TP=-.1333 HR MASSRAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
 UNIT PEAK = 2.8426 CFS UNIT VOLUME = 0.9955 B = 526.28 P60 = 1.8300
 AREA = 0.000720 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

K = 0.118556HR TP = 0.133300HR K/TP RATIO = 0.889390 SHAPE CONSTANT, N = 3.987797
 UNIT PEAK = 0.21267 CFS UNIT VOLUME = 0.9318 B = 354.36 P60 = 1.8300
 AREA = 0.000080 SQ MI IA = 0.42500 INCHES INF = 1.04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

PRINT HYD ID=95 CODE=1

HYDROGRAPH FROM AREA 950.00

RUNOFF VOLUME = 1.92788 INCHES = 0.0823 ACRE-FEET
 PEAK DISCHARGE RATE = 2.22 CFS AT 1.530 HOURS BASIN AREA = 0.0008 SQ. MI.

*S-----

*S BASIN 103B - DISCHARGE TO NEWHALL DR

COMPUTE NM HYD ID=96 HYD NO=960 DA=0.0008 SQ MI
 PER A=0.0 PER B=5.0 PER C=5.0 PER D=90.0
 TP=-.1333 HR MASSRAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
 UNIT PEAK = 2.8426 CFS UNIT VOLUME = 0.9955 B = 526.28 P60 = 1.8300
 AREA = 0.000720 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

K = 0.118556HR TP = 0.133300HR K/TP RATIO = 0.889390 SHAPE CONSTANT, N = 3.987797
 UNIT PEAK = 0.21267 CFS UNIT VOLUME = 0.9318 B = 354.36 P60 = 1.8300
 AREA = 0.000080 SQ MI IA = 0.42500 INCHES INF = 1.04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

PRINT HYD ID=96 CODE=1

HYDROGRAPH FROM AREA 960.00

RUNOFF VOLUME = 1.92788 INCHES = 0.0823 ACRE-FEET
 PEAK DISCHARGE RATE = 2.22 CFS AT 1.530 HOURS BASIN AREA = 0.0008 SQ. MI.

*S-----

*S BASIN 104 - DISCHARGE TO SAGAN LOOP

COMPUTE NM HYD ID=97 HYD NO=970 DA=0.0018 SQ MI
 PER A=0.0 PER B=5.0 PER C=5.0 PER D=90.0
 TP=-.1333 HR MASSRAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
 UNIT PEAK = 6.3958 CFS UNIT VOLUME = 0.9980 B = 526.28 P60 = 1.8300
 AREA = 0.001620 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

K = 0.118556HR TP = 0.133300HR K/TP RATIO = 0.889390 SHAPE CONSTANT, N = 3.987797
 UNIT PEAK = 0.47851 CFS UNIT VOLUME = 0.9698 B = 354.36 P60 = 1.8300
 AREA = 0.000180 SQ MI IA = 0.42500 INCHES INF = 1.04000 INCHES PER HOUR

APPENDIX C

RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

PRINT HYD ID=97 CODE=1

HYDROGRAPH FROM AREA 970.00

RUNOFF VOLUME = 1.92788 INCHES = 0.1851 ACRE-FEET
PEAK DISCHARGE RATE = 4.96 CFS AT 1.530 HOURS BASIN AREA = 0.0018 SQ. MI.

*S-----

*S BASIN NEWHALL1 - DISCHARGE FROM NORTH HALF OF NEWHALL

COMPUTE NM HYD ID=98 HYD NO=980 DA=0.0008 SQ MI
PER A=0.0 PER B=5.0 PER C=5.0 PER D=90.0
TP=-.1333 HR MASSRAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 2.8426 CFS UNIT VOLUME = 0.9955 B = 526.28 P60 = 1.8300
AREA = 0.000720 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

K = 0.118556HR TP = 0.133300HR K/TP RATIO = 0.889390 SHAPE CONSTANT, N = 3.987797
UNIT PEAK = 0.21267 CFS UNIT VOLUME = 0.9318 B = 354.36 P60 = 1.8300
AREA = 0.000080 SQ MI IA = 0.42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

PRINT HYD ID=98 CODE=1

HYDROGRAPH FROM AREA 980.00

RUNOFF VOLUME = 1.92788 INCHES = 0.0823 ACRE-FEET
PEAK DISCHARGE RATE = 2.22 CFS AT 1.530 HOURS BASIN AREA = 0.0008 SQ. MI.

*S-----

*S BASIN NEWHALL2 - DISCHARGE FROM SOUTH HALF OF NEWHALL, TO POND 1 INLET

COMPUTE NM HYD ID=99 HYD NO=990 DA=0.0004 SQ MI
PER A=0.0 PER B=5.0 PER C=5.0 PER D=90.0
TP=-.1333 HR MASSRAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 1.4213 CFS UNIT VOLUME = 0.9909 B = 526.28 P60 = 1.8300
AREA = 0.000360 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

K = 0.118556HR TP = 0.133300HR K/TP RATIO = 0.889390 SHAPE CONSTANT, N = 3.987797
UNIT PEAK = 0.10633 CFS UNIT VOLUME = 0.8642 B = 354.36 P60 = 1.8300
AREA = 0.000040 SQ MI IA = 0.42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

PRINT HYD ID=99 CODE=1

HYDROGRAPH FROM AREA 990.00

RUNOFF VOLUME = 1.92788 INCHES = 0.0411 ACRE-FEET
PEAK DISCHARGE RATE = 1.12 CFS AT 1.530 HOURS BASIN AREA = 0.0004 SQ. MI.

*S-----

*S BASIN SAGAN1 - DISCHARGE FROM NORTH HALF OF SAGAN

COMPUTE NM HYD ID=81 HYD NO=810 DA=0.0009 SQ MI
PER A=0.0 PER B=5.0 PER C=5.0 PER D=90.0
TP=-.1333 HR MASSRAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 3.1979 CFS UNIT VOLUME = 0.9959 B = 526.28 P60 = 1.8300
AREA = 0.000810 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

K = 0.118556HR TP = 0.133300HR K/TP RATIO = 0.889390 SHAPE CONSTANT, N = 3.987797
UNIT PEAK = 0.23925 CFS UNIT VOLUME = 0.9399 B = 354.36 P60 = 1.8300
AREA = 0.000090 SQ MI IA = 0.42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

PRINT HYD ID=81 CODE=1

HYDROGRAPH FROM AREA 810.00

RUNOFF VOLUME = 1.92788 INCHES = 0.0925 ACRE-FEET
PEAK DISCHARGE RATE = 2.49 CFS AT 1.530 HOURS BASIN AREA = 0.0009 SQ. MI.

*S-----

*S BASIN SAGAN2 - DISCHARGE FROM SOUTH HALF OF SAGAN
COMPUTE NM HYD ID=82 HYD NO=820 DA=0.0010 SQ MI
PER A=0.0 PER B=5.0 PER C=5.0 PER D=90.0
TP=-.1333 HR MASSRAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 3.5532 CFS UNIT VOLUME = 0.9964 B = 526.28 P60 = 1.8300
AREA = 0.000900 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

K = 0.118556HR TP = 0.133300HR K/TP RATIO = 0.889390 SHAPE CONSTANT, N = 3.987797
UNIT PEAK = 0.26584 CFS UNIT VOLUME = 0.9456 B = 354.36 P60 = 1.8300
AREA = 0.000100 SQ MI IA = 0.42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

PRINT HYD ID=82 CODE=1

HYDROGRAPH FROM AREA 820.00

RUNOFF VOLUME = 1.92788 INCHES = 0.1028 ACRE-FEET
PEAK DISCHARGE RATE = 2.76 CFS AT 1.530 HOURS BASIN AREA = 0.0010 SQ. MI.

*S-----

*S BASIN STIEGLITZ1 - DISCHARGE FROM EAST HALF OF STIEGLITZ
COMPUTE NM HYD ID=83 HYD NO=830 DA=0.0005 SQ MI
PER A=0.0 PER B=5.0 PER C=5.0 PER D=90.0
TP=-.1333 HR MASSRAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 1.7766 CFS UNIT VOLUME = 0.9926 B = 526.28 P60 = 1.8300
AREA = 0.000450 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

K = 0.118556HR TP = 0.133300HR K/TP RATIO = 0.889390 SHAPE CONSTANT, N = 3.987797
UNIT PEAK = 0.13292 CFS UNIT VOLUME = 0.8916 B = 354.36 P60 = 1.8300
AREA = 0.000050 SQ MI IA = 0.42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

PRINT HYD ID=83 CODE=1

HYDROGRAPH FROM AREA 830.00

RUNOFF VOLUME = 1.92788 INCHES = 0.0514 ACRE-FEET
PEAK DISCHARGE RATE = 1.39 CFS AT 1.530 HOURS BASIN AREA = 0.0005 SQ. MI.

*S-----

*S BASIN STIEGLITZ2 - DISCHARGE FROM WEST HALF OF STIEGLITZ
COMPUTE NM HYD ID=84 HYD NO=840 DA=0.0002 SQ MI
PER A=0.0 PER B=5.0 PER C=5.0 PER D=90.0
TP=-.1333 HR MASSRAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 0.71065 CFS UNIT VOLUME = 0.9815 B = 526.28 P60 = 1.8300
AREA = 0.000180 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR

APPENDIX C

RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

K = 0.118556HR TP = 0.133300HR K/TP RATIO = 0.889390 SHAPE CONSTANT, N = 3.987797
UNIT PEAK = 0.53167E-01CFS UNIT VOLUME = 0.8642 B = 354.36 P60 = 1.8300
AREA = 0.000020 SQ MI IA = 0.42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

PRINT HYD ID=84 CODE=1

HYDROGRAPH FROM AREA 840.00

RUNOFF VOLUME = 1.92788 INCHES = 0.0206 ACRE-FEET
PEAK DISCHARGE RATE = 0.56 CFS AT 1.530 HOURS BASIN AREA = 0.0002 SQ. MI.

*S-----

*S ADD BASINS 100, 200 - AP HOPPER ALLEY
ADD HYD ID=75 HYD=SUM IDi=10 IDii=20
PRINT HYD ID=75 CODE=1

HYDROGRAPH FROM AREA SUM

RUNOFF VOLUME = 1.74177 INCHES = 0.2787 ACRE-FEET
PEAK DISCHARGE RATE = 7.72 CFS AT 1.530 HOURS BASIN AREA = 0.0030 SQ. MI.

*S-----

*S ADD BASINS 500, 600 - AP WOOD ALLEY
ADD HYD ID=65 HYD=SUM IDi=60 IDii=50
PRINT HYD ID=65 CODE=1

HYDROGRAPH FROM AREA SUM

RUNOFF VOLUME = 1.77867 INCHES = 0.1992 ACRE-FEET
PEAK DISCHARGE RATE = 5.49 CFS AT 1.530 HOURS BASIN AREA = 0.0021 SQ. MI.

*S-----

*S ADD BASINS 102A/2(93), 103B(96), NH1(98), 100, 200, 300, 500, 600 - AP NEWHAL
ADD HYD ID=75 HYD=SUM IDi=96 IDii=98
ADD HYD ID=75 HYD=SUM IDi=75 IDii=10
ADD HYD ID=75 HYD=SUM IDi=75 IDii=20
ADD HYD ID=75 HYD=SUM IDi=75 IDii=30
ADD HYD ID=75 HYD=SUM IDi=75 IDii=65
ADD HYD ID=75 HYD=SUM IDi=75 IDii=93
PRINT HYD ID=75 CODE=1

HYDROGRAPH FROM AREA SUM

RUNOFF VOLUME = 1.80031 INCHES = 0.8051 ACRE-FEET
PEAK DISCHARGE RATE = 22.12 CFS AT 1.530 HOURS BASIN AREA = 0.0084 SQ. MI.

*S-----

*S ADD BASINS 700, NH2(99) - AP NEWHALL
ADD HYD ID=75 HYD=SUM IDi=70 IDii=99
PRINT HYD ID=75 CODE=1

HYDROGRAPH FROM AREA SUM

RUNOFF VOLUME = 1.76931 INCHES = 0.0849 ACRE-FEET
PEAK DISCHARGE RATE = 2.37 CFS AT 1.530 HOURS BASIN AREA = 0.0009 SQ. MI.

*S-----

*S ADD BASINS 102A/2(93), 103A(95), 104(97) - AP SAGAN AND BOBBY FOSTER
ADD HYD ID=75 HYD=SUM IDi=97 IDii=95

APPENDIX C

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ADD HYD                                ID=75 HYD=SUM IDi=75 IDii=85
PRINT HYD                             ID=75 CODE=1

                                HYDROGRAPH FROM AREA SUM

RUNOFF VOLUME =      1.92763 INCHES      =      0.3377 ACRE-FEET
PEAK DISCHARGE RATE =      9.08 CFS      AT      1.530 HOURS      BASIN AREA =  0.0033 SQ. MI.

