MASTER DEVELOPMENT DRAINAGE PLAN AMENDMENT

FOR

WATERVIEW EAST
&
PRELIMINARY DRAINAGE PLAN

FOR

TRAILS AT ASPEN RIDGE

Prepared for:
EL PASO COUNTY
Engineering Development Review Team
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Colorado Springs, CO 80910

On Behalf of:
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September 2019

Project No. 19.866.008

PUDSP-19-001

Engineer's Statement:

The attached drainage plan and report were prepared under my direction and supervision and are correct to the best of my knowledge and belief. Said drainage report has been prepared according to the criteria established by the County for drainage reports and said report is in conformity with the applicable master plan of the drainage basin. I accept responsibility for any liability caused by any negligent acts, errors or omissions on my part in preparing this report.

Jesse Sullivan ______ 10/24/2019

Jesse Sullivan ______ Date
Registered Professional Engineer
State of Colorado
No. 55600

SEAL
COLORADO LICENSED
JESSE TRAVIS SULLIVAN
55600
PROFESSIONAL ENGINEER
10/24/2019

Developer's Statement:

I, the owner/developer have read and will comply with all of the requirements specified in this drainage report and plan.

COLA, LLC
Business Name

By: Tim Buschar ______ 10-24-19
Date

Title: Director of Land Acquisition and Site Development

Address: 555 Middle Creek Parkway, Suite 380
Colorado Springs, CO 80921

El Paso County:

Filed in accordance with the requirements of the El Paso County Land Development Code, Drainage Criteria Manual Volumes 1 and 2, and the Engineering Criteria Manual, as amended.

______

Jennifer Irvine, P.E.
County Engineer / ECM Administrator

Conditions:

APPROVED
Engineering Department
12/5/2019 (EN) *5:21:37 PM*
dsdnijkamp
EPC Planning & Community Development Department

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I. Introduction

The Trails at Aspen Ridge PUD and Filing No. 1 developments are within the Waterview East (Waterview II) Subdivision which is within El Paso County jurisdiction and is comprised of a total of 168.801 acres (PUD=117.98 acres, Filing No. 1 55.820 acres, Note: 5.003 acres of overlap between PUD and Filing No. 1) of single-family residential, open space, and public right-of-way. The site is located within the 721.8-acre Waterview Development in the 419.8-acre portion of the development east of Powers. The Trails at Aspen Ridge development was referred to as Waterview East or Waterview II in the original Water View Master Development Drainage Study (MDDP).

A. PURPOSE AND SCOPE OF STUDY

The purpose of this Master Development Drainage Plan Amendment is to identify and evaluate the offsite and onsite drainage patterns associated with the Trails at Aspen Ridge development and to provide updated hydrologic and hydraulic analyses of this area to ensure compliance with the El Paso County Drainage Criteria Manual (DCM), as well as provide effective, safe routing to downstream outfalls. This report will update the MDDP for the area to reflect the portion of the Marksheffel Tributary to Jimmy Camp Creek drainage area on the northeast corner of the Trails at Aspen Ridge site and reflect that the detention provided by the Trails at Aspen Ridge developments will not provide for developed flows from the upstream offsite properties. These properties will all be required to provide on-site detention in accordance with county and DBPS criteria.

The report will also reflect drainage area added to the West Fork Jimmy Camp Creek drainage basin from the Big Johnson Reservoir basin by CDOT construction of Powers Boulevard. Development of that drainage basin will require detention and routing the diverted drainage area back into the Big Johnson Reservoir basin in order to comply with the existing DBPS for Big Johnson and West Fork Jimmy Camp Creek.

There have been multiple approved studies completed for the Waterview Subdivision, the most recent being:

> **"Amendment to Waterview Master Drainage Development Plan"**, completed by Springs Engineering, dated July 2014 *(MDDP-2014)*

This report will supersede the previous PDR approved for the Trails at Aspen Ridge.

B. DBPS-RELATED INVESTIGATIONS

Approximately 125.8 acres of the proposed development lies at the upper end of the West Fork Jimmy Camp Creek Drainage Basin. This drainage basin was studied in **"*West Fork Jimmy Camp Creek Drainage Basin Planning Study*"**, by Kiowa Engineering, dated October 2003 (DBPS-WFJCC).

On the west side of the project, along Powers Boulevard, approximately 36.1 acres of the study area is within the Big Johnson Reservoir/Crews Gulch Drainage Basin ***"Big Johnson Reservoir/Crews Gulch Drainage Basin Planning Study"***, by Kiowa Engineering, Dated September 1991 (DBPS-BJR/CG).

On the northeast side of the proposed development another 6.9 acres of the proposed development is inside the drainage basin for the Marksheffel Tributary to the Jimmy Camp Creek Drainage Basin ***"Jimmy Camp Creek Drainage Basin Planning Study: Development of Alternatives and Design of Selected Plan Report"***, by Kiowa Engineering, dated March 2015. (DBPS-JCC)

The proposed development of Trails at Aspen Ridge (PUD & Filing No. 1) and amendment to the Waterview MDDP will comply with the above referenced drainage basin planning studies by providing onsite detention and water quality treatment for developed runoff flows. Offsite areas upstream will be required to provide on-site detention to maintain compliance when they are developed.

C. STAKEHOLDER PROCESS

As no amendment to any of the above referenced Drainage Basin Planning Studies is being proposed, there is no required stakeholder process.

D. AGENCY JURISDICTIONS

This project is located within El Paso County and is subject to the design criteria set forth in the ***City of Colorado Springs & El Paso County Drainage Criteria Manual, Volumes I and II, dated May 2014 (DCM)*** as well as the ***El Paso County DCM, El Paso County Engineering Criteria Manual (ECM)*** and ***El Paso County Resolutions 15-042 and 19-245***.

E. GENERAL PROJECT DESCRIPTION

Trails at Aspen Ridge is within the Waterview subdivision, which extends from Grinnell Road on the west to approximately one-half mile east of the north-south portion of Powers Boulevard. The west portion of the subdivision (Waterview I) is bounded on the north by an east-west portion of Powers Boulevard and on the south by Bradley Road. The east portion of the subdivision (Waterview East/Waterview II) is bounded on the north by the Colorado Springs Airport and on the south, approximately 3,260 feet south of the Bradley and Powers intersection by property owned by the State of Colorado. The subject of this report, Trails at Aspen Ridge, is in the Waterview East portion of the overall Waterview Subdivision and located southeast of the intersection of Powers Boulevard and Bradley Road. More specifically, the study area is located as follows:

1. General Location: All the southwest ¼ and a portion of the northwest ¼ of Section 9, Township 15 South, Range 65 West of the 6th P.M. in the County of El Paso, State of Colorado.

2. Surrounding Streets and Developments:

   a. North: A portion of the north bound of the proposed project is bounded by currently undeveloped, commercially zoned land owned by CPR Entitlement, LLC. The remainder of the project area is bounded on this side by Bradley Road with undeveloped land owned by Rankin Holdings, LP. These properties are all contained within the Waterview Subdivision. Ultimate bound of Waterview East Subdivision to the north is Colorado Springs Airport property.

   b. East: Several undeveloped properties. See DR-02 for location and ownership

c. South: Undeveloped property owned by the State of Colorado

d. West: Powers Boulevard, Big Johnson Reservoir, and the Waterview I Subdivision (Filings 1 through 7).

3. Drainageway: Portions of the site are within three different major drainage basins.

a. West Fork Jimmy Camp Creek: There appears to be a broad swale running through the middle of this portion of the project area. Flows are conveyed in a southeasterly direction. Total area of basin considered in this report is approximately 165.2 acres. This includes approximately 52.8 acres in Trails at Aspen Ridge Filing No. 1, 77.3 acres of the Trails at Aspen Ridge PUD, and 35.1 acres of offsite

b. Marksheffel Tributary Jimmy Camp Creek: A small portion of the site on the northeast side of the studied area is within the Marksheffel Tributary sub-basin of the Jimmy Camp Creek Drainage Basin. The total basin area considered in this report is 12.2 acres. Approximately 4.6 acres along Bradley Road are outside of Trails at Aspen Ridge and the other 7.6 acres are within the proposed development.

c. Big Johnson Reservoir/Crews Gulch: The final major drainage basin in the studied area is on the west side and is within the Big Johnson Reservoir/Crews Gulch Drainage Basin. Total area of the Big Johnson Reservoir basin considered by this report is 35.8 acres.

An area of approximately 11.4 acres, located at the intersection of Powers and Bradley and extending south 1316 feet is within Waterview East, as well. This area currently drains to the Powers Boulevard ditch and under proposed development grading will ensure areas which drain onto the Trails at Aspen Ridge development under existing conditions continue to drain to the Powers Boulevard ditch.

Refer to Appendix D for the Vicinity Map.

F. DATA SOURCES

Topographical information for the site was found using a combination of ***United States Geological Survey*** (USGS) mapping as well as field surveying. The ***Web Soil Survey*** created by the ***Natural Resources Conservation Service*** was utilized to investigate the existing general soil types within the site.

G. APPLICABLE CRITERIA AND STANDARDS

This report has been prepared in accordance to the criteria set forth in the City of Colorado Springs and El Paso County DCM, El Paso County Engineering Criteria Manual (ECM) and El Paso County Resolutions 15-042 and 19-245. In addition to the DCM, the ***Urban Storm Drainage Criteria Manuals, Volumes 1 through 3***, dated 2016 have been used to supplement the County's Criteria Manual.

II. Project Characteristics

A. BASIN LOCATION AND FLOWS

As mentioned in Section I. E. 3., the Trails at Aspen Ridge project is divided between three different major drainage basins. The project location in each of these major drainage basins is at or near the head of each basin.

1. Big Johnson Reservoir: The portion of the project within the Big Johnson Reservoir basin is at the east boundary of the drainage basin. Runoff in this portion of the site sheet flows to the west at slopes ranging from 3 to 5 percent until reaching Powers Boulevard, crossing Powers Boulevard via 48-inch and 60-inch CMP crossroad pipes. Approximately 7.3 acres of this basin has been diverted into the West Fork Jimmy Camp Creek drainage basin by CDOT construction of Powers Boulevard.

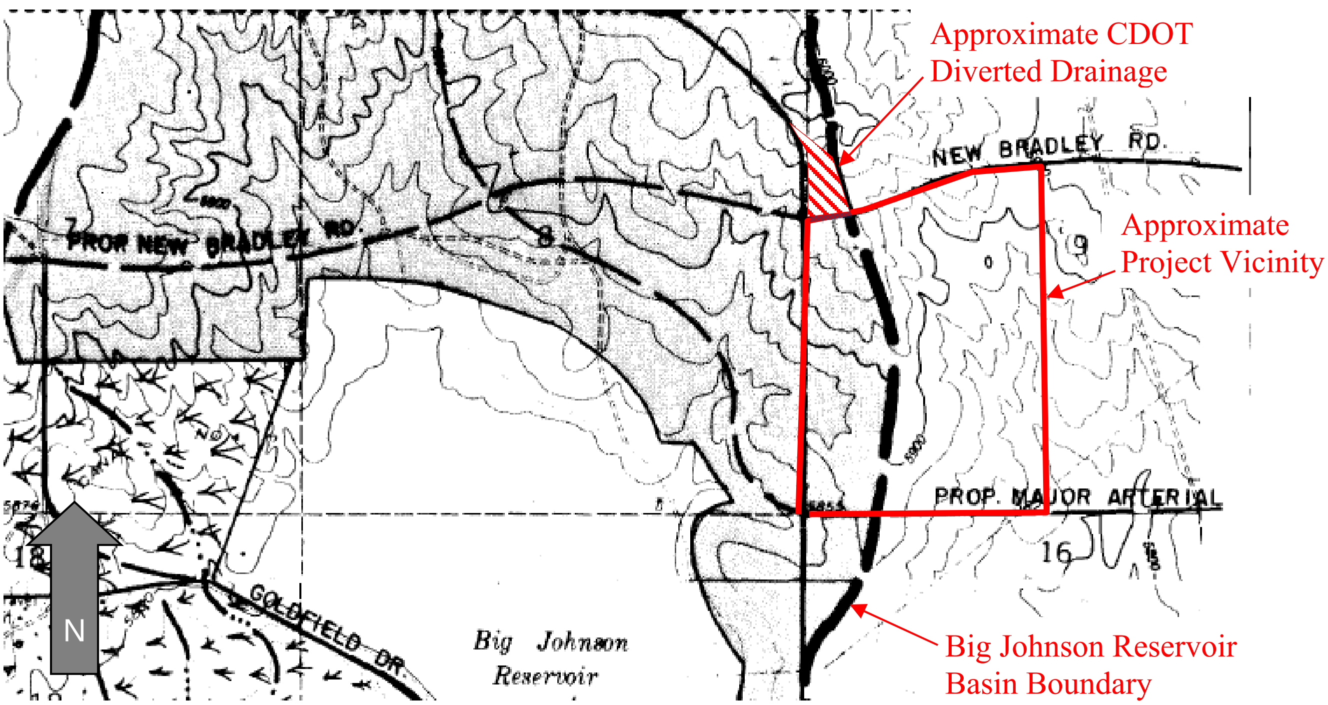


Figure 1 - DBPS Project Vicinity: Big Johnson Reservoir Basin

2. West Fork Jimmy Camp Creek: Most of this portion of the project is located at the north bounds of the major basin. There is approximately 19.6 acres (12.3 acres of the West Fork Jimmy Camp Creek Basin plus an additional 7.3 acres of Big Johnson Reservoir drainage area diverted into the West Fork Jimmy Camp Creek by CDOT construction of Powers Boulevard) located across Bradley Road, approximately 14.5 acres of commercially zoned property south of Bradley Road, and Trails at Aspen Ridge takes up the final 125.09 acres of this major basin. Flows from the offsite portion of the basin north of Bradley Road sheet flow to Bradley Road where they are collected in the road ditch and conveyed across Bradley Road and onto the project via two 42-inch CMPs. Runoff from the majority of the site sheet flows to the south and slightly east within the West Fork Jimmy Camp Creek Drainage Basin (DBPS-WFJCC) at slopes ranging from 2 to 9 percent. There appears to be a broad swale running along the middle of this basin in a southeasterly direction.

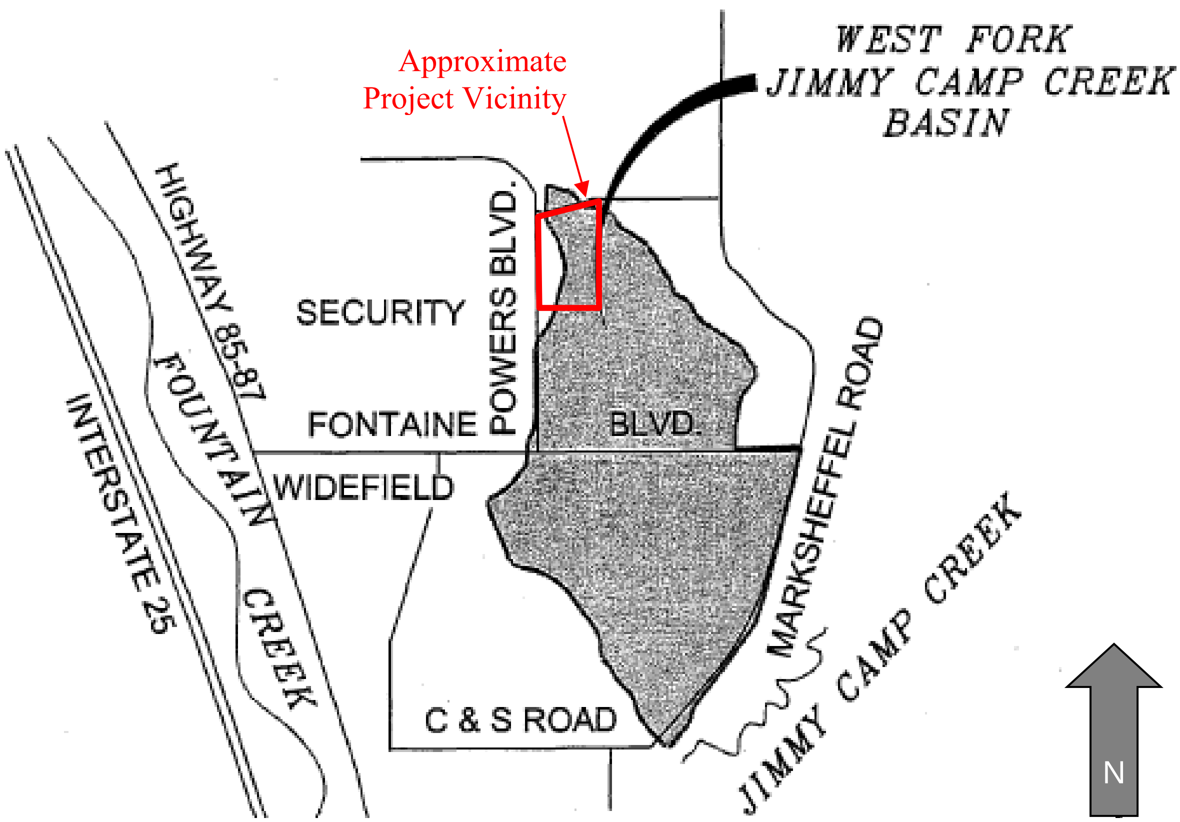


Figure 2 - DBPS Vicinity Map: West Fork Jimmy Camp Creek

3. Marksheffel Tributary to Jimmy Camp Creek: This portion of the project is located at the most northwestern extent of the Marksheffel Tributary to Jimmy Camp Creek. Runoff from the approximately 7.6 acres of this basin within the project area sheet flow to the northeast towards Bradley Road at slopes between 7 and 8 percent and flows channelized in the road ditch then run to the east at a slope of approximately 3 percent. The other 4.6 acres of this basin considered by this report are along Bradley Road. Flows from this portion of the basin sheet flow off Bradley Road and into the road ditch to be carried east at slopes of approximately 3 percent.

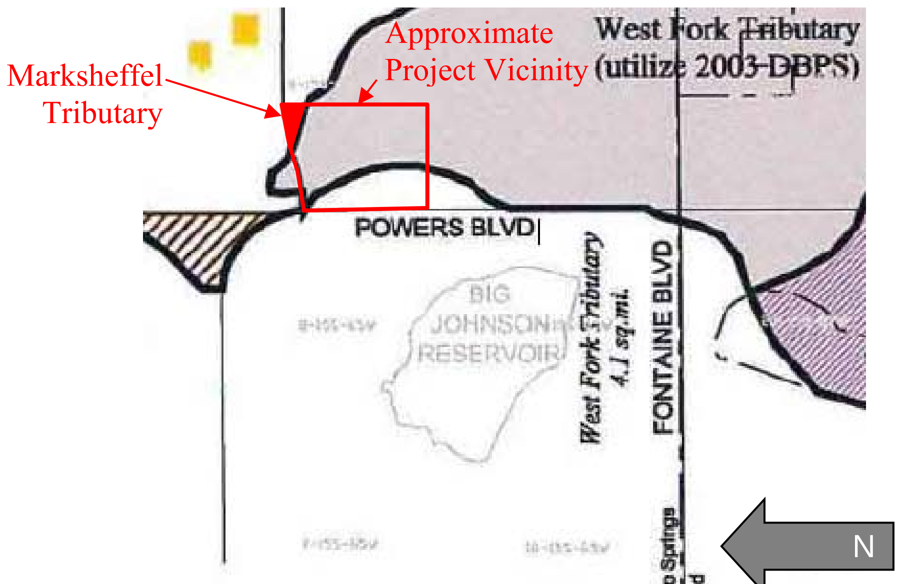


Figure 3 – DBPS Vicinity Map: Marksheffel Tributary to Jimmy Camp Creek

B. COMPLIANCE WITH DBPS

Because of the uncertainty associated with the Regional Detention Facilities associated with the DBPS for the three different major basins represented in the project area, the proposed development will comply with DBPS requirements by providing full spectrum onsite detention to treat and detain runoff from the development.

In the West Fork Jimmy Camp Creek Basin, offsite developments upstream of Trails at Aspen Ridge will be required to construct their own full spectrum detention and release to the proposed storm sewer at historic rates. Water Quality treatment volume for these offsite areas will also be provided in the proposed East Detention pond since the treated water from those sites will be mixed with untreated runoff as it is conveyed through the development.

Per the Jimmy Camp Creek DBPS, the Marksheffel Tributary to Jimmy Camp Creek may already have detention to accommodate 100-year events, but, because the status and condition of this detention pond is unconfirmed, full spectrum detention will be provided for the portion of the development covered by the Jimmy Camp Creek DBPS.

A portion of OS1 (approximately 7.3 acres) is shown within the Big Johnson Reservoir Drainage Basin by previous DBPS and MDDP reports. However, the CDOT construction of Powers Boulevard and Bradley Road rerouted these flows to the West Fork Jimmy Camp Creek drainage basin. Storm sewer and detention proposed for the Trails at Aspen Ridge development has been sized to accommodate undeveloped flows from this area, however, future development of the misrouted drainage area must return these flows to the Big Johnson Reservoir Drainage Basin to return the area to compliance with the DBPS for the two major basins.

C. GEOLOGY

Soils can be classified in four different hydrologic groups, A, B, C, or D to help predict stormwater 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. See Soils Map; Appendix C. The following soil types are present in the development area:

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	Rapidly Drained	8.6%
52	Manzanst clay loam, 0 to 3 percent slopes	C	Well Drained	10.2%
56	Nelson-Tassel fine sandy loams, 3 to 18 percent slopes	B	Well Drained	66.8%
86	Stoneham sandy loam, 3 to 8 percent slopes	B	Well Drained	2.6%
108	Wiley silt loam, 3 to 9 percent slopes	B	Well Drained	11.8%

Pre-project site conditions are undeveloped and ground cover consists of sparse natural vegetative land cover.

D. MAJOR DRAINAGEWAYS

The Trails at Aspen Ridge site is divided between three major drainage basins. The basins within the Marksheffel Tributary to Jimmy Camp Creek and the Big Johnson Reservoir drainage basins are small enough to be analyzed as single major basins. The portion of the project within the West Fork Jimmy Camp Creek drainage basin is much larger and, while it can be considered as a single major basin under pre-project conditions, it will be broken into three major basins for the proposed analysis.

E. LAND USES

Presently, there is an approved preliminary plan for the proposed Trails at Aspen Ridge development. The proposed land use for Trails at Aspen Ridge Filing No. 1 and PUD is single-family residential. There is also commercially zoned property north of Trails at Aspen Ridge along both sides of Bradley Road.

III. Hydrologic Analysis

A. MAJOR BASINS AND SUBBASINS

As mentioned in previous sections, the Trails as Aspen Ridge development must be broken into three major basins to reflect areas within three different drainage basin planning studies. Approximately 21.2 percent of the Trails at Aspen Ridge development is in the Big Johnson Reservoir drainage basin, with 74.1 percent in the West Fork Jimmy Camp Creek drainage basin, and the remainder, 4.7 percent, in the Marksheffel Tributary to Jimmy Camp Creek.

1. Big Johnson Reservoir:

Proposed flows from this basin will be captured and routed to the Full Spectrum Detention basin at the west side of Trails at Aspen Ridge (West Pond). This major drainage basin is reflected in sub-basins N, O, and P.

2. West Fork Jimmy Camp Creek:

Under proposed conditions the storm sewer serving this area is broken into three primary legs. The east leg of the storm sewer will run north/south along Big Johnson Drive. The west leg of storm sewer will run along Sunday Gulch to Legacy Drive and then follow Legacy Drive north to Bradley Road. The upstream end of this basin includes several undeveloped offsite areas (Sub-basins OS-1 and A). Future development of these areas must include full spectrum detention to comply with El Paso county drainage criteria and maintain compliance with the DBPS. The third basin runs along Buffalo Horn Drive at the south end of the studied area. Proposed flows in these three major basins will be directed to the East Pond, a Full Spectrum Detention basin on the east side of the development.

3. Marksheffel Tributary to Jimmy Camp Creek:

This sub-basin represents a very small portion of the northeastern most corner of the proposed Trails at Aspen Ridge PUD. Proposed storm sewer in this basin will direct runoff from the developed area to a full spectrum detention pond in the northeast corner of the sub-basin. The detention pond will discharge to the ditch along Bradley Road.

B. METHODOLOGY

Because this report will require onsite detention at the offsite commercial sub-basins (OS-1 and most of Sub-basin A), there will be several ponds in series with the East Detention Pond. Per the DCM, analysis of the ponds in series must be completed utilizing the U.S. Environmental Protection Agency Stormwater Management Model (EPA SWMM) as recommended by the Drainage Criteria Manual for the minor and major storms. The EPA SWMM Method is used for drainage basins less than 650-acres in size.

The EPA SWMM Method uses a variation of the Manning's which is as follows:

$$Q = \frac{1.49}{n} W S^{\frac{1}{2}} (d - d_s)^{\frac{5}{3}}$$

Where:

Q	=	Runoff flow rate in cubic feet per second (cfs)
n	=	Runoff coefficient (DCM Table 6-11, shown below)
W	=	Average subcatchment width (ft)
$d-d_s$	=	Height (ft)
S	=	Average slope of subcatchment (ft)

Table 6-11. Roughness Coefficients (Manning's n) for NRCS Overland Flow

Surface description	n[1]
Smooth surfaces (concrete, asphalt, gravel, bare soil, etc.)	0.011
Fallow (no residue)	0.05
Cultivated Soils:	
Residue cover ≤20%	0.06
Residue cover >20%	0.17
Grass:	
Short grass prairie	0.15
Dense grasses [2]	0.24
Bermuda grass	0.41
Range (natural)	0.13
Woods [3]	
Light underbrush	0.40
Dense underbrush	0.80

As the predevelopment conditions for the site could be described as short grass prairie, a value of 0.15 will be used in the SWMM model for undeveloped drainage areas. For developed conditions a composite "n" value of 0.092 is used. (The composite is based on 35% dense grasses (n=0.24) and 65% impervious surfaces (n=.013)).

Depression losses are taken from table 6-6 in chapter 6 Runoff of the UDFCD criteria manual, shown below. For this report the minimum value of 0.05 was used.

Table 6-6. Typical depression losses for various land covers
(All values in inches for use with the CUHP.)

Land Cover	Range in Depression (Retention) Losses	Recommended
Impervious:		
Large paved areas	0.05 - 0.15	0.1
Roofs-flat	0.1 - 0.3	0.1
Roofs-sloped	0.05 - 0.1	0.05
Pervious:		
Lawn grass	0.2 - 0.5	0.35
Wooded areas and open fields	0.2 - 0.6	0.4

Runoff in SWMM was analyzed utilizing the Horton Method as recommended in the DCM. Parameters for this method used the Hydrologic Soil Group C and D values from table 6-7 (shown below) in “Chapter 6 - Runoff” of the UDFCD criteria manual.

Table 6-7. Recommended Horton’s equation parameters

NRCS Hydrologic Soil Group	Infiltration (inches per hour)		Decay Coefficient—a
	Initial—f_i	Final—f_o	
A	5.0	1.0	0.0007
B	4.5	0.6	0.0018
C	3.0	0.5	0.0018
D	3.0	0.5	0.0018

Please note that the decay coefficient listed in the table above is in units 1/s and the SWMM input for the Horton equation uses 1/Hr. Converting 0.0018 to 1/hours gives a value of 6.48 for the coefficient.

Percentages of imperviousness were used based on the anticipated use of each subcatchment in the runoff calculations.

The hypothetical rainfall depths for the 1-hour storm duration were derived using Table 2.1 of the DCM (shown below). These 1-hour rainfall depths were used to calculate the 2-hour design storm using Table 6-3 from the DCM which lists the “2-Hour Storm Distribution” (see Appendix B).

Table 2.1 - Colorado Springs 1-Hour Rainfall Depth

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

As mentioned in the previous section, the WQCV has been addressed by utilizing Extended Detention in the Full Spectrum Detention Basin at the downstream end of each major basin, which is sized to discharge the "initial flush" of stormwater over an extended (40-hour) period. For situations with multiple detention ponds "in series," sizing to accommodate the WQCV, the EURV, the major (100-year), and the minor (5-year) storms has been completed using EPA SWMM, in accordance with El Paso County Criteria.

As the offsite areas will be expected to provide detention, initial design of the East Pond utilized UD-Detention spreadsheets considering these sites as developed to acquire hydrographs for each storm listed in UD-Detention. These hydrographs were entered into the East Pond UD-Detention model for design of the detention basin. This analysis is further described in ***Section III.C.c SWMM Analysis – West Fork Jimmy Camp Creek Basin***.

Where it is possible to treat and detain runoff with a single, full spectrum, extended detention basin (Big Johnson Reservoir Basin and Marksheffel Tributary to Jimmy Camp Creek Basin), sizing and discharge design has been completed using only the UDFCD UD-Detention spreadsheet.

C. BASIN HYDROLOGY

a. The ***undeveloped conditions*** for the site have been analyzed and are presented by design points (Table 3.2) and are described as follows:

1. Big Johnson Reservoir:
   Under existing conditions, the westernmost drainage basin (Big Johnson Reservoir) of the study area runoff sheet flows west to the Powers Boulevard road ditch where flows are conveyed to an existing 60-inch CMP crossroad pipe at Design Point BJR-1 (Q_5 = 6.4 cfs, Q_{100} = 43.2 cfs). Flows in the south portion of this basin follow the same pattern and are conveyed to an existing 48-inch CMP crossroad pipe south of Design Point BJR-2 (Q_5 = 2.1 cfs, Q_{100} = 14.3 cfs). The total existing discharge from the study area to the Big Johnson Reservoir basin is approximately 8.6 cfs for the Q_5 event and 57.5 cfs for the Q_{100} event.

2. West Fork Jimmy Camp Creek (SWMM Flows):
   The middle portion of the studied area is within the West Fork tributary to Jimmy Camp Creek. A portion of this basin is upstream of Bradley Road. Flows in that sub-basin (OS-1: Q_5 = 11.8 cfs, Q_{100} = 47.4 cfs) sheet flow to the road ditch and are conveyed to two 42-inch CMP crossroad pipes which direct the water across Bradley Road and on to the proposed development area.

   It should be noted that a portion of the OS-1 sub-basin was formerly in the Big Johnson Reservoir drainage basin and was rerouted into the West Fork Jimmy Camp Creek drainage basin by CDOT construction of Powers Boulevard and Bradley Road. Future development of that basin will be required to route runoff back into the Big Johnson Reservoir basin to maintain compliance with the DBPS for these two major basins.

   The next downstream sub-basin is WF-1 (Q_5 = 33.2 cfs, Q_{100} = 139.1 cfs). Flows in this sub-basin sheet flow towards the middle of the sub-basins where they join flows from OS-1 and are conveyed via a broad swale in a southeasterly direction and out of the study area.

The third sub-basin within the West Fork basin is sub-basin WF-2 (Q_5 = 5.5 cfs, Q_{100} = 31.1 cfs). Flows in this basin sheet flow in an easterly direction where they are captured by another broad swale at the south limit of the study area and conveyed in a southeasterly direction.

Total discharge to the West Fork Jimmy Camp Creek basin is approximately 37.0 cfs for the Q_5 event and 170.0 cfs for the Q_{100} event.

3. Marksheffel Tributary to Jimmy Camp Creek:
The eastern portion of the studied area is within the Marksheffel Tributary to Jimmy Camp Creek. This basin is represented by Sub-basin MKT-1 (Q_5 = 5.4 cfs, Q_{100} = 36.5 cfs). Flows in this sub basin sheet flow to the northeast to the Bradley Road ditch where they are conveyed eastward. The total discharge from the studied area under predevelopment conditions is approximately 5.4 cfs for the Q_5 event and 36.5 cfs for the Q_{100} event.

Existing conditions consider all of the areas as undeveloped. Sub-basins and Design points are summarized in the tables below and on the following page:

Table 3.1
Trails at Aspen Ridge
MDDPA & PDR
Existing Conditions Sub-basin Summary Table

Area ID	Area (Acres)	Q5 (cfs)	Q100 (cfs)
Big Johnson Reservoir / BJR-1	39.94	6.4	43.2
Big Johnson Reservoir / BJR-2	8.85	2.1	14.3
West Fork Jimmy Camp Creek / OS - 1	19.60	11.8*	47.4*
West Fork Jimmy Camp Creek / WF-1	119.08	33.2*	139.1*
West Fork Jimmy Camp Creek / WF-2	21.15	5.5*	31.1*
Marksheffel Tributary to Jimmy Camp Creek / MKT-1	7.21	1.6	10.9

*SWMM Values

Table 3.2 Trails at Aspen Ridge MDDPA & PDR Existing Design Point Summary				
Design Point	**Sub-Basins**	**Total Area (ac.)**	**Q(5) (cfs)**	**Q(100) (cfs)**
BJR-1	BJR-1	39.94	6.4	43.2
BJR-2	BJR-2	8.85	2.1	14.3
TO BIG JOHNSON RESERVOIR	BJR-1 & BJR-2 (Basins are parallel, so this is a sum of BJR-1 & BJR-2.)	**48.79**	**8.6**	**57.5**
OS-1	OS-1 (7.3 Acres diverted by CDOT from Big Johnson)	19.60	11.8*	47.4*
WF-1	WF-1 & OS-1	138.69	33.2*	139.1*
WF-2	WF-2	21.15	5.5*	31.1*
TO WEST FORK JIMMY CAMP CREEK	WF-1, WF-2, & OS-1 (Basins are parallel, so this is a sum of WF-1 & WF-2.)	**159.84**	**37.0***	**170.0***
MKT-1 TO MARKSHEFFEL TRIBUTARY TO JIMMY CAMP CREEK	MKT-1	**7.21**	**1.63**	**10.95**
*SWMM Values	Overall Totals:	215.84	32.63	213.84

West Fork – Jimmy Camp Creek SWMM outfall values for the Predevelopment Q5 and Q100 storms are shown below:

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
WF-East	JUNCTION	33.24	33.24	0	00:45	0.682	0.682	0.000
WF-Overall	OUTFALL	5.54	34.66	0	00:50	0.134	0.817	0.000

Q5 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
WF-East	JUNCTION	139.24	139.24	0	00:55	4.84	4.84	0.000
WF-Overall	OUTFALL	31.10	169.80	0	00:56	0.887	5.73	0.000

Q100 Runoff

b. The ***fully developed conditions*** for the site are as follows:

1. Big Johnson Reservoir:
Under proposed conditions, developed flows for the westernmost drainage basin (Big Johnson Reservoir) will be directed into a proposed full spectrum detention pond on the west side of the site approximately 2,030 feet south of the intersection of Bradley Road and Powers Boulevard. Sub-basins and Design Points within this major basin are summarized in Tables 3.3, 3.4, and 3.5 below:

Table 3.3
Trails at Aspen Ridge
Big Johnson Reservoir
Proposed Conditions - Sub-basin Summary

Basin	**Area**	Q5	Q100
	acres	cfs	cfs
Big Johnson Reservoir N	14.1	21.2	46.8
O	11.7	17.4	38.4
P	8.52	22.0	43.9
Q	2.4	4.2	8.8
OS-2	11.4	1.7	11.7

Table 3.4
Trails at Aspen Ridge
Big Johnson Reservoir
Proposed Design Point Summary

Design Point	Sub-Basins	Downstream Design Point	Total Area (ac.)	Q(5) (cfs)	Q(100) (cfs)
N	N	P	14.1	21.2	46.8
O	O	P	11.7	17.4	38.4
P (Into West Pond)	N, O, P	West Pond Discharge	34.7	47.6	101.5
West Pond Discharge (UD-Detention)	N, O, P	Powers Ditch		1.0	28.3
Q	Q	Powers Ditch	2.4	4.9	10.3
OS-2 (This sub-basin is just southeast of the Powers and Bradley intersection. Flows which might have flowed across TAR to the Powers ditch will be diverted to the ditch prior to entering the TAR property.)	OS-2	Powers Ditch	11.4	1.7	11.7

Table 3.5 **Trails at Aspen Ridge** **Big Johnson Reservoir** **Proposed Design Point Flow Description**	
Design Point	**Description**
N	Flows to this design point will sheet flow off the residential lots to adjacent streets where flows will be channelized in the curb and gutter. Flows will then be conveyed south via curb and gutter to sump inlets along Natural Bridge Trail. From there flows will be directed to this design point via a combination of gutter and storm sewer piped flows.
O	Flows to this design point will sheet flow off of the residential lots to adjacent streets where flows will be channelized in the curb and gutter. Flows will then be conveyed to this design point via a combination of gutter and storm sewer piped flows.
P (Into West Pond)	This design point summarizes all flows into the West Pond. Flows from sub-basins N and O will be conveyed into the pond via storm sewer and will enter at forebays designed in accordance with the DCM.
West Pond Discharge (UD-Detention)	This design point represents the discharge structure from the future full spectrum detention pond. Flows will be metered out as determined by the UD-Detention spreadsheet. As the grading for this detention pond is preliminary, there may be slight changes in future UD-Detention information. UD-Detention sheets for this detention pond can be found in Appendix A.
Q	- Flows in the sub-basin tributary to this design point will sheet flow to the west until reaching the Powers Boulevard road ditch where they will be conveyed to the south via channelized ditch flow to a 48" CMP cross road culvert. These flows are not practicable to detain or treat because they are on the outside edge of the property and lower than the proposed detention basin. However, because this design point will contribute less than one acre (0.87 Acres or 2.4% of the applicable development area) of developed area to the Big Johnson Reservoir Basin, according to ECM Section 1.7.1.C.1, compliance with the county's MS4 permit is maintained. - In accordance with ECM Section I.7.1.B.7, regarding sites excluded from the requirements of Section 1.7 “Post Construction Storm Water Management”, since approximately 1.53 acres of this sub-basin may be disturbed but will remain undeveloped green spaces after stabilization of the site this area qualifies as an excluded site.
OS-2	- Flows in the OS-2 Sub-basin will generally sheet flow to the west until reaching the Powers Boulevard road ditch. Once flows reach the ditch they will be conveyed to the south via channelized flow until reaching the 60" CMP cross road pipe which will convey them across Powers Boulevard. Eventually flows will enter the Big Johnson Reservoir. - A portion of this sub-basin has historically drained across a corner of the proposed Trails at Aspen Ridge development on its way to the Powers Boulevard ditch. Under proposed conditions these flows will be directed to the ditch prior to crossing onto the Trails at Aspen Ridge development. Future development of this sub-basin will require onsite detention and an FDR.

