FINAL DRAINAGE REPORT
For
Woodman Valley Chapel

Sand Creek
Drainage Basin

Prepared for:
City of Colorado Springs
Engineering Development Review Division Team
30 North Nevada Avenue, Suite 401
Colorado Springs, CO 80903

On Behalf of:

CENTER FOR STRATEGIC MINISTRY.
290 E Woodman Road
Colorado Springs, CO 80919

Prepared by:

Matrix DESIGN GROUP
2435 Research Parkway, Suite 300
Colorado Springs, CO 80920
(719) 575-0100
fax (719) 572-0208

July 2019

Project No. 18.346.015

Engineer's Statement:

This report and plan for the drainage design of Woodmen Valley Chapel Addition was prepared by me (or under my direct supervision) and is correct to the best of my knowledge and belief. Said report and plan has been prepared in accordance with the City of Colorado Springs Drainage Criteria Manual and is in conformity with the master plan of the drainage basin. I understand that the City of Colorado Springs does not and will not assume liability for drainage facilities designed by others. I accept responsibility for any liability caused by any negligent acts, errors or omissions on my part in preparing this report.

Jesse Sullivan 8/16/2019

Jesse Sullivan
Registered Professional Engineer
State of Colorado
No. 55600

Date

COLORADO LICENSED
JESSE TRAVIS SULLIVAN
55600
PROFESSIONAL ENGINEER

Developer's Statement:

Center for Strategic Ministry hereby certifies that the drainage facilities for Woodmen Valley Chapel Addition shall be constructed according to the design presented in this report. I understand that the City of Colorado Springs does not and will not assume liability for the drainage facilities designed and/or certified by my engineer and that are submitted to the City of Colorado Springs pursuant to section 7.7.906 of the City Code; and cannot, on behalf of Woodmen Valley Chapel Addition guarantee that final drainage design review will absolve Center for Strategic Ministry and/or their successors and/or assigns of future liability for improper design. I further understand that approval of the final plat does not imply approval of my engineer's drainage design.

Les Krohnfeldt
Center for Strategic Ministry

By: Les Krohnfeldt

Title: Development Manager
Address: 290 E. Woodmen Rd, Colorado Springs, CO 80919

City of Colorado Springs:

Filed in accordance with section 7-7-906 of the Code of the City of Colorado Springs, 2001, as amended.

Anna Bergmark 08/30/2019

For the City Engineer

Date

Conditions:

TABLE OF CONTENTS

CERTIFICATION ii
I. PURPOSE 1
II. General Location and Description 1
A. Introduction 1
a. Drainage Area 1
b. Ground Cover 1
c. Major Drainage Ways 1
d. Irrigation Facilities 1
e. Utilities and Encumbrances 2
f. Referenced Drainage Reports 2
B. Project Description and Location 3
C. Surrounding Developments 3
III. SOILS CONDITIONS 4
IV. Drainage Criteria 4
A. Design References 4
B. Design Frequency 5
C. Design Discharge 5
a. Method of Analysis 5
b. Runoff Coefficient 5
c. Time of Concentration 6
d. Rainfall Intensity 6
V. Drainage Basins and Sub-basins 6
A. Major Basin Descriptions 6
C. Sub-basin Descriptions 6
D. Detention Storage 7
VI. Existing Drainage Conditions 7
VII. Proposed Drainage Conditions 8
A. Sub-basins 9
B. Design Points 9
C. Street Capacities 11
D. Detention and Water Quality 13
VIII. Erosion Control Plan 14
IX. Drainage Fees 15
X. Construction Cost Opinion 15
XI. Summary 17
XII. References 17

APPENDIX

- **A. Reference Maps**
  1. Vicinity Map
  2. Soils Map
  3. FEMA FIRM Floodplain Maps
- **B. Standard Design Charts and Tables**
- **C. Hydrologic and Hydraulic Calculations**
- **D. Drainage Basin Maps**
  - a. Historic Conditions Maps
    - i. DR01: Pre-development conditions (MDDPA-Matrix July 2019)
  - b. Fully Developed Conditions Map
    - i. DR02: Developed Conditions Map

I. PURPOSE

This Final Drainage Report is being prepared for the Woodman Valley Chapel parking and building additions, located approximately 520 feet north of Woodman Road at the intersection of Woodman Valley View and Mulberry Wood Drive. The purpose of this Final Drainage Report is to identify offsite and onsite drainage patterns associated with the proposed development, provide hydrologic and hydraulic analysis of tributary basins and conveyance structures to the (in series) detention facilities (Ponds CH & 14), and determine effective, safe routing to the respective downstream outfalls.

II. General Location and Description

A. Introduction

a. Drainage Area

The chapel site, including the onsite detention, covers an area of approximately 10.5 acres. Two acres of the church property are excluded from the proposed plat but analyzed as fully developed in this report. The chapel's onsite detention (Pond CH) is in series with another pond downstream (Pond 14). Together the two ponds provide water quality treatment and storm detention for an area of approximately 33.57 Acres. A vicinity map is included in Appendix A.

b. Ground Cover

The Chapel site is currently mostly paved surfaces with some spaces covered in sparse natural grasses. To comply with the DCM, this report will consider the site as though the pre-project conditions of the site were undeveloped.

c. Major Drainage Ways

The site is in the Sand Creek Drainage Basin. Existing drainage patterns are from the northeast to the southwest at slopes ranging from 1.2% to 3.5%.

According to the Shiloh Mesa Master Development Drainage Plan Amendment (MDDPA-Matrix July 2019), runoff from Shiloh Mesa Filing Number 5, which bounds the proposed project on the north, will be directed into Pond CH via storm sewer. Runoff from the chapel's proposed improvements will also be directed into Pond CH. Storm sewer conveys discharge from Pond CH south along Mulberry Wood Drive, collecting runoff from the area between Mulberry Wood Drive and Mustang Road at inlets just north of Carmela Grove and approximately 100 feet north of Woodman Road. The storm sewer then continues to the west along Woodman Road until reaching Pond 14. The Pond 14 (south) outfall discharges into existing storm sewer which makes its way west into Sand Creek.

d. Irrigation Facilities

No known functioning irrigation facilities are within the area of proposed development.

Matrix Design Group, Inc., 2019©

e. Utilities and Encumbrances

There are no known utilities in place that would encumber the proposed project. Nearby utilities include: an existing gas main running north/south along the east side of Mustang Road, a 12" PVC water main running along Mulberry Wood Drive with a 12" stub out to the east on Shiloh Mesa Drive, and 8" PVC sanitary sewer stub-outs to the east of Mustang Road at Shiloh Mesa Drive and to the northwest and northeast at the intersection of Mulberry Wood Drive and Woodman Valley View.

f. Referenced Drainage Reports

The site is a part of the Woodman Heights Master Plan, located in northeastern Colorado Springs, Colorado. This study evaluates the specific drainage requirements needed for the development of Forest Meadows within the Sand Creek Drainage Basin and is in conformance with the following reports:

Master Development Drainage Plan for Woodman Heights Master Plan, by Classic Consulting Engineers and Surveyors, LLC, June 2004. (WHMP-MDDP)

Master Development Drainage Plan Update for Woodman Heights and Final Drainage Report for Forest Meadows Filing No. 1 and No. 4, by Engineering and Surveying, Inc., February 2006 (MDDP Update)

Master Development Drainage Plan for Shiloh Mesa at Woodman Heights, prepared by Matrix Design Group, Inc. dated November 2009 *(MDDP-Matrix), amended in January 2018 (MDDPA-Matrix January 2018) and July 2019 (MDDPA-Matrix July 2019)*

Matrix Design Group, Inc., 2019©

Vicinity Map

B. Project Description and Location

The proposed improvement is located approximately 520 feet north of Woodman Road and immediately west of Mustang Road; more specifically: the southeast ¼ of the southwest ¼ of Section 4, Township 13 South, Range 65 West of the 6th P.M. in the City of Colorado Springs, County of El Paso, State of Colorado.

C. Surrounding Developments

North: Shiloh Mesa Filing No. 5, single family development.

East: Mustang Road to the east with Bar J-B Acres, under El Paso County jurisdiction, on the other side of Mustang Road

West: Mulberry Wood Drive

South: Woodman Valley View is the immediate south bound of the proposed project. The continued drainage/storm sewer system is bounded on the south by Woodman Road

Matrix Design Group, Inc., 2019©

III. SOILS CONDITIONS

The Web Soil Survey, created by the Natural Resources Conservation Service, was utilized to investigate the existing general soil types within the area impacting the site. The following soil types are present in the development area. An NRCS Soils Map is included in Appendix A.

Table 1.1 – NRCS Soil Survey for El Paso County

Soil ID Number	***Soil***	***Hydrologic Classification***	***Permeability***	***Percent on Site***
8	Blakeland loamy sand (1% - 9% slopes)	A	Rapid	29.3%
19	Columbine gravelly sandy loam (0% - 3% slopes)	A	Rapid	69.0%
71	Pring coarse sandy loam (3% - 8% slopes)	B	Moderately Rapid	1.7%

Soils can be classified in four different hydrologic groups, A, B, C, or D to help predict storm water runoff rates. Hydrologic group "A" is characterized by deep, well-drained coarse-grained soils with a rapid infiltration rate when thoroughly wet and having a low runoff potential. Group "D" typically has a clay layer at or near to the surface, or a very shallow depth to impervious bedrock and has a very slow infiltration rate and a high runoff potential. Blakeland and Columbine sandy loam are the primary soil types within the study reach.

IV. Drainage Criteria

A. Design References

This report has been prepared in accordance to the criteria set forth in the ***City of Colorado Springs and El Paso County Drainage Criteria Manual Volume 1*** (Drainage Criteria Manual), dated May 2014 and ***Volume 2 Stormwater Quality Policies, Procedures, and BMP's***, dated May 2014.

In addition to the City Criteria Manual, the ***Urban Storm Drainage Criteria Manuals, Volumes 1-3*** (UDFCD), published by the Urban Drainage and Flood

Matrix Design Group, Inc., 2019©

Control District, latest update, have been used to supplement the Drainage Criteria Manual for water quality capture volume (WQCV).

B. Design Frequency

The design frequency is based on the Drainage Criteria Manual. The 100-year storm event was used as the major storm for the project, and the 5-year storm event was used as the minor storm.

C. Design Discharge

a. Method of Analysis

i. UD Methods

The hydrology for this project uses the Rational Method as recommended by the Drainage Criteria Manual (DCM) for the minor and major storms. The Rational Method is used for drainage basins less than 100-acres in size. The Rational Method uses the following equation: $Q=C*i*A$

Where:

Q = Maximum runoff rate in cubic feet per second (cfs)
C = Runoff coefficient
i = Average rainfall intensity (inches per hour)
A = Area of drainage sub-basin (acres)

Rational Method coefficients from 6-6 of the Drainage Criteria Manual for developed land were utilized in the Rational Method calculations. See Appendix B for more information.

ii. SWMM Methods

The DCM requires the use of the EPA-SWMM modeling program to design and analyze detention for the site when the ponds treating and detaining water for the project are in series. The SWMM model utilizes the modified Green and Ampt method to analyze runoff.

Inputs required for this runoff method are the Hydraulic Conductivity or “K” value and the Matric/Soil Suction Head. Values for Hydraulic Conductivity are taken from the NRCS Web Soil Survey site and Matric Head is based on the soil types and relative hydraulic conductivity per Rawls, Brakensiek and Miller (1983).

iii. HGL Profile Methods

HGL profiles were modeled in Storm CAD using the Standard head loss method and head loss values were taken from Table 9-4 of the Colorado Springs DCM. HGL profiles will be submitted with construction drawings.

Matrix Design Group, Inc., 2019©

b. Time of Concentration

The time of concentration consists of the initial time of overland flow and the travel time in a channel to the inlet or point of interest. A minimum time of concentrations of 5 minutes was utilized for urban areas.

c. Rainfall Intensity

The hypothetical rainfall depths for the 1-hour storm duration were derived using Table 6-2 of the Colorado Springs DCM (shown below). See Appendix B.

Table 2.1 – Project Area 1-Hour Rainfall Depth

Storm Recurrence Interval	Rainfall Depth (inches)
5-year	1.50
100-year	2.52

The rainfall intensity equation for the Rational Method was taken from Drainage Criteria Manual Volume 1 Figure 6-5.

V. Drainage Basins and Sub-basins

A. Major Basin Descriptions

Historical patterns of flow from the overall Shiloh Mesa development area have two separate drainage basins, both flowing mostly to the south and slightly to the west. Once leaving the site stormwater makes its way west into Sand Creek via existing storm sewer systems on either side of Woodman Road. One basin is captured in an inlet at the southwest corner of the site in a curb inlet located on the east side of Marksheffel Road just north of its intersection with Woodman Road. This point is referred to in the MDDPA-Matrix July 2019 as the “west outfall”. The other basin is captured by area inlets located along Woodman Road and the south edge of the Shiloh Mesa site. This location is referred to as the “south outfall” in the previously mentioned report. This drainage report will only consider the flows being directed to the “south outfall” as the Woodman Valley Chapel site falls entirely within that basin under proposed conditions.

B. Regulatory Floodplain

Per the ***Flood Insurance Rate Map (FIRM) 08041CO535 G***, effective date December 7, 2018, published by the Federal Emergency Management Agency (FEMA), no portion of this project lies within any designated 100-year floodplain. A FIRM Panel annotated to show the project location is included in Appendix A.

C. Sub-basin Descriptions

Onsite drainage currently flows from the northeastern corner of the overall site to the southwestern corner, both overland and through natural drainage swales and channels, and eventually is captured by storm sewer which discharges into Sand Creek. The adjacent development to the north, Shiloh Mesa Filing Number 5, contributes to the

Matrix Design Group, Inc., 2019©

offsite drainage via the storm sewer along Mulberry Wood Drive (MDDPA-Matrix July 2019). Calculations for this offsite flow are shown in the rational calculations for proposed sub-basins included in Appendix C.

D. Detention Storage

Detention, water quality and outlet design for Pond CH near the chapel, which includes Sub-basins C1-1, C1-2 & H2-1 through H2-9, have been modeled in SWMM, because Pond CH is in series with Pond 14, and can be found in Appendix C.

VI. Existing Drainage Conditions

This site lies in the Sand Creek drainage basin. As this report is the Final Drainage Report (FDR), the following descriptions will comply to the format of defining characteristics for an FDR. See section IV for a description of the hydrologic methodology used in this report.

As mentioned previously in Section II.A.b. the current conditions of the area are undeveloped. Ground cover for pre-development conditions is considered to be sparse natural grasses and the basin slopes vary from 1.5% to 3.5% for the drainage swales, with natural slopes as steep as 10%.

The MDDP for Woodman Heights at Shiloh Mesa has a total area of approximately 51 acres. Under pre-development conditions, 36.6 acres drain to the west outfall and 14.4 acres drain to the south outfall, which includes the area subject to this report. Drawing DR01 in Appendix D illustrates the pre-development drainage basins. Flows for the pre-development conditions south outfall design point are shown in Table 3.1 below:

TABLE 3.1
SHILOH MESA – PRE-DEVELOPMENT CONDITIONS
DRAINAGE POINT SUMMARY
SOUTH OUTFALL

Design Point	Sub-Basins	Total Area (ac.)	Q(5) (cfs)	Q(100) (cfs)
3	EX2	14.4	4.5	27.1
South Outfall Totals:		14.4	4.5	27.1

Matrix Design Group, Inc., 2019©

VII. Proposed Drainage Conditions

The proposed site is located within sub-basins C1 and H2 from the MDDPA-Matrix July 2019 south outfall drainage analysis. This report breaks these two sub-basins down into smaller sub-basins to analyze proposed onsite storm sewer infrastructure directing runoff from Woodman Valley Chapel into Pond CH for detention and treatment. Sub-basin C1 is divided into four sub-basins (C1-1, C1-2, C1-3, & C1-4) and Sub-basin H2 into nine sub-basins (H2-1 through H2-9). Because Pond CH is in series with Pond 14, the discharge to the south outfall is where flows must be targeted to be at or below predevelopment flows. Runoff analysis tables and calculations for the proposed development will include all of the sub-basins which ultimately drain to the south outfall.

Under proposed conditions, all runoff from the developed site will be directed into Pond CH, which is designed, in series with Pond 14 of Shiloh Mesa Commercial Filing No. 1 (MDDPA-Matrix July 2019), to provide full spectrum extended detention for Shiloh Mesa Filing No. 5, Shiloh Mesa Commercial Filing No. 1, and Woodman Valley Chapel. Due to the fact that Ponds CH and 14 are designed to function in series, the two ponds must be constructed concurrently. Flow from Shiloh Mesa Filing No. 5 is directed into Pond CH via storm pipe running along Mulberry Wood Drive. Flows from two other areas are conveyed into pond CH via Mulberry Wood Drive, these flows are inlet bypass flow from Kenosha Drive (OSD2) and overland flow from the back half of lots adjacent to the north edge of Filing No. 5 (OSD6), both originate in Shiloh Mesa Filing No. 1.

Pond CH will be located on the southwest corner of the site along Mulberry Wood Drive and Pond 14, the second, and final, pond in the series is located just upstream of the south outfall from Shiloh Mesa at Woodman Heights in Tract “A” of Shiloh Mesa Commercial Filing No. 1.

Drainage from the developed sites will then be released from detention via outlet structures designed to limit the flow from Shiloh Mesa Filing No. 5, Shiloh Mesa Commercial Filing No. 1 and Woodman Valley Chapel to pre-development levels (per DCM requirements). This will be discharged into the existing 36-inch storm pipes running south across Woodman Road and then west along the south side of Woodman Road. The runoff is eventually discharged into Sand Creek. In addition, the outlet structures for the two ponds are designed to release the water quality control volume (WQCV) and the excess urban runoff value (EURV) over 40 and 72 hours, respectively, in compliance with the governing documents.

Matrix Design Group, Inc., 2019©

A. Sub-basins

The developed area has been broken down into sixteen sub-basins based on the various inlet locations shown on the drawings in Appendix D. The proposed drainage area breakdown is outlined in Table 4.1 below:

TABLE 4.1
BASIN SUMMARY TABLE
SOUTH OUTFALL

Woodman Valley Chapel

Area ID	Area (Acres)	Q5 (cfs)	Q100 (cfs)		Area ID	Area (Acres)	Q5 (cfs)	Q100 (cfs)
OSD2	1.4	4.8	7.2		H1	0.5	2.0	4.8
OSD6	0.7	6.3	3.0		**H2-1**	**1.7**	**0.8**	**5.6**
B	9.8	22.7	51.2		**H2-2**	**0.2**	**0.7**	**1.6**
C1-1	**2.4**	**8.0**	**18.3**		**H2-3**	**0.4**	**1.3**	**3.0**
C1-2	**1.9**	**6.8**	**15.2**		**H2-4**	**0.3**	**1.1**	**2.5**
C1-3	**0.5**	**1.8**	**4.0**		**H2-5**	**0.4**	**1.2**	**2.8**
C1-4	**0.3**	**1.2**	**2.6**		**H2-6**	**0.9**	**3.1**	**7.1**
C2	0.4	1.5	3.6		**H2-7**	**1.5**	**0.7**	**4.5**
G1	3.3	15.2	34.5		**H2-8**	**0.1**	**0.3**	**0.6**
G2	1.3	5.6	13.1		**H2-9**	**0.3**	**1.2**	**2.6**
G3	0.9	4.4	9.7		**H3**	**0.1**	**1.1**	**2.4**
G4	0.1	0.7	1.4		I1	0.2	1.0	2.2
G5	1.3	6.4	14.4		I2	2.6	12.3	27.7
G6	1.6	7.6	17.4		I3	0.2	0.8	1.8
G7	0.5	2.2	5.1					

B. Design Points

Design points in this report are broken down by changes in concentrated flows. This convention has a design point at each inlet and at junctions where flows are combined. Design Points CH1 through CH4 in Table 4.2 represent the design points added for analysis of the Woodman Valley Chapel improvements. Table 4.2 on the following page describes each design point:

Matrix Design Group, Inc., 2019©

TABLE 4.2 DESIGN POINT SUMMARY TABLE									
SOUTH OUTFALL									
Design Point	**Upstream**				**Inlet**			**Outlet Pipe Size/Type**	**Downstream Design Point**
	Area (Acres)	**Q5 (cfs)**	**Q100 (cfs)**	**Sub-basins Included**	**Name**	**Type**	**Size (ft)**		
S1	12.17	33.3	75.9	B & C1-1		D-10-R x 2	6	60" x 38" ECP	S2
S2	15.53	43.7	106.6	S1 & C2		D-10-R x 2	6	60" x 38" ECP	Pond CH
CH1	**0.97**	**3.6**	**8.1**	**H2-2, H2-3 H2-5**		**D-10-R**	**6**	**18" RCP/HP**	**CH2**
CH2	**3.63**	**13.6**	**30.5**	**CH1, C1-2, C1-3, C1-4**		**D-10-R x 2**	**6**	**30" RCP/HP**	**Pond CH**
CH3	**16.06**	**48.0**	**109.7**	**S2, CH1, CH2**		**Type I MH**	**6'-4"**	**48" RCP/HP**	**Pond CH**
CH4	**1.25**	**4.7**	**10.5**	**H2-4, H2-6**		**D-10-R**	**6**	**18" RCP/HP**	**Pond CH**
CH5	**2.74**	**5.3**	**15.5**	**CH4, H2-7**		**CDOT Type C**	**3' x 3'**	**24" RCP/HP**	**Pond CH**
S3 Pond CH Discharge	**20.85**	**1.6**	**3.8**	**CH3, CH5, H2-8, H2-9**	**Orifice Plate: Stage 0' – 2.35" Diameter opening Stage 2.42' - 4" x 1.33' horizontal opening Stage 6 - 4' x 4' grated top of structure Stage 6.5 - Emergency Spillway**		**5.33' x 5.33'**	**18" RCP/HP**	**S4**
S4	0.05	2.7	6.1	S3 & H3	Inlet H3	D-10-R	6	18" RCP/HP	S5
S5	0.26	3.5	7.2	S4 & I1	Inlet I1	D-10-R	6	18" RCP/HP	S6
S6	2.08	10.9	24.9	S5, H1 & G2	Inlets G2 & H1	D-10-R x 2	12' & 8'	18" RCP/HP 36" RCP/HP	S7
S7	4.88	23.0	53.5	S6, I2, & I3	Inlet I3	D-10-R	8	42" RCP/HP	S8
S8	5.01	23.5	54.9	S7& G4	Inlet G4	D-10-R	6	48" RCP/HP	S11
S9	2.24	10.8	24.1	G3 & G5	Inlets G3 & G5	D-10-R x 2	12' & 12'	18" RCP/HP 36" RCP/HP	S10
S10	6.08	35.7	80.9	S9, G1, & G7	Inlets G1 & G7	D-10-R x 2	16' x 16'	36" RCP/HP 48" RCP/HP	S11
S11 Pond 14 Discharge	33.57	55.9	130.8	G6, S8, & S10	Orifice Plate: Stage 0' - 2" Diameter opening Stage 0.75' – 2.35" Diameter Opening Stage 1.5' – 2.35" Diameter opening Stage 1.76' – 0.3' x 1.33' opening Stage 3.25' – 1" Diameter opening Stage 5.87' – 3.5' x 3.5' grated top of structure (50% open space) Stage 6.5 - Emergency Spillway		5' x 5'	36" RCP/HP	S12
S12 South Outfall	33.57	4.1	20.8	S11					Existing 36" RCP

The supporting hydrology spreadsheet calculations can be found in Appendix C.

Matrix Design Group, Inc., 2019©

C. Storm Sewer

Design Point **CH1** is located at a 6-foot D10-R sump inlet where runoff from building roofs and sheet flow from the parking lot is captured by curb and gutter and conveyed to the respective 6-foot D10-R sump inlet. This runoff is conveyed via 18-inch RCP within sub-basins H2-3, H2-2, and H2-5. Flows are combined at Design Point CH1 and are conveyed downstream via 24-inch RCP to Design Point CH3.

Design Point **CH2** is at the 6-foot D10-R sump inlet capturing sheet flow runoff from parking lot and access drive within Sub-basin C1-4. This runoff is combined with roof top runoff and parking lot sheet flow within Sub-basins C1-3 (6-foot D10-R) and C1-2 (12-foot D10-R). This runoff is transported downstream via 30-inch RCP to Design Point CH3.

Design Point **CH3 (S2)** is at the Type I storm sewer manhole located in Sub-basin H2-1. This manhole combines runoff from Design Points S1, CH1, and CH2. Concentrated combined runoff is directed downstream via 60-inch RCP to Pond CH.

Design Point **CH4** is located at a 6-foot D10-R sump inlet that collects runoff from roof tops and sheet flow from parking lot within Sub-basin H2-6. The combined runoff includes upstream sheet flow from parking lot within Sub-basin H2-4. These two inlets, connected by 18-inch storm pipe, transport runoff downstream via 18-inch RCP to Design Point CH5.

Design Point **CH5** is located at a CDOT Type C inlet collecting flow from a grassed swale within Sub-basin H2-7. Runoff is combined at this inlet with Design Point CH4. The combined runoff is conveyed downstream to Pond CH via 24-inch RCP.

Emergency overflow routing for this site follows the same drainage patterns as outlined above. Overflow is routed in a general southwestward direction via the parking lot. Flows will enter the proposed EDB and will overtop the outlet weir and be directed south to the existing storm sewer infrastructure within the Shiloh Mesa Commercial Filing No. 1 development. Should the outlet structure become clogged, flows will follow historical patterns to the south into Mulberry Wood Drive.

The proposed storm sewer system on the site is to be private. In order to ensure that the trunk mains of the site are able to convey the runoff calculated, preliminary hydraulic modeling has been conducted assuming minimal slopes for each pipe segment within the storm network and is included with this report. Hydraulic grade line calculations will be provided with subsequent construction drawings. Please refer to Appendix C for all hydrologic and hydraulic calculations.

Matrix Design Group, Inc., 2019©

D. Street Capacities

Street storm water capacities for the single-family residential roads were calculated using the DCM Figure 7-6. An average slope of 1.0% was used on the nomograph. Please see below and in Appendix B:

Please note that the maximum proposed flow values are well within the allowable capacities shown. For the minor storm: 1.2 cfs proposed vs. a capacity of 9 cfs and for the major storm: 2.6 cfs proposed vs. a capacity of 52 cfs.

E. Water Quality

Per the DCM Chapter 1, Section 4, the City of Colorado Springs requires the UDFCD Four Step Process for receiving water protection that focuses on reducing runoff volumes, treating the water quality capture volume (WQCV), stabilizing drainageways, and implementing long-term source controls.

Matrix Design Group, Inc., 2019©

Step 1: Reduce runoff by disconnecting impervious area, eliminating "unnecessary" impervious area and encouraging infiltration into soils that are suitable.

- Site specific landscaping will be done on each lot to decrease the connectivity of impervious areas. Grass lined swales will be used where possible to allow ground infiltration. An IRF spreadsheet has been completed for the site and is included in Appendix C.

Step 2: Treat and slowly release the WQCV.

- Each pond, or series of ponds, meets the DCM standards for the release rates of Full Spectrum Detention Ponds for Water Quality Capture Volumes.

Step 3: Stabilize stream channels.

- The detention of increased flows, and decrease in some cases, will allow the site to be developed without negatively impacting Sand Creek. Channel improvements for Sand Creek are planned to be completed by the streamside Aspen Meadows development and drainage fees will be paid at the time of platting. These fees will help fund the channel improvements. No portion of Woodman Valley Chapel is considered to be within a streamside zone.

Step 4: Implement source controls.

- During construction, the contractor will have designated concrete washout areas and will implement sediment control logs and inlet protection in order to control pollutants at their source. Beyond full spectrum detention provided by the ponds in series no permanent source controls will be required.

F. Detention and Water Quality

Development of the site requires that full spectrum detention be provided to reduce the fully developed flows from the site to pre-development levels. Due to master planning of the Shiloh Mesa at Woodman Heights area two "in series" detention ponds are proposed to provide full spectrum extended detention of runoff from Shiloh Mesa Filing No. 5, Shiloh Mesa Commercial Filing No. 1 and Woodman Valley Chapel. Please refer to Appendix C for SWMM input and output information and storage calculations for Pond CH and Pond 14.

To effectively treat the water quality runoff volume, the two-pond series will utilize smaller outlet structures to extend the time required to discharge the full volume of runoff. Treating the water quality volume requires an extended discharge time of 40

Matrix Design Group, Inc., 2019©

hours. According to the EPA, this is the time required to achieve removal of a significant amount of total suspended solids (TSS). The ponds will also have low flow, trickle channels draining to a micro pool at the outlet structures.

The overall volume requirement calculated for full spectrum detention, which includes the water quality control volume (WQCV), the excess urban runoff volume (EURV), and detention for storms from the 5-year (20% probability) to the 100-year (1% probability) is calculated in a SWMM model of post-development conditions. According to the model, a maximum total storage of 5.37 acre-ft is required to reduce post-development flows for the above-mentioned storm events to rates at or below pre-development levels.

According to the DCM, the EURV portion of the detention volume will allow for low and high probability storms to be released to Sand Creek at rates which approximate pre-development conditions. This also reduces the higher probability storms (i.e. less than 2-year (50% probability)) to a level which is at or near the sediment carrying threshold value for the downstream drainageways. Detention Ponds CH and 14 will be owned and maintained by the Woodman Heights Metro District No. 3. The proposed storm sewer connecting the two ponds and connecting Pond 14 to the south outfall is located within public ROW and will be owned and maintained by the City of Colorado Springs. Storm sewer facilities within the Woodman Valley Chapel parking lots will be privately owned and maintained.

The proposed outfall for Pond 14 will discharge the Q100 (1% probability flow) at a rate of 21.5 cfs which allows the developed area to comply with city requirements. This is a reduction from the pre-project Q100 discharge for the site which is 27.1 cfs according to the SWMM model of pre-development conditions for Shiloh Mesa at Woodman Heights.

The emergency overflows will be at a depth of 6.5 feet for Pond CH and a depth of 11 feet for Pond 14. The Pond CH emergency overflow will discharge to Woodman Valley View and be recaptured by inlets along the street. The emergency overflow for Pond 14 will direct the flows along a proposed swale and into the existing area inlets at the south outfall.

VIII. Channel Improvements

The entirety of the studied area is within the Sand Creek Drainage Basin. Channel improvements are planned as part of the Aspen Meadows development in the streamside zone adjacent to Sand Creek. Drainage fees paid at the time of platting will help fund these channel improvements.

Matrix Design Group, Inc., 2019©

IX. Erosion Control Plan

Per the city of Colorado Springs Drainage Criteria Manual Volume 1, an erosion control plan is required to be included with the drainage analysis. At this time, it is respectfully requested that the erosion control plan be submitted in conjunction with the Final Grading Plan and Storm Water Management Plan as the development proceeds through the review process. The site is proposing to incorporate straw waddles, straw bale check dams, silt fence, vehicle traffic control, inlet & outlet control, sedimentation basins and other best management practices (BMPs) identified in the City of Colorado Springs Drainage Criteria Manual Volume 2.

X. Drainage Fees

Woodman Valley Chapel
Final Drainage Report
2019 Drainage and Bridge Fees

	Area (ac.)	Fee/Acre	Fee Due	Reimbursable Const. Costs	Fee Due at Platting	Drainage Fee Credit
Drainage Fee	9.962	$12,645.00	$125,969.49	$0.00	$125,969.49	$0.00
Bridge Fee	9.962	$761.00	$7,581.08	$0.00	$7,581.08	$0.00
Pond Fee	9.962	$1,070.00	$10,659.34	$0.00	$10,659.34	$0.00
Pond Facility	9.962	$3,676.00	$36,620.31	$0.00	$36,620.31	$0.00
Surcharge	9.962	$0.00	$0.00	$0.00	$0.00	$0.00
			Totals	***$0.00***	***$180,830.22***	***$0.00***

Note: Surcharge Fee not required unless tributary to Pond #2

Matrix Design Group, Inc., 2019©

XI. Construction Cost Opinion

Proposed Pond CH will be privately owned and maintained by the Woodman Heights Metro District No. 3. The storm water infrastructure included in design points CH1 through CH5 in the Woodman Valley Chapel parking area will be privately owned. Runoff discharged from Pond CH will be carried via publicly owned storm sewer to Pond 14. The storm sewer outside of Woodman Valley Chapel, but still within the Shiloh Mesa area are already covered by the Shiloh Mesa MDDPA-Matrix July 2019 and are thus not included in the below estimate. Pond CH has been included in both estimates. An engineer's estimate for probable construction costs for the storm water facilities is provided below for all proposed improvements to be constructed as part of this project.

Engineer's Estimate of Probable Construction Costs				
Sand Creek Drainage Fee Basin				
(Private & Non-Reimbursable)				
Woodman Valley Chapel				
Item	Unit	Quantity	Unit Cost	Extension
18" RCP	LF	610	$65.00	$39,650.00
24" RCP	LF	210	$75.00	$15,750.00
30" RCP	LF	25	$80.00	$2,000.00
Type I Storm Manhole	EA	1	$8,500.00	$8,500.00
6' D-10 R Inlet	EA	10	$5,750.00	$57,500.00
12' D-10 R Inlet	EA	1	$10,000.00	$10,000.00
Detention/WQ Pond	EA	1	$45,000.00	$45,000.00
			Sub Total	$178,400.00
			10% Contingency	$17,840.00
			TOTAL:	**$196,240.00**

Since the engineer has no control over the cost of labor, materials, equipment or services furnished by others, or over the contractor's method of determining prices, or over the competitive bidding or market conditions, the opinion of probable construction costs provided herein are made on the basis of the engineer's experience and qualifications and represents the best judgment as an experienced and qualified professional familiar with the construction industry. The engineer cannot, and does not guarantee that proposals, bid or actual construction costs will not vary from the opinion of probable costs.

Matrix Design Group, Inc., 2019©

XII. Summary

This report has been used to show that the Woodman Valley Chapel development will not impede or adversely affect any of the downstream or surrounding developments. Runoff will discharge into the series of proposed detention and water treatment basins. Outlet flows from these facilities will be released at pre-development rates to the Shiloh Mesa south outfall to ensure the developed site's compliance with downstream storm water infrastructure, City of Colorado Springs Drainage Criteria, and the City of Colorado Springs MS4 permit.

XIII. References

(1) ***City of Colorado Springs Drainage Criteria Manual Volume 1 and 2***, dated May 2014.

(2) ***Web Soil Survey of El Paso County Area, Colorado.*** **United States Department of Agriculture Soil Conservation Service,** November 2016.

(3) ***Flood Insurance Rate Map for El Paso County, Colorado and Incorporated Areas, Panel 535 of 1300,*** **Federal Emergency Management Agency,** Effective Date March 17, 1997.

(4) ***Master Development Drainage Plan for Shiloh Mesa at Woodman Heights***, Matrix Design Group Inc., November 2009.

(5) ***Master Development Drainage Plan and Final Drainage Report for Shiloh Mesa and Shiloh Mesa Filing No. 1,*** M&S Civil Consultants, Inc., December 2015.

(6) ***Master Development Drainage Plan Amendment for Shiloh Mesa at Woodman Heights and Final Drainage Report for Shiloh Mesa Commercial Filing No. 1***, Matrix Design Group Inc., July 2019.

Matrix Design Group, Inc., 2019©

APPENDIX A

Vicinity Map

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for

El Paso County Area, Colorado

Woodmen Valley Chapel

November 1, 2018

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Preface..... 2
Soil Map..... 5
Soil Map.....6
Legend.....7
Map Unit Legend..... 8
Map Unit Descriptions..... 8
El Paso County Area, Colorado.....10
8—Blakeland loamy sand, 1 to 9 percent slopes..... 10
19—Columbine gravelly sandy loam, 0 to 3 percent slopes.....11
71—Pring coarse sandy loam, 3 to 8 percent slopes.....12
Soil Information for All Uses.....14
Soil Properties and Qualities..... 14
Soil Qualities and Features.....14
Drainage Class.....14

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:1,630 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

Soil Map Unit Lines

Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 16, Sep 10, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 7, 2016—Aug 17, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
8	Blakeland loamy sand, 1 to 9 percent slopes	3.4	29.3%
19	Columbine gravelly sandy loam, 0 to 3 percent slopes	7.9	69.0%
71	Pring coarse sandy loam, 3 to 8 percent slopes	0.2	1.8%
Totals for Area of Interest		**11.5**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

El Paso County Area, Colorado

8—Blakeland loamy sand, 1 to 9 percent slopes

Map Unit Setting

National map unit symbol: 369v
Elevation: 4,600 to 5,800 feet
Mean annual precipitation: 14 to 16 inches
Mean annual air temperature: 46 to 48 degrees F
Frost-free period: 125 to 145 days
Farmland classification: Not prime farmland

Map Unit Composition

Blakeland and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Blakeland

Setting

Landform: Hills, flats
Landform position (three-dimensional): Side slope, talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from sedimentary rock and/or eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 11 inches: loamy sand
AC - 11 to 27 inches: loamy sand
C - 27 to 60 inches: sand

Properties and qualities

Slope: 1 to 9 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Available water storage in profile: Low (about 4.5 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Ecological site: Sandy Foothill (R049BY210CO)
Hydric soil rating: No

Minor Components

Other soils

Percent of map unit:
Hydric soil rating: No

Pleasant

Percent of map unit:
Landform: Depressions
Hydric soil rating: Yes

19—Columbine gravelly sandy loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 367p
Elevation: 6,500 to 7,300 feet
Mean annual precipitation: 14 to 16 inches
Mean annual air temperature: 46 to 50 degrees F
Frost-free period: 125 to 145 days
Farmland classification: Not prime farmland

Map Unit Composition

Columbine and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Columbine

Setting

Landform: Flood plains, fan terraces, fans
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

A - 0 to 14 inches: gravelly sandy loam
C - 14 to 60 inches: very gravelly loamy sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 2.5 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Ecological site: Gravelly Foothill (R049BY214CO)
Hydric soil rating: No

Minor Components

Fluvaquentic haplaquolls

Percent of map unit:
Landform: Swales
Hydric soil rating: Yes

Pleasant

Percent of map unit:
Landform: Depressions
Hydric soil rating: Yes

Other soils

Percent of map unit:
Hydric soil rating: No

71—Pring coarse sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 369k
Elevation: 6,800 to 7,600 feet
Farmland classification: Not prime farmland

Map Unit Composition

Pring and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pring

Setting

Landform: Hills
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Arkosic alluvium derived from sedimentary rock

Typical profile

A - 0 to 14 inches: coarse sandy loam
C - 14 to 60 inches: gravelly sandy loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 6.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: Loamy Park (R048AY222CO)
Hydric soil rating: No

Minor Components

Pleasant

Percent of map unit:
Landform: Depressions
Hydric soil rating: Yes

Other soils

Percent of map unit:
Hydric soil rating: No

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Drainage Class

"Drainage class (natural)" refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized-excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained, and very poorly drained. These classes are defined in the "Soil Survey Manual."

Custom Soil Resource Report
Map—Drainage Class

Map Scale: 1:1,630 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

Excessively drained

Somewhat excessively drained

Well drained

Moderately well drained

Somewhat poorly drained

Poorly drained

Very poorly drained

Subaqueous

Not rated or not available

Soil Rating Lines

Excessively drained

Somewhat excessively drained

Well drained

Moderately well drained

Somewhat poorly drained

Poorly drained

Very poorly drained

Subaqueous

Not rated or not available

Soil Rating Points

Excessively drained

Somewhat excessively drained

Well drained

Moderately well drained

Somewhat poorly drained

Poorly drained

Very poorly drained

Subaqueous

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 16, Sep 10, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 7, 2016—Aug 17, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Drainage Class

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
8	Blakeland loamy sand, 1 to 9 percent slopes	Somewhat excessively drained	3.4	29.3%
19	Columbine gravelly sandy loam, 0 to 3 percent slopes	Well drained	7.9	69.0%
71	Pring coarse sandy loam, 3 to 8 percent slopes	Well drained	0.2	1.8%
Totals for Area of Interest			**11.5**	**100.0%**

Rating Options—Drainage Class

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

MAP SCALE 1" = 500'

0 500 1000 FEET

NFIP

PANEL 0533G

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

EL PASO COUNTY, COLORADO

AND INCORPORATED AREAS

PANEL 533 OF 1300

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
COLORADO SPRINGS, CITY OF	080060	0533	G
EL PASO COUNTY	080059	0533	G

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
08041C0533G

MAP REVISED
DECEMBER 7, 2018

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

WOODMEN HEIGHTS MD #2

Tax Boundary

1 inch = 1,056.5 feet

08/27/2018 EPC Assessor's Office
NAD_1983_StatePlane_Colorado_Central_FIPS_0502_Feet
Projection: Lambert_Conformal_Conic

COPYRIGHT 2018 by the Board of County Commissioners, El Paso County, Colorado. All rights reserved. No part of this document or data contained hereon may be reproduced; used to prepare derivative products; or distributed without the specific written approval of the Board of County Commissioners, El Paso County, Colorado. This document was prepared from the best data available at the time of plotting and is for internal use only. El Paso County, Colorado, makes no claim as to the completeness or accuracy of the data contained hereon.