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*S-----
*S ADD BASINS 400, SG1(81) - AP SAGAN LOOP
ADD HYD                                ID=75 HYD=SUM IDi=40 IDii=81
PRINT HYD                             ID=75 CODE=1

                                HYDROGRAPH FROM AREA SUM

RUNOFF VOLUME =      1.82423 INCHES      =      0.2140 ACRE-FEET
PEAK DISCHARGE RATE =      5.85 CFS      AT      1.530 HOURS      BASIN AREA =  0.0022 SQ. MI.

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*S-----
*S ADD BASINS 900, SG2(82) - AP SAGAN LOOP
ADD HYD                                ID=74 HYD=SUM IDi=90 IDii=82
PRINT HYD                             ID=74 CODE=1

                                HYDROGRAPH FROM AREA SUM

RUNOFF VOLUME =      1.85109 INCHES      =      0.2369 ACRE-FEET
PEAK DISCHARGE RATE =      6.45 CFS      AT      1.530 HOURS      BASIN AREA =  0.0024 SQ. MI.

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*S-----
*S ADD BASINS (900, SG2(82)), ST1(81), 0.70*101(85) - AP STIEGLITZ
DIVIDE HYD                            ID=91 PER=-75 IDi=85 HYD NO=75.PER
                                         IDii=86 HYD NO=25.PER
ADD HYD                                ID=75 HYD=SUM IDi=85 IDii=74
ADD HYD                                ID=75 HYD=SUM IDi=75 IDii=81
PRINT HYD                             ID=75 CODE=1

                                HYDROGRAPH FROM AREA SUM

RUNOFF VOLUME =      1.88054 INCHES      =      0.4438 ACRE-FEET
PEAK DISCHARGE RATE =      12.01 CFS      AT      1.530 HOURS      BASIN AREA =  0.0044 SQ. MI.

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*S-----
*S ADD BASINS (900, SG2, ST1, 0.70*101), 0.30*101(86), ST2(84) - AP WEST END OF
ADD HYD                                ID=75 HYD=SUM IDi=74 IDii=84
ADD HYD                                ID=75 HYD=SUM IDi=75 IDii=86
PRINT HYD                             ID=75 CODE=1

                                HYDROGRAPH FROM AREA SUM

RUNOFF VOLUME =      1.86300 INCHES      =      0.2956 ACRE-FEET
PEAK DISCHARGE RATE =      8.04 CFS      AT      1.530 HOURS      BASIN AREA =  0.0030 SQ. MI.

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*S-----
FINISH

NORMAL PROGRAM FINISH                END TIME (HR:MIN:SEC) = 15:00:56

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APPENDIX D

Street Capacity Analysis

Worksheet for Wood Road

Project Description	
Friction Method	Manning Formula
Solve For	Discharge
Input Data	
Channel Slope	0.500 %
Normal Depth	0.5 ft

Section Definitions

Station (ft)	Elevation (ft)
0+00	0.50
0+00	0.00
0+02	0.13
0+15	0.38
0+27	0.13
0+29	0.00
0+29	0.50

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 0.50)	(0+29, 0.50)	0.017

Options	
Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results	
Discharge	20.83 cfs
Roughness Coefficient	0.017
Elevation Range	0.0 to 0.5 ft
Flow Area	8.1 ft ²
Wetted Perimeter	30.3 ft
Hydraulic Radius	0.3 ft
Top Width	29.25 ft
Normal Depth	0.5 ft
Critical Depth	0.5 ft
Critical Slope	0.697 %
Velocity	2.57 ft/s
Velocity Head	0.10 ft
Specific Energy	0.60 ft
Froude Number	0.860
Flow Type	Subcritical

Worksheet for Wood Road

GVF Input Data

Downstream Depth	0.0 ft
Length	0.0 ft
Number Of Steps	0

GVF Output Data

Upstream Depth	0.0 ft
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	0.5 ft
Critical Depth	0.5 ft
Channel Slope	0.500 %
Critical Slope	0.697 %

Worksheet for Steiglitz Ave. down stream

Project Description	
Friction Method	Manning Formula
Solve For	Discharge
Input Data	
Channel Slope	0.500 %
Normal Depth	0.5 ft

Section Definitions

Station (ft)	Elevation (ft)
0+00	0.50
0+00	0.00
0+02	0.13
0+14	0.29
0+26	0.08
0+28	0.00
0+28	0.50

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 0.50)	(0+28, 0.50)	0.017

Options

Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results

Discharge	26.08 cfs
Roughness Coefficient	0.017
Elevation Range	0.0 to 0.5 ft
Flow Area	9.1 ft ²
Wetted Perimeter	28.8 ft
Hydraulic Radius	0.3 ft
Top Width	27.80 ft
Normal Depth	0.5 ft
Critical Depth	0.5 ft
Critical Slope	0.657 %
Velocity	2.87 ft/s
Velocity Head	0.13 ft
Specific Energy	0.63 ft
Froude Number	0.883
Flow Type	Subcritical

Worksheet for Steiglitz Ave. down stream

GVF Input Data

Downstream Depth	0.0 ft
Length	0.0 ft
Number Of Steps	0

GVF Output Data

Upstream Depth	0.0 ft
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	0.5 ft
Critical Depth	0.5 ft
Channel Slope	0.500 %
Critical Slope	0.657 %

Worksheet for Steiglitz Ave. up stream

Project Description	
Friction Method	Manning Formula
Solve For	Discharge
Input Data	
Channel Slope	0.500 %
Normal Depth	0.5 ft

Section Definitions

Station (ft)	Elevation (ft)
0+00	0.50
0+00	0.00
0+02	0.13
0+10	0.29
0+18	0.13
0+20	0.00
0+20	0.50

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 0.50)	(0+20, 0.50)	0.017

Options

Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results

Discharge	18.64 cfs
Roughness Coefficient	0.017
Elevation Range	0.0 to 0.5 ft
Flow Area	6.6 ft ²
Wetted Perimeter	21.3 ft
Hydraulic Radius	0.3 ft
Top Width	20.29 ft
Normal Depth	0.5 ft
Critical Depth	0.5 ft
Critical Slope	0.671 %
Velocity	2.83 ft/s
Velocity Head	0.12 ft
Specific Energy	0.62 ft
Froude Number	0.875
Flow Type	Subcritical

Worksheet for Steiglitz Ave. up stream

GVF Input Data

Downstream Depth	0.0 ft
Length	0.0 ft
Number Of Steps	0

GVF Output Data

Upstream Depth	0.0 ft
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	0.5 ft
Critical Depth	0.5 ft
Channel Slope	0.500 %
Critical Slope	0.671 %

Worksheet for Sidewalk Culvert - Rose

Project Description	
Friction Method	Manning
	Formula
Solve For	Discharge
Input Data	
Roughness Coefficient	0.017
Channel Slope	2.000 %
Normal Depth	0.7 ft
Bottom Width	2.00 ft
Results	
Discharge	9.58 cfs
Flow Area	1.4 ft ²
Wetted Perimeter	3.4 ft
Hydraulic Radius	0.4 ft
Top Width	2.00 ft
Critical Depth	0.9 ft
Critical Slope	1.024 %
Velocity	6.84 ft/s
Velocity Head	0.73 ft
Specific Energy	1.43 ft
Froude Number	1.442
Flow Type	Supercritical
GVF Input Data	
Downstream Depth	0.0 ft
Length	0.0 ft
Number Of Steps	0
GVF Output Data	
Upstream Depth	0.0 ft
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	0.7 ft
Critical Depth	0.9 ft
Channel Slope	2.000 %
Critical Slope	1.024 %

Worksheet for Sidewalk Culvert - Hopper

Project Description	
Friction Method	Manning
	Formula
Solve For	Discharge
Input Data	
Roughness Coefficient	0.017
Channel Slope	2.000 %
Normal Depth	0.7 ft
Bottom Width	4.00 ft
Results	
Discharge	22.34 cfs
Flow Area	2.8 ft ²
Wetted Perimeter	5.4 ft
Hydraulic Radius	0.5 ft
Top Width	4.00 ft
Critical Depth	1.0 ft
Critical Slope	0.722 %
Velocity	7.98 ft/s
Velocity Head	0.99 ft
Specific Energy	1.69 ft
Froude Number	1.681
Flow Type	Supercritical
GVF Input Data	
Downstream Depth	0.0 ft
Length	0.0 ft
Number Of Steps	0
GVF Output Data	
Upstream Depth	0.0 ft
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	0.7 ft
Critical Depth	1.0 ft
Channel Slope	2.000 %
Critical Slope	0.722 %

Worksheet for Rose Alley Weir

Project Description	
Solve For	Discharge
Input Data	
Headwater Elevation	0.70 ft
Crest Elevation	0.00 ft
Tailwater Elevation	0.00 ft
Weir Coefficient	$3.33 \text{ ft}^{1/2}/\text{s}$
Crest Length	2.0 ft
Number Of Contractions	0
Results	
Discharge	3.90 cfs
Headwater Height Above Crest	0.70 ft
Tailwater Height Above Crest	0.00 ft
Flow Area	1.4 ft ²
Velocity	2.79 ft/s
Wetted Perimeter	3.4 ft
Top Width	2.00 ft

Worksheet for Hopper Alley Weir

Project Description	
Solve For	Discharge
Input Data	
Headwater Elevation	0.70 ft
Crest Elevation	0.00 ft
Tailwater Elevation	0.00 ft
Weir Coefficient	$3.33 \text{ ft}^{1/2}/\text{s}$
Crest Length	4.0 ft
Number Of Contractions	0
Results	
Discharge	7.80 cfs
Headwater Height Above Crest	0.70 ft
Tailwater Height Above Crest	0.00 ft
Flow Area	2.8 ft^2
Velocity	2.79 ft/s
Wetted Perimeter	5.4 ft
Top Width	4.00 ft

Worksheet for Sagan Loop

Project Description	
Friction Method	Manning Formula
Solve For	Discharge
Input Data	
Channel Slope	0.500 %
Normal Depth	0.7 ft

Section Definitions

Station (ft)	Elevation (ft)
0+00	0.67
0+00	0.00
0+02	0.13
0+17	0.42
0+31	0.13
0+33	0.00
0+33	0.67

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 0.67)	(0+33, 0.67)	0.017

Options	
Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results	
Discharge	48.36 cfs
Roughness Coefficient	0.017
Elevation Range	0.0 to 0.7 ft
Flow Area	14.2 ft ²
Wetted Perimeter	34.6 ft
Hydraulic Radius	0.4 ft
Top Width	33.25 ft
Normal Depth	0.7 ft
Critical Depth	0.6 ft
Critical Slope	0.600 %
Velocity	3.41 ft/s
Velocity Head	0.18 ft
Specific Energy	0.85 ft
Froude Number	0.921
Flow Type	Subcritical

Worksheet for Sagan Loop

GVF Input Data

Downstream Depth	0.0 ft
Length	0.0 ft
Number Of Steps	0

GVF Output Data

Upstream Depth	0.0 ft
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	0.7 ft
Critical Depth	0.6 ft
Channel Slope	0.500 %
Critical Slope	0.600 %

Worksheet for Parcel J - Alley w/VG

Project Description	
Friction Method	Manning
Solve For	Formula
	Discharge
Input Data	
Channel Slope	0.500 %
Normal Depth	0.6 ft

Section Definitions

Station (ft)	Elevation (ft)
0+00	0.73
0+00	0.23
0+05	0.10
0+07	0.00
0+09	0.13
0+14	0.23
0+14	0.73

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 0.73)	(0+00, 0.23)	0.013
(0+00, 0.23)	(0+05, 0.10)	0.050
(0+05, 0.10)	(0+09, 0.13)	0.013
(0+09, 0.13)	(0+14, 0.23)	0.050
(0+14, 0.23)	(0+14, 0.73)	0.013

Options	
Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results	
Discharge	10.86 cfs
Roughness Coefficient	0.042
Elevation Range	0.0 to 0.7 ft
Flow Area	7.1 ft ²
Wetted Perimeter	15.1 ft
Hydraulic Radius	0.5 ft
Top Width	14.24 ft
Normal Depth	0.6 ft
Critical Depth	0.4 ft
Critical Slope	4.134 %
Velocity	1.52 ft/s

Worksheet for Parcel J - Alley w/VG

Results

Velocity Head	0.04 ft
Specific Energy	0.68 ft
Froude Number	0.379
Flow Type	Subcritical

GVF Input Data

Downstream Depth	0.0 ft
Length	0.0 ft
Number Of Steps	0

GVF Output Data

Upstream Depth	0.0 ft
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	0.6 ft
Critical Depth	0.4 ft
Channel Slope	0.500 %
Critical Slope	4.134 %

Worksheet for Newhall Dr.

Project Description	
Friction Method	Manning Formula
Solve For	Discharge
Input Data	
Channel Slope	0.500 %
Normal Depth	0.5 ft

Section Definitions

Station (ft)	Elevation (ft)
0+00	0.50
0+00	0.00
0+02	0.08
0+15	0.38
0+27	0.08
0+29	0.00
0+29	0.50

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 0.50)	(0+29, 0.50)	0.017

Options	
Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results	
Discharge	23.61 cfs
Roughness Coefficient	0.017
Elevation Range	0.0 to 0.5 ft
Flow Area	8.7 ft ²
Wetted Perimeter	30.0 ft
Hydraulic Radius	0.3 ft
Top Width	29.25 ft
Normal Depth	0.5 ft
Critical Depth	0.5 ft
Critical Slope	0.670 %
Velocity	2.71 ft/s
Velocity Head	0.11 ft
Specific Energy	0.61 ft
Froude Number	0.876
Flow Type	Subcritical

Worksheet for Newhall Dr.