Drawings of these sub-basins and design points are illustrated in Drawing DR-02 in Appendix D.

2. West Fork – Jimmy Camp Creek:

Under proposed conditions flows for this central, and largest, basin within the study area will be directed to a proposed detention pond near the southeast corner of the proposed Trails at Aspen Ridge development. Sub-basins and Design Points and SWMM Outfall summary information for this major basin are summarized in the Q5 and Q100 SWMM outfall tables and hydrology Tables 3.6, 3.7, and 3.8 below and on the following pages:

Table 3.6
Trails at Aspen Ridge
West Fork - Jimmy Camp Creek
Proposed Conditions - Sub-basin Summary

Basin	Area	Q5	Q100
	acres	cfs	cfs
West Fork-Jimmy Camp Creek OS-1	19.60	1.1	16.2
A	18.47	5.0	34.6
B	1.06	2.5	7.0
C	14.88	19.5	58.9
D	2.21	4.1	14.2
E	8.57	12.8	39.1
F	13.07	15.4	46.2
G	1.11	2.1	6.1
H	23.47	26.8	80.4
I	7.90	10.5	31.8
J	5.26	11.1	32.7
K	32.48	33.3	101.7
West Fork-Jimmy Camp Creek M	10.29	14.2	61.8
R	1.87	1.7	7.8

Table 3.7 **Trails at Aspen Ridge** **West Fork - Jimmy Camp Creek** **Proposed Design Point Summary**					
Design Point	**Sub-Basins**	**Downstream Design Point**	**Total Area (ac.)**	**Q(5) (cfs)**	**Q(100) (cfs)**
OS-1	OS-1	A	19.6	1.1	16.2
A	OS-1 & A	B	38.1	4.4	46.2
B	OS-1, A, B	C	39.1	6.1	48.3
C	OS-1, A, B, C	D	54.0	25.6	88.5
D	OS-1, A, B, C, D	E	56.2	28.3	97.6
E	OS-1, A, B, C, D, E	G	64.8	39.5	132.3
F	F	G	13.1	54.5	172.9
G	OS-1, A, B, C, D, E, F, G	M	79.0	56.5	178.3
H	H	M	23.5	26.8	80.4
J	J	K	5.3	11.1	32.7
K	J, K	I	37.7	44.2	131.7
I	J, K, I	M	45.6	54.0	163.0
M (Into East Pond	OS-1, A, B, C, D, E, F, G, J, K, I, H, M	East Pond Discharge	158.4	145.2	462.6
East Pond Discharge (SWMM)	OS-1, A, B, C, D, E, F, G, J, K, I, H, M	Offsite Swale	158.4	5.2*	129.6*
R	R	Offsite Swale	1.9	1.7	7.8

All flows in this table unless otherwise indicated are taken from SWMM.
*UD-Detention Discharge

Table 3.8
Trails at Aspen Ridge
West Fork - Jimmy Camp Creek
Proposed Design Point Flow Description

Design Point	Description
OS-1	- This design point is at the downstream end of the offsite sub-basin north of Bradley Road. Flows in this sub-basin will sheet flow to the road ditch running along Bradley and Powers Boulevard. Once channelized in the ditch flows will be directed to a proposed 24-inch RCP storm pipe sleeved into one of the existing 42-inch CMP cross road pipes and conveyed on to design point A. - Please note that approximately 7.3 acres of the area tributary to this design point have been diverted from the Big Johnson Reservoir by CDOT construction of Powers Boulevard. Future development of that portion of the tributary sub-basin must redirect these flows to the Big Johnson Reservoir to maintain compliance with the two relevant DBPS reports. - Development of the OS-1 Sub-basin will require onsite detention and an FDR.
A	- This design point is at the manhole (MH-3) receiving flows from DP OS-1 to the north and flows from Sub-basin A captured in the two pairs of inlets on Frontside Drive to the east and west of its intersection with Legacy Drive. These flows will be conveyed on via 30-inch storm pipe to design point B. - Flows from the required onsite detention from the two commercial lots on either side of Legacy Drive will be picked up in the back of the inlets. A 24-inch storm pipe will be stubbed out for the west commercial lot (Inlet 1-A) and an 18-inch will be stubbed out for the east commercial lot (Inlet 3-A).
B	- This design point is at a manhole (MH-108) just downstream of an on-grade inlet (1-B) capturing gutter flows from the west half of Legacy Drive reflected in Sub-basin B. These flows are carried downstream via 30-inch storm pipe to design point C.
C	- This design point is a manhole (MH-6) which combines storm sewer flows from design point B with storm sewer flows from Sub-basin C. Flows in Sub-basin C will sheet flow off the residential lots and into the street curb and gutter. The road gutters will convey these flows on to be captured in four pairs of sump inlets (1-C through 8-C) and conveyed to the design point. The combined flows will be conveyed downstream via 42-inch storm pipe to design point D.
D	- This design point is at a manhole (MH-117) just downstream of an at-grade inlet (1-D) capturing flows from Sub-basin D. Flows in Sub-basin D will sheet flow to the Legacy Road curb and gutter. These gutter flows are captured in the at-grade inlet and combined with storm sewer flows from design point C and carried on via 42-inch storm pipe to design point E.
E	- This design point is located at a manhole (MH-15) just downstream of a pair of sump inlets capturing flows from Sub-basin E. Flows in Sub-basin E will sheet flow across the park area until being captured in the curb and gutter along Falling Rock Drive. Concentrated gutter flows will then be captured by the sump inlets and conveyed on via storm sewer to the design point. These flows will be combined with flows from design point D and carried on via 48-inch storm pipe to design point G.

Table 3.8b Trails at Aspen Ridge West Fork - Jimmy Camp Creek Proposed Design Point Flow Description	
Design Point	**Description**
F	- Design point F represents the combination of runoff from Sub-basin F with storm sewer flows from design point E at manhole MH-20. Runoff in Sub-basin F will sheet flow off the residential lots to the adjacent street curb and gutter. The gutters on Wagon Hammer and Lazy Ridge Drive will then convey the concentrated storm water on to be captured by at-grade inlets (1-F through 4-F) and conveyed to the design point via storm sewer. Gutter flows for the cul-de-sac Lookout Court and the west half of Legacy Drive will be conveyed to sump inlets near the intersection of these roads. From this point the combined flows will be combined with flows from Design point E and conveyed via 48-inch storm pipe to design point G. - Note: A portion of the Q100 flows will bypass some of the at-grade inlets and be conveyed on to the sump inlets in Sub-basin H. These flows will be quantified in the FDR for Filing 1 of Trails at Aspen Ridge.
G	- Flows in Sub-basin G sheet flow from the residential lots to Legacy Drive where flows are conveyed onward via gutter flows. Design point G is located at an at-grade inlet (1-G) which will capture the gutter flows, combine them with flows from design point F and convey them on via 48-inch storm pipe to the East Pond for detention and water quality treatment.
H	- This design point represents the most downstream inlet in Sub-basin H. Flows in this sub-basin will sheet flow from the residential lots towards the street curb and gutter. Gutter flows will convey the runoff downstream to sump inlets located just north of the three side roads (Lazy Ridge Drive (Inlets: 1-H &2-H), Wagon Hammer Drive (Inlets: 3-H & 4-H) and Sunday Gulch Drive (Inlets: 7-H & 8-H)) intersections with Buffalo Horn Drive. - Some flows along Buffalo Horn Drive north of Windy Pass Court and south of Wagon Hammer drive will be captured by at-grade inlets (5-H &6-H). - The final portion of gutter flows in the sub-basin will be captured in the sump inlet (11-H) and at-grade inlet (10-H) near design point H. - Some flows along the backside of the residential lots south of Buffalo Horn Drive will be captured in a swale to a pipe end section or to a Type C Inlet (9-H) and conveyed north via storm pipe to the design point. - Storm sewer and surface flows combined at the design point will be conveyed north via 42-inch storm pipe into the East Pond for detention and water quality treatment.
J	- Runoff from Sub-basin J will sheet flow off residential lots towards the street gutters in this sub-basin. These flows will then be conveyed via gutter flow to the design point at a pair of sump inlets (1-J & 2-J) located near the intersection of Red Shirt Point and Big Johnson Drive. From this point storm sewer flows will be conveyed via storm sewer flow on to design point K near the intersection of Roundhouse and Big Johnson Drives.

Table 3.8c **<u>Trails at Aspen Ridge</u>** **West Fork - Jimmy Camp Creek** **Proposed Design Point Flow Description**	
Design Point	**Description**
K	- This design point is located at a manhole (MH-30) just downstream of a pair of sump inlets capturing flows from Sub-basin K. Flows in Sub-basin K will sheet flow across residential lots towards the adjacent streets until being captured in the curb and gutter. - Note: There will be several additional sump inlet locations in this sub-basin. These will be set in the future FDR for this location.
I	- Design point I is located at a sump inlet (5-I) at the end of the cul-de-sac for Falling Rock Drive. This design point combines storm sewer flows from design point K and sump inlets 1-I and 2-I with gutter flows from Sub-basin I. - Runoff in sub-basin I will sheet flow off the residential lots and green space towards adjacent street curb and gutters. Once flows reach the gutters they will be conveyed to design point I via gutter flow. Flows combined at design point I will be conveyed on to the East Pond for detention and water quality treatment.
M (Into East Pond)	- This design point represents the combination of all flows directed into the East Pond for water quality treatment and detention.
East Pond Discharge (SWMM)	- This design point reflects the discharge structure for the East Pond. Initial sizing of the structure was done utilizing the UD-Detention spreadsheet. However, because the commercial lots in Sub-basins A and OS-1 will be required to provide their own full spectrum detention, it was necessary to analyze the in-series detention ponds using EPA SWMM in order to maintain compliance with the DCM. - Further discussion of this analysis is provided in Section III.C.c.
R	- This design point reflects the sheet flows discharging from the sub-basin just downstream of the proposed East Pond. These flows are not practicable to detain because the area is on a slope at the outer edge of the property and at a lower elevation than the pond, and per ECM Section 1.7.1.C.1, as less than 1 acre (0.67 Acres or 0.5% of the applicable development area) of the undetained flows within the West Fork – Jimmy Camp Creek basin will be developed lots, compliance with the MS4 permit is maintained. - Per ECM Section I.7.1.B.7, regarding sites excluded from the requirements of Section 1.7 "Post Construction Storm Water Management", approximately 1.23 acres of the tributary area may be disturbed but will remain undeveloped green spaces after stabilization of the site.

3. **<u>Marksheffel Tributary to Jimmy Camp Creek:</u>**
   Under proposed conditions flows for this small basin at the northeast corner of the study area will be directed to a small proposed detention pond near the northeast corner of the proposed Trails at Aspen Ridge development. Sub-basins and Design Points within this major basin are summarized and described in Tables 3.9, 3.10, and 3.11 on the following pages:

Table 3.9 Trails at Aspen Ridge Marksheffel Tributary to Jimmy Camp Creek Proposed Conditions - Sub-basin Summary			
Basin	**Area**	**Q5**	**Q100**
	(ac.)	**(cfs)**	**(cfs)**
Marksheffel Tributary to Jimmy Camp Creek, **L**	7.59	14.1	30.5
BR1-Bradley Road Median	0.31	0.8	1.6
BR2 – Filing No. 1 (Worst Case)	4.49	3.4	10.0
– Full Buildout	2.81	2.9	7.4

Table 3.10 **Trails at Aspen Ridge** **Marksheffel Tributary to Jimmy Camp Creek** **Proposed Design Point Summary**					
Design Point	**Sub-Basins**	**Downstream Design Point**	**Total Area (ac.)**	**Q5 (cfs)**	**Q100 (cfs)**
L	L	Northeast Pond Discharge	7.6	14.1	30.5
Northeast Pond Discharge	L	Bradley Road Ditch		0.3	8.0
BR1	BR1	Bradley Road Median Ditch	0.31	0.8	1.6
BR2 - Filing No. 1 **- Full Buildout**	BR2	Bradley Road Ditch	4.49 2.81	3.4 2.9	10.0 7.4

Table 3.11 **Trails at Aspen Ridge** **Marksheffel Tributary to Jimmy Camp Creek** **Proposed Design Point Flow Description**	
Design Point	**Description**
L	- This design point demonstrates the flows total flows into the proposed Northeast detention basin. The portion of the Marksheffel Tributary to Jimmy Camp Creek included in the proposed project is small enough that only one sub-basin is used to model the proposed conditions. Flows in this sub-basin will sheet flow off the residential lots and green spaces towards the adjacent streets where the flows will be conveyed downstream via gutter flow. Street flows will be captured by a pair of sump inlets just upstream of the proposed detention pond. - Flows from the back of lots along Bradley Road will drain southward onto the private street and eventually into the Northeast Pond.
BR1	- This design point reflects a Type C inlet located in the existing Bradley Road median ditch upstream of the proposed access to Trails at Aspen Ridge Filing No. 1, Legacy Hill Drive. - Flows will sheet flow off the upstream Bradley Road pavement (existing), eventually channelized in the Bradley Road median ditch and conveyed to the proposed Type C inlet.
BR2	- Flows in the tributary area will sheet flow to the Bradley Road ditch where they will be conveyed downstream to a proposed 18-inch Flared End Section (FES) and crossroad pipe which will convey the flows across the proposed access for Blackmer Street. Flows will continue down the Bradley Road ditch following historical flow patterns. No detention will be required, as this sub-basin will remain green space and falls under ECM section I.7.B.7.
Northeast Pond Discharge	The discharge from the proposed Northeast detention basin will be metered out to the Bradley Road ditch via a concrete structure designed in UD-Detention. This structure will maintain historic discharges and provide for extended detention of water quality and EURV flows.

c. Detention

A summation of the proposed detention and water quality ponds is found below. These numbers are preliminary and will be finalized in the individual Final Drainage Reports for each portion of the development, as will actual pond locations and volumes. The East Pond will be finalized in the FDR for Trails at Aspen Ridge Filing No. 1. Supporting UD-Detention spreadsheets for each detention pond and SWMM analysis for the East Pond can be found in Appendix A. Detention ponds will be privately owned and maintained by the Waterview II Metropolitan District.

Table 3.12
Pond Summary Table

Major Basin	Pond ID	Analysis Method	Contributing Basins	Approximate Detention Volumes			EX	PR	EX	PR
				WQCV	EURV	Q100	5-YR	5-YR	100 YR	100 YR
				Ac.-Ft.	Ac.-Ft.	Ac.-Ft.	(CFS)	(CFS)	(CFS)	(CFS)
Big Johnson Reservoir	West Pond	UD-Detention (EDB)	N, O, P	0.638	2.053	3.474	8.6	1.00	57.5	28.3
West Fork – Jimmy Camp Creek	East Pond	UD-Detention (EDB)	OS-1, A, B, C, D, E, F, G, J, K, I, H, M	3.289	10.877	13.732	33.2*	5.2	139.1*	129.6
Marksheffel Tributary to Jimmy Camp Creek	Northeast Pond	UD-Detention (EDB)	L	0.135	0.428	0.736	1.6	0.3	10.9	8.0

Note: The SWMM pre-development flows discharging at the same location as the East Pond are indicated in Table 3.12 above by an asterisk*. These values are greater than the proposed discharges (UD-Detention), therefore the requirements for a "suitable outfall" from section 3.2.4 of the ECM are fulfilled. Under predevelopment conditions the West Fork Jimmy Camp Creek basin received an additional Q100: 36.5 cfs and Q5: 5.4 cfs.

Emergency Overflows

Table 3.13
Emergency Overflow Weirs

Major Basin	Pond ID	Description of Emergency Overflow Weir
Big Johnson Reservoir	West Pond	Emergency Overflows from this pond will flow directly into the Powers Boulevard Road Ditch. Flows will then follow historic drainage patterns.
West Fork – Jimmy Camp Creek	East Pond	The emergency overflow weir for this pond will outlet water into a proposed swale along the edge of the development boundary and direct the flows south and into an existing swale flowing to the southeast. Flows will then follow historic patterns. Hydraflow Express calculations indicate that the swale, at its most constricted point just downstream of the pond outlet, will carry the East Pond Q100 Discharge at a depth of approximately 0.85 feet (10.2 inches).
Marksheffel Tributary to Jimmy Camp Creek	Northeast Pond	The emergency overflow weir for this pond will outlet water into the Bradley Road ditch. Flows will continue to the east as they have historically.

Outfall Analysis

The outfall for the East Pond has been analyzed to confirm that the receiving swale should remain stable after construction of the pond. Hydraflow Express was utilized to check the velocity of the anticipated Q100 Discharge and calculated a velocity in the 48" outfall pipe of 12.9 feet per second. A second Hydraflow calculation was performed at the narrowest point in the swale receiving the outfall. The results of this calculation indicated that the anticipated velocity of a Q100 discharge from the pond is around 3.7 feet per second which is well below the Maximum 100-year velocity and barely above the maximum low flow velocity indicated for erosive soils in Table 12-3 (shown below) of the DCM regarding Hydraulic Design Criteria for natural unlined channels.

Table 12-3. Hydraulic Design Criteria for Natural Unlined Channels

Design Parameter	Erosive Soils or Poor Vegetation	Erosion Resistant Soils and Vegetation
Maximum Low-flow Velocity (ft/sec)	3.5 ft/sec	5.0 ft/sec
Maximum 100-year Velocity (ft/sec)	5.0 ft/sec	7.0 ft/sec
Froude No., Low-flow	0.5	0.7
Froude No., 100-year	0.6	0.8
Maximum Tractive Force, 100-year	0.60 lb/sf	1.0 lb/sf

[1] Velocities, Froude numbers and tractive force values listed are average values for the cross section.
[2] "Erosion resistant" soils are those with 30% or greater clay content. Soils with less than 30% clay content shall be considered "erosive soils."

The Web Soil Survey for the site indicates that the Soils for the receiving swale are are classified as Stoneham sandy loam which is an erosive soil.

After receiving the East Pond Discharge, the existing swale will convey the stormwater to an existing pond on an adjacent property. According to the West Fork – Jimmy Camp Creek DBPS (See DPBS plan Sheet 6 in Appendix C) this pond is expected to receive up to 380 cfs for a Q100 event. The tributary drainage area treated by the East Pond makes up approximately 70 percent of the area tributary to the existing offsite pond. As the anticipated discharge from the East Pond is much lower than the flow listed in the DBPS, the existing structure should be adequate to handle the proposed discharge.

Analysis of the West Pond and Northeast Pond outfalls will be completed in the FDR for the associated filing.

SWMM Analysis: West Fork – Jimmy Camp Creek

1. ***Why SWMM Analysis is necessary:***
   The commercially zoned lots at the north end of this major basin on either side of Bradley Road will be required to provide onsite detention in the future to comply with this report and county criteria. The detention for these three areas will be in series with the East Pond. Because these ponds will be in series, the DCM requires analysis of the ponds using EPA SWMM.

2. Methodology

To provide results as close to UD-Detention as possible, the upstream ponds were approximated in UD-Detention and the resulting Hydrographs were input into SWMM as Time Series hydrograph data. These hydrographs were used as flow inputs to the nodes representing the inlets just downstream of each respective area (Inlets 1-OS, 1-A, and 3-A). An image of each time-series table used can be found in Appendix A. Additionally, the WQCV was calculated in a separate UD-Detention model with all of the commercial offsite areas included as 95 percent impervious. This value was utilized in sizing of the ponds forebays. (Please see the FDR for Filing No. 1 for calculations).

Flow analysis of the other sub-basins which are tributary to the East Pond was done utilizing the Horton method in accordance with DCM recommendations. The pipe network which will be used for Filing 1 was imported into SWMM from AutoCAD and the relatively large sub-basins were connected to the appropriate node closest to the downstream end of the sub-basin. SWMM was then used to calculate the inflow hydrograph to the east pond for the WQCV, EURV, 2-year, 5-year, 10-year, 25-year, 50-year, 100-year, and 500-year storm events. These hydrographs were then input to the Detention Basin Outlet Structure Design hydrograph input table in the UD-Detention model for the East Pond. The UD-Detention model was then used to design the outlet structure to reduce developed flows to levels equal to or lower than the predevelopment values calculated by the UD-Detention model, and to provide the appropriate attenuation of the WQCV and EURV storm events, all in accordance with UDFCD and DCM requirements.

Phasing:

Ponds will be constructed as required to provide treatment and detention for the proposed developments. The East Pond will be constructed along with Trails at Aspen Ridge Filing No. 1.

A very small portion of Filing No. 1 is designed to drain to the West Pond, however most of the storm sewer to convey storm water to this pond will be constructed in a later filing. To provide treatment and detention for the runoff from this portion of Filing No. 1, a swale will be graded to convey the runoff into the West Pond. Construction of the West Pond will be phased to accommodate each filing in the Big Johnson basin as the Trails at Aspen Ridge development progresses.

The Northeast Pond will be constructed along with the rest of the development of Sub-basin L in the northeast corner of the Trails at Aspen Ridge PUD.

Jurisdictional Dam Determination:

A previous iteration of the East Pond submitted to the county was determined to be a low hazard dam. Subsequent design of the pond has lowered the embankment elevations for the pond so that the pond is now shallower and no longer considered a jurisdictional dam. The West and Northeast ponds are also below the criteria for a jurisdictional dam. A notice of intent to construct a "Non-jurisdictional Water Impoundment Structure" will be filed along with the submission of the Final Drainage Report for Trails at Aspen Ridge Filing No. 1.

IV. STRUCTURE IMPROVEMENTS

Because all flows from Trails at Aspen Ridge (Waterview East) are to be treated for water quality and detention on site, additional construction in any downstream Regional Detention Pond will not be required.

V. FLOODPLAINS

Per the ***Flood Insurance Rate Map (FIRM)*** 08041C0768-G, effective date December 7, 2018, published by the Federal Emergency Management Agency (FEMA), no portion of Trails at Aspen Ridge (Waterview East) lies within any designated 100-year floodplain. This map can be found in Appendix C.

VI. Environmental Evaluations

A. WETLAND IMPACTS

There are no designated wetland or riparian areas on site, and no anticipated impacts.

B. STORMWATER QUALITY

All on-site detention facilities shall be designed to accommodate water quality requirements. As the development of each parcel progresses, the detention guidelines outlined in this report are to be upheld.

Per Chapter 1, Section 4, of the city of Colorado Springs and El Paso County DCM, the DCM 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.

<u>Step 1:</u> **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.

<u>Step 2:</u> **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.

<u>Step 3:</u> **Stabilize stream channels.**

- The site is in the Big Johnson Reservoir, West Fork – Jimmy Camp Creek and Marksheffel Tributary to Jimmy Camp Creek basins. Drainage fees, to be paid by the relevant Trails at Aspen Ridge (Waterview East) developers at the time of platting, will help fund proposed channel improvements. Information on future improvements to the respective channels was unavailable for this report.

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 the proposed full spectrum detention ponds, no permanent source controls are anticipated.

C. PERMITTING REQUIREMENTS

No additional permitting requirements are expected at this time.

VII. Alternatives Evaluation

Analysis of the site in both the existing and developed conditions is in accordance with the most recent Drainage Basin Planning Studies (DBPS-JCC, DBPS-WFJCC, & DBPS-BJR/CG). As such, no alternatives have been evaluated.

VIII. Selected Plan (Implementation of DBPS)

A. PLAN HYDROLOGY

The hydrology for the site has been provided above and complies with the latest DBPS studies.

B. SYSTEM IMPROVEMENTS

No improvements to the existing system are anticipated.

C. SYSTEM PRIORITIES/PHASING

No phasing of the development beyond Filing No. 1 has been provided at this time. Once development of any portion of the site begins, the owner will be responsible for providing detention and water quality in accordance with this MDDP, before releasing downstream.

D. GOVERNMENTAL AGENCY REQUIREMENTS

There are no governmental agency requirements for this development.

E. MAINTENANCE REQUIREMENTS

Maintenance requirements for all stormwater quality and erosion control procedures will be outlined in each filing's individual Erosion Control and Storm Water Management Plans. The detention and water quality treatment ponds proposed in this report will be privately owned and maintained by the Waterview II Metro District or, for lot specific detention and water quality ponds, by the owners of the lots on which they are constructed.

F. RECOMMENDATION FOR IMPLEMENTATION

It is recommended that any development of the site initiates the implementation of the detention and water quality procedures that have been detailed in this report. In doing so, the developed conditions will produce runoff comparable to that of predevelopment conditions, which will allow the site to continue to adhere to the DPBS and protect downstream owners and facilities.

IX. Fee Development

A. UNDEVELOPED PLATTABLE LAND

The Waterview II area, which includes the Trails at Aspen Ridge PUD and Trails at Aspen Ridge Filing No. 1, is made up entirely of undeveloped and unplatted land.

B. REIMBURSABLE COSTS AND FEES

The site is located within three different basins, the Big Johnson Reservoir, the West Fork-Jimmy Camp Creek, and the larger Jimmy Camp Creek (Marksheffel Tributary) Drainage Fee Basins. The fees are based upon the platted acreage and will be detailed in the FDRs for specific phases of the development. DDPS-BJR/CG indicates that water quality ponds are eligible for reimbursement, therefore some of the costs of the West Pond may be reimbursable. The Jimmy Camp Creek DBPS mentions reimbursement for Full Spectrum Detention which indicates that the Northeast Pond may be eligible for some reimbursement or may provide eligibility for a waiver of the Drainage Basin Fees to the Jimmy Camp Creek Drainage Fee Basin. The DBPS for the West Fork of Jimmy Camp Creek did not appear to indicate a similar approach.

In addition to the DBPS reports, the County ECM in appendix L, Section 3.10.4a allows for reimbursement for detention ponds if the following criteria are met:

1. **Allowed only where regional system is not yet in place.**
   - To date no regional detention has been constructed downstream of the proposed Trails at Aspen Ridge Development in either of the three major basins (Big Johnson, West Fork Jimmy Camp Creek, and Jimmy Camp Creek Basins).

2. **The pond is less than 15 acre-feet in volume from the lowest outlet structure to the crest of the emergency spillway.**
   - The Northeast Pond (0.9 Acre-Ft) and the West Pond (3.9 Acre-Ft) will both have volumes below the 15 Acre-Ft limit.
   - The East Pond at this time will have an estimated volume below the spillway of approximately 16.5 Acre-Ft. and is therefore not eligible reimbursement.

3. **The on-site pond is not part of the regional plan (for approved ponds that are part of the regional plan, developers are given 100% credit).**
   - Because the Big Johnson DBPS calls for water quality treatment and, more recently, detention before releasing flows to the Big Johnson Reservoir the West Pond should be eligible for 50 percent reimbursement as indicated by this item (ECM: Appendix L, Section 3.10.4a.3)
   - The Northeast Pond should be eligible for 50 percent reimbursement as well because the DBPS includes on-site Full Spectrum Detention as a means of reducing post development flows.

4. **The outlet of the pond must be designed to release at historical levels for all precipitation events from the 2-year storm to the 100-year storm. A smaller outlet may be required by the County if adequate downstream channel improvements are not in place to protect residents from the 2-year storm flows.**
   - The East Pond has been designed to accommodate this requirement
   - Future design of the Northeast and West Ponds will comply with this requirement.

5. **County approves design and construction.**
   - The ponds must be designed in accordance with El Paso County DCM and ECM requirements and must be approved before construction.

6. **Landowners assume responsibility for maintenance.**
   - Maintenance of detention for the proposed Full Spectrum Detention ponds will be provided by the Metro District which is funded by land owners. They will thus be responsible for maintenance of the proposed detention ponds.

As shown above the Northeast and West Ponds fit the county criteria for 50% reimbursement and the East Pond is slightly too large to qualify for reimbursement under these criteria.

X. Construction Cost Opinion

Specific construction costs will be provided in an FDR for each phase of the development.

XI. References

1. ***El Paso County and City of Colorado Springs Drainage Criteria Manual, Volume 1 & 2***, El Paso County, May 2014
2. ***El Paso County Engineering Criteria Manual,*** El Paso County, Rev. December 2016
3. ***Web Soil Survey of El Paso County Area, Colorado. Unites States Department of Agriculture Soil Conservation Service***.
4. ***Flood Insurance Rate Maps for El Paso County, Colorado and Incorporated Areas, Panel 768 of 1300, Federal Emergency Management Agency***, Effective Date December 7, 2018.
5. ***Urban Storm Drainage Criteria Manual, Vol. 1-3*** by Urban Drainage and Flood Control District (UDFCD), January 2016
6. ***West Fork Jimmy Camp Creek Drainage Basin Planning Study*** by Kiowa Engineering, revised October 2003
7. ***Jimmy Camp Creek Drainage Basin Planning Study, Development of Alternatives & Design of Selected Plan, Report*** by Kiowa Engineering, March 2015
8. **Big Johnson Reservoir/Crews Gulch Drainage Basin Planning Study,** by Kiowa Engineering, September 1991.
9. **"Amendment to Waterview Master Drainage Development Plan"**, completed by Springs Engineering, dated July 2014 *(MDDP-2014)*

XII. Appendices

APPENDIX A

HYDROLOGIC AND HYDRAULIC CALCULATIONS

Project Name:	Trails at Aspen Ridge (Waterview II)	
Project Location:	El Paso County, CO	
Designer	JTS	
Notes:	Existing Condition	
Average Channel Velocity	5	ft/s
Average Slope for Initial Flow	0.04	ft/ft

Channel Flow Type Key	
Heavy Meadow	2
Tillage/Field	3
Short Pasture and Lawns	4
Nearly Bare Ground	5
Grassed Waterway	6
Paved Areas	7

		Area		Rational 'C' Values								Flow Lengths				Initial Flow		Channel Flow				Tc	Rainfall Intensity & Rational Flow Rate				SWMM Values	
Major Basin / Sub-basin	Comments	sf	acres	Surface Type 2 (Impervious) C5	C100	Area (SF)	Surface Type 3 (Undeveloped) C5	C100	Area	Composite C5	C100	Initial ft	True Initial Length ft	Channel ft	True Channel Length ft	Average Slope	Initial Tc (min)	Average (%) Slope	Channel Flow Type (See Key above) Ground Type	Velocity (ft/s)	Channel Tc (min)	Total (min)	i5 in/hr	Q5 cfs	i100 in/hr	Q100 cfs	Q5 cfs	Q100 cfs
Big Johnson Reservoir / BJR-1		1,739,574.1	39.94	0.90	0.96		0.09	0.36	1,739,574	0.09	0.36	709.00	300.00	2094.00	2503.00	0.052	27.91	3.599	5.000	1.9	22.3	50.2	1.8	**6.4**	3.0	**43.2**		
Big Johnson Reservoir / BJR-2	*Located at south end of study area.*	385,700.5	8.85	0.90	0.96		0.09	0.36	385,701	0.09	0.36	300.00	300.00	760.00	760.00	0.040	19.84	5.014	5.000	2.2	5.7	25.5	2.7	**2.1**	4.5	**14.3**		
West Fork Jimmy Camp Creek / OS - 1	*- The most northwestern portion of this basin (7.268 Acres) outside of the proposed Trails at Aspen Ridge development was rerouted out of the Big Johnson Reservoir basin by CDOT construction of Powers Boulevard and Bradley Road. Future development of the rerouted area will require routing the flows back to the Big Johnson Reservoir to return the area to compliance with the relevant DBPS studies.*	853,953.7	19.60	0.90	0.96	42031.00	0.09	0.36	811,923	0.13	0.39	621.00	300.00	2146.00	2467.00	0.106	19.79	2.470	5.000	1.5	26.5	46.3	1.9	**4.8**	3.1	**24.1**	**11.8**	**47.4**
West Fork Jimmy Camp Creek / WF-1	*- The small area just outside the east boundary of Trails at Aspen Ridge will be kept off of the proposed project by raising the elevation of the proposed trail along this side of the development.*	5,187,332.2	119.08	0.90	0.96		0.09	0.36	5,187,332	0.09	0.36	530.00	300.00	3811.00	4041.00	0.089	20.22	2.940	5.000	1.7	39.5	59.8	1.6	**17.1**	2.7	**115.2**	**21.4**	**97.6**
West Fork Jimmy Camp Creek / WF-2	*Located at south end of study area.*	921,440.7	21.15	0.90	0.96		0.09	0.36	921,441	0.09	0.36	300.00	300.00	1014.00	1014.00	0.080	15.74	6.114	5.000	2.5	6.8	22.6	2.8	**5.4**	4.8	**36.5**	**5.5**	**31.1**
Marksheffel Tributary to Jimmy Camp Creek / MKT-1	*Located at northeast corner of Trails at Aspen Ridge PUD*	314,083.1	7.21	0.90	0.96		0.09	0.36	314,083	0.09	0.36	300.00	300.00	1125.00	1125.00	0.056	17.74	3.000	5.000	1.7	10.8	28.6	2.5	**1.6**	4.2	**10.9**		
EXISTING CONDITIONS - DESIGN POINTS	*INCLUDED SUB-BASINS*																											
BJR-1	*BJR-1*	1,739,574.1	39.94	0.90	0.96	0.00	0.09	0.36	1,739,574	0.09	0.36	709.00	300.00	2094.00	2503.00	0.052	27.91	3.599	5.000	1.9	22.3	50.2	1.8	**6.4**	3.0	**43.2**		
BJR-2	*BJR-2*	385,700.5	8.85	0.90	0.96		0.09	0.36	385,701	0.09	0.36	300.00	300.00	760.00	760.00	0.040	19.84	5.014	5.000	2.2	5.7	25.5	2.7	**2.1**	4.5	**14.3**		
TO BIG JOHNSON RESERVOIR	*BJR-1 & BJR-2 (Basins are parallel so this is a sum of BJR-1 & BJR-2.)*	2,125,274.6	48.79	0.90	0.96	0.00	0.09	0.36	2,125,275	0.09	0.36	709.00	300.00	2854.00	3263.00	0.052	27.91	5.014	5.000					**8.6**		**57.5**		
OS-1	*OS-1 (Note: 7.3 Acres diverted by CDOT from Big Johnson)*	853,953.7	19.60	0.90	0.96	42031.00	0.09	0.36	811,923	0.13	0.39	621.00	300.00	2146.00	2467.00	0.106	19.79	2.470	5.000	1.5	26.5	46.3	1.9	**4.8**	3.1	**24.1**	**11.8**	**47.4**
WF-1 (SWMM WF-East)	*WF-1 & OS-1*	6,041,285.9	138.69	0.90	0.96	42031.00	0.09	0.36	5,999,255	0.10	0.36	621.00	300.00	5957.00	6278.00	0.106	20.49	2.771	5.000	1.6	63.7	84.2	1.3	**16.9**	2.1	**108.1**	**33.2**	**139.1**
WF-2	*WF-2*	921,440.7	21.15	0.90	0.96	0.00	0.09	0.36	921,441	0.09	0.36	300.00	300.00	1014.00	1014.00	0.080	15.74	6.114	5.000	2.5	6.8	22.6	2.8	**5.4**	4.8	**36.5**	**5.5**	**31.1**
TO WEST FORK JIMMY CAMP CREEK	*WF-1, WF-2, & OS-1 (Basins are parallel so this is a sum of WF-1 & WF-2.)*	6,962,726.5	159.84	0.90	0.96	42031.00	0.09	0.36	6,920,696	0.09	0.36		0.00		0.00		#DIV/0!		5.000					**22.3**		**144.6**	**37.0**	**170.0**
MKT-1 TO MARKSHEFFEL TRIBUTARY TO JIMMY CAMP CREEK	*MKT-1*	314,083.1	7.21	0.90	0.96	0.00	0.09	0.36	314,083	0.09	0.36	300.00	300.00	1125.00	1125.00	0.056	17.74	3.000	5.000	1.7	10.8	28.6	2.5	**1.6**	4.2	**10.9**		

Note: -SWMM values are listed for the West Fork Jimmy Camp Creek Basin due to the required analysis of pond in series for that basin.