WOODMEN HEIGHTS MD #3

Tax Boundary

1 inch = 892.62 feet

08/27/2018 EPC Assessor's Office
NAD_1983_StatePlane_Colorado_Central_FIPS_0502_Feet
Projection: Lambert_Conformal_Conic

COPYRIGHT 2018 by the Board of County Commissioners, El Paso County, Colorado. All rights reserved. No part of this document or data contained hereon may be reproduced; used to prepare derivative products; or distributed without the specific written approval of the Board of County Commissioners, El Paso County, Colorado. This document was prepared from the best data available at the time of plotting and is for internal use only. El Paso County, Colorado, makes no claim as to the completeness or accuracy of the data contained hereon.

APPENDIX B

85% Impermeable Values for Multi-Family Development Interpolated between these two rows.

Table 6-6. Runoff Coefficients for Rational Method
(Source: UDFCD 2001)

Land Use or Surface Characteristics	Percent Impervious	Runoff Coefficients											
		2-year		5-year		10-year		25-year		50-year		100-year	
		HSG A&B	HSG C&D	HSG A&B	HSG C&D	HSG A&B	HSG C&D	HSG A&B	HSG C&D	HSG A&B	HSG C&D	HSG A&B	HSG C&D
Business													
Commercial Areas	95	0.79	0.80	0.81	0.82	0.83	0.84	0.85	0.87	0.87	0.88	0.88	0.89
Neighborhood Areas	70	0.45	0.49	0.49	0.53	0.53	0.57	0.58	0.62	0.60	0.65	0.62	0.68
Residential													
1/8 Acre or less	65	0.41	0.45	0.45	0.49	0.49	0.54	0.54	0.59	0.57	0.62	0.59	0.65
1/4 Acre	40	0.23	0.28	0.30	0.35	0.36	0.42	0.42	0.50	0.46	0.54	0.50	0.58
1/3 Acre	30	0.18	0.22	0.25	0.30	0.32	0.38	0.39	0.47	0.43	0.52	0.47	0.57
1/2 Acre	25	0.15	0.20	0.22	0.28	0.30	0.36	0.37	0.46	0.41	0.51	0.46	0.56
1 Acre	20	0.12	0.17	0.20	0.26	0.27	0.34	0.35	0.44	0.40	0.50	0.44	0.55
Industrial													
Light Areas	80	0.57	0.60	0.59	0.63	0.63	0.66	0.66	0.70	0.68	0.72	0.70	0.74
Heavy Areas	90	0.71	0.73	0.73	0.75	0.75	0.77	0.78	0.80	0.80	0.82	0.81	0.83
Parks and Cemeteries	7	0.05	0.09	0.12	0.19	0.20	0.29	0.30	0.40	0.34	0.46	0.39	0.52
Playgrounds	13	0.07	0.13	0.16	0.23	0.24	0.31	0.32	0.42	0.37	0.48	0.41	0.54
Railroad Yard Areas	40	0.23	0.28	0.30	0.35	0.36	0.42	0.42	0.50	0.46	0.54	0.50	0.58
Undeveloped Areas													
Historic Flow Analysis-- Greenbelts, Agriculture	2	0.03	0.05	0.09	0.16	0.17	0.26	0.26	0.38	0.31	0.45	0.36	0.51
Pasture/Meadow	0	0.02	0.04	0.08	0.15	0.15	0.25	0.25	0.37	0.30	0.44	0.35	0.50
Forest	0	0.02	0.04	0.08	0.15	0.15	0.25	0.25	0.37	0.30	0.44	0.35	0.50
Exposed Rock	100	0.89	0.89	0.90	0.90	0.92	0.92	0.94	0.94	0.95	0.95	0.96	0.96
Offsite Flow Analysis (when landuse is undefined)	45	0.26	0.31	0.32	0.37	0.38	0.44	0.44	0.51	0.48	0.55	0.51	0.59
Streets													
Paved	100	0.89	0.89	0.90	0.90	0.92	0.92	0.94	0.94	0.95	0.95	0.96	0.96
Gravel	80	0.57	0.60	0.59	0.63	0.63	0.66	0.66	0.70	0.68	0.72	0.70	0.74
Drive and Walks	100	0.89	0.89	0.90	0.90	0.92	0.92	0.94	0.94	0.95	0.95	0.96	0.96
Roofs	90	0.71	0.73	0.73	0.75	0.75	0.77	0.78	0.80	0.80	0.82	0.81	0.83
Lawns	0	0.02	0.04	0.08	0.15	0.15	0.25	0.25	0.37	0.30	0.44	0.35	0.50

3.2 Time of Concentration

One of the basic assumptions underlying the Rational Method is that runoff is a function of the average rainfall rate during the time required for water to flow from the hydraulically most remote part of the drainage area under consideration to the design point. However, in practice, the time of concentration can be an empirical value that results in reasonable and acceptable peak flow calculations.

For urban areas, the time of concentration (t_c) consists of an initial time or overland flow time (t_i) plus the travel time (t_t) in the storm sewer, paved gutter, roadside drainage ditch, or drainage channel. For non-urban areas, the time of concentration consists of an overland flow time (t_i) plus the time of travel in a concentrated form, such as a swale or drainageway. The travel portion (t_t) of the time of concentration can be estimated from the hydraulic properties of the storm sewer, gutter, swale, ditch, or drainageway. Initial time, on the other hand, will vary with surface slope, depression storage, surface cover, antecedent rainfall, and infiltration capacity of the soil, as well as distance of surface flow. The time of concentration is represented by Equation 6-7 for both urban and non-urban areas.

Figure 6-25. Estimate of Average Concentrated Shallow Flow

2018 DRAINAGE, BRIDGE AND POND FEES
CITY OF COLORADO SPRINGS
Effective January 1, 2018

Basin Name	DBPS Year	Drainage Fee/Acre	Bridge Fee/Acre	Pond Land Fee/Acre	Pond Facility Fee/Acre	Surcharge/ Acre
19th Street	1964	$3,777				
21st Street	1977	$5,765				
Bear Creek	1980	$3,710	$350			
Big Johnson, Crews	1991	$14,354	$1,180	$241		
Black Squirrel Creek	1989	$13,151	$1,502	$789		
Camp Creek	1964	$2,127				
Cottonwood Creek[1]	2000	$13,241	$1,059			$678
Douglas Creek	1981	$11,929	$267			
Dry Creek[2]	1966	$0.00				
Elkhorn Basin[3]	n/a	$0.00				
Fishers Canyon[4]	1991	$0.00				
Fountain Creek[5]	n/a	VAR				
Jimmy Camp Creek	2015	$7,474			$2,436	
Kettle Creek[6] Old Ranch Trib.	2001	$0.00				
Little Johnson	1988	$12,528		$1,227		
Mesa	1986	$10,027				
Middle Tributary	1987	$6,556		$1,121		
Miscellaneous[7]	n/a	$11,157				
Monument Branch[12]	1987	$0.00				
North Rockrimmon	1973	$5,766				
Park Vista (MDDP)	2004	$16,059				
Peterson Field	1984	$12,113	$558			
Pine Creek[8]	1988	$0.00				
Pope's Bluff	1976	$3,839	$657			
Pulpit Rock	1968	$6,358				
Sand Creek[9]	1996	$11,851	$713	$1,070	$3,445	$1,249
Shooks Run[10]	1994	$0.00				
Smith Creek[11]	2002	$0.00				
South Rockrimmon	1976	$4,508				
Southwest Area	1984	$12,621				
Spring Creek	1968	$9,943				
Templeton Gap	1977	$6,558	$72			
Windmill Gulch	1992	$13,678	$268	$3,055		

All Drainage, Bridge and Detention Pond Facilities Fees adjusted by 5.7% over 2017 by City Council Resolution No. 157-17 on December 12, 2017 to be effective on January 1, 2018. $58/acre increase to Sand Creek Drainage Fee approved by Board July 13, 2017. Land Fees are based on the Park Land Dedication Fee which is currently $76,602/acre (0% change for inflation in 2017).

---

[1] The 2018 Cottonwood Creek drainage fee consists of a capital improvement fee of $10,172 per acre and land fee of $3,069 per acre for a total of $13,241 per acre. These fees are adjusted annually using different procedures but are combined for collection purposes. **The surcharge fee of $678/ac is due in cash; credits for prior facility construction cannot be used to offset this fee,** which is deposited into a separate City fund known as the "Cottonwood Creek Surcharge" fund.

[2] Dry Creek is a closed basin per City Council Resolution No. 118-08 on June 24, 2008

[3] Elkhorn Basin is a closed basin per the Annexation Agreements for the area.

[4] Fishers Canyon is a closed basin per City Council Resolution No. 74-08 on April 22, 2008.

[5] Pursuant to the recommendation of the Subdivision Storm Drainage Board adopted at its meeting of September 15, 1977, there are exempted and excluded from the provisions of this part construction of the main Fountain Creek Channel from the confluence of Fountain Creek with Monument Creek northwest to the City limits. Land developments taking place adjacent to Fountain Creek shall remain responsible for dedicating rights of way necessary for the channelization of Fountain Creek, and the developers shall continue to pay to the City as a condition of subdivision plat approval the applicable drainage fees. Drainage fees are required in accordance with the appropriate basin study.

[6] Kettle Creek Old Ranch Tributary is a closed basin per City Council Resolution 139-02 on August 27, 2002.

[7] Miscellaneous fee is assessed on unstudied areas and the Roswell and Westside Basins.

[8] Pine Creek is a closed basin per City Council Resolution No.236-88 on December 13, 1988.

[9] Sand Creek Detention Pond #2 Surcharge (Ridgeview and Indigo Ranch) = $1,249/ac. for 2018. Sand Creek Pond fees include two components, one for facility construction costs ($4,515) and one for land dedication costs ($1,070), the total Pond fee within Sand Creek is $4,329/ac.

[10] Shooks Run is a closed basin pursuant to the recommendation of the Drainage Board, adopted at its meeting on October 15, 1963.

[11] Smith Creek is a closed basin per City Council Resolution 140-02 on August 27, 2002

[12] Monument Branch Basin is a closed basin per City Council Res. 177-10 on October 12, 2010

2019 DRAINAGE, BRIDGE AND POND FEES
CITY OF COLORADO SPRINGS

Basin Name	DBPS Year	Drainage Fee/Acre	Bridge Fee/Acre	Pond Land Fee/Acre	Pond Facility Fee/Acre	Surcharge/ Acre
19th Street	1964	$4,030				
21st Street	1977	$6,151				
Bear Creek	1980	$3,959	$373			
Big Johnson, Crews	1991	$15,316	$1,259	$241		
Black Squirrel Creek	1989	$14,302	$1,603	$789		
Camp Creek	1964	$2,270				
Cottonwood Creek[1] ,[2]	2000	$13,923	$1,130			$723
Douglas Creek	1981	$12,728	$285			
Dry Creek[3]	1966	$0.00				
Elkhorn Basin[4]	n/a	$0.00				
Fishers Canyon[5]	1991	$0.00				
Fountain Creek[6]	n/a	VAR				
Jimmy Camp Creek	2015	$7,975			$2,599	
Kettle Creek[7] Old Ranch Trib.	2001	$0.00				
Little Johnson	1988	$13,367		$1,227		
Mesa	1986	$10,699				
Middle Tributary	1987	$6,995		$1,121		
Miscellaneous[8]	n/a	$11,905				
Monument Branch[12]	1987	$0.00				
North Rockrimmon	1973	$6,152				
Park Vista (MDDP)	2004	$17,135				
Peterson Field	1984	$12,925	$595			
Pine Creek[9]	1988	$0.00				
Pope's Bluff	1976	$4,096	$701			
Pulpit Rock	1968	$6,784				
Sand Creek[10]	1996	$12,645	$761	$1,070	$3,676	$1,333
Shooks Run[11]	1994	$0.00				
Smith Creek[12]	2002	$0.00				
South Rockrimmon	1976	$4,810				
Southwest Area	1984	$13,467				
Spring Creek	1968	$10,609				
Templeton Gap	1977	$6,997	$77			
Windmill Gulch	1992	$14,594	$271	$3,055		

All Drainage, Bridge and Detention Pond Facilities Fees adjusted by 6.7% over 2018 by City Council Resolution No. 159-18 on December 11, 2018 to be effective on January 1, 2019. Land Fees are based on the Park Land Dedication Fee which is currently $76,602/acre (0% change for inflation in 2018).

---

[1] The 2018 Cottonwood Creek drainage fee consists of a capital improvement fee of $10,853 per acre and land fee of $3,069 per acre for a total of $13,923 per acre. These fees are adjusted annually using different procedures but are combined for collection purposes. **The surcharge fee of $723/ac is due in cash; credits for prior facility construction cannot be used to offset this fee,** which is deposited into a separate City fund known as the "Cottonwood Creek Surcharge" fund.

[2] The Wolf Ranch portion of the Cottonwood Creek Drainage Basin was approved as a "no fee" basin **as to Drainage Fees only** by City Council on August 28, 2018 by Resolution No. 96-18

[3] Dry Creek is a closed basin per City Council Resolution No.118-08 on June 24, 2008

[4] Elkhorn Basin is a closed basin per the Annexation Agreements for the area.

[5] Fishers Canyon is a closed basin per City Council Resolution No. 74-08 on April 22, 2008.

[6] Pursuant to the recommendation of the Subdivision Storm Drainage Board adopted at its meeting of September 15, 1977, there are exempted and excluded from the provisions of this part construction of the main Fountain Creek Channel from the confluence of Fountain Creek with Monument Creek northwest to the City limits. Land developments taking place adjacent to Fountain Creek shall remain responsible for dedicating rights of way necessary for the channelization of Fountain Creek, and the developers shall continue to pay to the City as a condition of subdivision plat approval the applicable drainage fees. Drainage fees are required in accordance with the appropriate basin study.

[7] Kettle Creek Old Ranch Tributary is a closed basin per City Council Resolution 139-02 on August 27, 2002.

[8] Miscellaneous fee is assessed on unstudied areas and the Roswell and Westside Basins.

[9] Pine Creek is a closed basin per City Council Resolution No.236-88 on December 13, 1988.

[10] Sand Creek Detention Pond #2 Surcharge (Ridgeview and Indigo Ranch) = $1,333/ac. for 2019. Sand Creek Pond fees include two components, one for facility construction costs ($3,676) and one for land dedication costs ($1,070), the total Pond fee within Sand Creek is $4,746/ac.

[11] Shooks Run is a closed basin pursuant to the recommendation of the Drainage Board, adopted at its meeting on October 15, 1963.

[12] Smith Creek is a closed basin per City Council Resolution 140-02 on August 27, 2002

[12] Monument Branch Basin is a closed basin per City Council Res. 177-10 on October 12, 2010

APPENDIX C

EPA SWMM 5.1 DEVELOPED MODEL

SWMM Inputs

EPA SWMM 5.1 DEVELOPED MODEL-WVC Close Up

Subcatchment B

Property	Value
Name	B
X-Coordinate	5063.070
Y-Coordinate	5086.969
Description	
Tag	
Rain Gage	RG_SM
Outlet	JN_B
Area	9.79
Width	358
% Slope	2
% Imperv	50
N-Imperv	0.01
N-Perv	0.1
Dstore-Imperv	0.05
Dstore-Perv	0.05
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration Data	MODIFIED_GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0
N-Perv Pattern	
Dstore Pattern	
Infil. Pattern	

Subcatchment C1-1

Property	Value
Name	C1-1
X-Coordinate	5114.026
Y-Coordinate	4977.048
Description	
Tag	
Rain Gage	RG_SM
Outlet	DP_S01
Area	2.37
Width	292
% Slope	1
% Imperv	95
N-Imperv	.013
N-Perv	0.1
Dstore-Imperv	0.05
Dstore-Perv	0.05
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration Data	MODIFIED_GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0
N-Perv Pattern	
Dstore Pattern	
Infil. Pattern	

Subcatchment C1-2

Property	Value
Name	C1-2
X-Coordinate	4909.367
Y-Coordinate	4967.375
Description	
Tag	
Rain Gage	RG_SM
Outlet	Inlet_C1-2
Area	1.88
Width	250
% Slope	0.5
% Imperv	95
N-Imperv	.013
N-Perv	0.1
Dstore-Imperv	0.05
Dstore-Perv	0.05
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration Data	MODIFIED_GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0
N-Perv Pattern	
Dstore Pattern	
Infil. Pattern	

Subcatchment C1-3

Property	Value
Name	C1-3
X-Coordinate	5279.801
Y-Coordinate	4582.659
Description	
Tag	
Rain Gage	RG_SM
Outlet	Inlet_C1-3
Area	0.48
Width	30
% Slope	4
% Imperv	95
N-Imperv	.013
N-Perv	0.1
Dstore-Imperv	0.05
Dstore-Perv	0.05
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration Data	MODIFIED_GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0
N-Perv Pattern	
Dstore Pattern	
Infil. Pattern	

Subcatchment C1-4

Property	Value
Name	C1-4
X-Coordinate	5033.977
Y-Coordinate	4251.674
Description	
Tag	
Rain Gage	RG_SM
Outlet	Inlet_Ch2
Area	0.31
Width	32
% Slope	.02
% Imperv	95
N-Imperv	.013
N-Perv	0.1
Dstore-Imperv	0.05
Dstore-Perv	0.05
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration Data	MODIFIED_GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0
N-Perv Pattern	
Dstore Pattern	
Infil. Pattern	

Subcatchment C1 MDDPA

Property	Value
Name	C1
X-Coordinate	5736.980
Y-Coordinate	4391.791
Description	
Tag	
Rain Gage	RG_SM
Outlet	JN_C1
Area	5.37
Width	292
% Slope	1
% Imperv	95
N-Imperv	0.01
N-Perv	0.1
Dstore-Imperv	0.05
Dstore-Perv	0.05
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration Data	MODIFIED_GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0
N-Perv Pattern	
Dstore Pattern	
Infil. Pattern	

Subcatchment C2 MDDPA

Property	Value
Name	C2
X-Coordinate	5296.736
Y-Coordinate	3895.618
Description	
Tag	
Rain Gage	RG_SM
Outlet	DP_S01
Area	.37
Width	30
% Slope	0.5
% Imperv	100
N-Imperv	0.01
N-Perv	0.1
Dstore-Imperv	0.05
Dstore-Perv	0.05
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration Data	MODIFIED_GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0
N-Perv Pattern	
Dstore Pattern	
Infil. Pattern	

Subcatchment C2

Property	Value
Name	C2
X-Coordinate	4249.476
Y-Coordinate	4204.602
Description	
Tag	
Rain Gage	RG_SM
Outlet	Inlet_CH2
Area	.26
Width	30
% Slope	0.5
% Imperv	100
N-Imperv	0.01
N-Perv	0.1
Dstore-Imperv	0.05
Dstore-Perv	0.05
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration Data	MODIFIED_GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0
N-Perv Pattern	
Dstore Pattern	
Infil. Pattern	

Subcatchment G1

Property	Value
Name	G1
X-Coordinate	4467.473
Y-Coordinate	2921.497
Description	
Tag	
Rain Gage	RG_SM
Outlet	J_G7
Area	3.3
Width	335
% Slope	1
% Imperv	97
N-Imperv	0.01
N-Perv	0.1
Dstore-Imperv	0.05
Dstore-Perv	0.05
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration Data	MODIFIED_GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0
N-Perv Pattern	
Dstore Pattern	
Infil. Pattern	

Subcatchment G2

Property	Value
Name	G2
X-Coordinate	5260.891
Y-Coordinate	2907.057
Description	
Tag	
Rain Gage	RG_SM
Outlet	J_G2
Area	1.33
Width	82
% Slope	1
% Imperv	97
N-Imperv	0.01
N-Perv	0.1
Dstore-Imperv	0.05
Dstore-Perv	0.05
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration Data	MODIFIED_GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0
N-Perv Pattern	
Dstore Pattern	
Infil. Pattern	

Subcatchment G3

Property	Value
Name	G3
X-Coordinate	5509.783
Y-Coordinate	2253.018
Description	
Tag	
Rain Gage	RG_SM
Outlet	J_G3
Area	0.91
Width	129
% Slope	1
% Imperv	95
N-Imperv	0.01
N-Perv	0.1
Dstore-Imperv	0.05
Dstore-Perv	0.05
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration Data	MODIFIED_GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0
N-Perv Pattern	
Dstore Pattern	
Infil. Pattern	

Subcatchment G4

Property	Value
Name	G4
X-Coordinate	6115.427
Y-Coordinate	1693.360
Description	
Tag	
Rain Gage	RG_SM
Outlet	DP_S08
Area	.13
Width	30
% Slope	2
% Imperv	100
N-Imperv	0.01
N-Perv	0.1
Dstore-Imperv	0.05
Dstore-Perv	0.05
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration Data	MODIFIED_GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0
N-Perv Pattern	
Dstore Pattern	
Infil. Pattern	

Subcatchment G5

Property	Value
Name	G5
X-Coordinate	5519.858
Y-Coordinate	1687.133
Description	
Tag	
Rain Gage	RG_SM
Outlet	DP_S09
Area	1.34
Width	135
% Slope	2
% Imperv	95
N-Imperv	0.01
N-Perv	0.1
Dstore-Imperv	0.05
Dstore-Perv	0.05
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration Data	MODIFIED_GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0
N-Perv Pattern	
Dstore Pattern	
Infil. Pattern	

Subcatchment G6

Property	Value
Name	G6
X-Coordinate	4477.783
Y-Coordinate	1865.857
Description	
Tag	
Rain Gage	RG_SM
Outlet	DP_S10
Area	1.63
Width	286
% Slope	1
% Imperv	85
N-Imperv	0.01
N-Perv	0.1
Dstore-Imperv	0.05
Dstore-Perv	0.05
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration Data	MODIFIED_GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0
N-Perv Pattern	
Dstore Pattern	
Infil. Pattern	

Subcatchment G7

Property	Value
Name	G7
X-Coordinate	4511.246
Y-Coordinate	2531.042
Description	
Tag	
Rain Gage	RG_SM
Outlet	DP_S10
Area	.53
Width	30
% Slope	1
% Imperv	100
N-Imperv	0.01
N-Perv	0.1
Dstore-Imperv	0.05
Dstore-Perv	0.05
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration Data	MODIFIED_GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0
N-Perv Pattern	
Dstore Pattern	
Infil. Pattern	

Subcatchment H1

Property	Value
Name	H1
X-Coordinate	5385.602
Y-Coordinate	3023.986
Description	
Tag	
Rain Gage	RG_SM
Outlet	DP_S06
Area	.49
Width	30
% Slope	1
% Imperv	100
N-Imperv	0.01
N-Perv	0.1
Dstore-Imperv	0.05
Dstore-Perv	0.05
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration Data	MODIFIED_GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0
N-Perv Pattern	
Dstore Pattern	
Infil. Pattern	

Subcatchment H2-1

Property	Value
Name	H2-1
X-Coordinate	4552.868
Y-Coordinate	3541.626
Description	
Tag	
Rain Gage	RG_SM
Outlet	Pond_CH
Area	1.67
Width	95
% Slope	.5
% Imperv	7
N-Imperv	.013
N-Perv	0.1
Dstore-Imperv	0.05
Dstore-Perv	0.05
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration Data	MODIFIED_GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0
N-Perv Pattern	
Dstore Pattern	
Infil. Pattern	

Subcatchment H2-2

Property	Value
Name	H2-2
X-Coordinate	5022.603
Y-Coordinate	4070.533
Description	
Tag	
Rain Gage	RG_SM
Outlet	Inlet_H2-2_DPCH1
Area	0.21
Width	70
% Slope	2.4
% Imperv	95
N-Imperv	.013
N-Perv	0.1
Dstore-Imperv	0.05
Dstore-Perv	0.05
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration Data	MODIFIED_GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0
N-Perv Pattern	
Dstore Pattern	
Infil. Pattern	

Subcatchment H2-3

Property	Value
Name	H2-3
X-Coordinate	5420.356
Y-Coordinate	4197.467
Description	
Tag	
Rain Gage	RG_SM
Outlet	Inlet_H2-3
Area	0.39
Width	60
% Slope	3.6
% Imperv	95
N-Imperv	.013
N-Perv	0.1
Dstore-Imperv	0.05
Dstore-Perv	0.05
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration Data	MODIFIED_GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0
N-Perv Pattern	
Dstore Pattern	
Infil. Pattern	

Subcatchment H2-4

Property	Value
Name	H2-4
X-Coordinate	5358.540
Y-Coordinate	3790.891
Description	
Tag	
Rain Gage	RG_SM
Outlet	Inlet_H2-4
Area	0.32
Width	40
% Slope	3.87
% Imperv	95
N-Imperv	.013
N-Perv	0.1
Dstore-Imperv	0.05
Dstore-Perv	0.05
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration Data	MODIFIED_GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0
N-Perv Pattern	
Dstore Pattern	
Infil. Pattern	

Subcatchment H2-5

Property	Value
Name	H2-5
X-Coordinate	4963.486
Y-Coordinate	3719.755
Description	
Tag	
Rain Gage	RG_SM
Outlet	Inlet_H2-5
Area	0.36
Width	70
% Slope	1.64
% Imperv	95
N-Imperv	.013
N-Perv	0.1
Dstore-Imperv	0.05
Dstore-Perv	0.05
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration Data	MODIFIED_GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0
N-Perv Pattern	
Dstore Pattern	
Infil. Pattern	

Subcatchment H2-6

Property	Value
Name	H2-6
X-Coordinate	5559.673
Y-Coordinate	3687.670
Description	
Tag	
Rain Gage	RG_SM
Outlet	Inlet_H2-6_DPCH4
Area	.93
Width	85
% Slope	2.4
% Imperv	95
N-Imperv	.013
N-Perv	0.1
Dstore-Imperv	0.05
Dstore-Perv	0.05
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration Data	MODIFIED_GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0
N-Perv Pattern	
Dstore Pattern	
Infil. Pattern	

Subcatchment H2-7

Property	Value
Name	H2-7
X-Coordinate	5724.199
Y-Coordinate	3602.909
Description	
Tag	
Rain Gage	RG_SM
Outlet	Inlet_H2-7_DPCH5
Area	1.49
Width	90
% Slope	2.5
% Imperv	25
N-Imperv	0.01
N-Perv	0.1
Dstore-Imperv	0.05
Dstore-Perv	0.05
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration Data	MODIFIED_GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0
N-Perv Pattern	
Dstore Pattern	
Infil. Pattern	

Subcatchment H2-8

Property	Value
Name	H2-8
X-Coordinate	5068.285
Y-Coordinate	3295.520
Description	
Tag	
Rain Gage	RG_SM
Outlet	Inlet_H2-8
Area	.07
Width	16
% Slope	5
% Imperv	100
N-Imperv	.013
N-Perv	0.1
Dstore-Imperv	0.05
Dstore-Perv	0.05
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration Data	MODIFIED_GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0
N-Perv Pattern	
Dstore Pattern	
Infil. Pattern	

Subcatchment H2-9

Property	Value
Name	H2-9
X-Coordinate	5361.913
Y-Coordinate	3180.191
Description	
Tag	
Rain Gage	RG_SM
Outlet	Inlet_H2-9
Area	0.31
Width	20
% Slope	2
% Imperv	95
N-Imperv	.013
N-Perv	0.1
Dstore-Imperv	0.05
Dstore-Perv	0.05
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration Data	MODIFIED_GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0
N-Perv Pattern	
Dstore Pattern	
Infil. Pattern	

Subcatchment H2 MDDPA

Property	Value
Name	H2
X-Coordinate	5603.766
Y-Coordinate	3364.408
Description	
Tag	
Rain Gage	RG_SM
Outlet	Pond_CH
Area	5.15
Width	428
% Slope	1
% Imperv	75
N-Imperv	0.01
N-Perv	0.1
Dstore-Imperv	0.05
Dstore-Perv	0.05
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration Data	MODIFIED_GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0
N-Perv Pattern	
Dstore Pattern	
Infil. Pattern	

Subcatchment H3 MDDPA

Property	Value
Name	H3
X-Coordinate	6329.716
Y-Coordinate	2716.600
Description	
Tag	
Rain Gage	RG_SM
Outlet	DP_S04
Area	0.22
Width	30
% Slope	1
% Imperv	100
N-Imperv	0.01
N-Perv	0.1
Dstore-Imperv	0.05
Dstore-Perv	0.05
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration Data	MODIFIED_GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0
N-Perv Pattern	
Dstore Pattern	
Infil. Pattern	

Subcatchment H3

Property	Value
Name	H3
X-Coordinate	5161.733
Y-Coordinate	2870.997
Description	
Tag	
Rain Gage	RG_SM
Outlet	DP_S04
Area	0.22
Width	30
% Slope	1
% Imperv	100
N-Imperv	0.01
N-Perv	0.1
Dstore-Imperv	0.05
Dstore-Perv	0.05
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration Data	MODIFIED_GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0
N-Perv Pattern	
Dstore Pattern	
Infil. Pattern	

Subcatchment I1

Property	Value
Name	I1
X-Coordinate	6378.594
Y-Coordinate	2641.456
Description	
Tag	
Rain Gage	RG_SM
Outlet	DP_S05
Area	0.2
Width	30
% Slope	1
% Imperv	100
N-Imperv	0.01
N-Perv	0.1
Dstore-Imperv	0.05
Dstore-Perv	0.05
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration Data	MODIFIED_GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0
N-Perv Pattern	
Dstore Pattern	
Infil. Pattern	

Subcatchment I2

Property	Value
Name	I2
X-Coordinate	6390.641
Y-Coordinate	2273.126
Description	
Tag	
Rain Gage	RG_SM
Outlet	DP_S07
Area	2.63
Width	297
% Slope	1
% Imperv	95
N-Imperv	0.01
N-Perv	0.1
Dstore-Imperv	0.05
Dstore-Perv	0.05
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration Data	MODIFIED_GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0
N-Perv Pattern	
Dstore Pattern	
Infil. Pattern	

Subcatchment I3

Property	Value
Name	I3
X-Coordinate	6212.862
Y-Coordinate	1692.858
Description	
Tag	
Rain Gage	RG_SM
Outlet	DP_S07
Area	.17
Width	30
% Slope	1
% Imperv	100
N-Imperv	0.01
N-Perv	0.1
Dstore-Imperv	0.05
Dstore-Perv	0.05
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration Data	MODIFIED_GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0
N-Perv Pattern	
Dstore Pattern	
Infil. Pattern	

Conduit 26

Property	Value
Name	26
Inlet Node	JN_B
Outlet Node	DP_S01
Description	
Tag	
Shape	CIRCULAR
Max. Depth	3
Length	335
Roughness	.013
Inlet Offset	0
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	.2
Exit Loss Coeff.	1
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	0

Junction DP_S01

Property	Value
Name	DP_S01
X-Coordinate	4827.290
Y-Coordinate	4241.565
Description	
Tag	
Inflows	NO
Treatment	NO
Invert El.	6918.19
Max. Depth	7
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

X coordinate of junction on study area map

SWMM Inputs

Conduit DP_S01toMH-WVC_01	
Property	Value
Name	DP_S01toMH-WVC_01
Inlet Node	DP_S01
Outlet Node	MH-WVC_01
Description	48" HERCP with single bend.
Tag	
Shape	HORIZ_ELLIPSE
Max. Depth	3.167
Length	174.5
Roughness	.013
Inlet Offset	0
Outlet Offset	.2
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	.2
Exit Loss Coeff.	1
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	48

Junction MH-WVC_01	
Property	Value
Name	MH-WVC_01
X-Coordinate	4370.836
Y-Coordinate	4288.280
Description	
Tag	
Inflows	NO
Treatment	NO
Invert El.	6916.85
Max. Depth	8.15
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit 35	
Property	Value
Name	35
Inlet Node	MH-WVC_01
Outlet Node	DP_S02
Description	
Tag	
Shape	HORIZ_ELLIPSE
Max. Depth	3.167
Length	69.93
Roughness	.013
Inlet Offset	0
Outlet Offset	.3
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	.2
Exit Loss Coeff.	1
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	48

Junction Inlet_C1-2	
Property	Value
Name	Inlet_C1-2
X-Coordinate	4531.825
Y-Coordinate	4367.890
Description	
Tag	
Inflows	NO
Treatment	NO
Invert El.	6921.18
Max. Depth	6.45
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit C_1-2_C_1-4

Property	Value
Name	C_1-2_C_1-4
Inlet Node	Inlet_C1-2
Outlet Node	Inlet_C1-4
Description	
Tag	
Shape	CIRCULAR
Max. Depth	2
Length	21.8
Roughness	.013
Inlet Offset	0
Outlet Offset	.5
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0
Exit Loss Coeff.	0
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction Inlet_C1-3

Property	Value
Name	Inlet_C1-3
X-Coordinate	4956.409
Y-Coordinate	4348.430
Description	
Tag	
Inflows	NO
Treatment	NO
Invert El.	6922.19
Max. Depth	8.44
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit C1-3_C1-4	
Property	Value
Name	C1-3_C1-4
Inlet Node	Inlet_C1-3
Outlet Node	Inlet_C1-4
Description	
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	134.3
Roughness	.013
Inlet Offset	0
Outlet Offset	.5
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0
Exit Loss Coeff.	0
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction Inlet_C1-4	
Property	Value
Name	Inlet_C1-4
X-Coordinate	4542.439
Y-Coordinate	4288.280
Description	
Tag	
Inflows	NO
Treatment	NO
Invert El.	6920.35
Max. Depth	7.3
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit C1-4_CH2	
Property	Value
Name	C1-4_CH2
Inlet Node	Inlet_C1-4
Outlet Node	Inlet_CH2
Description	
Tag	
Shape	CIRCULAR
Max. Depth	2
Length	38.3
Roughness	.013
Inlet Offset	0
Outlet Offset	.5
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0
Exit Loss Coeff.	0
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction Inlet_CH2	
Property	Value
Name	Inlet_CH2
X-Coordinate	4537.132
Y-Coordinate	4182.134
Description	S2
Tag	
Inflows	NO
Treatment	NO
Invert El.	6919.18
Max. Depth	8.2
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit 28	
Property	Value
Name	28
Inlet Node	Inlet_CH2
Outlet Node	DP_S02
Description	
Tag	
Shape	CIRCULAR
Max. Depth	2.5
Length	21.85
Roughness	0.013
Inlet Offset	0
Outlet Offset	1.41
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	.2
Exit Loss Coeff.	1
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	48

Junction Inlet_H2-3	
Property	Value
Name	Inlet_H2-3
X-Coordinate	5099.706
Y-Coordinate	4137.907
Description	
Tag	
Inflows	NO
Treatment	NO
Invert El.	6920.90
Max. Depth	8.91
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit H2-3_H2-2	
Property	Value
Name	H2-3_H2-2
Inlet Node	Inlet_H2-3
Outlet Node	Inlet_H2-2_DPCH1
Description	
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	125.6
Roughness	.013
Inlet Offset	0
Outlet Offset	.5
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0
Exit Loss Coeff.	0
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction Inlet_H2-5	
Property	Value
Name	Inlet_H2-5
X-Coordinate	4703.427
Y-Coordinate	3430.266
Description	
Tag	
Inflows	NO
Treatment	NO
Invert El.	6922.51
Max. Depth	3.21
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit 36

Property	Value
Name	36
Inlet Node	Inlet_H2-5
Outlet Node	Inlet_H2-2_DPCH1
Description	
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	185.6
Roughness	.013
Inlet Offset	0
Outlet Offset	0.5
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0
Exit Loss Coeff.	0
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction Inlet_H2-2_DPCH1

Property	Value
Name	Inlet_H2-2_DPCH1
X-Coordinate	4701.658
Y-Coordinate	4049.452
Description	
Tag	
Inflows	NO
Treatment	NO
Invert El.	6919.34
Max. Depth	8.01
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit Ch1_CH2	
Property	Value
Name	Ch1_CH2
Inlet Node	Inlet_H2-2_DPCH1
Outlet Node	DP_S02
Description	
Tag	
Shape	CIRCULAR
Max. Depth	2
Length	60.68
Roughness	.013
Inlet Offset	0
Outlet Offset	1.91
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0
Exit Loss Coeff.	0
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction DP_S02	
Property	Value
Name	DP_S02
X-Coordinate	4522.979
Y-Coordinate	4088.372
Description	
Tag	
Inflows	NO
Treatment	NO
Invert El.	6916.33
Max. Depth	8.89
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit 31	
Property	Value
Name	31
Inlet Node	DP_S02
Outlet Node	Pond_CH
Description	
Tag	
Shape	HORIZ_ELLIPSE
Max. Depth	3.167
Length	23.9
Roughness	0.013
Inlet Offset	0
Outlet Offset	2.16
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	.2
Exit Loss Coeff.	1
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	48

Junction Inlet_H2-4	
Property	Value
Name	Inlet_H2-4
X-Coordinate	5083.784
Y-Coordinate	3531.105
Description	
Tag	
Inflows	NO
Treatment	NO
Invert El.	6921.62
Max. Depth	5.2
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit H2-4_CH4

Property	Value
Name	H2-4_CH4
Inlet Node	Inlet_H2-4
Outlet Node	Inlet_H2-6_DPCH4
Description	
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	85.1
Roughness	.013
Inlet Offset	0
Outlet Offset	.3
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0
Exit Loss Coeff.	0
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction Inlet_H2-6_DPCH4

Property	Value
Name	Inlet_H2-6_DPCH4
X-Coordinate	5244.773
Y-Coordinate	3292.276
Description	
Tag	
Inflows	NO
Treatment	NO
Invert El.	6918.77
Max. Depth	6.61
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit CH4_CH5	
Property	Value
Name	CH4_CH5
Inlet Node	Inlet_H2-6_DPCH4
Outlet Node	Inlet_H2-7_DPCH5
Description	
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	76.7
Roughness	.013
Inlet Offset	0
Outlet Offset	.5
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0
Exit Loss Coeff.	0
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction Inlet_H2-7_DPCH5	
Property	Value
Name	Inlet_H2-7_DPCH5
X-Coordinate	5334.997
Y-Coordinate	3058.754
Description	
Tag	
Inflows	NO
Treatment	NO
Invert El.	6916.54
Max. Depth	3.75
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit CH5_H2-9	
Property	Value
Name	CH5_H2-9
Inlet Node	Inlet_H2-7_DPCH5
Outlet Node	Inlet_H2-9
Description	
Tag	
Shape	CIRCULAR
Max. Depth	2
Length	20.5
Roughness	.013
Inlet Offset	0
Outlet Offset	.3
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0
Exit Loss Coeff.	0
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction Inlet_H2-9	
Property	Value
Name	Inlet_H2-9
X-Coordinate	5273.078
Y-Coordinate	3033.987
Description	
Tag	
Inflows	NO
Treatment	NO
Invert El.	6915.93
Max. Depth	3.93
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit H2-9_H2-8	
Property	Value
Name	H2-9_H2-8
Inlet Node	Inlet_H2-9
Outlet Node	Inlet_H2-8
Description	
Tag	
Shape	CIRCULAR
Max. Depth	2
Length	35.3
Roughness	.013
Inlet Offset	0
Outlet Offset	.3
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0
Exit Loss Coeff.	0
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction Inlet_H2-8	
Property	Value
Name	Inlet_H2-8
X-Coordinate	5175.778
Y-Coordinate	2989.759
Description	
Tag	
Inflows	NO
Treatment	NO
Invert El.	6915.28
Max. Depth	4.71
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit H2-8_Pond_CH	
Property	Value
Name	H2-8_Pond_CH
Inlet Node	Inlet_H2-8
Outlet Node	Pond_CH
Description	
Tag	
Shape	CIRCULAR
Max. Depth	2
Length	42.5
Roughness	.013
Inlet Offset	0
Outlet Offset	0.77
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0
Exit Loss Coeff.	0
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Storage Unit Pond_CH	
Property	Value
Name	Pond_CH
X-Coordinate	4977.638
Y-Coordinate	2977.376
Description	S3
Tag	
Inflows	NO
Treatment	NO
Invert El.	6914.09
Max. Depth	7
Initial Depth	0
Surcharge Depth	0
Evap. Factor	0
Seepage Loss	NO
Storage Curve	TABULAR
Functional Curve	
Coefficient	1000
Exponent	0
Constant	0
Tabular Curve	
Curve Name	Pond_CH(20190722)