GVF Input Data

Downstream Depth	0.0 ft
Length	0.0 ft
Number Of Steps	0

GVF Output Data

Upstream Depth	0.0 ft
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	0.5 ft
Critical Depth	0.5 ft
Channel Slope	0.500 %
Critical Slope	0.670 %

Worksheet for Bobby Foster - West Bound

Project Description	
Friction Method	Manning Formula
Solve For	Discharge
Input Data	
Channel Slope	0.500 %
Normal Depth	0.5 ft

Section Definitions

Station (ft)	Elevation (ft)
0+00	0.50
0+00	0.00
0+02	0.13
0+18	0.44
0+34	0.13
0+36	0.00
0+36	0.50

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 0.50)	(0+36, 0.50)	0.017

Options	
Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results	
Discharge	20.63 cfs
Roughness Coefficient	0.017
Elevation Range	0.0 to 0.5 ft
Flow Area	8.7 ft ²
Wetted Perimeter	36.8 ft
Hydraulic Radius	0.2 ft
Top Width	35.79 ft
Normal Depth	0.5 ft
Critical Depth	0.5 ft
Critical Slope	0.725 %
Velocity	2.37 ft/s
Velocity Head	0.09 ft
Specific Energy	0.59 ft
Froude Number	0.845
Flow Type	Subcritical

Worksheet for Bobby Foster - West Bound

GVF Input Data

Downstream Depth	0.0 ft
Length	0.0 ft
Number Of Steps	0

GVF Output Data

Upstream Depth	0.0 ft
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	0.5 ft
Critical Depth	0.5 ft
Channel Slope	0.500 %
Critical Slope	0.725 %

Worksheet for Bobby Foster - East Bound

Project Description	
Friction Method	Manning Formula
Solve For	Discharge
Input Data	
Channel Slope	0.500 %
Normal Depth	0.5 ft

Section Definitions

Station (ft)	Elevation (ft)
0+00	0.50
0+00	0.00
0+02	0.13
0+15	0.39
0+28	0.13
0+30	0.00
0+30	0.50

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 0.50)	(0+30, 0.50)	0.017

Options	
Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results	
Discharge	20.91 cfs
Roughness Coefficient	0.017
Elevation Range	0.0 to 0.5 ft
Flow Area	8.2 ft ²
Wetted Perimeter	31.3 ft
Hydraulic Radius	0.3 ft
Top Width	30.29 ft
Normal Depth	0.5 ft
Critical Depth	0.5 ft
Critical Slope	0.701 %
Velocity	2.54 ft/s
Velocity Head	0.10 ft
Specific Energy	0.60 ft
Froude Number	0.858
Flow Type	Subcritical

Worksheet for Bobby Foster - East Bound

GVF Input Data	
Downstream Depth	0.0 ft
Length	0.0 ft
Number Of Steps	0
GVF Output Data	
Upstream Depth	0.0 ft
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	0.5 ft
Critical Depth	0.5 ft
Channel Slope	0.500 %
Critical Slope	0.701 %

Worksheet for Alley A,B,C,D - 0.5% w 4" Curbs

Project Description	
Friction Method	Manning
	Formula
Solve For	Discharge
Input Data	
Channel Slope	0.500 %
Normal Depth	0.3 ft

Section Definitions

Station (ft)	Elevation (ft)
0+03	0.33
0+04	0.00
0+05	0.08
0+15	0.18
0+25	0.08
0+26	0.00
0+27	0.33

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+03, 0.33)	(0+27, 0.33)	0.017

Options	
Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results	
Discharge	10.24 cfs
Roughness Coefficient	0.017
Elevation Range	0.0 to 0.3 ft
Flow Area	4.8 ft ²
Wetted Perimeter	24.1 ft
Hydraulic Radius	0.2 ft
Top Width	23.98 ft
Normal Depth	0.3 ft
Critical Depth	0.3 ft
Critical Slope	0.751 %
Velocity	2.12 ft/s
Velocity Head	0.07 ft
Specific Energy	0.40 ft
Froude Number	0.832
Flow Type	Subcritical

Worksheet for Alley A,B,C,D - 0.5% w 4" Curbs

GVF Input Data

Downstream Depth	0.0 ft
Length	0.0 ft
Number Of Steps	0

GVF Output Data

Upstream Depth	0.0 ft
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	0.3 ft
Critical Depth	0.3 ft
Channel Slope	0.500 %
Critical Slope	0.751 %

Worksheet for Discharge Height Wood Alley

Project Description	
Friction Method	Manning
Solve For	Formula
	Normal Depth
Input Data	
Channel Slope	0.500 %
Discharge	5.50 cfs

Section Definitions

Station (ft)	Elevation (ft)
0+03	0.33
0+04	0.00
0+05	0.08
0+15	0.18
0+25	0.08
0+26	0.00
0+27	0.33

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+03, 0.33)	(0+27, 0.33)	0.017

Options	
Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results	
Normal Depth	0.3 ft
Roughness Coefficient	0.017
Elevation	0.27 ft
Elevation Range	0.0 to 0.3 ft
Flow Area	3.3 ft ²
Wetted Perimeter	23.7 ft
Hydraulic Radius	0.1 ft
Top Width	23.57 ft
Normal Depth	0.3 ft
Critical Depth	0.2 ft
Critical Slope	0.859 %
Velocity	1.67 ft/s
Velocity Head	0.04 ft
Specific Energy	0.31 ft
Froude Number	0.784

Worksheet for Discharge Height Wood Alley

Results	
Flow Type	Subcritical
GVF Input Data	
Downstream Depth	0.0 ft
Length	0.0 ft
Number Of Steps	0
GVF Output Data	
Upstream Depth	0.0 ft
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	0.3 ft
Critical Depth	0.2 ft
Channel Slope	0.500 %
Critical Slope	0.859 %

Worksheet for Discharge Height Steiglitz 2

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth
Input Data	
Channel Slope	0.500 %
Discharge	6.10 cfs

Section Definitions

Station (ft)	Elevation (ft)
0+00	0.50
0+00	0.00
0+02	0.13
0+14	0.29
0+26	0.08
0+28	0.00
0+28	0.50

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 0.50)	(0+28, 0.50)	0.017

Options	
Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results	
Normal Depth	0.3 ft
Roughness Coefficient	0.017
Elevation	0.31 ft
Elevation Range	0.0 to 0.5 ft
Flow Area	3.8 ft ²
Wetted Perimeter	28.4 ft
Hydraulic Radius	0.1 ft
Top Width	27.80 ft
Normal Depth	0.3 ft
Critical Depth	0.3 ft
Critical Slope	0.892 %
Velocity	1.61 ft/s
Velocity Head	0.04 ft
Specific Energy	0.35 ft
Froude Number	0.770

Worksheet for Discharge Height Steiglitz 2

Results	
Flow Type	Subcritical
GVF Input Data	
Downstream Depth	0.0 ft
Length	0.0 ft
Number Of Steps	0
GVF Output Data	
Upstream Depth	0.0 ft
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	0.3 ft
Critical Depth	0.3 ft
Channel Slope	0.500 %
Critical Slope	0.892 %

Worksheet for Discharge Height Steiglitz 1

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth
Input Data	
Channel Slope	0.500 %
Discharge	1.40 cfs

Section Definitions

Station (ft)	Elevation (ft)
0+00	0.50
0+00	0.00
0+02	0.13
0+10	0.29
0+18	0.13
0+20	0.00
0+20	0.50

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 0.50)	(0+20, 0.50)	0.017

Options

Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results

Normal Depth	0.2 ft
Roughness Coefficient	0.017
Elevation	0.23 ft
Elevation Range	0.0 to 0.5 ft
Flow Area	1.2 ft ²
Wetted Perimeter	14.8 ft
Hydraulic Radius	0.1 ft
Top Width	14.37 ft
Normal Depth	0.2 ft
Critical Depth	0.2 ft
Critical Slope	1.045 %
Velocity	1.16 ft/s
Velocity Head	0.02 ft
Specific Energy	0.25 ft
Froude Number	0.707

Worksheet for Discharge Height Steiglitz 1

Results	
Flow Type	Subcritical
GVF Input Data	
Downstream Depth	0.0 ft
Length	0.0 ft
Number Of Steps	0
GVF Output Data	
Upstream Depth	0.0 ft
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	0.2 ft
Critical Depth	0.2 ft
Channel Slope	0.500 %
Critical Slope	1.045 %

Worksheet for Discharge Height Steiglitz 1

Messages:

Flow is divided.

Worksheet for Discharge Height Sagan 2 Loop

Project Description	
Friction Method	Manning
Solve For	Formula
	Normal Depth
Input Data	
Channel Slope	0.500 %
Discharge	6.70 cfs

Section Definitions

Station (ft)	Elevation (ft)
0+00	0.67
0+00	0.00
0+02	0.13
0+17	0.42
0+31	0.13
0+33	0.00
0+33	0.67

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 0.67)	(0+33, 0.67)	0.017

Options	
Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results	
Normal Depth	0.4 ft
Roughness Coefficient	0.017
Elevation	0.36 ft
Elevation Range	0.0 to 0.7 ft
Flow Area	4.0 ft ²
Wetted Perimeter	28.4 ft
Hydraulic Radius	0.1 ft
Top Width	27.65 ft
Normal Depth	0.4 ft
Critical Depth	0.3 ft
Critical Slope	0.859 %
Velocity	1.68 ft/s
Velocity Head	0.04 ft
Specific Energy	0.40 ft
Froude Number	0.777

Worksheet for Discharge Height Sagan 2 Loop

Results	
Flow Type	Subcritical
GVF Input Data	
Downstream Depth	0.0 ft
Length	0.0 ft
Number Of Steps	0
GVF Output Data	
Upstream Depth	0.0 ft
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	0.4 ft
Critical Depth	0.3 ft
Channel Slope	0.500 %
Critical Slope	0.859 %

Worksheet for Discharge Height Sagan 2 Loop

Messages:

Flow is divided.

Worksheet for Discharge Height Sagan 1 Loop

Project Description	
Friction Method	Manning
Solve For	Formula
	Normal Depth
Input Data	
Channel Slope	0.500 %
Discharge	9.30 cfs

Section Definitions

Station (ft)	Elevation (ft)
0+00	0.67
0+00	0.00
0+02	0.13
0+17	0.42
0+31	0.13
0+33	0.00
0+33	0.67

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 0.67)	(0+33, 0.67)	0.017

Options	
Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results	
Normal Depth	0.4 ft
Roughness Coefficient	0.017
Elevation	0.40 ft
Elevation Range	0.0 to 0.7 ft
Flow Area	5.1 ft ²
Wetted Perimeter	32.3 ft
Hydraulic Radius	0.2 ft
Top Width	31.48 ft
Normal Depth	0.4 ft
Critical Depth	0.4 ft
Critical Slope	0.822 %
Velocity	1.81 ft/s
Velocity Head	0.05 ft
Specific Energy	0.45 ft
Froude Number	0.791

Worksheet for Discharge Height Sagan 1 Loop

Results	
Flow Type	Subcritical
GVF Input Data	
Downstream Depth	0.0 ft
Length	0.0 ft
Number Of Steps	0
GVF Output Data	
Upstream Depth	0.0 ft
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	0.4 ft
Critical Depth	0.4 ft
Channel Slope	0.500 %
Critical Slope	0.822 %

Worksheet for Discharge Height Sagan 1 Loop

Messages:

Flow is divided.