Rational Method - Proposed Conditions

Project Name:	Trails at Aspen Ridge (Waterview II)
Project Location:	El Paso County, CO
Designer	JTS
Notes:	Proposed Condition

Average Channel Velocity	4	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)

Channel Flow Type Key
Heavy Meadow 2
Tillage/Field 3
Short Pasture and Lawns 4
Nearly Bare Ground 5
Grassed Waterway 6
Paved Areas 7

		Area		Rational 'C' Values															Flow Lengths										Tc	Rainfall Intensity & Rational Flow Rate				SWMM Values	
Sub-basin	Comments			Surface Type 1 Residential 1/8 or less (65% Imp.)			Surface Type 2 Pavement (100% Imp.)			Surface Type 3 Park (7% Imp.)			Surface Type 4 Undeveloped (2% Imp.)			Composite		Percent Impervious	Initial	True Initial	Channel	True Channel	Average (decimal)	Initial	Average (%)	Channel Flow Type (See Key above)	Velocity	Channel	Total	i5	Q5	i100	Q100	Q5	Q100
		sf	acres	C5	C100	Area (SF)	C5	C100	Area (SF)	C5	C100	Area	C5	C100	Area	C5	C100		ft	Length ft	ft	Length ft	Slope	Tc (min)	Slope	Ground Type	(ft/s)	Tc (min)	(min)	in/hr	cfs	in/hr	cfs	cfs	cfs
West Fork-Jimmy Camp Creek OS-1	- The most northwestern portion of this basin (7.268 Acres) outside of the proposed Trails at Aspen Ridge development was rerouted out of the Big Johnson Reservoir basin by CDOT construction of Powers Boulevard and Bradley Road. Future development of the rerouted area will require routing the flows back to the Big Johnson Reservoir to return the area to compliance with the relevant DBPS studies.	853,954	19.60	0.45	0.59		0.90	0.96		0.65	0.80		0.09	0.36	853954	0.09	0.36	2.00	780.00	300.00	300.00	780.00	0.10	23.57	1.40	5	1.2	11.0	34.6	2.23	**4.0**	3.75	**26.7**	1.1	16.2
A	-Drainage area is upstream of two pairs of inlets near roundabout at intersection of Frontside Dr. and Legacy Dr. -Development of adjacent commercial lots will require FDR and onsite detention. -Note: The Commercial development will have 95% impervious (per DCM), but since it is required to detain prior to discharging to storm sewer the C values reflect undeveloped commercial areas.	804,622	18.47	0.45	0.59	22315	0.90	0.96	78609	0.65	0.80		0.09	0.36	703698	0.18	0.42	13.32	861.00	300.00	869.00	1430.00	0.06	26.77	1.10	7	2.1	11.4	38.1	2.10	**7.0**	3.54	**28.0**	5.0	34.6
B	- At grade inlet approximately 400 feet downstream of roundabout.	46,101	1.06	0.45	0.59	46101	0.90	0.96		0.65	0.80		0.09	0.36		0.45	0.59	65.00	185.00	185.00	400.00	400.00	0.04	9.86	3.40	7	3.7	1.8	11.7	3.86	**1.9**	6.48	**4.1**	2.5	7.0
C	- Includes the area north of Moose Meadow Street and between Beartrack Point and Sidewinder Drive and four pairs of sump inlets	648,154	14.88	0.45	0.59	627120	0.90	0.96	21034	0.65	0.80		0.09	0.36		0.46	0.60	66.14	162.00	162.00	822.00	822.00	0.05	8.51	3.29	7	3.6	3.8	12.3	3.77	**26.3**	6.34	**57.2**	19.5	58.9
D	-drainage area upstream of at grade inlet approximately 575 feet south of Moose Meadow Street.	96,065	2.21	0.45	0.59		0.90	0.96	14,978	0.65	0.80	81087	0.09	0.36		0.69	0.82	21.50	473.00	300.00	555.00	728.00	0.06	8.85	4.00	7	4.0	3.0	11.9	3.83	**5.9**	6.44	**11.8**	4.1	14.2
E	- Located at a pair of sump inlets at the intersection of Sunday Gulch and Falling Rock Drive.	373,189	8.57	0.45	0.59	49513	0.90	0.96	40601	0.65	0.80	283075	0.09	0.36		0.65	0.79	24.81	859.00	300.00	1450.00	2009.00	0.07	12.39	4.00	7	4.0	8.4	20.8	2.96	**16.6**	4.97	**33.9**	12.8	39.1
F	-Represents area captured by at grade inlets on Lazy Ridge Drive and Wagon Hammer Drive, as well as sump inlets west of the intersection of Lookout Court and Sunday Gulch.	569,234	13.07	0.45	0.59	569234	0.90	0.96		0.65	0.80		0.09	0.36		0.45	0.59	65.00	332.00	300.00	868.00	900.00	0.07	11.14	2.00	7	2.8	5.3	16.4	3.32	**19.7**	5.57	**43.3**	15.4	46.2
G	-At grade inlet on the east side of Sunday Gulch near intersection with Lookout Court.	48,227	1.11	0.45	0.59	48227	0.90	0.96		0.65	0.80		0.09	0.36		0.45	0.59	65.00	80.00	80.00	667.00	667.00	0.05	6.12	2.45	7	3.1	3.6	9.7	4.15	**2.1**	6.97	**4.6**	2.1	6.1
H	-This represents the area draining to Buffalo Horn Drive with the exception any flow by from the at grade inlets in Sub-basin F.	1,022,296	23.47	0.45	0.59	921233	0.90	0.96	39,492	0.65	0.80	61571	0.09	0.36		0.48	0.62	62.86	250.00	250.00	1074.00	1074.00	0.04	11.13	2.00	7	2.8	6.3	17.5	3.22	**36.6**	5.42	**79.1**	26.8	80.4

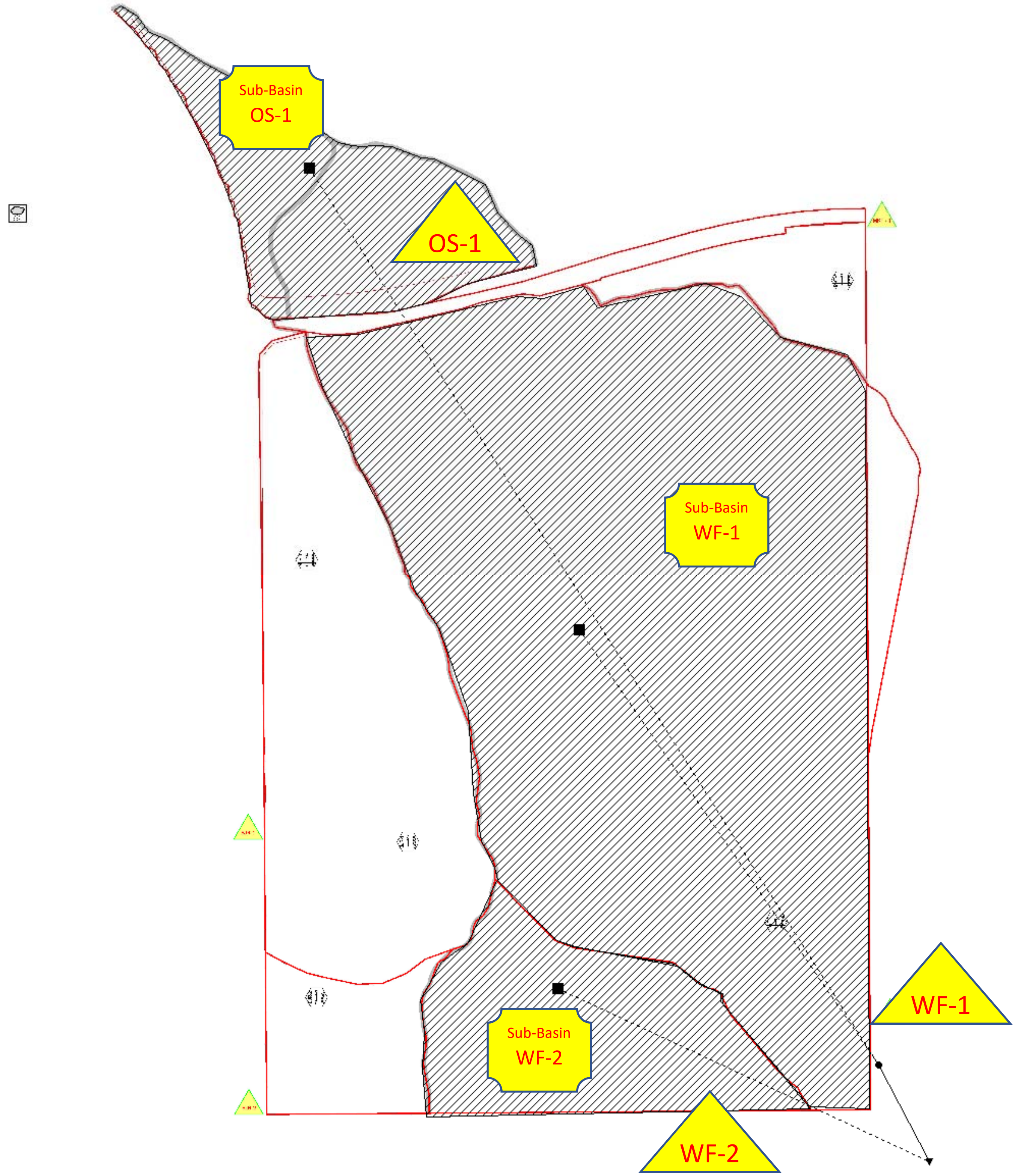
Sub-basin	Comments	Area sf	Area acres	Surface Type 1 Residential 1/8 or less (65% Imp.) C5	Surface Type 1 C100	Surface Type 1 Area (SF)	Surface Type 2 Pavement (100% Imp.) C5	Surface Type 2 C100	Surface Type 2 Area (SF)	Surface Type 3 Park (7% Imp.) C5	Surface Type 3 C100	Surface Type 3 Area	Surface Type 4 Undeveloped (2% Imp.) C5	Surface Type 4 C100	Surface Type 4 Area	Composite C5	Composite C100	Percent Impervious	Flow Lengths Initial ft	Flow Lengths True Initial Length ft	Flow Lengths Channel ft	Flow Lengths True Channel Length ft	Average (decimal) Slope	Initial Tc (min)	Average (%) Slope	Channel Flow Type (See Key above) Ground Type	Velocity (ft/s)	Channel Tc (min)	Tc Total (min)	i5 in/hr	Q5 cfs	i100 in/hr	Q100 cfs	SWMM Values Q5 cfs	SWMM Values Q100 cfs
I	*-Represents area draining to the proposed sump inlet at the end of the cul-de-sac on Falling Rock Drive.*	344,236	7.90	0.45	0.59	305401	0.90	0.96	31104	0.65	0.80	7731	0.09	0.36		0.50	0.63	66.86	153.00	153.00	1104.00	1104.00	0.05	7.88	2.61	7	3.2	5.7	13.6	3.62	**14.3**	6.08	**30.4**	10.5	31.8
J	*-Represents drainage area tributary to sump inlets near intersection of Redshirt Point and Big Johnson Drive.*	229,049	5.26	0.45	0.59	70187	0.90	0.96	158,862	0.65	0.80		0.09	0.36		0.76	0.85	89.28	266.00	266.00	909.00	909.00	0.09	4.77	3.20	7	3.6	4.2	9.0	4.27	**17.2**	7.17	**32.2**	11.1	32.7
K	*-This sub-basin is tributary to the future sump inlets near the intersection of Big Johnson Drive and Roundhouse Drive.*	1,414,842	32.48	0.45	0.59	1414842	0.90	0.96		0.65	0.80		0.09	0.36		0.45	0.59	65.00	400.00	300.00	1400.00	1500.00	0.06	13.26	3.50	7	3.7	6.7	19.9	3.02	**44.5**	5.07	**98.0**	33.3	101.7
Marksheffel Tributary to Jimmy Camp Creek *L*	*-Represents entire drainage area to the Northeast Pond.*	330,836	7.59	0.45	0.59	259741	0.90	0.96		0.65	0.80	71095	0.09	0.36		0.49	0.64	52.54	290.00	290.00	490.00	490.00	0.05	10.88	5.40	7	4.6	1.8	12.6	3.73	**14.1**	6.27	**30.5**		
West Fork-Jimmy Camp Creek *M*	*Drainage area in and around East Full Spectrum Detention Pond*	447,971	10.29	0.45	0.59		0.90	0.96		0.65	0.80	447971	0.09	0.36		0.65	0.80	7.00	437.00	300.00	10.00	147.00	0.06	9.32	1.00	7	2.0	1.2	10.5	4.02	**27.1**	6.75	**56.0**	14.2	61.8
Big Johnson Reservoir *N*	*-Represents area upstream of sump inlets near intersection of Natural Bridge Trail and Blue Miner Street.*	614,283	14.10	0.45	0.59	614283	0.90	0.96		0.65	0.80		0.09	0.36		0.45	0.59	65.00	150.00	150.00	1229.00	1229.00	0.03	9.94	2.50	7	3.2	6.5	16.4	3.32	**21.2**	5.58	**46.8**		
O	*-Represents area upstream of sump inlet at intersection of Rainy Creek Trail and Triple Tree Loop*	510,492	11.72	0.45	0.59	510,492	0.90	0.96	0	0.65	0.80	0	0.09	0.36	0	0.45	0.59	65.00	104.00	104.00	1230.00	1230.00	0.02	9.47	1.40	7	2.4	8.7	18.1	3.17	**16.8**	5.32	**37.1**		
P	*-Drainage area in and around the West Pond.*	370,936	8.52	0.45	0.59		0.90	0.96	70,884	0.65	0.80	300052	0.09	0.36		0.70	0.83	24.77	560.00	300.00	378.00	638.00	0.06	9.43	2.00	7	2.8	3.8	13.2	3.67	**22.0**	6.16	**43.9**		
Q	*-This area is infeasible to detain and discharges to the Powers Boulevard Ditch -Less than one acre (0.31 Acres) of developed area is within the Big Johnson Reservoir Basin, therefore, compliance with the county's MS4 permit is maintained.*	106,017	2.43	0.45	0.59	38,063	0.90	0.96	0	0.65	0.80	67,954	0.09	0.36	0	0.58	0.72	27.82	143.00	143.00	687.00	687.00	0.06	6.08	3.35	4	1.3	9.0	15.1	3.45	**4.9**	5.80	**10.3**		
R	*-This area is infeasible to detain and discharges to the swale at the southeast corner of the property. -Less than one acre (0.67 Acres) of developed area is within the West Fork Jimmy Campr Creek Basin, therefore, compliance with the county's MS4 permit is maintained.*	81,300	1.87	0.45	0.59		0.90	0.96		0.65	0.80	81300	0.09	0.36		0.65	0.80	7.00	21.00	21.00	220.00	220.00	0.33	1.16	10.00	5	3.2	1.2	5.0	5.10	**6.2**	8.58	**12.9**	1.7	7.8
OS-2	*- Commercially zoned lot just southeast of the intersection of Bradley and Powers. This area will be required to provide its own detention which must discharge to the Powers Boulevard Ditch.*	498,467	11.44	0.45	0.59		0.90	0.96		0.65	0.80		0.09	0.36	498467	0.09	0.36	2.00	971.00	300.00	1411.00	2082.00	0.04	34.50	2.83	5	1.7	20.7	55.2	1.67	**1.7**	2.81	**11.7**		

Rational Method - Proposed Conditions

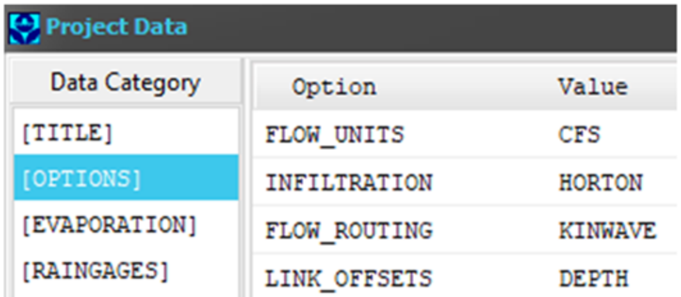
PROPOSED CONDITIONS - DESIGN POINTS	Included Sub-basins	Area sf	Area acres	Surface Type 1 Residential 1/8 or less (65% Imp.) C5	Surface Type 1 C100	Surface Type 1 Area (SF)	Surface Type 2 Pavement (100% Imp.) C5	Surface Type 2 C100	Surface Type 2 Area (SF)	Surface Type 3 Park (7% Imp.) C5	Surface Type 3 C100	Surface Type 3 Area	Surface Type 4 Undeveloped (2% Imp.) C5	Surface Type 4 C100	Surface Type 4 Area	Composite C5	Composite C100	Percent Impervious	Flow Lengths Initial ft	True Initial Length ft	Channel ft	True Channel Length ft	Average (decimal) Slope	Initial Tc (min)	Average (%) Slope	Channel Flow Type (See Key above) Ground Type	Velocity (ft/s)	Channel Tc (min)	Tc Total (min)	i5 in/hr	Q5 cfs	i100 in/hr	Q100 cfs	SWMM Values Q5 cfs	SWMM Values Q100 cfs
West Fork-Jimmy Camp Creek Basin																																			
OS-1	***OS-1***	853,954	19.60	0.45	0.59	0	0.90	0.96	0	0.65	0.80	0	0.09	0.36	853954	0.09	0.36		780.00	300.00	300.00	780.00	0.10	23.57	1.40	5	1.2	11.0	34.6	2.23	**4.0**	3.75	**26.7**	1.1	16.2
A	***OS-1 & A***	1,658,576	38.08	0.45	0.59	22315	0.90	0.96	78609	0.65	0.80	0	0.09	0.36	1557652	0.13	0.39		780.00	300.00	1169.00	1649.00	0.10	22.56	1.62	7	2.5	10.9	33.4	2.28	**11.6**	3.82	**57.5**	4.4	46.2
B	***OS-1, A, B***	1,704,677	39.14	0.45	0.59	68416	0.90	0.96	78,609	0.65	0.80	0	0.09	0.36	1557652	0.14	0.40		780.00	300.00	1569.00	2049.00	0.10	22.36	1.96	7	2.8	12.4	34.7	2.22	**12.4**	3.74	**58.5**	6.1	48.3
C	***OS-1, A, B, C***	2,352,831	54.01	0.45	0.59	695536	0.90	0.96	99643	0.65	0.80	0	0.09	0.36	1557652	0.23	0.45		780.00	300.00	2391.00	2871.00	0.10	20.28	2.34	7	3.0	15.8	36.1	2.18	**27.3**	3.66	**90.3**	25.6	88.5
D	***OS-1, A, B, C, D***	2,448,896	56.22	0.45	0.59	695536	0.90	0.96	114,621	0.65	0.80	81087	0.09	0.36	1557652	0.25	0.47		780.00	300.00	2946.00	3426.00	0.10	19.86	2.81	7	3.3	17.1	36.9	2.15	**30.2**	3.60	**95.6**	28.3	97.6
E	***OS-1, A, B, C, D, E***	2,822,085	64.79	0.45	0.59	745049	0.90	0.96	155222	0.65	0.80	364162	0.09	0.36	1557652	0.30	0.51		780.00	300.00	4396.00	4876.00	0.10	18.62	3.17	7	3.5	23.1	41.7	1.99	**39.3**	3.35	**111.6**	39.5	132.3
F	***F***	569,234	13.07	0.45	0.59	569234	0.90	0.96	0	0.65	0.80	0	0.09	0.36	0	0.45	0.59		332.00	300.00	868.00	900.00	0.07	11.14	2.00	7	2.8	5.3	16.4	3.32	**19.7**	5.57	**43.3**	54.5	172.9
G	***OS-1, A, B, C, D, E, F, G***	3,439,545	78.96	0.45	0.59	1362510	0.90	0.96	155222	0.65	0.80	364162	0.09	0.36	1557652	0.33	0.52		780.00	300.00	5931.00	6411.00	0.10	18.00	2.94	7	3.4	31.4	49.4	1.79	**46.9**	3.01	**125.9**	56.5	178.3
H	***H***	1,022,296	23.47	0.45	0.59	921233	0.90	0.96	39,492	0.65	0.80	61571	0.09	0.36	0	0.48	0.62		250.00	250.00	1074.00	1074.00	0.04	11.13	2.00	7	2.8	6.3	17.5	3.22	**36.6**	5.42	**79.1**	26.8	80.4
J	***J***	229,049	5.26	0.45	0.59	70187	0.90	0.96	158862	0.65	0.80	0	0.09	0.36	0	0.76	0.85		266.00	266.00	909.00	909.00	0.09	4.77	3.20	7	3.6	4.2	9.0	4.27	**17.2**	7.17	**32.2**	11.1	32.7
K	***J, K***	1,643,891	37.74	0.45	0.59	1485029	0.90	0.96	158,862	0.65	0.80	0	0.09	0.36	0	0.49	0.63		266.00	266.00	2409.00	2409.00	0.09	8.56	3.39	7	3.6	11.1	19.6	3.04	**57.2**	5.11	**121.7**	44.2	131.7
I	***J, K, I***	1,988,127	45.64	0.45	0.59	1790430	0.90	0.96	189966	0.65	0.80	7731	0.09	0.36	0	0.49	0.63		266.00	266.00	3613.00	3613.00	0.09	8.56	3.06	7	3.5	17.4	25.9	2.63	**59.7**	4.42	**127.2**	54.0	163.0
M (Into East Pond	***OS-1, A, B, C, D, E, F, G, J, K, I, H, M***	6,897,939	158.35	0.45	0.59	4,074,173	0.90	0.96	384,680	0.65	0.80	881,435	0.09	0.36	1,557,652	0.42	0.59	45.31	780.00	300.00	5931.00	6411.00	0.10	15.88	2.86	7	3.3	31.9	47.8	1.83	**122.6**	3.08	**287.5**	145.2	462.6
East Pond Discharge (SWMM)	***OS-1, A, B, C, D, E, F, G, J, K, I, H, M***																														21.1		127.4	N/A	N/A
R	***R***	81,300	1.87	0.45	0.59		0.90	0.96		0.65	0.80	81300	0.09	0.36		0.65	0.80	7.00	21.00	21.00	220.00	220.00	0.33	1.16	10.00	5	3.2	1.2	5.0	5.10	**6.2**	8.58	**12.9**	1.7	7.8
Marksheffel Tributary to Jimmy Camp Creek																																			
L	***L***	330,836	7.59	0.45	0.59	259741	0.90	0.96	0	0.65	0.80	71095	0.09	0.36	0	0.49	0.64	52.54	290.00	290.00	490.00	490.00	0.05	10.88	5.40	7	4.6	1.8	12.6	3.73	**14.1**	6.27	**30.5**		
Northeast Pond Discharge	***L***																														**0.3**		**8.0**		
Big Johnson Reservoir Basin																																			
N	***N***	614,283	14.10	0.45	0.59	614283	0.90	0.96	0	0.65	0.80	0	0.09	0.36	0	0.45	0.59		150.00	150.00	1229.00	1229.00	0.03	9.94	2.50	7	3.2	6.5	16.4	3.32	**21.2**	5.58	**46.8**		
O	***O***	510,492	11.72	0.45	0.59	510492	0.90	0.96	0	0.65	0.80	0	0.09	0.36	0	0.45	0.59		104.00	104.00	1230.00	1230.00	0.02	9.47	1.40	7	2.4	8.7	18.1	3.17	**16.8**	5.32	**37.1**		
P (Into West Pond)	***N, O, P***	1,495,711	34.34	0.45	0.59	1124775	0.90	0.96	70,884	0.65	0.80	300052	0.09	0.36	0	0.51	0.65	55.02	150.00	150.00	2837.00	2837.00	0.03	9.00	2.14	7	2.9	16.3	25.3	2.66	**47.1**	4.47	**100.6**		
West Pond Discharge (UD-Detention)	***N, O, P***																														**1.0**		**28.3**		
Q	***Q***	106,017	2.43	0.45	0.59	38063	0.90	0.96		0.65	0.80	67954	0.09	0.36		0.58	0.72		143.00	143.00	687.00	687.00	0.06	6.08	3.35	4	1.3	9.0	15.1	3.45	**4.9**	5.80	**10.3**		
OS-2 (This area is just southeast of the Powers and Bradley intersection. Flows which might have flowed across TAR to the Powers ditch will be diverted to the ditch prior to entering the TAR property.)	***OS-2***	498,467	11.44	0.45	0.59		0.90	0.96		0.65	0.80		0.09	0.36	498467	0.09	0.36		971.00	300.00	1411.00	2082.00	0.04	34.50	2.83	5	1.7	20.7	55.2	1.67	**1.7**	2.81	**11.7**		

Note: Q2, Q5 & Q10 are based on C5; Q25, Q50 & Q100 are based on C100

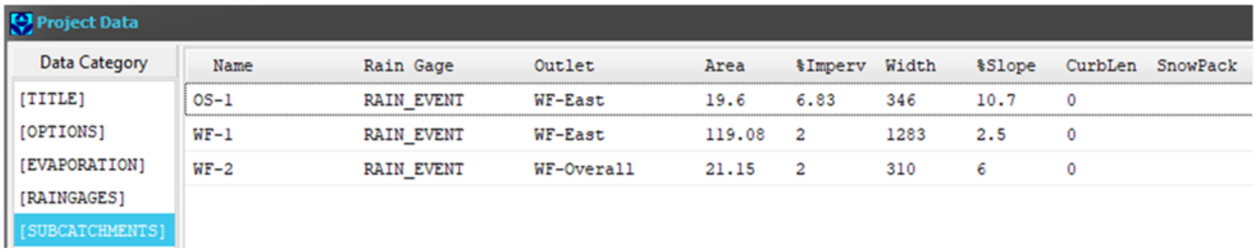
SWMM Model 2-Hour Storm Inputs										
1-Hour Depth		0.43	1.07	1.19	1.50	1.75	2.00	2.25	2.52	3.14
CO Springs Multiplier	time	WQCV	EURV	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	500 Year
0	0	0	0	0	0	0	0	0	0	0
0.014	0:05	0.006	0.015	0.017	0.021	0.025	0.028	0.032	0.035	0.044
0.046	0:10	0.020	0.049	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



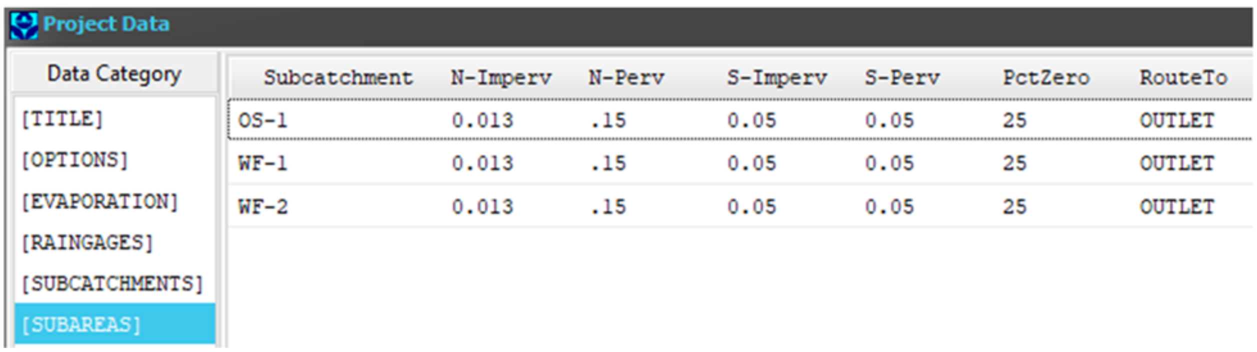
EPA SWMM 5.1 UNDEVELOPED MODEL



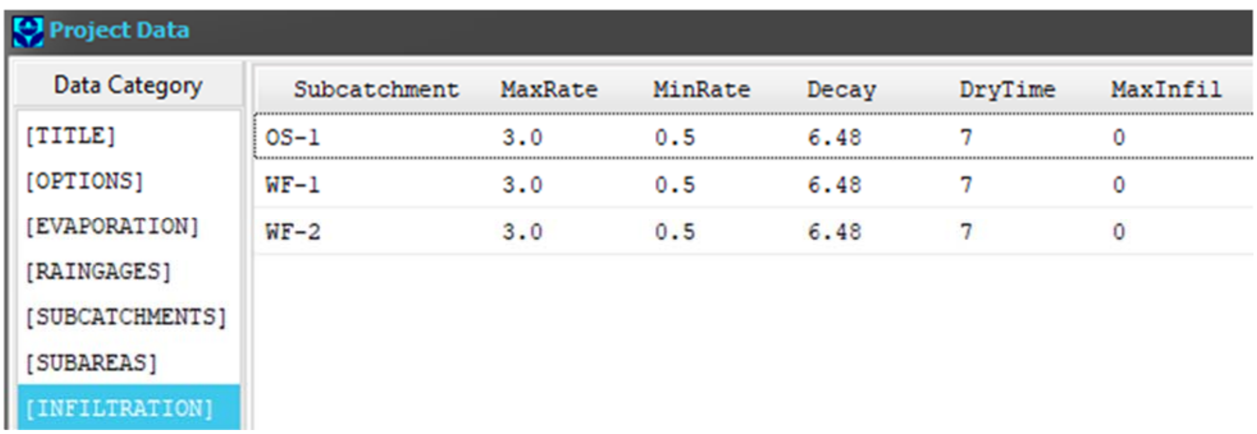
Option	Value
FLOW_UNITS	CFS
INFILTRATION	HORTON
FLOW_ROUTING	KINWAVE
LINK_OFFSETS	DEPTH



Name	Rain Gage	Outlet	Area	%Imperv	Width	%Slope	CurbLen	SnowPack
OS-1	RAIN_EVENT	WF-East	19.6	6.83	346	10.7	0	
WF-1	RAIN_EVENT	WF-East	119.08	2	1283	2.5	0	
WF-2	RAIN_EVENT	WF-Overall	21.15	2	310	6	0	



Subcatchment	N-Imperv	N-Perv	S-Imperv	S-Perv	PctZero	RouteTo
OS-1	0.013	.15	0.05	0.05	25	OUTLET
WF-1	0.013	.15	0.05	0.05	25	OUTLET
WF-2	0.013	.15	0.05	0.05	25	OUTLET



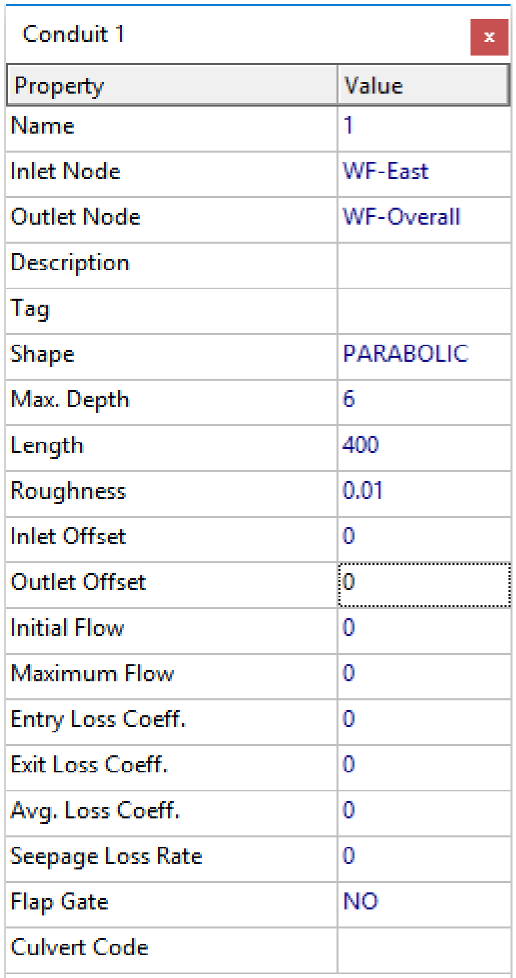
Subcatchment	MaxRate	MinRate	Decay	DryTime	MaxInfil
OS-1	3.0	0.5	6.48	7	0
WF-1	3.0	0.5	6.48	7	0
WF-2	3.0	0.5	6.48	7	0

Rain Gage RAIN_EVENT

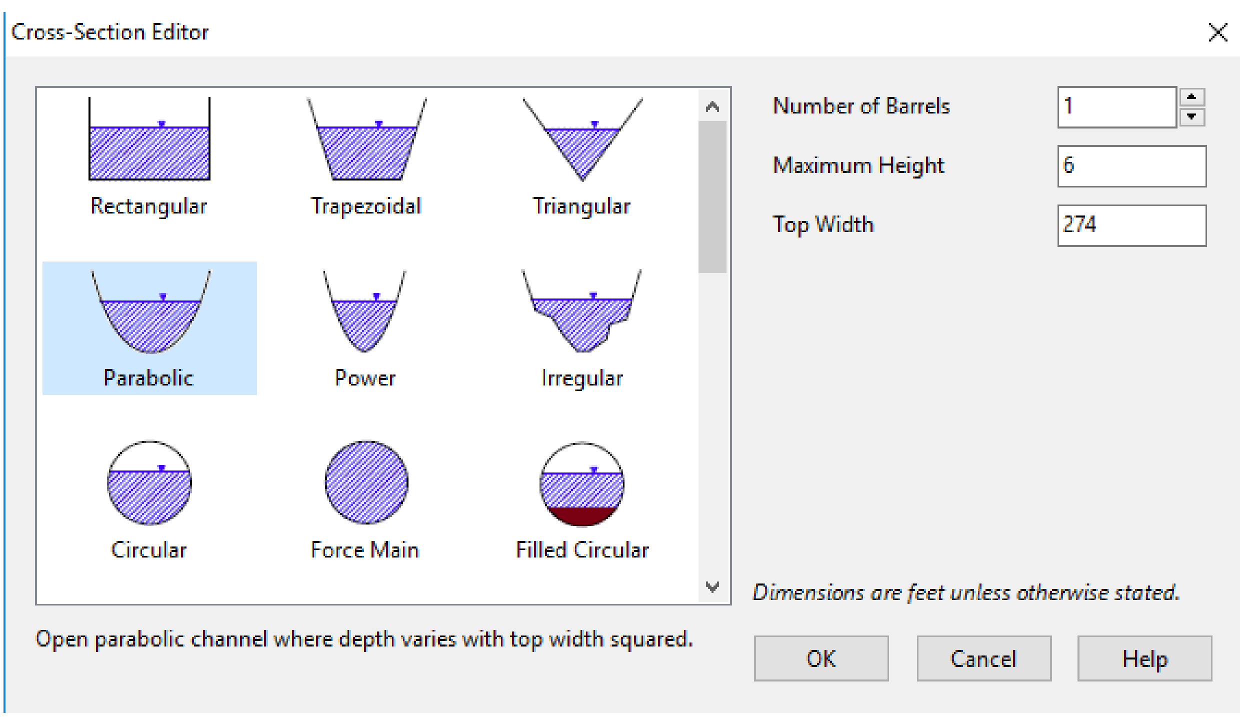
Property	Value
Name	RAIN_EVENT
X-Coordinate	1248.217
Y-Coordinate	7631.954
Description	
Tag	
Rain Format	CUMULATIVE
Time Interval	0:05
Snow Catch Factor	1.0
Data Source	TIMESERIES
TIME SERIES:	
- Series Name	TS-5
DATA FILE:	
- File Name	*
- Station ID	*
- Rain Units	IN

Junction WF-East

Property	Value
Name	WF-East
X-Coordinate	7754.663
Y-Coordinate	1205.165
Description	
Tag	
Inflows	NO
Treatment	NO
Invert El.	5814
Max. Depth	10
Initial Depth	0
Surcharge Depth	0
Ponded Area	0


Conduit 1

Property	Value
Name	1
Inlet Node	WF-East
Outlet Node	WF-Overall
Description	
Tag	
Shape	PARABOLIC
Max. Depth	6
Length	400
Roughness	0.01
Inlet Offset	0
Outlet Offset	0
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	



Outfall WF-Overall

Property	Value
Name	WF-Overall
X-Coordinate	8138.374
Y-Coordinate	470.756
Description	
Tag	
Inflows	NO
Treatment	NO
Invert El.	5812
Tide Gate	NO
Route To	
Type	FREE
Fixed Outfall	
Fixed Stage	0
Tidal Outfall	
Curve Name	*
Time Series Outfall	
Series Name	*

SWMM OUTPUT TABLES

PRE-DEVELOPMENT CONDITIONS

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
OS-1	1.04	0.00	0.00	0.92	0.07	0.05	0.12	0.06	11.02	0.116
WF-1	1.04	0.00	0.00	1.01	0.02	0.02	0.04	0.12	19.78	0.036
WF-2	1.04	0.00	0.00	0.99	0.02	0.03	0.05	0.03	4.81	0.052

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
WF-East	JUNCTION	30.80	30.80	0	01:35	0.186	0.186	0.000
WF-Overall	OUTFALL	4.81	26.23	0	01:38	0.0311	0.218	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
WF-East	JUNCTION	0.05	0.45	5814.45	0	01:35	0.23
WF-Overall	OUTFALL	0.05	0.40	5812.40	0	01:39	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
1	CONDUIT	23.23	0	01:39	1.58	0.00	0.06

Link Flow

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
WF-Overall	58.19	2.32	26.23	0.218

Outfall Loading

SWMM Output Tables

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
OS-1	1.20	0.00	0.00	1.05	0.08	0.06	0.14	0.08	6.65	0.120
WF-1	1.20	0.00	0.00	1.15	0.02	0.02	0.05	0.15	11.89	0.039
WF-2	1.20	0.00	0.00	1.13	0.02	0.04	0.07	0.04	2.69	0.057

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
WF-East	JUNCTION	18.54	18.54	0	00:45	0.228	0.228	0.000
WF-Overall	OUTFALL	2.69	17.79	0	00:49	0.0391	0.268	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
WF-East	JUNCTION	0.06	0.36	5814.36	0	00:45	0.35
WF-Overall	OUTFALL	0.06	0.33	5812.33	0	00:49	0.27