Storage Curve Editor

Curve Name

Pond_CH(20190722)

Description

	Depth (ft)	Area (ft2)
1	0	170
2	.5	685
3	1	1677
4	1.5	3786
5	2	6746
6	2.5	10691
7	3	14759
8	3.5	20284
9	4	27145
10	4.5	34119
11	5	38096

Curve Name

Pond_CH(20190722)

Description

	Depth (ft)	Area (ft2)
7	3	14759
8	3.5	20284
9	4	27145
10	4.5	34119
11	5	38096
12	5.5	40273
13	6	42549
14	6.5	42549
15	7	46995
16	7.5	49253
17	8	51388

Orifice ch_0

Property	Value
Name	ch_0
Inlet Node	Pond_CH
Outlet Node	DP_S04
Description	
Tag	
Type	SIDE
Shape	CIRCULAR
Height	.1958
Width	0
Inlet Offset	0
Discharge Coeff	0.65
Flap Gate	NO
Time to Open/C	0

Orifice 8

Property	Value
Name	8
Inlet Node	Pond_CH
Outlet Node	DP_S04
Description	
Tag	
Type	SIDE
Shape	RECT_CLOSED
Height	1.33
Width	.333
Inlet Offset	2.42
Discharge Coeff	0.65
Flap Gate	NO
Time to Open/C	0

Orifice CH_Weir

Property	Value
Name	CH_Weir
Inlet Node	Pond_CH
Outlet Node	DP_S04
Description	
Tag	
Type	BOTTOM
Shape	RECT_CLOSED
Height	4
Width	4
Inlet Offset	6
Discharge Coeff.	0.65
Flap Gate	NO
Time to Open/Close	0

Weir 3

Property	Value
Name	3
Inlet Node	Pond_CH
Outlet Node	DP_S04
Description	
Tag	
Type	TRANSVERSE
Height	2.5
Length	35
Side Slope	3
Inlet Offset	6.91
Discharge Coeff.	3.33
Flap Gate	NO
End Contractions	0
End Coeff.	0
Can Surcharge	YES
Coeff. Curve	
Roadway Weir	
Road Width	0
Road Surface	PAVED

Junction DP_S04

Property	Value
Name	DP_S04
X-Coordinate	6039.628
Y-Coordinate	2774.102
Description	S4
Tag	
Inflows	NO
Treatment	NO
Invert El.	6913.55
Max. Depth	5.99
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

X coordinate of junction on study area map

Conduit PR_01

Property	Value
Name	PR_01
Inlet Node	DP_S04
Outlet Node	DP_S05
Description	
Tag	
Shape	CIRCULAR
Max. Depth	3
Length	32
Roughness	.013
Inlet Offset	0
Outlet Offset	.3
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff	.2
Exit Loss Coeff.	1
Avg. Loss Coeff.	0
Seepage Loss Ra	0
Flap Gate	NO
Culvert Code	48

Junction DP_S05

Property	Value
Name	DP_S05
X-Coordinate	6084.140
Y-Coordinate	2548.465
Description	S5
Tag	
Inflows	NO
Treatment	NO
Invert El.	6912.96
Max. Depth	6.56
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

X coordinate of junction on study area map

Conduit PR_02

Property	Value
Name	PR_02
Inlet Node	DP_S05
Outlet Node	MH4-A
Description	
Tag	
Shape	CIRCULAR
Max. Depth	3
Length	23
Roughness	.013
Inlet Offset	0
Outlet Offset	.3
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff	.2
Exit Loss Coeff.	1
Avg. Loss Coeff.	0
Seepage Loss Ra	0
Flap Gate	NO
Culvert Code	48

Junction MH4-A

Property	Value
Name	MH4-A
X-Coordinate	6095.842
Y-Coordinate	2488.715
Description	
Tag	
Inflows	NO
Treatment	NO
Invert El.	6912.43
Max. Depth	6.21
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

X coordinate of junction on study area map

Conduit 33

Property	Value
Name	33
Inlet Node	MH4-A
Outlet Node	DP_S06
Description	
Tag	
Shape	CIRCULAR
Max. Depth	3
Length	101
Roughness	.013
Inlet Offset	0
Outlet Offset	.5
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff	.2
Exit Loss Coeff.	1
Avg. Loss Coeff.	0
Seepage Loss Ra	0
Flap Gate	NO
Culvert Code	48

Junction J_G2

Property	Value
Name	J_G2
X-Coordinate	6049.752
Y-Coordinate	2200.546
Description	
Tag	
Inflows	NO
Treatment	NO
Invert El.	6914.470
Max. Depth	0
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

X coordinate of junction on study area map

Conduit PR_03

Property	Value
Name	PR_03
Inlet Node	J_G2
Outlet Node	DP_S06
Description	
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	40
Roughness	.013
Inlet Offset	0
Outlet Offset	2
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0
Exit Loss Coeff.	0
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	0

Name of node on the inlet end of conduit

Junction DP_S06

Property	Value
Name	DP_S06
X-Coordinate	6221.999
Y-Coordinate	2224.304
Description	S6
Tag	
Inflows	NO
Treatment	NO
Invert El.	6911.41
Max. Depth	6.16
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

X coordinate of junction on study area map

Conduit PR_04

Property	Value
Name	PR_04
Inlet Node	DP_S06
Outlet Node	MH-MulberryWD_02
Description	
Tag	
Shape	CIRCULAR
Max. Depth	3.5
Length	75
Roughness	.013
Inlet Offset	0
Outlet Offset	.2
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff	.2
Exit Loss Coeff.	1
Avg. Loss Coeff.	0
Seepage Loss Ra	0
Flap Gate	NO
Culvert Code	48

Junction MH-MulberryWD_02

Property	Value
Name	MH-MulberryWD_02
X-Coordinate	6302.230
Y-Coordinate	1930.615
Description	
Tag	
Inflows	NO
Treatment	NO
Invert El.	6910.21
Max. Depth	6.72
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

X coordinate of junction on study area map

Conduit PR_04A

Property	Value
Name	PR_04A
Inlet Node	MH-MulberryWD_02
Outlet Node	MH4-C
Description	
Tag	
Shape	CIRCULAR
Max. Depth	3.5
Length	113
Roughness	.013
Inlet Offset	0
Outlet Offset	.3
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	.2
Exit Loss Coeff.	1
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	48

Name of node on the inlet end of conduit

Junction MH4-C

Property	Value
Name	MH4-C
X-Coordinate	6308.023
Y-Coordinate	1723.186
Description	
Tag	
Inflows	NO
Treatment	NO
Invert El.	6908.96
Max. Depth	7.39
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

X coordinate of junction on study area map

Conduit 34

Property	Value
Name	34
Inlet Node	MH4-C
Outlet Node	DP_S07
Description	
Tag	
Shape	CIRCULAR
Max. Depth	3.5
Length	26
Roughness	.013
Inlet Offset	0
Outlet Offset	.3
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff	.2
Exit Loss Coeff.	1
Avg. Loss Coeff.	0
Seepage Loss Ra	0
Flap Gate	NO
Culvert Code	48

Junction DP_S07

Property	Value
Name	DP_S07
X-Coordinate	6305.152
Y-Coordinate	1683.806
Description	S7
Tag	
Inflows	NO
Treatment	NO
Invert El.	6908.44
Max. Depth	7.25
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

X coordinate of junction on study area map

Conduit PR_05

Property	Value
Name	PR_05
Inlet Node	DP_S07
Outlet Node	DP_S08
Description	
Tag	
Shape	CIRCULAR
Max. Depth	4
Length	32
Roughness	.013
Inlet Offset	0
Outlet Offset	.5
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	.2
Exit Loss Coeff.	1
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	48

Name of node on the inlet end of conduit

Junction DP_S08

Property	Value
Name	DP_S08
X-Coordinate	6043.796
Y-Coordinate	1686.942
Description	S8
Tag	
Inflows	NO
Treatment	NO
Invert El.	6907.3
Max. Depth	8.21
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

X coordinate of junction on study area map

Conduit PR_05a

Property	Value
Name	PR_05a
Inlet Node	DP_S08
Outlet Node	MH-MulberryWD_01
Description	
Tag	
Shape	CIRCULAR
Max. Depth	48
Length	51
Roughness	.013
Inlet Offset	0
Outlet Offset	.3
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0
Exit Loss Coeff.	0
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Name of node on the inlet end of conduit

Junction MH-MulberryWD_01

Property	Value
Name	MH-MulberryWD_01
X-Coordinate	5918.875
Y-Coordinate	1555.504
Description	
Tag	
Inflows	NO
Treatment	NO
Invert El.	6906.42
Max. Depth	11.05
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

X coordinate of junction on study area map

Conduit PR_06

Property	Value
Name	PR_06
Inlet Node	MH-MulberryWD_01
Outlet Node	Pond_14
Description	
Tag	
Shape	CIRCULAR
Max. Depth	4
Length	447
Roughness	0.01
Inlet Offset	0
Outlet Offset	3.08
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	.2
Exit Loss Coeff.	1
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	48

Name of node on the inlet end of conduit

Junction J_G3

Property	Value
Name	J_G3
X-Coordinate	5022.212
Y-Coordinate	2072.846
Description	
Tag	
Inflows	NO
Treatment	NO
Invert El.	6908.18
Max. Depth	4.61
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

X coordinate of junction on study area map

Junction J_G7

Property	Value
Name	J_G7
X-Coordinate	4343.924
Y-Coordinate	2362.548
Description	
Tag	
Inflows	NO
Treatment	NO
Invert El.	6902.76
Max. Depth	6
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

User-assigned name of junction

Conduit PR_09

Property	Value
Name	PR_09
Inlet Node	J_G7
Outlet Node	DP_S10
Description	
Tag	
Shape	CIRCULAR
Max. Depth	3
Length	30
Roughness	.013
Inlet Offset	0
Outlet Offset	.38
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	.2
Exit Loss Coeff.	1
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	48

User-assigned name of Conduit

Junction DP_S10

Property	Value
Name	DP_S10
X-Coordinate	4259.530
Y-Coordinate	2147.607
Description	S10
Tag	
Inflows	NO
Treatment	NO
Invert El.	6902.08
Max. Depth	6.72
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

User-assigned name of junction

Conduit PR_10

Property	Value
Name	PR_10
Inlet Node	DP_S10
Outlet Node	Pond_14
Description	
Tag	
Shape	CIRCULAR
Max. Depth	3.5
Length	56
Roughness	.013
Inlet Offset	0
Outlet Offset	3.28
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0
Exit Loss Coeff.	0
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	0

User-assigned name of Conduit

Storage Unit Pond_14

Property	Value
Name	Pond_14
X-Coordinate	4289.393
Y-Coordinate	1763.627
Description	S11
Tag	
Inflows	NO
Treatment	NO
Invert El.	6898
Max. Depth	11.5
Initial Depth	0
Surcharge Depth	0
Evap. Factor	0
Seepage Loss	NO
Storage Curve	TABULAR
Functional Curve	
Coefficient	1000
Exponent	0
Constant	0
Tabular Curve	
Curve Name	Pond14_Full_Tract

User-assigned name of storage unit

Orifice Out_14-1

Property	Value
Name	Out_14-1
Inlet Node	Pond_14
Outlet Node	DP_S11
Description	WQCV DRAIN
Tag	
Type	SIDE
Shape	CIRCULAR
Height	.1666
Width	0
Inlet Offset	2.5
Discharge Coeff.	0.65
Flap Gate	NO
Time to Open/Clos	0

User-assigned name of orifice

Orifice Out_14-2

Property	Value
Name	Out_14-2
Inlet Node	Pond_14
Outlet Node	DP_S11
Description	WQCV DRAIN
Tag	
Type	SIDE
Shape	CIRCULAR
Height	.1958
Width	0
Inlet Offset	3.25
Discharge Coeff.	0.65
Flap Gate	NO
Time to Open/Clos	0

User-assigned name of orifice

Orifice Out_14-3

Property	Value
Name	Out_14-3
Inlet Node	Pond_14
Outlet Node	DP_S11
Description	WQCV DRAIN
Tag	
Type	SIDE
Shape	CIRCULAR
Height	.1958
Width	0
Inlet Offset	4
Discharge Coeff.	0.65
Flap Gate	NO
Time to Open/Clos	0

User-assigned name of orifice

Orifice Out_14-4

Property	Value
Name	Out_14-4
Inlet Node	Pond_14
Outlet Node	DP_S11
Description	
Tag	
Type	SIDE
Shape	RECT_CLOSED
Height	.3
Width	1.333
Inlet Offset	4.26
Discharge Coeff.	0.65
Flap Gate	NO
Time to Open/Clos	0

User-assigned name of orifice

Orifice 16

Property	Value
Name	16
Inlet Node	Pond_14
Outlet Node	DP_S11
Description	
Tag	
Type	SIDE
Shape	CIRCULAR
Height	.08333
Width	0
Inlet Offset	5.75
Discharge Coeff.	0.65
Flap Gate	NO
Time to Open/Clos	0

User-assigned name of orifice

Orifice Weir_14-1

Property	Value
Name	Weir_14-1
Inlet Node	Pond_14
Outlet Node	DP_S11
Description	OVERFLOW WEIR 3'x3
Tag	
Type	BOTTOM
Shape	RECT_CLOSED
Height	1.77
Width	1.77
Inlet Offset	8.37
Discharge Coeff.	0.65
Flap Gate	NO
Time to Open/Clos	0

User-assigned name of orifice

Weir Weir_14-2

Property	Value
Name	Weir_14-2
Inlet Node	Pond_14
Outlet Node	DP_S11
Description	EMERGENCY OVERFLOW
Tag	
Type	TRANSVERSE
Height	2
Length	20
Side Slope	3
Inlet Offset	10.5
Discharge Coeff.	3.33
Flap Gate	NO
End Contractions	0
End Coeff.	0
Can Surcharge	YES
Coeff. Curve	
Roadway Weir	
Road Width	0
Road Surface	PAVED

User-assigned name of weir

Junction DP_S11

Property	Value
Name	DP_S11
X-Coordinate	4181.671
Y-Coordinate	1472.830
Description	
Tag	
Inflows	NO
Treatment	NO
Invert El.	6897.5
Max. Depth	0
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

User-assigned name of junction

Conduit PR_13

Property	Value
Name	PR_13
Inlet Node	DP_S11
Outlet Node	SouthOutfall
Description	
Tag	
Shape	CIRCULAR
Max. Depth	3
Length	43
Roughness	0.01
Inlet Offset	0
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	.2
Exit Loss Coeff.	1
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	48

User-assigned name of Conduit

Outfall SouthOutfall

Property	Value
Name	SouthOutfall
X-Coordinate	4097.324
Y-Coordinate	1394.972
Description	
Tag	
Inflows	NO
Treatment	NO
Invert El.	6895.53
Tide Gate	NO
Route To	
Type	FREE
Fixed Outfall	
Fixed Stage	0
Tidal Outfall	
Curve Name	*
Time Series Outfall	
Series Name	*

User-assigned name of outfall

Storage Curve Editor

Curve Name

Pond14_Full_Tract

Description

Pond stage storage per 01-18-2019 submitted adde

	Depth (ft)	Area (ft2)
2	1	53
3	2	135
4	3	2950
5	4	13133
6	5	15605
7	6	18060
8	7	20598
9	8	23184
10	9	24970
11	10	26826
12	11	28875

View...

Load...

Save...

OK

Cancel

Help

Rain Gage RG_SM

Name	RG_SM
X-Coordinate	524.698
Y-Coordinate	9377.342
Description	
Tag	
Rain Format	CUMULATIVE
Time Interval	0:05
Snow Catch Factor	1.0
Data Source	TIMESERIES

SWMM Model 2-Hour Storm Inputs										
	1-Hour Depth	0.43	1.07	1.19	1.50	1.75	2.00	2.25	2.52	3.14
CO Springs Multiplier	time	WQCV	EURV	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	500 Year
0	0	0	0	0	0	0	0	0	0	0
0.014	0:05	0.006	0.015	0.017	0.021	0.025	0.028	0.032	0.035	0.044
0.046	0:10	0.020	0.049	0.055	0.069	0.081	0.092	0.104	0.116	0.144
0.079	0:15	0.034	0.085	0.094	0.119	0.138	0.158	0.178	0.199	0.248
0.12	0:20	0.052	0.128	0.143	0.180	0.210	0.240	0.270	0.302	0.377
0.179	0:25	0.077	0.192	0.213	0.269	0.313	0.358	0.403	0.451	0.562
0.258	0:30	0.111	0.276	0.307	0.387	0.452	0.516	0.581	0.650	0.810
0.421	0:35	0.181	0.450	0.501	0.632	0.737	0.842	0.947	1.061	1.322
0.712	0:40	0.306	0.762	0.847	1.068	1.246	1.424	1.602	1.794	2.236
0.824	0:45	0.354	0.882	0.981	1.236	1.442	1.648	1.854	2.076	2.587
0.892	0:50	0.384	0.954	1.061	1.338	1.561	1.784	2.007	2.248	2.801
0.935	0:55	0.402	1.000	1.113	1.403	1.636	1.870	2.104	2.356	2.936
0.972	1:00	0.418	1.040	1.157	1.458	1.701	1.944	2.187	2.449	3.052
1.004	1:05	0.432	1.074	1.195	1.506	1.757	2.008	2.259	2.530	3.153
1.018	1:10	0.438	1.089	1.211	1.527	1.782	2.036	2.291	2.565	3.197
1.03	1:15	0.443	1.102	1.226	1.545	1.803	2.060	2.318	2.596	3.234
1.041	1:20	0.448	1.114	1.239	1.562	1.822	2.082	2.342	2.623	3.269
1.052	1:25	0.452	1.126	1.252	1.578	1.841	2.104	2.367	2.651	3.303
1.063	1:30	0.457	1.137	1.265	1.595	1.860	2.126	2.392	2.679	3.338
1.072	1:35	0.461	1.147	1.276	1.608	1.876	2.144	2.412	2.701	3.366
1.082	1:40	0.465	1.158	1.288	1.623	1.894	2.164	2.435	2.727	3.397
1.091	1:45	0.469	1.167	1.298	1.637	1.909	2.182	2.455	2.749	3.426
1.1	1:50	0.473	1.177	1.309	1.650	1.925	2.200	2.475	2.772	3.454
1.109	1:55	0.477	1.187	1.320	1.664	1.941	2.218	2.495	2.795	3.482
1.119	2:00	0.481	1.197	1.332	1.679	1.958	2.238	2.518	2.820	3.514

Pre-Development
2-Year Storm

Topic: Subcatchment Runoff Click a column header to sort the column.

Subcatchment	Total Precip in	Total Runon in	Total Evap in	Total Infil in	Imperv Runoff in	Perv Runoff in	Total Runoff in	Total Runoff 10^6 gal	Peak Runoff CFS	Runoff Coeff
EX2	1.29	0.00	0.00	1.24	0.02	0.03	0.05	0.02	2.28	0.039
MS_East	1.29	0.00	0.00	0.00	1.25	0.00	1.25	0.09	5.93	0.969
EX1	1.29	0.00	0.00	1.24	0.02	0.02	0.04	0.04	4.44	0.032

Topic: Node Inflow Click a column header to sort the column.

Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Day of Maximum Inflow	Hour of Maximum Inflow	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal	Flow Balance Error Percent
EX_Outfall_1	OUTFALL	0.00	10.36	0	00:45	0	0.125	0.000
EX_Outfall_2	OUTFALL	0.00	2.02	0	00:45	0	0.0196	0.000
J_EX1	JUNCTION	4.44	4.44	0	00:45	0.0384	0.0384	-0.000
J_EX1A	JUNCTION	5.93	10.36	0	00:45	0.0867	0.125	-0.002
J_EX2	JUNCTION	2.28	2.28	0	00:45	0.0196	0.0196	-0.020

Topic: Node Depth Click a column header to sort the column.

Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Day of Maximum Depth	Hour of Maximum Depth	Maximum Reported Depth Feet
EX_Outfall_1	OUTFALL	0.05	0.66	6891.07	0	00:45	0.65
EX_Outfall_2	OUTFALL	0.02	0.37	0.37	0	00:45	0.37
J_EX1	JUNCTION	0.03	0.58	6891.79	0	00:45	0.58
J_EX1A	JUNCTION	0.07	0.69	6891.74	0	00:45	0.69
J_EX2	JUNCTION	0.07	0.78	0.78	0	00:45	0.77

Topic: Link Flow Click a column header to sort the column.

Link	Type	Maximum |Flow| CFS	Day of Maximum Flow	Hour of Maximum Flow	Maximum |Velocity| ft/sec	Max / Full Flow	Max / Full Depth
C_1	CONDUIT	4.43	0	00:45	3.45	0.03	0.16
C_2	CONDUIT	2.02	0	00:45	2.16	0.03	0.19
C_3	CONDUIT	10.36	0	00:45	5.77	0.08	0.21

Topic: Outfall Loading Click a column header to sort the column.

Outfall Node	Flow Freq. Pcnt.	Avg. Flow CFS	Max. Flow CFS	Total Volume 10^6 gal
EX_Outfall_1	98.93	0.39	10.36	0.125
EX_Outfall_2	25.88	0.23	2.02	0.020

Pre-Development
5-Year Storm

Topic: Subcatchment Runoff Click a column header to sort the column.

Subcatchment	Total Precip in	Total Runon in	Total Evap in	Total Infil in	Imperv Runoff in	Perv Runoff in	Total Runoff in	Total Runoff 10^6 gal	Peak Runoff CFS	Runoff Coeff
EX1	1.66	0.00	0.00	1.55	0.03	0.07	0.11	0.10	8.05	0.064
EX2	1.66	0.00	0.00	1.52	0.03	0.11	0.14	0.05	4.46	0.083
MS_East	1.66	0.00	0.00	0.00	1.62	0.00	1.62	0.11	8.28	0.976

Topic: Node Inflow Click a column header to sort the column.

Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Day of Maximum Inflow	Hour of Maximum Inflow	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal	Flow Balance Error Percent
EX_Outfall_1	OUTFALL	0.00	16.38	0	00:45	0	0.211	0.000
EX_Outfall_2	OUTFALL	0.00	4.24	0	00:46	0	0.0538	0.000
J_EX1	JUNCTION	8.05	8.05	0	00:45	0.0985	0.0985	-0.001
J_EX1A	JUNCTION	8.28	16.32	0	00:45	0.112	0.211	-0.002
J_EX2	JUNCTION	4.46	4.46	0	00:45	0.0538	0.0538	-0.018

Topic: Node Depth Click a column header to sort the column.

Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Day of Maximum Depth	Hour of Maximum Depth	Maximum Reported Depth Feet
J_EX1	JUNCTION	0.05	0.78	6891.99	0	00:45	0.78
J_EX2	JUNCTION	0.09	1.02	1.02	0	00:45	1.01
J_EX1A	JUNCTION	0.08	0.87	6891.92	0	00:45	0.86
EX_Outfall_1	OUTFALL	0.06	0.82	6891.23	0	00:45	0.81
EX_Outfall_2	OUTFALL	0.03	0.53	0.53	0	00:46	0.53

Topic: Link Flow Click a column header to sort the column.

Link	Type	Maximum |Flow| CFS	Day of Maximum Flow	Hour of Maximum Flow	Maximum |Velocity| ft/sec	Max / Full Flow	Max / Full Depth
C_1	CONDUIT	8.06	0	00:45	4.38	0.06	0.21
C_2	CONDUIT	4.24	0	00:46	2.99	0.07	0.26
C_3	CONDUIT	16.38	0	00:45	6.78	0.12	0.27

Topic: Outfall Loading Click a column header to sort the column.

Outfall Node	Flow Freq. Pcnt.	Avg. Flow CFS	Max. Flow CFS	Total Volume 10^6 gal
EX_Outfall_1	99.00	0.66	16.38	0.211
EX_Outfall_2	26.31	0.63	4.24	0.054

Pre-Development 10-Year Storm

Topic: Subcatchment Runoff Click a column header to sort the column.

Subcatchment	Total Precip in	Total Runon in	Total Evap in	Total Infil in	Imperv Runoff in	Perv Runoff in	Total Runoff in	Total Runoff 10^6 gal	Peak Runoff CFS	Runoff Coeff
EX1	1.99	0.00	0.00	1.79	0.04	0.17	0.21	0.19	12.16	0.103
EX2	1.99	0.00	0.00	1.73	0.04	0.22	0.26	0.10	6.98	0.132
MS_East	1.99	0.00	0.00	0.00	1.95	0.00	1.95	0.14	10.51	0.980

Topic: Node Inflow Click a column header to sort the column.

Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Day of Maximum Inflow	Hour of Maximum Inflow	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal	Flow Balance Error Percent
EX_Outfall_1	OUTFALL	0.00	22.79	0	00:45	0	0.326	0.000
EX_Outfall_2	OUTFALL	0.00	6.93	0	00:50	0	0.103	0.000
J_EX1	JUNCTION	12.16	12.16	0	00:45	0.19	0.19	0.000
J_EX1A	JUNCTION	10.51	22.67	0	00:45	0.136	0.326	-0.002
J_EX2	JUNCTION	6.98	6.98	0	00:45	0.103	0.103	-0.015

Topic: Node Depth Click a column header to sort the column.

Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Day of Maximum Depth	Hour of Maximum Depth	Maximum Reported Depth Feet
EX_Outfall_1	OUTFALL	0.08	0.96	6891.37	0	00:45	0.95
EX_Outfall_2	OUTFALL	0.05	0.68	0.68	0	00:50	0.68
J_EX1	JUNCTION	0.06	0.94	6892.15	0	00:45	0.93
J_EX1A	JUNCTION	0.10	1.02	6892.07	0	00:45	1.01
J_EX2	JUNCTION	0.11	1.23	1.23	0	00:45	1.21

Topic: Link Flow Click a column header to sort the column.

Link	Type	Maximum |Flow| CFS	Day of Maximum Flow	Hour of Maximum Flow	Maximum |Velocity| ft/sec	Max / Full Flow	Max / Full Depth
C_1	CONDUIT	12.18	0	00:45	5.67	0.08	0.24
C_2	CONDUIT	6.93	0	00:50	3.68	0.11	0.32
C_3	CONDUIT	22.79	0	00:45	7.51	0.17	0.31

Topic: Outfall Loading Click a column header to sort the column.

Outfall Node	Flow Freq. Pcnt.	Avg. Flow CFS	Max. Flow CFS	Total Volume 10^6 gal
EX_Outfall_1	99.04	1.02	22.79	0.326
EX_Outfall_2	26.59	1.20	6.93	0.103

Pre-Development
25-Year Storm

Topic: Subcatchment Runoff Click a column header to sort the column.

Subcatchment	Total Precip in	Total Runon in	Total Evap in	Total Infil in	Imperv Runoff in	Perv Runoff in	Total Runoff in	Total Runoff 10^6 gal	Peak Runoff CFS	Runoff Coeff
EX1	2.54	0.00	0.00	2.09	0.05	0.40	0.45	0.42	21.56	0.179
EX2	2.54	0.00	0.00	1.98	0.05	0.51	0.56	0.22	13.06	0.220
MS_East	2.54	0.00	0.00	0.00	2.50	0.00	2.50	0.17	14.27	0.984

Topic: Node Inflow Click a column header to sort the column.

Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Day of Maximum Inflow	Hour of Maximum Inflow	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal	Flow Balance Error Percent
EX_Outfall_1	OUTFALL	0.00	35.70	0	00:45	0	0.593	0.000
EX_Outfall_2	OUTFALL	0.00	13.11	0	00:50	0	0.219	0.000
J_EX1	JUNCTION	21.56	21.56	0	00:50	0.419	0.419	0.000
J_EX1A	JUNCTION	14.27	35.42	0	00:45	0.174	0.593	-0.001
J_EX2	JUNCTION	13.06	13.06	0	00:50	0.219	0.219	-0.011

Topic: Node Depth Click a column header to sort the column.

Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Day of Maximum Depth	Hour of Maximum Depth	Maximum Reported Depth Feet
EX_Outfall_1	OUTFALL	0.11	1.18	6891.59	0	00:45	1.16
EX_Outfall_2	OUTFALL	0.07	0.94	0.94	0	00:50	0.94
J_EX1	JUNCTION	0.10	1.18	6892.39	0	00:45	1.18
J_EX1A	JUNCTION	0.13	1.25	6892.30	0	00:45	1.24
J_EX2	JUNCTION	0.15	1.56	1.56	0	00:45	1.55

Topic: Link Flow Click a column header to sort the column.

Link	Type	Maximum |Flow| CFS	Day of Maximum Flow	Hour of Maximum Flow	Maximum |Velocity| ft/sec	Max / Full Flow	Max / Full Depth
C_1	CONDUIT	21.57	0	00:50	7.59	0.15	0.30
C_2	CONDUIT	13.11	0	00:50	4.77	0.21	0.42
C_3	CONDUIT	35.70	0	00:45	8.62	0.27	0.38

Topic: Outfall Loading Click a column header to sort the column.

Outfall Node	Flow Freq. Pcnt.	Avg. Flow CFS	Max. Flow CFS	Total Volume 10^6 gal
EX_Outfall_1	99.09	1.87	35.70	0.593
EX_Outfall_2	27.27	2.51	13.11	0.219

Pre-Development 50-Year Storm

Topic: Subcatchment Runoff Click a column header to sort the column.

Subcatchment	Total Precip in	Total Runon in	Total Evap in	Total Infil in	Imperv Runoff in	Perv Runoff in	Total Runoff in	Total Runoff 10^6 gal	Peak Runoff CFS	Runoff Coeff
EX1	3.01	0.00	0.00	2.28	0.06	0.67	0.73	0.67	32.19	0.243
EX2	3.01	0.00	0.00	2.14	0.06	0.81	0.87	0.34	19.38	0.290
MS_East	3.01	0.00	0.00	0.00	2.97	0.00	2.97	0.21	17.58	0.987

Topic: Node Inflow Click a column header to sort the column.

Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Day of Maximum Inflow	Hour of Maximum Inflow	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal	Flow Balance Error Percent
EX_Outfall_1	OUTFALL	0.00	48.79	0	00:45	0	0.881	0.000
EX_Outfall_2	OUTFALL	0.00	19.46	0	00:50	0	0.341	0.000
J_EX1	JUNCTION	32.19	32.19	0	00:50	0.675	0.675	0.003
J_EX1A	JUNCTION	17.58	48.37	0	00:45	0.206	0.881	-0.004
J_EX2	JUNCTION	19.38	19.38	0	00:50	0.341	0.341	-0.008

Topic: Node Depth Click a column header to sort the column.

Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Day of Maximum Depth	Hour of Maximum Depth	Maximum Reported Depth Feet
EX_Outfall_1	OUTFALL	0.14	1.36	6891.77	0	00:45	1.34
EX_Outfall_2	OUTFALL	0.10	1.16	1.16	0	00:50	1.16
J_EX1	JUNCTION	0.13	1.39	6892.60	0	00:45	1.39
J_EX1A	JUNCTION	0.16	1.43	6892.48	0	00:45	1.43
J_EX2	JUNCTION	0.20	1.86	1.86	0	00:45	1.85

Topic: Link Flow Click a column header to sort the column.

Link	Type	Maximum |Flow| CFS	Day of Maximum Flow	Hour of Maximum Flow	Maximum |Velocity| ft/sec	Max / Full Flow	Max / Full Depth
C_1	CONDUIT	32.21	0	00:50	9.05	0.22	0.35
C_2	CONDUIT	19.46	0	00:50	5.53	0.32	0.50
C_3	CONDUIT	48.79	0	00:45	9.39	0.37	0.44

Topic: Outfall Loading Click a column header to sort the column.

Outfall Node	Flow Freq. Pcnt.	Avg. Flow CFS	Max. Flow CFS	Total Volume 10^6 gal
EX_Outfall_1	99.12	3.00	48.79	0.881
EX_Outfall_2	28.83	4.05	19.46	0.341

Pre-Development 100-Year Storm

Topic: Subcatchment Runoff Click a column header to sort the column.

Subcatchment	Total Precip in	Total Runon in	Total Evap in	Total Infil in	Imperv Runoff in	Perv Runoff in	Total Runoff in	Total Runoff 10^6 gal	Peak Runoff CFS	Runoff Coeff
EX1	3.51	0.00	0.00	2.44	0.07	1.00	1.07	0.99	45.30	0.305
EX2	3.51	0.00	0.00	2.27	0.07	1.17	1.24	0.49	27.03	0.354
MS_East	3.51	0.00	0.00	0.00	3.47	0.00	3.47	0.24	21.21	0.989

Topic: Node Inflow Click a column header to sort the column.

Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Day of Maximum Inflow	Hour of Maximum Inflow	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal	Flow Balance Error Percent
EX_Outfall_1	OUTFALL	0.00	64.45	0	00:45	0	1.23	0.000
EX_Outfall_2	OUTFALL	0.00	27.07	0	00:50	0	0.487	0.000
J_EX1	JUNCTION	45.30	45.30	0	00:50	0.988	0.988	0.004
J_EX1A	JUNCTION	21.21	63.95	0	00:45	0.241	1.23	-0.004
J_EX2	JUNCTION	27.03	27.03	0	00:50	0.487	0.487	-0.006

Topic: Node Depth Click a column header to sort the column.

Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Day of Maximum Depth	Hour of Maximum Depth	Maximum Reported Depth Feet
EX_Outfall_1	OUTFALL	0.18	1.55	6891.96	0	00:45	1.53
EX_Outfall_2	OUTFALL	0.13	1.40	1.40	0	00:50	1.39
J_EX1	JUNCTION	0.18	1.62	6892.83	0	00:45	1.61
J_EX1A	JUNCTION	0.20	1.65	6892.70	0	00:45	1.65
J_EX2	JUNCTION	0.24	2.21	2.21	0	00:45	2.20

Topic: Link Flow Click a column header to sort the column.

Link	Type	Maximum |Flow| CFS	Day of Maximum Flow	Hour of Maximum Flow	Maximum |Velocity| ft/sec	Max / Full Flow	Max / Full Depth
C_1	CONDUIT	45.32	0	00:50	10.31	0.32	0.41
C_2	CONDUIT	27.07	0	00:50	6.17	0.44	0.60
C_3	CONDUIT	64.45	0	00:45	10.06	0.49	0.50

Topic: Outfall Loading Click a column header to sort the column.

Outfall Node	Flow Freq. Pcnt.	Avg. Flow CFS	Max. Flow CFS	Total Volume 10^6 gal
EX_Outfall_1	99.15	4.52	64.45	1.230
EX_Outfall_2	30.49	5.94	27.07	0.487

WQCV Storm

Topic: Subcatchment Runoff Click a column header to sort the column.

Subcatchment	Total Precip in	Total Runon in	Total Evap in	Total Infil in	Imperv Runoff in	Perv Runoff in	Total Runoff in	Total Runoff 10^6 gal	Peak Runoff CFS	Runoff Coeff
B	1.04	0.00	0.00	0.52	0.50	0.00	0.50	0.13	21.06	0.483
C1-1	1.04	0.00	0.00	0.04	0.96	0.01	0.97	0.06	9.97	0.927
C1-2	1.04	0.00	0.00	0.04	0.96	0.01	0.97	0.05	7.19	0.927
C1-3	1.04	0.00	0.00	0.04	0.96	0.01	0.97	0.01	2.03	0.928
C1-4	1.04	0.00	0.00	0.05	0.95	0.00	0.96	0.01	0.45	0.920
C2	1.04	0.00	0.00	0.00	1.01	0.00	1.01	0.01	1.03	0.965
G1	1.04	0.00	0.00	0.02	0.98	0.01	0.98	0.09	14.19	0.943
G2	1.04	0.00	0.00	0.03	0.98	0.01	0.98	0.04	4.75	0.942
G3	1.04	0.00	0.00	0.04	0.96	0.01	0.97	0.02	4.28	0.928
G4	1.04	0.00	0.00	0.00	1.01	0.00	1.01	0.00	0.70	0.967
G5	1.04	0.00	0.00	0.04	0.96	0.01	0.97	0.04	6.31	0.928
G6	1.04	0.00	0.00	0.13	0.86	0.02	0.88	0.04	7.61	0.845
G7	1.04	0.00	0.00	0.00	1.01	0.00	1.01	0.01	1.80	0.965
H1	1.04	0.00	0.00	0.00	1.01	0.00	1.01	0.01	1.73	0.965
H2-1	1.04	0.00	0.00	0.95	0.07	0.02	0.09	0.00	0.85	0.083
H2-2	1.04	0.00	0.00	0.04	0.96	0.01	0.97	0.01	1.13	0.933
H2-3	1.04	0.00	0.00	0.04	0.96	0.01	0.97	0.01	2.00	0.931
H2-4	1.04	0.00	0.00	0.04	0.96	0.01	0.97	0.01	1.60	0.931
H2-5	1.04	0.00	0.00	0.04	0.96	0.01	0.97	0.01	1.81	0.931
H2-6	1.04	0.00	0.00	0.04	0.96	0.01	0.97	0.02	4.10	0.929
H2-7	1.04	0.00	0.00	0.74	0.25	0.04	0.29	0.01	2.51	0.281
H2-8	1.04	0.00	0.00	0.00	1.01	0.00	1.01	0.00	0.38	0.967
H2-9	1.04	0.00	0.00	0.04	0.96	0.01	0.97	0.01	1.17	0.927
H3	1.04	0.00	0.00	0.00	1.01	0.00	1.01	0.01	1.03	0.966
I1	1.04	0.00	0.00	0.00	1.01	0.00	1.01	0.01	0.95	0.966
I2	1.04	0.00	0.00	0.04	0.96	0.01	0.97	0.07	11.65	0.927
I3	1.04	0.00	0.00	0.00	1.01	0.00	1.01	0.00	0.84	0.966

Subcatchment Runoff

Topic: Node Inflow Click a column header to sort the column.

Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Day of Maximum Inflow	Hour of Maximum Inflow	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal	Flow Balance Error Percent
DP_S01	JUNCTION	9.97	30.35	0	01:35	0.0622	0.195	0.241
DP_S02	JUNCTION	0.00	43.29	0	01:35	0	0.298	0.090
DP_S04	JUNCTION	1.03	2.34	0	01:35	0.00601	0.363	-0.007
DP_S05	JUNCTION	0.95	3.26	0	01:35	0.00547	0.368	0.004
DP_S06	JUNCTION	1.73	9.56	0	01:35	0.0134	0.417	0.039
DP_S07	JUNCTION	12.49	20.36	0	01:35	0.0737	0.491	0.010
DP_S08	JUNCTION	0.70	20.77	0	01:35	0.00356	0.494	-0.007
DP_S09	JUNCTION	6.31	10.56	0	01:35	0.0352	0.0591	0.717
DP_S10	JUNCTION	9.42	33.90	0	01:35	0.0535	0.294	-0.145
DP_S11	JUNCTION	0.00	3.17	0	02:08	0	0.69	-0.000
Inlet_C1-2	JUNCTION	7.19	7.19	0	01:35	0.0493	0.0493	-0.001
Inlet_C1-3	JUNCTION	2.03	2.03	0	01:35	0.0126	0.0126	-0.010
Inlet_C1-4	JUNCTION	0.00	9.17	0	01:35	0	0.062	0.020
Inlet_CH2	JUNCTION	1.48	10.64	0	01:35	0.0152	0.0771	0.055
Inlet_H2-2_DPCH1	JUNCTION	1.13	4.84	0	01:35	0.00555	0.0253	-0.000
Inlet_H2-3	JUNCTION	2.00	2.00	0	01:35	0.0103	0.0103	-0.015
Inlet_H2-4	JUNCTION	1.60	1.60	0	01:35	0.00843	0.00843	-0.011
Inlet_H2-5	JUNCTION	1.81	1.81	0	01:35	0.00948	0.00948	-0.021
Inlet_H2-6_DPCH4	JUNCTION	4.10	5.68	0	01:35	0.0245	0.0329	0.375
Inlet_H2-7_DPCH5	JUNCTION	2.51	8.15	0	01:35	0.0118	0.0462	-0.081
Inlet_H2-8	JUNCTION	0.38	9.53	0	01:35	0.00192	0.0555	-0.101
Inlet_H2-9	JUNCTION	1.17	9.20	0	01:34	0.00814	0.0551	-0.042
J_G2	JUNCTION	4.75	4.75	0	01:35	0.0355	0.0355	-0.006
J_G3	JUNCTION	4.28	4.28	0	01:35	0.0239	0.0239	-0.003
J_G7	JUNCTION	14.19	14.19	0	01:35	0.0881	0.0922	0.404
JN_B	JUNCTION	21.06	21.06	0	01:35	0.134	0.134	0.629
MH4-A	JUNCTION	0.00	3.25	0	01:35	0	0.368	-0.032
MH4-C	JUNCTION	0.00	9.10	0	01:35	0	0.417	-0.004
MH-MulberryWD_01	JUNCTION	0.00	20.52	0	01:35	0	0.494	0.253
MH-MulberryWD_02	JUNCTION	0.00	9.32	0	01:35	0	0.417	-0.021
MH-WVC_01	JUNCTION	0.00	29.84	0	01:35	0	0.195	-0.448
Pond_14	STORAGE	0.00	50.01	0	01:35	0	0.783	-0.139
Pond_CH	STORAGE	0.85	52.55	0	01:35	0.00392	0.356	-0.066
SouthOutfall	OUTFALL	0.00	3.17	0	02:08	0	0.69	0.000

Node Inflow

Topic: Node Depth Click a column header to sort the column.

Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Day of Maximum Depth	Hour of Maximum Depth	Maximum Reported Depth Feet
DP_S01	JUNCTION	0.01	1.96	6920.45	0	01:35	1.93
DP_S02	JUNCTION	0.03	2.40	6919.66	0	01:35	2.37
DP_S04	JUNCTION	0.05	0.64	6914.19	0	01:35	0.63
DP_S05	JUNCTION	0.05	0.77	6913.73	0	01:35	0.76
DP_S06	JUNCTION	0.05	1.30	6912.71	0	01:35	1.28
DP_S07	JUNCTION	0.05	1.89	6910.33	0	01:35	1.88
DP_S08	JUNCTION	0.01	0.86	6908.16	0	01:36	0.86
DP_S09	JUNCTION	0.00	0.69	6907.57	0	01:35	0.69
DP_S10	JUNCTION	0.09	2.05	6904.13	0	01:47	2.03
DP_S11	JUNCTION	0.09	0.76	6898.26	0	02:08	0.76
Inlet_C1-2	JUNCTION	0.01	0.65	6921.80	0	01:35	0.65
Inlet_C1-3	JUNCTION	0.00	0.43	6922.66	0	01:35	0.43
Inlet_C1-4	JUNCTION	0.01	0.81	6921.10	0	01:35	0.80
Inlet_CH2	JUNCTION	0.01	1.59	6920.71	0	01:35	1.58
Inlet_H2-2_DPCH1	JUNCTION	0.00	0.56	6920.54	0	01:35	0.56
Inlet_H2-3	JUNCTION	0.00	0.44	6922.08	0	01:35	0.44
Inlet_H2-4	JUNCTION	0.00	0.31	6921.37	0	01:35	0.31
Inlet_H2-5	JUNCTION	0.00	0.42	6922.70	0	01:35	0.42
Inlet_H2-6_DPCH4	JUNCTION	0.00	0.61	6919.27	0	01:35	0.60
Inlet_H2-7_DPCH5	JUNCTION	0.07	1.71	6918.21	0	01:59	1.71
Inlet_H2-8	JUNCTION	0.26	2.96	6918.21	0	01:59	2.96
Inlet_H2-9	JUNCTION	0.15	2.35	6918.21	0	01:59	2.35
J_G2	JUNCTION	0.01	0.54	6915.01	0	01:35	0.54
J_G3	JUNCTION	0.00	0.63	6908.81	0	01:35	0.63
J_G7	JUNCTION	0.04	1.74	6904.50	0	01:35	1.73
JN_B	JUNCTION	0.01	1.32	6923.22	0	01:35	1.31
MH4-A	JUNCTION	0.05	0.76	6913.19	0	01:35	0.75
MH4-C	JUNCTION	0.05	1.46	6910.42	0	01:35	1.42
MH-MulberryWD_01	JUNCTION	0.05	1.78	6908.20	0	01:36	1.77
MH-MulberryWD_02	JUNCTION	0.05	1.28	6911.49	0	01:35	1.27
MH-WVC_01	JUNCTION	0.01	2.12	6919.89	0	01:35	2.10
Pond_14	STORAGE	3.02	5.85	6903.85	0	02:08	5.85
Pond_CH	STORAGE	0.48	4.12	6918.21	0	01:59	4.12
SouthOutfall	OUTFALL	0.04	0.27	6895.80	0	02:08	0.27

Topic: Link Flow Click a column header to sort the column.

Link	Type	Maximum |Flow| CFS	Day of Maximum Flow	Hour of Maximum Flow	Maximum |Velocity| ft/sec	Max / Full Flow	Max / Full Depth
16	ORIFICE	0.01	0	02:08	1.00		
26	CONDUIT	20.72	0	01:35	6.63	0.33	0.46
28	CONDUIT	10.61	0	01:35	4.67	0.16	0.51
3	WEIR	0.00	0	00:00	0.00		
31	CONDUIT	43.18	0	01:35	5.11	0.42	0.61
33	CONDUIT	3.18	0	01:35	2.69	0.07	0.26
34	CONDUIT	9.55	0	01:36	2.99	0.10	0.44
35	CONDUIT	29.52	0	01:35	3.16	0.29	0.67
36	CONDUIT	1.76	0	01:35	4.43	0.17	0.28
8	ORIFICE	1.77	0	01:59	1.00		
C_1-2_C_1-4	CONDUIT	7.19	0	01:35	8.29	0.22	0.32
C1-3_C1-4	CONDUIT	1.99	0	01:35	4.82	0.18	0.28
C1-4_CH2	CONDUIT	9.19	0	01:35	6.81	0.29	0.47
ch_0	ORIFICE	0.32	0	01:59	1.00		
CH_Weir	ORIFICE	0.00	0	00:00			
Ch1_CH2	CONDUIT	4.84	0	01:35	6.69	0.17	0.28
CH4_CH5	CONDUIT	5.68	0	01:35	8.49	0.34	0.45
CH5_H2-9	CONDUIT	8.04	0	01:35	5.63	0.25	0.93
DP_S01toMH-WVC_01	CONDUIT	29.84	0	01:35	3.75	0.29	0.61
H2-3_H2-2	CONDUIT	1.98	0	01:35	4.57	0.19	0.29
H2-4_CH4	CONDUIT	1.59	0	01:35	5.96	0.10	0.21
H2-8_Pond_CH	CONDUIT	9.53	0	01:35	3.11	0.43	1.00
H2-9_H2-8	CONDUIT	9.16	0	01:35	4.54	0.41	1.00
Out_14-1	ORIFICE	0.21	0	02:08	1.00		
Out_14-2	ORIFICE	0.25	0	02:08	1.00		
Out_14-3	ORIFICE	0.21	0	02:08	1.00		
Out_14-4	ORIFICE	2.50	0	02:08	1.00		
PR_01	CONDUIT	2.32	0	01:35	2.85	0.04	0.18
PR_02	CONDUIT	3.25	0	01:35	3.16	0.05	0.20
PR_03	CONDUIT	4.74	0	01:35	8.31	0.28	0.36
PR_04	CONDUIT	9.32	0	01:35	3.28	0.08	0.34
PR_04A	CONDUIT	9.10	0	01:35	3.22	0.10	0.35
PR_05	CONDUIT	20.13	0	01:35	5.29	0.10	0.34
PR_05a	CONDUIT	20.52	0	01:35	4.94	0.00	0.02
PR_06	CONDUIT	18.04	0	01:36	3.43	0.09	0.50
PR_07	CONDUIT	4.27	0	01:35	6.23	0.36	0.42
PR_08	CONDUIT	10.41	0	01:35	7.90	0.17	0.35
PR_09	CONDUIT	14.13	0	01:35	4.43	0.21	0.52
PR_10	CONDUIT	33.67	0	01:35	8.05	0.28	0.65
PR_13	CONDUIT	3.17	0	02:08	3.94	0.02	0.17
Weir_14-1	ORIFICE	0.00	0	00:00			
Weir_14-2	WEIR	0.00	0	00:00	0.00		

Topic: Storage Volume

Click a column header to sort the column.

Storage Unit	Average Volume 1000 ft3	Average Percent Full	Evap Percent Loss	Exfil Percent Loss	Maximum Volume 1000 ft3	Maximum Percent Full	Day of Maximum Volume	Hour of Maximum Volume	Maximum Outflow CFS
Pond_14	4.288	2	0	0	38.265	22	0	02:08	19.97
Pond_CH	2.267	1	0	0	39.545	26	0	01:59	2.08

Topic: Outfall Loading

Click a column header to sort the column.

Outfall Node	Flow Freq. Pcnt.	Avg. Flow CFS	Max. Flow CFS	Total Volume 10^6 gal
SouthOutfall	44.13	0.48	3.17	0.690

Storage Volume
&
Outfall Loading

EURV Storm

Topic: Subcatchment Runoff Click a column header to sort the column.

Subcatchment	Total Precip in	Total Runon in	Total Evap in	Total Infil in	Imperv Runoff in	Perv Runoff in	Total Runoff in	Total Runoff 10^6 gal	Peak Runoff CFS	Runoff Coeff
B	1.20	0.00	0.00	0.60	0.58	0.00	0.58	0.15	15.80	0.485
C1-1	1.20	0.00	0.00	0.05	1.10	0.01	1.11	0.07	7.40	0.927
C1-2	1.20	0.00	0.00	0.05	1.10	0.01	1.11	0.06	5.53	0.928
C1-3	1.20	0.00	0.00	0.05	1.10	0.01	1.11	0.01	1.51	0.928
C1-4	1.20	0.00	0.00	0.06	1.10	0.00	1.11	0.01	0.38	0.924
C2	1.20	0.00	0.00	0.00	1.16	0.00	1.16	0.01	0.80	0.969
G1	1.20	0.00	0.00	0.03	1.13	0.00	1.13	0.10	10.54	0.944
G2	1.20	0.00	0.00	0.03	1.13	0.00	1.13	0.04	3.75	0.943
G3	1.20	0.00	0.00	0.05	1.10	0.01	1.11	0.03	3.04	0.927
G4	1.20	0.00	0.00	0.00	1.16	0.00	1.16	0.00	0.48	0.969
G5	1.20	0.00	0.00	0.05	1.10	0.01	1.11	0.04	4.49	0.927
G6	1.20	0.00	0.00	0.16	0.99	0.02	1.00	0.04	5.19	0.839
G7	1.20	0.00	0.00	0.00	1.16	0.00	1.16	0.02	1.46	0.969
H1	1.20	0.00	0.00	0.00	1.16	0.00	1.16	0.02	1.39	0.969
H2-1	1.20	0.00	0.00	1.10	0.08	0.01	0.09	0.00	0.52	0.079
H2-2	1.20	0.00	0.00	0.05	1.10	0.01	1.11	0.01	0.77	0.930
H2-3	1.20	0.00	0.00	0.05	1.10	0.01	1.11	0.01	1.38	0.929
H2-4	1.20	0.00	0.00	0.05	1.10	0.01	1.11	0.01	1.12	0.929
H2-5	1.20	0.00	0.00	0.05	1.10	0.01	1.11	0.01	1.26	0.929
H2-6	1.20	0.00	0.00	0.05	1.10	0.01	1.11	0.03	3.00	0.929
H2-7	1.20	0.00	0.00	0.86	0.29	0.04	0.33	0.01	1.60	0.277
H2-8	1.20	0.00	0.00	0.00	1.16	0.00	1.16	0.00	0.26	0.969
H2-9	1.20	0.00	0.00	0.05	1.10	0.01	1.11	0.01	0.90	0.928
H3	1.20	0.00	0.00	0.00	1.16	0.00	1.16	0.01	0.75	0.969
I1	1.20	0.00	0.00	0.00	1.16	0.00	1.16	0.01	0.69	0.969
I2	1.20	0.00	0.00	0.05	1.10	0.01	1.11	0.08	8.48	0.927
I3	1.20	0.00	0.00	0.00	1.16	0.00	1.16	0.01	0.60	0.969

Subcatchment Runoff

Topic: Node Inflow Click a column header to sort the column.

Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Day of Maximum Inflow	Hour of Maximum Inflow	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal	Flow Balance Error Percent
DP_S01	JUNCTION	7.40	22.93	0	00:45	0.0714	0.225	0.342
DP_S02	JUNCTION	0.00	33.24	0	00:45	0	0.342	0.034
DP_S04	JUNCTION	0.75	2.20	0	01:10	0.00693	0.417	0.000
DP_S05	JUNCTION	0.69	2.30	0	00:55	0.0063	0.423	-0.000
DP_S06	JUNCTION	1.39	7.18	0	00:45	0.0154	0.479	0.030
DP_S07	JUNCTION	9.07	15.42	0	00:45	0.0846	0.564	0.008
DP_S08	JUNCTION	0.48	15.78	0	00:45	0.0041	0.568	0.003
DP_S09	JUNCTION	4.49	7.52	0	00:45	0.0404	0.0678	0.905
DP_S10	JUNCTION	6.65	24.53	0	00:45	0.0611	0.372	0.022
DP_S11	JUNCTION	0.00	3.36	0	02:08	0	0.793	-0.000
Inlet_C1-2	JUNCTION	5.53	5.53	0	00:45	0.0567	0.0567	-0.001
Inlet_C1-3	JUNCTION	1.51	1.51	0	00:45	0.0145	0.0145	-0.003
Inlet_C1-4	JUNCTION	0.00	7.02	0	00:45	0	0.0712	0.014
Inlet_CH2	JUNCTION	1.16	8.17	0	00:45	0.0175	0.0887	0.017
Inlet_H2-2_DPCH1	JUNCTION	0.77	3.37	0	00:45	0.00635	0.029	0.003
Inlet_H2-3	JUNCTION	1.38	1.38	0	00:45	0.0118	0.0118	-0.003
Inlet_H2-4	JUNCTION	1.12	1.12	0	00:45	0.00967	0.00967	-0.006
Inlet_H2-5	JUNCTION	1.26	1.26	0	00:45	0.0109	0.0109	-0.005
Inlet_H2-6_DPCH4	JUNCTION	3.00	4.11	0	00:45	0.0281	0.0377	0.201
Inlet_H2-7_DPCH5	JUNCTION	1.60	5.69	0	00:45	0.0134	0.0511	-0.168
Inlet_H2-8	JUNCTION	0.26	6.78	0	00:45	0.00221	0.0628	-0.076
Inlet_H2-9	JUNCTION	0.90	6.58	0	00:45	0.00935	0.0605	-0.093
J_G2	JUNCTION	3.75	3.75	0	00:45	0.0408	0.0408	-0.005
J_G3	JUNCTION	3.04	3.04	0	00:45	0.0274	0.0274	-0.000
J_G7	JUNCTION	10.54	10.54	0	00:45	0.101	0.106	0.321
JN_B	JUNCTION	15.80	15.80	0	00:45	0.154	0.154	0.289
MH4-A	JUNCTION	0.00	2.30	0	00:55	0	0.423	-0.043
MH4-C	JUNCTION	0.00	6.98	0	00:45	0	0.479	-0.002
MH-MulberryWD_01	JUNCTION	0.00	18.61	0	00:49	0	0.568	0.119
MH-MulberryWD_02	JUNCTION	0.00	7.07	0	00:45	0	0.479	-0.003
MH-WVC_01	JUNCTION	0.00	22.59	0	00:45	0	0.224	-0.169
Pond_14	STORAGE	0.00	38.10	0	00:45	0	0.934	-0.149
Pond_CH	STORAGE	0.52	39.89	0	00:45	0.00428	0.409	-0.053
SouthOutfall	OUTFALL	0.00	3.36	0	02:08	0	0.793	0.000

Node Inflow

Topic: Node Depth Click a column header to sort the column.

Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Day of Maximum Depth	Hour of Maximum Depth	Maximum Reported Depth Feet
DP_S01	JUNCTION	0.01	1.68	6920.17	0	00:45	1.66
DP_S02	JUNCTION	0.04	2.07	6919.33	0	00:45	2.07
DP_S04	JUNCTION	0.06	0.62	6914.17	0	01:10	0.62
DP_S05	JUNCTION	0.06	0.63	6913.59	0	00:55	0.63
DP_S06	JUNCTION	0.06	1.11	6912.52	0	00:45	1.10
DP_S07	JUNCTION	0.06	1.62	6910.06	0	00:45	1.62
DP_S08	JUNCTION	0.01	0.71	6908.01	0	00:49	0.67
DP_S09	JUNCTION	0.00	0.59	6907.47	0	00:45	0.59
DP_S10	JUNCTION	0.11	2.14	6904.22	0	01:12	2.14
DP_S11	JUNCTION	0.10	0.78	6898.28	0	02:08	0.78
Inlet_C1-2	JUNCTION	0.01	0.56	6921.71	0	00:45	0.56
Inlet_C1-3	JUNCTION	0.00	0.37	6922.60	0	00:45	0.37
Inlet_C1-4	JUNCTION	0.01	0.67	6920.96	0	00:45	0.67
Inlet_CH2	JUNCTION	0.01	1.37	6920.49	0	00:45	1.37
Inlet_H2-2_DPCH1	JUNCTION	0.00	0.47	6920.45	0	00:45	0.47
Inlet_H2-3	JUNCTION	0.00	0.37	6922.01	0	00:45	0.37
Inlet_H2-4	JUNCTION	0.00	0.26	6921.32	0	00:45	0.26
Inlet_H2-5	JUNCTION	0.00	0.35	6922.63	0	00:45	0.35
Inlet_H2-6_DPCH4	JUNCTION	0.00	0.51	6919.17	0	00:45	0.51
Inlet_H2-7_DPCH5	JUNCTION	0.09	1.81	6918.31	0	01:37	1.81
Inlet_H2-8	JUNCTION	0.27	3.06	6918.31	0	01:37	3.06
Inlet_H2-9	JUNCTION	0.17	2.45	6918.31	0	01:37	2.45
J_G2	JUNCTION	0.01	0.48	6914.95	0	00:45	0.48
J_G3	JUNCTION	0.00	0.52	6908.70	0	00:45	0.52
J_G7	JUNCTION	0.05	1.61	6904.37	0	01:13	1.47
JN_B	JUNCTION	0.01	1.12	6923.02	0	00:45	1.11
MH4-A	JUNCTION	0.06	0.63	6913.06	0	01:10	0.63
MH4-C	JUNCTION	0.06	1.19	6910.15	0	00:45	1.18
MH-MulberryWD_01	JUNCTION	0.06	1.59	6908.01	0	00:46	1.57
MH-MulberryWD_02	JUNCTION	0.06	1.11	6911.32	0	00:45	1.10
MH-WVC_01	JUNCTION	0.02	1.77	6919.54	0	00:45	1.77
Pond_14	STORAGE	3.05	6.03	6904.03	0	02:08	6.03
Pond_CH	STORAGE	0.51	4.22	6918.31	0	01:37	4.22
SouthOutfall	OUTFALL	0.04	0.28	6895.81	0	02:08	0.28

Topic: Link Flow Click a column header to sort the column.

Link	Type	Maximum |Flow| CFS	Day of Maximum Flow	Hour of Maximum Flow	Maximum |Velocity| ft/sec	Max / Full Flow	Max / Full Depth
16	ORIFICE	0.01	0	02:08	1.00		
26	CONDUIT	15.67	0	00:45	6.40	0.25	0.38
28	CONDUIT	8.17	0	00:45	4.49	0.12	0.40
3	WEIR	0.00	0	00:00	0.00		
31	CONDUIT	33.18	0	00:45	4.79	0.32	0.53
33	CONDUIT	2.29	0	01:10	2.66	0.05	0.20
34	CONDUIT	7.16	0	00:46	2.98	0.08	0.36
35	CONDUIT	22.39	0	00:45	2.99	0.22	0.56
36	CONDUIT	1.24	0	00:45	3.99	0.12	0.23
8	ORIFICE	1.84	0	01:37	1.00		
C_1-2_C_1-4	CONDUIT	5.53	0	00:45	7.67	0.17	0.28
C1-3_C1-4	CONDUIT	1.49	0	00:45	4.43	0.13	0.25
C1-4_CH2	CONDUIT	7.03	0	00:45	6.81	0.22	0.38
ch_0	ORIFICE	0.32	0	01:37	1.00		
CH_Weir	ORIFICE	0.00	0	00:00			
Ch1_CH2	CONDUIT	3.36	0	00:45	6.01	0.12	0.23
CH4_CH5	CONDUIT	4.10	0	00:45	7.84	0.25	0.47
CH5_H2-9	CONDUIT	5.68	0	00:45	6.95	0.18	0.95
DP_S01toMH-WVC_01	CONDUIT	22.59	0	00:45	3.50	0.22	0.51
H2-3_H2-2	CONDUIT	1.37	0	00:45	4.11	0.13	0.24
H2-4_CH4	CONDUIT	1.11	0	00:45	5.35	0.07	0.17
H2-8_Pond_CH	CONDUIT	6.67	0	00:45	3.09	0.30	1.00
H2-9_H2-8	CONDUIT	6.52	0	00:45	4.05	0.29	1.00
Out_14-1	ORIFICE	0.21	0	02:08	1.00		
Out_14-2	ORIFICE	0.26	0	02:08	1.00		
Out_14-3	ORIFICE	0.22	0	02:08	1.00		
Out_14-4	ORIFICE	2.66	0	02:08	1.00		
PR_01	CONDUIT	2.20	0	01:10	2.84	0.03	0.17
PR_02	CONDUIT	2.30	0	00:55	2.91	0.03	0.17
PR_03	CONDUIT	3.75	0	00:45	7.77	0.22	0.32
PR_04	CONDUIT	7.07	0	00:45	3.11	0.06	0.29
PR_04A	CONDUIT	6.98	0	00:45	3.24	0.08	0.28
PR_05	CONDUIT	15.34	0	00:45	4.93	0.08	0.30
PR_05a	CONDUIT	18.61	0	00:49	4.93	0.00	0.02
PR_06	CONDUIT	14.73	0	00:46	3.30	0.07	0.45
PR_07	CONDUIT	3.04	0	00:45	5.64	0.26	0.35
PR_08	CONDUIT	7.50	0	00:45	8.45	0.12	0.37
PR_09	CONDUIT	10.48	0	00:45	4.27	0.16	0.55
PR_10	CONDUIT	24.27	0	00:45	9.52	0.20	0.69
PR_13	CONDUIT	3.36	0	02:08	3.99	0.02	0.18
Weir_14-1	ORIFICE	0.00	0	00:00			
Weir_14-2	WEIR	0.00	0	00:00	0.00		

Topic: Storage Volume Click a column header to sort the column.

Storage Unit	Average Volume 1000 ft3	Average Percent Full	Evap Percent Loss	Exfil Percent Loss	Maximum Volume 1000 ft3	Maximum Percent Full	Day of Maximum Volume	Hour of Maximum Volume	Maximum Outflow CFS
Pond_14	4.641	3	0	0	41.466	24	0	02:08	20.54
Pond_CH	2.573	2	0	0	42.319	28	0	01:37	2.16

Topic: Outfall Loading Click a column header to sort the column.

Outfall Node	Flow Freq. Pcnt.	Avg. Flow CFS	Max. Flow CFS	Total Volume 10^6 gal
SouthOutfall	44.53	0.55	3.36	0.793

Storage Volume
&
Outfall Loading

2-Year Storm

Topic: Subcatchment Runoff Click a column header to sort the column.

Subcatchment	Total Precip in	Total Runon in	Total Evap in	Total Infil in	Imperv Runoff in	Perv Runoff in	Total Runoff in	Total Runoff 10^6 gal	Peak Runoff CFS	Runoff Coeff
B	1.29	0.00	0.00	0.64	0.62	0.00	0.62	0.17	17.12	0.486
C1-1	1.29	0.00	0.00	0.05	1.19	0.01	1.20	0.08	8.06	0.930
C1-2	1.29	0.00	0.00	0.05	1.19	0.01	1.20	0.06	6.03	0.932
C1-3	1.29	0.00	0.00	0.05	1.19	0.01	1.20	0.02	1.64	0.932
C1-4	1.29	0.00	0.00	0.06	1.19	0.01	1.19	0.01	0.42	0.927
C2	1.29	0.00	0.00	0.00	1.25	0.00	1.25	0.01	0.86	0.971
G1	1.29	0.00	0.00	0.03	1.21	0.01	1.22	0.11	11.44	0.947
G2	1.29	0.00	0.00	0.03	1.21	0.01	1.22	0.04	4.10	0.947
G3	1.29	0.00	0.00	0.05	1.19	0.01	1.20	0.03	3.30	0.931
G4	1.29	0.00	0.00	0.00	1.25	0.00	1.25	0.00	0.51	0.972
G5	1.29	0.00	0.00	0.05	1.19	0.01	1.20	0.04	4.86	0.931
G6	1.29	0.00	0.00	0.17	1.06	0.03	1.09	0.05	5.66	0.846
G7	1.29	0.00	0.00	0.00	1.25	0.00	1.25	0.02	1.60	0.971
H1	1.29	0.00	0.00	0.00	1.25	0.00	1.25	0.02	1.51	0.971
H2-1	1.29	0.00	0.00	1.17	0.09	0.02	0.11	0.01	0.59	0.086
H2-2	1.29	0.00	0.00	0.05	1.19	0.01	1.20	0.01	0.83	0.933
H2-3	1.29	0.00	0.00	0.05	1.19	0.01	1.20	0.01	1.49	0.933
H2-4	1.29	0.00	0.00	0.05	1.19	0.01	1.20	0.01	1.21	0.933
H2-5	1.29	0.00	0.00	0.05	1.19	0.01	1.20	0.01	1.36	0.933
H2-6	1.29	0.00	0.00	0.05	1.19	0.01	1.20	0.03	3.26	0.932
H2-7	1.29	0.00	0.00	0.90	0.31	0.06	0.38	0.02	1.78	0.291
H2-8	1.29	0.00	0.00	0.00	1.25	0.00	1.25	0.00	0.28	0.972
H2-9	1.29	0.00	0.00	0.05	1.19	0.01	1.20	0.01	0.99	0.932
H3	1.29	0.00	0.00	0.00	1.25	0.00	1.25	0.01	0.81	0.971
I1	1.29	0.00	0.00	0.00	1.25	0.00	1.25	0.01	0.74	0.971
I2	1.29	0.00	0.00	0.05	1.19	0.01	1.20	0.09	9.21	0.930
I3	1.29	0.00	0.00	0.00	1.25	0.00	1.25	0.01	0.64	0.971

Subcatchment Runoff

Topic: Node Inflow Click a column header to sort the column.

Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Day of Maximum Inflow	Hour of Maximum Inflow	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal	Flow Balance Error Percent
DP_S01	JUNCTION	8.06	24.89	0	00:45	0.0771	0.243	0.539
DP_S02	JUNCTION	0.00	36.24	0	00:45	0	0.369	0.047
DP_S04	JUNCTION	0.81	2.31	0	01:10	0.00747	0.45	-0.002
DP_S05	JUNCTION	0.74	2.47	0	00:50	0.00679	0.457	0.001
DP_S06	JUNCTION	1.51	7.89	0	00:45	0.0166	0.518	0.028
DP_S07	JUNCTION	9.85	16.87	0	00:45	0.0913	0.609	0.007
DP_S08	JUNCTION	0.51	17.25	0	00:45	0.00441	0.613	0.007
DP_S09	JUNCTION	4.86	8.15	0	00:45	0.0436	0.0732	0.974
DP_S10	JUNCTION	7.25	26.69	0	00:45	0.0661	0.4	-0.051
DP_S11	JUNCTION	0.00	3.53	0	02:09	0	0.857	-0.000
Inlet_C1-2	JUNCTION	6.03	6.03	0	00:45	0.0612	0.0612	-0.001
Inlet_C1-3	JUNCTION	1.64	1.64	0	00:45	0.0156	0.0156	-0.003
Inlet_C1-4	JUNCTION	0.00	7.65	0	00:45	0	0.0768	0.012
Inlet_CH2	JUNCTION	1.27	8.92	0	00:45	0.0189	0.0957	0.017
Inlet_H2-2_DPCH1	JUNCTION	0.83	3.63	0	00:45	0.00685	0.0313	0.002
Inlet_H2-3	JUNCTION	1.49	1.49	0	00:45	0.0127	0.0127	-0.004
Inlet_H2-4	JUNCTION	1.21	1.21	0	00:45	0.0104	0.0104	-0.006
Inlet_H2-5	JUNCTION	1.36	1.36	0	00:45	0.0117	0.0117	-0.005
Inlet_H2-6_DPCH4	JUNCTION	3.26	4.45	0	00:45	0.0303	0.0407	0.214
Inlet_H2-7_DPCH5	JUNCTION	1.78	6.22	0	00:45	0.0152	0.0558	-0.189
Inlet_H2-8	JUNCTION	0.28	7.44	0	00:45	0.00238	0.0684	-0.045
Inlet_H2-9	JUNCTION	0.99	7.20	0	00:45	0.0101	0.066	-0.072
J_G2	JUNCTION	4.10	4.10	0	00:45	0.044	0.044	-0.005
J_G3	JUNCTION	3.30	3.30	0	00:45	0.0296	0.0296	-0.000
J_G7	JUNCTION	11.44	11.44	0	00:45	0.109	0.114	0.337
JN_B	JUNCTION	17.12	17.12	0	00:45	0.166	0.166	0.278
MH4-A	JUNCTION	0.00	2.47	0	00:50	0	0.457	-0.044
MH4-C	JUNCTION	0.00	7.68	0	00:45	0	0.518	-0.001
MH-MulberryWD_01	JUNCTION	0.00	21.48	0	00:49	0	0.613	0.108
MH-MulberryWD_02	JUNCTION	0.00	7.77	0	00:45	0	0.518	0.000
MH-WVC_01	JUNCTION	0.00	24.58	0	00:45	0	0.241	-0.274
Pond_14	STORAGE	0.00	41.62	0	00:45	0	1.01	-0.134
Pond_CH	STORAGE	0.59	43.72	0	00:45	0.00502	0.442	-0.055
SouthOutfall	OUTFALL	0.00	3.53	0	02:09	0	0.857	0.000

Node Inflow

Topic: Node Depth

Click a column header to sort the column.

Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Day of Maximum Depth	Hour of Maximum Depth	Maximum Reported Depth Feet
DP_S01	JUNCTION	0.01	1.76	6920.25	0	00:45	1.74
DP_S02	JUNCTION	0.04	2.18	6919.44	0	00:45	2.17
DP_S04	JUNCTION	0.06	0.63	6914.18	0	01:10	0.63
DP_S05	JUNCTION	0.06	0.66	6913.62	0	00:50	0.66
DP_S06	JUNCTION	0.06	1.17	6912.58	0	00:45	1.16
DP_S07	JUNCTION	0.06	1.71	6910.15	0	00:45	1.70
DP_S08	JUNCTION	0.01	0.81	6908.11	0	00:49	0.75
DP_S09	JUNCTION	0.00	0.61	6907.49	0	00:45	0.61
DP_S10	JUNCTION	0.12	2.32	6904.40	0	01:11	2.31
DP_S11	JUNCTION	0.10	0.80	6898.30	0	02:09	0.80
Inlet_C1-2	JUNCTION	0.01	0.59	6921.74	0	00:45	0.59
Inlet_C1-3	JUNCTION	0.00	0.39	6922.62	0	00:45	0.38
Inlet_C1-4	JUNCTION	0.01	0.71	6921.00	0	00:45	0.71
Inlet_CH2	JUNCTION	0.01	1.44	6920.56	0	00:45	1.44
Inlet_H2-2_DPCH1	JUNCTION	0.00	0.49	6920.47	0	00:45	0.49
Inlet_H2-3	JUNCTION	0.00	0.38	6922.02	0	00:45	0.38
Inlet_H2-4	JUNCTION	0.00	0.27	6921.33	0	00:45	0.27
Inlet_H2-5	JUNCTION	0.00	0.36	6922.64	0	00:45	0.36
Inlet_H2-6_DPCH4	JUNCTION	0.00	0.53	6919.19	0	00:45	0.53
Inlet_H2-7_DPCH5	JUNCTION	0.10	1.92	6918.42	0	01:38	1.92
Inlet_H2-8	JUNCTION	0.29	3.17	6918.42	0	01:38	3.17
Inlet_H2-9	JUNCTION	0.18	2.56	6918.42	0	01:38	2.56
J_G2	JUNCTION	0.01	0.50	6914.97	0	00:45	0.50
J_G3	JUNCTION	0.00	0.54	6908.72	0	00:45	0.54
J_G7	JUNCTION	0.06	1.80	6904.56	0	01:10	1.62
JN_B	JUNCTION	0.01	1.17	6923.07	0	00:45	1.16
MH4-A	JUNCTION	0.06	0.66	6913.09	0	00:50	0.66
MH4-C	JUNCTION	0.06	1.27	6910.23	0	00:45	1.26
MH-MulberryWD_01	JUNCTION	0.06	1.67	6908.09	0	00:46	1.66
MH-MulberryWD_02	JUNCTION	0.06	1.16	6911.37	0	00:45	1.16
MH-WVC_01	JUNCTION	0.02	1.88	6919.65	0	00:45	1.87
Pond_14	STORAGE	3.07	6.21	6904.21	0	02:09	6.21
Pond_CH	STORAGE	0.53	4.33	6918.42	0	01:38	4.33
SouthOutfall	OUTFALL	0.04	0.28	6895.81	0	02:09	0.28

Node Depth

Topic: Link Flow Click a column header to sort the column.

Link	Type	Maximum |Flow| CFS	Day of Maximum Flow	Hour of Maximum Flow	Maximum |Velocity| ft/sec	Max / Full Flow	Max / Full Depth
16	ORIFICE	0.02	0	02:09	1.00		
26	CONDUIT	16.98	0	00:45	6.44	0.27	0.40
28	CONDUIT	8.91	0	00:45	4.52	0.14	0.44
3	WEIR	0.00	0	00:00	0.00		
31	CONDUIT	36.18	0	00:45	4.87	0.35	0.55
33	CONDUIT	2.47	0	00:50	2.70	0.05	0.22
34	CONDUIT	7.88	0	00:46	2.99	0.09	0.38
35	CONDUIT	24.39	0	00:45	3.00	0.24	0.59
36	CONDUIT	1.34	0	00:45	4.09	0.13	0.24
8	ORIFICE	1.94	0	01:38	1.00		
C_1-2_C_1-4	CONDUIT	6.03	0	00:45	7.86	0.19	0.29
C1-3_C1-4	CONDUIT	1.62	0	00:45	4.54	0.14	0.26
C1-4_CH2	CONDUIT	7.66	0	00:45	6.80	0.24	0.41
ch_0	ORIFICE	0.32	0	01:38	1.00		
CH_Weir	ORIFICE	0.00	0	00:00			
Ch1_CH2	CONDUIT	3.63	0	00:45	6.15	0.13	0.24
CH4_CH5	CONDUIT	4.45	0	00:45	8.02	0.27	0.52
CH5_H2-9	CONDUIT	6.21	0	00:45	6.56	0.19	0.98
DP_S01toMH-WVC_01	CONDUIT	24.58	0	00:45	3.49	0.24	0.54
H2-3_H2-2	CONDUIT	1.48	0	00:45	4.20	0.14	0.25
H2-4_CH4	CONDUIT	1.20	0	00:45	5.48	0.07	0.18
H2-8_Pond_CH	CONDUIT	7.33	0	00:45	3.16	0.33	1.00
H2-9_H2-8	CONDUIT	7.17	0	00:45	4.12	0.32	1.00
Out_14-1	ORIFICE	0.22	0	02:09	1.00		
Out_14-2	ORIFICE	0.27	0	02:09	1.00		
Out_14-3	ORIFICE	0.23	0	02:09	1.00		
Out_14-4	ORIFICE	2.80	0	02:09	1.00		
PR_01	CONDUIT	2.31	0	01:10	2.87	0.04	0.17
PR_02	CONDUIT	2.47	0	00:50	2.96	0.04	0.18
PR_03	CONDUIT	4.09	0	00:45	7.96	0.24	0.33
PR_04	CONDUIT	7.77	0	00:45	3.15	0.07	0.30
PR_04A	CONDUIT	7.68	0	00:45	3.25	0.08	0.31
PR_05	CONDUIT	16.77	0	00:45	5.04	0.08	0.31
PR_05a	CONDUIT	21.48	0	00:49	4.96	0.00	0.02
PR_06	CONDUIT	16.18	0	00:46	3.30	0.08	0.48
PR_07	CONDUIT	3.30	0	00:45	5.77	0.28	0.36
PR_08	CONDUIT	8.09	0	00:45	8.47	0.13	0.41
PR_09	CONDUIT	11.38	0	00:45	4.37	0.17	0.62
PR_10	CONDUIT	27.40	0	00:59	9.63	0.23	0.74
PR_13	CONDUIT	3.53	0	02:09	4.04	0.02	0.18
Weir_14-1	ORIFICE	0.00	0	00:00			
Weir_14-2	WEIR	0.00	0	00:00	0.00		

Topic: Storage Volume Click a column header to sort the column.

Storage Unit	Average Volume 1000 ft3	Average Percent Full	Evap Percent Loss	Exfil Percent Loss	Maximum Volume 1000 ft3	Maximum Percent Full	Day of Maximum Volume	Hour of Maximum Volume	Maximum Outflow CFS
Pond_14	4.898	3	0	0	44.823	26	0	02:09	22.37
Pond_CH	2.793	2	0	0	45.961	30	0	01:38	2.26

Topic: Outfall Loading Click a column header to sort the column.

Outfall Node	Flow Freq. Pcnt.	Avg. Flow CFS	Max. Flow CFS	Total Volume 10^6 gal
SouthOutfall	44.93	0.59	3.53	0.857

Storage Volume
&
Outfall Loading

5-Year Storm

Topic: Subcatchment Runoff Click a column header to sort the column.

Subcatchment	Total Precip in	Total Runon in	Total Evap in	Total Infil in	Imperv Runoff in	Perv Runoff in	Total Runoff in	Total Runoff 10^6 gal	Peak Runoff CFS	Runoff Coeff
B	1.66	0.00	0.00	0.83	0.81	0.00	0.81	0.22	22.69	0.489
C1-1	1.66	0.00	0.00	0.06	1.54	0.02	1.56	0.10	10.79	0.942
C1-2	1.66	0.00	0.00	0.06	1.54	0.02	1.56	0.08	8.15	0.943
C1-3	1.66	0.00	0.00	0.06	1.54	0.02	1.56	0.02	2.19	0.943
C1-4	1.66	0.00	0.00	0.07	1.54	0.02	1.55	0.01	0.60	0.939
C2	1.66	0.00	0.00	0.00	1.62	0.00	1.62	0.01	1.15	0.978
G1	1.66	0.00	0.00	0.04	1.57	0.01	1.58	0.14	15.23	0.956
G2	1.66	0.00	0.00	0.04	1.57	0.01	1.58	0.06	5.55	0.956
G3	1.66	0.00	0.00	0.06	1.54	0.02	1.56	0.04	4.37	0.942
G4	1.66	0.00	0.00	0.00	1.62	0.00	1.62	0.01	0.67	0.978
G5	1.66	0.00	0.00	0.06	1.54	0.02	1.56	0.06	6.44	0.942
G6	1.66	0.00	0.00	0.19	1.38	0.06	1.44	0.06	7.62	0.867
G7	1.66	0.00	0.00	0.00	1.62	0.00	1.62	0.02	2.16	0.978
H1	1.66	0.00	0.00	0.00	1.62	0.00	1.62	0.02	2.04	0.978
H2-1	1.66	0.00	0.00	1.44	0.11	0.10	0.21	0.01	0.92	0.127
H2-2	1.66	0.00	0.00	0.06	1.54	0.02	1.56	0.01	1.07	0.944
H2-3	1.66	0.00	0.00	0.06	1.54	0.02	1.56	0.02	1.95	0.944
H2-4	1.66	0.00	0.00	0.06	1.54	0.02	1.56	0.01	1.58	0.944
H2-5	1.66	0.00	0.00	0.06	1.54	0.02	1.56	0.02	1.78	0.944
H2-6	1.66	0.00	0.00	0.06	1.54	0.02	1.56	0.04	4.33	0.943
H2-7	1.66	0.00	0.00	1.06	0.40	0.18	0.59	0.02	2.61	0.356
H2-8	1.66	0.00	0.00	0.00	1.62	0.00	1.62	0.00	0.36	0.978
H2-9	1.66	0.00	0.00	0.06	1.54	0.02	1.56	0.01	1.33	0.943
H3	1.66	0.00	0.00	0.00	1.62	0.00	1.62	0.01	1.06	0.978
I1	1.66	0.00	0.00	0.00	1.62	0.00	1.62	0.01	0.97	0.978
I2	1.66	0.00	0.00	0.06	1.54	0.02	1.56	0.11	12.28	0.942
I3	1.66	0.00	0.00	0.00	1.62	0.00	1.62	0.01	0.84	0.978

Subcatchment Runoff

Topic: Node Inflow Click a column header to sort the column.

Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Day of Maximum Inflow	Hour of Maximum Inflow	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal	Flow Balance Error Percent
DP_S01	JUNCTION	10.79	33.18	0	00:45	0.1	0.314	-0.190
DP_S02	JUNCTION	0.00	48.41	0	00:45	0	0.481	0.133
DP_S04	JUNCTION	1.06	2.66	0	01:10	0.00967	0.593	-0.008
DP_S05	JUNCTION	0.97	3.47	0	00:45	0.00879	0.602	0.003
DP_S06	JUNCTION	2.04	10.92	0	00:45	0.0215	0.681	0.026
DP_S07	JUNCTION	13.12	23.04	0	00:45	0.119	0.799	0.006
DP_S08	JUNCTION	0.67	23.54	0	00:45	0.00572	0.805	0.005
DP_S09	JUNCTION	6.44	10.80	0	00:45	0.0568	0.0953	0.665
DP_S10	JUNCTION	9.78	35.68	0	00:45	0.0869	0.458	-0.082
DP_S11	JUNCTION	0.00	4.15	0	02:09	0	1.12	-0.000
Inlet_C1-2	JUNCTION	8.15	8.15	0	00:45	0.0797	0.0797	-0.001
Inlet_C1-3	JUNCTION	2.19	2.19	0	00:45	0.0204	0.0204	-0.003
Inlet_C1-4	JUNCTION	0.00	10.31	0	00:45	0	0.1	0.012
Inlet_CH2	JUNCTION	1.75	12.06	0	00:45	0.0245	0.125	0.100
Inlet_H2-2_DPCH1	JUNCTION	1.07	4.77	0	00:45	0.00892	0.0408	0.158
Inlet_H2-3	JUNCTION	1.95	1.95	0	00:45	0.0166	0.0166	-0.003
Inlet_H2-4	JUNCTION	1.58	1.58	0	00:45	0.0136	0.0136	0.008
Inlet_H2-5	JUNCTION	1.78	1.78	0	00:45	0.0153	0.0153	-0.005
Inlet_H2-6_DPCH4	JUNCTION	4.33	5.91	0	00:45	0.0395	0.0531	0.261
Inlet_H2-7_DPCH5	JUNCTION	2.61	8.51	0	00:45	0.0238	0.0769	-0.216
Inlet_H2-8	JUNCTION	0.36	10.02	0	00:45	0.00308	0.0933	-0.027
Inlet_H2-9	JUNCTION	1.33	9.81	0	00:45	0.0131	0.0902	-0.145
J_G2	JUNCTION	5.55	5.55	0	00:45	0.0572	0.0572	-0.003
J_G3	JUNCTION	4.37	4.37	0	00:45	0.0386	0.0386	-0.000
J_G7	JUNCTION	15.23	15.23	0	00:45	0.142	0.145	0.380
JN_B	JUNCTION	22.69	22.69	0	00:45	0.215	0.215	0.707
MH4-A	JUNCTION	0.00	3.45	0	00:45	0	0.602	-0.043
MH4-C	JUNCTION	0.00	10.64	0	00:45	0	0.681	-0.004
MH-MulberryWD_01	JUNCTION	0.00	24.81	0	00:45	0	0.805	0.092
MH-MulberryWD_02	JUNCTION	0.00	10.77	0	00:45	0	0.681	0.002
MH-WVC_01	JUNCTION	0.00	32.58	0	00:45	0	0.315	-0.247
Pond_14	STORAGE	0.00	55.88	0	00:45	0	1.26	-0.099
Pond_CH	STORAGE	0.92	59.03	0	00:45	0.00956	0.583	-0.087
SouthOutfall	OUTFALL	0.00	4.14	0	02:09	0	1.12	0.000

Topic: Node Depth Click a column header to sort the column.

Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Day of Maximum Depth	Hour of Maximum Depth	Maximum Reported Depth Feet
DP_S01	JUNCTION	0.06	2.05	6919.50	0	00:45	2.04
DP_S02	JUNCTION	0.16	2.56	6918.89	0	00:45	2.53
DP_S04	JUNCTION	0.07	0.69	6914.24	0	01:10	0.69
DP_S05	JUNCTION	0.07	0.79	6913.75	0	00:45	0.79
DP_S06	JUNCTION	0.07	1.41	6912.82	0	00:45	1.39
DP_S07	JUNCTION	0.07	2.03	6910.47	0	00:45	2.02
DP_S08	JUNCTION	0.01	1.09	6908.39	0	00:46	1.08
DP_S09	JUNCTION	0.01	0.70	6907.58	0	00:45	0.70
DP_S10	JUNCTION	0.18	3.00	6905.08	0	01:05	2.97
DP_S11	JUNCTION	0.12	0.88	6898.38	0	02:09	0.88
Inlet_C1-2	JUNCTION	0.01	0.69	6921.84	0	00:45	0.69
Inlet_C1-3	JUNCTION	0.00	0.45	6922.68	0	00:45	0.45
Inlet_C1-4	JUNCTION	0.01	0.88	6921.17	0	00:45	0.88
Inlet_CH2	JUNCTION	0.01	1.70	6920.82	0	00:45	1.70
Inlet_H2-2_DPCH1	JUNCTION	0.00	0.46	6920.44	0	00:45	0.46
Inlet_H2-3	JUNCTION	0.00	0.44	6922.08	0	00:45	0.44
Inlet_H2-4	JUNCTION	0.00	0.31	6921.37	0	00:45	0.31
Inlet_H2-5	JUNCTION	0.00	0.42	6922.70	0	00:45	0.42
Inlet_H2-6_DPCH4	JUNCTION	0.01	0.61	6919.27	0	00:45	0.61
Inlet_H2-7_DPCH5	JUNCTION	0.14	2.35	6918.85	0	01:44	2.35
Inlet_H2-8	JUNCTION	0.35	3.60	6918.85	0	01:43	3.60
Inlet_H2-9	JUNCTION	0.23	2.99	6918.85	0	01:43	2.99
J_G2	JUNCTION	0.01	0.59	6915.06	0	00:45	0.59
J_G3	JUNCTION	0.01	0.63	6908.81	0	00:45	0.63
J_G7	JUNCTION	0.11	2.49	6905.25	0	01:01	2.40
JN_B	JUNCTION	0.01	1.23	6923.13	0	00:45	1.23
MH4-A	JUNCTION	0.07	0.79	6913.22	0	00:45	0.78
MH4-C	JUNCTION	0.07	1.61	6910.57	0	00:45	1.59
MH-MulberryWD_01	JUNCTION	0.07	1.98	6908.40	0	00:46	1.97
MH-MulberryWD_02	JUNCTION	0.07	1.40	6911.61	0	00:45	1.39
MH-WVC_01	JUNCTION	0.10	2.28	6919.13	0	00:45	2.25
Pond_14	STORAGE	3.16	6.94	6904.94	0	02:09	6.94
Pond_CH	STORAGE	0.61	4.76	6918.85	0	01:43	4.76
SouthOutfall	OUTFALL	0.05	0.31	6895.84	0	02:09	0.31

Topic: Link Flow Click a column header to sort the column.

Link	Type	Maximum |Flow| CFS	Day of Maximum Flow	Hour of Maximum Flow	Maximum |Velocity| ft/sec	Max / Full Flow	Max / Full Depth
16	ORIFICE	0.03	0	02:09	1.00		
26	CONDUIT	22.54	0	00:45	7.04	0.31	0.46
28	CONDUIT	12.04	0	00:45	4.89	0.10	0.57
3	WEIR	0.00	0	00:00	0.00		
31	CONDUIT	48.36	0	00:45	5.31	0.47	0.81
33	CONDUIT	3.42	0	00:45	2.81	0.07	0.28
34	CONDUIT	10.93	0	00:46	3.04	0.12	0.48
35	CONDUIT	32.57	0	00:45	3.21	0.32	0.72
36	CONDUIT	1.76	0	00:45	4.42	0.17	0.28
8	ORIFICE	2.24	0	01:43	1.00		
C_1-2_C_1-4	CONDUIT	8.15	0	00:45	8.56	0.25	0.34
C1-3_C1-4	CONDUIT	2.17	0	00:45	4.93	0.19	0.30
C1-4_CH2	CONDUIT	10.32	0	00:45	6.80	0.32	0.52
ch_0	ORIFICE	0.34	0	01:44	1.00		
CH_Weir	ORIFICE	0.00	0	00:00			
Ch1_CH2	CONDUIT	4.76	0	00:45	8.55	0.12	0.27
CH4_CH5	CONDUIT	5.90	0	00:45	8.56	0.35	0.61
CH5_H2-9	CONDUIT	8.49	0	00:45	6.64	0.26	1.00
DP_S01toMH-WVC_01	CONDUIT	32.58	0	00:45	3.60	0.32	0.65
H2-3_H2-2	CONDUIT	1.94	0	00:45	4.54	0.18	0.29
H2-4_CH4	CONDUIT	1.58	0	00:45	5.91	0.09	0.21
H2-8_Pond_CH	CONDUIT	10.04	0	00:45	3.32	0.45	1.00
H2-9_H2-8	CONDUIT	9.68	0	00:45	4.12	0.43	1.00
Out_14-1	ORIFICE	0.24	0	02:09	1.00		
Out_14-2	ORIFICE	0.30	0	02:09	1.00		
Out_14-3	ORIFICE	0.26	0	02:09	1.00		
Out_14-4	ORIFICE	3.32	0	02:09	1.00		
PR_01	CONDUIT	2.66	0	01:10	2.98	0.04	0.19
PR_02	CONDUIT	3.45	0	00:45	3.16	0.05	0.21
PR_03	CONDUIT	5.55	0	00:45	8.66	0.32	0.39
PR_04	CONDUIT	10.77	0	00:45	3.33	0.09	0.37
PR_04A	CONDUIT	10.64	0	00:45	3.31	0.12	0.39
PR_05	CONDUIT	22.90	0	00:45	5.48	0.11	0.37
PR_05a	CONDUIT	24.81	0	00:45	5.01	0.00	0.03
PR_06	CONDUIT	21.94	0	00:46	3.41	0.11	0.57
PR_07	CONDUIT	4.37	0	00:45	6.23	0.37	0.42
PR_08	CONDUIT	10.73	0	00:45	8.42	0.17	0.56
PR_09	CONDUIT	15.20	0	00:45	4.63	0.23	0.85
PR_10	CONDUIT	40.07	0	00:55	9.47	0.33	0.92
PR_13	CONDUIT	4.14	0	02:09	4.19	0.02	0.20
Weir_14-1	ORIFICE	0.00	0	00:00			
Weir_14-2	WEIR	0.00	0	00:00	0.00		

Topic: Storage Volume Click a column header to sort the column.

Storage Unit	Average Volume 1000 ft3	Average Percent Full	Evap Percent Loss	Exfil Percent Loss	Maximum Volume 1000 ft3	Maximum Percent Full	Day of Maximum Volume	Hour of Maximum Volume	Maximum Outflow CFS
Pond_14	6.084	3	0	0	58.927	34	0	02:09	28.93
Pond_CH	3.823	2	0	0	60.532	39	0	01:43	2.58

Topic: Outfall Loading Click a column header to sort the column.

Outfall Node	Flow Freq. Pcnt.	Avg. Flow CFS	Max. Flow CFS	Total Volume 10^6 gal
SouthOutfall	46.65	0.75	4.14	1.125

Storage Volume
&
Outfall Loading

10-Year Storm

Topic: Subcatchment Runoff Click a column header to sort the column.

Subcatchment	Total Precip in	Total Runon in	Total Evap in	Total Infil in	Imperv Runoff in	Perv Runoff in	Total Runoff in	Total Runoff 10^6 gal	Peak Runoff CFS	Runoff Coeff
B	1.99	0.00	0.00	1.00	0.98	0.00	0.98	0.26	27.80	0.491
C1-1	1.99	0.00	0.00	0.07	1.86	0.03	1.89	0.12	13.28	0.949
C1-2	1.99	0.00	0.00	0.06	1.86	0.04	1.89	0.10	10.09	0.950
C1-3	1.99	0.00	0.00	0.06	1.86	0.04	1.89	0.02	2.70	0.950
C1-4	1.99	0.00	0.00	0.07	1.86	0.03	1.88	0.02	0.79	0.946
C2	1.99	0.00	0.00	0.00	1.96	0.00	1.96	0.01	1.42	0.982
G1	1.99	0.00	0.00	0.04	1.90	0.02	1.92	0.17	18.69	0.962
G2	1.99	0.00	0.00	0.04	1.90	0.02	1.92	0.07	6.90	0.962
G3	1.99	0.00	0.00	0.07	1.86	0.03	1.89	0.05	5.34	0.949
G4	1.99	0.00	0.00	0.00	1.96	0.00	1.96	0.01	0.81	0.982
G5	1.99	0.00	0.00	0.07	1.86	0.03	1.89	0.07	7.87	0.949
G6	1.99	0.00	0.00	0.21	1.66	0.09	1.76	0.08	9.40	0.882
G7	1.99	0.00	0.00	0.00	1.95	0.00	1.95	0.03	2.68	0.981
H1	1.99	0.00	0.00	0.00	1.95	0.00	1.95	0.03	2.53	0.982
H2-1	1.99	0.00	0.00	1.64	0.14	0.21	0.35	0.02	1.28	0.173
H2-2	1.99	0.00	0.00	0.06	1.86	0.04	1.89	0.01	1.30	0.951
H2-3	1.99	0.00	0.00	0.06	1.86	0.04	1.89	0.02	2.37	0.951
H2-4	1.99	0.00	0.00	0.06	1.86	0.04	1.89	0.02	1.92	0.951
H2-5	1.99	0.00	0.00	0.06	1.86	0.04	1.89	0.02	2.17	0.951
H2-6	1.99	0.00	0.00	0.06	1.86	0.04	1.89	0.05	5.32	0.950
H2-7	1.99	0.00	0.00	1.16	0.49	0.33	0.82	0.03	3.49	0.413
H2-8	1.99	0.00	0.00	0.00	1.96	0.00	1.96	0.00	0.44	0.982
H2-9	1.99	0.00	0.00	0.06	1.86	0.04	1.89	0.02	1.65	0.950
H3	1.99	0.00	0.00	0.00	1.96	0.00	1.96	0.01	1.29	0.982
I1	1.99	0.00	0.00	0.00	1.96	0.00	1.96	0.01	1.19	0.982
I2	1.99	0.00	0.00	0.07	1.86	0.03	1.89	0.13	15.07	0.949
I3	1.99	0.00	0.00	0.00	1.96	0.00	1.96	0.01	1.02	0.982

Subcatchment Runoff

Topic: Node Inflow Click a column header to sort the column.

Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Day of Maximum Inflow	Hour of Maximum Inflow	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal	Flow Balance Error Percent
DP_S01	JUNCTION	13.28	40.78	0	00:45	0.122	0.38	-0.232
DP_S02	JUNCTION	0.00	59.18	0	00:45	0	0.582	0.104
DP_S04	JUNCTION	1.29	3.15	0	00:45	0.0117	0.726	-0.008
DP_S05	JUNCTION	1.19	4.32	0	00:45	0.0106	0.737	0.004
DP_S06	JUNCTION	2.53	13.61	0	00:45	0.026	0.833	0.024
DP_S07	JUNCTION	16.09	28.68	0	00:45	0.144	0.976	0.005
DP_S08	JUNCTION	0.81	29.31	0	00:45	0.0069	0.983	0.004
DP_S09	JUNCTION	7.87	13.20	0	00:45	0.0688	0.115	0.532
DP_S10	JUNCTION	12.08	43.84	0	00:45	0.106	0.4	-0.347
DP_S11	JUNCTION	0.00	4.62	0	02:09	0	1.37	-0.000
Inlet_C1-2	JUNCTION	10.09	10.09	0	00:45	0.0966	0.0966	-0.000
Inlet_C1-3	JUNCTION	2.70	2.70	0	00:45	0.0247	0.0247	0.012
Inlet_C1-4	JUNCTION	0.00	12.77	0	00:45	0	0.121	0.011
Inlet_CH2	JUNCTION	2.21	14.94	0	00:45	0.0297	0.151	0.072
Inlet_H2-2_DPCH1	JUNCTION	1.30	5.79	0	00:45	0.0108	0.0494	0.180
Inlet_H2-3	JUNCTION	2.37	2.37	0	00:45	0.0201	0.0201	-0.003
Inlet_H2-4	JUNCTION	1.92	1.92	0	00:45	0.0165	0.0165	0.160
Inlet_H2-5	JUNCTION	2.17	2.17	0	00:45	0.0185	0.0185	-0.005
Inlet_H2-6_DPCH4	JUNCTION	5.32	7.24	0	00:45	0.0478	0.0644	0.190
Inlet_H2-7_DPCH5	JUNCTION	3.49	10.71	0	00:45	0.0332	0.0977	-0.218
Inlet_H2-8	JUNCTION	0.44	12.63	0	00:45	0.00372	0.118	-0.020
Inlet_H2-9	JUNCTION	1.65	12.57	0	00:44	0.0159	0.114	-0.010
J_G2	JUNCTION	6.90	6.90	0	00:45	0.0692	0.0692	-0.003
J_G3	JUNCTION	5.34	5.34	0	00:45	0.0467	0.0467	-0.000
J_G7	JUNCTION	18.69	18.69	0	00:45	0.172	0.172	0.240
JN_B	JUNCTION	27.80	27.80	0	00:45	0.26	0.26	0.549
MH4-A	JUNCTION	0.00	4.30	0	00:45	0	0.737	-0.040
MH4-C	JUNCTION	0.00	13.31	0	00:45	0	0.832	-0.006
MH-MulberryWD_01	JUNCTION	0.00	30.76	0	00:45	0	0.983	0.100
MH-MulberryWD_02	JUNCTION	0.00	13.46	0	00:45	0	0.832	-0.000
MH-WVC_01	JUNCTION	0.00	39.53	0	00:45	0	0.381	-0.190
Pond_14	STORAGE	0.00	69.18	0	00:45	0	1.38	-0.094
Pond_CH	STORAGE	1.28	72.61	0	00:45	0.0157	0.714	-0.084
SouthOutfall	OUTFALL	0.00	4.62	0	02:09	0	1.37	0.000

Node Inflow

Topic: Node Inflow Click a column header to sort the column.

Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Day of Maximum Inflow	Hour of Maximum Inflow	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal	Flow Balance Error Percent
DP_S01	JUNCTION	9.97	30.35	0	01:35	0.0622	0.195	0.241
DP_S02	JUNCTION	0.00	43.29	0	01:35	0	0.298	0.090
DP_S04	JUNCTION	1.03	2.34	0	01:35	0.00601	0.363	-0.007
DP_S05	JUNCTION	0.95	3.26	0	01:35	0.00547	0.368	0.004
DP_S06	JUNCTION	1.73	9.56	0	01:35	0.0134	0.417	0.039
DP_S07	JUNCTION	12.49	20.36	0	01:35	0.0737	0.491	0.010
DP_S08	JUNCTION	0.70	20.77	0	01:35	0.00356	0.494	-0.007
DP_S09	JUNCTION	6.31	10.56	0	01:35	0.0352	0.0591	0.717
DP_S10	JUNCTION	9.42	33.90	0	01:35	0.0535	0.294	-0.145
DP_S11	JUNCTION	0.00	3.17	0	02:08	0	0.69	-0.000
Inlet_C1-2	JUNCTION	7.19	7.19	0	01:35	0.0493	0.0493	-0.001
Inlet_C1-3	JUNCTION	2.03	2.03	0	01:35	0.0126	0.0126	-0.010
Inlet_C1-4	JUNCTION	0.00	9.17	0	01:35	0	0.062	0.020
Inlet_CH2	JUNCTION	1.48	10.64	0	01:35	0.0152	0.0771	0.055
Inlet_H2-2_DPCH1	JUNCTION	1.13	4.84	0	01:35	0.00555	0.0253	-0.000
Inlet_H2-3	JUNCTION	2.00	2.00	0	01:35	0.0103	0.0103	-0.015
Inlet_H2-4	JUNCTION	1.60	1.60	0	01:35	0.00843	0.00843	-0.011
Inlet_H2-5	JUNCTION	1.81	1.81	0	01:35	0.00948	0.00948	-0.021
Inlet_H2-6_DPCH4	JUNCTION	4.10	5.68	0	01:35	0.0245	0.0329	0.375
Inlet_H2-7_DPCH5	JUNCTION	2.51	8.15	0	01:35	0.0118	0.0462	-0.081
Inlet_H2-8	JUNCTION	0.38	9.53	0	01:35	0.00192	0.0555	-0.101
Inlet_H2-9	JUNCTION	1.17	9.20	0	01:34	0.00814	0.0551	-0.042
J_G2	JUNCTION	4.75	4.75	0	01:35	0.0355	0.0355	-0.006
J_G3	JUNCTION	4.28	4.28	0	01:35	0.0239	0.0239	-0.003
J_G7	JUNCTION	14.19	14.19	0	01:35	0.0881	0.0922	0.404
JN_B	JUNCTION	21.06	21.06	0	01:35	0.134	0.134	0.629
MH4-A	JUNCTION	0.00	3.25	0	01:35	0	0.368	-0.032
MH4-C	JUNCTION	0.00	9.10	0	01:35	0	0.417	-0.004
MH-MulberryWD_01	JUNCTION	0.00	20.52	0	01:35	0	0.494	0.253
MH-MulberryWD_02	JUNCTION	0.00	9.32	0	01:35	0	0.417	-0.021
MH-WVC_01	JUNCTION	0.00	29.84	0	01:35	0	0.195	-0.448
Pond_14	STORAGE	0.00	50.01	0	01:35	0	0.783	-0.139
Pond_CH	STORAGE	0.85	52.55	0	01:35	0.00392	0.356	-0.066
SouthOutfall	OUTFALL	0.00	3.17	0	02:08	0	0.69	0.000

Node Depth

Topic: Link Flow Click a column header to sort the column.

Link	Type	Maximum |Flow| CFS	Day of Maximum Flow	Hour of Maximum Flow	Maximum |Velocity| ft/sec	Max / Full Flow	Max / Full Depth
16	ORIFICE	0.04	0	02:09	1.00		
26	CONDUIT	27.64	0	00:45	7.14	0.38	0.55
28	CONDUIT	14.92	0	00:45	4.80	0.13	0.67
3	WEIR	0.00	0	00:00	0.00		
31	CONDUIT	59.13	0	00:45	5.67	0.58	0.93
33	CONDUIT	4.26	0	00:45	2.87	0.09	0.33
34	CONDUIT	13.66	0	00:45	3.08	0.15	0.55
35	CONDUIT	39.64	0	00:45	3.49	0.39	0.82
36	CONDUIT	2.15	0	00:45	4.68	0.20	0.31
8	ORIFICE	2.49	0	01:48	1.00		
C_1-2_C_1-4	CONDUIT	10.09	0	00:45	9.08	0.31	0.39
C1-3_C1-4	CONDUIT	2.68	0	00:45	5.10	0.24	0.35
C1-4_CH2	CONDUIT	12.76	0	00:45	6.80	0.40	0.62
ch_0	ORIFICE	0.35	0	01:50	1.00		
CH_Weir	ORIFICE	0.00	0	00:00			
Ch1_CH2	CONDUIT	5.79	0	00:45	8.72	0.14	0.36
CH4_CH5	CONDUIT	7.22	0	00:45	8.71	0.43	0.70
CH5_H2-9	CONDUIT	10.95	0	00:44	6.00	0.34	1.00
DP_S01toMH-WVC_01	CONDUIT	39.53	0	00:45	3.67	0.39	0.76
H2-3_H2-2	CONDUIT	2.36	0	00:45	4.80	0.22	0.32
H2-4_CH4	CONDUIT	1.92	0	00:45	5.99	0.12	0.24
H2-8_Pond_CH	CONDUIT	12.63	0	00:45	4.02	0.57	1.00
H2-9_H2-8	CONDUIT	12.21	0	00:45	4.26	0.54	1.00
Out_14-1	ORIFICE	0.25	0	02:09	1.00		
Out_14-2	ORIFICE	0.32	0	02:09	1.00		
Out_14-3	ORIFICE	0.29	0	02:09	1.00		
Out_14-4	ORIFICE	3.71	0	02:09	1.00		
PR_01	CONDUIT	3.14	0	00:45	3.04	0.05	0.22
PR_02	CONDUIT	4.30	0	00:45	3.17	0.06	0.25
PR_03	CONDUIT	6.89	0	00:45	9.18	0.40	0.44
PR_04	CONDUIT	13.46	0	00:45	3.48	0.12	0.42
PR_04A	CONDUIT	13.31	0	00:45	3.33	0.14	0.45
PR_05	CONDUIT	28.52	0	00:45	5.82	0.14	0.41
PR_05a	CONDUIT	30.76	0	00:45	5.06	0.00	0.03
PR_06	CONDUIT	27.42	0	00:46	3.53	0.13	0.65
PR_07	CONDUIT	5.34	0	00:45	6.57	0.45	0.47
PR_08	CONDUIT	13.12	0	00:45	8.20	0.21	0.57
PR_09	CONDUIT	18.67	0	00:45	4.69	0.28	0.97
PR_10	CONDUIT	43.40	0	00:44	9.21	0.36	1.00
PR_13	CONDUIT	4.62	0	02:09	4.29	0.02	0.21
Weir_14-1	ORIFICE	0.00	0	00:00			
Weir_14-2	WEIR	0.00	0	00:00	0.00		

Topic: Storage Volume Click a column header to sort the column.

Storage Unit	Average Volume 1000 ft3	Average Percent Full	Evap Percent Loss	Exfil Percent Loss	Maximum Volume 1000 ft3	Maximum Percent Full	Day of Maximum Volume	Hour of Maximum Volume	Maximum Outflow CFS
Pond_14	7.323	4	0	0	72.422	42	0	02:09	4.62
Pond_CH	4.933	3	0	0	75.442	49	0	01:48	2.85

Topic: Outfall Loading Click a column header to sort the column.

Outfall Node	Flow Freq. Pcnt.	Avg. Flow CFS	Max. Flow CFS	Total Volume 10^6 gal
SouthOutfall	48.01	0.88	4.62	1.373

Storage Volume
&
Outfall Loading

25-Year Storm

Topic: Subcatchment Runoff Click a column header to sort the column.

Subcatchment	Total Precip in	Total Runon in	Total Evap in	Total Infil in	Imperv Runoff in	Perv Runoff in	Total Runoff in	Total Runoff 10^6 gal	Peak Runoff CFS	Runoff Coeff
B	2.54	0.00	0.00	1.27	1.25	0.00	1.25	0.33	36.20	0.493
C1-1	2.54	0.00	0.00	0.07	2.38	0.05	2.43	0.16	17.36	0.957
C1-2	2.54	0.00	0.00	0.07	2.38	0.06	2.43	0.12	13.28	0.958
C1-3	2.54	0.00	0.00	0.07	2.38	0.06	2.44	0.03	3.53	0.959
C1-4	2.54	0.00	0.00	0.08	2.38	0.05	2.43	0.02	1.12	0.955
C2	2.54	0.00	0.00	0.00	2.50	0.00	2.50	0.02	1.86	0.986
G1	2.54	0.00	0.00	0.04	2.43	0.03	2.46	0.22	24.37	0.969
G2	2.54	0.00	0.00	0.04	2.43	0.03	2.46	0.09	9.12	0.969
G3	2.54	0.00	0.00	0.07	2.38	0.05	2.43	0.06	6.93	0.958
G4	2.54	0.00	0.00	0.00	2.50	0.00	2.50	0.01	1.03	0.986
G5	2.54	0.00	0.00	0.07	2.38	0.05	2.43	0.09	10.20	0.958
G6	2.54	0.00	0.00	0.23	2.13	0.16	2.28	0.10	12.29	0.899
G7	2.54	0.00	0.00	0.00	2.50	0.00	2.50	0.04	3.55	0.986
H1	2.54	0.00	0.00	0.00	2.50	0.00	2.50	0.03	3.34	0.986
H2-1	2.54	0.00	0.00	1.89	0.18	0.47	0.65	0.03	2.02	0.256
H2-2	2.54	0.00	0.00	0.07	2.38	0.06	2.44	0.01	1.66	0.960
H2-3	2.54	0.00	0.00	0.07	2.38	0.06	2.44	0.03	3.05	0.959
H2-4	2.54	0.00	0.00	0.07	2.38	0.06	2.44	0.02	2.48	0.959
H2-5	2.54	0.00	0.00	0.07	2.38	0.06	2.44	0.02	2.79	0.959
H2-6	2.54	0.00	0.00	0.07	2.38	0.06	2.44	0.06	6.93	0.959
H2-7	2.54	0.00	0.00	1.28	0.63	0.62	1.25	0.05	5.12	0.491
H2-8	2.54	0.00	0.00	0.00	2.50	0.00	2.50	0.00	0.56	0.986
H2-9	2.54	0.00	0.00	0.07	2.38	0.06	2.43	0.02	2.18	0.958
H3	2.54	0.00	0.00	0.00	2.50	0.00	2.50	0.01	1.67	0.986
I1	2.54	0.00	0.00	0.00	2.50	0.00	2.50	0.01	1.53	0.986
I2	2.54	0.00	0.00	0.07	2.38	0.05	2.43	0.17	19.63	0.957
I3	2.54	0.00	0.00	0.00	2.50	0.00	2.50	0.01	1.32	0.986

Subcatchment Runoff

Topic: Node Inflow Click a column header to sort the column.

Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Day of Maximum Inflow	Hour of Maximum Inflow	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal	Flow Balance Error Percent
DP_S01	JUNCTION	17.36	53.83	0	00:45	0.157	0.488	-0.344
DP_S02	JUNCTION	0.00	78.24	0	00:45	0	0.748	0.086
DP_S04	JUNCTION	1.67	3.91	0	00:45	0.015	0.951	-0.007
DP_S05	JUNCTION	1.53	5.42	0	00:45	0.0136	0.965	0.004
DP_S06	JUNCTION	3.34	17.76	0	00:45	0.0333	1.09	0.019
DP_S07	JUNCTION	20.94	37.77	0	00:45	0.185	1.27	0.022
DP_S08	JUNCTION	1.03	38.61	0	00:45	0.00884	1.28	-0.000
DP_S09	JUNCTION	10.20	17.12	0	00:45	0.0885	0.149	0.391
DP_S10	JUNCTION	15.84	57.21	0	00:45	0.137	0.506	-0.364
DP_S11	JUNCTION	0.00	6.17	0	02:06	0	1.78	-0.000
Inlet_C1-2	JUNCTION	13.28	13.28	0	00:45	0.124	0.124	-0.000
Inlet_C1-3	JUNCTION	3.53	3.53	0	00:45	0.0317	0.0317	0.047
Inlet_C1-4	JUNCTION	0.00	16.78	0	00:45	0	0.156	0.017
Inlet_CH2	JUNCTION	2.98	19.70	0	00:45	0.0381	0.194	0.046
Inlet_H2-2_DPCH1	JUNCTION	1.66	7.46	0	00:45	0.0139	0.0635	0.110
Inlet_H2-3	JUNCTION	3.05	3.05	0	00:45	0.0258	0.0258	-0.003
Inlet_H2-4	JUNCTION	2.48	2.48	0	00:45	0.0212	0.0212	0.192
Inlet_H2-5	JUNCTION	2.79	2.79	0	00:45	0.0238	0.0238	-0.005
Inlet_H2-6_DPCH4	JUNCTION	6.93	9.40	0	00:45	0.0615	0.0826	0.090
Inlet_H2-7_DPCH5	JUNCTION	5.12	14.38	0	00:45	0.0504	0.133	-0.163
Inlet_H2-8	JUNCTION	0.56	17.10	0	00:45	0.00476	0.158	-0.012
Inlet_H2-9	JUNCTION	2.18	16.55	0	00:45	0.0205	0.154	0.002
J_G2	JUNCTION	9.12	9.12	0	00:45	0.0889	0.0889	-0.002
J_G3	JUNCTION	6.93	6.93	0	00:45	0.0601	0.0601	-0.000
J_G7	JUNCTION	24.37	24.37	0	00:45	0.221	0.221	0.167
JN_B	JUNCTION	36.20	36.20	0	00:45	0.333	0.333	0.366
MH4-A	JUNCTION	0.00	5.40	0	00:45	0	0.965	-0.033
MH4-C	JUNCTION	0.00	17.44	0	00:45	0	1.09	-0.004
MH-MulberryWD_01	JUNCTION	0.00	44.70	0	00:44	0	1.28	0.110
MH-MulberryWD_02	JUNCTION	0.00	17.60	0	00:45	0	1.09	0.001
MH-WVC_01	JUNCTION	0.00	52.08	0	00:45	0	0.49	-0.149
Pond_14	STORAGE	0.00	92.01	0	00:45	0	1.79	-0.119
Pond_CH	STORAGE	2.02	96.78	0	00:45	0.0295	0.935	-0.074
SouthOutfall	OUTFALL	0.00	6.17	0	02:06	0	1.78	0.000

Topic: Node Depth Click a column header to sort the column.

Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Day of Maximum Depth	Hour of Maximum Depth	Maximum Reported Depth Feet
DP_S01	JUNCTION	0.14	3.23	6920.68	0	00:45	3.17
DP_S02	JUNCTION	0.28	3.56	6919.89	0	02:05	3.56
DP_S04	JUNCTION	0.10	0.85	6914.40	0	00:45	0.85
DP_S05	JUNCTION	0.10	1.02	6913.98	0	00:45	1.02
DP_S06	JUNCTION	0.10	1.85	6913.26	0	00:45	1.84
DP_S07	JUNCTION	0.10	2.67	6911.11	0	00:45	2.67
DP_S08	JUNCTION	0.02	1.77	6909.07	0	00:45	1.67
DP_S09	JUNCTION	0.01	0.90	6907.78	0	00:45	0.90
DP_S10	JUNCTION	0.35	4.41	6906.49	0	02:05	4.41
DP_S11	JUNCTION	0.16	1.10	6898.60	0	02:06	1.10
Inlet_C1-2	JUNCTION	0.01	0.90	6922.05	0	00:45	0.90
Inlet_C1-3	JUNCTION	0.01	0.57	6922.80	0	00:45	0.57
Inlet_C1-4	JUNCTION	0.01	1.29	6921.58	0	00:45	1.29
Inlet_CH2	JUNCTION	0.03	2.24	6921.36	0	00:45	2.23
Inlet_H2-2_DPCH1	JUNCTION	0.00	0.58	6920.56	0	00:45	0.58
Inlet_H2-3	JUNCTION	0.00	0.55	6922.19	0	00:45	0.55
Inlet_H2-4	JUNCTION	0.00	0.39	6921.45	0	00:45	0.39
Inlet_H2-5	JUNCTION	0.00	0.53	6922.81	0	00:45	0.53
Inlet_H2-6_DPCH4	JUNCTION	0.04	1.23	6919.89	0	02:05	1.23
Inlet_H2-7_DPCH5	JUNCTION	0.25	3.39	6919.89	0	02:05	3.39
Inlet_H2-8	JUNCTION	0.51	4.64	6919.89	0	02:05	4.64
Inlet_H2-9	JUNCTION	0.37	4.03	6919.89	0	02:05	4.03
J_G2	JUNCTION	0.01	0.78	6915.25	0	00:45	0.78
J_G3	JUNCTION	0.01	0.83	6909.01	0	00:45	0.83
J_G7	JUNCTION	0.25	3.73	6906.49	0	02:05	3.73
JN_B	JUNCTION	0.01	1.59	6923.49	0	00:44	1.59
MH4-A	JUNCTION	0.10	1.01	6913.44	0	00:45	1.01
MH4-C	JUNCTION	0.10	2.28	6911.24	0	00:45	2.27
MH-MulberryWD_01	JUNCTION	0.10	2.64	6909.06	0	00:46	2.63
MH-MulberryWD_02	JUNCTION	0.10	1.84	6912.05	0	00:45	1.82
MH-WVC_01	JUNCTION	0.20	3.30	6920.15	0	00:45	3.25
Pond_14	STORAGE	3.38	8.49	6906.49	0	02:06	8.49
Pond_CH	STORAGE	0.80	5.80	6919.89	0	02:06	5.80
SouthOutfall	OUTFALL	0.06	0.37	6895.90	0	02:06	0.37

Topic: Link Flow Click a column header to sort the column.

Link	Type	Maximum |Flow| CFS	Day of Maximum Flow	Hour of Maximum Flow	Maximum |Velocity| ft/sec	Max / Full Flow	Max / Full Depth
16	ORIFICE	0.05	0	02:06	1.00		
26	CONDUIT	36.59	0	00:45	7.27	0.51	0.71
28	CONDUIT	19.70	0	00:45	4.91	0.17	0.85
3	WEIR	0.00	0	00:00	0.00		
31	CONDUIT	78.21	0	00:45	6.65	0.77	1.00
33	CONDUIT	5.37	0	00:45	2.96	0.11	0.39
34	CONDUIT	17.96	0	00:45	3.15	0.19	0.66
35	CONDUIT	52.41	0	00:45	4.08	0.51	0.99
36	CONDUIT	2.77	0	00:45	5.03	0.26	0.35
8	ORIFICE	2.86	0	02:06	1.00		
C_1-2_C_1-4	CONDUIT	13.27	0	00:45	9.77	0.41	0.45
C1-3_C1-4	CONDUIT	3.51	0	00:45	5.04	0.31	0.46
C1-4_CH2	CONDUIT	16.75	0	00:45	6.78	0.52	0.76
ch_0	ORIFICE	0.37	0	02:07	1.00		
CH_Weir	ORIFICE	0.00	0	00:00			
Ch1_CH2	CONDUIT	7.46	0	00:45	8.40	0.18	0.52
CH4_CH5	CONDUIT	9.32	0	00:45	8.22	0.56	0.91
CH5_H2-9	CONDUIT	14.37	0	00:45	6.22	0.45	1.00
DP_S01toMH-WVC_01	CONDUIT	52.08	0	00:45	4.05	0.51	0.99
H2-3_H2-2	CONDUIT	3.04	0	00:45	5.15	0.29	0.37
H2-4_CH4	CONDUIT	2.48	0	00:45	5.98	0.15	0.34
H2-8_Pond_CH	CONDUIT	17.09	0	00:45	5.44	0.77	1.00
H2-9_H2-8	CONDUIT	16.55	0	00:45	5.27	0.73	1.00
Out_14-1	ORIFICE	0.28	0	02:06	1.00		
Out_14-2	ORIFICE	0.36	0	02:06	1.00		
Out_14-3	ORIFICE	0.33	0	02:06	1.00		
Out_14-4	ORIFICE	4.21	0	02:06	1.00		
PR_01	CONDUIT	3.90	0	00:45	3.10	0.06	0.26
PR_02	CONDUIT	5.40	0	00:45	3.21	0.08	0.29
PR_03	CONDUIT	9.11	0	00:45	9.86	0.53	0.52
PR_04	CONDUIT	17.60	0	00:45	3.69	0.15	0.50
PR_04A	CONDUIT	17.44	0	00:45	3.37	0.19	0.54
PR_05	CONDUIT	37.60	0	00:45	6.31	0.19	0.49
PR_05a	CONDUIT	44.70	0	00:44	5.15	0.00	0.04
PR_06	CONDUIT	36.70	0	00:46	3.80	0.18	0.77
PR_07	CONDUIT	6.92	0	00:45	7.02	0.59	0.55
PR_08	CONDUIT	17.04	0	00:45	8.26	0.28	0.62
PR_09	CONDUIT	24.35	0	00:45	4.80	0.37	1.00
PR_10	CONDUIT	56.46	0	00:45	8.97	0.47	1.00
PR_13	CONDUIT	6.17	0	02:06	4.60	0.03	0.24
Weir_14-1	ORIFICE	0.95	0	02:06			
Weir_14-2	WEIR	0.00	0	00:00	0.00		

Topic: Storage Volume Click a column header to sort the column.

Storage Unit	Average Volume 1000 ft3	Average Percent Full	Evap Percent Loss	Exfil Percent Loss	Maximum Volume 1000 ft3	Maximum Percent Full	Day of Maximum Volume	Hour of Maximum Volume	Maximum Outflow CFS
Pond_14	9.528	5	0	0	93.649	54	0	02:06	6.17
Pond_CH	7.086	5	0	0	101.292	66	0	02:06	3.23

Topic: Outfall Loading Click a column header to sort the column.

Outfall Node	Flow Freq. Pcnt.	Avg. Flow CFS	Max. Flow CFS	Total Volume 10^6 gal
SouthOutfall	50.09	1.10	6.17	1.784

Storage Volume
&
Outfall Loading

50-Year Storm

Topic: Subcatchment Runoff Click a column header to sort the column.