Worksheet for Discharge Height Rose Alley

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth
Input Data	
Channel Slope	0.500 %
Discharge	2.60 cfs

Section Definitions

Station (ft)	Elevation (ft)
0+03	0.33
0+04	0.00
0+05	0.08
0+15	0.18
0+25	0.08
0+26	0.00
0+27	0.33

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+03, 0.33)	(0+27, 0.33)	0.017

Options	
Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results	
Normal Depth	0.2 ft
Roughness Coefficient	0.017
Elevation	0.21 ft
Elevation Range	0.0 to 0.3 ft
Flow Area	2.1 ft ²
Wetted Perimeter	23.3 ft
Hydraulic Radius	0.1 ft
Top Width	23.24 ft
Normal Depth	0.2 ft
Critical Depth	0.2 ft
Critical Slope	1.010 %
Velocity	1.24 ft/s
Velocity Head	0.02 ft
Specific Energy	0.24 ft
Froude Number	0.730

Worksheet for Discharge Height Rose Alley

Results	
Flow Type	Subcritical
GVF Input Data	
Downstream Depth	0.0 ft
Length	0.0 ft
Number Of Steps	0
GVF Output Data	
Upstream Depth	0.0 ft
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	0.2 ft
Critical Depth	0.2 ft
Channel Slope	0.500 %
Critical Slope	1.010 %

Worksheet for Discharge Height Parcel J - Alley w/VG

Project Description	
Friction Method	Manning
Solve For	Formula
	Normal Depth
Input Data	
Channel Slope	0.500 %
Discharge	2.70 cfs

Section Definitions

Station (ft)	Elevation (ft)
0+00	0.73
0+00	0.23
0+05	0.10
0+07	0.00
0+09	0.13
0+14	0.23
0+14	0.73

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 0.73)	(0+00, 0.23)	0.013
(0+00, 0.23)	(0+05, 0.10)	0.050
(0+05, 0.10)	(0+09, 0.13)	0.013
(0+09, 0.13)	(0+14, 0.23)	0.050
(0+14, 0.23)	(0+14, 0.73)	0.013

Options	
Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results	
Normal Depth	0.4 ft
Roughness Coefficient	0.043
Elevation	0.36 ft
Elevation Range	0.0 to 0.7 ft
Flow Area	3.1 ft ²
Wetted Perimeter	14.5 ft
Hydraulic Radius	0.2 ft
Top Width	14.24 ft
Normal Depth	0.4 ft
Critical Depth	0.2 ft
Critical Slope	5.662 %

Worksheet for Discharge Height Parcel J - Alley w/VG

Results

Velocity	0.88 ft/s
Velocity Head	0.01 ft
Specific Energy	0.37 ft
Froude Number	0.333
Flow Type	Subcritical

GVF Input Data

Downstream Depth	0.0 ft
Length	0.0 ft
Number Of Steps	0

GVF Output Data

Upstream Depth	0.0 ft
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	0.4 ft
Critical Depth	0.2 ft
Channel Slope	0.500 %
Critical Slope	5.662 %

Worksheet for Discharge Height of Wood Road

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth
Input Data	
Channel Slope	0.500 %
Discharge	5.50 cfs

Section Definitions

Station (ft)	Elevation (ft)
0+00	0.50
0+00	0.00
0+02	0.13
0+15	0.38
0+27	0.13
0+29	0.00
0+29	0.50

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 0.50)	(0+29, 0.50)	0.017

Options	
Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results	
Normal Depth	0.3 ft
Roughness Coefficient	0.017
Elevation	0.34 ft
Elevation Range	0.0 to 0.5 ft
Flow Area	3.5 ft ²
Wetted Perimeter	26.3 ft
Hydraulic Radius	0.1 ft
Top Width	25.60 ft
Normal Depth	0.3 ft
Critical Depth	0.3 ft
Critical Slope	0.881 %
Velocity	1.59 ft/s
Velocity Head	0.04 ft
Specific Energy	0.38 ft
Froude Number	0.765

Worksheet for Discharge Height of Wood Road

Results	
Flow Type	Subcritical
GVF Input Data	
Downstream Depth	0.0 ft
Length	0.0 ft
Number Of Steps	0
GVF Output Data	
Upstream Depth	0.0 ft
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	0.3 ft
Critical Depth	0.3 ft
Channel Slope	0.500 %
Critical Slope	0.881 %

Worksheet for Discharge Height of Wood Road

Messages:

Flow is divided.

Worksheet for Discharge Height of Newhall Dr.

Project Description	
Friction Method	Manning
Solve For	Formula
	Normal Depth
Input Data	
Channel Slope	0.500 %
Discharge	22.70 cfs

Section Definitions

Station (ft)	Elevation (ft)
0+00	0.50
0+00	0.00
0+02	0.08
0+15	0.38
0+27	0.08
0+29	0.00
0+29	0.50

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 0.50)	(0+29, 0.50)	0.017

Options

Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results

Normal Depth	0.5 ft
Roughness Coefficient	0.017
Elevation	0.49 ft
Elevation Range	0.0 to 0.5 ft
Flow Area	8.5 ft ²
Wetted Perimeter	30.0 ft
Hydraulic Radius	0.3 ft
Top Width	29.25 ft
Normal Depth	0.5 ft
Critical Depth	0.5 ft
Critical Slope	0.675 %
Velocity	2.67 ft/s
Velocity Head	0.11 ft
Specific Energy	0.60 ft
Froude Number	0.873

Worksheet for Discharge Height of Newhall Dr.

Results	
Flow Type	Subcritical
GVF Input Data	
Downstream Depth	0.0 ft
Length	0.0 ft
Number Of Steps	0
GVF Output Data	
Upstream Depth	0.0 ft
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	0.5 ft
Critical Depth	0.5 ft
Channel Slope	0.500 %
Critical Slope	0.675 %

Worksheet for Discharge Height of Newhall 2

Project Description	
Friction Method	Manning
Solve For	Formula
	Normal Depth
Input Data	
Channel Slope	0.500 %
Discharge	7.30 cfs

Section Definitions

Station (ft)	Elevation (ft)
0+00	0.50
0+00	0.00
0+02	0.08
0+15	0.38
0+27	0.08
0+29	0.00
0+29	0.50

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 0.50)	(0+29, 0.50)	0.017

Options

Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results

Normal Depth	0.3 ft
Roughness Coefficient	0.017
Elevation	0.34 ft
Elevation Range	0.0 to 0.5 ft
Flow Area	4.1 ft ²
Wetted Perimeter	26.8 ft
Hydraulic Radius	0.2 ft
Top Width	26.28 ft
Normal Depth	0.3 ft
Critical Depth	0.3 ft
Critical Slope	0.826 %
Velocity	1.77 ft/s
Velocity Head	0.05 ft
Specific Energy	0.39 ft
Froude Number	0.789

Worksheet for Discharge Height of Newhall 2

Results	
Flow Type	Subcritical
GVF Input Data	
Downstream Depth	0.0 ft
Length	0.0 ft
Number Of Steps	0
GVF Output Data	
Upstream Depth	0.0 ft
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	0.3 ft
Critical Depth	0.3 ft
Channel Slope	0.500 %
Critical Slope	0.826 %

Worksheet for Discharge Height of Newhall 2

Messages:

Flow is divided.

Worksheet for Discharge Height Hopper Alley

Project Description	
Friction Method	Manning
Solve For	Formula
	Normal Depth
Input Data	
Channel Slope	0.500 %
Discharge	7.72 cfs

Section Definitions

Station (ft)	Elevation (ft)
0+03	0.33
0+04	0.00
0+05	0.08
0+15	0.18
0+25	0.08
0+26	0.00
0+27	0.33

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+03, 0.33)	(0+27, 0.33)	0.017

Options

Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results

Normal Depth	0.3 ft
Roughness Coefficient	0.017
Elevation	0.30 ft
Elevation Range	0.0 to 0.3 ft
Flow Area	4.1 ft ²
Wetted Perimeter	23.9 ft
Hydraulic Radius	0.2 ft
Top Width	23.77 ft
Normal Depth	0.3 ft
Critical Depth	0.3 ft
Critical Slope	0.798 %
Velocity	1.90 ft/s
Velocity Head	0.06 ft
Specific Energy	0.35 ft
Froude Number	0.810

Worksheet for Discharge Height Hopper Alley

Results	
Flow Type	Subcritical
GVF Input Data	
Downstream Depth	0.0 ft
Length	0.0 ft
Number Of Steps	0
GVF Output Data	
Upstream Depth	0.0 ft
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	0.3 ft
Critical Depth	0.3 ft
Channel Slope	0.500 %
Critical Slope	0.798 %

Worksheet for Discharge Height Bobby Foster

Project Description	
Friction Method	Manning
	Formula
Solve For	Normal Depth
Input Data	
Channel Slope	0.500 %
Discharge	9.30 cfs

Section Definitions

Station (ft)	Elevation (ft)
0+00	0.50
0+00	0.00
0+02	0.13
0+15	0.39
0+28	0.13
0+30	0.00
0+30	0.50

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 0.50)	(0+30, 0.50)	0.017

Options	
Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results	
Normal Depth	0.4 ft
Roughness Coefficient	0.017
Elevation	0.39 ft
Elevation Range	0.0 to 0.5 ft
Flow Area	5.0 ft ²
Wetted Perimeter	31.1 ft
Hydraulic Radius	0.2 ft
Top Width	30.29 ft
Normal Depth	0.4 ft
Critical Depth	0.4 ft
Critical Slope	0.823 %
Velocity	1.84 ft/s
Velocity Head	0.05 ft
Specific Energy	0.45 ft
Froude Number	0.795

Worksheet for Discharge Height Bobby Foster

Results	
Flow Type	Subcritical
GVF Input Data	
Downstream Depth	0.0 ft
Length	0.0 ft
Number Of Steps	0
GVF Output Data	
Upstream Depth	0.0 ft
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	0.4 ft
Critical Depth	0.4 ft
Channel Slope	0.500 %
Critical Slope	0.823 %

Worksheet for Discharge Height Aaron Alley

Project Description	
Friction Method	Manning
	Formula
Solve For	Normal Depth
Input Data	
Channel Slope	0.500 %
Discharge	2.70 cfs

Section Definitions

Station (ft)	Elevation (ft)
0+03	0.33
0+04	0.00
0+05	0.08
0+15	0.18
0+25	0.08
0+26	0.00
0+27	0.33

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+03, 0.33)	(0+27, 0.33)	0.017

Options	
Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results	
Normal Depth	0.2 ft
Roughness Coefficient	0.017
Elevation	0.22 ft
Elevation Range	0.0 to 0.3 ft
Flow Area	2.1 ft ²
Wetted Perimeter	23.3 ft
Hydraulic Radius	0.1 ft
Top Width	23.25 ft
Normal Depth	0.2 ft
Critical Depth	0.2 ft
Critical Slope	1.002 %
Velocity	1.26 ft/s
Velocity Head	0.02 ft
Specific Energy	0.24 ft
Froude Number	0.732

Worksheet for Discharge Height Aaron Alley

Results	
Flow Type	Subcritical
GVF Input Data	
Downstream Depth	0.0 ft
Length	0.0 ft
Number Of Steps	0
GVF Output Data	
Upstream Depth	0.0 ft
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	0.2 ft
Critical Depth	0.2 ft
Channel Slope	0.500 %
Critical Slope	1.002 %

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Last Saved: 1/19/2023 5:18:42 PM, at:Trujillo