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
1	CONDUIT	15.56	0	00:49	1.19	0.00	0.05

Link Flow

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
WF-Overall	58.06	2.85	17.79	0.268

Outfall Loading

SWMM Output Tables

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
OS-1	1.66	0.00	0.00	1.29	0.11	0.26	0.37	0.20	11.85	0.223
WF-1	1.66	0.00	0.00	1.51	0.03	0.12	0.15	0.49	21.39	0.091
WF-2	1.66	0.00	0.00	1.42	0.03	0.20	0.23	0.13	5.54	0.141

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
WF-East	JUNCTION	33.24	33.24	0	00:45	0.682	0.682	0.000
WF-Overall	OUTFALL	5.54	34.66	0	00:50	0.134	0.817	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
WF-East	JUNCTION	0.11	0.47	5814.47	0	00:45	0.46
WF-Overall	OUTFALL	0.10	0.44	5812.44	0	00:50	0.41

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
1	CONDUIT	29.26	0	00:50	1.37	0.00	0.07

Link Flow

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
WF-Overall	61.53	8.22	34.66	0.817

Outfall Loading

SWMM Output Tables

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
OS-1	3.51	0.00	0.00	1.67	0.24	1.61	1.85	0.98	47.41	0.525
WF-1	3.51	0.00	0.00	2.32	0.07	1.12	1.19	3.85	97.65	0.339
WF-2	3.51	0.00	0.00	1.97	0.07	1.48	1.55	0.89	31.10	0.440

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
WF-East	JUNCTION	139.24	139.24	0	00:55	4.84	4.84	0.000
WF-Overall	OUTFALL	31.10	169.80	0	00:56	0.887	5.73	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
WF-East	JUNCTION	0.31	0.91	5814.91	0	00:55	0.90
WF-Overall	OUTFALL	0.31	0.91	5812.91	0	00:56	0.90

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
1	CONDUIT	138.93	0	00:56	2.16	0.02	0.15

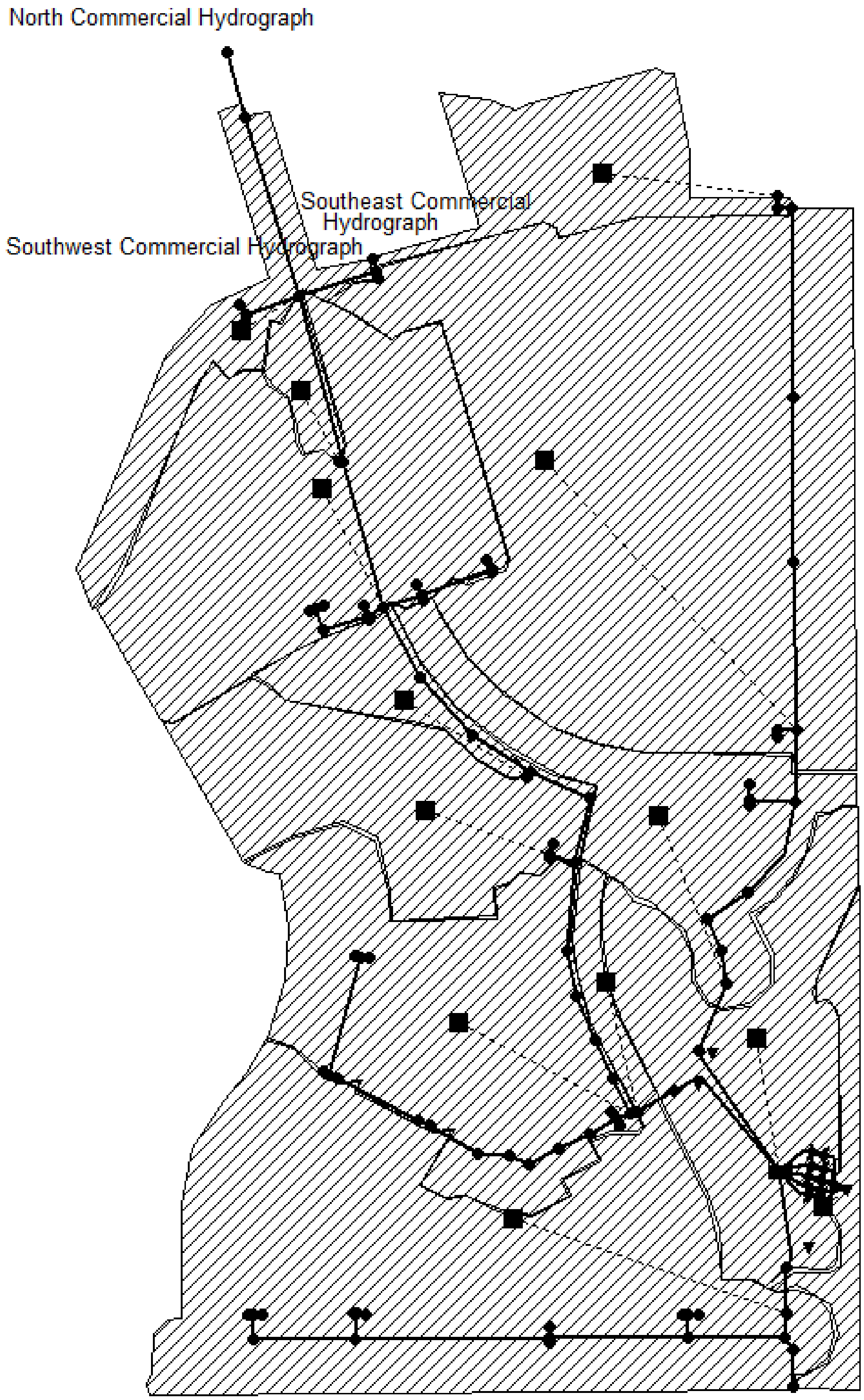
Link Flow

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
WF-Overall	84.58	41.91	169.80	5.727

Outfall Loading

SWMM Output Tables



EPA SWMM 5.1 DEVELOPED MODEL

Project Data

Data Category
[TITLE]
[OPTIONS]
[EVAPORATION]
[RAINGAGES]

Option	Value
FLOW_UNITS	CFS
INFILTRATION	HORTON
FLOW_ROUTING	DYNWAVE
LINK_OFFSETS	DEPTH

Project Data

Data Category
[TITLE]
[OPTIONS]
[EVAPORATION]
[RAINGAGES]
[SUBCATCHMENTS]
[SUBAREAS]
[INFILTRATION]
[JUNCTIONS]
[OUTFALLS]
[STORAGE]
[CONDUITS]
[ORIFICES]
[WEIRS]
[XSECTIONS]

Name	Rain Gage	Outlet	Area	%Imperv	Width	%Slope	CurbLen	SnowPack
A-Street	Rain_Gage	MH - 3 (STM-JC)	4.0	95	16	1	0	
Sub-basin_J	Rain_Gage	MH - 27 (STM-JC)	5.26	89.3	50	3.2	0	
Sub-basin_B	Rain_Gage	INLET 1-B (STM-JC)	1.06	65	15	3.4	0	
Sub-basin_C	Rain_Gage	MH - 6 (STM-JC)	14.88	66.1	74	3.29	0	
Sub-basin_D	Rain_Gage	INLET 1-D (STM-JC)	2.21	21.5	132	4	0	
Sub-Basin_E	Rain_Gage	MH - 15 (STM-JC)	8.57	24.8	186	4	0	
Sub-basin_F	Rain_Gage	MH - 20 (STM-JC)	13.07	65	70	2	0	
Sub-basin_G	Rain_Gage	INLET 1-G (STM-JC)	1.11	65	12	2.45	0	
Sub-basin_I	Rain_Gage	INLET 5-I (STM-JC)	7.9	66.9	45	2.61	0	
Sub-basin_K	Rain_Gage	MH - 30 (STM-JC)	32.48	65	105	3.5	0	
Sub-basin_M	Rain_Gage	East_Pond	10.29	7	1700	1	0	
Sub-basin_H	Rain_Gage	INLET 11-H (STM-JC)	23.47	62.9	122	2	0	
Subbasin_R	Rain_Gage	WF-JCC_Outfall	1.87	7	50	10	0	

Project Data

Data Category
[TITLE]
[OPTIONS]
[EVAPORATION]
[RAINGAGES]
[SUBCATCHMENTS]
[SUBAREAS]
[INFILTRATION]
[JUNCTIONS]
[OUTFALLS]
[STORAGE]
[CONDUITS]
[ORIFICES]
[WEIRS]
[XSECTIONS]

Subcatchment	N-Imperv	N-Perv	S-Imperv	S-Perv	PctZero	RouteTo
A-Street	.013	.092	.05	.05	25	OUTLET
Sub-basin_J	.013	.092	.05	.05	25	OUTLET
Sub-basin_B	.013	.092	.05	.05	25	OUTLET
Sub-basin_C	.013	.092	.05	.05	25	OUTLET
Sub-basin_D	.013	.092	.05	.05	25	OUTLET
Sub-Basin_E	.013	.092	.05	.05	25	OUTLET
Sub-basin_F	.013	.092	.05	.05	25	OUTLET
Sub-basin_G	.013	.092	.05	.05	25	OUTLET
Sub-basin_I	.013	.092	.05	.05	25	OUTLET
Sub-basin_K	.013	.092	.05	.05	25	OUTLET
Sub-basin_M	.013	.092	.05	.05	25	OUTLET
Sub-basin_H	.013	.092	.05	.05	25	OUTLET
Subbasin_R	.013	.092	.05	.05	25	OUTLET

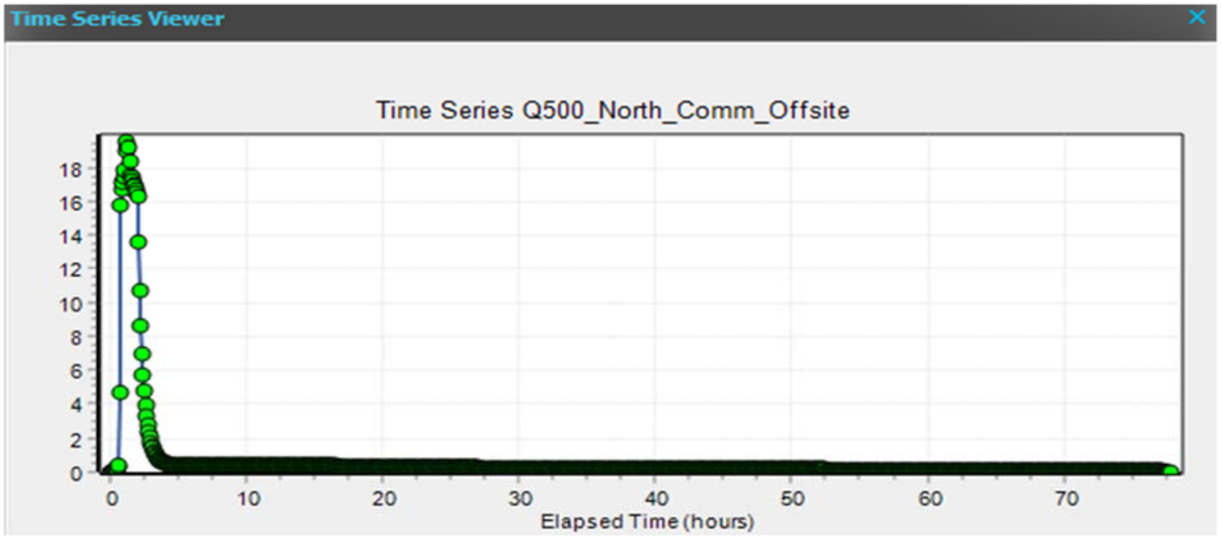
Project Data

Data Category
[TITLE]
[OPTIONS]
[EVAPORATION]
[RAINGAGES]
[SUBCATCHMENTS]
[SUBAREAS]
[INFILTRATION]
[JUNCTIONS]
[OUTFALLS]
[STORAGE]
[CONDUITS]
[ORIFICES]
[WEIRS]
[XSECTIONS]

Subcatchment	MaxRate	MinRate	Decay	DryTime	MaxInfil
A-Street	3.0	0.5	6.48	7	0
Sub-basin_J	3.0	0.5	6.48	7	0
Sub-basin_B	3.0	0.5	6.48	7	0
Sub-basin_C	3.0	0.5	6.48	7	0
Sub-basin_D	3.0	0.5	6.48	7	0
Sub-Basin_E	3.0	0.5	6.48	7	0
Sub-basin_F	3.0	0.5	6.48	7	0
Sub-basin_G	3.0	0.5	6.48	7	0
Sub-basin_I	3.0	0.5	6.48	7	0
Sub-basin_K	3.0	0.5	6.48	7	0
Sub-basin_M	3.0	0.5	6.48	7	0
Sub-basin_H	3.0	0.5	6.48	7	0
Subbasin_R	3.0	0.5	6.48	7	0

Junction INLET 1-OS (STM-JC)

Property	Value
Name	INLET 1-OS (STM-JC)
X-Coordinate	12523.500
Y-Coordinate	8759.660
Description	CULVERT INLET
Tag	
Inflows	YES
Treatment	NO
Invert El.	5924.238
Max. Depth	4.417
Initial Depth	0
Surcharge Depth	0
Ponded Area	0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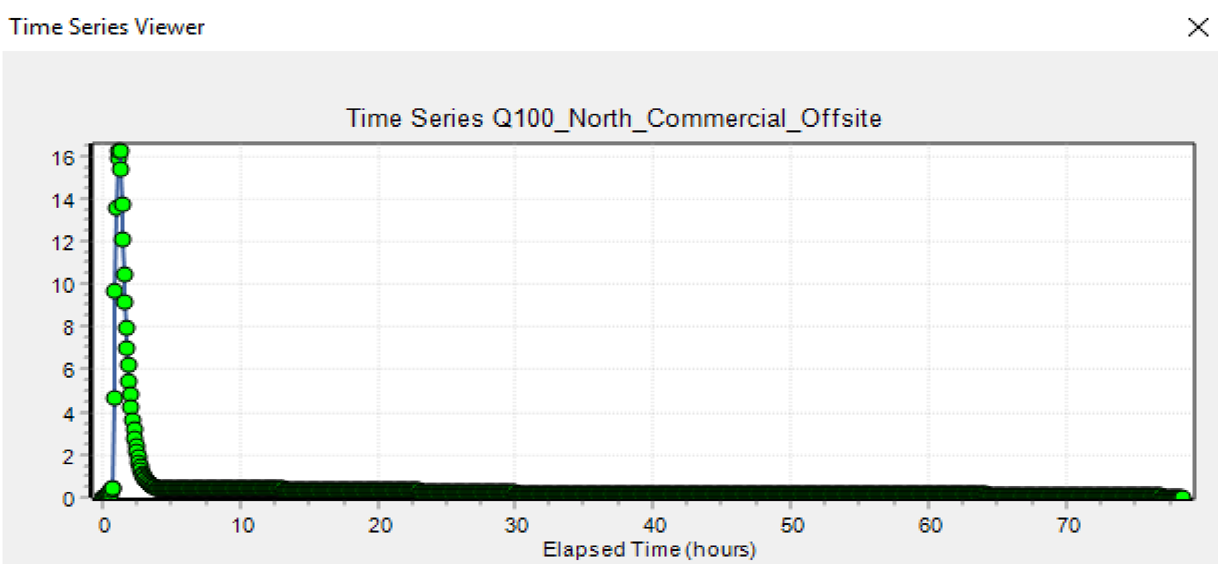
50
60
70
Elapsed Time (hours)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6
4
2
0
0
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20
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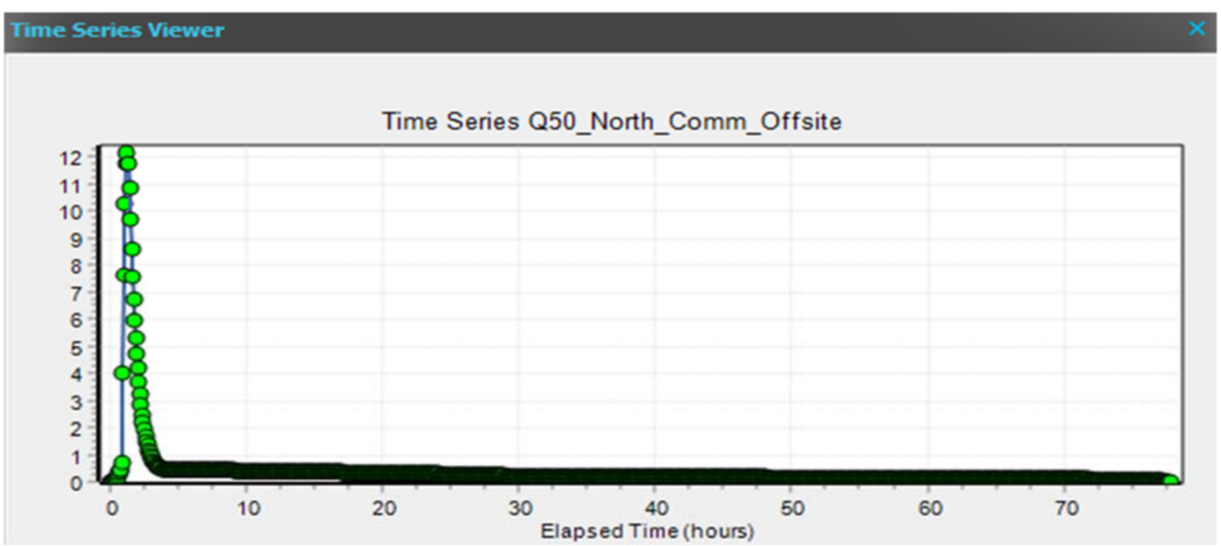
50
60
70
Elapsed Time (hours)


Time Series Viewer
Time Series Q50_North_Comm_Offsite
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11
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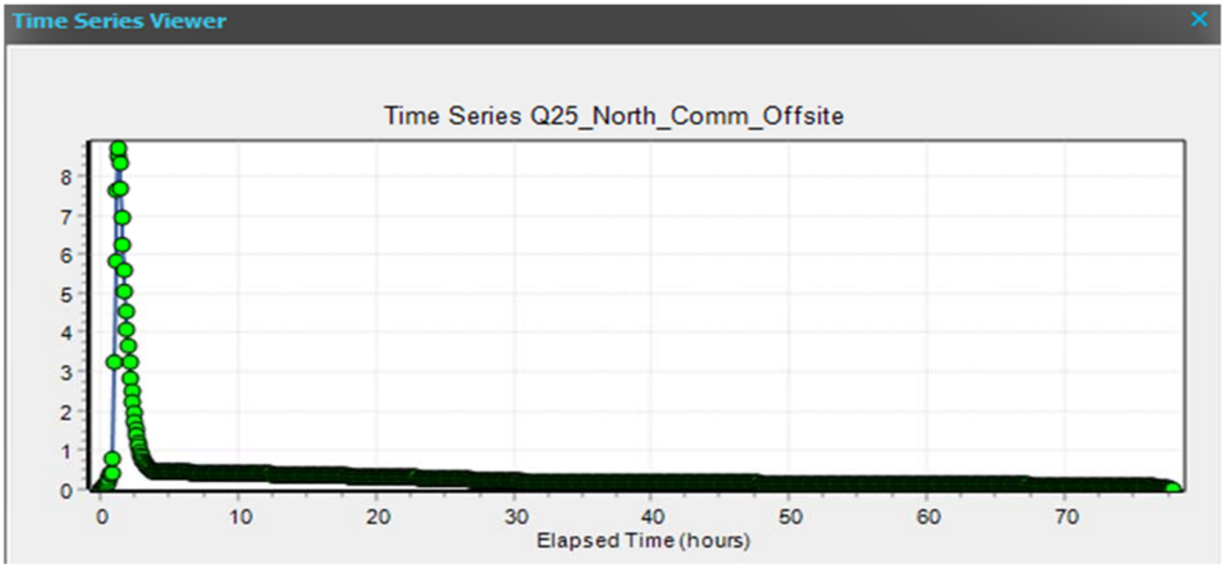
20
30
40
50
60
70
Elapsed Time (hours)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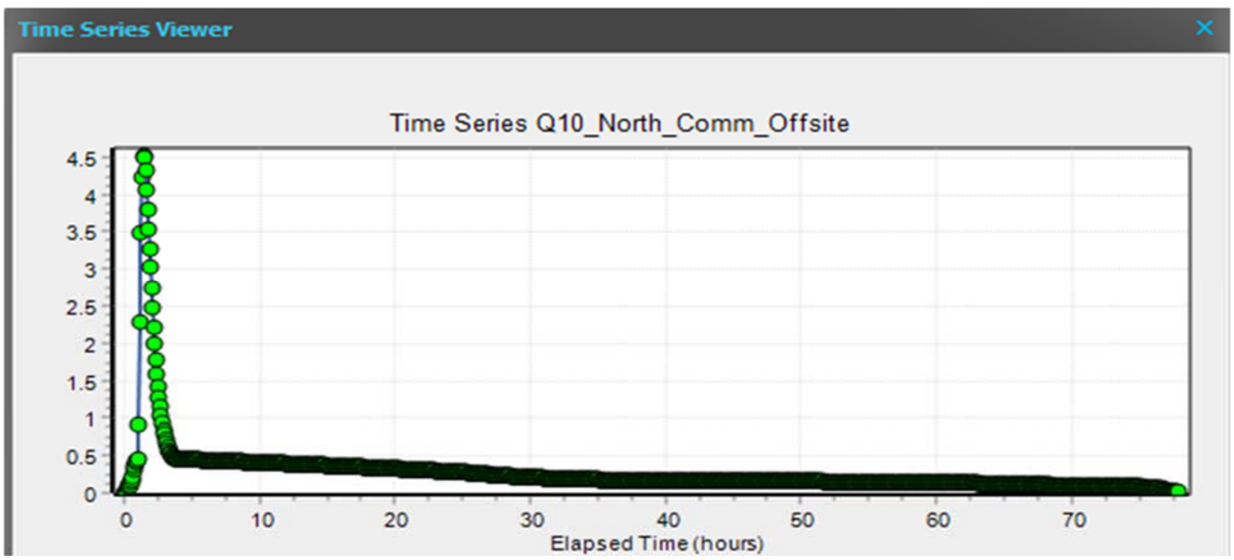
Time Series Q25_North_Comm_Offsite
Elapsed Time (hours)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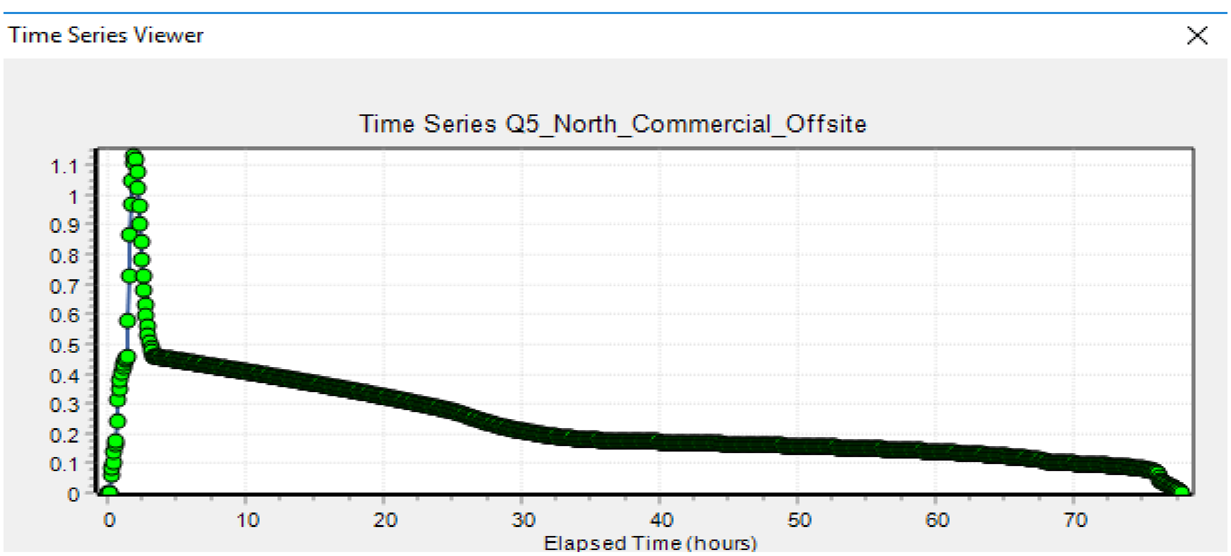
Elapsed Time (hours)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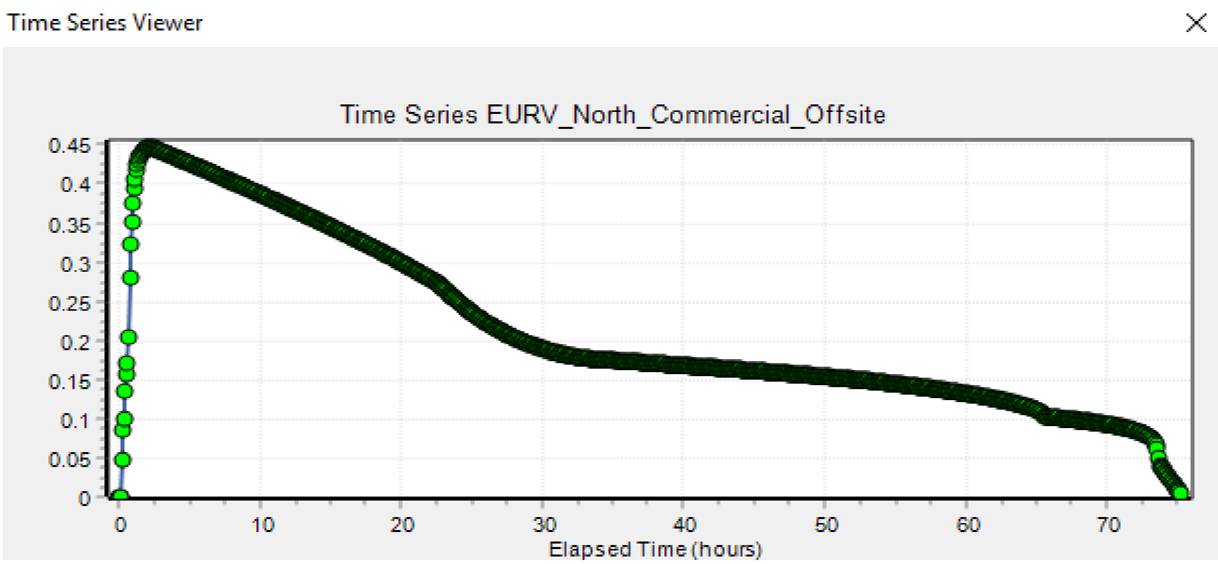
Time Series Q5_North_Commercial_Offsite
Elapsed Time (hours)


Time Series Viewer
Time Series EURV_North_Commercial_Offsite
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0.4
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0.3
0.25
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0.05
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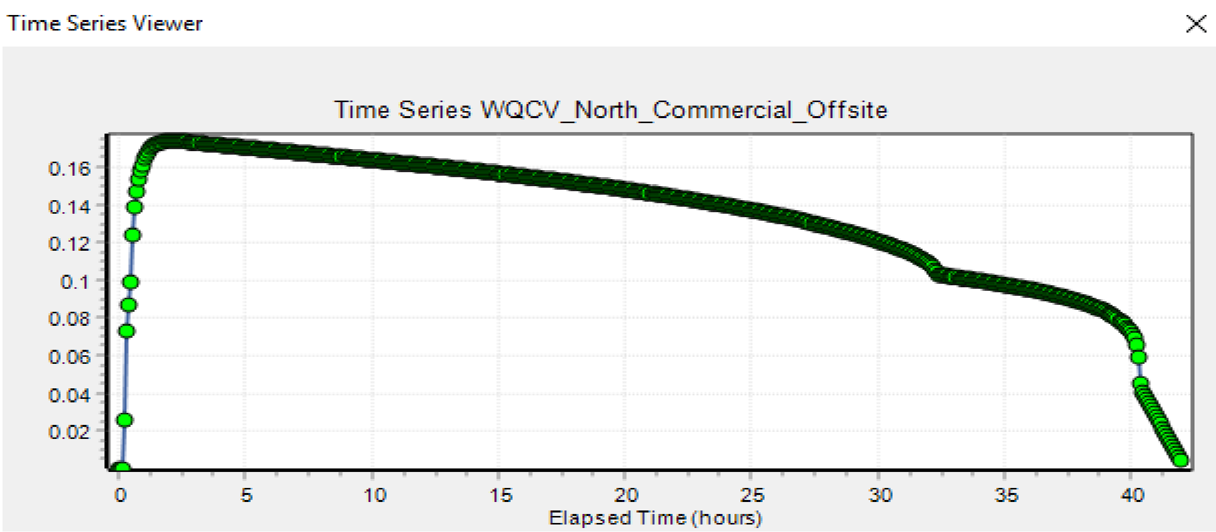
20
30
40
50
60
70
Elapsed Time (hours)


Time Series Viewer
Time Series WQCV_North_Commercial_Offsite
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0.1
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0.06
0.04
0.02
0
5
10
15
20
25
30
35
40
Elapsed Time (hours)

Conduit {STM-JC}.PIPE - 1 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 1 (STM-JC)
Inlet Node	INLET 1-OS (STM-JC)
Outlet Node	MH - 2 (STM-JC)
Description	24" RCP
Tag	
Shape	CIRCULAR
Max. Depth	2
Length	168.396
Roughness	0.013
Inlet Offset	0
Outlet Offset	1
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 2 (STM-JC)

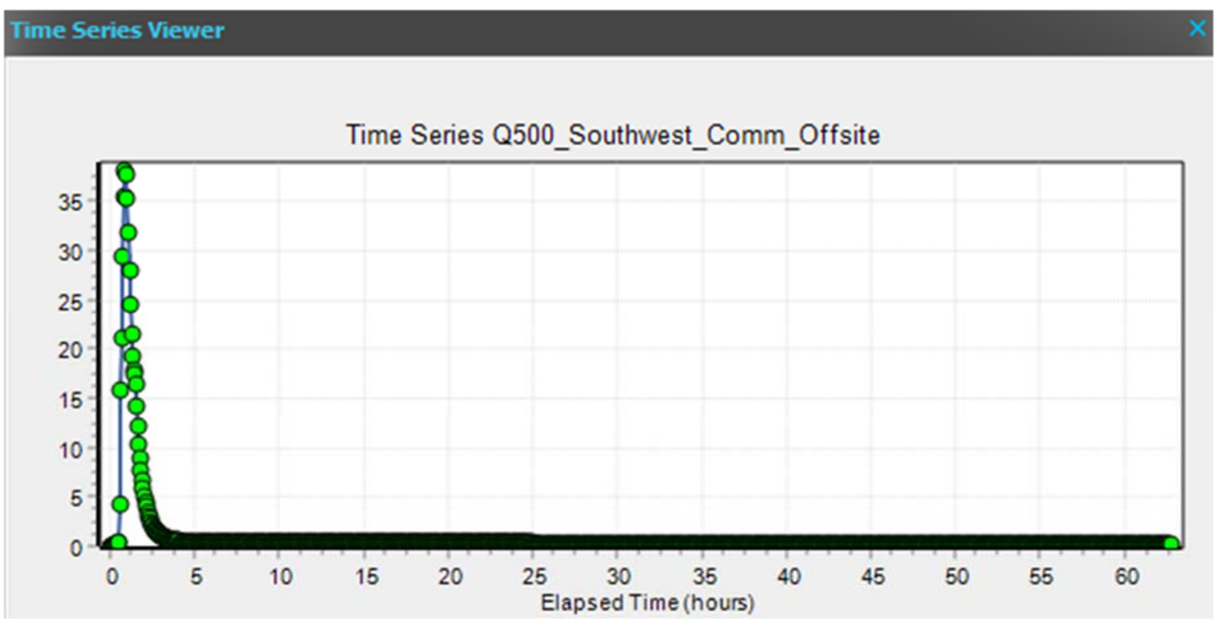
Property	Value
Name	MH - 2 (STM-JC)
X-Coordinate	12568.390
Y-Coordinate	8597.450
Description	4' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5917.588
Max. Depth	7.757
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

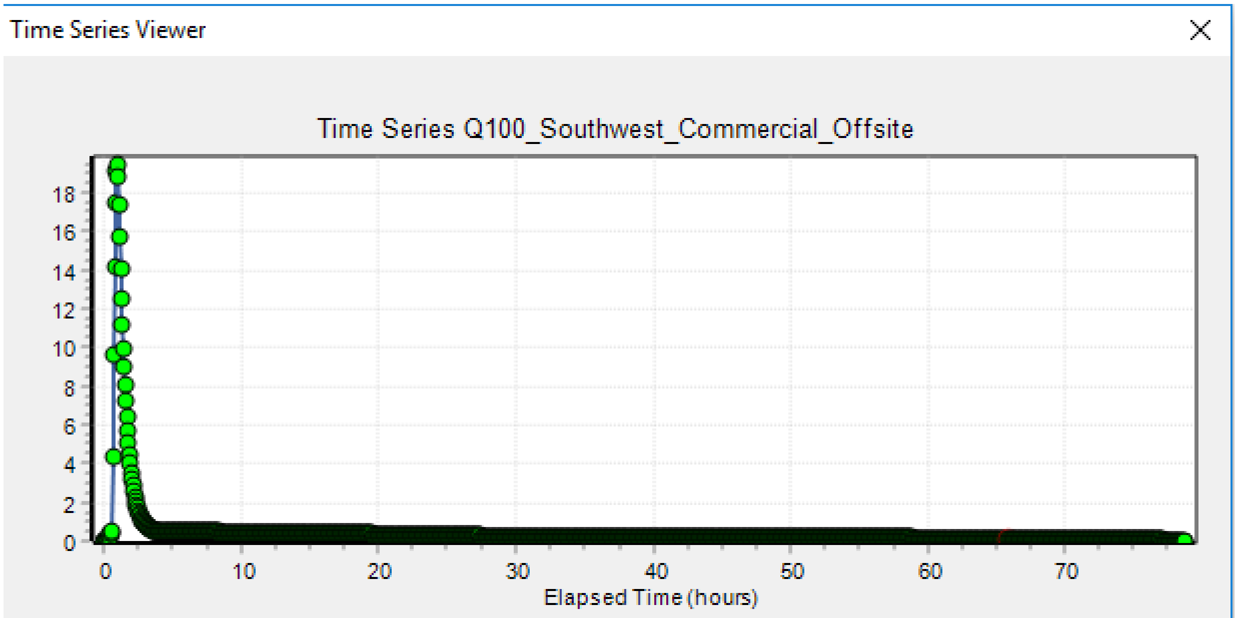
Conduit {STM-JC}.PIPE - 2 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 2 (STM-JC)
Inlet Node	MH - 2 (STM-JC)
Outlet Node	MH - 3 (STM-JC)
Description	24" RCP
Tag	
Shape	CIRCULAR
Max. Depth	2
Length	489.245
Roughness	0.013
Inlet Offset	0
Outlet Offset	1
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction INLET 1-A (STM-JC)

Property	Value
Name	INLET 1-A (STM-JC)
X-Coordinate	12553.954
Y-Coordinate	8123.746
Description	10' SUMP TYPE R INLET
Tag	
Inflows	YES
Treatment	NO
Invert El.	5907.847
Max. Depth	9.122
Initial Depth	0
Surcharge Depth	0
Ponded Area	0




Time Series Viewer
Time Series Q100_Southwest_Commercial_Offsite
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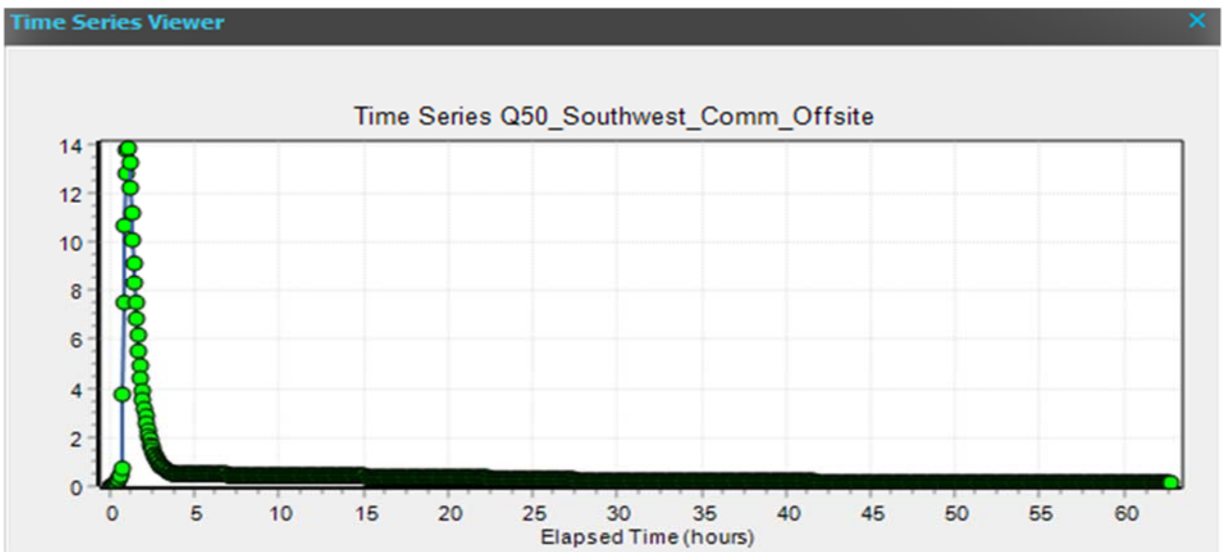
60
70
Elapsed Time (hours)