Subcatchment	Total Precip in	Total Runon in	Total Evap in	Total Infil in	Imperv Runoff in	Perv Runoff in	Total Runoff in	Total Runoff 10^6 gal	Peak Runoff CFS	Runoff Coeff
B	3.01	0.00	0.00	1.51	1.49	0.00	1.49	0.40	43.44	0.494
C1-1	3.01	0.00	0.00	0.08	2.83	0.07	2.90	0.19	20.87	0.963
C1-2	3.01	0.00	0.00	0.08	2.83	0.08	2.90	0.15	16.03	0.964
C1-3	3.01	0.00	0.00	0.07	2.83	0.08	2.90	0.04	4.24	0.964
C1-4	3.01	0.00	0.00	0.08	2.82	0.07	2.89	0.02	1.43	0.961
C2	3.01	0.00	0.00	0.00	2.97	0.00	2.97	0.02	2.24	0.988
G1	3.01	0.00	0.00	0.05	2.88	0.04	2.93	0.26	29.26	0.973
G2	3.01	0.00	0.00	0.05	2.88	0.04	2.93	0.11	11.04	0.973
G3	3.01	0.00	0.00	0.08	2.83	0.07	2.90	0.07	8.29	0.963
G4	3.01	0.00	0.00	0.00	2.98	0.00	2.98	0.01	1.22	0.988
G5	3.01	0.00	0.00	0.08	2.83	0.07	2.90	0.11	12.20	0.963
G6	3.01	0.00	0.00	0.24	2.53	0.21	2.74	0.12	14.75	0.910
G7	3.01	0.00	0.00	0.00	2.97	0.00	2.97	0.04	4.31	0.988
H1	3.01	0.00	0.00	0.00	2.97	0.00	2.97	0.04	4.04	0.988
H2-1	3.01	0.00	0.00	2.04	0.21	0.76	0.97	0.04	2.77	0.322
H2-2	3.01	0.00	0.00	0.07	2.83	0.08	2.90	0.02	1.97	0.965
H2-3	3.01	0.00	0.00	0.07	2.83	0.08	2.90	0.03	3.63	0.964
H2-4	3.01	0.00	0.00	0.07	2.83	0.08	2.90	0.03	2.96	0.964
H2-5	3.01	0.00	0.00	0.07	2.83	0.08	2.90	0.03	3.33	0.964
H2-6	3.01	0.00	0.00	0.07	2.83	0.08	2.90	0.07	8.31	0.964
H2-7	3.01	0.00	0.00	1.36	0.74	0.90	1.64	0.07	6.67	0.545
H2-8	3.01	0.00	0.00	0.00	2.98	0.00	2.98	0.01	0.66	0.988
H2-9	3.01	0.00	0.00	0.08	2.83	0.08	2.90	0.02	2.63	0.964
H3	3.01	0.00	0.00	0.00	2.97	0.00	2.97	0.02	2.00	0.988
I1	3.01	0.00	0.00	0.00	2.97	0.00	2.97	0.02	1.83	0.988
I2	3.01	0.00	0.00	0.08	2.83	0.07	2.90	0.21	23.54	0.963
I3	3.01	0.00	0.00	0.00	2.97	0.00	2.97	0.01	1.57	0.988

Subcatchment Runoff

Topic: Node Inflow Click a column header to sort the column.

Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Day of Maximum Inflow	Hour of Maximum Inflow	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal	Flow Balance Error Percent
DP_S01	JUNCTION	20.87	63.17	0	00:45	0.186	0.581	-0.250
DP_S02	JUNCTION	0.00	95.88	0	00:45	0	0.89	0.053
DP_S04	JUNCTION	2.00	4.49	0	00:45	0.0178	0.999	-0.006
DP_S05	JUNCTION	1.83	6.30	0	00:45	0.0162	1.02	0.003
DP_S06	JUNCTION	4.04	21.25	0	00:45	0.0396	1.16	0.021
DP_S07	JUNCTION	25.11	45.42	0	00:45	0.221	1.38	0.026
DP_S08	JUNCTION	1.22	46.54	0	00:45	0.0105	1.39	-0.003
DP_S09	JUNCTION	12.20	20.47	0	00:45	0.105	0.177	0.267
DP_S10	JUNCTION	19.06	68.68	0	00:45	0.164	0.603	-0.221
DP_S11	JUNCTION	0.00	12.95	0	01:15	0	1.99	-0.000
Inlet_C1-2	JUNCTION	16.03	16.03	0	00:45	0.148	0.148	-0.000
Inlet_C1-3	JUNCTION	4.24	4.24	0	00:45	0.0378	0.0378	0.035
Inlet_C1-4	JUNCTION	0.00	20.24	0	00:45	0	0.186	0.029
Inlet_CH2	JUNCTION	3.67	23.82	0	00:45	0.0453	0.231	0.030
Inlet_H2-2_DPCH1	JUNCTION	1.97	8.90	0	00:45	0.0166	0.0757	0.093
Inlet_H2-3	JUNCTION	3.63	3.63	0	00:45	0.0307	0.0307	-0.003
Inlet_H2-4	JUNCTION	2.96	2.96	0	00:45	0.0252	0.0252	0.211
Inlet_H2-5	JUNCTION	3.33	3.33	0	00:45	0.0284	0.0284	-0.005
Inlet_H2-6_DPCH4	JUNCTION	8.31	11.26	0	00:45	0.0733	0.0984	0.014
Inlet_H2-7_DPCH5	JUNCTION	6.67	17.54	0	00:45	0.0664	0.165	-0.123
Inlet_H2-8	JUNCTION	0.66	20.81	0	00:45	0.00566	0.274	-0.008
Inlet_H2-9	JUNCTION	2.63	20.16	0	00:45	0.0244	0.189	-0.003
J_G2	JUNCTION	11.04	11.04	0	00:45	0.106	0.106	-0.002
J_G3	JUNCTION	8.29	8.29	0	00:45	0.0716	0.0716	-0.000
J_G7	JUNCTION	29.26	29.26	0	00:45	0.262	0.262	0.144
JN_B	JUNCTION	43.44	43.44	0	00:45	0.395	0.395	0.319
MH4-A	JUNCTION	0.00	6.28	0	00:45	0	1.02	-0.037
MH4-C	JUNCTION	0.00	20.92	0	00:45	0	1.16	-0.004
MH-MulberryWD_01	JUNCTION	0.00	46.91	0	00:45	0	1.39	0.131
MH-MulberryWD_02	JUNCTION	0.00	21.09	0	00:45	0	1.16	0.000
MH-WVC_01	JUNCTION	0.00	63.18	0	00:45	0	0.582	-0.166
Pond_14	STORAGE	0.00	110.36	0	00:45	0	1.99	-0.138
Pond_CH	STORAGE	2.77	119.38	0	00:45	0.0439	1.09	-0.060
SouthOutfall	OUTFALL	0.00	12.95	0	01:15	0	1.99	0.000

Node Inflow

Topic: Node Depth Click a column header to sort the column.

Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Day of Maximum Depth	Hour of Maximum Depth	Maximum Reported Depth Feet
DP_S01	JUNCTION	0.15	5.61	6923.06	0	00:43	4.18
DP_S02	JUNCTION	0.30	3.92	6920.25	0	00:45	3.92
DP_S04	JUNCTION	0.10	0.92	6914.47	0	00:45	0.92
DP_S05	JUNCTION	0.10	1.11	6914.07	0	00:45	1.11
DP_S06	JUNCTION	0.10	2.04	6913.45	0	00:45	2.03
DP_S07	JUNCTION	0.10	2.96	6911.40	0	00:45	2.96
DP_S08	JUNCTION	0.02	2.02	6909.32	0	00:45	2.00
DP_S09	JUNCTION	0.01	0.99	6907.87	0	00:45	0.99
DP_S10	JUNCTION	0.36	4.76	6906.84	0	01:14	4.76
DP_S11	JUNCTION	0.16	1.65	6899.15	0	01:15	1.65
Inlet_C1-2	JUNCTION	0.01	1.00	6922.15	0	00:45	1.00
Inlet_C1-3	JUNCTION	0.01	0.64	6922.87	0	00:45	0.64
Inlet_C1-4	JUNCTION	0.01	1.48	6921.77	0	00:45	1.47
Inlet_CH2	JUNCTION	0.03	2.49	6921.61	0	00:45	2.49
Inlet_H2-2_DPCH1	JUNCTION	0.00	0.63	6920.61	0	00:45	0.63
Inlet_H2-3	JUNCTION	0.00	0.61	6922.25	0	00:45	0.61
Inlet_H2-4	JUNCTION	0.00	0.43	6921.49	0	00:45	0.43
Inlet_H2-5	JUNCTION	0.00	0.58	6922.86	0	00:45	0.58
Inlet_H2-6_DPCH4	JUNCTION	0.05	1.36	6920.02	0	01:01	1.36
Inlet_H2-7_DPCH5	JUNCTION	0.26	3.51	6920.01	0	01:01	3.51
Inlet_H2-8	JUNCTION	0.53	4.75	6920.00	0	01:01	4.75
Inlet_H2-9	JUNCTION	0.39	4.14	6920.00	0	01:00	4.14
J_G2	JUNCTION	0.01	0.88	6915.35	0	00:45	0.88
J_G3	JUNCTION	0.01	0.93	6909.11	0	00:45	0.93
J_G7	JUNCTION	0.26	4.08	6906.84	0	01:14	4.08
JN_B	JUNCTION	0.01	1.93	6923.83	0	00:45	1.92
MH4-A	JUNCTION	0.10	1.10	6913.53	0	00:45	1.10
MH4-C	JUNCTION	0.10	2.59	6911.55	0	00:45	2.58
MH-MulberryWD_01	JUNCTION	0.10	2.92	6909.34	0	00:45	2.90
MH-MulberryWD_02	JUNCTION	0.10	2.03	6912.24	0	00:45	2.02
MH-WVC_01	JUNCTION	0.22	4.26	6921.11	0	00:43	3.99
Pond_14	STORAGE	3.40	8.84	6906.84	0	01:15	8.84
Pond_CH	STORAGE	0.83	5.99	6920.08	0	01:11	5.99
SouthOutfall	OUTFALL	0.06	0.54	6896.07	0	01:15	0.54

Topic: Link Flow Click a column header to sort the column.

Link	Type	Maximum |Flow| CFS	Day of Maximum Flow	Hour of Maximum Flow	Maximum |Velocity| ft/sec	Max / Full Flow	Max / Full Depth
16	ORIFICE	0.05	0	01:15	1.00		
26	CONDUIT	42.73	0	00:45	7.31	0.59	0.82
28	CONDUIT	23.82	0	00:45	4.93	0.21	1.00
3	WEIR	0.00	0	00:00	0.00		
31	CONDUIT	95.88	0	00:45	7.87	0.94	1.00
33	CONDUIT	6.24	0	00:45	3.02	0.13	0.44
34	CONDUIT	21.49	0	00:45	3.16	0.23	0.75
35	CONDUIT	63.21	0	00:45	4.90	0.62	1.00
36	CONDUIT	3.31	0	00:45	5.28	0.31	0.39
8	ORIFICE	2.96	0	01:11	1.00		
C_1-2_C_1-4	CONDUIT	16.02	0	00:45	10.26	0.50	0.50
C1-3_C1-4	CONDUIT	4.22	0	00:45	4.95	0.37	0.54
C1-4_CH2	CONDUIT	20.20	0	00:45	6.99	0.63	0.87
ch_0	ORIFICE	0.38	0	01:12	1.00		
CH_Weir	ORIFICE	0.00	0	00:00			
Ch1_CH2	CONDUIT	8.89	0	00:45	8.56	0.22	0.66
CH4_CH5	CONDUIT	10.99	0	00:45	8.39	0.66	0.95
CH5_H2-9	CONDUIT	17.53	0	00:45	6.21	0.54	1.00
DP_S01toMH-WVC_01	CONDUIT	63.18	0	00:45	4.90	0.62	1.00
H2-3_H2-2	CONDUIT	3.62	0	00:45	5.41	0.34	0.41
H2-4_CH4	CONDUIT	2.96	0	00:45	5.92	0.18	0.49
H2-8_Pond_CH	CONDUIT	20.81	0	00:45	6.62	0.94	1.00
H2-9_H2-8	CONDUIT	20.15	0	00:45	6.41	0.90	1.00
Out_14-1	ORIFICE	0.28	0	01:15	1.00		
Out_14-2	ORIFICE	0.37	0	01:15	1.00		
Out_14-3	ORIFICE	0.34	0	01:15	1.00		
Out_14-4	ORIFICE	4.39	0	01:15	1.00		
PR_01	CONDUIT	4.48	0	00:45	3.10	0.07	0.29
PR_02	CONDUIT	6.28	0	00:45	3.25	0.09	0.32
PR_03	CONDUIT	11.03	0	00:45	10.33	0.64	0.58
PR_04	CONDUIT	21.09	0	00:45	3.87	0.18	0.55
PR_04A	CONDUIT	20.92	0	00:45	3.40	0.23	0.62
PR_05	CONDUIT	45.33	0	00:45	6.52	0.22	0.56
PR_05a	CONDUIT	46.91	0	00:45	5.23	0.00	0.05
PR_06	CONDUIT	44.02	0	00:45	4.00	0.22	0.85
PR_07	CONDUIT	8.28	0	00:45	7.31	0.70	0.62
PR_08	CONDUIT	20.39	0	00:45	7.96	0.33	0.66
PR_09	CONDUIT	29.24	0	00:45	4.90	0.44	1.00
PR_10	CONDUIT	67.24	0	00:45	8.61	0.56	1.00
PR_13	CONDUIT	12.95	0	01:15	5.55	0.07	0.36
Weir_14-1	ORIFICE	7.52	0	01:15			
Weir_14-2	WEIR	0.00	0	00:00	0.00		

Topic: Storage Volume Click a column header to sort the column.

Storage Unit	Average Volume 1000 ft3	Average Percent Full	Evap Percent Loss	Exfil Percent Loss	Maximum Volume 1000 ft3	Maximum Percent Full	Day of Maximum Volume	Hour of Maximum Volume	Maximum Outflow CFS
Pond_14	9.892	6	0	0	102.173	59	0	01:15	12.95
Pond_CH	7.593	5	0	0	109.494	71	0	01:11	13.47

Topic: Outfall Loading Click a column header to sort the column.

Outfall Node	Flow Freq. Pcnt.	Avg. Flow CFS	Max. Flow CFS	Total Volume 10^6 gal
SouthOutfall	50.45	1.22	12.95	1.992

Storage Volume
&
Outfall Loading

100-Year Storm

Topic: Subcatchment Runoff Click a column header to sort the column.

Subcatchment	Total Precip in	Total Runon in	Total Evap in	Total Infil in	Imperv Runoff in	Perv Runoff in	Total Runoff in	Total Runoff 10^6 gal	Peak Runoff CFS	Runoff Coeff
B	3.51	0.00	0.00	1.76	1.74	0.00	1.74	0.46	51.23	0.495
C1-1	3.51	0.00	0.00	0.08	3.30	0.09	3.40	0.22	24.64	0.967
C1-2	3.51	0.00	0.00	0.08	3.30	0.10	3.40	0.17	18.99	0.968
C1-3	3.51	0.00	0.00	0.08	3.30	0.10	3.40	0.04	5.00	0.968
C1-4	3.51	0.00	0.00	0.09	3.30	0.09	3.39	0.03	1.77	0.965
C2	3.51	0.00	0.00	0.00	3.48	0.00	3.48	0.02	2.65	0.990
G1	3.51	0.00	0.00	0.05	3.37	0.06	3.43	0.31	34.51	0.976
G2	3.51	0.00	0.00	0.05	3.37	0.06	3.43	0.12	13.11	0.976
G3	3.51	0.00	0.00	0.08	3.30	0.09	3.40	0.08	9.74	0.967
G4	3.51	0.00	0.00	0.00	3.48	0.00	3.48	0.01	1.43	0.990
G5	3.51	0.00	0.00	0.08	3.30	0.09	3.40	0.12	14.35	0.967
G6	3.51	0.00	0.00	0.25	2.96	0.27	3.23	0.14	17.37	0.920
G7	3.51	0.00	0.00	0.00	3.48	0.00	3.48	0.05	5.13	0.990
H1	3.51	0.00	0.00	0.00	3.48	0.00	3.48	0.05	4.80	0.990
H2-1	3.51	0.00	0.00	2.17	0.24	1.10	1.35	0.06	3.69	0.383
H2-2	3.51	0.00	0.00	0.08	3.31	0.10	3.40	0.02	2.31	0.969
H2-3	3.51	0.00	0.00	0.08	3.30	0.10	3.40	0.04	4.25	0.968
H2-4	3.51	0.00	0.00	0.08	3.30	0.10	3.40	0.03	3.47	0.968
H2-5	3.51	0.00	0.00	0.08	3.30	0.10	3.40	0.03	3.91	0.968
H2-6	3.51	0.00	0.00	0.08	3.30	0.10	3.40	0.09	9.79	0.968
H2-7	3.51	0.00	0.00	1.43	0.87	1.21	2.08	0.08	8.43	0.591
H2-8	3.51	0.00	0.00	0.00	3.48	0.00	3.48	0.01	0.77	0.990
H2-9	3.51	0.00	0.00	0.08	3.30	0.10	3.40	0.03	3.12	0.968
H3	3.51	0.00	0.00	0.00	3.48	0.00	3.48	0.02	2.35	0.990
I1	3.51	0.00	0.00	0.00	3.48	0.00	3.48	0.02	2.15	0.990
I2	3.51	0.00	0.00	0.08	3.30	0.09	3.40	0.24	27.74	0.967
I3	3.51	0.00	0.00	0.00	3.48	0.00	3.48	0.02	1.84	0.990

Subcatchment Runoff

Topic: Node Inflow Click a column header to sort the column.

Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Day of Maximum Inflow	Hour of Maximum Inflow	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal	Flow Balance Error Percent
DP_S01	JUNCTION	24.64	75.87	0	00:45	0.219	0.68	-0.233
DP_S02	JUNCTION	0.00	114.69	0	00:45	0	1.04	-0.013
DP_S04	JUNCTION	2.35	6.10	0	01:02	0.0208	1.02	-0.005
DP_S05	JUNCTION	2.15	7.21	0	00:45	0.0189	1.04	0.006
DP_S06	JUNCTION	4.80	24.87	0	00:45	0.0463	1.21	0.031
DP_S07	JUNCTION	29.58	53.52	0	00:45	0.259	1.47	0.027
DP_S08	JUNCTION	1.43	54.86	0	00:45	0.0123	1.48	0.013
DP_S09	JUNCTION	14.35	24.07	0	00:45	0.124	0.208	0.268
DP_S10	JUNCTION	22.50	80.95	0	00:45	0.193	0.708	-0.246
DP_S11	JUNCTION	0.00	20.83	0	01:11	0	2.19	-0.000
Inlet_C1-2	JUNCTION	18.99	18.99	0	00:45	0.174	0.174	-0.000
Inlet_C1-3	JUNCTION	5.00	5.00	0	00:45	0.0443	0.0443	0.054
Inlet_C1-4	JUNCTION	0.00	23.95	0	00:45	0	0.218	0.017
Inlet_CH2	JUNCTION	4.43	28.53	0	00:45	0.0531	0.271	0.170
Inlet_H2-2_DPCH1	JUNCTION	2.31	10.43	0	00:45	0.0194	0.0887	0.085
Inlet_H2-3	JUNCTION	4.25	4.25	0	00:45	0.036	0.036	-0.003
Inlet_H2-4	JUNCTION	3.47	3.47	0	00:45	0.0296	0.0296	0.179
Inlet_H2-5	JUNCTION	3.91	3.91	0	00:45	0.0333	0.0333	-0.005
Inlet_H2-6_DPCH4	JUNCTION	9.79	13.26	0	00:45	0.0859	0.115	-0.001
Inlet_H2-7_DPCH5	JUNCTION	8.43	21.68	0	00:45	0.084	0.199	-0.104
Inlet_H2-8	JUNCTION	0.77	25.57	0	00:45	0.00661	0.415	-0.011
Inlet_H2-9	JUNCTION	3.12	24.80	0	00:45	0.0286	0.228	-0.014
J_G2	JUNCTION	13.11	13.11	0	00:45	0.124	0.124	-0.002
J_G3	JUNCTION	9.74	9.74	0	00:45	0.084	0.084	-0.000
J_G7	JUNCTION	34.51	34.51	0	00:45	0.307	0.307	0.107
JN_B	JUNCTION	51.23	51.23	0	00:45	0.462	0.462	0.273
MH4-A	JUNCTION	0.00	7.18	0	00:45	0	1.04	-0.053
MH4-C	JUNCTION	0.00	24.54	0	00:45	0	1.21	-0.007
MH-MulberryWD_01	JUNCTION	0.00	70.75	0	00:44	0	1.48	0.124
MH-MulberryWD_02	JUNCTION	0.00	24.70	0	00:45	0	1.21	0.001
MH-WVC_01	JUNCTION	0.00	75.87	0	00:45	0	0.681	-0.143
Pond_14	STORAGE	0.00	130.80	0	00:45	0	2.19	-0.171
Pond_CH	STORAGE	3.69	143.70	0	00:45	0.061	1.25	-0.046
SouthOutfall	OUTFALL	0.00	20.83	0	01:11	0	2.19	0.000

Node Inflow

Topic: Node Depth

Click a column header to sort the column.

Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Day of Maximum Depth	Hour of Maximum Depth	Maximum Reported Depth Feet
DP_S01	JUNCTION	0.15	7.00	6924.45	0	00:42	5.39
DP_S02	JUNCTION	0.30	4.57	6920.90	0	00:44	4.51
DP_S04	JUNCTION	0.10	1.09	6914.64	0	01:02	1.09
DP_S05	JUNCTION	0.10	1.19	6914.15	0	00:45	1.19
DP_S06	JUNCTION	0.10	2.23	6913.64	0	00:45	2.22
DP_S07	JUNCTION	0.10	3.25	6911.69	0	00:45	3.24
DP_S08	JUNCTION	0.02	2.42	6909.72	0	00:45	2.35
DP_S09	JUNCTION	0.01	1.08	6907.96	0	00:45	1.08
DP_S10	JUNCTION	0.37	5.15	6907.23	0	01:10	5.15
DP_S11	JUNCTION	0.17	2.15	6899.65	0	01:11	2.15
Inlet_C1-2	JUNCTION	0.01	1.13	6922.28	0	00:45	1.12
Inlet_C1-3	JUNCTION	0.01	0.70	6922.93	0	00:45	0.70
Inlet_C1-4	JUNCTION	0.01	1.65	6921.94	0	00:45	1.64
Inlet_CH2	JUNCTION	0.03	2.63	6921.75	0	00:44	2.61
Inlet_H2-2_DPCH1	JUNCTION	0.01	0.72	6920.70	0	00:45	0.71
Inlet_H2-3	JUNCTION	0.01	0.66	6922.30	0	00:45	0.66
Inlet_H2-4	JUNCTION	0.00	0.46	6921.52	0	00:45	0.46
Inlet_H2-5	JUNCTION	0.01	0.63	6922.91	0	00:45	0.63
Inlet_H2-6_DPCH4	JUNCTION	0.05	3.03	6921.69	0	00:43	2.53
Inlet_H2-7_DPCH5	JUNCTION	0.27	3.64	6920.14	0	00:45	3.63
Inlet_H2-8	JUNCTION	0.53	4.75	6920.00	0	00:52	4.75
Inlet_H2-9	JUNCTION	0.39	4.14	6920.00	0	00:49	4.14
J_G2	JUNCTION	0.01	0.99	6915.46	0	00:45	0.99
J_G3	JUNCTION	0.01	1.04	6909.22	0	00:45	1.04
J_G7	JUNCTION	0.27	4.48	6907.24	0	01:10	4.48
JN_B	JUNCTION	0.01	6.50	6928.40	0	00:44	3.97
MH4-A	JUNCTION	0.10	1.28	6913.71	0	00:45	1.26
MH4-C	JUNCTION	0.10	2.89	6911.85	0	00:45	2.88
MH-MulberryWD_01	JUNCTION	0.10	3.26	6909.68	0	00:45	3.22
MH-MulberryWD_02	JUNCTION	0.10	2.22	6912.43	0	00:45	2.20
MH-WVC_01	JUNCTION	0.22	5.09	6921.94	0	00:44	4.83
Pond_14	STORAGE	3.41	9.23	6907.23	0	01:11	9.23
Pond_CH	STORAGE	0.83	6.12	6920.21	0	01:02	6.12
SouthOutfall	OUTFALL	0.06	0.68	6896.21	0	01:11	0.68

Topic: Link Flow Click a column header to sort the column.

Link	Type	Maximum |Flow| CFS	Day of Maximum Flow	Hour of Maximum Flow	Maximum |Velocity| ft/sec	Max / Full Flow	Max / Full Depth
16	ORIFICE	0.05	0	01:11	1.00		
26	CONDUIT	51.22	0	00:45	7.25	0.71	1.00
28	CONDUIT	29.05	0	00:45	5.92	0.25	1.00
3	WEIR	0.00	0	00:00	0.00		
31	CONDUIT	114.45	0	00:45	9.10	1.12	1.00
33	CONDUIT	7.19	0	00:45	3.30	0.15	0.50
34	CONDUIT	25.18	0	00:45	3.16	0.27	0.83
35	CONDUIT	75.85	0	00:45	5.88	0.74	1.00
36	CONDUIT	3.89	0	00:45	5.52	0.37	0.42
8	ORIFICE	3.02	0	01:02	1.00		
C_1-2_C_1-4	CONDUIT	18.97	0	00:45	10.52	0.59	0.57
C1-3_C1-4	CONDUIT	4.98	0	00:45	5.08	0.44	0.62
C1-4_CH2	CONDUIT	24.17	0	00:45	8.06	0.75	0.91
ch_0	ORIFICE	0.38	0	01:21	1.00		
CH_Weir	ORIFICE	2.34	0	01:02			
Ch1_CH2	CONDUIT	10.54	0	00:45	8.70	0.26	0.68
CH4_CH5	CONDUIT	13.26	0	00:45	8.18	0.79	1.00
CH5_H2-9	CONDUIT	21.68	0	00:45	6.90	0.67	1.00
DP_S01toMH-WVC_01	CONDUIT	75.87	0	00:45	5.88	0.74	1.00
H2-3_H2-2	CONDUIT	4.24	0	00:45	5.65	0.40	0.44
H2-4_CH4	CONDUIT	3.47	0	00:45	5.98	0.21	0.65
H2-8_Pond_CH	CONDUIT	25.58	0	00:45	8.14	1.16	1.00
H2-9_H2-8	CONDUIT	24.80	0	00:45	7.89	1.10	1.00
Out_14-1	ORIFICE	0.29	0	01:11	1.00		
Out_14-2	ORIFICE	0.38	0	01:11	1.00		
Out_14-3	ORIFICE	0.36	0	01:11	1.00		
Out_14-4	ORIFICE	4.58	0	01:11	1.00		
PR_01	CONDUIT	6.10	0	01:02	3.15	0.10	0.32
PR_02	CONDUIT	7.18	0	00:45	3.29	0.11	0.36
PR_03	CONDUIT	13.10	0	00:45	10.72	0.77	0.66
PR_04	CONDUIT	24.70	0	00:45	4.05	0.21	0.61
PR_04A	CONDUIT	24.54	0	00:45	3.53	0.27	0.69
PR_05	CONDUIT	53.43	0	00:45	6.82	0.26	0.64
PR_05a	CONDUIT	70.75	0	00:44	5.30	0.00	0.05
PR_06	CONDUIT	53.76	0	00:45	4.49	0.26	0.91
PR_07	CONDUIT	9.73	0	00:45	7.55	0.82	0.69
PR_08	CONDUIT	23.99	0	00:45	7.92	0.39	0.72
PR_09	CONDUIT	34.47	0	00:45	5.14	0.52	1.00
PR_10	CONDUIT	78.15	0	00:45	8.74	0.65	1.00
PR_13	CONDUIT	20.83	0	01:11	6.35	0.11	0.47
Weir_14-1	ORIFICE	15.16	0	01:11			
Weir_14-2	WEIR	0.00	0	00:00	0.00		

Topic: Storage Volume

Click a column header to sort the column.

Storage Unit	Average Volume 1000 ft3	Average Percent Full	Evap Percent Loss	Exfil Percent Loss	Maximum Volume 1000 ft3	Maximum Percent Full	Day of Maximum Volume	Hour of Maximum Volume	Maximum Outflow CFS
Pond_14	10.023	6	0	0	112.026	64	0	01:11	20.83
Pond_CH	7.673	5	0	0	115.121	75	0	01:02	22.11

Topic: Outfall Loading

Click a column header to sort the column.

Outfall Node	Flow Freq. Pcnt.	Avg. Flow CFS	Max. Flow CFS	Total Volume 10^6 gal
SouthOutfall	50.48	1.34	20.83	2.191

Storage Volume
&
Outfall Loading

100-Year; 99%; 120 Hours

Table - Node Pond_14 Max Volume(CF)= 110571

Days	Hours	Volume (ft3)	Total Hours	% Remaining
0	0:58:00	105975.7	0	95.8
0	1:57:00	99319.23	1	89.8
0	2:57:00	92359.48	2	83.5
0	3:57:00	88293.87	3	79.9
0	4:57:00	83788.48	4	75.8
0	5:57:00	78847.13	5	71.3
0	6:57:00	73544.99	6	66.5
0	7:57:00	67972.25	7	61.5
0	8:57:00	62140.84	8	56.2
0	9:57:00	56110.07	9	50.7
0	10:57:00	49868.98	10	45.1
0	11:57:00	43439.5	11	39.3
0	12:57:00	37197.02	12	33.6
0	13:57:00	31438.77	13	28.4
0	14:57:00	26356.93	14	23.8
0	15:57:00	22131.02	15	20.0
0	16:57:00	18891.68	16	17.1
0	18:57:00	15648.35	18	14.2
0	19:57:00	14998.73	19	13.6
0	20:57:00	14541.42	20	13.2
0	21:57:00	14178.68	21	12.8
0	22:57:00	13867.4	22	12.5
0	23:57:00	13584.61	23	12.3
1	0:57:00	13313.93	24	12.0
1	1:57:00	13029.57	25	11.8
1	2:57:00	12713.28	26	11.5
1	3:57:00	12382.19	27	11.2
1	4:57:00	12062	28	10.9
1	5:57:00	11772.69	29	10.6
1	6:57:00	11510.44	30	10.4
1	7:57:00	11271.19	31	10.2
1	8:57:00	11051.34	32	10.0
1	9:57:00	10848.03	33	9.8
1	10:57:00	10658.45	34	9.6
1	11:57:00	10480.53	35	9.5
1	12:57:00	10312.51	36	9.3
1	13:57:00	10152.62	37	9.2
1	14:57:00	9999.23	38	9.0

5-Year: 97%; 72 Hours

Table - Node Pond_14 Max Volume(CF)= 55459

Days	Hours	Volume (ft3)	Total Hours	% Remaining
0	0:58:00	45484.04	0	82.0
0	1:57:00	55373.26	1	99.8
0	2:57:00	51557.36	2	93.0
0	3:57:00	45199.51	3	81.5
0	4:57:00	38815.55	4	70.0
0	5:57:00	32869.85	5	59.3
0	6:57:00	27560.45	6	49.7
0	7:57:00	23088.24	7	41.6
0	8:57:00	19580.57	8	35.3
0	9:57:00	17137.95	9	30.9
0	10:57:00	15845.24	10	28.6
0	11:57:00	15120.75	11	27.3
0	12:57:00	14630.04	12	26.4
0	13:57:00	14250.33	13	25.7
0	14:57:00	13929.51	14	25.1
0	15:57:00	13641.85	15	24.6
0	16:57:00	13369.99	16	24.1
0	18:57:00	12781.06	18	23.0
0	19:57:00	12451.59	19	22.5
0	20:57:00	12126.39	20	21.9
0	21:57:00	11831.08	21	21.3
0	22:57:00	11563.73	22	20.9
0	23:57:00	11320.13	23	20.4
1	0:57:00	11096.65	24	20.0
1	1:57:00	10890.15	25	19.6
1	2:57:00	10697.97	26	19.3
1	3:57:00	10517.78	27	19.0
1	4:57:00	10347.87	28	18.7
1	5:57:00	10186.43	29	18.4
1	6:57:00	10031.82	30	18.1
1	7:57:00	9882.45	31	17.8
1	8:57:00	9736.63	32	17.6
1	9:57:00	9591.96	33	17.3
1	10:57:00	9447.16	34	17.0
1	11:57:00	9302.24	35	16.8
1	12:57:00	9157.17	36	16.5
1	13:57:00	9011.9	37	16.2
1	14:57:00	8866.38	38	16.0

1	15:57:00	9850.74	39	8.9	1	15:57:00	8720.53	39	15.7
1	16:57:00	9705.38	40	8.8	1	16:57:00	8574.29	40	15.5
1	17:57:00	9560.67	41	8.6	1	17:57:00	8427.59	41	15.2
1	18:57:00	9415.83	42	8.5	1	18:57:00	8280.34	42	14.9
1	19:57:00	9270.88	43	8.4	1	19:57:00	8132.44	43	14.7
1	20:57:00	9125.78	44	8.3	1	20:57:00	7983.77	44	14.4
1	21:57:00	8980.46	45	8.1	1	21:57:00	7834.2	45	14.1
1	22:57:00	8834.88	46	8.0	1	22:57:00	7683.59	46	13.9
1	23:57:00	8688.97	47	7.9	1	23:57:00	7531.75	47	13.6
2	0:57:00	8542.66	48	7.7	2	0:57:00	7378.49	48	13.3
2	1:57:00	8395.87	49	7.6	2	1:57:00	7223.53	49	13.0
2	2:57:00	8248.51	50	7.5	2	2:57:00	7066.57	50	12.7
2	3:57:00	8100.48	51	7.3	2	3:57:00	6907.2	51	12.5
2	4:57:00	7951.65	52	7.2	2	4:57:00	6744.91	52	12.2
2	5:57:00	7801.9	53	7.1	2	5:57:00	6578.99	53	11.9
2	6:57:00	7651.08	54	6.9	2	6:57:00	6408.45	54	11.6
2	7:57:00	7498.99	55	6.8	2	7:57:00	6231.76	55	11.2
2	8:57:00	7345.42	56	6.6	2	8:57:00	6046.24	56	10.9
2	9:57:00	7190.1	57	6.5	2	9:57:00	5846.23	57	10.5
2	10:57:00	7032.7	58	6.4	2	10:57:00	5625.74	58	10.1
2	11:57:00	6872.8	59	6.2	2	11:57:00	5382	59	9.7
2	12:57:00	6709.85	60	6.1	2	12:57:00	5111.07	60	9.2
2	13:57:00	6543.09	61	5.9	2	13:57:00	4806.3	61	8.7
2	14:57:00	6371.45	62	5.8	2	14:57:00	4454.42	62	8.0
2	15:57:00	6193.22	63	5.6	2	15:57:00	4025.71	63	7.3
2	16:57:00	6005.33	64	5.4	2	16:57:00	3577.67	64	6.5
2	17:57:00	5801.38	65	5.2	2	17:57:00	3181.11	65	5.7
2	18:57:00	5576.31	66	5.0	2	18:57:00	2836.39	66	5.1
2	19:57:00	5327.3	67	4.8	2	19:57:00	2522.68	67	4.5
2	20:57:00	5050.01	68	4.6	2	20:57:00	2221.4	68	4.0
2	21:57:00	4736.89	69	4.3	2	21:57:00	1930.16	69	3.5
2	22:57:00	4372.25	70	4.0	2	22:57:00	1654.54	70	3.0
2	23:57:00	3928.82	71	3.6	2	23:57:00	1406.66	71	2.5
3	0:57:00	3489.74	72	3.2	3	0:57:00	1189.89	72	2.1

EURV 97% 72 Hours

Table - Node Pond_14 Max Volume(CF)= 37432

Days	Hours	Volume (ft3)	Total Hours	% Remaining
0	0:58:00	31682.31	0	84.6
0	1:57:00	36913.02	1	98.6
0	2:57:00	32471.46	2	86.7
0	3:57:00	27144.16	3	72.5
0	4:57:00	22597.84	4	60.4
0	5:57:00	19117.33	5	51.1
0	6:57:00	16796.02	6	44.9
0	7:57:00	15616.51	7	41.7
0	8:57:00	14936.86	8	39.9
0	9:57:00	14469.36	9	38.7
0	10:57:00	14103.85	10	37.7
0	11:57:00	13792.35	11	36.8
0	12:57:00	13509.69	12	36.1
0	13:57:00	13236.05	13	35.4
0	14:57:00	12940.05	14	34.6
0	15:57:00	12616.49	15	33.7
0	16:57:00	12284.75	16	32.8
0	18:57:00	11693.48	18	31.2
0	19:57:00	11438.66	19	30.6
0	20:57:00	11205.69	20	29.9
0	21:57:00	10991.09	21	29.4
0	22:57:00	10792.15	22	28.8
0	23:57:00	10606.13	23	28.3
1	0:57:00	10431.3	24	27.9
1	1:57:00	10265.81	25	27.4
1	2:57:00	10107.95	26	27.0
1	3:57:00	9956.11	27	26.6
1	4:57:00	9808.68	28	26.2
1	5:57:00	9663.69	29	25.8
1	6:57:00	9518.87	30	25.4
1	7:57:00	9373.93	31	25.0
1	8:57:00	9228.85	32	24.7
1	9:57:00	9083.59	33	24.3
1	10:57:00	8938.1	34	23.9
1	11:57:00	8792.32	35	23.5
1	12:57:00	8646.19	36	23.1
1	13:57:00	8499.62	37	22.7
1	14:57:00	8352.55	38	22.3

WQCV: 40 Hours Minimum

Table - Node Pond_14 Max Volume(CF)= 35880

Days	Hours	Volume (ft3)	Total Hours	% Remaining
0	0:58:00	10828.46	0	30.2
0	1:57:00	35880.02	1	100.0
0	2:57:00	30888.3	2	86.1
0	3:57:00	25349.32	3	70.7
0	4:57:00	20876.71	4	58.2
0	5:57:00	17681.46	5	49.3
0	6:57:00	15909.93	6	44.3
0	7:57:00	15009.73	7	41.8
0	8:57:00	14449.78	8	40.3
0	9:57:00	14042.41	9	39.1
0	10:57:00	13710.59	10	38.2
0	11:57:00	13415.9	11	37.4
0	12:57:00	13127.85	12	36.6
0	13:57:00	12812.58	13	35.7
0	14:57:00	12479.34	14	34.8
0	15:57:00	12151.41	15	33.9
0	16:57:00	11853.55	16	33.0
0	18:57:00	11338.39	18	31.6
0	19:57:00	11113.09	19	31.0
0	20:57:00	10905.01	20	30.4
0	21:57:00	10711.48	21	29.9
0	22:57:00	10530.05	22	29.3
0	23:57:00	10359.04	23	28.9
1	0:57:00	10196.64	24	28.4
1	1:57:00	10041.18	25	28.0
1	2:57:00	9891.08	26	27.6
1	3:57:00	9744.64	27	27.2
1	4:57:00	9599.5	28	26.8
1	5:57:00	9454.24	29	26.3
1	6:57:00	9308.87	30	25.9
1	7:57:00	9163.35	31	25.5
1	8:57:00	9017.63	32	25.1
1	9:57:00	8871.66	33	24.7
1	10:57:00	8725.36	34	24.3
1	11:57:00	8578.69	35	23.9
1	12:57:00	8431.55	36	23.5
1	13:57:00	8283.86	37	23.1
1	14:57:00	8135.52	38	22.7

1	15:57:00	8204.87	39	21.9
1	16:57:00	8056.49	40	21.5
1	17:57:00	7907.27	41	21.1
1	18:57:00	7757.08	42	20.7
1	19:57:00	7605.76	43	20.3
1	20:57:00	7453.1	44	19.9
1	21:57:00	7298.89	45	19.5
1	22:57:00	7142.83	46	19.1
1	23:57:00	6984.57	47	18.7
2	0:57:00	6823.65	48	18.2
2	1:57:00	6659.47	49	17.8
2	2:57:00	6491.18	50	17.3
2	3:57:00	6317.56	51	16.9
2	4:57:00	6136.59	52	16.4
2	5:57:00	5944.35	53	15.9
2	6:57:00	5733.83	54	15.3
2	7:57:00	5501.39	55	14.7
2	8:57:00	5243.86	56	14.0
2	9:57:00	4956.1	57	13.2
2	10:57:00	4628.76	58	12.4
2	11:57:00	4240.04	59	11.3
2	12:57:00	3785.07	60	10.1
2	13:57:00	3362.03	61	9.0
2	14:57:00	2994.3	62	8.0
2	15:57:00	2669.63	63	7.1
2	16:57:00	2362.78	64	6.3
2	17:57:00	2067.31	65	5.5
2	18:57:00	1782.13	66	4.8
2	19:57:00	1520.52	67	4.1
2	20:57:00	1288.65	68	3.4
2	21:57:00	1089.44	69	2.9
2	22:57:00	926.12	70	2.5
2	23:57:00	803.13	71	2.1
3	0:57:00	725.64	72	1.9