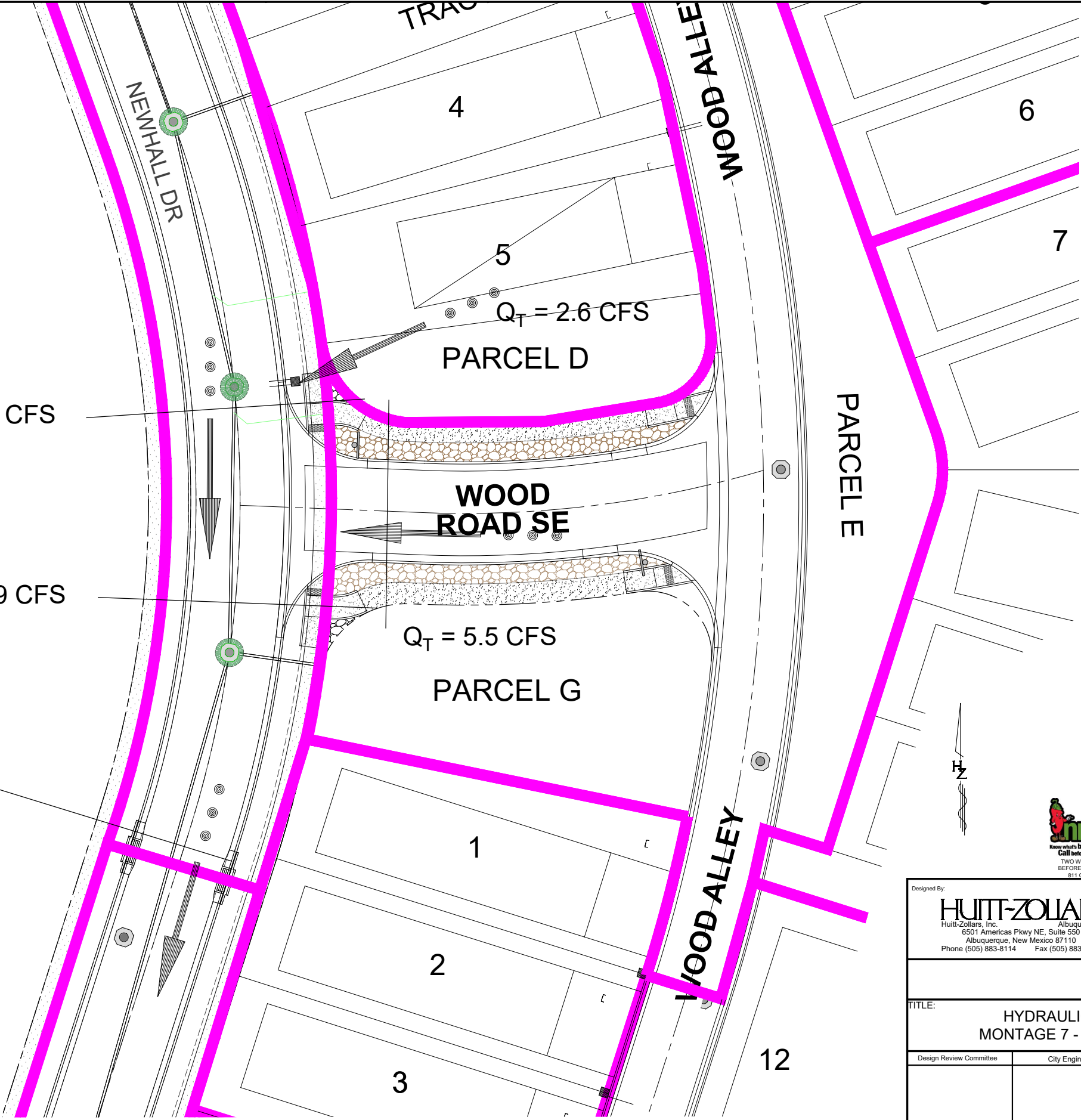
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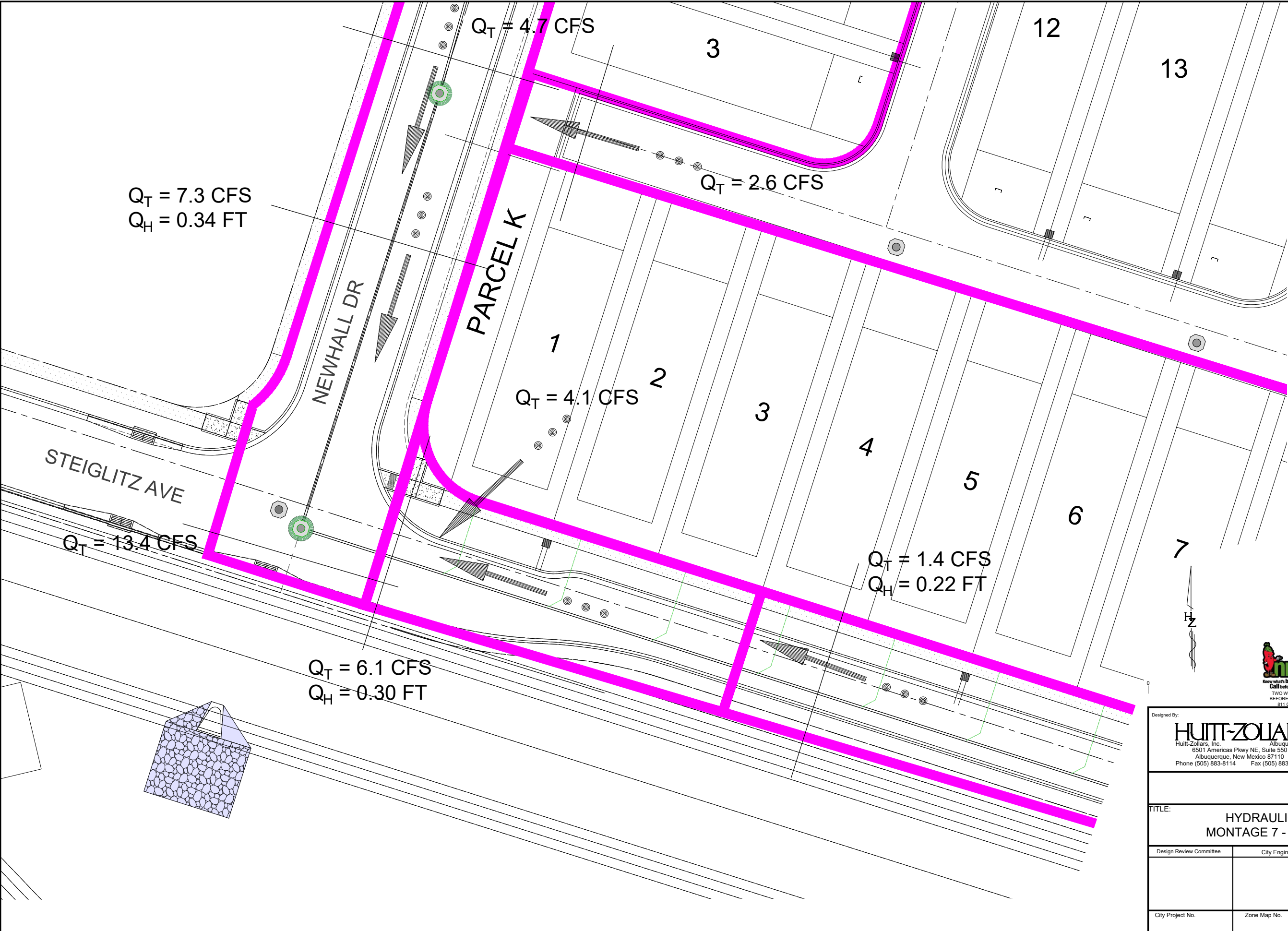


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TITLE: HYDRAULIC ANALYSIS MONTAGE 7 - MESA DEL SOL			
Design Review Committee	City Engineer	Mo./Day/Yr.	Mo./Day/Yr.
Last Update			
City Project No.	Zone Map No.	Sheet	OF EXHIBIT 2

SURVEY INFORMATION		ENGINEER'S SEAL		AS BUILT INFORMATION	
NO.	BY	DATE	DATE	CONTRACTOR	DATE
				STANDARD	DATE
				INSPECTORS	DATE
				FIELD	DATE
				VERIFICATION BY	DATE
				CORRECTED BY	DATE
				MICRO-FILM INFORMATION	
				RECORDED BY	DATE
				NO.	DATE

Pldate: 1/20/2023 5:18:48 PM, By: Trujillo, Corie
Project: 23050001 - Montage Unit 7 - Mesa del Sol
BASINS
Last Saved: 1/20/2023 5:16:52 PM, at: Trujillo



$Q_T = 7.3 \text{ CFS}$
 $Q_H = 0.34 \text{ FT}$

$Q_T = 4.7 \text{ CFS}$

$Q_T = 2.6 \text{ CFS}$

$Q_T = 4.1 \text{ CFS}$

$Q_T = 1.4 \text{ CFS}$
 $Q_H = 0.22 \text{ FT}$

$Q_T = 6.1 \text{ CFS}$
 $Q_H = 0.30 \text{ FT}$

$Q_T = 13.4 \text{ CFS}$

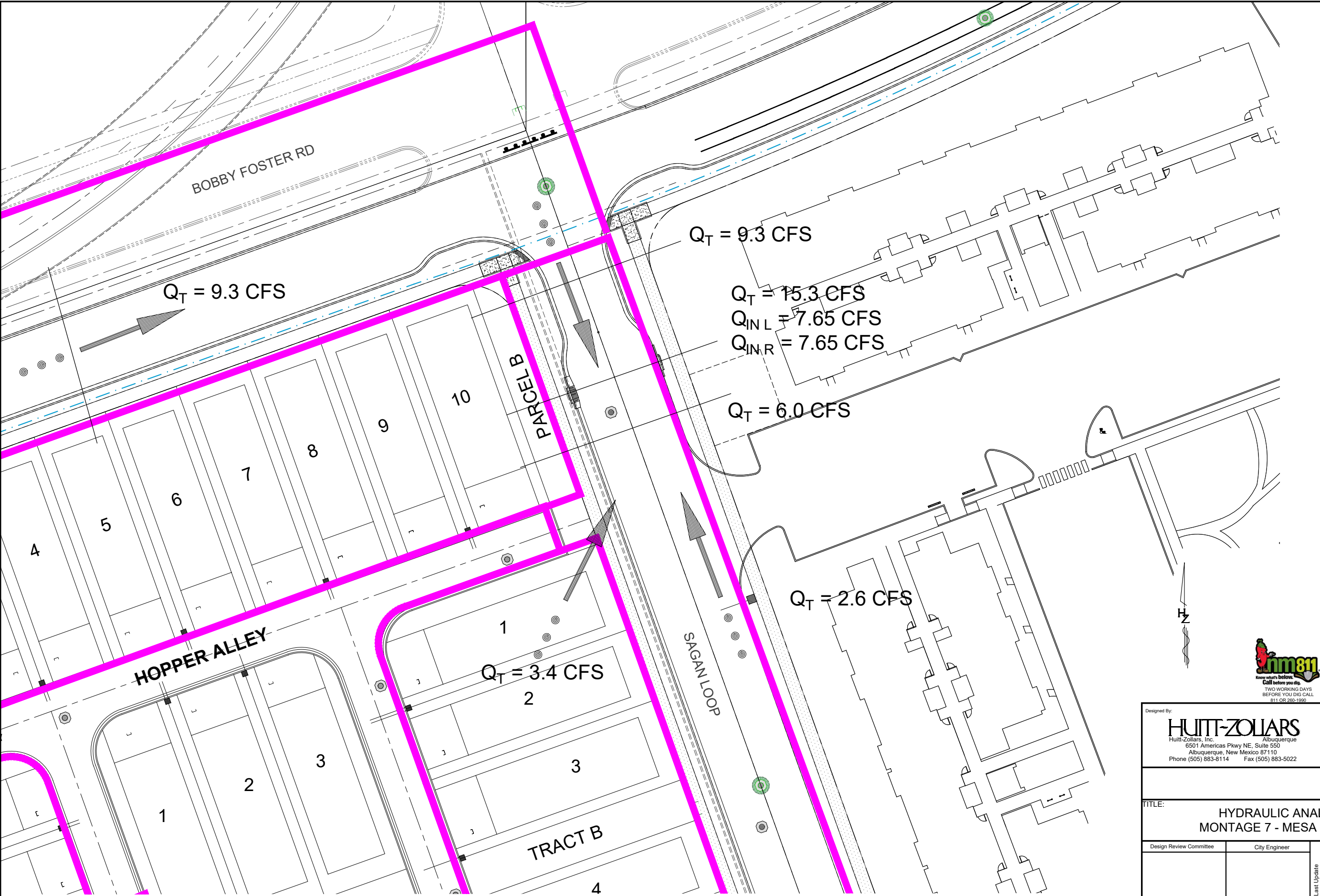


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TITLE: HYDRAULIC ANALYSIS MONTAGE 7 - MESA DEL SOL			
Design Review Committee	City Engineer	Mo./Day/Yr.	Mo./Day/Yr.
Last Update			
City Project No.	Zone Map No.	Sheet	OF EXHIBIT 2

SURVEY INFORMATION		ENGINEER'S SEAL		AS BUILT INFORMATION	
NO.	BY	DATE	DATE	CONTRACTOR	DATE
				INSPECTORS	DATE
				STAMPED BY	DATE
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				VERIFICATION BY	DATE
				CONNECTED BY	DATE
				MICRO-FILM INFORMATION	
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				NO.	

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Project: 23015500.01 - Montage Unit 7 - Mesa del Sol
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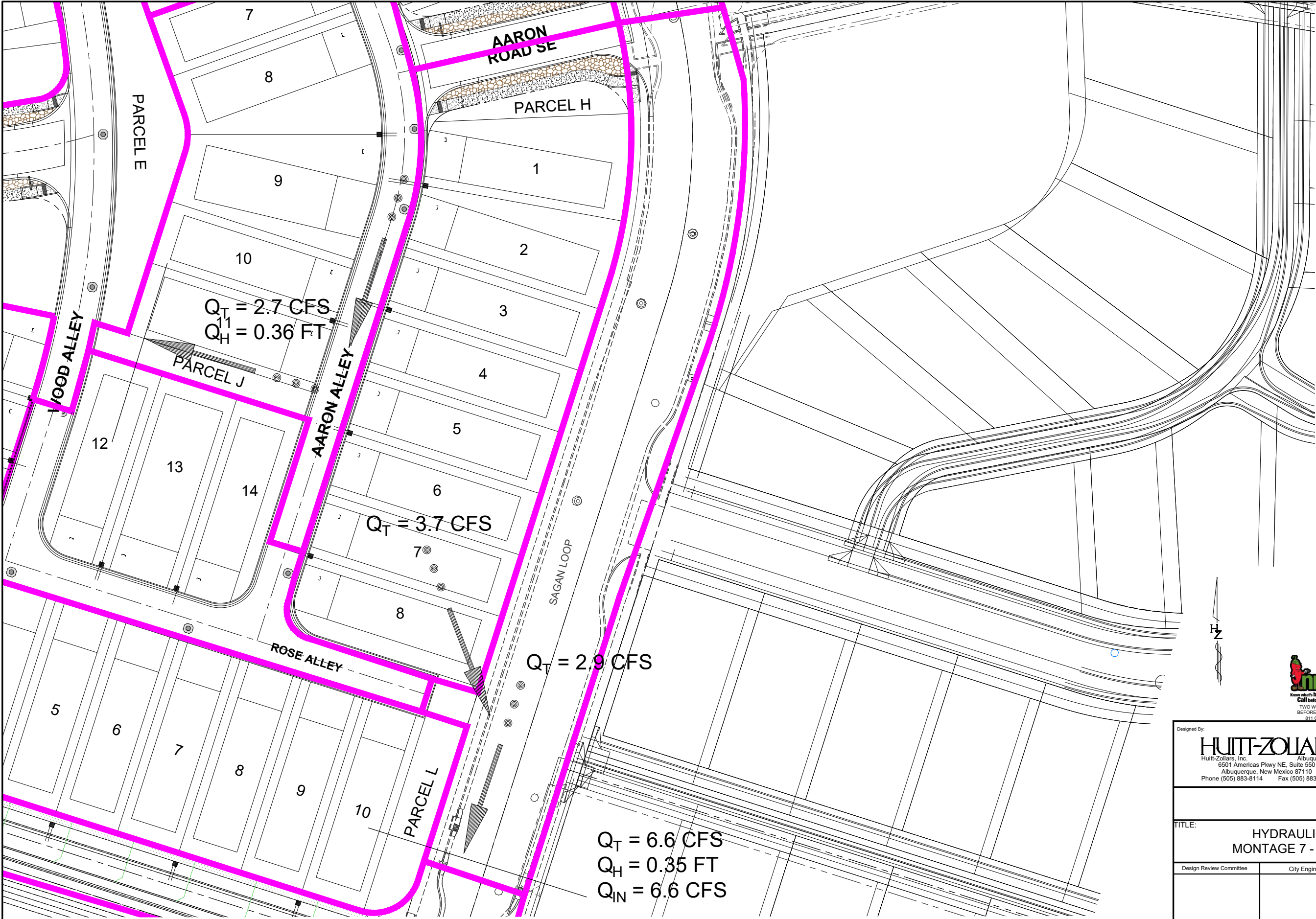