Time Series Viewer
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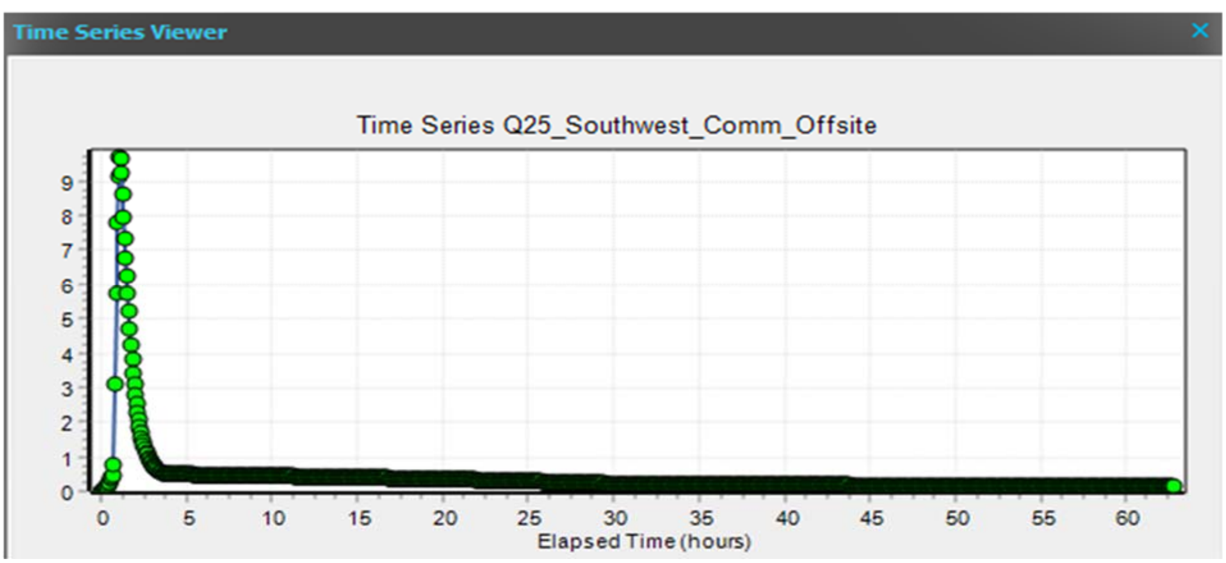
35
40
45
50
55
60
Elapsed Time (hours)


Time Series Viewer
Time Series Q25_Southwest_Comm_Offsite
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1
2
3
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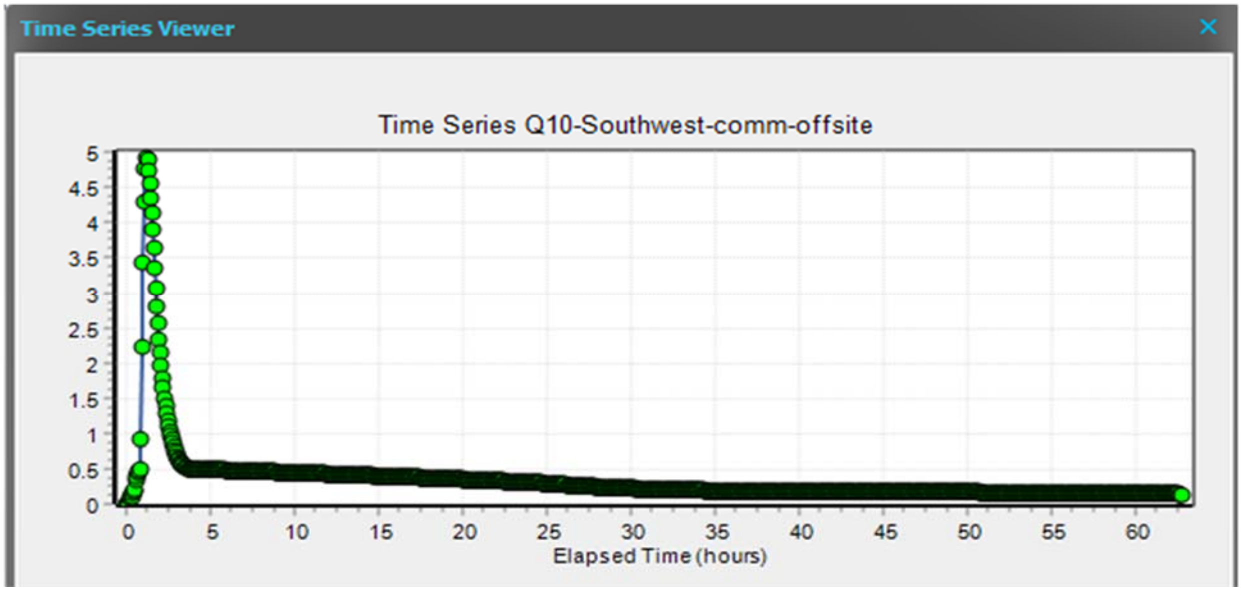
40
45
50
55
60
Elapsed Time (hours)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Time Series Q10-Southwest-comm-offsite
5
4.5
4
3.5
3
2.5
2
1.5
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25
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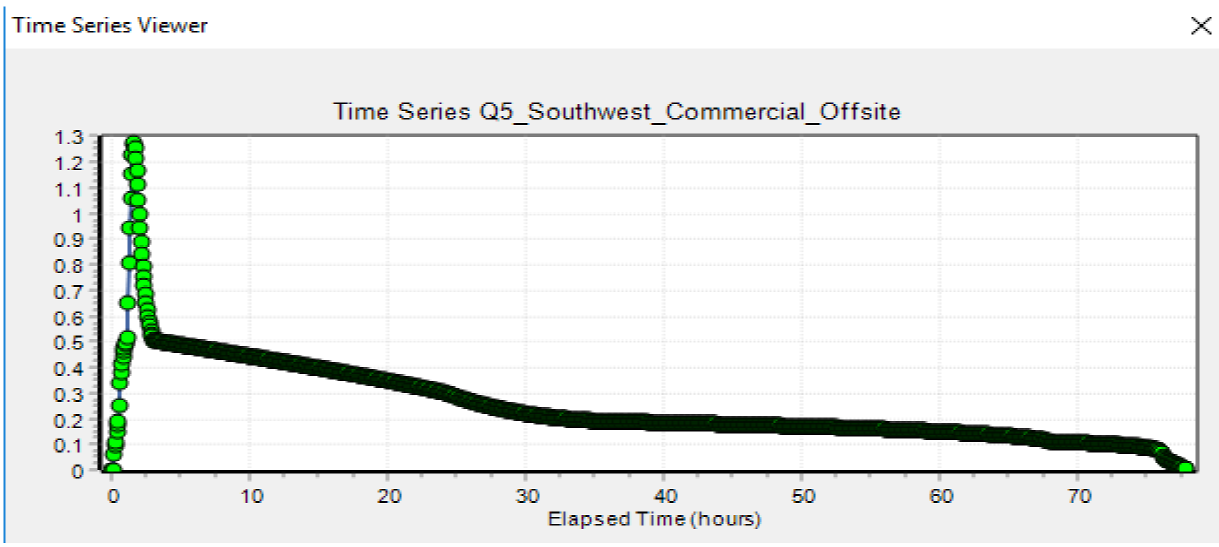
35
40
45
50
55
60
Elapsed Time (hours)


Time Series Viewer
Time Series Q5_Southwest_Commercial_Offsite
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1.2
1.1
1
0.9
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0.7
0.6
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0.2
0.1
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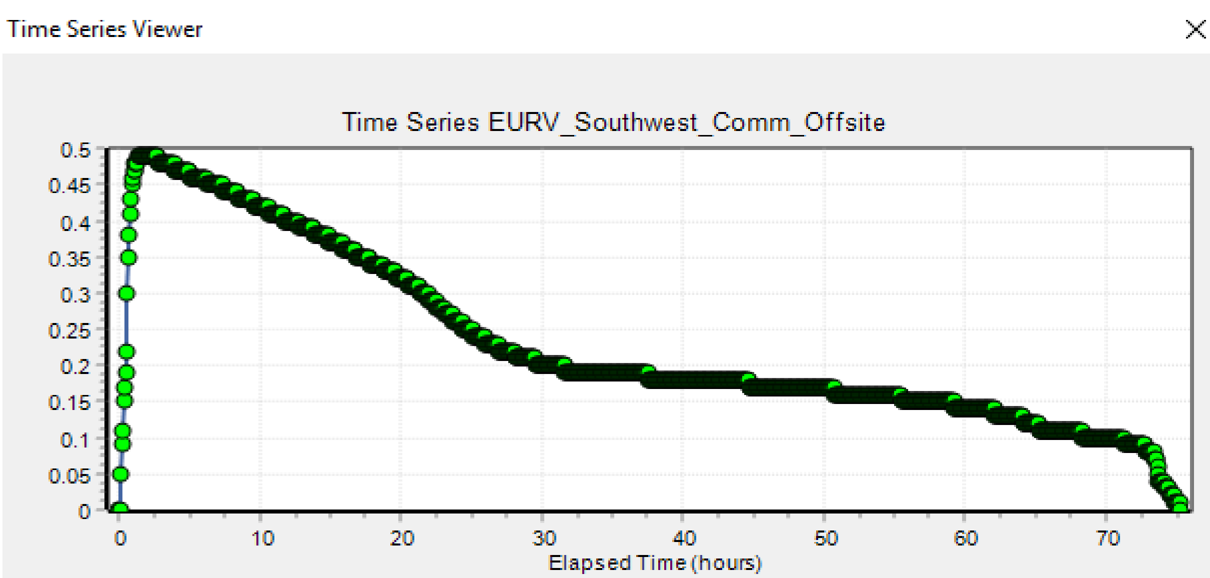
0
10
20
30
40
50
60
70
Elapsed Time (hours)


Time Series Viewer
Time Series EURV_Southwest_Comm_Offsite
0.5
0.45
0.4
0.35
0.3
0.25
0.2
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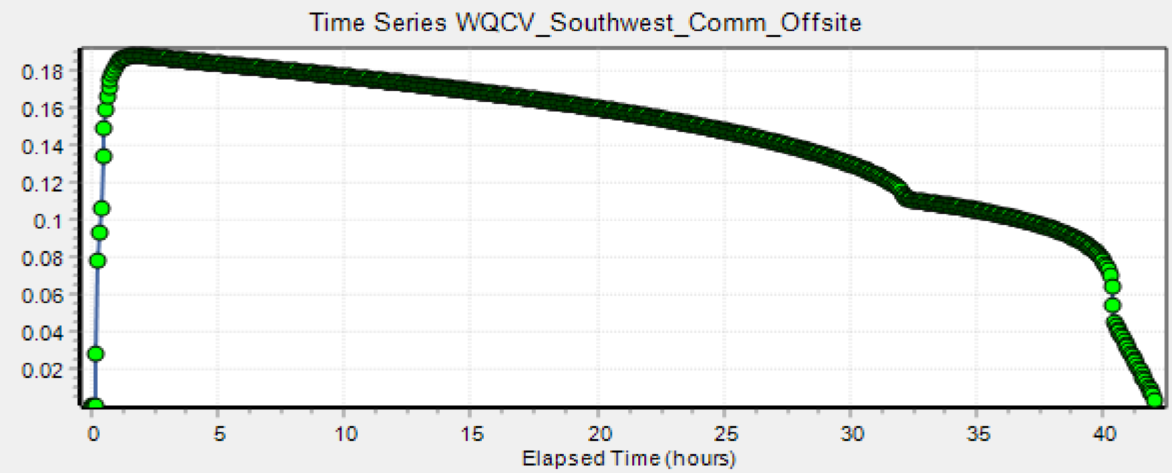
0.05
0
0
10
20
30
40
50
60
70
Elapsed Time (hours)

Time Series Viewer



Conduit {STM-JC}.PIPE - 4 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 4 (STM-JC)
Inlet Node	MH - 4 (STM-JC)
Outlet Node	INLET 1-A (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	33.9
Roughness	0.013
Inlet Offset	0.3
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction INLET 2-A (STM-JC)

Property	Value
Name	INLET 2-A (STM-JC)
X-Coordinate	12568.935
Y-Coordinate	8080.967
Description	5' SUMP TYPE R INLET
Tag	
Inflows	NO
Treatment	NO
Invert El.	5908.15
Max. Depth	8.295
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 45 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 45 (STM-JC)
Inlet Node	MH - 4 (STM-JC)
Outlet Node	INLET 2-A (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	17.669
Roughness	0.013
Inlet Offset	0.8
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 4 (STM-JC)

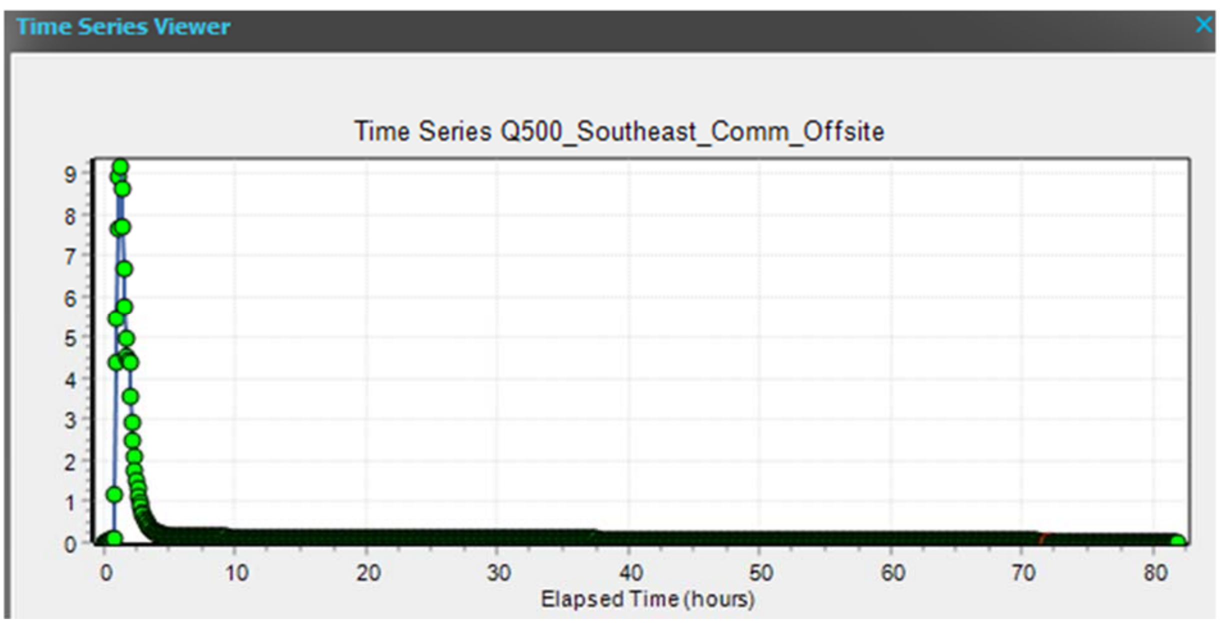
Property	Value
Name	MH - 4 (STM-JC)
X-Coordinate	12572.621
Y-Coordinate	8096.911
Description	4' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5907.208
Max. Depth	9.162
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

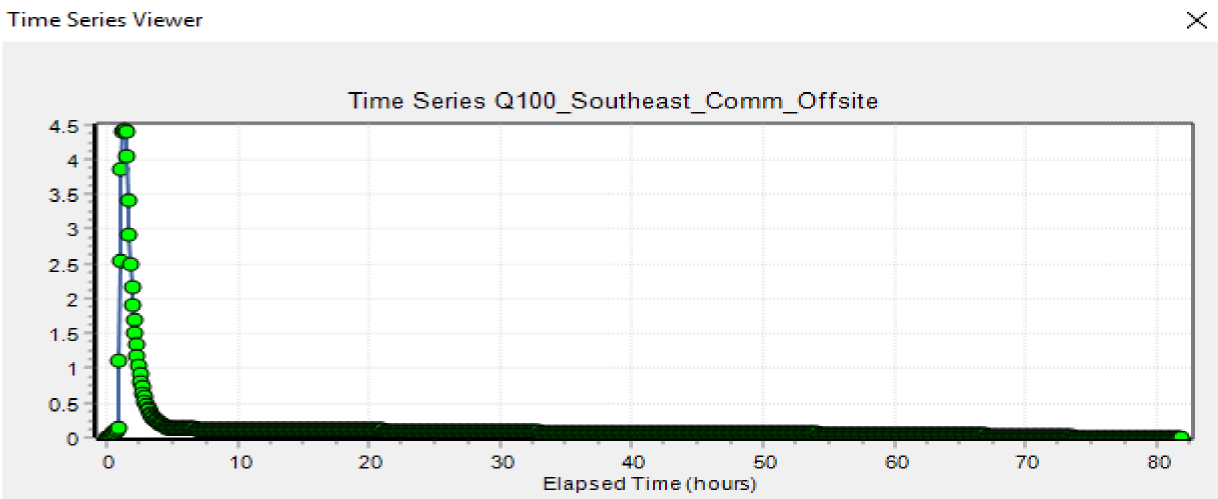
Conduit {STM-JC}.PIPE - 145 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 145 (STM-JC)
Inlet Node	MH - 3 (STM-JC)
Outlet Node	MH - 4 (STM-JC)
Description	24" RCP
Tag	
Shape	CIRCULAR
Max. Depth	2
Length	145.44
Roughness	0.013
Inlet Offset	1
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction INLET 3-A (STM-JC)

Property	Value
Name	INLET 3-A (STM-JC)
X-Coordinate	12888.805
Y-Coordinate	8241.002
Description	15' ON-GRADE TYPE R INLET
Tag	
Inflows	YES
Treatment	NO
Invert El.	5908.087
Max. Depth	5.122
Initial Depth	0
Surcharge Depth	0
Ponded Area	0




Time Series Viewer
Time Series Q100_Southeast_Comm_Offsite
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4
3.5
3
2.5
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1.5
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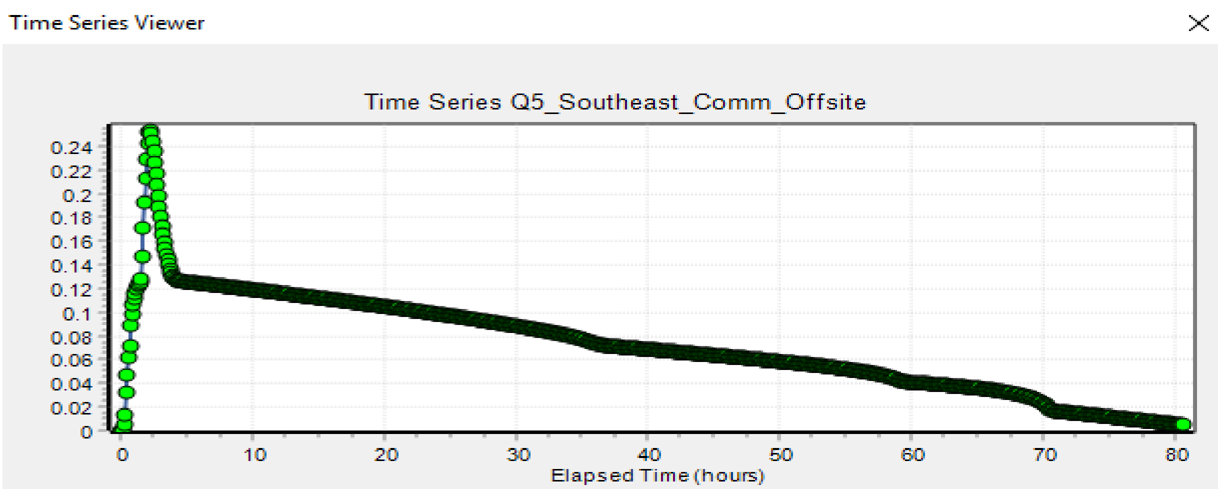
60
70
80
Elapsed Time (hours)


Time Series Viewer
Time Series Q5_Southeast_Comm_Offsite
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0.02
0
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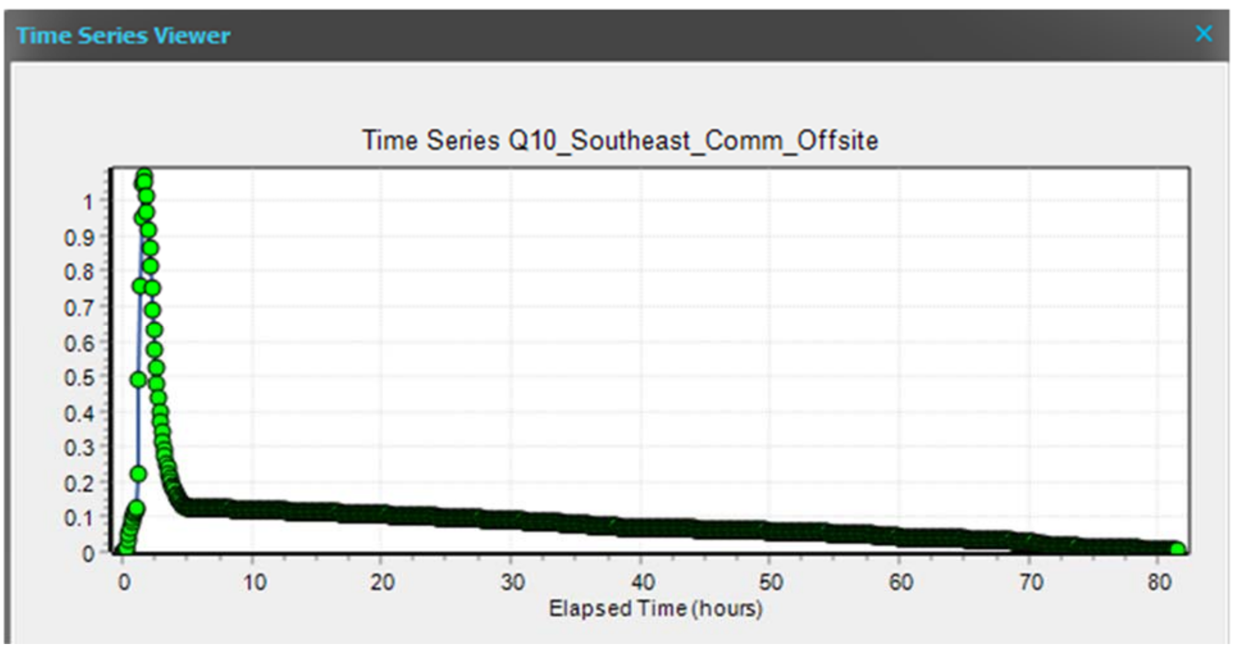
40
50
60
70
80
Elapsed Time (hours)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Time Series Q10_Southeast_Comm_Offsite
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0.9
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0.7
0.6
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0.4
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0.2
0.1
0
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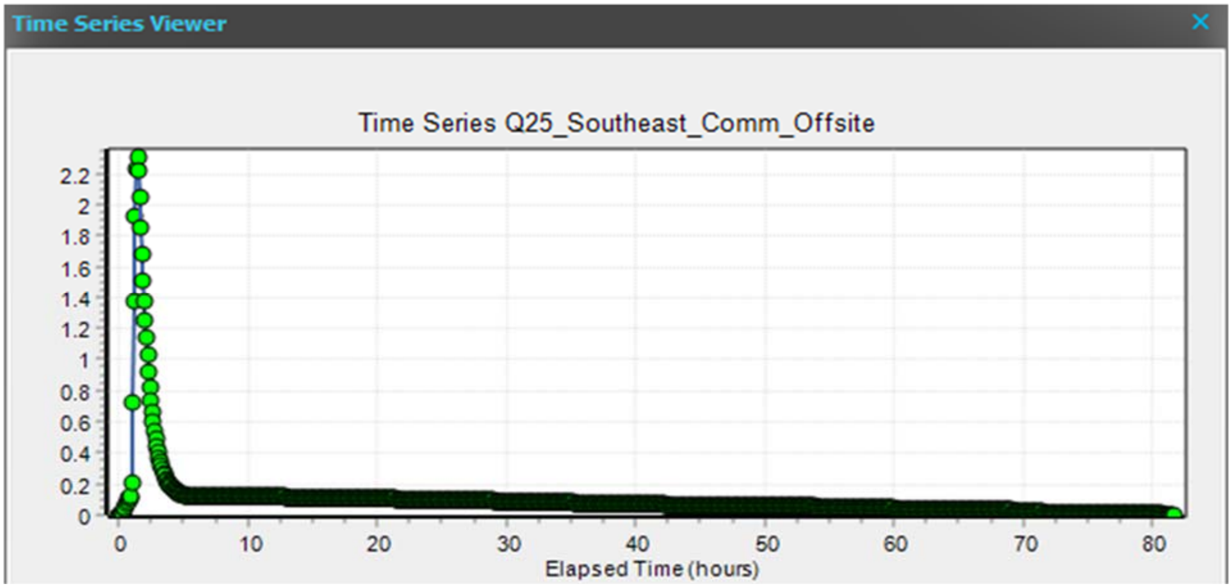
10
20
30
40
50
60
70
80
Elapsed Time (hours)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2.2
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1.8
1.6
1.4
1.2
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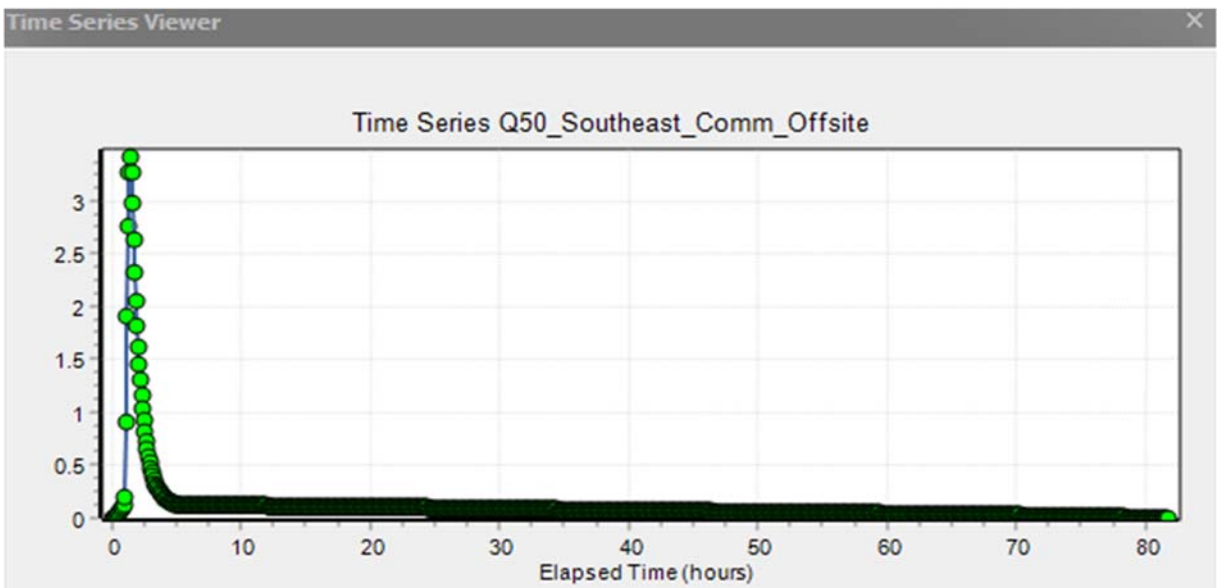
0.4
0.2
0
0
10
20
30
40
50
60
70
80
Elapsed Time (hours)


Time Series Viewer
Time Series Q50_Southeast_Comm_Offsite
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0
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10
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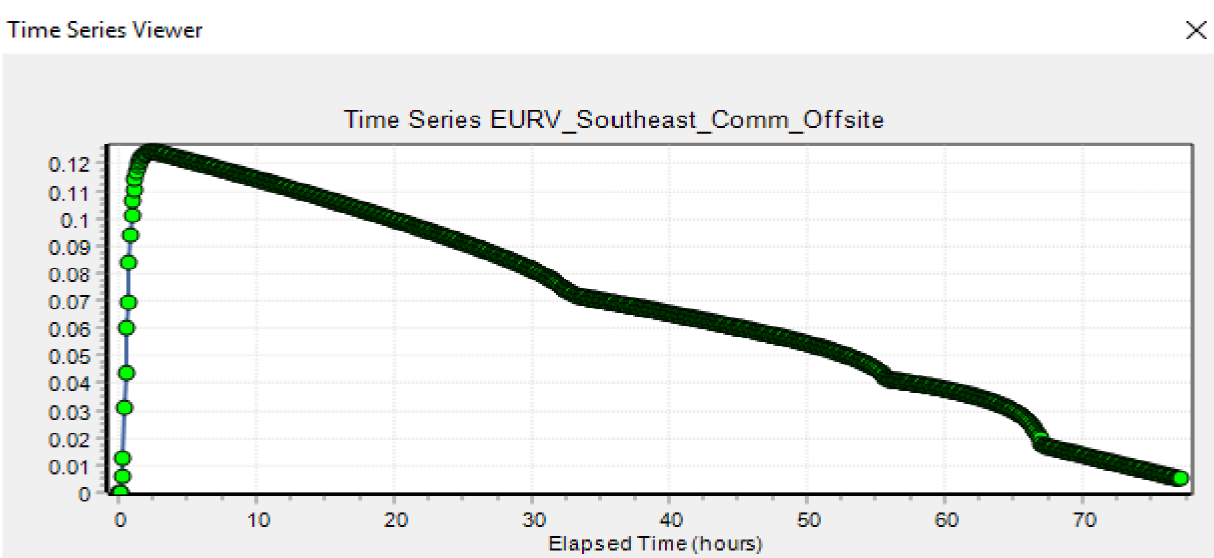
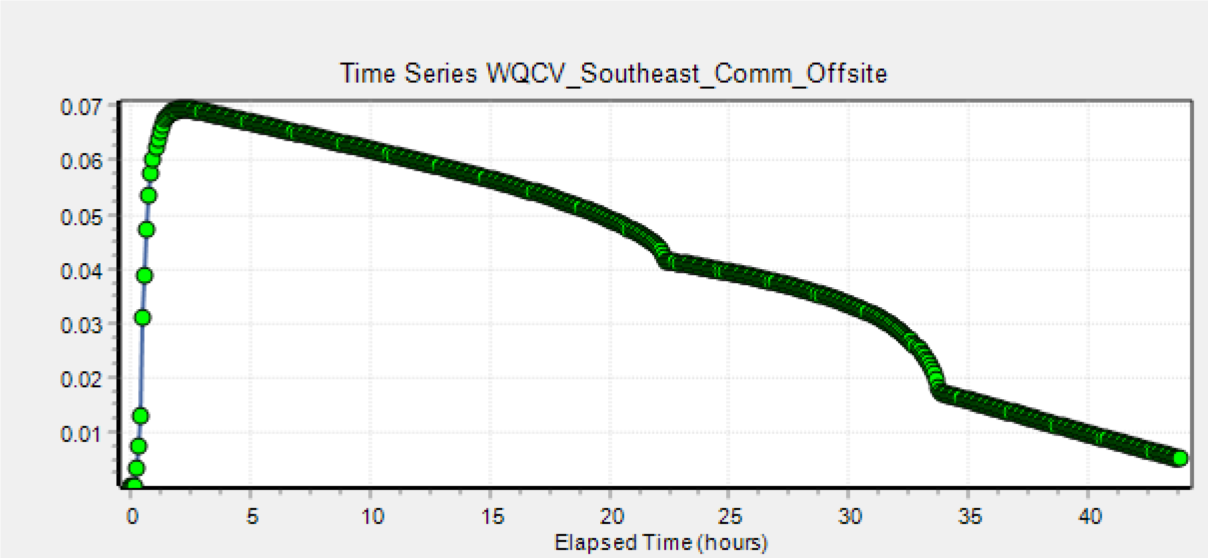
60
70
80
Elapsed Time (hours)


Time Series Viewer
Time Series EURV_Southeast_Comm_Offsite
0.12
0.11
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
0
10
20
30
40
50
60
70
Elapsed Time (hours)

Time Series Viewer



Conduit {STM-JC}.PIPE - 48 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 48 (STM-JC)
Inlet Node	MH - 53 (STM-JC)
Outlet Node	INLET 3-A (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	36.12
Roughness	0.013
Inlet Offset	0.502
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction INLET 4-A (STM-JC)

Property	Value
Name	INLET 4-A (STM-JC)
X-Coordinate	12902.222
Y-Coordinate	8190.250
Description	10' ON-GRADE TYPE R INLET
Tag	
Inflows	NO
Treatment	NO
Invert El.	5907.909
Max. Depth	5.237
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 47 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 47 (STM-JC)
Inlet Node	MH - 53 (STM-JC)
Outlet Node	INLET 4-A (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	17.122
Roughness	0.013
Inlet Offset	0.502
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 53 (STM-JC)

Property	Value
Name	MH - 53 (STM-JC)
X-Coordinate	12898.347
Y-Coordinate	8208.285
Description	4' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5907.236
Max. Depth	5.856
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 46 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 46 (STM-JC)
Inlet Node	MH - 3 (STM-JC)
Outlet Node	MH - 53 (STM-JC)
Description	30" RCP
Tag	
Shape	CIRCULAR
Max. Depth	2.5
Length	210.511
Roughness	0.013
Inlet Offset	1
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 3 (STM-JC)

Property	Value
Name	MH - 3 (STM-JC)
X-Coordinate	12703.756
Y-Coordinate	8145.869
Description	4' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5897.938
Max. Depth	14.76
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 5 (1) (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 5 (1) (STM-JC)
Inlet Node	MH - 3 (STM-JC)
Outlet Node	MH - 108 (STM-JC)
Description	30" RCP
Tag	
Shape	CIRCULAR
Max. Depth	2.5
Length	444.253
Roughness	0.013
Inlet Offset	0
Outlet Offset	0.998
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction INLET 1-B (STM-JC)

Property	Value
Name	INLET 1-B (STM-JC)
X-Coordinate	12806.836
Y-Coordinate	7726.952
Description	10' ON-GRADE TYPE R INLET
Tag	
Inflows	NO
Treatment	NO
Invert El.	5883.75
Max. Depth	16.827
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 137 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 137 (STM-JC)
Inlet Node	MH - 108 (STM-JC)
Outlet Node	INLET 1-B (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	13.139
Roughness	0.013
Inlet Offset	0.998
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 108 (STM-JC)

Property	Value
Name	MH - 108 (STM-JC)
X-Coordinate	12817.540
Y-Coordinate	7729.628
Description	4' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5882.62
Max. Depth	17.792
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 5 (1) (1) (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 5 (1) (1) (STM-JC
Inlet Node	MH - 108 (STM-JC)
Outlet Node	MH - 6 (STM-JC)
Description	30" RCP
Tag	
Shape	CIRCULAR
Max. Depth	2.5
Length	396.917
Roughness	0.013
Inlet Offset	0
Outlet Offset	1.002
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction INLET 2-C (STM-JC)

Property	Value
Name	INLET 2-C (STM-JC)
X-Coordinate	12769.370
Y-Coordinate	7365.674
Description	5' SUMP TYPE R INLET
Tag	
Inflows	NO
Treatment	NO
Invert El.	5879.78
Max. Depth	10.794
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 136 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 136 (STM-JC)
Inlet Node	MH - 128 (STM-JC)
Outlet Node	INLET 2-C (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	29.222
Roughness	0.013
Inlet Offset	0.301
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction INLET 1-C (STM-JC)

Property	Value
Name	INLET 1-C (STM-JC)
X-Coordinate	12733.242
Y-Coordinate	7352.294
Description	10' SUMP TYPE R INLET
Tag	
Inflows	NO
Treatment	NO
Invert El.	5879.55
Max. Depth	10.933
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 135 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 135 (STM-JC)
Inlet Node	MH - 128 (STM-JC)
Outlet Node	INLET 1-C (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	6.163
Roughness	0.013
Inlet Offset	0.301
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 128 (STM-JC)

Property	Value
Name	MH - 128 (STM-JC)
X-Coordinate	12743.947
Y-Coordinate	7356.308
Description	4' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5879.188
Max. Depth	10.956
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 134 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 134 (STM-JC)
Inlet Node	MH - 127 (STM-JC)
Outlet Node	MH - 128 (STM-JC)
Description	24" RCP
Tag	
Shape	CIRCULAR
Max. Depth	2
Length	61.937
Roughness	0.013
Inlet Offset	0.402
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 127 (STM-JC)

Property	Value
Name	MH - 127 (STM-JC)
X-Coordinate	12765.356
Y-Coordinate	7302.785
Description	4' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5878.166
Max. Depth	12.175
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 133 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 133 (STM-JC)
Inlet Node	MH - 7 (STM-JC)
Outlet Node	MH - 127 (STM-JC)
Description	24" RCP
Tag	
Shape	CIRCULAR
Max. Depth	2
Length	124.013
Roughness	0.013
Inlet Offset	0.712
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction INLET 4-C (STM-JC)