1	15:57:00	7986.41	39	22.3
1	16:57:00	7836.42	40	21.8
1	17:57:00	7685.38	41	21.4
1	18:57:00	7533.11	42	21.0
1	19:57:00	7379.41	43	20.6
1	20:57:00	7224.02	44	20.1
1	21:57:00	7066.61	45	19.7
1	22:57:00	6906.79	46	19.2
1	23:57:00	6744.02	47	18.8
2	0:57:00	6577.61	48	18.3
2	1:57:00	6406.53	49	17.9
2	2:57:00	6229.21	50	17.4
2	3:57:00	6042.92	51	16.8
2	4:57:00	5841.83	52	16.3
2	5:57:00	5620.13	53	15.7
2	6:57:00	5375.04	54	15.0
2	7:57:00	5102.56	55	14.2
2	8:57:00	4795.86	56	13.4
2	9:57:00	4441.21	57	12.4
2	10:57:00	4008.93	58	11.2
2	11:57:00	3562.06	59	9.9
2	12:57:00	3167.54	60	8.8
2	13:57:00	2824.44	61	7.9
2	14:57:00	2511.35	62	7.0
2	15:57:00	2210.51	63	6.2
2	16:57:00	1919.59	64	5.4
2	17:57:00	1644.91	65	4.6
2	18:57:00	1398.13	66	3.9
2	19:57:00	1182.57	67	3.3
2	20:57:00	1001.29	68	2.8
2	21:57:00	857.63	69	2.4
2	22:57:00	758.86	70	2.1

100-Year; 99%; 120 Hours

Table - Node Pond_CH Max Volume(CF)= 162421.1

Days	Hours	Volume (ft3)	Total Hours	% Remaining
0	0:58:00	133973.9	0	82.5
0	1:57:00	161917.5	1	99.7
0	2:57:00	153814.7	2	94.7
0	3:57:00	140611.7	3	86.6
0	4:57:00	127868	4	78.7
0	5:57:00	115841.8	5	71.3
0	6:57:00	104655.9	6	64.4
0	7:57:00	94341.31	7	58.1
0	8:57:00	84973.3	8	52.3
0	9:57:00	76583.84	9	47.2
0	10:57:00	69373.15	10	42.7
0	11:57:00	63426.28	11	39.1
0	12:57:00	58474.19	12	36.0
0	13:57:00	54312.96	13	33.4
0	14:57:00	50783.46	14	31.3
0	15:57:00	47761.81	15	29.4
0	16:57:00	45152.64	16	27.8
0	18:57:00	40891.32	18	25.2
0	19:57:00	39134.98	19	24.1
0	20:57:00	37574.15	20	23.1
0	21:57:00	36176.3	21	22.3
0	22:57:00	34913.73	22	21.5
0	23:57:00	33763.54	23	20.8
1	0:57:00	32706.29	24	20.1
1	1:57:00	31724.71	25	19.5
1	2:57:00	30802.77	26	19.0
1	3:57:00	29924.23	27	18.4
1	4:57:00	29066.82	28	17.9
1	5:57:00	28215.06	29	17.4
1	6:57:00	27368.58	30	16.9
1	7:57:00	26527.42	31	16.3
1	8:57:00	25691.63	32	15.8
1	9:57:00	24861.24	33	15.3
1	10:57:00	24036.29	34	14.8

5-Year: 97%; 72 Hours

Table - Node Pond_CH Max Volume(CF)= 73423.81

Days	Hours	Volume (ft3)	Total Hours	% Remaining
0	0:58:00	57263.98	0	78.0
0	1:57:00	73176.05	1	99.7
0	2:57:00	69754.41	2	95.0
0	3:57:00	64100.58	3	87.3
0	4:57:00	59152.72	4	80.6
0	5:57:00	54938.88	5	74.8
0	6:57:00	51345.74	6	69.9
0	7:57:00	48262.73	7	65.7
0	8:57:00	45598.11	8	62.1
0	9:57:00	43279	9	58.9
0	10:57:00	41245.86	10	56.2
0	11:57:00	39452.89	11	53.7
0	12:57:00	37860.71	12	51.6
0	13:57:00	36436.32	13	49.6
0	14:57:00	35151.42	14	47.9
0	15:57:00	33982.43	15	46.3
0	16:57:00	32909.61	16	44.8
0	18:57:00	30983.73	18	42.2
0	19:57:00	30098.69	19	41.0
0	20:57:00	29239.79	20	39.8
0	21:57:00	28387.54	21	38.7
0	22:57:00	27540.48	22	37.5
0	23:57:00	26698.66	23	36.4
1	0:57:00	25862.13	24	35.2
1	1:57:00	25030.96	25	34.1
1	2:57:00	24205.18	26	33.0
1	3:57:00	23384.84	27	31.8
1	4:57:00	22569.98	28	30.7
1	5:57:00	21760.64	29	29.6
1	6:57:00	20956.83	30	28.5
1	7:57:00	20158.54	31	27.5
1	8:57:00	19365.73	32	26.4
1	9:57:00	18578.38	33	25.3
1	10:57:00	17796.83	34	24.2

1	11:57:00	23216.83	35	14.3
1	12:57:00	22402.88	36	13.8
1	13:57:00	21594.49	37	13.3
1	14:57:00	20791.64	38	12.8
1	15:57:00	19994.33	39	12.3
1	16:57:00	19202.47	40	11.8
1	17:57:00	18416.19	41	11.3
1	18:57:00	17635.74	42	10.9
1	19:57:00	16861.18	43	10.4
1	20:57:00	16092.76	44	9.9
1	21:57:00	15330.76	45	9.4
1	22:57:00	14575.37	46	9.0
1	23:57:00	13826.78	47	8.5
2	0:57:00	13085.2	48	8.1
2	1:57:00	12350.86	49	7.6
2	2:57:00	11624.02	50	7.2
2	3:57:00	10904.95	51	6.7
2	4:57:00	10193.97	52	6.3
2	5:57:00	9491.4	53	5.8
2	6:57:00	8797.64	54	5.4
2	7:57:00	8113.13	55	5.0
2	8:57:00	7438.35	56	4.6
2	9:57:00	6773.91	57	4.2
2	10:57:00	6120.49	58	3.8
2	11:57:00	5478.91	59	3.4
2	12:57:00	4850.23	60	3.0
2	13:57:00	4235.78	61	2.6
2	14:57:00	3637.39	62	2.2
2	15:57:00	3057.72	63	1.9
2	16:57:00	2501.39	64	1.5
2	17:57:00	1977.08	65	1.2
2	18:57:00	1491.76	66	0.9
2	19:57:00	1051.38	67	0.6
2	20:57:00	664.59	68	0.4
2	21:57:00	345.43	69	0.2
2	22:57:00	121.19	70	0.1
2	23:57:00	33.75	71	0.0
3	0:57:00	10.98	72	0.0

1	11:57:00	17021.16	35	23.2
1	12:57:00	16251.53	36	22.1
1	13:57:00	15488.28	37	21.1
1	14:57:00	14731.58	38	20.1
1	15:57:00	13981.64	39	19.0
1	16:57:00	13238.65	40	18.0
1	17:57:00	12502.86	41	17.0
1	18:57:00	11774.5	42	16.0
1	19:57:00	11053.84	43	15.1
1	20:57:00	10341.2	44	14.1
1	21:57:00	9636.9	45	13.1
1	22:57:00	8941.32	46	12.2
1	23:57:00	8254.88	47	11.2
2	0:57:00	7578.07	48	10.3
2	1:57:00	6911.46	49	9.4
2	2:57:00	6255.71	50	8.5
2	3:57:00	5611.62	51	7.6
2	4:57:00	4980.18	52	6.8
2	5:57:00	4362.66	53	5.9
2	6:57:00	3760.76	54	5.1
2	7:57:00	3176.92	55	4.3
2	8:57:00	2615.19	56	3.6
2	9:57:00	2083.45	57	2.8
2	10:57:00	1589.58	58	2.2
2	11:57:00	1139.24	59	1.6
2	12:57:00	740.36	60	1.0
2	13:57:00	405.49	61	0.6
2	14:57:00	157.71	62	0.2
2	15:57:00	43.83	63	0.1
2	16:57:00	13.61	64	0.0
2	17:57:00	5.44	65	0.0
2	18:57:00	2.74	66	0.0
2	19:57:00	1.62	67	0.0
2	20:57:00	1.08	68	0.0
2	21:57:00	0.78	69	0.0
2	22:57:00	0.6	70	0.0
2	23:57:00	0.49	71	0.0
3	0:57:00	0.41	72	0.0

EURV 97% 72 Hours

Table - Node Pond_CH Max Volume(CF)= 53619.17

Days	Hours	Volume (ft3)	Total Hours	% Remaining
0	0:58:00	38791.22	0	72.3
0	1:57:00	52996.47	1	98.8
0	2:57:00	52234.05	2	97.4
0	3:57:00	49343.24	3	92.0
0	4:57:00	46632.91	4	87.0
0	5:57:00	44226.09	5	82.5
0	6:57:00	42101.27	6	78.5
0	7:57:00	40222.11	7	75.0
0	8:57:00	38553.72	8	71.9
0	9:57:00	37063.48	9	69.1
0	10:57:00	35722.61	10	66.6
0	11:57:00	34506.17	11	64.4
0	12:57:00	33393.61	12	62.3
0	13:57:00	32366.9	13	60.4
0	14:57:00	31409.53	14	58.6
0	15:57:00	30505.95	15	56.9
0	16:57:00	29639.14	16	55.3
0	18:57:00	27936.26	18	52.1
0	19:57:00	27092.45	19	50.5
0	20:57:00	26253.84	20	49.0
0	21:57:00	25420.48	21	47.4
0	22:57:00	24592.45	22	45.9
0	23:57:00	23769.79	23	44.3
1	0:57:00	22952.57	24	42.8
1	1:57:00	22140.82	25	41.3
1	2:57:00	21334.56	26	39.8
1	3:57:00	20533.82	27	38.3
1	4:57:00	19738.56	28	36.8
1	5:57:00	18948.69	29	35.3
1	6:57:00	18164.51	30	33.9
1	7:57:00	17386.15	31	32.4
1	8:57:00	16613.71	32	31.0
1	9:57:00	15847.49	33	29.6
1	10:57:00	15087.74	34	28.1

WQCV: 40 Hours Minimum

Table - Node Pond_CH Max Volume(CF)= 48151.37

Days	Hours	Volume (ft3)	Total Hours	% Remaining
0	0:58:00	12139.7	0	25.2
0	1:57:00	46820.71	1	97.2
0	2:57:00	47342.05	2	98.3
0	3:57:00	45141.2	3	93.7
0	4:57:00	42988.75	4	89.3
0	5:57:00	41040.54	5	85.2
0	6:57:00	39298.05	6	81.6
0	7:57:00	37738.56	7	78.4
0	8:57:00	36336.84	8	75.5
0	9:57:00	35068.18	9	72.8
0	10:57:00	33911.23	10	70.4
0	11:57:00	32847.57	11	68.2
0	12:57:00	31860.33	12	66.2
0	13:57:00	30933.9	13	64.2
0	14:57:00	30052.6	14	62.4
0	15:57:00	29195.71	15	60.6
0	16:57:00	28344.83	16	58.9
0	18:57:00	26658.11	18	55.4
0	19:57:00	25822.45	19	53.6
0	20:57:00	24992.05	20	51.9
0	21:57:00	24166.96	21	50.2
0	22:57:00	23347.25	22	48.5
0	23:57:00	22532.97	23	46.8
1	0:57:00	21724.17	24	45.1
1	1:57:00	20920.85	25	43.4
1	2:57:00	20123.02	26	41.8
1	3:57:00	19330.63	27	40.1
1	4:57:00	18543.7	28	38.5
1	5:57:00	17762.57	29	36.9
1	6:57:00	16987.29	30	35.3
1	7:57:00	16218.05	31	33.7
1	8:57:00	15455.19	32	32.1
1	9:57:00	14698.88	33	30.5
1	10:57:00	13949.32	34	29.0

1	11:57:00	14334.65	35	26.7
1	12:57:00	13588.4	36	25.3
1	13:57:00	12849.23	37	24.0
1	14:57:00	12117.38	38	22.6
1	15:57:00	11393.09	39	21.2
1	16:57:00	10676.66	40	19.9
1	17:57:00	9968.41	41	18.6
1	18:57:00	9268.69	42	17.3
1	19:57:00	8577.91	43	16.0
1	20:57:00	7896.51	44	14.7
1	21:57:00	7225.03	45	13.5
1	22:57:00	6564.08	46	12.2
1	23:57:00	5914.4	47	11.0
2	0:57:00	5276.86	48	9.8
2	1:57:00	4652.61	49	8.7
2	2:57:00	4043.09	50	7.5
2	3:57:00	3450.36	51	6.4
2	4:57:00	2877.53	52	5.4
2	5:57:00	2330.34	53	4.3
2	6:57:00	1817.95	54	3.4
2	7:57:00	1346.24	55	2.5
2	8:57:00	921.84	56	1.7
2	9:57:00	554.71	57	1.0
2	10:57:00	261.74	58	0.5
2	11:57:00	80.4	59	0.1
2	12:57:00	23.02	60	0.0
2	13:57:00	8.13	61	0.0
2	14:57:00	3.7	62	0.0
2	15:57:00	2.05	63	0.0
2	16:57:00	1.3	64	0.0
2	17:57:00	0.91	65	0.0
2	18:57:00	0.69	66	0.0
2	19:57:00	0.55	67	0.0
2	20:57:00	0.46	68	0.0
2	21:57:00	0.39	69	0.0
2	22:57:00	0.35	70	0.0
2	23:57:00	0.32	71	0.0
3	0:57:00	0.29	72	0.0

1	11:57:00	13206.72	35	27.4
1	12:57:00	12471.31	36	25.9
1	13:57:00	11743.34	37	24.4
1	14:57:00	11023.08	38	22.9
1	15:57:00	10310.85	39	21.4
1	16:57:00	9606.96	40	20.0
1	17:57:00	8911.81	41	18.5
1	18:57:00	8225.81	42	17.1
1	19:57:00	7549.47	43	15.7
1	20:57:00	6883.34	44	14.3
1	21:57:00	6228.1	45	12.9
1	22:57:00	5584.56	46	11.6
1	23:57:00	4953.71	47	10.3
2	0:57:00	4336.84	48	9.0
2	1:57:00	3735.67	49	7.8
2	2:57:00	3152.7	50	6.5
2	3:57:00	2592.05	51	5.4
2	4:57:00	2061.81	52	4.3
2	5:57:00	1569.68	53	3.3
2	6:57:00	1121.34	54	2.3
2	7:57:00	724.87	55	1.5
2	8:57:00	393.1	56	0.8
2	9:57:00	149.82	57	0.3
2	10:57:00	41.58	58	0.1
2	11:57:00	13.03	59	0.0
2	12:57:00	5.27	60	0.0
2	13:57:00	2.68	61	0.0
2	14:57:00	1.61	62	0.0
2	15:57:00	1.08	63	0.0
2	16:57:00	0.79	64	0.0
2	17:57:00	0.61	65	0.0
2	18:57:00	0.5	66	0.0
2	19:57:00	0.43	67	0.0
2	20:57:00	0.38	68	0.0
2	21:57:00	0.34	69	0.0
2	22:57:00	0.31	70	0.0

Figure 8-12. Inlet Capacity Chart Sump Conditions, Curb Opening (D-10-R) Inlet

INLET C1-2:	Q(5) = 6.8 cfs; Q(100) =	15.3 cfs>>	**12' D-10R**
INLET C1-3:	Q(5) = 1.8 cfs; Q(100) =	4.0 cfs>>	**6' D-10R**
INLET C1-4:	Q(5) = 1.2 cfs; Q(100) =	2.6 cfs>>	**6' D-10R**
INLET H2-2:	Q(5) = 0.7 cfs; Q(100) =	1.6 cfs>>	**6' D-10R**
INLET H2-3:	Q(5) = 1.3 cfs; Q(100) =	3.0 cfs>>	**6' D-10R**
INLET H2-4:	Q(5) = 1.1 cfs; Q(100) =	2.5 cfs>>	**6' D-10R**
INLET H2-5:	Q(5) = 1.2 cfs; Q(100) =	2.8 cfs>>	**6' D-10R**
INLET H2-6:	Q(5) = 3.1 cfs; Q(100) =	7.1 cfs>>	**6' D-10R**
INLET H2-8:	Q(5) = 0.3 cfs; Q(100) =	0.6 cfs>>	**6' D-10R**
INLET H2-9:	Q(5) = 1.2 cfs; Q(100) =	2.6 cfs>>	**6' D-10R**

Figure 7-6. Street Capacity Charts Collector (without Parking)

These charts shall only be used for the standard street sections as shown. The capacity shown is based on ½ the street section as calculated by the UD-Inlet spreadsheets. Minor storm capacities are based on no crown overtopping, curb height or maximum allowable spread widths. Major storm capacities are based on flow being containing within the public right-of-way, including conveyance capacity behind the curb. The UDFCD Safety Reduction Factor was applied. An 'n_{STREET}' of 0.016 and 'n_{BACK}' of 0.020 was used. Calculations were done using UD-Inlet 3.00.xls, March, 2011.

Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Thursday, May 30 2019

C1-2_C1-4

Circular

Diameter (ft)	= 2.00
Invert Elev (ft)	= 1.00
Slope (%)	= 1.00
N-Value	= 0.013

Calculations

Compute by:	Known Q
Known Q (cfs)	= 15.25

Highlighted

Depth (ft)	= 1.21
Q (cfs)	= 15.25
Area (sqft)	= 1.99
Velocity (ft/s)	= 7.65
Wetted Perim (ft)	= 3.57
Crit Depth, Yc (ft)	= 1.41
Top Width (ft)	= 1.95
EGL (ft)	= 2.12

Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Thursday, May 30 2019

C1-3_C1-4

Circular

Diameter (ft)	= 1.50
Invert Elev (ft)	= 1.00
Slope (%)	= 1.00
N-Value	= 0.013

Calculations

Compute by:	Known Q
Known Q (cfs)	= 4.03

Highlighted

Depth (ft)	= 0.65
Q (cfs)	= 4.030
Area (sqft)	= 0.74
Velocity (ft/s)	= 5.47
Wetted Perim (ft)	= 2.16
Crit Depth, Yc (ft)	= 0.77
Top Width (ft)	= 1.49
EGL (ft)	= 1.11

Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Thursday, May 30 2019

C1-4_CH2

Circular

Diameter (ft)	= 2.00
Invert Elev (ft)	= 1.00
Slope (%)	= 1.00
N-Value	= 0.013

Calculations

Compute by:	Known Q
Known Q (cfs)	= 20.60

Highlighted

Depth (ft)	= 1.50
Q (cfs)	= 20.60
Area (sqft)	= 2.53
Velocity (ft/s)	= 8.15
Wetted Perim (ft)	= 4.19
Crit Depth, Yc (ft)	= 1.63
Top Width (ft)	= 1.73
EGL (ft)	= 2.53

Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Thursday, May 30 2019

CH1_CH3

Circular

Diameter (ft)	= 2.00
Invert Elev (ft)	= 1.00
Slope (%)	= 1.00
N-Value	= 0.013

Calculations

Compute by:	Known Q
Known Q (cfs)	= 8.10

Highlighted

Depth (ft)	= 0.83
Q (cfs)	= 8.100
Area (sqft)	= 1.23
Velocity (ft/s)	= 6.57
Wetted Perim (ft)	= 2.80
Crit Depth, Yc (ft)	= 1.01
Top Width (ft)	= 1.97
EGL (ft)	= 1.50

Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Thursday, May 30 2019

CH2_CH3

Circular

Diameter (ft)	=	2.50
Invert Elev (ft)	=	1.00
Slope (%)	=	1.00
N-Value	=	0.013

Calculations

Compute by:		Known Q
Known Q (cfs)	=	30.50

Highlighted

Depth (ft)	=	1.61
Q (cfs)	=	30.50
Area (sqft)	=	3.35
Velocity (ft/s)	=	9.11
Wetted Perim (ft)	=	4.66
Crit Depth, Yc (ft)	=	1.89
Top Width (ft)	=	2.39
EGL (ft)	=	2.90

Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Thursday, May 30 2019

CH3_OF

Circular

Diameter (ft)	=	5.00
Invert Elev (ft)	=	1.00
Slope (%)	=	0.30
N-Value	=	0.013

Calculations

Compute by:		Known Q
Known Q (cfs)	=	109.70

Highlighted

Depth (ft)	=	3.29
Q (cfs)	=	109.70
Area (sqft)	=	13.73
Velocity (ft/s)	=	7.99
Wetted Perim (ft)	=	9.47
Crit Depth, Yc (ft)	=	2.99
Top Width (ft)	=	4.74
EGL (ft)	=	4.28

Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Thursday, May 30 2019

CH4_CH5

Circular

Diameter (ft)	= 1.50
Invert Elev (ft)	= 1.00
Slope (%)	= 1.00
N-Value	= 0.013

Calculations

Compute by:	Known Q
Known Q (cfs)	= 10.50

Highlighted

Depth (ft)	= 1.23
Q (cfs)	= 10.50
Area (sqft)	= 1.55
Velocity (ft/s)	= 6.76
Wetted Perim (ft)	= 3.41
Crit Depth, Yc (ft)	= 1.25
Top Width (ft)	= 1.15
EGL (ft)	= 1.94

Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Thursday, May 30 2019

CH5_H2-9

Circular

Diameter (ft)	= 2.00
Invert Elev (ft)	= 1.00
Slope (%)	= 1.00
N-Value	= 0.013

Calculations

Compute by:	Known Q
Known Q (cfs)	= 15.50

Highlighted

Depth (ft)	= 1.22
Q (cfs)	= 15.50
Area (sqft)	= 2.01
Velocity (ft/s)	= 7.70
Wetted Perim (ft)	= 3.59
Crit Depth, Yc (ft)	= 1.42
Top Width (ft)	= 1.95
EGL (ft)	= 2.14

Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Thursday, May 30 2019

H2-3_CH1

Circular

Diameter (ft)	=	1.50
Invert Elev (ft)	=	1.00
Slope (%)	=	1.00
N-Value	=	0.013

Calculations

Compute by:		Known Q
Known Q (cfs)	=	3.03

Highlighted

Depth (ft)	=	0.55
Q (cfs)	=	3.030
Area (sqft)	=	0.59
Velocity (ft/s)	=	5.12
Wetted Perim (ft)	=	1.96
Crit Depth, Yc (ft)	=	0.66
Top Width (ft)	=	1.45
EGL (ft)	=	0.96

Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Thursday, May 30 2019

H2-4_CH4

Circular

Diameter (ft)	= 1.50
Invert Elev (ft)	= 1.00
Slope (%)	= 1.00
N-Value	= 0.013

Calculations

Compute by:	Known Q
Known Q (cfs)	= 2.47

Highlighted

Depth (ft)	= 0.50
Q (cfs)	= 2.470
Area (sqft)	= 0.52
Velocity (ft/s)	= 4.75
Wetted Perim (ft)	= 1.85
Crit Depth, Yc (ft)	= 0.60
Top Width (ft)	= 1.42
EGL (ft)	= 0.85

Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Thursday, May 30 2019

H2-5_CH1

Circular

Diameter (ft)	= 1.50
Invert Elev (ft)	= 1.00
Slope (%)	= 1.00
N-Value	= 0.013

Calculations

Compute by:	Known Q
Known Q (cfs)	= 2.80

Highlighted

Depth (ft)	= 0.53
Q (cfs)	= 2.800
Area (sqft)	= 0.56
Velocity (ft/s)	= 5.00
Wetted Perim (ft)	= 1.91
Crit Depth, Yc (ft)	= 0.64
Top Width (ft)	= 1.43
EGL (ft)	= 0.92

Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Thursday, May 30 2019

H2-8_OF

Circular

Diameter (ft)	= 2.00
Invert Elev (ft)	= 1.00
Slope (%)	= 1.00
N-Value	= 0.013

Calculations

Compute by:	Known Q
Known Q (cfs)	= 18.70

Highlighted

Depth (ft)	= 1.39
Q (cfs)	= 18.70
Area (sqft)	= 2.34
Velocity (ft/s)	= 8.00
Wetted Perim (ft)	= 3.95
Crit Depth, Yc (ft)	= 1.56
Top Width (ft)	= 1.84
EGL (ft)	= 2.39

Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Thursday, May 30 2019

H2-9_H2-8

Circular

Diameter (ft)	= 2.00
Invert Elev (ft)	= 1.00
Slope (%)	= 1.00
N-Value	= 0.013

Calculations

Compute by:	Known Q
Known Q (cfs)	= 18.10

Highlighted

Depth (ft)	= 1.36
Q (cfs)	= 18.10
Area (sqft)	= 2.28
Velocity (ft/s)	= 7.95
Wetted Perim (ft)	= 3.88
Crit Depth, Yc (ft)	= 1.54
Top Width (ft)	= 1.87
EGL (ft)	= 2.34

Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Thursday, May 30 2019

S2_CH3

Circular

Diameter (ft)	=	4.50
Invert Elev (ft)	=	1.00
Slope (%)	=	0.30
N-Value	=	0.013

Calculations

Compute by:		Known Q
Known Q (cfs)	=	75.90

Highlighted

Depth (ft)	=	2.79
Q (cfs)	=	75.90
Area (sqft)	=	10.38
Velocity (ft/s)	=	7.31
Wetted Perim (ft)	=	8.17
Crit Depth, Yc (ft)	=	2.54
Top Width (ft)	=	4.37
EGL (ft)	=	3.62

StormCad Layout-Woodmen Valley Chapel Addition

ID\Label	819 \ P-196	821 \ S2_CH3	945 \ CH3_OF	
Link Length (ft)	150.0	74.6	41.4	
Rise (in)\Material	38.2 \ Concrete	38.2 \ Concrete	38.2 \ Concrete	
Flow (ft³/s)	33.3	33.3	48.6	
Slope (ft/ft)	0.009	0.003	0.002	
ID\Label	709 \ Inlet B5-A/S1	937 \ MH1	943 \ S2/CH3	915 \ OF-34
Ground (ft)	6924.34	6926.36	6923.50	6920.00
Invert (ft)	6918.49	6916.85	6916.33	6916.25
Station (ft)	0.0	150.0	224.6	265.9

Pipe Report (5yr)

Label	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Length (User Defined) (ft)	Slope (Calculated) (ft/ft)	Section Type	Diameter (in)	Manning's n	Flow (ft^3/s)	Velocity (ft/s)	Depth (Out) (ft)	Capacity (Full Flow) (ft^3/s)	Flow / Capacity (Design) (%)	Depth (Normal) / Rise (%)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)
P-196	6,917.69	MH1	6,917.15	150.0	0.004	Circle	48.0	0.013	33.3	6.4	2.71	86.2	38.6	43.1	6,919.90	6,919.86
S2_CH3	6,916.85	S2/CH3	6,916.63	74.6	0.003	Circle	48.0	0.013	33.3	6.0	3.00	78.0	42.7	45.6	6,919.66	6,919.63
CH3_OF	6,916.33	OF-34	6,916.21	41.4	0.003	Circle	48.0	0.013	48.6	6.5	2.09	77.4	62.8	57.5	6,918.57	6,918.30

ID\Label	819 \ P-196	821 \ S2_CH3	945 \ CH3_OF	
Link Length (ft)	174.5	69.9	41.4	
Rise (in)\Material	38.2 \ Concrete	38.2 \ Concrete	38.2 \ Concrete	
Flow (ft³/s)	75.9	75.9	111.0	
Slope (ft/ft)	0.008	0.003	0.002	
ID\Label	709 \ Inlet B5-A/S1	937 \ MH1	943 \ S2/CH3	915 \ OF-34
Ground (ft)	6924.34	6926.36	6923.50	6920.00
Invert (ft)	6918.49	6916.85	6916.33	6916.25
Station (ft)	0.0	174.5	244.4	285.8

Pipe Report (100yr)

Label	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Length (User Defined) (ft)	Slope (Calculated) (ft/ft)	Section Type	Diameter (in)	Manning's n	Flow (ft^3/s)	Velocity (ft/s)	Depth (Out) (ft)	Capacity (Full Flow) (ft^3/s)	Flow / Capacity (Design) (%)	Depth (Normal) / Rise (%)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)
P-196	6,918.49	MH1	6,917.15	174.5	0.008	Ellipse		0.013	75.9	6.1	5.01	122.5	61.9	56.5	6,922.68	6,922.16
S2_CH3	6,916.85	S2/CH3	6,916.63	69.9	0.003	Ellipse		0.013	75.9	6.1	4.74	78.4	96.8	76.9	6,921.58	6,921.37
CH3_OF	6,916.33	OF-34	6,916.25	41.4	0.002	Ellipse		0.013	111.0	8.9	2.67	61.5	180.6	(N/A)	6,919.52	6,918.92

Rational Calculations

Project Name:	Shiloh Mesa - Woodmen Valley Chapel FDR	
Project Location:	NE Colorado Springs	
Designer	JTS	
Notes:	Existing Conditions	
Average Channel Velocity	5 ft/s	(If specific channel vel is used, this will be ignored)
Average Slope for Initial Flow	0.04 ft/ft	(If Elevations are used, this will be ignored)

Note:
Q2, Q5 & Q10 are based on C10;
Q25, Q50 & Q100 are based on C100

	Area		Rational 'C' Values								Flow Lengths				Initial Flow				Channel Flow					Tc	Rainfall Intensity & Rational Flow Rate					
			Surface Type 1			Surface Type 2			Composite		Initial	True Initial	Channel	True Channel	High Point	Low Point	Average	Initial	High Point	Low Point	Average	Velocity	Channel	Total	i2	Q2	i5	Q5	i100	Q100
Basin	sf	acres	C5	C100	Area (SF)	C5	C100	Area (SF)	C5	C100	ft	Length ft	ft	Length ft	Elevation	Elevation	Slope	Tc (min)	Elevation	Elevation	Slope	(ft/s)	Tc (min)	(min)	in/hr	cfs	in/hr	cfs	in/hr	cfs
L	111514	2.56	0.08	0.36	111514	0.90	0.96	0	0.08	0.36	75	75	4687	4687	6929	6928	0.013	15.0	6928	6897.31	0.007		15.6	30.6	1.6	**0.3**	2.0	**0.4**	4.2	**3.9**
EX 1	1481911	34.02	0.08	0.36	1481911	0.90	0.96	0	0.08	0.36	950	300	758	1408	6942	6914	0.029	23.0	6914	6897	0.022		4.7	27.7	1.7	**4.7**	2.2	**6.1**	4.7	**57.6**
EX2	627707	14.41	0.08	0.36	627707	0.90	0.96	0	0.08	0.36	315	300	633	648	6936	6912	0.076	16.8	6912	6911	0.002	5.0	2.2	18.9	2.0	**2.3**	2.5	**3.0**	5.4	**28.0**
Total Area =	627707	14.41																												

Project Name:	Shiloh Mesa - Woodman Valley Chapel - FDR
Project Location:	NE Colorado Springs
Designer	JTS
Notes:	Proposed Conditions

Average Channel Velocity 5 ft/s (If specific channel vel is used, this will be ignored) (If specific channel vel is used, this will be ignored)
Average Slope for Initial Flow 0.04 ft/ft (If Elevations are used, this will be ignored) (If Elevations are used, this will be ignored)