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SURVEY INFORMATION		AS BUILT INFORMATION	
FIELD NOTES	DATE	CONTRACTOR	DATE
NO.	BY	STANDARD	DATE
		INSPECTORS	DATE
		FIELD SPACE BY	DATE
		VERIFICATION BY	DATE
		CORRECTED BY	DATE
ENGINEER'S SEAL		MICRO-FILM INFORMATION	
		RECORDED BY	DATE
		NO.	
		DATE	
		BY	
		REMARKS	
		NO.	
		DATE	
		DESIGNED BY: CAT	DATE: January, 4, 2023
		DRAWN BY: CAT	DATE: January, 4, 2023
		DWG NAME: 2_MDS MONTAGE 7 BASINS.dwg	PROJ#:
		CHECKED BY: SAE	DATE: January, 4, 2023

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Design Review Committee	City Engineer	Mo./Day/Yr.	
Last Update		Mo./Day/Yr.	
City Project No.	Zone Map No.	Sheet	OF EXHIBIT 2



SURVEY INFORMATION		AS BUILT INFORMATION	
FIELD NOTES	DATE	CONTRACTOR	DATE
NO.	BY	STANDARD	DATE
		INSPECTORS	DATE
		FIELD	DATE
		VERIFICATION BY	DATE
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ENGINEER'S SEAL		MICRO-FILM INFORMATION	
		RECORDED BY	DATE
		NO.	

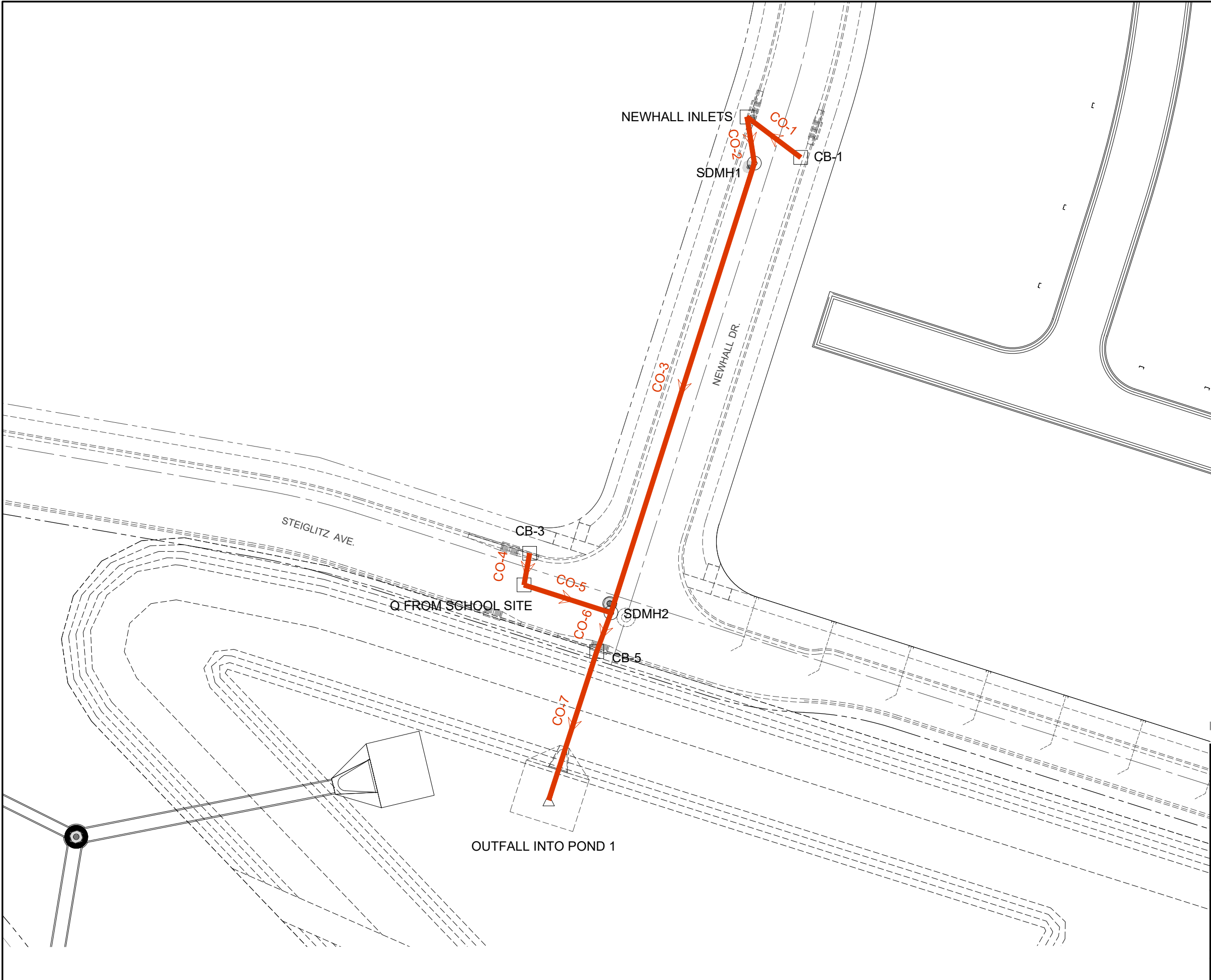
APPENDIX E

StormCAD - FlexTable

FlexTable: Conduit Table

Label	Start Node	Stop Node	Diameter (in)	Length (3D) (ft)	Flow (cfs)	Velocity (ft/s)	Invert (Start) (ft)	Invert (Stop) (ft)	Elevation Ground (Start) (ft)	Elevation Ground (Stop) (ft)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)
CO-1	CB-1	NEWHALL INLETS	18.0	28.9	9.00	5.09	5,298.50	5,298.20	5,309.20	5,309.20	5,300.87	5,300.72
CO-2	NEWHALL INLETS	SDMH1	24.0	20.1	18.00	5.73	5,298.20	5,298.00	5,309.20	5,309.34	5,300.23	5,300.12
CO-3	SDMH1	SDMH2	30.0	203.5	18.00	9.25	5,298.00	5,295.90	5,309.34	5,309.23	5,300.11	5,299.88
CO-4	CB-3	Q FROM SCHOOL SITE	18.0	13.9	21.30	12.05	5,297.60	5,297.00	5,307.00	5,304.86	5,300.24	5,299.76
CO-5	Q FROM SCHOOL SITE	SDMH2	24.0	39.4	21.30	6.78	5,297.00	5,295.90	5,304.86	5,309.23	5,299.94	5,299.58
CO-6	SDMH2	CB-5	30.0	17.8	39.30	13.52	5,295.90	5,295.60	5,309.23	5,309.12	5,298.01	5,297.38
CO-7	CB-5	OUTFALL INTO POND 1	48.0	67.3	52.20	12.21	5,295.60	5,295.00	5,309.12	5,308.88	5,297.77	5,296.69
CO-8	CB-6	SMH1	24.0	20.6	7.65	17.49	5,300.00	5,296.77	5,306.00	5,306.77	5,300.98	5,298.62
CO-9	CB-7	SMH1	24.0	31.6	7.65	14.99	5,300.00	5,296.77	5,306.00	5,306.77	5,300.98	5,298.62
CO-10	SMH1	SMH2	36.0	383.0	15.30	6.02	5,296.77	5,294.80	5,306.77	5,304.80	5,298.02	5,296.30
CO-11	SMH2	SMH3	48.0	117.3	15.30	5.87	5,294.80	5,294.20	5,304.80	5,304.20	5,295.95	5,295.75
CO-12	SMH3	SMH4	48.0	422.5	15.30	5.82	5,294.20	5,292.09	5,304.20	5,302.09	5,295.35	5,294.02
CO-13	CB-8	SMH4	24.0	58.6	3.30	10.06	5,296.00	5,292.09	5,302.00	5,302.09	5,296.63	5,294.07
CO-14	CB-9	SMH4	24.0	59.9	3.30	9.98	5,296.00	5,292.09	5,302.00	5,302.09	5,296.63	5,294.07
CO-15	SMH4	SMH5	48.0	162.4	21.90	6.44	5,292.09	5,291.28	5,302.09	5,301.28	5,293.47	5,293.40
CO-16	SMH5	O-3	48.0	93.0	21.90	12.92	5,291.28	5,288.00	5,301.28	5,298.00	5,292.66	5,288.79

Pldate: 1/19/2023 5:20:42 PM, By:Trujillo, Corie
Project: 230550001 - Montage Unit 7 - Mesa del Sol
BASINS
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TITLE:
**STORMCAD PLAN VIEW
MONTAGE 7 - MESA DEL SOL**

Design Review Committee	City Engineer	Last Update	Mo./Day/Yr.	Mo./Day/Yr.

City Project No.	Zone Map No.	Sheet	OF
		EXHIBIT 3	

ENGINEER'S SEAL

REVISIONS

NO.	DATE	REMARKS	BY

DESIGNED BY: CAT
DATE: January, 4, 2023
DRAWN BY: CAT
DATE: January, 4, 2023
DWG NAME: 2_MDS MONTAGE 7 BASINS.dwg
PROJ #:
CHECKED BY: SAE
DATE: January, 4, 2023