Property	Value
Name	INLET 4-C (STM-JC)
X-Coordinate	12881.768
Y-Coordinate	7329.547
Description	10' SUMP TYPE R INLET
Tag	
Inflows	NO
Treatment	NO
Invert El.	5877.342
Max. Depth	9.614
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 49 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 49 (STM-JC)
Inlet Node	MH - 7 (STM-JC)
Outlet Node	INLET 4-C (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	6.161
Roughness	0.013
Inlet Offset	1.004
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction INLET 3-C (STM-JC)

Property	Value
Name	INLET 3-C (STM-JC)
X-Coordinate	12867.049
Y-Coordinate	7365.674
Description	10' SUMP TYPE R INLET
Tag	
Inflows	NO
Treatment	NO
Invert El.	5877.808
Max. Depth	9.8
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 7 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 7 (STM-JC)
Inlet Node	MH - 7 (STM-JC)
Outlet Node	INLET 3-C (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	29.498
Roughness	0.013
Inlet Offset	1.004
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 7 (STM-JC)

Property	Value
Name	MH - 7 (STM-JC)
X-Coordinate	12877.753
Y-Coordinate	7338.913
Description	4' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5876.214
Max. Depth	10.625
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 6 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 6 (STM-JC)
Inlet Node	MH - 6 (STM-JC)
Outlet Node	MH - 7 (STM-JC)
Description	30" RCP
Tag	
Shape	CIRCULAR
Max. Depth	2.5
Length	50.17
Roughness	0.013
Inlet Offset	1.002
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction INLET 7-C (STM-JC)

Property	Value
Name	INLET 7-C (STM-JC)
X-Coordinate	13178.818
Y-Coordinate	7482.086
Description	5' SUMP TYPE R INLET
Tag	
Inflows	NO
Treatment	NO
Invert El.	5881.64
Max. Depth	4.664
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 52 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 52 (STM-JC)
Inlet Node	MH - 58 (STM-JC)
Outlet Node	INLET 7-C (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	29.155
Roughness	0.013
Inlet Offset	0.3
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction INLET 8-C (STM-JC)

Property	Value
Name	INLET 8-C (STM-JC)
X-Coordinate	13192.199
Y-Coordinate	7449.973
Description	5' SUMP TYPE R INLET
Tag	
Inflows	NO
Treatment	NO
Invert El.	5881.41
Max. Depth	4.894
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 53 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 53 (STM-JC)
Inlet Node	MH - 58 (STM-JC)
Outlet Node	INLET 8-C (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	6.147
Roughness	0.013
Inlet Offset	0.3
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 58 (STM-JC)

Property	Value
Name	MH - 58 (STM-JC)
X-Coordinate	13189.523
Y-Coordinate	7458.001
Description	4' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5881.048
Max. Depth	4.919
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 51 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 51 (STM-JC)
Inlet Node	MH - 57 (STM-JC)
Outlet Node	MH - 58 (STM-JC)
Description	24" RCP
Tag	
Shape	CIRCULAR
Max. Depth	2
Length	193.788
Roughness	0.013
Inlet Offset	1.004
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction INLET 5-C (STM-JC)

Property	Value
Name	INLET 5-C (STM-JC)
X-Coordinate	13002.194
Y-Coordinate	7417.859
Description	10' SUMP TYPE R INLET
Tag	
Inflows	NO
Treatment	NO
Invert El.	5879.341
Max. Depth	7.323
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 54 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 54 (STM-JC)
Inlet Node	MH - 57 (STM-JC)
Outlet Node	INLET 5-C (STM-JC)
Description	24" RCP
Tag	
Shape	CIRCULAR
Max. Depth	2
Length	29.159
Roughness	0.013
Inlet Offset	1.004
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction INLET 6-C (STM-JC)

Property	Value
Name	INLET 6-C (STM-JC)
X-Coordinate	13019.588
Y-Coordinate	7380.393
Description	5' SUMP TYPE R INLET
Tag	
Inflows	NO
Treatment	NO
Invert El.	5878.881
Max. Depth	7.783
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 85 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 85 (STM-JC)
Inlet Node	MH - 57 (STM-JC)
Outlet Node	INLET 6-C (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	6.158
Roughness	0.013
Inlet Offset	1.004
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 57 (STM-JC)

Property	Value
Name	MH - 57 (STM-JC)
X-Coordinate	13014.236
Y-Coordinate	7392.436
Description	4' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5877.755
Max. Depth	8.574
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 50 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 50 (STM-JC)
Inlet Node	MH - 6 (STM-JC)
Outlet Node	MH - 57 (STM-JC)
Description	30" RCP
Tag	
Shape	CIRCULAR
Max. Depth	2.5
Length	101.457
Roughness	0.013
Inlet Offset	1.002
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 6 (STM-JC)

Property	Value
Name	MH - 6 (STM-JC)
X-Coordinate	12919.233
Y-Coordinate	7360.322
Description	5' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5869.716
Max. Depth	16.932
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 105 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 105 (STM-JC)
Inlet Node	MH - 6 (STM-JC)
Outlet Node	MH - 118 (STM-JC)
Description	42" RCP
Tag	
Shape	CIRCULAR
Max. Depth	3.5
Length	201.728
Roughness	0.013
Inlet Offset	0
Outlet Offset	0.999
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 118 (STM-JC)

Property	Value
Name	MH - 118 (STM-JC)
X-Coordinate	13010.222
Y-Coordinate	7183.697
Description	5' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5864.179
Max. Depth	15.461
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 105 (1) (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 105 (1) (STM-JC)
Inlet Node	MH - 118 (STM-JC)
Outlet Node	MH - 100 (STM-JC)
Description	42" RCP
Tag	
Shape	CIRCULAR
Max. Depth	3.5
Length	193.416
Roughness	0.013
Inlet Offset	0
Outlet Offset	1.004
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 100 (STM-JC)

Property	Value
Name	MH - 100 (STM-JC)
X-Coordinate	13141.352
Y-Coordinate	7041.862
Description	5' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5858.825
Max. Depth	13.275
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 119 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 119 (STM-JC)
Inlet Node	MH - 100 (STM-JC)
Outlet Node	MH - 117 (STM-JC)
Description	42" RCP
Tag	
Shape	CIRCULAR
Max. Depth	3.5
Length	184.777
Roughness	0.013
Inlet Offset	0
Outlet Offset	1
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction INLET 1-D (STM-JC)

Property	Value
Name	INLET 1-D (STM-JC)
X-Coordinate	13277.835
Y-Coordinate	6934.817
Description	15' ON-GRADE TYPE R INLET
Tag	
Inflows	NO
Treatment	NO
Invert El.	5855.312
Max. Depth	9.766
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 138 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 138 (STM-JC)
Inlet Node	MH - 117 (STM-JC)
Outlet Node	INLET 1-D (STM-JC)
Description	24" RCP
Tag	
Shape	CIRCULAR
Max. Depth	2
Length	14.415
Roughness	0.013
Inlet Offset	1.5
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 117 (STM-JC)

Property	Value
Name	MH - 117 (STM-JC)
X-Coordinate	13285.864
Y-Coordinate	6946.860
Description	5' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5853.668
Max. Depth	11.172
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 119 (1) (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 119 (1) (STM-JC)
Inlet Node	MH - 117 (STM-JC)
Outlet Node	MH - 14 (STM-JC)
Description	42" RCP
Tag	
Shape	CIRCULAR
Max. Depth	3.5
Length	169.747
Roughness	0.013
Inlet Offset	0
Outlet Offset	0.999
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 14 (STM-JC)

Property	Value
Name	MH - 14 (STM-JC)
X-Coordinate	13435.727
Y-Coordinate	6879.956
Description	5' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5847.409
Max. Depth	11.027
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 14 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 14 (STM-JC)
Inlet Node	MH - 14 (STM-JC)
Outlet Node	MH - 15 (STM-JC)
Description	42" RCP
Tag	
Shape	CIRCULAR
Max. Depth	3.5
Length	172.526
Roughness	0.013
Inlet Offset	0
Outlet Offset	1.097
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction INLET 1-E (STM-JC)

Property	Value
Name	INLET 1-E (STM-JC)
X-Coordinate	13343.400
Y-Coordinate	6764.883
Description	10' SUMP TYPE R INLET
Tag	
Inflows	NO
Treatment	NO
Invert El.	5848.651
Max. Depth	6.412
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 16 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 16 (STM-JC)
Inlet Node	MH - 16 (STM-JC)
Outlet Node	INLET 1-E (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	28.129
Roughness	0.013
Inlet Offset	0
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction INLET 2-E (STM-JC)

Property	Value
Name	INLET 2-E (STM-JC)
X-Coordinate	13335.372
Y-Coordinate	6730.093
Description	10' SUMP TYPE R INLET
Tag	
Inflows	NO
Treatment	NO
Invert El.	5848.226
Max. Depth	7.213
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 56 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 56 (STM-JC)
Inlet Node	MH - 16 (STM-JC)
Outlet Node	INLET 2-E (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	6.882
Roughness	0.013
Inlet Offset	0
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 16 (STM-JC)

Property	Value
Name	MH - 16 (STM-JC)
X-Coordinate	13338.048
Y-Coordinate	6739.459
Description	5' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5848.088
Max. Depth	8.023
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 15 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 15 (STM-JC)
Inlet Node	MH - 15 (STM-JC)
Outlet Node	MH - 16 (STM-JC)
Description	30" RCP
Tag	
Shape	CIRCULAR
Max. Depth	2.5
Length	68.472
Roughness	0.013
Inlet Offset	1.597
Outlet Offset	0.298
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 15 (STM-JC)

Property	Value
Name	MH - 15 (STM-JC)
X-Coordinate	13399.599
Y-Coordinate	6718.050
Description	5' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5842.432
Max. Depth	13.618
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 126 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 126 (STM-JC)
Inlet Node	MH - 15 (STM-JC)
Outlet Node	MH - 122 (STM-JC)
Description	48" RCP
Tag	
Shape	CIRCULAR
Max. Depth	4
Length	226.663
Roughness	0.013
Inlet Offset	0.096
Outlet Offset	0.996
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 122 (STM-JC)

Property	Value
Name	MH - 122 (STM-JC)
X-Coordinate	13380.866
Y-Coordinate	6498.607
Description	5' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5837.453
Max. Depth	16.369
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 126 (1) (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 126 (1) (STM-JC)
Inlet Node	MH - 122 (STM-JC)
Outlet Node	MH - 125 (STM-JC)
Description	48" RCP
Tag	
Shape	CIRCULAR
Max. Depth	4
Length	129.151
Roughness	0.013
Inlet Offset	0
Outlet Offset	1.001
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 125 (STM-JC)

Property	Value
Name	MH - 125 (STM-JC)
X-Coordinate	13403.613
Y-Coordinate	6380.858
Description	5' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5834.127
Max. Depth	18.458
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 126 (1) (1) (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 126 (1) (1) (STM-
Inlet Node	MH - 125 (STM-JC)
Outlet Node	MH - 101 (STM-JC)
Description	48" RCP
Tag	
Shape	CIRCULAR
Max. Depth	4
Length	114.955
Roughness	0.013
Inlet Offset	0
Outlet Offset	0.996
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 101 (STM-JC)

Property	Value
Name	MH - 101 (STM-JC)
X-Coordinate	13449.108
Y-Coordinate	6273.812
Description	5' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5831.063
Max. Depth	18.469
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 127 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 127 (STM-JC)
Inlet Node	MH - 101 (STM-JC)
Outlet Node	MH - 126 (STM-JC)
Description	48" RCP
Tag	
Shape	CIRCULAR
Max. Depth	4
Length	108.963
Roughness	0.013
Inlet Offset	0
Outlet Offset	1
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 126 (STM-JC)

Property	Value
Name	MH - 126 (STM-JC)
X-Coordinate	13493.264
Y-Coordinate	6176.134
Description	5' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5827.449
Max. Depth	17.769
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 127 (1) (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 127 (1) (STM-JC)
Inlet Node	MH - 126 (STM-JC)
Outlet Node	MH - 20 (STM-JC)
Description	48" RCP
Tag	
Shape	CIRCULAR
Max. Depth	4
Length	102.963
Roughness	0.013
Inlet Offset	0
Outlet Offset	1.003
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction INLET 2-F (STM-JC)

Property	Value
Name	INLET 2-F (STM-JC)
X-Coordinate	12883.106
Y-Coordinate	6479.875
Description	5' ON-GRADE TYPE R INLET
Tag	
Inflows	NO
Treatment	NO
Invert El.	5871.648
Max. Depth	5.77
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 140 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 140 (STM-JC)
Inlet Node	MH - 134 (STM-JC)
Outlet Node	INLET 2-F (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	29.001
Roughness	0.013
Inlet Offset	0.299
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction INLET 1-F (STM-JC)

Property	Value
Name	INLET 1-F (STM-JC)
X-Coordinate	12846.978
Y-Coordinate	6482.551
Description	5' ON-GRADE TYPE R INLET
Tag	
Inflows	NO
Treatment	NO
Invert El.	5871.418
Max. Depth	6
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 141 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 141 (STM-JC)
Inlet Node	MH - 134 (STM-JC)
Outlet Node	INLET 1-F (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	6
Roughness	0.013
Inlet Offset	0.299
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 134 (STM-JC)

Property	Value
Name	MH - 134 (STM-JC)
X-Coordinate	12857.682
Y-Coordinate	6481.213
Description	4' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5871.06
Max. Depth	6.025
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 139 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 139 (STM-JC)
Inlet Node	MH - 133 (STM-JC)
Outlet Node	MH - 134 (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	318.914
Roughness	0.013
Inlet Offset	0
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction INLET 3-F (STM-JC)

Property	Value
Name	INLET 3-F (STM-JC)
X-Coordinate	12769.370
Y-Coordinate	6192.190
Description	10' ON-GRADE TYPE R INLET
Tag	
Inflows	NO
Treatment	NO
Invert El.	5868.251
Max. Depth	6.916
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 62 (1) (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 62 (1) (STM-JC)
Inlet Node	MH - 133 (STM-JC)
Outlet Node	INLET 3-F (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	6.002
Roughness	0.013
Inlet Offset	0.2
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 133 (STM-JC)

Property	Value
Name	MH - 133 (STM-JC)
X-Coordinate	12780.075
Y-Coordinate	6184.162
Description	4' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5867.871
Max. Depth	6.963
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 62 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 62 (STM-JC)
Inlet Node	INLET 4-F (STM-JC)
Outlet Node	MH - 133 (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	28.423
Roughness	0.013
Inlet Offset	1.004
Outlet Offset	0.2
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction INLET 4-F (STM-JC)

Property	Value
Name	INLET 4-F (STM-JC)
X-Coordinate	12801.484
Y-Coordinate	6173.457
Description	10' ON-GRADE TYPE R INLET
Tag	
Inflows	NO
Treatment	NO
Invert El.	5866.214
Max. Depth	8.774
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 61 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 61 (STM-JC)
Inlet Node	INLET 5-F (STM-JC)
Outlet Node	INLET 4-F (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	237.622
Roughness	0.013
Inlet Offset	0.997
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction INLET 5-F (STM-JC)

Property	Value
Name	INLET 5-F (STM-JC)
X-Coordinate	13006.208
Y-Coordinate	6069.088
Description	10' ON-GRADE TYPE R INLET
Tag	
Inflows	NO
Treatment	NO
Invert El.	5855.601
Max. Depth	7.79
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 60 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 60 (STM-JC)
Inlet Node	INLET 6-F (STM-JC)
Outlet Node	INLET 5-F (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	33.702
Roughness	0.013
Inlet Offset	0.998
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction INLET 6-F (STM-JC)

Property	Value
Name	INLET 6-F (STM-JC)
X-Coordinate	13038.321
Y-Coordinate	6054.369
Description	10' ON-GRADE TYPE R INLET
Tag	
Inflows	NO
Treatment	NO
Invert El.	5852.92
Max. Depth	10.48
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 59 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 59 (STM-JC)
Inlet Node	MH - 65 (STM-JC)
Outlet Node	INLET 6-F (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	140.953
Roughness	0.013
Inlet Offset	1.003
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 65 (STM-JC)

Property	Value
Name	MH - 65 (STM-JC)
X-Coordinate	13156.071
Y-Coordinate	5986.128
Description	4' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5844.878
Max. Depth	5.515
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 58 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 58 (STM-JC)
Inlet Node	MH - 64 (STM-JC)
Outlet Node	MH - 65 (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	82.357
Roughness	0.013
Inlet Offset	0.997
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 64 (STM-JC)

Property	Value
Name	MH - 64 (STM-JC)
X-Coordinate	13235.017
Y-Coordinate	5980.776
Description	4' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5841.171
Max. Depth	7.066
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 57 (1) (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 57 (1) (STM-JC)
Inlet Node	MH - 94 (STM-JC)
Outlet Node	MH - 64 (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	56.402
Roughness	0.013
Inlet Offset	1.001
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 94 (STM-JC)

Property	Value
Name	MH - 94 (STM-JC)
X-Coordinate	13284.526
Y-Coordinate	5959.367
Description	4' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5838.197
Max. Depth	9.462
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 57 (2) (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 57 (2) (STM-JC)
Inlet Node	MH - 119 (STM-JC)
Outlet Node	MH - 94 (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	82.306
Roughness	0.013
Inlet Offset	1
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 119 (STM-JC)

Property	Value
Name	MH - 119 (STM-JC)
X-Coordinate	13358.119
Y-Coordinate	5996.833
Description	4' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5834.318
Max. Depth	11.541
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 57 (3) (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 57 (3) (STM-JC)
Inlet Node	MH - 124 (STM-JC)
Outlet Node	MH - 119 (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	90.042
Roughness	0.013
Inlet Offset	0.997
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 124 (STM-JC)

Property	Value
Name	MH - 124 (STM-JC)
X-Coordinate	13437.065
Y-Coordinate	6035.637
Description	4' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5830.171
Max. Depth	12.988
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 57 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 57 (STM-JC)
Inlet Node	MH - 21 (STM-JC)
Outlet Node	MH - 124 (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	80.418
Roughness	0.013
Inlet Offset	0.995
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction INLET 7-F (STM-JC)

Property	Value
Name	INLET 7-F (STM-JC)
X-Coordinate	13491.926
Y-Coordinate	6091.835
Description	10' SUMP TYPE R INLET
Tag	
Inflows	NO
Treatment	NO
Invert El.	5827.643
Max. Depth	13.713
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 21 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 21 (STM-JC)
Inlet Node	MH - 21 (STM-JC)
Outlet Node	INLET 7-F (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	28.431
Roughness	0.013
Inlet Offset	0.995
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction INLET 8-F (STM-JC)

Property	Value
Name	INLET 8-F (STM-JC)
X-Coordinate	13510.659
Y-Coordinate	6058.384
Description	5' SUMP TYPE R INLET
Tag	
Inflows	NO
Treatment	NO
Invert El.	5827.413
Max. Depth	13.812
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 84 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 84 (STM-JC)
Inlet Node	MH - 21 (STM-JC)
Outlet Node	INLET 8-F (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	5.417
Roughness	0.013
Inlet Offset	0.995
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 21 (STM-JC)

Property	Value
Name	MH - 21 (STM-JC)
X-Coordinate	13502.630
Y-Coordinate	6071.764
Description	4' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5826.363
Max. Depth	14.884
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 20 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 20 (STM-JC)
Inlet Node	MH - 20 (STM-JC)
Outlet Node	MH - 21 (STM-JC)
Description	30" RCP
Tag	
Shape	CIRCULAR
Max. Depth	2.5
Length	39.591
Roughness	0.013
Inlet Offset	1.003
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 20 (STM-JC)

Property	Value
Name	MH - 20 (STM-JC)
X-Coordinate	13537.420
Y-Coordinate	6087.821
Description	5' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5823.976
Max. Depth	17.99
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 86 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 86 (STM-JC)
Inlet Node	INLET 1-G (STM-JC)
Outlet Node	MH - 20 (STM-JC)
Description	48" RCP
Tag	
Shape	CIRCULAR
Max. Depth	4
Length	30.225
Roughness	0.013
Inlet Offset	0.998
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction INLET 1-G (STM-JC)

Property	Value
Name	INLET 1-G (STM-JC)
X-Coordinate	13556.153
Y-Coordinate	6093.173
Description	10' ON-GRADE TYPE R INLET
Tag	
Inflows	NO
Treatment	NO
Invert El.	5822.691
Max. Depth	19.468
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 22 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 22 (STM-JC)
Inlet Node	INLET 1-G (STM-JC)
Outlet Node	MH - 123 (STM-JC)
Description	48" RCP
Tag	
Shape	CIRCULAR
Max. Depth	4
Length	98.752
Roughness	0.013
Inlet Offset	0
Outlet Offset	0.998
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 123 (STM-JC)

Property	Value
Name	MH - 123 (STM-JC)
X-Coordinate	13648.480
Y-Coordinate	6145.358
Description	5' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5820.691
Max. Depth	13.021
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 22 (1) (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 22 (1) (STM-JC)
Inlet Node	MH - 123 (STM-JC)
Outlet Node	East_Pond
Description	48" RCP
Tag	
Shape	CIRCULAR
Max. Depth	4
Length	69.928
Roughness	0.013
Inlet Offset	0
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 27 (STM-JC)

Property	Value
Name	MH - 27 (STM-JC)
X-Coordinate	13910.178
Y-Coordinate	8398.755
Description	5' TYPE R
Tag	
Inflows	NO
Treatment	NO
Invert El.	5893.281
Max. Depth	8.329
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 25 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 25 (STM-JC)
Inlet Node	MH - 27 (STM-JC)
Outlet Node	MH - 28 (STM-JC)
Description	24" RCP
Tag	
Shape	CIRCULAR
Max. Depth	2
Length	30.509
Roughness	0.013
Inlet Offset	0
Outlet Offset	0.886
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 28 (STM-JC)

Property	Value
Name	MH - 28 (STM-JC)
X-Coordinate	13909.668
Y-Coordinate	8366.120
Description	4' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5892.242
Max. Depth	9.104
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 26 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 26 (STM-JC)
Inlet Node	MH - 28 (STM-JC)
Outlet Node	MH - 29 (STM-JC)
Description	24" RCP
Tag	
Shape	CIRCULAR
Max. Depth	2
Length	38.19
Roughness	0.013
Inlet Offset	0.587
Outlet Offset	0.3
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 29 (STM-JC)

Property	Value
Name	MH - 29 (STM-JC)
X-Coordinate	13946.383
Y-Coordinate	8368.159
Description	4' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5892.339
Max. Depth	7.928
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 27 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 27 (STM-JC)
Inlet Node	MH - 29 (STM-JC)
Outlet Node	MH - 114 (STM-JC)
Description	24" RCP
Tag	
Shape	CIRCULAR
Max. Depth	2
Length	491.831
Roughness	0.013
Inlet Offset	0
Outlet Offset	1.002
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 114 (STM-JC)

Property	Value
Name	MH - 114 (STM-JC)
X-Coordinate	13947.603
Y-Coordinate	7890.190
Description	4' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5878.068
Max. Depth	6.824
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 27 (1) (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 27 (1) (STM-JC)
Inlet Node	MH - 114 (STM-JC)
Outlet Node	MH - 115 (STM-JC)
Description	24" RCP
Tag	
Shape	CIRCULAR
Max. Depth	2
Length	425.472
Roughness	0.013
Inlet Offset	0
Outlet Offset	1.002
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 115 (STM-JC)

Property	Value
Name	MH - 115 (STM-JC)
X-Coordinate	13950.462
Y-Coordinate	7475.533
Description	4' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5860.048
Max. Depth	8.478
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 27 (1) (1) (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 27 (1) (1) (STM-J
Inlet Node	MH - 115 (STM-JC)
Outlet Node	MH - 30 (STM-JC)
Description	36" RCP
Tag	
Shape	CIRCULAR
Max. Depth	3
Length	433.537
Roughness	0.013
Inlet Offset	0
Outlet Offset	0.996
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 141 (STM-JC)

Property	Value
Name	MH - 141 (STM-JC)
X-Coordinate	13910.741
Y-Coordinate	7036.510
Description	5' TYPE R
Tag	
Inflows	NO
Treatment	NO
Invert El.	5840.676
Max. Depth	10.633
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 146 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 146 (STM-JC)
Inlet Node	MH - 31 (STM-JC)
Outlet Node	MH - 141 (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	6.782
Roughness	0.013
Inlet Offset	1.004
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 31 (STM-JC)

Property	Value
Name	MH - 31 (STM-JC)
X-Coordinate	13910.741
Y-Coordinate	7052.567
Description	4' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5839.605
Max. Depth	11.352
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 28 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 28 (STM-JC)
Inlet Node	MH - 30 (STM-JC)
Outlet Node	MH - 31 (STM-JC)
Description	24" RCP
Tag	
Shape	CIRCULAR
Max. Depth	2
Length	43.644
Roughness	0.013
Inlet Offset	1.996
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 30 (STM-JC)

Property	Value
Name	MH - 30 (STM-JC)
X-Coordinate	13956.235
Y-Coordinate	7053.905
Description	6' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5837.172
Max. Depth	14.027
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 31 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 31 (STM-JC)
Inlet Node	MH - 30 (STM-JC)
Outlet Node	MH - 34 (STM-JC)
Description	48" RCP
Tag	
Shape	CIRCULAR
Max. Depth	4
Length	187.317
Roughness	0.013
Inlet Offset	0
Outlet Offset	0.102
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction INLET 1-I (STM-JC)

Property	Value
Name	INLET 1-I (STM-JC)
X-Coordinate	13838.485
Y-Coordinate	6916.084
Description	10' SUMP TYPE R INLET
Tag	
Inflows	NO
Treatment	NO
Invert El.	5841.223
Max. Depth	8.054
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 78 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 78 (STM-JC)
Inlet Node	MH - 84 (STM-JC)
Outlet Node	INLET 1-I (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	45.506
Roughness	0.013
Inlet Offset	1.004
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction INLET 2-I (STM-JC)

Property	Value
Name	INLET 2-I (STM-JC)
X-Coordinate	13839.823
Y-Coordinate	6863.900
Description	5' SUMP TYPE R INLET
Tag	
Inflows	NO
Treatment	NO
Invert El.	5840.863
Max. Depth	8.413
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 79 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 79 (STM-JC)
Inlet Node	MH - 84 (STM-JC)
Outlet Node	INLET 2-I (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	9.48
Roughness	0.013
Inlet Offset	1.004
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 84 (STM-JC)

Property	Value
Name	MH - 84 (STM-JC)
X-Coordinate	13839.823
Y-Coordinate	6875.942
Description	4' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5839.764
Max. Depth	9.28
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 77 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 77 (STM-JC)
Inlet Node	MH - 34 (STM-JC)
Outlet Node	MH - 84 (STM-JC)
Description	24" RCP
Tag	
Shape	CIRCULAR
Max. Depth	2
Length	118.76
Roughness	0.013
Inlet Offset	2.002
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 34 (STM-JC)

Property	Value
Name	MH - 34 (STM-JC)
X-Coordinate	13954.897
Y-Coordinate	6871.928
Description	6' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5836.976
Max. Depth	13.03
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 128 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 128 (STM-JC)
Inlet Node	MH - 34 (STM-JC)
Outlet Node	MH - 112 (STM-JC)
Description	48" RCP
Tag	
Shape	CIRCULAR
Max. Depth	4
Length	279.606
Roughness	0.013
Inlet Offset	0
Outlet Offset	0.101
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 112 (STM-JC)

Property	Value
Name	MH - 112 (STM-JC)
X-Coordinate	13833.133
Y-Coordinate	6641.781
Description	6' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5835.478
Max. Depth	8.141
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 36 (1) (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 36 (1) (STM-JC)
Inlet Node	MH - 112 (STM-JC)
Outlet Node	MH - 39 (STM-JC)
Description	48" RCP
Tag	
Shape	CIRCULAR
Max. Depth	4
Length	123.132
Roughness	0.013
Inlet Offset	0
Outlet Offset	1.004
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 39 (STM-JC)

Property	Value
Name	MH - 39 (STM-JC)
X-Coordinate	13732.778
Y-Coordinate	6576.215
Description	6' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5833.858
Max. Depth	10.179
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 130 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 130 (STM-JC)
Inlet Node	MH - 39 (STM-JC)
Outlet Node	MH - 120 (STM-JC)
Description	48" RCP
Tag	
Shape	CIRCULAR
Max. Depth	4
Length	88.293
Roughness	0.013
Inlet Offset	0
Outlet Offset	1
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 120 (STM-JC)

Property	Value
Name	MH - 120 (STM-JC)
X-Coordinate	13768.905
Y-Coordinate	6495.931
Description	6' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5830.949
Max. Depth	10.317
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 39 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 39 (STM-JC)
Inlet Node	MH - 120 (STM-JC)
Outlet Node	INLET 5-I (STM-JC)
Description	48" RCP
Tag	
Shape	CIRCULAR
Max. Depth	4
Length	87.533
Roughness	0.013
Inlet Offset	0
Outlet Offset	1
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction INLET 5-I (STM-JC)

Property	Value
Name	INLET 5-I (STM-JC)
X-Coordinate	13782.286
Y-Coordinate	6414.309
Description	10' TYPE R
Tag	
Inflows	NO
Treatment	NO
Invert El.	5828.199
Max. Depth	12.231
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 82 (1) (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 82 (1) (STM-JC)
Inlet Node	INLET 5-I (STM-JC)
Outlet Node	MH - 91 (STM-JC)
Description	48" RCP
Tag	
Shape	CIRCULAR
Max. Depth	4
Length	188.037
Roughness	0.013
Inlet Offset	0
Outlet Offset	0.3
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 91 (STM-JC)

Property	Value
Name	MH - 91 (STM-JC)
X-Coordinate	13712.707
Y-Coordinate	6247.051
Description	6' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5825.078
Max. Depth	6.268
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 83 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 83 (STM-JC)
Inlet Node	MH - 91 (STM-JC)
Outlet Node	East_Pond
Description	48" RCP
Tag	
Shape	CIRCULAR
Max. Depth	4
Length	16.474
Roughness	0.013
Inlet Offset	0
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Conduit {STM-JC}.PIPE - 24 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 24 (STM-JC)
Inlet Node	MH - 25 (STM-JC)
Outlet Node	East_Pond
Description	42" RCP
Tag	
Shape	CIRCULAR
Max. Depth	3.5
Length	20.102
Roughness	0.013
Inlet Offset	0
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Conduit {STM-JC}.PIPE - 23 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 23 (STM-JC)
Inlet Node	INLET 11-H (STM-JC)
Outlet Node	MH - 25 (STM-JC)
Description	42" RCP
Tag	
Shape	CIRCULAR
Max. Depth	3.5
Length	121.67
Roughness	0.013
Inlet Offset	0
Outlet Offset	0.2
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 25 (STM-JC)

Property	Value
Name	MH - 25 (STM-JC)
X-Coordinate	13932.150
Y-Coordinate	5698.444
Description	5' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5820.088
Max. Depth	7.591
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 68 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 68 (STM-JC)
Inlet Node	MH - 75 (STM-JC)
Outlet Node	INLET 11-H (STM-JC)
Description	36" RCP
Tag	
Shape	CIRCULAR
Max. Depth	3
Length	56.274
Roughness	0.013
Inlet Offset	0
Outlet Offset	0.502
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction INLET 11-H (STM-JC)

Property	Value
Name	INLET 11-H (STM-JC)
X-Coordinate	13932.150
Y-Coordinate	5582.032
Description	15' SUMP TYPE R INLET
Tag	
Inflows	NO
Treatment	NO
Invert El.	5820.897
Max. Depth	6.455
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Junction INLET 1-H (STM-JC)

Property	Value
Name	INLET 1-H (STM-JC)
X-Coordinate	12579.365
Y-Coordinate	5578.018
Description	10' SUMP TYPE R INLET
Tag	
Inflows	NO
Treatment	NO
Invert El.	5865.626
Max. Depth	4.323
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 63 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 63 (STM-JC)
Inlet Node	INLET 1-H (STM-JC)
Outlet Node	MH - 71 (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	6.074
Roughness	0.013
Inlet Offset	0
Outlet Offset	0.545
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Conduit {STM-JC}.PIPE - 76 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 76 (STM-JC)
Inlet Node	MH - 71 (STM-JC)
Outlet Node	INLET 2-H (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	27.579
Roughness	0.013
Inlet Offset	0.545
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction INLET 2-H (STM-JC)

Property	Value
Name	INLET 2-H (STM-JC)
X-Coordinate	12614.154
Y-Coordinate	5580.694
Description	5' SUMP TYPE R INLET
Tag	
Inflows	NO
Treatment	NO
Invert El.	5865.703
Max. Depth	4.25
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 64 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 64 (STM-JC)
Inlet Node	MH - 71 (STM-JC)
Outlet Node	MH - 72 (STM-JC)
Description	24" RCP
Tag	
Shape	CIRCULAR
Max. Depth	2
Length	63.161
Roughness	0.013
Inlet Offset	0
Outlet Offset	0.301
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 71 (STM-JC)

Property	Value
Name	MH - 71 (STM-JC)
X-Coordinate	12588.731
Y-Coordinate	5579.356
Description	4' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5865.02
Max. Depth	5.25
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Junction MH - 72 (STM-JC)

Property	Value
Name	MH - 72 (STM-JC)
X-Coordinate	12590.069
Y-Coordinate	5516.467
Description	4' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5864.088
Max. Depth	6.9
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 65 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 65 (STM-JC)
Inlet Node	MH - 72 (STM-JC)
Outlet Node	MH - 73 (STM-JC)
Description	24" RCP
Tag	
Shape	CIRCULAR
Max. Depth	2
Length	270.178
Roughness	0.013
Inlet Offset	0
Outlet Offset	0.999
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Conduit {STM-JC}.PIPE - 74 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 74 (STM-JC)
Inlet Node	MH - 80 (STM-JC)
Outlet Node	INLET 3-H (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	6.072
Roughness	0.013
Inlet Offset	0.304
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction INLET 3-H (STM-JC)

Property	Value
Name	INLET 3-H (STM-JC)
X-Coordinate	12841.626
Y-Coordinate	5584.708
Description	10' SUMP TYPE R INLET
Tag	
Inflows	NO
Treatment	NO
Invert El.	5854.609
Max. Depth	4.514
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Junction INLET 4-H (STM-JC)

Property	Value
Name	INLET 4-H (STM-JC)
X-Coordinate	12875.077
Y-Coordinate	5580.694
Description	5' SUMP TYPE R INLET
Tag	
Inflows	NO
Treatment	NO
Invert El.	5854.824
Max. Depth	4.304
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 75 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 75 (STM-JC)
Inlet Node	MH - 80 (STM-JC)
Outlet Node	INLET 4-H (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	27.58
Roughness	0.013
Inlet Offset	0.304
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Conduit {STM-JC}.PIPE - 73 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 73 (STM-JC)
Inlet Node	MH - 73 (STM-JC)
Outlet Node	MH - 80 (STM-JC)
Description	24" RCP
Tag	
Shape	CIRCULAR
Max. Depth	2
Length	66.644
Roughness	0.013
Inlet Offset	0.499
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 80 (STM-JC)

Property	Value
Name	MH - 80 (STM-JC)
X-Coordinate	12852.330
Y-Coordinate	5583.370
Description	4' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5854.245
Max. Depth	4.782
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 66 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 66 (STM-JC)
Inlet Node	MH - 73 (STM-JC)
Outlet Node	MH - 74 (STM-JC)
Description	24" RCP
Tag	
Shape	CIRCULAR
Max. Depth	2
Length	503.252
Roughness	0.013
Inlet Offset	0
Outlet Offset	0.612
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 73 (STM-JC)

Property	Value
Name	MH - 73 (STM-JC)
X-Coordinate	12848.316
Y-Coordinate	5516.467
Description	4' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5853.28
Max. Depth	6.935
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 71 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 71 (STM-JC)
Inlet Node	MH - 74 (STM-JC)
Outlet Node	INLET 5-H (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	26.917
Roughness	0.013
Inlet Offset	1
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction INLET 5-H (STM-JC)

Property	Value
Name	INLET 5-H (STM-JC)
X-Coordinate	13335.372
Y-Coordinate	5548.580
Description	10' ON-GRADE TYPE R INLET
Tag	
Inflows	NO
Treatment	NO
Invert El.	5837.617
Max. Depth	3.902
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 72 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 72 (STM-JC)
Inlet Node	MH - 74 (STM-JC)
Outlet Node	INLET 6-H (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	6.078
Roughness	0.013
Inlet Offset	1.004
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction INLET 6-H (STM-JC)

Property	Value
Name	INLET 6-H (STM-JC)
X-Coordinate	13336.710
Y-Coordinate	5511.115
Description	10' ON-GRADE TYPE R INLET
Tag	
Inflows	NO
Treatment	NO
Invert El.	5837.534
Max. Depth	4.271
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 67 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 67 (STM-JC)
Inlet Node	MH - 74 (STM-JC)
Outlet Node	MH - 137 (STM-JC)
Description	30" RCP
Tag	
Shape	CIRCULAR
Max. Depth	2.5
Length	361.144
Roughness	0.013
Inlet Offset	0
Outlet Offset	0.103
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 74 (STM-JC)

Property	Value
Name	MH - 74 (STM-JC)
X-Coordinate	13335.372
Y-Coordinate	5524.495
Description	4' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5836.468
Max. Depth	5.862
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 143 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 143 (STM-JC)
Inlet Node	MH - 138 (STM-JC)
Outlet Node	INLET 7-H (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	6
Roughness	0.013
Inlet Offset	0.296
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction INLET 7-H (STM-JC)