Basin	Comments	Area		Rational 'C' Values																	Flow Lengths				Initial Flow				Channel Flow					Rainfall Intensity & Rational Flow Rate											SWMM Values	
				Surface Type 1 (Commercial Areas) 95% Impermeable			Surface Type 2 (Neighborhood Areas) 85% Impermeable			Surface Type 3 (Parks & Cemetaries) 7% Impervious			Surface Type 4 (Residential 1/8th Acre) 65% Impervious			Surface Type 5 (Paved Streets) 100% Impermeable			Composite		Initial	True Initial	Channel	True Channel	High Point	Low Point	Average	Initial	High Point	Low Point	Average	Velocity	Channel	i2	i5	Q5	i10	Q10	i25	Q25	i50	Q50	i100	Q100	Q5	Q100
		sf	acres	C5	C100	Area (SF)	C5	C100	Area (SF)	C5	C100	Area	C5	C100	Area	C5	C100	Area	C5	C100	ft	Length ft	ft	Length ft	Elevatior	Elevation	Slope	Tc (min)	Elevation	Elevation	Slope	(ft/s)	Tc (min)	in/hr	in/hr	cfs	in/hr	cfs	in/hr	cfs	in/hr	cfs	in/hr	cfs	cfs	cfs
A		307974	7.07	0.81	0.88	0	0.68	0.78	307974	0.12	0.39	0	0.5	0.59	0	0.9	0.96	0	0.68	0.78	50.0	50	670	670	6932	6930	0.040	3	6930	6913	0.002		2	3	4	19.25	5	23	6	34	7	40	8	46.53	18.07	47.30
B		426667	9.79	0.81	0.88	0	0.68	0.78	0	0.12	0.39	65000	0.5	0.59	361667	0.9	0.96	0	0.40	0.56	50.0	50	1470	1470	6942	6941	0.020	7	6941	6925	0.002		5	2	3	12.06	4	15	5	26	6	31	6	35.57	22.69	51.23
C1 - This area divided into the four sub-basins below		234020	5.37	0.81	0.88	0	0.68	0.78	0	0.12	0.39	0	0.5	0.59	0	0.9	0.96	234020	0.90	0.96	50.0	50	752	752	6938.4	6937.38	0.020	2	6937	6924	0.002		3	3	4	20.07	5	24	6	33	7	39	9	45.11	21.58	51.90
C1-1		103393	2.37	0.81	0.88	103393.14	0.68	0.78	0	0.12	0.39	0	0.5	0.59	0	0.9	0.96	0	0.81	0.88	50	50	655	655	6939	6936	0.060	2	6936	6929	0.001		2	3	4	7.98	5	10	6	13	7	16	9	18.27	10.79	24.60
C1-2		81697	1.88	0.81	0.88	0	0.68	0.78	0	0.12	0.39	0	0.5	0.59	0	0.9	0.96	81697	0.90	0.96	25	300	472	472	6934	6933	0.040	4	6933	6927	0.001		2	3	4	6.78	5	8	6	11	7	13	8	15.25	8.15	18.99
C1-3		20909	0.48	0.81	0.88	0	0.68	0.78	0	0.12	0.39	0	0.5	0.59	0	0.9	0.96	20908.8	0.90	0.96	50	50	285	285	6934	6933	0.020	2	6933	6930	0.000		1	3	4	1.79	5	2	6	3	7	3	9	4.03	2.19	5.00
C1-4		13504	0.31	0.81	0.88	0	0.68	0.78	0	0.12	0.39	0	0.5	0.59	0	0.9	0.96	13503.6	0.90	0.96	25	25	306.8	307	6934	6933.5	0.020	1	6933.5	6927	0.001		1	3	4	1.16	5	1	6	2	7	2	9	2.60	0.60	1.77
C2	Area modified from MDDPA July 2019 value	11402	0.26	0.81	0.88	11401.679	0.68	0.78	0	0.12	0.39	0	0.5	0.59	0	0.9	0.96	0	0.81	0.88	12.0	12	285	285	6930	6929.76	0.020	1	6930	6924	0.001		1	3	4	0.88	5	1	6	1	7	2	9	2.01	1.51	3.59
D1		15298	0.35	0.81	0.88	0	0.68	0.78	0	0.12	0.39	0	0.5	0.59	0	0.9	0.96	15298	0.90	0.96	70.0	70	390	390	6926.7	6923.49	0.046	2	6923	6912	0.002		1	3	4	1.31	5	2	6	2	7	3	9	2.95	1.69	3.74
D2		17506	0.40	0.81	0.88	0	0.68	0.78	0	0.12	0.39	0	0.5	0.59	0	0.9	0.96	17506	0.90	0.96	69.0	69	394	394	6926.7	6924.26	0.036	2	6924	6901.88	0.003		1	3	4	1.50	5	2	6	2	7	3	9	3.37	1.96	4.31
E1		71908	1.65	0.81	0.88	71908	0.68	0.78	0	0.12	0.39	0	0.5	0.59	0	0.9	0.96	0	0.81	0.88	50.0	50	392	392	6915	6914	0.020	3	6914	6910	0.001		1	3	4	5.55	5	7	6	9	7	11	9	12.71	7.27	16.41
E2		6677	0.15	0.81	0.88	0	0.68	0.78	0	0.12	0.39	0	0.5	0.59	0	0.9	0.96	6677	0.90	0.96	13.0	13	162	162	6909	6908.74	0.020	1	6909	6903	0.001		1	3	4	0.57	5	1	6	1	7	1	9	1.29	0.78	1.66
F1		7024	0.16	0.81	0.88	0	0.68	0.78	0	0.12	0.39	0	0.5	0.59	0	0.9	0.96	7024	0.90	0.96	13.0	13	194	194	6909	6908.74	0.020	1	6909	6903	0.001		1	3	4	0.60	5	1	6	1	7	1	9	1.35	0.83	1.77
F2		127888	2.94	0.81	0.88	127888	0.68	0.78	0	0.12	0.39	0	0.5	0.59	0	0.9	0.96	0	0.81	0.88	50.0	50	570	570	6910	6909	0.020	3	6909	6903	0.001		2	3	4	9.87	5	12	6	16	7	19	9	22.60	12.15	28.14
G1		143814	3.30	0.81	0.88	115051.2	0.68	0.78	0	0.12	0.39	0	0.5	0.59	0	0.9	0.96	28762.8	0.83	0.90	50.0	50	431	431	6915	6914	0.020	3	6914	6909	0.001		1	3	4	11.37	5	14	6	19	7	22	9	25.99	15.23	34.51
G2		57918	1.33	0.81	0.88	38612	0.68	0.78	0	0.12	0.39	0	0.5	0.59	0	0.9	0.96	19306	0.84	0.91	50.0	50	717	717	6923	6922	0.020	3	6922	6915	0.001		2	3	4	4.61	5	6	6	8	7	9	9	10.53	5.55	13.11
G3		39520	0.91	0.81	0.88	31616	0.68	0.78	0	0.12	0.39	0	0.5	0.59	0	0.9	0.96	7904	0.83	0.90	50.0	50	257	257	6918	6917	0.020	3	6917	6914	0.000		1	3	4	3.13	5	4	6	5	7	6	9	7.14	4.37	9.74
G4		5782	0.13	0.81	0.88	0	0.68	0.78	0	0.12	0.39	0	0.5	0.59	0	0.9	0.96	5782	0.90	0.96	18.0	18	159	159	6916	6915.64	0.020	1	6916	6914	0.000		1	3	4	0.50	5	1	6	1	7	1	9	1.11	0.67	1.43
G5		58030	1.33	0.81	0.88	48358.333	0.68	0.78	0	0.12	0.39	0	0.5	0.59	0	0.9	0.96	9671.67	0.83	0.90	50.0	50	383	383	6916	6915	0.020	3	6915	6911	0.001		1	3	4	4.59	5	6	6	8	7	9	9	10.49	6.44	14.35
G6		70961	1.63	0.81	0.88	70961	0.68	0.78	0	0.12	0.39	0	0.5	0.59	0	0.9	0.96	0	0.81	0.88	50.0	50	200	200	6913	6912	0.020	3	6912	6910	0.000		1	3	4	5.48	5	7	6	9	7	11	9	12.54	7.62	17.37
G7		23300	0.53	0.81	0.88	0	0.68	0.78	0	0.12	0.39	0	0.5	0.59	0	0.9	0.96	23300	0.90	0.96	12.5	13	480	480	6916	6915.75	0.020	1	6916	6910	0.001		2	3	4	2.00	5	2	6	3	7	4	9	4.49	2.16	5.13
H1		21532	0.49	0.81	0.88	0	0.68	0.78	0	0.12	0.39	0	0.5	0.59	0	0.9	0.96	21532	0.90	0.96	13.0	13	857	857	6929	6928.74	0.020	1	6929	6919	0.001		3	3	4	1.85	5	2	6	3	7	4	9	4.15	2.04	4.80
H2 - This area divided into the nine sub-basins below:		224534	5.15	0.81	0.88	224534	0.68	0.78	0	0.12	0.39	0	0.8	0.68	0	0.9	0.96	0	0.81	0.88	50.0	50	376	376	6933	6932	0.020	3	6932	6922	0.001		1	3	4	17.33	5	21	6	29	7	34	9	39.68	19.72	49.12
H2-1	Pond CH	72695	1.67	0.81	0.88	0	0.68	0.78	0	0.12	0.39	72695	0.8	0.68	0	0.9	0.96	0	0.12	0.39	15	15	485	485	6928	6927	0.067	4	6927	6915	0.002		2	3	4	0.82	5	1	6	4	7	5	9	5.59	0.92	3.69
H2-2		9154	0.21	0.81	0.88	9153.5529	0.68	0.78	0	0.12	0.39	0	0.8	0.68	0	0.9	0.96	0	0.81	0.88	12.5	13	107	107	6929	6928.5	0.040	1	6928.5	6927	0.000		0	3	4	0.71	5	1	6	1	7	1	9	1.62	1.07	2.31
H2-3		17155	0.39	0.81	0.88	17155.269	0.68	0.78	0	0.12	0.39	0	0.8	0.68	0	0.9	0.96	0	0.81	0.88	13.0	13	237	237	6934	6933.74	0.020	2	6933.74	6929	0.001		1	3	4	1.32	5	2	6	2	7	3	9	3.03	1.95	4.25
H2-4		13965	0.32	0.81	0.88	13964.818	0.68	0.78	0	0.12	0.39	0	0.8	0.68	0	0.9	0.96	0	0.81	0.88	12.5	13	263	263	6934	6933.75	0.020	2	6933.75	6927	0.001		1	3	4	1.08	5	1	6	2	7	2	9	2.47	1.58	3.47
H2-5		15821	0.36	0.81	0.88	15820.9	0.68	0.78	0	0.12	0.39	0	0.8	0.68	0	0.9	0.96	0	0.81	0.88	13.0	13	244	244	6929	6928.74	0.020	2	6929	6925	0.001		1	3	4	1.22	5	1	6	2	7	2	9	2.80	1.78	3.91
H2-6		40402	0.93	0.81	0.88	40401.698	0.68	0.78	0	0.12	0.39	0	0.8	0.68	0	0.9	0.96	0	0.81	0.88	12.5	13	437.5	437.5	6934	6933.75	0.020	2	6933.75	6925	0.001		1	3	4	3.12	5	4	6	5	7	6	9	7.14	4.33	9.79
H2-7		64992	1.49	0.81	0.88	0	0.68	0.78	0	0.12	0.39	64992	0.8	0.68	0	0.9	0.96	0	0.12	0.39	13.0	13	657	657	6935	6934.74	0.020	5	6934.74	6920	0.002		2	3	4	0.66	4	1	6	3	7	4	8	4.54	2.61	8.43
H2-8		2999	0.07	0.81	0.88	0	0.68	0.78	0	0.12	0.39	0	0.8	0.68	0	0.9	0.96	2999	0.90	0.96	12.5	13	147.5	147.5	6926.5	6926	0.040	1	6926	6920	0.001		0	3	4	0.26	5	0	6	0	7	0	9	0.58	0.36	0.77
H2-9		13358	0.31	0.81	0.88	0	0.68	0.78	0	0.12	0.39	0	0.8	0.68	0	0.9	0.96	13358.2	0.90	0.96	12.5	13	322.5	322.5	6925	6924.75	0.020	1	6924.75	6920	0.001		1	3	4	1.16	5	1	6	2	7	2	9	2.60	1.33	3.12
H3	Area modified from MDDPA July 2019 value	2260	0.05	0.81	0.88	0	0.68	0.78	0	0.12	0.39	0	0.5	0.59	0	0.9	0.96	2260	0.90	0.96	9.0	9	335	335	6925	6924.82	0.020	1	6925	6919	0.001		1	3	4	0.19	5	0	6	0	7	0	9	0.44	1.06	2.35
I1		8893	0.20	0.81	0.88	0	0.68	0.78	0	0.12	0.39	0	0.5	0.59	0	0.9	0.96	8893	0.90	0.96	9.0	9	308	308	6924	6923.82	0.020	1	6924	6919	0.001		1	3	4	0.76	5	1	6	1	7	1	9	1.71	0.97	2.15
I2		114397	2.63	0.81	0.88	114397	0.68	0.78	0	0.12	0.39	0	0.5	0.59	0	0.9	0.96	0	0.81	0.88	50.0	50	338	338	6922	6921	0.020	3	6921	6917	0.001		1	3	4	8.83	5	11	6	15	7	17	9	20.22	12.28	27.74
I3		7524	0.17	0.81	0.88	0	0.68	0.78	0	0.12	0.39	0	0.5	0.59	0	0.9	0.96	7524	0.90	0.96	12.5	13	228	228	6918	6917.75	0.020	1	6918	6915	0.000		1	3	4	0.65	5	1	6	1	7	1	9	1.45	0.84	1.84
																											0.040				0.040															
OSD2	Flow Bypass from Kenosha Drive	61500	1.41																								0.040				0.040				4.80								7.20	4.80	7.20
OSD6	Flow from Shiloh Mesa Filing No. 1	31282	0.72																								0.040				0.040				3.00								6.30	6.30	3.00
OS4		49774	1.14																								0.040				0.040				4.00								7.60	4.83	11.80
OS2		61916	1.42																								0.040				0.040				5.60								10.50	5.02	11.30
DESIGN POINTS **SOUTH OUTFALL**																											0.040				0.040															
S1	**B, C1-1**	660805.2	12.17	0.81	0.88	660805.2	0.68	0.78	0	0.12	0.39	0	0.5	0.59	0	0.9	0.96	0	0.81	0.88	50.0	50	1470	1470	6942	6941	0.020	3	6941	6925	0.002		5	3	4	35.71	4	43	6	60	7	70	8	81.75	33.3	75.9
S2	**S1 & C2**	672130.8	12.43	0.81	0.88	672130.8	0.68	0.78	0	0.12	0.39	0	0.5	0.59	0	0.9	0.96	0	0.81	0.88	50	50	1505	1505	6942	6941	0.020	3	6941	6925	0.002		5	3	4	36.29	4	44	5	61	6	71	8	83.09	48.7	114.3
CH1	**H2-2, H2-3, H2-5**	42253.2	0.97	0.81	0.88	0	0.68	0.78	0	0.12	0.39	0	0.5	0.59	0	0.9	0.96	42253.2	0.90	0.96	52.0	52	375	375	6934	6933	0.019	2	6933	6927	0.001		1	3	4	3.61	5	4	6	6	7	7	9	8.12	4.8	10.4
CH2	**CH1, C1-2, C1-3, C1-4**	158122.8	3.63	0.81	0.88	0	0.68	0.78	0	0.12	0.39	0	0.5	0.59	0	0.9	0.96	158122.8	0.90	0.96	52	52	532	532	6934	6933	0.019	2	6933	6927	0.001		2	3	4	13.57	5	16	6	22	7	26	9	30.50	12.1	28.1
CH3	**CH2, S2**	830253.6	16.06	0.81	0.88	672130.8	0.68	0.78	0	0.12	0.39	0	0.5	0.59	0	0.9	0.96	158122.8	0.83	0.90	50	50	1578	1578	6942	6941	0.020	3	6941	6924	0.002		5	3	4	47.99	4	58	5	80	6	94	8	109.68	48.7	114.3
CH4	**H2-4,H2-6**	54450	1.25	0.81	0.88	0	0.68	0.78	0	0.12	0.39	0	0.5	0.59	0	0.9	0.96	54450	0.90	0.96	12.5	13	437.5	438	6934	6933.75	0.020	1	6933.75	6925	0.001		1	3	4	4.66	5	6	6	8	7	9	9	10.48	5.9	13.3
CH5	**CH4, H2-7**	119354.4	2.74	0.81	0.88	0	0.68	0.78	0	0.12	0.39	64992	0.5	0.59	0	0.9	0.96	54450	0.48	0.66	12.5	13	657	657	6935	6934.75	0.020	3	6934.75	6920	0.002		2	3	4	5.34	5	6	6	11	7	13	8	15.48	8.5	21.7
Pond CH	**CH3, CH5, H2-1, H2-8, H2-9**	1025402.4	20.85	0.81	0.88	672130.8	0.68	0.78	0	0.12	0.39	137687	0.5	0.59	0	0.9	0.96	225931	0.75	0.85	12.5	13	1578	1578	6942	6941.75	0.020	2	6941.75	6915	0.004		5	3	4	58.78	5	71	6	102	7	121	8	140.40	59.3	143.1
S3 **Pond CH Discharge**	**CH3, CH5, H2-1, H2-8, H2-9**	1025402.4	20.85	0.81	0.88	672130.8	0.68	0.78	0	0.12	0.39	137687	0.5	0.59	0	0.9	0.96	225931	0.75	0.85	12.5	13	1578	1578	6942	6941.75	0.020	2	6941.75	6915	0.004					1.60								3.80	1.6	3.8
S4	**S3 & H3**	2260	0.05	0.81	0.88	2260	0.68	0.78	0	0.12	0.39	0	0.5	0.59	0	0.9	0.96	0	0.81	0.88	12.5	13	53.5	53.5	6920	6919.75	0.020	2	6919.75	6918.25	0.000		0	3	4	1.77	5	0	6	0	7	0	9	4.20	2.7	6.1
S5	**S4 & I1**	11153	0.26	0.81	0.88	11153	0.68	0.78	0	0.12	0.39	0	0.5	0.59	0	0.9	0.96	0	0.81	0.88	12.5	13	86.5	86.5	6920	6919.75	0.020	2	6919.75	6918	0.000		0	3	4	2.46	5	1	6	1	7	2	9	5.77	3.5	7.2
S6	**S5, H1 & G2**	90603	2.08	0.81	0.88	90603	0.68	0.78	0	0.12	0.39	0	0.5	0.59	0	0.9	0.96	0	0.81	0.88	12.5	13	216.35	216.35	6920	6919.75	0.020	2	6919.75	6916.81	0.000		1	3	4	8.59	5	8	6	12	7	14	9	19.81	10.9	24.9
S7	**S6, I2, & I3**	212524	4.88	0.81	0.88	212524	0.68	0.78	0	0.12	0.39	0	0.5	0.59	0	0.9	0.96	0	0.81	0.88	12.5	13	466.35	466.35	6920	6919.75	0.020	2	6919.75	6914.75	0.001		2	3	4	18.00	5	20	6	27	7	32	9	41.36	23.0	53.5
S8	**S7& G4**	218306	5.01	0.81	0.88	218306	0.68	0.78	0	0.12	0.39	0	0.5	0.59	0	0.9	0.96	0	0.81	0.88	12.5	13	502.85	502.85	6920	6919.75	0.020	2	6919.75	6914	0.001		2	3	4	18.45	5	20	6	28	7	33	9	42.38	23.5	54.9
S9	**G3 & G5**	97550	2.24	0.81	0.88	97550	0.68	0.78	0	0.12	0.39	0	0.5	0.59	0	0.9	0.96	0	0.81	0.88	25.0	25	408.17	408.17	6916	6915.5	0.020	2	6915.5	6911.99	0.001		1	3	4	7.53	5	9	6	13	7	15	9	17.24	10.8	24.1
S10	**S9, G1, & G7**	264664	6.08	0.81	0.88	264664	0.68	0.78	0	0.12	0.39	0	0.5	0.59	0	0.9	0.96	0	0.81	0.88	25.0	25	836.82	836.82	6916	6915.5	0.020	2	6915.5	6908.01	0.001		3	3	4	20.43	5	25	6	34	7	40	9	46.77	35.7	80.9
S11 **Pond 14**	**G6, S8, & S10**	553931	12.72	0.81	0.88	553931	0.68	0.78	0	0.12	0.39	0	0.5	0.59	0	0.9	0.96	0	0.81	0.88	25.0	25	1028.86	1028.86	6920	6919.5	0.020	2	6919.5	6902	0.003		3	3	4	43.14	5	50	6	69	7	82	8	98.90	55.9	130.8
S12 **South Outfall**	**S11**	553931	12.72	0.81	0.88	553931	0.68	0.78	0	0.12	0.39	0	0.5	0.59	0	0.9	0.96	0	0.81	0.88	25.0	25	1028.86	1028.86	6920	6919.5	0.020	2	6919.5	6902	0.003					4.10								20.80	4.1	20.8
Total Area =		**1462044**	33.57																																												

TO SOUTH OUTFALL

Notes: Q2, Q5 & Q10 are based on C5; Q25, Q50 & Q100 are based on C100
At DP S3, the design discharge is added to contributing runoff calculations, drainage area upstream of Pond CH is not included.
Flow calculations are used for sizing of storm sewer pipe and inlets.

Worksheet Protected

Site-Level Low Impact Development (LID) Design Effective Impervious Calculator

LID Credit by Impervious Reduction Factor (IRF) Method

UD-BMP (Version 3.06, November 2016)

User Input

Calculated cells

***Design Storm: 1-Hour Rain Depth	WQCV Event	0.60	inches
***Minor Storm: 1-Hour Rain Depth	5-Year Event	1.50	inches
***Major Storm: 1-Hour Rain Depth	100-Year Event	2.52	inches
Optional User Defined Storm	CUHP		
(CUHP) NOAA 1 Hour Rainfall Depth and Frequency for User Defined Storm	100-Year Event	2.52	
Max Intensity for Optional User Defined Storm	2.51496		

Designer: Jesse Sullivan
Company: Matrix Design Group
Date: July 25, 2019
Project: Shiloh Mesa MDDP Amendment & Commercial Filing No. 1
Location: Colorado Springs, CO

SITE INFORMATION (USER-INPUT)

Sub-basin Identifier	B	H2-9	H3											
Receiving Pervious Area Soil Type	Sandy Loam	Sandy Loam	Sandy Loam											
Total Area (ac., Sum of DCIA, UIA, RPA, & SPA)	9.790	0.310	0.220											
Directly Connected Impervious Area (DCIA, acres)	4.056	0.295	0.220											
Unconnected Impervious Area (UIA, acres)	0.839	0.000	0.000											
Receiving Pervious Area (RPA, acres)	1.629	0.000	0.000											
Separate Pervious Area (SPA, acres)	3.266	0.016	0.000											
RPA Treatment Type: Conveyance (C), Volume (V), or Permeable Pavement (PP)	C	C	C	C	C	C	C	C	C	C	C	C	C	
				MISSING INPUT	MISSING INPUT	MISSING INPUT	MISSING INPUT	MISSING INPUT	MISSING INPUT	MISSING INPUT	MISSING INPUT	MISSING INPUT	MISSING INPUT	

CALCULATED RESULTS (OUTPUT)

Total Calculated Area (ac, check against input)	9.790	0.310	0.220											
Directly Connected Impervious Area (DCIA, %)	41.4%	95.0%	100.0%											
Unconnected Impervious Area (UIA, %)	8.6%	0.0%	0.0%											
Receiving Pervious Area (RPA, %)	16.6%	0.0%	0.0%											
Separate Pervious Area (SPA, %)	33.4%	5.0%	0.0%											
A_R (RPA / UIA)	1.942	0.000	0.000											
I_a Check	0.340	1.000	1.000											
f / I for WQCV Event:	1.7	1.7	1.7											
f / I for 5-Year Event:	0.5	0.5	0.5											
f / I for 100-Year Event:	0.3	0.3	0.3											
f / I for Optional User Defined Storm CUHP:	0.31	0.31	0.31											
IRF for WQCV Event:	0.59	1.00	1.00											
IRF for 5-Year Event:	0.87	1.00	1.00											
IRF for 100-Year Event:	0.91	1.00	1.00											
IRF for Optional User Defined Storm CUHP:	0.91	1.00	1.00											
Total Site Imperviousness: I_{total}	50.0%	95.0%	100.0%											
Effective Imperviousness for WQCV Event:	46.4%	95.0%	100.0%											
Effective Imperviousness for 5-Year Event:	48.9%	95.0%	100.0%											
Effective Imperviousness for 100-Year Event:	49.2%	95.0%	100.0%											
Effective Imperviousness for Optional User Defined Storm CUHP:	49.2%	95.0%	100.0%											

LID / EFFECTIVE IMPERVIOUSNESS CREDITS

WQCV Event CREDIT: Reduce Detention By:	4.6%	0.0%	0.0%											N/A
This line only for 10-Year Event	N/A	N/A	N/A											N/A
100-Year Event CREDIT**: Reduce Detention By:	1.5%	0.1%	0.1%											N/A
User Defined CUHP CREDIT: Reduce Detention By:	1.4%	0.0%	0.0%											

Total Site Imperviousness:	**52.4%**
Total Site Effective Imperviousness for WQCV Event:	**49.0%**
Total Site Effective Imperviousness for 5-Year Event:	**51.4%**
Total Site Effective Imperviousness for 100-Year Event:	**51.7%**
Total Site Effective Imperviousness for Optional User Defined Storm CUHP:	**51.7%**

Notes:

* Use Green-Ampt average infiltration rate values from Table 3-3.
** Flood control detention volume credits based on empirical equations from Storage Chapter of USDCM.
*** Method assumes that 1-hour rainfall depth is equivalent to 1-hour intensity for calculation purposed

Worksheet Protected

Site-Level Low Impact Development (LID) Design Effective Impervious Calculator

LID Credit by Impervious Reduction Factor (IRF) Method

UD-BMP (Version 3.06, November 2016)

User Input

Calculated cells

***Design Storm: 1-Hour Rain Depth	WQCV Event	0.60	inches
***Minor Storm: 1-Hour Rain Depth	5-Year Event	1.50	inches
***Major Storm: 1-Hour Rain Depth	100-Year Event	2.52	inches
Optional User Defined Storm	CUHP		
(CUHP) NOAA 1 Hour Rainfall Depth and Frequency for User Defined Storm	100-Year Event	2.52	
Max Intensity for Optional User Defined Storm	2.51496		

Designer:	**Jesse Sullivan**
Company:	**Matrix Design Group**
Date:	**July 25, 2019**
Project:	**Shiloh Mesa MDDP Amendment & Commercial Filing No. 1**
Location:	**Colorado Springs, CO**

SITE INFORMATION (USER-INPUT)

Sub-basin Identifier	**C1-1**	**C1-2**	**C1-3**	**C1-4**	**C2**	**H1**	**H2-1**	**H2-2**	**H2-3**	**H2-4**	**H2-5**	**H2-6**	**H2-7**	**H2-8**
Receiving Pervious Area Soil Type	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam
Total Area (ac., Sum of DCIA, UIA, RPA, & SPA)	2.370	1.880	0.480	0.310	0.260	1.330	1.670	0.210	0.390	0.320	1.640	0.930	1.490	0.070
Directly Connected Impervious Area (DCIA, acres)	2.252	1.786	0.456	0.295	0.260	1.290	0.000	0.200	0.371	0.304	1.558	0.884	0.000	0.070
Unconnected Impervious Area (UIA, acres)	0.000	0.000	0.000	0.000	0.000	0.000	0.117	0.000	0.000	0.000	0.000	0.000	0.373	0.000
Receiving Pervious Area (RPA, acres)	0.000	0.000	0.000	0.000	0.000	0.000	1.553	0.000	0.000	0.000	0.000	0.000	1.118	0.000
Separate Pervious Area (SPA, acres)	0.119	0.094	0.024	0.016	0.000	0.040	0.000	0.011	0.020	0.016	0.082	0.047	0.000	0.000
RPA Treatment Type: Conveyance (C), Volume (V), or Permeable Pavement (PP)	C	C	C	C	C	C	C	C	C	C	C	C	C	C

CALCULATED RESULTS (OUTPUT)

Total Calculated Area (ac, check against input)	2.370	1.880	0.480	0.310	0.260	1.330	1.670	0.210	0.390	0.320	1.640	0.930	1.490	0.070
Directly Connected Impervious Area (DCIA, %)	95.0%	95.0%	95.0%	95.0%	100.0%	97.0%	0.0%	95.0%	95.0%	95.0%	95.0%	95.0%	0.0%	100.0%
Unconnected Impervious Area (UIA, %)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.0%	0.0%	0.0%	0.0%	0.0%	0.0%	25.0%	0.0%
Receiving Pervious Area (RPA, %)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	93.0%	0.0%	0.0%	0.0%	0.0%	0.0%	75.0%	0.0%
Separate Pervious Area (SPA, %)	5.0%	5.0%	5.0%	5.0%	0.0%	3.0%	0.0%	5.0%	5.0%	5.0%	5.0%	5.0%	0.0%	0.0%
A_R (RPA / UIA)	0.000	0.000	0.000	0.000	0.000	0.000	13.286	0.000	0.000	0.000	0.000	0.000	3.000	0.000
I_a Check	1.000	1.000	1.000	1.000	1.000	1.000	0.070	1.000	1.000	1.000	1.000	1.000	0.250	1.000
f / I for WQCV Event:	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
f / I for 5-Year Event:	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
f / I for 100-Year Event:	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
f / I for Optional User Defined Storm CUHP:	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
IRF for WQCV Event:	1.00	1.00	1.00	1.00	1.00	1.00	0.18	1.00	1.00	1.00	1.00	1.00	0.54	1.00
IRF for 5-Year Event:	1.00	1.00	1.00	1.00	1.00	1.00	0.30	1.00	1.00	1.00	1.00	1.00	0.85	1.00
IRF for 100-Year Event:	1.00	1.00	1.00	1.00	1.00	1.00	0.31	1.00	1.00	1.00	1.00	1.00	0.90	1.00
IRF for Optional User Defined Storm CUHP:	1.00	1.00	1.00	1.00	1.00	1.00	0.31	1.00	1.00	1.00	1.00	1.00	0.90	1.00
Total Site Imperviousness: I_{total}	95.0%	95.0%	95.0%	95.0%	100.0%	97.0%	7.0%	95.0%	95.0%	95.0%	95.0%	95.0%	25.0%	100.0%
Effective Imperviousness for WQCV Event:	95.0%	95.0%	95.0%	95.0%	100.0%	97.0%	1.3%	95.0%	95.0%	95.0%	95.0%	95.0%	13.6%	100.0%
Effective Imperviousness for 5-Year Event:	95.0%	95.0%	95.0%	95.0%	100.0%	97.0%	2.1%	95.0%	95.0%	95.0%	95.0%	95.0%	21.4%	100.0%
Effective Imperviousness for 100-Year Event:	95.0%	95.0%	95.0%	95.0%	100.0%	97.0%	2.2%	95.0%	95.0%	95.0%	95.0%	95.0%	22.4%	100.0%
Effective Imperviousness for Optional User Defined Storm CUHP:	95.0%	95.0%	95.0%	95.0%	100.0%	97.0%	2.2%	95.0%	95.0%	95.0%	95.0%	95.0%	22.4%	100.0%

LID / EFFECTIVE IMPERVIOUSNESS CREDITS

WQCV Event CREDIT: Reduce Detention By:	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	80.1%	0.0%	0.0%	0.0%	0.0%	0.0%	35.9%	0.0%
This line only for 10-Year Event	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
100-Year Event CREDIT**: Reduce Detention By:	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	96.8%	0.1%	0.1%	0.1%	0.0%	0.0%	11.0%	0.3%
User Defined CUHP CREDIT: Reduce Detention By:	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	37.7%	0.0%	0.0%	0.0%	0.0%	0.0%	7.1%	0.0%

Total Site Imperviousness:	**76.5%**
Total Site Effective Imperviousness for WQCV Event:	**74.5%**
Total Site Effective Imperviousness for 5-Year Event:	**75.5%**
Total Site Effective Imperviousness for 100-Year Event:	**75.6%**
Total Site Effective Imperviousness for Optional User Defined Storm CUHP:	**75.6%**

Notes:

* Use Green-Ampt average infiltration rate values from Table 3-3.

** Flood control detention volume credits based on empirical equations from Storage Chapter of USDCM.

*** Method assumes that 1-hour rainfall depth is equivalent to 1-hour intensity for calculation purposed

POND CALCULATIONS

Figure 13-12c. Emergency Spillway Protection

Figure 13-12d. Riprap Types for Emergency Spillway Protection

CLASSIFICATION AND GRADATION OF ORDINARY RIP RAP			
Rip Rap Designation by Weight	**% Smaller Than Given Size (inches)**	**Intermediate Rock Dimension**	**d50* (inches)**
Type VL	70 – 100	12	6**
	50 – 70	9	
	35 – 50	6	
	2 - 10	2	
Type L	70 – 100	15	9**
	50 – 70	12	
	35 – 50	9	
	2 - 10	3	
Type M	70 – 100	21	12
	50 – 70	18	
	35 – 50	12	
	2 - 10	4	
Type H	70 – 100	30	18
	50 – 70	24	
	35 – 50	18	
	2 - 10	6	
Type VH	70 – 100	42	24
	50 – 70	33	
	35 – 50	24	
	2 - 10	9	

* d50 = Mean particle size

** Bury types VL and L with native top soil and revegetate to protect from vandalism.

The Engineer shall approve the source and type of material used prior to its installation site. Acceptable material may be salvaged from clearing operations or excavation on the project. Rubble concrete may be used provided it has a density of at least 150 pounds per cubic foot and otherwise meets the applicable requirements of these specifications.

The type, gradation, and thickness of granular bedding material shall be as shown in the approved contract documents and shall conform to the following requirements:

materials may be considered on a case-by-case basis. In either case, the protection shall be constructed to convey the 100-year developed condition flow from the upstream watershed without accounting for any flow attenuation within the detention facility.

The crest elevation of the emergency spillway shall be set at or above the calculated 100-year water surface elevation. A concrete wall shall be constructed at the emergency spillway crest extending at least to the bottom of the riprap and bedding layers located immediately downstream for regional and sub-regional ponds. On-site ponds do not require a concrete crest wall. The crest wall shall be extended at the sides up to 1 foot above the emergency spillway design water surface as shown in Figure 13-12c.

Riprap embankment protection shall be sized based on methodologies described in *Development of Riprap Testing in Flumes: Phase II Follow-up Investigations* (Apt et al. 1988) to determine the D_{50} dimension. According to this method:

$$D_{50} = 5.23\ S^{0.43}\ (1.35\ C_f\ q)^{0.56} = 5.23(0.33)^{0.43} \times (1.35(2.0)(6.42))^{0.56} = 16'' \uparrow \boxed{18''}$$ Equation 13-9

Where:

D_{50}	=	median rock size (in)
S	=	longitudinal slope (ft/ft)
C_f	=	concentration factor (1.0 to 3.0)
q	=	unit discharge (cfs/ft)

When:

η (porosity) = 0.0 (i.e., for buried soil riprap)

$Q = 128.4$ cfs

$S = 3:1 = 0.333 \frac{ft}{ft}$

$C_f = 2.0$

$q = \frac{128.4 \text{ cfs}}{20 \text{ ft}} = 6.42 \frac{\text{cfs}}{\text{ft}}$

The unit discharge shall be determined by dividing the design flow by the crest width, excluding the side slopes. According to this method, the types of riprap needed for typical embankment slopes and design flows are shown in Figure 13-12d. The riprap types shown were determined assuming that there is no interstitial flow (i.e., no flow between the rocks—soil riprap with filled voids and porosity = 0) and that the "concentration factor" (C_f) is equal to 2.0. For plain riprap with interstitial flow, the method requires an interactive process described in Apt et al. (1988). The range for each type shown is based on the D_{50} dimension at the midpoint between the D_{50} for adjacent types. Riprap characteristics such as rock size distributions, thickness, hardness, specific gravity, angle of repose, etc., shall be as required in the Major Drainage chapter of Volume 1 in the UDFCD Manual. For design conditions outside of the parameters or conditions represented in Figure 13-12d, the designer shall propose an appropriate alternative approach that may include grouted boulders or concrete protection. Alternative approaches must be submitted for approval prior to incorporation into designs.

The emergency spillway is also needed to control the location and direction of any overflows. The emergency spillway and the path of the emergency overflow downstream of the spillway and embankment shall be clearly depicted on the drainage plan. Structures shall not be permitted in the path of the emergency spillway or overflow. The emergency overflow water surface shall be shown on the detention facility construction drawings. When emergency overflows will pass over a roadway, the depth of flow shall not be greater than 1 foot over the street crown.

5.13 Retaining Walls

The use of retaining walls within detention basins is discouraged due to the potential increase in long-term maintenance costs and concerns regarding the safety of the general public and maintenance personnel. Retaining walls shall only be considered for on-site facilities. If retaining walls are proposed, footings shall be located above the WQCV or EURV. Wall heights not exceeding 30 inches are

Weir Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Tuesday, Jun 4 2019

<Name>

V-Notch Weir

Crest	= Sharp
Angle (Deg)	= 90
Total Depth (ft)	= 0.95

Calculations

Weir Coeff. Cw	= 2.54
Compute by:	Known Q
Known Q (cfs)	= 2.19

Highlighted

Depth (ft)	= 0.94
Q (cfs)	= 2.194
Area (sqft)	= 0.89
Velocity (ft/s)	= 2.47
Top Width (ft)	= 1.89

Weir Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Tuesday, Jun 4 2019

Storm Forebay 1

V-Notch Weir

Crest	= Sharp
Angle (Deg)	= 90
Total Depth (ft)	= 0.47

Calculations

Weir Coeff. Cw	= 2.54
Compute by:	Known Q
Known Q (cfs)	= 0.37

Highlighted

Depth (ft)	= 0.46
Q (cfs)	= 0.374
Area (sqft)	= 0.22
Velocity (ft/s)	= 1.73
Top Width (ft)	= 0.93

Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Tuesday, Jun 4 2019

Emergency Overflow

Trapezoidal

Bottom Width (ft)	=	20.00
Side Slopes (z:1)	=	3.00, 3.00
Total Depth (ft)	=	2.50
Invert Elev (ft)	=	1.00
Slope (%)	=	0.10
N-Value	=	0.013

Calculations

Compute by:		Known Q
Known Q (cfs)	=	128.40

Highlighted

Depth (ft)	=	1.36
Q (cfs)	=	128.40
Area (sqft)	=	32.75
Velocity (ft/s)	=	3.92
Wetted Perim (ft)	=	28.60
Crit Depth, Yc (ft)	=	1.03
Top Width (ft)	=	28.16
EGL (ft)	=	1.60

Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Tuesday, Jun 4 2019

Trickle Channel

Rectangular

Bottom Width (ft)	= 8.00
Total Depth (ft)	= 0.50
Invert Elev (ft)	= 1.00
Slope (%)	= 1.00
N-Value	= 0.025

Calculations

Compute by:	Known Q
Known Q (cfs)	= 2.57

Highlighted

Depth (ft)	= 0.18
Q (cfs)	= 2.570
Area (sqft)	= 1.44
Velocity (ft/s)	= 1.78
Wetted Perim (ft)	= 8.36
Crit Depth, Yc (ft)	= 0.15
Top Width (ft)	= 8.00
EGL (ft)	= 0.23

Matrix DESIGN GROUP

Job. No. 19.886.01

Date / /

Sheet of

By

Project Woodmen Valley Chapel

Subject Storm Forebay 1

$Q_{100} \times 2'/_{10} = 2.194 cfs$

$Q = 2.49 \; H^{2.48}$

$\frac{2.194}{2.49} = \frac{2.49}{2.49} H^{2.48}$

$0.881 cfs = H^{2.48}$

$\boxed{H = 0.95 ft}$ $\boxed{2L = 1.90 ft}$

$L = H = 0.95 ft$

Matrix DESIGN GROUP

Job. No. 19.886.011

Date ____/____/____

Sheet ____ of ____

By ____

Project Woodmen Valley Chapel

Subject Storm Forebay 2

$Q_{100} \times 2\% = 0.374 \text{ cfs}$

$Q = 2.49 H^{2.48}$

$\frac{0.374}{2.49} = \frac{2.49 H^{2.48}}{2.49}$

$0.15 = H^{2.48}$

$\boxed{H = 0.47 \text{ ft}}$ $\boxed{2L = 0.94 \text{ ft}}$

$L = H = 0.95 \text{ ft}$

APPENDIX D

811 Know what's below. Call before you dig.

VICINITY MAP

NORTH
N.T.S.

LEGEND

- SUB-BASIN BOUNDARY
- 4900 EXISTING CONTOUR
- FLOW DIRECTION
- FLOWLINE
- LOT LINE
- DESIGN POINT
- X — SUB BASIN DESIGNATION
- x.xx — SUB BASIN 100 YEAR RUNOFF COEFFICIENT
- x.xx — SUB BASIN AREA (AC.)
- 0.0 — 5-YEAR STORM EVENT PEAK FLOW (CFS)
- 0.0 — 100-YEAR STORM EVENT PEAK FLOW (CFS)

Shiloh Mesa - Existing DP Summary

Design Point	Sub-Basins	Total Area (ac.)	Q(5) (cfs)	Q(100) (cfs)
1	EX1	34.02	8.05	45.30
2	EX1, L	36.58	16.44	64.45
3	EX2	14.41	4.24	27.04
	Totals:	50.99	20.68	91.49

REFERENCE DRAWINGS
X-Ex Feat
X-MSBASE-RES
X-Util
DR02
DR01
X-686-PR-ROAD_ROUNDABOUT
X-Base-FS
X-900-PR-UTIL_COMM
X-900-EX-UTIL
x-900-ex-base
x-pr-util

No.	DATE	DESCRIPTION	BY

REVISIONS

COMPUTER FILE MANAGEMENT
FILE NAME: S:\18.346.015 - Woodmen Valley Chapel\200 Drainage\201 Drainage Reports\FDR\DWG\DR01.dwg
CTB FILE: ---
PLOT DATE: July 26, 2019 9:56:09 AM
THIS DRAWING IS CURRENT AS OF PLOT DATE AND MAY BE SUBJECT TO CHANGE.

SHEET KEY

PREPARED BY: Matrix DESIGN GROUP — AN EMPLOYEE-OWNED COMPANY

SEAL

PRELIMINARY
THIS DRAWING HAS NOT BEEN APPROVED BY GOVERNING AGENCIES AND IS SUBJECT TO CHANGE

FOR AND ON BEHALF OF MATRIX DESIGN GROUP, INC.
PROJECT No. 18.346.015

SHILOH MESA AT WOODMEN HEIGHTS

WOODMEN VALLEY CHAPEL
FINAL DRAINAGE REPORT

EXISTING CONDITIONS DRAINAGE MAP

DESIGNED BY:	NMS	SCALE	DATE ISSUED:	JULY 2019	DRAWING No.
DRAWN BY:	NMS	HORIZ. 1" = 100'			
CHECKED BY:	JTS	VERT. N/A	SHEET	01 OF 03	DR01

Know what's **below.** **Call** before you dig.

LEGEND

- SUB-BASIN BOUNDARY
- 4900 — EXISTING CONTOUR
- FLOW DIRECTION
- FLOWLINE
- LOT LINE
- DESIGN POINT: S1 FDR/MDDPA SOUTH OUTFALL; CH1 FDR; MDDPA WEST OUTFALL
- 0.0 — 5-YEAR STORM EVENT PEAK FLOW (CFS)
- 0.0 — 100-YEAR STORM EVENT PEAK FLOW (CFS)

FDR

- H2-1 — SUB BASIN DESIGNATION
- 1.49 — SUB BASIN 100 YEAR RUNOFF COEFFICIENT
- SUB BASIN AREA (AC.)

SOUTH OUTFALL

- C2 — SUB BASIN DESIGNATION
- 0.37 — SUB BASIN 100 YEAR RUNOFF COEFFICIENT
- SUB BASIN AREA (AC.)

WEST OUTFALL – Not Considered in this study.

- SUB BASIN DESIGNATION
- SUB BASIN 100 YEAR RUNOFF COEFFICIENT
- SUB BASIN AREA (AC.)

NOTE: CURBS ARE TYPE I UNLESS OTHERWISE INDICATED.

VICINITY MAP

NORTH
N.T.S.

South Outfall Basin Summary Table Woodmen Valley Chapel

Area ID	Area (Acres)	Q5 (cfs)	Q100 (cfs)	Area ID	Area (Acres)	Q5 (cfs)	Q100 (cfs)
OSD2	1.4	4.8	7.2	H1	0.5	2.0	4.8
OSD6	0.7	6.3	3.0	H2-1	1.7	0.8	5.6
B	9.8	22.7	51.2	H2-2	0.2	0.7	1.6
C1-1	2.4	8.0	18.3	H2-3	0.4	1.3	3.0
C1-2	1.9	6.8	15.2	H2-4	0.3	1.1	2.5
C1-3	0.5	1.8	4.0	H2-5	0.4	1.2	2.8
C1-4	0.3	1.2	2.6	H2-6	0.9	3.1	7.1
C2	0.3	1.5	3.6	H2-7	1.5	0.7	4.5
G1	3.3	15.2	34.5	H2-8	0.1	0.3	0.6
G2	1.3	5.6	13.1	H2-9	0.3	1.2	2.6
G3	0.9	4.4	9.7	H3	0.1	1.1	2.4
G4	0.1	0.7	1.4	I1	0.2	1.0	2.2
G5	1.3	6.4	14.4	I2	2.6	12.3	27.7
G6	1.6	7.6	17.4	I3	0.2	0.8	1.8
G7	0.5	2.2	5.1				

SOUTH OUTFALL Design Point Summary Table

Design Point	Upstream Area (Acres)	Upstream Q5 (cfs)	Upstream Q100 (cfs)	Subbasins Included
S1	12.17	33.3	75.9	B, C1-1
S2	12.43	48.7	114.3	S1 & C2
CH1	0.97	3.6	8.1	H2-2, H2-3, H2-5
CH2	3.63	13.6	30.5	CH1, C1-2, C1-3, C1-4
CH3	16.06	48.0	109.7	CH2, S2
CH4	1.25	4.7	10.5	H2-4,H2-6
CH5	2.74	5.3	15.5	CH4, H2-7
Pond CH	20.85	58.8	140.4	CH3, CH5, H2-1, H2-8, H2-9
S3 Pond CH Discharge	20.85	1.6	3.8	CH3, CH5, H2-1, H2-8, H2-9
S4	0.05	2.7	6.1	S3 & H3
S5	0.26	3.5	7.2	S4 & I1
S6	2.08	10.9	24.9	S5, H1 & G2
S7	4.88	23.0	53.5	S6, I2, & I3
S8	5.01	23.5	54.9	S7& G4
S9	2.24	10.8	24.1	G3 & G5
S10	6.08	35.7	80.9	S9, G1, & G7
S11 Pond 14	12.72	43.1	98.9	G6, S8, & S10
S12 South Outfall	12.72	4.1	20.8	S11

Pond Summary Table

Pond ID	Contributing Basins	EX 5-YR (CFS)	PR 5-YR (CFS)	EX 100-YR (CFS)	PR 100-YR (CFS)
Pond CH	B, C1, C2, H2		1.6		3.8
Pond 14	B, C1, C2, H1-H3, I1-I3, G1-G7		4.1		20.8
SOUTH OUTFALL		4.2	4.1	27.1	20.8
Proposed vs. Existing Outfall Comparison		-0.1		-6.3	

REFERENCE DRAWINGS

X-Ex Feat
X-Ex Util
X-MSBASE-RES
X-Util
DR02
DR01
x-886-pr-road_roundabout
x-base-f5
x-900-pr-road_comm
x-900-pr-util_comm
X-PR-BASE
X-EX-BASE_UTIL
X-PR-UTIL-WVC
X-930-PR-SITE
x-pr-util

No.	DATE	DESCRIPTION	BY

REVISIONS

COMPUTER FILE MANAGEMENT

FILE NAME: S:\18.346.015 - Woodmen Valley Chapel\200 Drainage\201 Drainage Reports\FDR\DWG\DR02-Woodmen Valley Chapel_20190722.dwg
CTB FILE: ----
PLOT DATE: July 26, 2019 10:29:22 AM
THIS DRAWING IS CURRENT AS OF PLOT DATE AND MAY BE SUBJECT TO CHANGE.

SHEET KEY

PREPARED BY: Matrix DESIGN GROUP — AN EMPLOYEE-OWNED COMPANY

SEAL

PRELIMINARY
THIS DRAWING HAS NOT BEEN APPROVED BY GOVERNING AGENCIES AND IS SUBJECT TO CHANGE

FOR AND ON BEHALF OF MATRIX DESIGN GROUP, INC.
PROJECT No. 18.346.015

SHILOH MESA AT WOODMEN HEIGHTS

WOODMEN VALLEY CHAPEL
FINAL DRAINAGE REPORT

DEVELOPED CONDITIONS DRAINAGE MAP

DESIGNED BY: JTS	SCALE	DATE ISSUED: JULY 2019	DRAWING No.
DRAWN BY: JTS	HORIZ. 1" = 100'		
CHECKED BY: JAO	VERT. N/A	SHEET 02 OF 03	DR02