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE

AS BUILT INFORMATION

CONTRACTOR	DATE

INSPECTORS	DATE

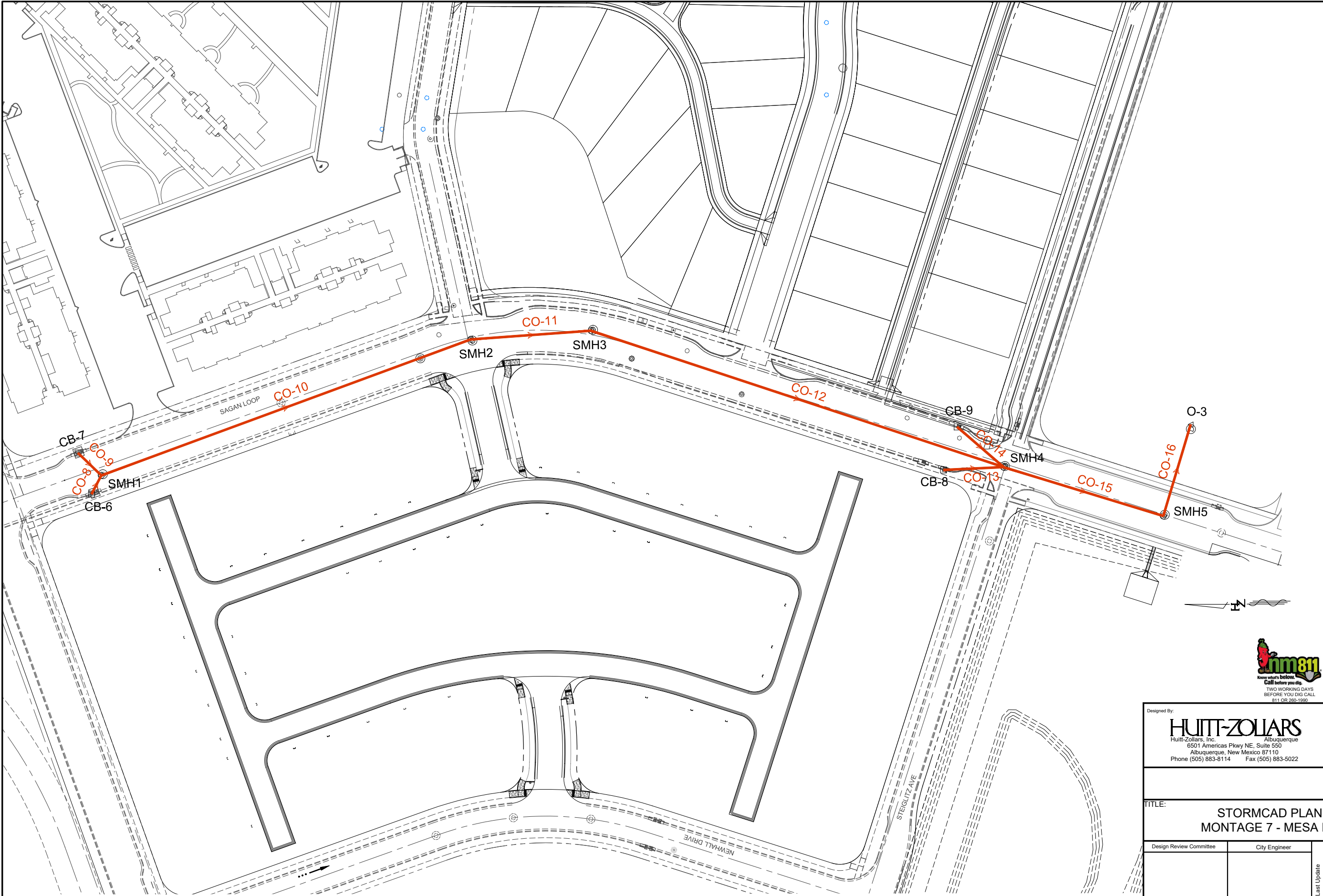
FIELD ENGINEER	DATE

VERIFICATION BY	DATE

CONNECTIONS	DATE

MICRO-FILM INFORMATION	DATE

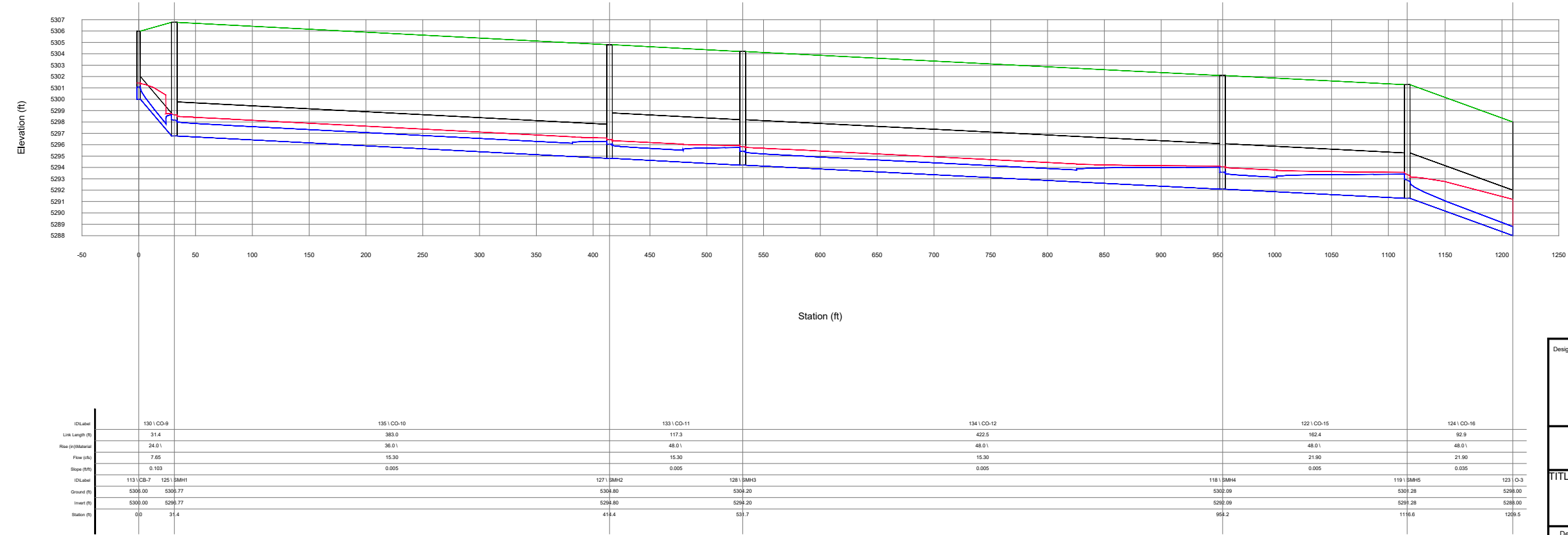
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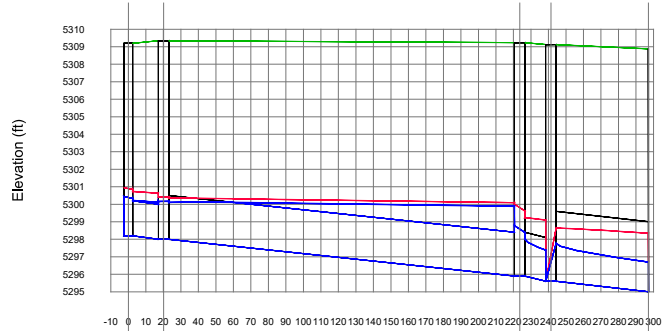
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		OF	
		EXHIBIT 3	

SURVEY INFORMATION		FIELD NOTES		AS BUILT INFORMATION	
NO.	BY	DATE		CONTRACTOR	DATE
				STANDARD	DATE
				INSPECTORS	DATE
				FIELD	DATE
				VERIFICATION	DATE
				CONNECTED	DATE
				MICRO-FILM INFORMATION	
				RECORDED BY	DATE
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NEWHALL DRIVE PROFILE - Base



SAGAN LOOP - Base



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TITLE: **STORMCAD PROFILES
MONTAGE 7 - MESA DEL SOL**

Design Review Committee	City Engineer	Mo./Day/Yr.	Mo./Day/Yr.
City Project No.	Zone Map No.	Sheet	OF EXHIBIT 4

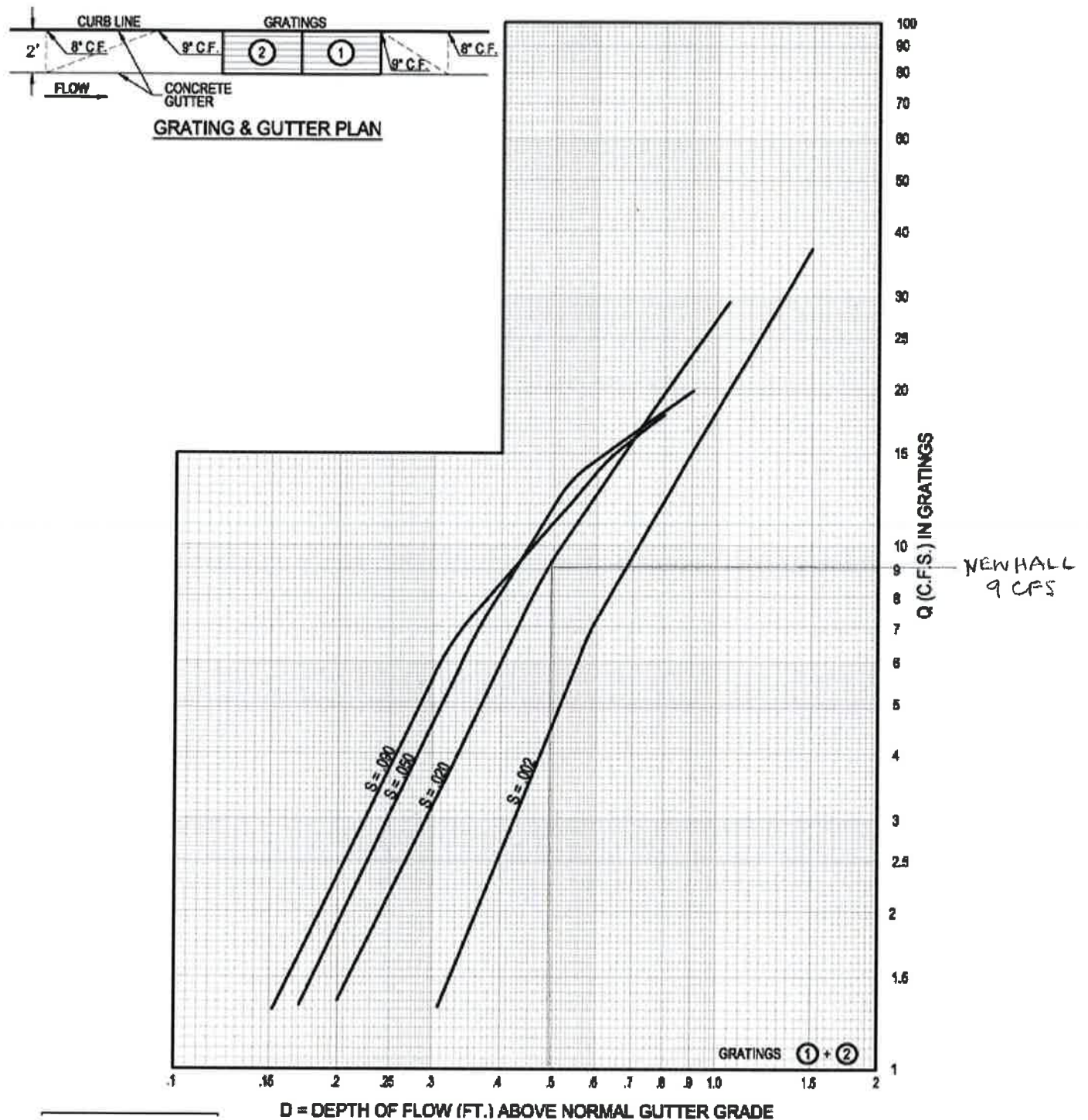
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FIELD NOTES		CONTRACTOR		DATE		DATE	
BY		STATED BY		INSPECTORS		DATE	
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				VERIFICATION BY		DATE	
				CORRECTED BY		DATE	
				MICRO-FILM INFORMATION			
				RECORDED BY		DATE	
				NO.			

APPENDIX F

Grate Capacities

Newhall's Q in Gratings - 9 CFS

FIGURE 6.9.10 Grate Capacities for Types "Double A," "Double C," and "Double D"

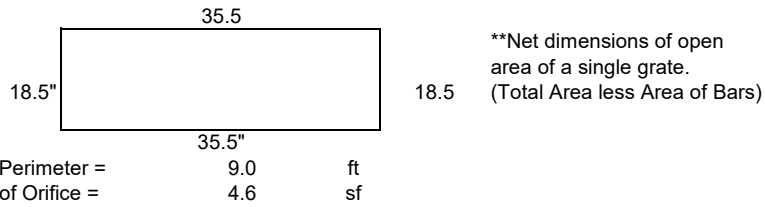


Inlet Worksheet (Sump Condition)

Objective : Design a Type C or Type D Inlet in Sump Condition for a 100-year flow

- 1 Inlet to collect peak flow amount before overtopping headwall.

- 2 Grate Dimensions



- 3 Calculate Orifice and Weir Flow into Grate at Design Depth (Top of Curb)

Orifice Equation	Weir Equation
$Q = 0.6 \times A \times (2 \times g \times h)^{1/2}$ Where $A = 4.6 \text{ sq. ft.}$ $g = 32.2 \text{ ft}^2/\text{sec}$ $h = 0.5 \text{ ft}$ Therefore $Q = 15.5 \text{ cfs}$	$Q = 2.65 \times P \times H^{1/2}$ Where $P = 9.0 \text{ ft}$ $H = 0.8 \text{ ft}$ Therefore $Q = 21.3 \text{ cfs}$

Orifice Equation controls
 Grate Capacity = 15.5 cfs

- 4 Apply 25% Clogging Factor to determine allowable design flow into inlet

$$15.5 \times 0.75 = 11.625 \text{ cfs} \quad \text{12 cfs}$$

Therefore Capacity of Single C/D Inlet in Sump Condition = 12 cfs

Capacity of Double C/D Inlet in Sump Condition = 23 cfs

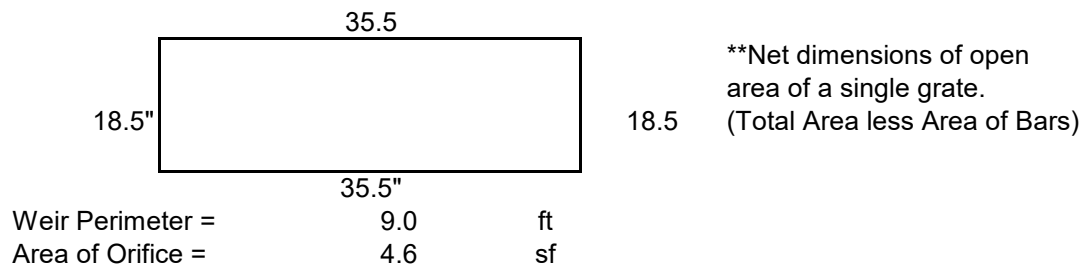
Capacity of Triple C/D Inlet in Sump Condition = 35 cfs

*Grate Capacities do not account for curb opening inflow. Therefore, inlet capacities are the same for Type C and Type D inlets.