Property	Value
Name	INLET 7-H (STM-JC)
X-Coordinate	13672.565
Y-Coordinate	5580.694
Description	10' ON-GRADE TYPE R INLET
Tag	
Inflows	NO
Treatment	NO
Invert El.	5829.378
Max. Depth	6.304
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 144 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 144 (STM-JC)
Inlet Node	MH - 138 (STM-JC)
Outlet Node	INLET 8-H (STM-JC)
Description	18" RCP
Tag	
Shape	CIRCULAR
Max. Depth	1.5
Length	29.001
Roughness	0.013
Inlet Offset	0.296
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction INLET 8-H (STM-JC)

Property	Value
Name	INLET 8-H (STM-JC)
X-Coordinate	13712.707
Y-Coordinate	5580.694
Description	10' ON-GRADE TYPE R INLET
Tag	
Inflows	NO
Treatment	NO
Invert El.	5829.608
Max. Depth	6.057
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Junction MH - 138 (STM-JC)

Property	Value
Name	MH - 138 (STM-JC)
X-Coordinate	13684.607
Y-Coordinate	5578.018
Description	4' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5829.023
Max. Depth	6.325
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 142 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 142 (STM-JC)
Inlet Node	MH - 137 (STM-JC)
Outlet Node	MH - 138 (STM-JC)
Description	24" RCP
Tag	
Shape	CIRCULAR
Max. Depth	2
Length	58.428
Roughness	0.013
Inlet Offset	0.303
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Conduit {STM-JC}.PIPE - 67 (1) (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 67 (1) (STM-JC)
Inlet Node	MH - 137 (STM-JC)
Outlet Node	MH - 75 (STM-JC)
Description	30" RCP
Tag	
Shape	CIRCULAR
Max. Depth	2.5
Length	252.565
Roughness	0.013
Inlet Offset	0
Outlet Offset	0.629
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction MH - 137 (STM-JC)

Property	Value
Name	MH - 137 (STM-JC)
X-Coordinate	13684.607
Y-Coordinate	5523.157
Description	4' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5828.136
Max. Depth	7.062
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Junction MH - 75 (STM-JC)

Property	Value
Name	MH - 75 (STM-JC)
X-Coordinate	13929.473
Y-Coordinate	5524.495
Description	5' STM MH
Tag	
Inflows	NO
Treatment	NO
Invert El.	5821.68
Max. Depth	6.451
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Conduit {STM-JC}.PIPE - 69 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 69 (STM-JC)
Inlet Node	MH - 75 (STM-JC)
Outlet Node	INLET 10-H (STM-JC)
Description	30" RCP
Tag	
Shape	CIRCULAR
Max. Depth	2.5
Length	39.446
Roughness	0.013
Inlet Offset	0.499
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Conduit {STM-JC}.PIPE - 70 (STM-JC)

Property	Value
Name	{STM-JC}.PIPE - 70 (STM-JC)
Inlet Node	INLET 10-H (STM-JC)
Outlet Node	INLET 9-H (STM-JC)
Description	30" RCP
Tag	
Shape	CIRCULAR
Max. Depth	2.5
Length	96.213
Roughness	0.013
Inlet Offset	0.203
Outlet Offset	0
Initial Flow	0
Maximum Flow	0
Entry Loss Coeff.	0.5
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Loss Rate	0
Flap Gate	NO
Culvert Code	

Junction INLET 10-H (STM-JC)

Property	Value
Name	INLET 10-H (STM-JC)
X-Coordinate	13949.544
Y-Coordinate	5492.382
Description	5' SUMP TYPE R INLET
Tag	
Inflows	NO
Treatment	NO
Invert El.	5822.376
Max. Depth	6.408
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Storage Unit East_Pond

Property	Value
Name	East_Pond
X-Coordinate	13913.649
Y-Coordinate	5941.560
Description	
Tag	
Inflows	NO
Treatment	NO
Invert El.	5820
Max. Depth	10
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	East_Pond_Stage_Area

Junction INLET 9-H (STM-JC)

Property	Value
Name	INLET 9-H (STM-JC)
X-Coordinate	13949.544
Y-Coordinate	5400.055
Description	10' SUMP TYPE R INLET
Tag	
Inflows	NO
Treatment	NO
Invert El.	5823.059
Max. Depth	4.292
Initial Depth	0
Surcharge Depth	1
Ponded Area	300

Storage Curve Editor

Curve Name

East_Pond_Stage_Area

Description

	Depth (ft)	Area (ft2)
1	0.00	50
2	1.00	1795
3	2.00	10792
4	3.00	33227
5	4.00	80330
6	5.00	143075
7	6.00	158782
8	7.00	164044
9	8.00	169368
10	9.00	174764
11	10.00	180213

View... Load... Save... OK Cancel Help

Weir Emergency_Spillway

Property	Value
Name	Emergency_Spillway
Inlet Node	East_Pond
Outlet Node	East_Pond_Discharge_Structure
Description	
Tag	
Type	TRAPEZOIDAL
Height	1.95
Length	136
Side Slope	4
Inlet Offset	8.05
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

Weir Zone_3_Weir

Property	Value
Name	Zone_3_Weir
Inlet Node	East_Pond
Outlet Node	East_Pond_Discharge_Structure
Description	
Tag	
Type	TRAPEZOIDAL
Height	5.1
Length	9
Side Slope	0
Inlet Offset	5.1
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

Orifice Orifice_Row_3

Property	Value
Name	Orifice_Row_3
Inlet Node	East_Pond
Outlet Node	East_Pond_Discharge_Structure
Description	
Tag	
Type	SIDE
Shape	RECT_CLOSED
Height	.29
Width	.333
Inlet Offset	3.47
Discharge Coeff.	0.65
Flap Gate	NO
Time to Open/Clos	0

Orifice Orifice_Row_2

Property	Value
Name	Orifice_Row_2
Inlet Node	East_Pond
Outlet Node	East_Pond_Discharge_Structure
Description	
Tag	
Type	SIDE
Shape	RECT_CLOSED
Height	.27
Width	.27
Inlet Offset	1.73
Discharge Coeff.	0.65
Flap Gate	NO
Time to Open/Clos	0

Orifice Orifice_Row_1

Property	Value
Name	Orifice_Row_1
Inlet Node	East_Pond
Outlet Node	East_Pond_Discharge_Structure
Description	
Tag	
Type	SIDE
Shape	RECT_CLOSED
Height	.27
Width	.27
Inlet Offset	0
Discharge Coeff.	0.65
Flap Gate	NO
Time to Open/Clos	0

Conduit 1

Property	Value
Name	1
Inlet Node	East_Pond_Discharge_Structure
Outlet Node	WF-JCC_Outfall
Description	
Tag	
Shape	CIRCULAR
Max. Depth	3.89
Length	80
Roughness	.013
Inlet Offset	0
Outlet Offset	0
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 East_Pond_Discharge_Structure

Property	Value
Name	East_Pond_Discharge_Structure
X-Coordinate	14055.053
Y-Coordinate	5903.194
Description	
Tag	
Inflows	NO
Treatment	NO
Invert El.	5818.5
Max. Depth	6
Initial Depth	0
Surcharge Depth	0
Ponded Area	0

Outfall WF-JCC_Outfall

Property	Value
Name	WF-JCC_Outfall
X-Coordinate	14085.602
Y-Coordinate	5892.242
Description	
Tag	
Inflows	NO
Treatment	NO
Invert El.	5814
Tide Gate	NO
Route To	
Type	FREE
Fixed Outfall	
Fixed Stage	0
Tidal Outfall	
Curve Name	*
Time Series Outfall	
Series Name	*

Rain Gage Rain_Gage

Property	Value
Name	Rain_Gage
X-Coordinate	11480.972
Y-Coordinate	7962.470
Description	
Tag	
Rain Format	CUMULATIVE
Time Interval	0:05
Snow Catch Factor	1.0
Data Source	TIMESERIES
TIME SERIES:	
- Series Name	TS_Q5
DATA FILE:	
- File Name	*
- Station ID	*
- Rain Units	IN

SWMM OUTPUT TABLES
POST-DEVELOPMENT CONDITIONS

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
A-Street	1.04	0.00	0.00	0.05	0.96	0.00	0.96	0.10	2.32	0.921
Sub-basin_B	1.04	0.00	0.00	0.34	0.66	0.03	0.69	0.02	1.89	0.666
Sub-basin_C	1.04	0.00	0.00	0.34	0.67	0.01	0.68	0.28	14.12	0.653
Sub-basin_D	1.04	0.00	0.00	0.71	0.22	0.11	0.33	0.02	3.87	0.320
Sub-Basin_E	1.04	0.00	0.00	0.73	0.26	0.06	0.31	0.07	11.80	0.301
Sub-basin_F	1.04	0.00	0.00	0.35	0.66	0.01	0.67	0.24	10.99	0.640
Sub-basin_G	1.04	0.00	0.00	0.34	0.66	0.02	0.68	0.02	1.54	0.654
Sub-basin_H	1.04	0.00	0.00	0.38	0.63	0.01	0.65	0.41	19.14	0.620
Sub-basin_I	1.04	0.00	0.00	0.33	0.68	0.01	0.69	0.15	7.62	0.661
Sub-basin_J	1.04	0.00	0.00	0.10	0.90	0.02	0.92	0.13	8.28	0.882
Sub-basin_K	1.04	0.00	0.00	0.36	0.66	0.01	0.66	0.59	23.43	0.638
Sub-basin_M	1.04	0.00	0.00	0.84	0.07	0.14	0.21	0.06	12.11	0.205
Subbasin_R	1.04	0.00	0.00	0.88	0.07	0.10	0.17	0.01	1.52	0.160

Subcatchment Runoff

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Link Flow Summary

Link	Type	Maximum |Flow| CFS	Day of Maximum Flow	Hour of Maximum Flow	Maximum |Velocity| ft/sec
{STM-JC}.PIPE - 1 (STM-JC)	CONDUIT	0.17	0	02:07	3.21
{STM-JC}.PIPE - 105 (1) (STM-JC)	CONDUIT	18.07	0	01:35	9.78
{STM-JC}.PIPE - 105 (STM-JC)	CONDUIT	18.07	0	01:35	9.81
{STM-JC}.PIPE - 119 (1) (STM-JC)	CONDUIT	21.31	0	01:36	11.36
{STM-JC}.PIPE - 119 (STM-JC)	CONDUIT	18.08	0	01:36	9.75
{STM-JC}.PIPE - 126 (1) (1) (STM-JC)	CONDUIT	30.94	0	01:36	9.63
{STM-JC}.PIPE - 126 (1) (STM-JC)	CONDUIT	30.93	0	01:36	9.75
{STM-JC}.PIPE - 126 (STM-JC)	CONDUIT	30.92	0	01:36	10.27
{STM-JC}.PIPE - 127 (1) (STM-JC)	CONDUIT	30.95	0	01:37	10.30
{STM-JC}.PIPE - 127 (STM-JC)	CONDUIT	30.94	0	01:36	10.64
{STM-JC}.PIPE - 128 (STM-JC)	CONDUIT	29.48	0	01:37	5.96
{STM-JC}.PIPE - 130 (STM-JC)	CONDUIT	29.40	0	01:38	9.87
{STM-JC}.PIPE - 133 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 134 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 135 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 136 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 137 (STM-JC)	CONDUIT	1.88	0	01:35	3.76
{STM-JC}.PIPE - 138 (STM-JC)	CONDUIT	3.86	0	01:35	4.39
{STM-JC}.PIPE - 139 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 14 (STM-JC)	CONDUIT	21.31	0	01:36	10.09
{STM-JC}.PIPE - 140 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 141 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 142 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 143 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 144 (STM-JC)	CONDUIT	0.00	0	00:00	0.00

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Link	Type	Maximum |Flow| CFS	Day of Maximum Flow	Hour of Maximum Flow	Maximum |Velocity| ft/sec
{STM-JC}.PIPE - 145 (STM-JC)	CONDUIT	0.19	0	01:46	3.96
{STM-JC}.PIPE - 146 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 15 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 16 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 2 (STM-JC)	CONDUIT	0.17	0	02:09	3.37
{STM-JC}.PIPE - 20 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 21 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 22 (1) (STM-JC)	CONDUIT	42.17	0	01:36	3.57
{STM-JC}.PIPE - 22 (STM-JC)	CONDUIT	42.47	0	01:36	5.97
{STM-JC}.PIPE - 23 (STM-JC)	CONDUIT	17.97	0	01:35	1.94
{STM-JC}.PIPE - 24 (STM-JC)	CONDUIT	17.83	0	01:35	1.85
{STM-JC}.PIPE - 25 (STM-JC)	CONDUIT	8.25	0	01:35	4.37
{STM-JC}.PIPE - 26 (STM-JC)	CONDUIT	8.23	0	01:35	4.39
{STM-JC}.PIPE - 27 (1) (1) (STM-JC)	CONDUIT	7.81	0	01:37	7.03
{STM-JC}.PIPE - 27 (1) (STM-JC)	CONDUIT	7.83	0	01:36	10.55
{STM-JC}.PIPE - 27 (STM-JC)	CONDUIT	7.92	0	01:36	9.20
{STM-JC}.PIPE - 28 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 31 (STM-JC)	CONDUIT	29.47	0	01:37	4.76
{STM-JC}.PIPE - 36 (1) (STM-JC)	CONDUIT	29.40	0	01:38	6.17
{STM-JC}.PIPE - 39 (STM-JC)	CONDUIT	29.41	0	01:38	9.59
{STM-JC}.PIPE - 4 (STM-JC)	CONDUIT	0.19	0	01:45	2.19
{STM-JC}.PIPE - 45 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 46 (STM-JC)	CONDUIT	0.07	0	02:17	2.51
{STM-JC}.PIPE - 47 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 48 (STM-JC)	CONDUIT	0.07	0	02:16	1.62
{STM-JC}.PIPE - 49 (STM-JC)	CONDUIT	0.00	0	00:00	0.00

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Link	Type	Maximum |Flow| CFS	Day of Maximum Flow	Hour of Maximum Flow	Maximum |Velocity| ft/sec
{STM-JC}.PIPE - 5 (1) (1) (STM-JC)	CONDUIT	4.37	0	01:36	7.88
{STM-JC}.PIPE - 5 (1) (STM-JC)	CONDUIT	2.68	0	01:36	7.03
{STM-JC}.PIPE - 50 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 51 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 52 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 53 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 54 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 56 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 57 (1) (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 57 (2) (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 57 (3) (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 57 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 58 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 59 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 6 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 60 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 61 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 62 (1) (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 62 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 63 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 64 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 65 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 66 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 67 (1) (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 67 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 68 (STM-JC)	CONDUIT	1.34	0	01:34	0.38

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Link	Type	Maximum |Flow| CFS	Day of Maximum Flow	Hour of Maximum Flow	Maximum |Velocity| ft/sec
{STM-JC}.PIPE - 69 (STM-JC)	CONDUIT	0.59	0	01:34	0.21
{STM-JC}.PIPE - 7 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 70 (STM-JC)	CONDUIT	0.31	0	01:36	0.22
{STM-JC}.PIPE - 71 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 72 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 73 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 74 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 75 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 76 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 77 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 78 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 79 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 82 (1) (STM-JC)	CONDUIT	35.84	0	01:38	9.78
{STM-JC}.PIPE - 83 (STM-JC)	CONDUIT	36.77	0	01:38	5.04
{STM-JC}.PIPE - 84 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 85 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 86 (STM-JC)	CONDUIT	41.13	0	01:36	7.61
1	CONDUIT	3.15	0	04:23	8.51
Emergency_Spillway	WEIR	0.00	0	00:00	0.00
Orifice_Row_1	ORIFICE	0.86	0	04:23	1.00
Orifice_Row_2	ORIFICE	0.69	0	04:23	1.00
Orifice_Row_3	ORIFICE	0.63	0	04:23	1.00
Zone_3_Weir	WEIR	0.97	0	04:23	0.02

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Link Flow Summary

Link	Max / Full Flow	Max / Full Depth
{STM-JC}.PIPE - 1 (STM-JC)	0.00	0.05
{STM-JC}.PIPE - 105 (1) (STM-JC)	0.12	0.25
{STM-JC}.PIPE - 105 (STM-JC)	0.12	0.25
{STM-JC}.PIPE - 119 (1) (STM-JC)	0.12	0.25
{STM-JC}.PIPE - 119 (STM-JC)	0.12	0.25
{STM-JC}.PIPE - 126 (1) (1) (STM-JC)	0.16	0.30
{STM-JC}.PIPE - 126 (1) (STM-JC)	0.16	0.30
{STM-JC}.PIPE - 126 (STM-JC)	0.16	0.29
{STM-JC}.PIPE - 127 (1) (STM-JC)	0.14	0.29
{STM-JC}.PIPE - 127 (STM-JC)	0.14	0.28
{STM-JC}.PIPE - 128 (STM-JC)	0.29	0.42
{STM-JC}.PIPE - 130 (STM-JC)	0.14	0.29
{STM-JC}.PIPE - 133 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 134 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 135 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 136 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 137 (STM-JC)	0.18	0.33
{STM-JC}.PIPE - 138 (STM-JC)	0.17	0.32
{STM-JC}.PIPE - 139 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 14 (STM-JC)	0.14	0.27
{STM-JC}.PIPE - 140 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 141 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 142 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 143 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 144 (STM-JC)	0.00	0.00

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Link	Max / Full Flow	Max / Full Depth
{STM-JC}.PIPE - 145 (STM-JC)	0.00	0.04
{STM-JC}.PIPE - 146 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 15 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 16 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 2 (STM-JC)	0.00	0.05
{STM-JC}.PIPE - 20 (STM-JC)	0.00	0.21
{STM-JC}.PIPE - 21 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 22 (1) (STM-JC)	0.30	1.00
{STM-JC}.PIPE - 22 (STM-JC)	0.29	0.75
{STM-JC}.PIPE - 23 (STM-JC)	0.25	1.00
{STM-JC}.PIPE - 24 (STM-JC)	0.27	1.00
{STM-JC}.PIPE - 25 (STM-JC)	0.51	0.58
{STM-JC}.PIPE - 26 (STM-JC)	0.52	0.58
{STM-JC}.PIPE - 27 (1) (1) (STM-JC)	0.05	0.30
{STM-JC}.PIPE - 27 (1) (STM-JC)	0.17	0.29
{STM-JC}.PIPE - 27 (STM-JC)	0.21	0.32
{STM-JC}.PIPE - 28 (STM-JC)	0.00	0.09
{STM-JC}.PIPE - 31 (STM-JC)	0.92	0.49
{STM-JC}.PIPE - 36 (1) (STM-JC)	0.29	0.40
{STM-JC}.PIPE - 39 (STM-JC)	0.14	0.29
{STM-JC}.PIPE - 4 (STM-JC)	0.02	0.10
{STM-JC}.PIPE - 45 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 46 (STM-JC)	0.00	0.02
{STM-JC}.PIPE - 47 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 48 (STM-JC)	0.01	0.06
{STM-JC}.PIPE - 49 (STM-JC)	0.00	0.00

Link	Max / Full Flow	Max / Full Depth
{STM-JC}.PIPE - 5 (1) (1) (STM-JC)	0.06	0.17
{STM-JC}.PIPE - 5 (1) (STM-JC)	0.04	0.13
{STM-JC}.PIPE - 50 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 51 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 52 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 53 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 54 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 56 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 57 (1) (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 57 (2) (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 57 (3) (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 57 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 58 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 59 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 6 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 60 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 61 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 62 (1) (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 62 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 63 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 64 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 65 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 66 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 67 (1) (STM-JC)	0.01	0.50
{STM-JC}.PIPE - 67 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 68 (STM-JC)	0.03	1.00

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Link	Max / Full Flow	Max / Full Depth
{STM-JC}.PIPE - 69 (STM-JC)	0.02	1.00
{STM-JC}.PIPE - 7 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 70 (STM-JC)	0.01	0.93
{STM-JC}.PIPE - 71 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 72 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 73 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 74 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 75 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 76 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 77 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 78 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 79 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 82 (1) (STM-JC)	0.21	0.33
{STM-JC}.PIPE - 83 (STM-JC)	0.04	0.57
{STM-JC}.PIPE - 84 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 85 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 86 (STM-JC)	0.29	0.45
1	0.01	0.07
Emergency_Spillway		
Orifice_Row_1		
Orifice_Row_2		
Orifice_Row_3		
Zone_3_Weir		

Node Depth Summary

Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Day of Maximum Depth
East_Pond	STORAGE	2.45	5.20	5825.20	0
East_Pond_Discharge_Structure	JUNCTION	0.12	0.27	5818.77	0
INLET 10-H (STM-JC)	JUNCTION	1.09	2.83	5825.20	0
INLET 11-H (STM-JC)	JUNCTION	1.92	4.30	5825.20	0
INLET 1-A (STM-JC)	JUNCTION	0.07	0.15	5907.99	0
INLET 1-B (STM-JC)	JUNCTION	0.02	0.55	5884.30	0
INLET 1-C (STM-JC)	JUNCTION	0.00	0.00	5879.55	0
INLET 1-D (STM-JC)	JUNCTION	0.01	0.74	5856.05	0
INLET 1-E (STM-JC)	JUNCTION	0.00	0.00	5848.65	0
INLET 1-F (STM-JC)	JUNCTION	0.00	0.00	5871.42	0
INLET 1-G (STM-JC)	JUNCTION	0.94	2.51	5825.20	0
INLET 1-H (STM-JC)	JUNCTION	0.00	0.00	5865.63	0
INLET 1-I (STM-JC)	JUNCTION	0.00	0.00	5841.22	0
INLET 1-OS (STM-JC)	JUNCTION	0.04	0.09	5924.33	0
INLET 2-A (STM-JC)	JUNCTION	0.00	0.00	5908.15	0
INLET 2-C (STM-JC)	JUNCTION	0.00	0.00	5879.78	0
INLET 2-E (STM-JC)	JUNCTION	0.00	0.00	5848.23	0
INLET 2-F (STM-JC)	JUNCTION	0.00	0.00	5871.65	0
INLET 2-H (STM-JC)	JUNCTION	0.00	0.00	5865.70	0
INLET 2-I (STM-JC)	JUNCTION	0.00	0.00	5840.86	0
INLET 3-A (STM-JC)	JUNCTION	0.04	0.09	5908.18	0
INLET 3-C (STM-JC)	JUNCTION	0.00	0.00	5877.81	0
INLET 3-F (STM-JC)	JUNCTION	0.00	0.00	5868.25	0
INLET 3-H (STM-JC)	JUNCTION	0.00	0.00	5854.61	0
INLET 4-A (STM-JC)	JUNCTION	0.00	0.00	5907.91	0

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Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Day of Maximum Depth
INLET 4-C (STM-JC)	JUNCTION	0.00	0.00	5877.34	0
INLET 4-F (STM-JC)	JUNCTION	0.00	0.00	5866.21	0
INLET 4-H (STM-JC)	JUNCTION	0.00	0.00	5854.82	0
INLET 5-C (STM-JC)	JUNCTION	0.00	0.00	5879.34	0
INLET 5-F (STM-JC)	JUNCTION	0.00	0.00	5855.60	0
INLET 5-H (STM-JC)	JUNCTION	0.00	0.00	5837.62	0
INLET 5-I (STM-JC)	JUNCTION	0.10	1.44	5829.64	0
INLET 6-C (STM-JC)	JUNCTION	0.00	0.00	5878.88	0
INLET 6-F (STM-JC)	JUNCTION	0.00	0.00	5852.92	0
INLET 6-H (STM-JC)	JUNCTION	0.00	0.00	5837.53	0
INLET 7-C (STM-JC)	JUNCTION	0.00	0.00	5881.64	0
INLET 7-F (STM-JC)	JUNCTION	0.00	0.00	5827.64	0
INLET 7-H (STM-JC)	JUNCTION	0.00	0.00	5829.38	0
INLET 8-C (STM-JC)	JUNCTION	0.00	0.00	5881.41	0
INLET 8-F (STM-JC)	JUNCTION	0.00	0.00	5827.41	0
INLET 8-H (STM-JC)	JUNCTION	0.00	0.00	5829.61	0
INLET 9-H (STM-JC)	JUNCTION	0.73	2.14	5825.20	0
MH - 100 (STM-JC)	JUNCTION	0.10	0.92	5859.74	0
MH - 101 (STM-JC)	JUNCTION	0.10	1.25	5832.31	0
MH - 108 (STM-JC)	JUNCTION	0.08	0.43	5883.05	0
MH - 112 (STM-JC)	JUNCTION	0.13	1.76	5837.24	0
MH - 114 (STM-JC)	JUNCTION	0.03	0.58	5878.65	0
MH - 115 (STM-JC)	JUNCTION	0.03	0.46	5860.51	0
MH - 117 (STM-JC)	JUNCTION	0.09	0.93	5854.60	0
MH - 118 (STM-JC)	JUNCTION	0.10	0.91	5865.09	0
MH - 119 (STM-JC)	JUNCTION	0.00	0.00	5834.32	0

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Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Day of Maximum Depth
MH - 120 (STM-JC)	JUNCTION	0.09	1.32	5832.26	0
MH - 122 (STM-JC)	JUNCTION	0.11	1.32	5838.77	0
MH - 123 (STM-JC)	JUNCTION	2.04	4.51	5825.20	0
MH - 124 (STM-JC)	JUNCTION	0.00	0.00	5830.17	0
MH - 125 (STM-JC)	JUNCTION	0.11	1.34	5835.47	0
MH - 126 (STM-JC)	JUNCTION	0.10	1.25	5828.70	0
MH - 127 (STM-JC)	JUNCTION	0.00	0.00	5878.17	0
MH - 128 (STM-JC)	JUNCTION	0.00	0.00	5879.19	0
MH - 133 (STM-JC)	JUNCTION	0.00	0.00	5867.87	0
MH - 134 (STM-JC)	JUNCTION	0.00	0.00	5871.06	0
MH - 137 (STM-JC)	JUNCTION	0.00	0.00	5828.14	0
MH - 138 (STM-JC)	JUNCTION	0.00	0.00	5829.02	0
MH - 14 (STM-JC)	JUNCTION	0.10	1.01	5848.42	0
MH - 141 (STM-JC)	JUNCTION	0.00	0.00	5840.68	0
MH - 15 (STM-JC)	JUNCTION	0.20	1.33	5843.76	0
MH - 16 (STM-JC)	JUNCTION	0.00	0.00	5848.09	0
MH - 2 (STM-JC)	JUNCTION	0.04	0.09	5917.68	0
MH - 20 (STM-JC)	JUNCTION	0.39	2.08	5826.05	0
MH - 21 (STM-JC)	JUNCTION	0.00	0.00	5826.36	0
MH - 25 (STM-JC)	JUNCTION	2.39	5.11	5825.20	0
MH - 27 (STM-JC)	JUNCTION	0.07	1.30	5894.58	0
MH - 28 (STM-JC)	JUNCTION	0.65	1.88	5894.12	0
MH - 29 (STM-JC)	JUNCTION	0.04	0.65	5892.99	0
MH - 3 (STM-JC)	JUNCTION	0.08	0.33	5898.27	0
MH - 30 (STM-JC)	JUNCTION	0.21	2.35	5839.52	0
MH - 31 (STM-JC)	JUNCTION	0.00	0.00	5839.60	0

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Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Day of Maximum Depth
MH - 34 (STM-JC)	JUNCTION	0.12	1.68	5838.66	0
MH - 39 (STM-JC)	JUNCTION	0.09	1.29	5835.14	0
MH - 4 (STM-JC)	JUNCTION	0.04	0.09	5907.29	0
MH - 53 (STM-JC)	JUNCTION	0.02	0.06	5907.29	0
MH - 57 (STM-JC)	JUNCTION	0.00	0.00	5877.76	0
MH - 58 (STM-JC)	JUNCTION	0.00	0.00	5881.05	0
MH - 6 (STM-JC)	JUNCTION	0.10	0.91	5870.62	0
MH - 64 (STM-JC)	JUNCTION	0.00	0.00	5841.17	0
MH - 65 (STM-JC)	JUNCTION	0.00	0.00	5844.88	0
MH - 7 (STM-JC)	JUNCTION	0.00	0.00	5876.21	0
MH - 71 (STM-JC)	JUNCTION	0.00	0.00	5865.02	0
MH - 72 (STM-JC)	JUNCTION	0.00	0.00	5864.09	0
MH - 73 (STM-JC)	JUNCTION	0.00	0.00	5853.28	0
MH - 74 (STM-JC)	JUNCTION	0.00	0.00	5836.47	0
MH - 75 (STM-JC)	JUNCTION	1.47	3.52	5825.20	0
MH - 80 (STM-JC)	JUNCTION	0.00	0.00	5854.24	0
MH - 84 (STM-JC)	JUNCTION	0.00	0.00	5839.76	0
MH - 91 (STM-JC)	JUNCTION	0.05	0.57	5825.65	0
MH - 94 (STM-JC)	JUNCTION	0.00	0.00	5838.20	0
WF-JCC_Outfall	OUTFALL	0.12	0.27	5814.27	0

Node Depth Summary

Node	Hour of Maximum Depth	Maximum Reported Depth Feet
East_Pond	04:23	5.20
East_Pond_Discharge_Structure	04:23	0.27
INLET 10-H (STM-JC)	04:22	2.83
INLET 11-H (STM-JC)	04:23	4.30
INLET 1-A (STM-JC)	01:45	0.15
INLET 1-B (STM-JC)	01:35	0.32
INLET 1-C (STM-JC)	00:00	0.00
INLET 1-D (STM-JC)	01:35	0.28
INLET 1-E (STM-JC)	00:00	0.00
INLET 1-F (STM-JC)	00:00	0.00
INLET 1-G (STM-JC)	04:22	2.51
INLET 1-H (STM-JC)	00:00	0.00
INLET 1-I (STM-JC)	00:00	0.00
INLET 1-OS (STM-JC)	02:07	0.09
INLET 2-A (STM-JC)	00:00	0.00
INLET 2-C (STM-JC)	00:00	0.00
INLET 2-E (STM-JC)	00:00	0.00
INLET 2-F (STM-JC)	00:00	0.00
INLET 2-H (STM-JC)	00:00	0.00
INLET 2-I (STM-JC)	00:00	0.00
INLET 3-A (STM-JC)	02:16	0.09
INLET 3-C (STM-JC)	00:00	0.00
INLET 3-F (STM-JC)	00:00	0.00
INLET 3-H (STM-JC)	00:00	0.00
INLET 4-A (STM-JC)	00:00	0.00

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Node	Hour of Maximum Depth	Maximum Reported Depth Feet
INLET 4-C (STM-JC)	00:00	0.00
INLET 4-F (STM-JC)	00:00	0.00
INLET 4-H (STM-JC)	00:00	0.00
INLET 5-C (STM-JC)	00:00	0.00
INLET 5-F (STM-JC)	00:00	0.00
INLET 5-H (STM-JC)	00:00	0.00
INLET 5-I (STM-JC)	01:38	1.26
INLET 6-C (STM-JC)	00:00	0.00
INLET 6-F (STM-JC)	00:00	0.00
INLET 6-H (STM-JC)	00:00	0.00
INLET 7-C (STM-JC)	00:00	0.00
INLET 7-F (STM-JC)	00:00	0.00
INLET 7-H (STM-JC)	00:00	0.00
INLET 8-C (STM-JC)	00:00	0.00
INLET 8-F (STM-JC)	00:00	0.00
INLET 8-H (STM-JC)	00:00	0.00
INLET 9-H (STM-JC)	04:24	2.14
MH - 100 (STM-JC)	01:36	0.74
MH - 101 (STM-JC)	01:36	0.85
MH - 108 (STM-JC)	01:36	0.37
MH - 112 (STM-JC)	01:38	1.53
MH - 114 (STM-JC)	01:36	0.45
MH - 115 (STM-JC)	01:37	0.37
MH - 117 (STM-JC)	01:36	0.71
MH - 118 (STM-JC)	01:35	0.74
MH - 119 (STM-JC)	00:00	0.00

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Node	Hour of Maximum Depth	Maximum Reported Depth Feet
MH - 120 (STM-JC)	01:38	1.15
MH - 122 (STM-JC)	01:36	0.89
MH - 123 (STM-JC)	04:23	4.51
MH - 124 (STM-JC)	00:00	0.00
MH - 125 (STM-JC)	01:36	0.91
MH - 126 (STM-JC)	01:36	0.86
MH - 127 (STM-JC)	00:00	0.00
MH - 128 (STM-JC)	00:00	0.00
MH - 133 (STM-JC)	00:00	0.00
MH - 134 (STM-JC)	00:00	0.00
MH - 137 (STM-JC)	00:00	0.00
MH - 138 (STM-JC)	00:00	0.00
MH - 14 (STM-JC)	01:36	0.78
MH - 141 (STM-JC)	00:00	0.00
MH - 15 (STM-JC)	01:36	0.93
MH - 16 (STM-JC)	00:00	0.00
MH - 2 (STM-JC)	02:09	0.09
MH - 20 (STM-JC)	01:36	1.51
MH - 21 (STM-JC)	00:00	0.00
MH - 25 (STM-JC)	04:23	5.11
MH - 27 (STM-JC)	01:35	0.89
MH - 28 (STM-JC)	01:35	1.47
MH - 29 (STM-JC)	01:36	0.49
MH - 3 (STM-JC)	01:36	0.31
MH - 30 (STM-JC)	01:37	2.03
MH - 31 (STM-JC)	00:00	0.00

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Node	Hour of Maximum Depth	Maximum Reported Depth Feet
MH - 34 (STM-JC)	01:37	1.43
MH - 39 (STM-JC)	01:38	1.12
MH - 4 (STM-JC)	01:46	0.09
MH - 53 (STM-JC)	02:17	0.06
MH - 57 (STM-JC)	00:00	0.00
MH - 58 (STM-JC)	00:00	0.00
MH - 6 (STM-JC)	01:35	0.73
MH - 64 (STM-JC)	00:00	0.00
MH - 65 (STM-JC)	00:00	0.00
MH - 7 (STM-JC)	00:00	0.00
MH - 71 (STM-JC)	00:00	0.00
MH - 72 (STM-JC)	00:00	0.00
MH - 73 (STM-JC)	00:00	0.00
MH - 74 (STM-JC)	00:00	0.00
MH - 75 (STM-JC)	04:23	3.52
MH - 80 (STM-JC)	00:00	0.00
MH - 84 (STM-JC)	00:00	0.00
MH - 91 (STM-JC)	01:38	0.51
MH - 94 (STM-JC)	00:00	0.00
WF-JCC_Outfall	04:23	0.27

Node Inflow Summary

Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Day of Maximum Inflow	Hour of Maximum Inflow
INLET 5-F (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 71 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 31 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 21 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 91 (STM-JC)	JUNCTION	0.00	35.84	0	01:38
MH - 53 (STM-JC)	JUNCTION	0.00	0.07	0	02:16
INLET 8-C (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 73 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 8-H (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 4-A (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 3-C (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 1-C (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 1-E (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 16 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 108 (STM-JC)	JUNCTION	0.00	4.43	0	01:35
MH - 100 (STM-JC)	JUNCTION	0.00	18.07	0	01:35
MH - 101 (STM-JC)	JUNCTION	0.00	30.94	0	01:36
INLET 7-H (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 27 (STM-JC)	JUNCTION	8.28	8.28	0	01:35
MH - 57 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 3-H (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 8-F (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 9-H (STM-JC)	JUNCTION	0.00	0.31	0	01:36
INLET 1-H (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 2-F (STM-JC)	JUNCTION	0.00	0.00	0	00:00

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Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Day of Maximum Inflow	Hour of Maximum Inflow
INLET 2-A (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 5-C (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 28 (STM-JC)	JUNCTION	0.00	8.25	0	01:35
MH - 58 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 15 (STM-JC)	JUNCTION	11.80	30.93	0	01:36
MH - 65 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 75 (STM-JC)	JUNCTION	0.00	1.34	0	01:34
MH - 25 (STM-JC)	JUNCTION	0.00	17.97	0	01:35
INLET 1-A (STM-JC)	JUNCTION	0.19	0.19	0	01:45
INLET 1-F (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 10-H (STM-JC)	JUNCTION	0.00	0.59	0	01:34
INLET 11-H (STM-JC)	JUNCTION	19.14	19.14	0	01:35
MH - 127 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 128 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 122 (STM-JC)	JUNCTION	0.00	30.92	0	01:36
MH - 125 (STM-JC)	JUNCTION	0.00	30.93	0	01:36
MH - 126 (STM-JC)	JUNCTION	0.00	30.94	0	01:36
MH - 124 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 120 (STM-JC)	JUNCTION	0.00	29.40	0	01:38
MH - 123 (STM-JC)	JUNCTION	0.00	42.47	0	01:36
MH - 141 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 7-F (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 6-C (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 6-F (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 80 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 30 (STM-JC)	JUNCTION	23.43	29.97	0	01:36