Inlet Worksheet (Sump Condition)

Objective : Design a Type C or Type D Inlet in Sump Condition for a 100-year flow

- 1
- Inlet to collect peak flow amount before overtopping headwall.
- 2
- Grate Dimensions



- 3
- Calculate Orifice and Weir Flow into Grate at Design Depth (Top of Curb)

Orifice Equation	Weir Equation
Q = 0.6 x A x (2 x g x h)^{1/2} Where A = 4.6 sq. ft. g = 32.2 ft ^2/sec h = 0.7 ft Therefore Q = 18.0 cfs	Q=2.65 x P x H^{1/2} Where P= 9.0 ft H= 0.8 ft Therefore Q = 21.3 cfs

Orifice Equation controls
Grate Capacity = 18.0 cfs

- 4
- Apply 25% Clogging Factor to determine allowable design flow into inlet

18.0 x 0.75 13 cfs

Therefore Capacity of Single C/D Inlet in Sump Condition =	13 cfs
Capacity of Double C/D Inlet in Sump Condition =	27 cfs
Capacity of Triple C/D Inlet in Sump Condition =	40 cfs

*Grate Capacities do not account for curb opening inflow. Therefore, inlet capacities are the same for Type C and Type D inlets.

APPENDIX G

Pond Rating Curves & Calculations

The figure is a site plan for two retention ponds, POND 1 and POND 2A. POND 1 is an irregularly shaped pond on the left side of the plan. POND 2A is a larger, more rectangular pond on the right side. Topographic contour lines are drawn across the site, with elevations ranging from 5293 to 5310 feet. A road labeled 'O'KEEFE AVENUE SE' runs along the bottom edge of the ponds. The plan also shows various structures, including what appears to be a building complex at the top and a parking area or access road at the bottom right. The title 'RETENTION PONDS' is at the top right, followed by 'POND 1' and 'POND 2A'.

RETENTION PONDS

POND 1

POND 2A

Elevation	Area	Average Area	Volume	Volum	Accumulative Volume	Accumulative Volume
	sf	sf	Cu-Ft	Acre-Ft	Cu-Ft	Acre-Ft
5293.0	38552					
		41048	41048	0.94	41048	0.94
5294.0	43544					
		46114	46114	1.06	87162	2.00
5295.0	48683					
		51326	51326	1.18	138488	3.18
5296.0	53969					
		56670	56670	1.30	195166	4.48

Elevation	Area	Average Area	Volume	Volume	Accumulative Volume	Accumulative Volume
	sf	sf	Cu-Ft	Acre-Ft	Cu-Ft	Acre-Ft
5295.0	27700					
		28959	28959	0.66	28959	0.66
5296.0	30217					
		31516	31516	0.72	60474	1.39

Pond 1 Rating Curve						
Elevation	Area	Average Area	Volume	Volume	Accumulative Volume	Accumulative Volume
	sf	sf	Cu-Ft	Acre-Ft	Cu-Ft	Acre-Ft
5295.0	27700					
		28959	28959	0.66	28959	0.66
5296.0	30217					
		31516	31516	0.72	60474	1.39
5297.0	32814					
		34136	34136	0.78	94610	2.17
5298.0	35457					
		62793	62793	1.44	157402	3.61
5299.0	90128					
		98630	98630	2.26	256032	5.88
5300.0	107131					
		109407	109407	2.51	365438	8.39
5301.0	111682					
		113987	113987	2.62	479425	11.01
5302.0	116291					
		118625	118625	2.72	598049	13.73
5303.0	120958					
		123322	123322	2.83	721371	16.56
5304.0	125686					



TITLE:			
POND 1 & 2A DESIGN MONTAGE 7 - MESA DEL SOL			
Design Review Committee	City Engineer	Mo./Day/Yr.	Mo./Day/Yr.
		Last Update	
City Project No.	Zone Map No.	Sheet	Of EXHIBIT 5

[illegible]

Reference from Bobby Foster Road and University Blvd. Amendment Drainage Report
Retention Pond 2a

Basin	V100-10day (CF)
J	99429
H	24960
X	53512
Y	53512
G	29926
BOBBY FOSTER (PARTIAL)	42392
W (PARTIAL)	17837
REQUIRED VOLUME	321568
ACTUAL VOLUME	892919

AHYMO Pond 2A Summary - Only Need Capacity Analysis			
Description	Unit	2011 Report Results	2020 Report Results
Total Drainage Area	SQ MI	0.1	0.1
Maximum Storage Volume	AC-FT	4.5	7.6
Maximum Storage Capacity	AC-FT	17.7	20.5
Reservoir Invert Elevation	FT	5293.0	5294.0
Top of Embankment Elevation	FT	5302.0	5304.0
Maximum Water Surface Elevation	FT	5300.0	5299.4
Maximum Water Depth	FT	7.0	5.4

DRAINAGE ZONE 2 PRECIPITATION:			
360	=	2.35	in.
1440	=	2.75	in.
10day	=	3.95	in.

Basin J

PROPOSED EXCESS PRECIPITATION:

Weighted E = (0.53)x(0)+ 0.78)x(3.321)+(1.13)x(3.321)+(2.12)x(5.658)/ 12.3
= 1.4909 in.
V100-360 = (1.49)x(12.3)/ 12 = 1.528 ac-ft = 66567.1941 cf
V100-10day = (1.53)+(5.66)x(3.95 - 2.35)/ 12 = 2.2825725 ac-ft = 99429 cf

Basin X

PROPOSED EXCESS PRECIPITATION:

Weighted E = (0.53)x(0)+ 0.78)x(0.765)+(1.13)x(0.765)+(2.12)x(3.57)/ 5.1 ac.
= 1.7705 in.
V100-360 = (1.77)x(5.1)/ 12 = 0.752 ac-ft = 32777.2665 cf
V100-10day = (0.75)+(3.57)x(3.95 - 2.35)/ 12 = 1.2284625 ac-ft = 53512 cf

Basin H

PROPOSED EXCESS PRECIPITATION:

Weighted E = (0.53)x(0)+ 0.78)x(3.6)+(1.13)x(3.6)+(2.12)x(0)/ 7.2 ac.
= 0.955 in.
V100-360 = (0.96)x(7.2)/ 12 = 0.573 ac-ft = 24959.88 cf
V100-10day = (0.57)+(0)x(3.95 - 2.35)/ 12 = 0.573 ac-ft = 24960 cf

Basin Y

PROPOSED EXCESS PRECIPITATION:

Weighted E = (0.53)x(0)+ 0.78)x(0.765)+(1.13)x(0.765)+(2.12)x(3.57)/ 5.1 ac.
= 1.7705 in.
V100-360 = (1.77)x(5.1)/ 12 = 0.752 ac-ft = 32777.2665 cf
V100-10day = (0.75)+(3.57)x(3.95 - 2.35)/ 12 = 1.2284625 ac-ft = 53512 cf

Basin G

PROPOSED EXCESS PRECIPITATION:

Weighted E = (0.53)x(0)+ 0.78)x(1.2)+(1.13)x(1.2)+(2.12)x(1.6)/ 4 ac.
= 1.421 in.
V100-360 = (1.42)x(4)/ 12 = 0.474 ac-ft = 20632.92 cf
V100-10day = (0.47)+(1.6)x(3.95 - 2.35)/ 12 = 0.687 ac-ft = 29926 cf

Basin W (Partial)

PROPOSED EXCESS PRECIPITATION:

Weighted E = (0.53)x(0)+ 0.78)x(0.255)+(1.13)x(0.255)+(2.12)x(1.19)/ 1.7 ac.
= 1.7705 in.
V100-360 = (1.77)x(1.7)/ 12 = 0.251 ac-ft = 10925.7555 cf
V100-10day = (0.25)+(1.19)x(3.95 - 2.35)/ 12 = 0.4094875 ac-ft = 17837 cf

Basin Bobby Foster

PROPOSED EXCESS PRECIPITATION:

Weighted E = (0.53)x(0)+ 0.78)x(0.836)+(1.13)x(0)+(2.12)x(2.964)/ 3.8 ac.
= 1.8252 in.
V100-360 = (1.83)x(3.8)/ 12 = 0.578 ac-ft = 25176.8088 cf
V100-10day = (0.58)+(2.96)x(3.95 - 2.35)/ 12 = 0.97318 ac-ft = 42392 cf

Reference from Bobby Foster Road and University Blvd. Amendment Drainage Report
Retention Pond 1

Basin	V100-10day (CF)
PARK	10021
U	134189
V	101243
W-1	38750
W-2	50062
W-3 (PARTIAL)	68201
BOBBY FOSTER (PARTIAL)	24543
REQUIRED VOLUME	427009
ACTUAL VOLUME	721371

AHYMO Pond 1 Summary - Capacity Analysis			
Description	Unit	2011 Report Results	2022 Report Results
Total Drainage Area	SQ MI	0.1	0.080
Maximum Storage Volume	AC-FT	3.2	5.7
Maximum Storage Capacity	AC-FT	6.1	16.56
Reservoir Invert Elevation	FT	5295.0	5295
Top of Embankment Elevation	FT	5304.0	5304
Maximum Water Surface Elevation	FT	5301.7	5299.9
Maximum Water Depth	FT	6.7	4.9

DRAINAGE ZONE 2 PRECIPITATION:			
360	=	2.35	in.
1440	=	2.75	in.
10day	=	3.95	in.

Basin Park

PROPOSED EXCESS PRECIPITATION:

Weighted E = (

= 1.0383 in.

V100-360 = (

V100-10day = (

0.53)x(0)+(0.78)x(1.1)+(1.13)x(1.128)+(

1.0383)x(2.4)/ 12 = 0.21 ac-ft = 9045.6696

0.20766)+(0.17)x(2.75 - 2.35)/ 12 = 0.21326

0.20766)+(0.17)x(3.95 - 2.35)/ 12 = 0.23006

2.12)x(0.168)/ 2.4 ac.

cf

ac-ft = 10021.4 cf

Basin U

PROPOSED EXCESS PRECIPITATION:

Weighted E = (

= 1.4909 in.

V100-360 = (

V100-10day = (

1.4909)x(16.6)/ 12 = 2.06 ac-ft = 89838.6522

2.062412)+(7.64)x(2.75 - 2.35)/ 12 = 2.316945

2.062412)+(7.64)x(3.95 - 2.35)/ 12 = 3.080545

2.12)x(7.636)/ 16.6 ac.

cf

ac-ft = 134188.5 cf

Basin V

PROPOSED EXCESS PRECIPITATION:

Weighted E = (

= 1.3744 in.

V100-360 = (

V100-10day = (

1.3744)x(14.3)/ 12 = 1.64 ac-ft = 71343.7296

1.637827)+(5.15)x(2.75 - 2.35)/ 12 = 1.809426667

1.637827)+(5.15)x(3.95 - 2.35)/ 12 = 2.324226667

2.12)x(5.148)/ 14.3 ac.

cf

ac-ft = 101243.3 cf

Basin W-1

PROPOSED EXCESS PRECIPITATION:

Weighted E = (

= 2.0035 in.

V100-360 = (

V100-10day = (

2.0035)x(3.1)/ 12 = 0.52 ac-ft = 22545.3855

0.517571)+(2.79)x(2.75 - 2.35)/ 12 = 0.610570833

0.517571)+(2.79)x(3.95 - 2.35)/ 12 = 0.889570833

2.12)x(2.79)/ 3.1 ac.

cf

ac-ft = 38749.7 cf

Basin W-2

PROPOSED EXCESS PRECIPITATION:

Weighted E = (

= 1.5375 in.

V100-360 = (

V100-10day = (

1.5375)x(5.9)/ 12 = 0.76 ac-ft = 32928.6375

0.755938)+(2.95)x(2.75 - 2.35)/ 12 = 0.854270833

0.755938)+(2.95)x(3.95 - 2.35)/ 12 = 1.149270833

2.12)x(2.95)/ 5.9 ac.

cf

ac-ft = 50062.2 cf

Basin W-3 Partial

PROPOSED EXCESS PRECIPITATION:

Weighted E = (

= 1.7705 in.

V100-360 = (

V100-10day = (

1.7705)x(6.5)/ 12 = 0.96 ac-ft = 41774.9475

0.959021)+(4.55)x(2.75 - 2.35)/ 12 = 1.1106875

0.959021)+(4.55)x(3.95 - 2.35)/ 12 = 1.5656875

2.12)x(4.55)/ 6.5 ac.

cf

ac-ft = 68201.3 cf

Basin Bobby Foster Partial

PROPOSED EXCESS PRECIPITATION:

Weighted E = (

= 1.8252 in.

V100-360 = (

V100-10day = (

1.8252)x(2.2)/ 12 = 0.33 ac-ft = 14576.0472

0.33462)+(1.72)x(2.75 - 2.35)/ 12 = 0.39182

0.33462)+(1.72)x(3.95 - 2.35)/ 12 = 0.56342

2.12)x(1.716)/ 2.2 ac.

cf

ac-ft = 24542.6 cf