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Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Day of Maximum Inflow	Hour of Maximum Inflow
MH - 20 (STM-JC)	JUNCTION	10.99	41.14	0	01:36
INLET 4-H (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 1-OS (STM-JC)	JUNCTION	0.17	0.17	0	02:06
INLET 5-I (STM-JC)	JUNCTION	7.62	35.83	0	01:38
INLET 4-F (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 1-B (STM-JC)	JUNCTION	1.89	1.89	0	01:35
INLET 6-H (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 3-A (STM-JC)	JUNCTION	0.07	0.07	0	02:16
MH - 2 (STM-JC)	JUNCTION	0.00	0.17	0	02:07
MH - 4 (STM-JC)	JUNCTION	0.00	0.19	0	01:45
MH - 3 (STM-JC)	JUNCTION	2.32	2.75	0	01:35
MH - 7 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 6 (STM-JC)	JUNCTION	14.12	18.06	0	01:35
INLET 1-I (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 14 (STM-JC)	JUNCTION	0.00	21.31	0	01:36
MH - 34 (STM-JC)	JUNCTION	0.00	29.47	0	01:37
MH - 84 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 64 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 94 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 74 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 72 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 114 (STM-JC)	JUNCTION	0.00	7.92	0	01:36
MH - 118 (STM-JC)	JUNCTION	0.00	18.07	0	01:35
MH - 115 (STM-JC)	JUNCTION	0.00	7.83	0	01:36
MH - 117 (STM-JC)	JUNCTION	0.00	21.31	0	01:36
MH - 119 (STM-JC)	JUNCTION	0.00	0.00	0	00:00

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Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Day of Maximum Inflow	Hour of Maximum Inflow
MH - 112 (STM-JC)	JUNCTION	0.00	29.48	0	01:37
INLET 4-C (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 1-D (STM-JC)	JUNCTION	3.87	3.87	0	01:35
MH - 29 (STM-JC)	JUNCTION	0.00	8.23	0	01:35
MH - 39 (STM-JC)	JUNCTION	0.00	29.40	0	01:38
INLET 3-F (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 1-G (STM-JC)	JUNCTION	1.54	42.48	0	01:36
MH - 134 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 133 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 138 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 137 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 2-H (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 7-C (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 2-C (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 2-E (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 5-H (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 2-I (STM-JC)	JUNCTION	0.00	0.00	0	00:00
East_Pond_Discharge_Structure	JUNCTION	0.00	3.15	0	04:23
WF-JCC_Outfall	OUTFALL	1.52	3.15	0	04:23
East_Pond	STORAGE	12.11	102.08	0	01:36

Node Inflow Summary

Node	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal	Flow Balance Error Percent
INLET 5-F (STM-JC)	0	0	0.000
MH - 71 (STM-JC)	0	0	0.000
MH - 31 (STM-JC)	0	0	0.000
MH - 21 (STM-JC)	0	0	0.000
MH - 91 (STM-JC)	0	0.865	-0.004
MH - 53 (STM-JC)	0	0.0485	0.000
INLET 8-C (STM-JC)	0	0	0.000
MH - 73 (STM-JC)	0	0	0.000
INLET 8-H (STM-JC)	0	0	0.000
INLET 4-A (STM-JC)	0	0	0.000
INLET 3-C (STM-JC)	0	0	0.000
INLET 1-C (STM-JC)	0	0	0.000
INLET 1-E (STM-JC)	0	0	0.000
MH - 16 (STM-JC)	0	0	0.000
MH - 108 (STM-JC)	0	0.486	0.002
MH - 100 (STM-JC)	0	0.761	-0.001
MH - 101 (STM-JC)	0	0.854	-0.003
INLET 7-H (STM-JC)	0	0	0.000
MH - 27 (STM-JC)	0.131	0.131	-0.007
MH - 57 (STM-JC)	0	0	0.000
INLET 3-H (STM-JC)	0	0	0.000
INLET 8-F (STM-JC)	0	0	0.000
INLET 9-H (STM-JC)	0	0.00303	0.000
INLET 1-H (STM-JC)	0	0	0.000
INLET 2-F (STM-JC)	0	0	0.000

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Node	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal	Flow Balance Error Percent
INLET 2-A (STM-JC)	0	0	0.000
INLET 5-C (STM-JC)	0	0	0.000
MH - 28 (STM-JC)	0	0.131	0.043
MH - 58 (STM-JC)	0	0	0.000
MH - 15 (STM-JC)	0.073	0.854	-0.001
MH - 65 (STM-JC)	0	0	0.000
MH - 75 (STM-JC)	0	0.0208	-0.120
MH - 25 (STM-JC)	0	0.416	0.105
INLET 1-A (STM-JC)	0.163	0.163	0.000
INLET 1-F (STM-JC)	0	0	0.000
INLET 10-H (STM-JC)	0	0.0102	-0.030
INLET 11-H (STM-JC)	0.412	0.426	-0.088
MH - 127 (STM-JC)	0	0	0.000
MH - 128 (STM-JC)	0	0	0.000
MH - 122 (STM-JC)	0	0.854	-0.001
MH - 125 (STM-JC)	0	0.854	-0.001
MH - 126 (STM-JC)	0	0.854	-0.003
MH - 124 (STM-JC)	0	0	0.000
MH - 120 (STM-JC)	0	0.717	0.000
MH - 123 (STM-JC)	0	1.11	-0.042
MH - 141 (STM-JC)	0	0	0.000
INLET 7-F (STM-JC)	0	0	0.000
INLET 6-C (STM-JC)	0	0	0.000
INLET 6-F (STM-JC)	0	0	0.000
MH - 80 (STM-JC)	0	0	0.000
MH - 30 (STM-JC)	0.586	0.718	0.001

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Node	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal	Flow Balance Error Percent
MH - 20 (STM-JC)	0.237	1.09	0.034
INLET 4-H (STM-JC)	0	0	0.000
INLET 1-OS (STM-JC)	0.15	0.15	0.000
INLET 5-I (STM-JC)	0.148	0.865	-0.002
INLET 4-F (STM-JC)	0	0	0.000
INLET 1-B (STM-JC)	0.02	0.02	0.000
INLET 6-H (STM-JC)	0	0	0.000
INLET 3-A (STM-JC)	0.0486	0.0486	0.000
MH - 2 (STM-JC)	0	0.15	-0.000
MH - 4 (STM-JC)	0	0.163	-0.000
MH - 3 (STM-JC)	0.104	0.466	-0.006
MH - 7 (STM-JC)	0	0	0.000
MH - 6 (STM-JC)	0.275	0.761	-0.000
INLET 1-I (STM-JC)	0	0	0.000
MH - 14 (STM-JC)	0	0.781	0.001
MH - 34 (STM-JC)	0	0.718	0.148
MH - 84 (STM-JC)	0	0	0.000
MH - 64 (STM-JC)	0	0	0.000
MH - 94 (STM-JC)	0	0	0.000
MH - 74 (STM-JC)	0	0	0.000
MH - 72 (STM-JC)	0	0	0.000
MH - 114 (STM-JC)	0	0.131	0.001
MH - 118 (STM-JC)	0	0.761	-0.003
MH - 115 (STM-JC)	0	0.131	0.014
MH - 117 (STM-JC)	0	0.781	-0.004
MH - 119 (STM-JC)	0	0	0.000

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Node	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal	Flow Balance Error Percent
MH - 112 (STM-JC)	0	0.717	-0.076
INLET 4-C (STM-JC)	0	0	0.000
INLET 1-D (STM-JC)	0.02	0.02	0.000
MH - 29 (STM-JC)	0	0.131	-0.010
MH - 39 (STM-JC)	0	0.717	-0.003
INLET 3-F (STM-JC)	0	0	0.000
INLET 1-G (STM-JC)	0.0206	1.11	0.014
MH - 134 (STM-JC)	0	0	0.000
MH - 133 (STM-JC)	0	0	0.000
MH - 138 (STM-JC)	0	0	0.000
MH - 137 (STM-JC)	0	0	0.000
INLET 2-H (STM-JC)	0	0	0.000
INLET 7-C (STM-JC)	0	0	0.000
INLET 2-C (STM-JC)	0	0	0.000
INLET 2-E (STM-JC)	0	0	0.000
INLET 5-H (STM-JC)	0	0	0.000
INLET 2-I (STM-JC)	0	0	0.000
East_Pond_Discharge_Structure	0	2.45	0.000
WF-JCC_Outfall	0.00848	2.46	0.000
East_Pond	0.0598	2.45	-0.131

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
East_Pond	75.520	7	0	0	226.819	22	0	04:23	4.98

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
WF-JCC_Outfall	71.71	1.50	3.15	2.460

NOTE: See UD-Detention Model for outfall flows

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
A-Street	1.20	0.00	0.00	0.05	1.10	0.01	1.11	0.12	2.05	0.925
Sub-basin_B	1.20	0.00	0.00	0.38	0.76	0.04	0.80	0.02	1.55	0.665
Sub-basin_C	1.20	0.00	0.00	0.39	0.77	0.02	0.79	0.32	12.00	0.657
Sub-basin_D	1.20	0.00	0.00	0.82	0.25	0.13	0.38	0.02	2.35	0.315
Sub-Basin_E	1.20	0.00	0.00	0.83	0.29	0.07	0.36	0.08	8.04	0.300
Sub-basin_F	1.20	0.00	0.00	0.40	0.76	0.02	0.77	0.27	9.38	0.644
Sub-basin_G	1.20	0.00	0.00	0.39	0.76	0.03	0.79	0.02	1.27	0.656
Sub-basin_H	1.20	0.00	0.00	0.43	0.73	0.02	0.75	0.48	16.34	0.623
Sub-basin_I	1.20	0.00	0.00	0.38	0.78	0.02	0.80	0.17	6.48	0.665
Sub-basin_J	1.20	0.00	0.00	0.12	1.04	0.01	1.04	0.15	6.73	0.873
Sub-basin_K	1.20	0.00	0.00	0.41	0.75	0.01	0.77	0.68	20.00	0.641
Sub-basin_M	1.20	0.00	0.00	0.96	0.08	0.16	0.24	0.07	6.39	0.202
Sub-basin_R	1.20	0.00	0.00	1.00	0.08	0.11	0.20	0.01	0.85	0.164

Subcatchment Runoff

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Link Flow Summary

Link	Type	Maximum |Flow| CFS	Day of Maximum Flow	Hour of Maximum Flow	Maximum |Velocity| ft/sec
{STM-JC}.PIPE - 1 (STM-JC)	CONDUIT	0.45	0	02:11	4.28
{STM-JC}.PIPE - 105 (1) (STM-JC)	CONDUIT	15.94	0	00:50	9.48
{STM-JC}.PIPE - 105 (STM-JC)	CONDUIT	15.95	0	00:50	9.50
{STM-JC}.PIPE - 119 (1) (STM-JC)	CONDUIT	17.30	0	00:51	10.80
{STM-JC}.PIPE - 119 (STM-JC)	CONDUIT	15.94	0	00:51	9.45
{STM-JC}.PIPE - 126 (1) (1) (STM-JC)	CONDUIT	23.82	0	00:47	9.08
{STM-JC}.PIPE - 126 (1) (STM-JC)	CONDUIT	23.82	0	00:47	9.19
{STM-JC}.PIPE - 126 (STM-JC)	CONDUIT	23.81	0	00:47	9.63
{STM-JC}.PIPE - 127 (1) (STM-JC)	CONDUIT	23.83	0	00:47	9.98
{STM-JC}.PIPE - 127 (STM-JC)	CONDUIT	23.83	0	00:47	10.04
{STM-JC}.PIPE - 128 (STM-JC)	CONDUIT	26.63	0	00:52	5.83
{STM-JC}.PIPE - 130 (STM-JC)	CONDUIT	26.62	0	00:53	9.66
{STM-JC}.PIPE - 133 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 134 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 135 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 136 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 137 (STM-JC)	CONDUIT	1.55	0	00:45	3.58
{STM-JC}.PIPE - 138 (STM-JC)	CONDUIT	2.34	0	00:45	3.86
{STM-JC}.PIPE - 139 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 14 (STM-JC)	CONDUIT	17.30	0	00:51	9.60
{STM-JC}.PIPE - 140 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 141 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 142 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 143 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 144 (STM-JC)	CONDUIT	0.00	0	00:00	0.00

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Link	Type	Maximum |Flow| CFS	Day of Maximum Flow	Hour of Maximum Flow	Maximum |Velocity| ft/sec
{STM-JC}.PIPE - 145 (STM-JC)	CONDUIT	0.49	0	02:36	5.28
{STM-JC}.PIPE - 146 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 15 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 16 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 2 (STM-JC)	CONDUIT	0.45	0	02:11	4.50
{STM-JC}.PIPE - 20 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 21 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 22 (1) (STM-JC)	CONDUIT	33.71	0	00:48	3.57
{STM-JC}.PIPE - 22 (STM-JC)	CONDUIT	34.01	0	00:48	7.51
{STM-JC}.PIPE - 23 (STM-JC)	CONDUIT	14.93	0	00:50	2.00
{STM-JC}.PIPE - 24 (STM-JC)	CONDUIT	14.77	0	00:54	1.55
{STM-JC}.PIPE - 25 (STM-JC)	CONDUIT	6.73	0	00:50	4.16
{STM-JC}.PIPE - 26 (STM-JC)	CONDUIT	6.73	0	00:50	4.18
{STM-JC}.PIPE - 27 (1) (1) (STM-JC)	CONDUIT	6.71	0	00:50	7.24
{STM-JC}.PIPE - 27 (1) (STM-JC)	CONDUIT	6.71	0	00:50	10.11
{STM-JC}.PIPE - 27 (STM-JC)	CONDUIT	6.72	0	00:50	8.79
{STM-JC}.PIPE - 28 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 31 (STM-JC)	CONDUIT	26.63	0	00:52	4.61
{STM-JC}.PIPE - 36 (1) (STM-JC)	CONDUIT	26.62	0	00:53	6.03
{STM-JC}.PIPE - 39 (STM-JC)	CONDUIT	26.62	0	00:53	9.38
{STM-JC}.PIPE - 4 (STM-JC)	CONDUIT	0.49	0	01:23	2.83
{STM-JC}.PIPE - 45 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 46 (STM-JC)	CONDUIT	0.12	0	02:26	2.99
{STM-JC}.PIPE - 47 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 48 (STM-JC)	CONDUIT	0.12	0	02:26	1.92
{STM-JC}.PIPE - 49 (STM-JC)	CONDUIT	0.00	0	00:00	0.00

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Link	Type	Maximum |Flow| CFS	Day of Maximum Flow	Hour of Maximum Flow	Maximum |Velocity| ft/sec
{STM-JC}.PIPE - 5 (1) (1) (STM-JC)	CONDUIT	4.01	0	00:51	7.69
{STM-JC}.PIPE - 5 (1) (STM-JC)	CONDUIT	2.99	0	01:05	7.26
{STM-JC}.PIPE - 50 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 51 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 52 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 53 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 54 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 56 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 57 (1) (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 57 (2) (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 57 (3) (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 57 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 58 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 59 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 6 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 60 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 61 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 62 (1) (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 62 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 63 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 64 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 65 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 66 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 67 (1) (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 67 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 68 (STM-JC)	CONDUIT	1.40	0	00:48	0.41

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Link	Type	Maximum |Flow| CFS	Day of Maximum Flow	Hour of Maximum Flow	Maximum |Velocity| ft/sec
{STM-JC}.PIPE - 69 (STM-JC)	CONDUIT	0.58	0	00:48	0.42
{STM-JC}.PIPE - 7 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 70 (STM-JC)	CONDUIT	0.26	0	00:48	0.49
{STM-JC}.PIPE - 71 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 72 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 73 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 74 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 75 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 76 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 77 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 78 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 79 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 82 (1) (STM-JC)	CONDUIT	32.88	0	00:53	9.58
{STM-JC}.PIPE - 83 (STM-JC)	CONDUIT	33.80	0	00:53	5.40
{STM-JC}.PIPE - 84 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 85 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 86 (STM-JC)	CONDUIT	32.83	0	00:48	7.17
1	CONDUIT	6.76	0	03:06	10.80
Emergency_Spillway	WEIR	0.00	0	00:00	0.00
Orifice_Row_1	ORIFICE	0.87	0	03:06	1.00
Orifice_Row_2	ORIFICE	0.71	0	03:06	1.00
Orifice_Row_3	ORIFICE	0.67	0	03:06	1.00
Zone_3_Weir	WEIR	4.50	0	03:06	0.06

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Link Flow Summary

Link	Max / Full Flow	Max / Full Depth
{STM-JC}.PIPE - 1 (STM-JC)	0.01	0.07
{STM-JC}.PIPE - 105 (1) (STM-JC)	0.11	0.23
{STM-JC}.PIPE - 105 (STM-JC)	0.11	0.23
{STM-JC}.PIPE - 119 (1) (STM-JC)	0.10	0.22
{STM-JC}.PIPE - 119 (STM-JC)	0.11	0.23
{STM-JC}.PIPE - 126 (1) (1) (STM-JC)	0.12	0.26
{STM-JC}.PIPE - 126 (1) (STM-JC)	0.12	0.26
{STM-JC}.PIPE - 126 (STM-JC)	0.12	0.25
{STM-JC}.PIPE - 127 (1) (STM-JC)	0.11	0.25
{STM-JC}.PIPE - 127 (STM-JC)	0.11	0.24
{STM-JC}.PIPE - 128 (STM-JC)	0.26	0.39
{STM-JC}.PIPE - 130 (STM-JC)	0.13	0.27
{STM-JC}.PIPE - 133 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 134 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 135 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 136 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 137 (STM-JC)	0.15	0.29
{STM-JC}.PIPE - 138 (STM-JC)	0.10	0.25
{STM-JC}.PIPE - 139 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 14 (STM-JC)	0.11	0.24
{STM-JC}.PIPE - 140 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 141 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 142 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 143 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 144 (STM-JC)	0.00	0.00

Link	Max / Full Flow	Max / Full Depth
{STM-JC}.PIPE - 145 (STM-JC)	0.01	0.07
{STM-JC}.PIPE - 146 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 15 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 16 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 2 (STM-JC)	0.01	0.07
{STM-JC}.PIPE - 20 (STM-JC)	0.00	0.16
{STM-JC}.PIPE - 21 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 22 (1) (STM-JC)	0.24	1.00
{STM-JC}.PIPE - 22 (STM-JC)	0.24	0.80
{STM-JC}.PIPE - 23 (STM-JC)	0.21	1.00
{STM-JC}.PIPE - 24 (STM-JC)	0.22	1.00
{STM-JC}.PIPE - 25 (STM-JC)	0.42	0.51
{STM-JC}.PIPE - 26 (STM-JC)	0.42	0.51
{STM-JC}.PIPE - 27 (1) (1) (STM-JC)	0.04	0.28
{STM-JC}.PIPE - 27 (1) (STM-JC)	0.15	0.26
{STM-JC}.PIPE - 27 (STM-JC)	0.18	0.29
{STM-JC}.PIPE - 28 (STM-JC)	0.00	0.06
{STM-JC}.PIPE - 31 (STM-JC)	0.83	0.47
{STM-JC}.PIPE - 36 (1) (STM-JC)	0.26	0.38
{STM-JC}.PIPE - 39 (STM-JC)	0.13	0.28
{STM-JC}.PIPE - 4 (STM-JC)	0.05	0.15
{STM-JC}.PIPE - 45 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 46 (STM-JC)	0.00	0.03
{STM-JC}.PIPE - 47 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 48 (STM-JC)	0.01	0.08
{STM-JC}.PIPE - 49 (STM-JC)	0.00	0.00

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Link	Max / Full Flow	Max / Full Depth
{STM-JC}.PIPE - 5 (1) (1) (STM-JC)	0.06	0.16
{STM-JC}.PIPE - 5 (1) (STM-JC)	0.04	0.14
{STM-JC}.PIPE - 50 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 51 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 52 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 53 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 54 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 56 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 57 (1) (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 57 (2) (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 57 (3) (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 57 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 58 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 59 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 6 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 60 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 61 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 62 (1) (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 62 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 63 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 64 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 65 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 66 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 67 (1) (STM-JC)	0.00	0.50
{STM-JC}.PIPE - 67 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 68 (STM-JC)	0.03	1.00

Link	Max / Full Flow	Max / Full Depth
{STM-JC}.PIPE - 69 (STM-JC)	0.02	1.00
{STM-JC}.PIPE - 7 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 70 (STM-JC)	0.01	0.96
{STM-JC}.PIPE - 71 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 72 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 73 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 74 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 75 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 76 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 77 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 78 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 79 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 82 (1) (STM-JC)	0.19	0.32
{STM-JC}.PIPE - 83 (STM-JC)	0.04	0.57
{STM-JC}.PIPE - 84 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 85 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 86 (STM-JC)	0.23	0.39
1	0.02	0.10
Emergency_Spillway		
Orifice_Row_1		
Orifice_Row_2		
Orifice_Row_3		
Zone_3_Weir		

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Node Depth Summary

Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Day of Maximum Depth
East_Pond	STORAGE	2.86	5.38	5825.38	0
East_Pond_Discharge_Structure	JUNCTION	0.15	0.39	5818.89	0
INLET 10-H (STM-JC)	JUNCTION	1.25	3.01	5825.38	0
INLET 11-H (STM-JC)	JUNCTION	2.23	4.49	5825.38	0
INLET 1-A (STM-JC)	JUNCTION	0.12	0.24	5908.09	0
INLET 1-B (STM-JC)	JUNCTION	0.02	0.49	5884.24	0
INLET 1-C (STM-JC)	JUNCTION	0.00	0.00	5879.55	0
INLET 1-D (STM-JC)	JUNCTION	0.01	0.56	5855.87	0
INLET 1-E (STM-JC)	JUNCTION	0.00	0.00	5848.65	0
INLET 1-F (STM-JC)	JUNCTION	0.00	0.00	5871.42	0
INLET 1-G (STM-JC)	JUNCTION	1.09	2.69	5825.38	0
INLET 1-H (STM-JC)	JUNCTION	0.00	0.00	5865.63	0
INLET 1-I (STM-JC)	JUNCTION	0.00	0.00	5841.22	0
INLET 1-OS (STM-JC)	JUNCTION	0.08	0.15	5924.39	0
INLET 2-A (STM-JC)	JUNCTION	0.00	0.00	5908.15	0
INLET 2-C (STM-JC)	JUNCTION	0.00	0.00	5879.78	0
INLET 2-E (STM-JC)	JUNCTION	0.00	0.00	5848.23	0
INLET 2-F (STM-JC)	JUNCTION	0.00	0.00	5871.65	0
INLET 2-H (STM-JC)	JUNCTION	0.00	0.00	5865.70	0
INLET 2-I (STM-JC)	JUNCTION	0.00	0.00	5840.86	0
INLET 3-A (STM-JC)	JUNCTION	0.07	0.12	5908.21	0
INLET 3-C (STM-JC)	JUNCTION	0.00	0.00	5877.81	0
INLET 3-F (STM-JC)	JUNCTION	0.00	0.00	5868.25	0
INLET 3-H (STM-JC)	JUNCTION	0.00	0.00	5854.61	0
INLET 4-A (STM-JC)	JUNCTION	0.00	0.00	5907.91	0

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Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Day of Maximum Depth
INLET 4-C (STM-JC)	JUNCTION	0.00	0.00	5877.34	0
INLET 4-F (STM-JC)	JUNCTION	0.00	0.00	5866.21	0
INLET 4-H (STM-JC)	JUNCTION	0.00	0.00	5854.82	0
INLET 5-C (STM-JC)	JUNCTION	0.00	0.00	5879.34	0
INLET 5-F (STM-JC)	JUNCTION	0.00	0.00	5855.60	0
INLET 5-H (STM-JC)	JUNCTION	0.00	0.00	5837.62	0
INLET 5-I (STM-JC)	JUNCTION	0.10	1.37	5829.57	0
INLET 6-C (STM-JC)	JUNCTION	0.00	0.00	5878.88	0
INLET 6-F (STM-JC)	JUNCTION	0.00	0.00	5852.92	0
INLET 6-H (STM-JC)	JUNCTION	0.00	0.00	5837.53	0
INLET 7-C (STM-JC)	JUNCTION	0.00	0.00	5881.64	0
INLET 7-F (STM-JC)	JUNCTION	0.00	0.00	5827.64	0
INLET 7-H (STM-JC)	JUNCTION	0.00	0.00	5829.38	0
INLET 8-C (STM-JC)	JUNCTION	0.00	0.00	5881.41	0
INLET 8-F (STM-JC)	JUNCTION	0.00	0.00	5827.41	0
INLET 8-H (STM-JC)	JUNCTION	0.00	0.00	5829.61	0
INLET 9-H (STM-JC)	JUNCTION	0.85	2.32	5825.38	0
MH - 100 (STM-JC)	JUNCTION	0.14	0.85	5859.68	0
MH - 101 (STM-JC)	JUNCTION	0.14	1.07	5832.13	0
MH - 108 (STM-JC)	JUNCTION	0.13	0.41	5883.03	0
MH - 112 (STM-JC)	JUNCTION	0.12	1.66	5837.14	0
MH - 114 (STM-JC)	JUNCTION	0.03	0.54	5878.60	0
MH - 115 (STM-JC)	JUNCTION	0.03	0.43	5860.48	0
MH - 117 (STM-JC)	JUNCTION	0.13	0.82	5854.49	0
MH - 118 (STM-JC)	JUNCTION	0.14	0.85	5865.03	0
MH - 119 (STM-JC)	JUNCTION	0.00	0.00	5834.32	0

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Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Day of Maximum Depth
MH - 120 (STM-JC)	JUNCTION	0.09	1.24	5832.19	0
MH - 122 (STM-JC)	JUNCTION	0.15	1.13	5838.58	0
MH - 123 (STM-JC)	JUNCTION	2.38	4.69	5825.38	0
MH - 124 (STM-JC)	JUNCTION	0.00	0.00	5830.17	0
MH - 125 (STM-JC)	JUNCTION	0.16	1.15	5835.27	0
MH - 126 (STM-JC)	JUNCTION	0.14	1.08	5828.53	0
MH - 127 (STM-JC)	JUNCTION	0.00	0.00	5878.17	0
MH - 128 (STM-JC)	JUNCTION	0.00	0.00	5879.19	0
MH - 133 (STM-JC)	JUNCTION	0.00	0.00	5867.87	0
MH - 134 (STM-JC)	JUNCTION	0.00	0.00	5871.06	0
MH - 137 (STM-JC)	JUNCTION	0.00	0.00	5828.14	0
MH - 138 (STM-JC)	JUNCTION	0.00	0.00	5829.02	0
MH - 14 (STM-JC)	JUNCTION	0.15	0.90	5848.31	0
MH - 141 (STM-JC)	JUNCTION	0.00	0.00	5840.68	0
MH - 15 (STM-JC)	JUNCTION	0.25	1.16	5843.59	0
MH - 16 (STM-JC)	JUNCTION	0.00	0.00	5848.09	0
MH - 2 (STM-JC)	JUNCTION	0.07	0.14	5917.73	0
MH - 20 (STM-JC)	JUNCTION	0.47	1.82	5825.80	0
MH - 21 (STM-JC)	JUNCTION	0.00	0.00	5826.36	0
MH - 25 (STM-JC)	JUNCTION	2.79	5.29	5825.38	0
MH - 27 (STM-JC)	JUNCTION	0.06	1.14	5894.42	0
MH - 28 (STM-JC)	JUNCTION	0.65	1.72	5893.96	0
MH - 29 (STM-JC)	JUNCTION	0.04	0.59	5892.93	0
MH - 3 (STM-JC)	JUNCTION	0.12	0.35	5898.29	0
MH - 30 (STM-JC)	JUNCTION	0.20	2.22	5839.40	0
MH - 31 (STM-JC)	JUNCTION	0.00	0.00	5839.60	0

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Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Day of Maximum Depth
MH - 34 (STM-JC)	JUNCTION	0.12	1.58	5838.56	0
MH - 39 (STM-JC)	JUNCTION	0.09	1.21	5835.07	0
MH - 4 (STM-JC)	JUNCTION	0.07	0.14	5907.34	0
MH - 53 (STM-JC)	JUNCTION	0.04	0.07	5907.31	0
MH - 57 (STM-JC)	JUNCTION	0.00	0.00	5877.76	0
MH - 58 (STM-JC)	JUNCTION	0.00	0.00	5881.05	0
MH - 6 (STM-JC)	JUNCTION	0.14	0.85	5870.56	0
MH - 64 (STM-JC)	JUNCTION	0.00	0.00	5841.17	0
MH - 65 (STM-JC)	JUNCTION	0.00	0.00	5844.88	0
MH - 7 (STM-JC)	JUNCTION	0.00	0.00	5876.21	0
MH - 71 (STM-JC)	JUNCTION	0.00	0.00	5865.02	0
MH - 72 (STM-JC)	JUNCTION	0.00	0.00	5864.09	0
MH - 73 (STM-JC)	JUNCTION	0.00	0.00	5853.28	0
MH - 74 (STM-JC)	JUNCTION	0.00	0.00	5836.47	0
MH - 75 (STM-JC)	JUNCTION	1.70	3.70	5825.38	0
MH - 80 (STM-JC)	JUNCTION	0.00	0.00	5854.24	0
MH - 84 (STM-JC)	JUNCTION	0.00	0.00	5839.76	0
MH - 91 (STM-JC)	JUNCTION	0.06	0.55	5825.63	0
MH - 94 (STM-JC)	JUNCTION	0.00	0.00	5838.20	0
WF-JCC_Outfall	OUTFALL	0.15	0.39	5814.39	0

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Node Depth Summary

Node	Hour of Maximum Depth	Maximum Reported Depth Feet
East_Pond	03:06	5.38
East_Pond_Discharge_Structure	03:06	0.39
INLET 10-H (STM-JC)	03:05	3.01
INLET 11-H (STM-JC)	03:05	4.49
INLET 1-A (STM-JC)	01:23	0.24
INLET 1-B (STM-JC)	00:45	0.49
INLET 1-C (STM-JC)	00:00	0.00
INLET 1-D (STM-JC)	00:45	0.56
INLET 1-E (STM-JC)	00:00	0.00
INLET 1-F (STM-JC)	00:00	0.00
INLET 1-G (STM-JC)	03:05	2.69
INLET 1-H (STM-JC)	00:00	0.00
INLET 1-I (STM-JC)	00:00	0.00
INLET 1-OS (STM-JC)	02:11	0.15
INLET 2-A (STM-JC)	00:00	0.00
INLET 2-C (STM-JC)	00:00	0.00
INLET 2-E (STM-JC)	00:00	0.00
INLET 2-F (STM-JC)	00:00	0.00
INLET 2-H (STM-JC)	00:00	0.00
INLET 2-I (STM-JC)	00:00	0.00
INLET 3-A (STM-JC)	02:26	0.12
INLET 3-C (STM-JC)	00:00	0.00
INLET 3-F (STM-JC)	00:00	0.00
INLET 3-H (STM-JC)	00:00	0.00
INLET 4-A (STM-JC)	00:00	0.00

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Node	Hour of Maximum Depth	Maximum Reported Depth Feet
INLET 4-C (STM-JC)	00:00	0.00
INLET 4-F (STM-JC)	00:00	0.00
INLET 4-H (STM-JC)	00:00	0.00
INLET 5-C (STM-JC)	00:00	0.00
INLET 5-F (STM-JC)	00:00	0.00
INLET 5-H (STM-JC)	00:00	0.00
INLET 5-I (STM-JC)	00:53	1.31
INLET 6-C (STM-JC)	00:00	0.00
INLET 6-F (STM-JC)	00:00	0.00
INLET 6-H (STM-JC)	00:00	0.00
INLET 7-C (STM-JC)	00:00	0.00
INLET 7-F (STM-JC)	00:00	0.00
INLET 7-H (STM-JC)	00:00	0.00
INLET 8-C (STM-JC)	00:00	0.00
INLET 8-F (STM-JC)	00:00	0.00
INLET 8-H (STM-JC)	00:00	0.00
INLET 9-H (STM-JC)	03:05	2.32
MH - 100 (STM-JC)	00:50	0.80
MH - 101 (STM-JC)	00:47	0.96
MH - 108 (STM-JC)	00:51	0.40
MH - 112 (STM-JC)	00:52	1.59
MH - 114 (STM-JC)	00:50	0.48
MH - 115 (STM-JC)	00:50	0.39
MH - 117 (STM-JC)	00:51	0.76
MH - 118 (STM-JC)	00:50	0.79
MH - 119 (STM-JC)	00:00	0.00

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Node	Hour of Maximum Depth	Maximum Reported Depth Feet
MH - 120 (STM-JC)	00:53	1.19
MH - 122 (STM-JC)	00:47	1.05
MH - 123 (STM-JC)	03:05	4.69
MH - 124 (STM-JC)	00:00	0.00
MH - 125 (STM-JC)	00:47	1.05
MH - 126 (STM-JC)	00:47	0.95
MH - 127 (STM-JC)	00:00	0.00
MH - 128 (STM-JC)	00:00	0.00
MH - 133 (STM-JC)	00:00	0.00
MH - 134 (STM-JC)	00:00	0.00
MH - 137 (STM-JC)	00:00	0.00
MH - 138 (STM-JC)	00:00	0.00
MH - 14 (STM-JC)	00:51	0.83
MH - 141 (STM-JC)	00:00	0.00
MH - 15 (STM-JC)	00:46	1.10
MH - 16 (STM-JC)	00:00	0.00
MH - 2 (STM-JC)	02:11	0.14
MH - 20 (STM-JC)	00:47	1.64
MH - 21 (STM-JC)	00:00	0.00
MH - 25 (STM-JC)	03:06	5.29
MH - 27 (STM-JC)	00:50	1.13
MH - 28 (STM-JC)	00:50	1.69
MH - 29 (STM-JC)	00:50	0.56
MH - 3 (STM-JC)	01:05	0.35
MH - 30 (STM-JC)	00:51	2.13
MH - 31 (STM-JC)	00:00	0.00

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Node	Hour of Maximum Depth	Maximum Reported Depth Feet
MH - 34 (STM-JC)	00:52	1.50
MH - 39 (STM-JC)	00:53	1.16
MH - 4 (STM-JC)	01:47	0.14
MH - 53 (STM-JC)	02:26	0.07
MH - 57 (STM-JC)	00:00	0.00
MH - 58 (STM-JC)	00:00	0.00
MH - 6 (STM-JC)	00:50	0.79
MH - 64 (STM-JC)	00:00	0.00
MH - 65 (STM-JC)	00:00	0.00
MH - 7 (STM-JC)	00:00	0.00
MH - 71 (STM-JC)	00:00	0.00
MH - 72 (STM-JC)	00:00	0.00
MH - 73 (STM-JC)	00:00	0.00
MH - 74 (STM-JC)	00:00	0.00
MH - 75 (STM-JC)	03:05	3.70
MH - 80 (STM-JC)	00:00	0.00
MH - 84 (STM-JC)	00:00	0.00
MH - 91 (STM-JC)	00:53	0.53
MH - 94 (STM-JC)	00:00	0.00
WF-JCC_Outfall	03:06	0.39

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Node Inflow Summary

Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Day of Maximum Inflow	Hour of Maximum Inflow
East_Pond	STORAGE	6.39	85.46	0	00:50
East_Pond_Discharge_Structure	JUNCTION	0.00	6.76	0	03:06
INLET 10-H (STM-JC)	JUNCTION	0.00	0.58	0	00:48
INLET 11-H (STM-JC)	JUNCTION	16.34	16.34	0	00:50
INLET 1-A (STM-JC)	JUNCTION	0.49	0.49	0	01:22
INLET 1-B (STM-JC)	JUNCTION	1.55	1.55	0	00:45
INLET 1-C (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 1-D (STM-JC)	JUNCTION	2.35	2.35	0	00:45
INLET 1-E (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 1-F (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 1-G (STM-JC)	JUNCTION	1.27	34.07	0	00:48
INLET 1-H (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 1-I (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 1-OS (STM-JC)	JUNCTION	0.45	0.45	0	02:11
INLET 2-A (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 2-C (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 2-E (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 2-F (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 2-H (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 2-I (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 3-A (STM-JC)	JUNCTION	0.12	0.12	0	02:26
INLET 3-C (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 3-F (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 3-H (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 4-A (STM-JC)	JUNCTION	0.00	0.00	0	00:00

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Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Day of Maximum Inflow	Hour of Maximum Inflow
INLET 4-C (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 4-F (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 4-H (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 5-C (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 5-F (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 5-H (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 5-I (STM-JC)	JUNCTION	6.48	32.88	0	00:52
INLET 6-C (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 6-F (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 6-H (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 7-C (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 7-F (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 7-H (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 8-C (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 8-F (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 8-H (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 9-H (STM-JC)	JUNCTION	0.00	0.26	0	00:48
MH - 100 (STM-JC)	JUNCTION	0.00	15.94	0	00:50
MH - 101 (STM-JC)	JUNCTION	0.00	23.82	0	00:47
MH - 108 (STM-JC)	JUNCTION	0.00	4.01	0	00:50
MH - 112 (STM-JC)	JUNCTION	0.00	26.63	0	00:52
MH - 114 (STM-JC)	JUNCTION	0.00	6.72	0	00:50
MH - 115 (STM-JC)	JUNCTION	0.00	6.71	0	00:50
MH - 117 (STM-JC)	JUNCTION	0.00	17.30	0	00:50
MH - 118 (STM-JC)	JUNCTION	0.00	15.95	0	00:50
MH - 119 (STM-JC)	JUNCTION	0.00	0.00	0	00:00

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Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Day of Maximum Inflow	Hour of Maximum Inflow
MH - 120 (STM-JC)	JUNCTION	0.00	26.62	0	00:53
MH - 122 (STM-JC)	JUNCTION	0.00	23.81	0	00:47
MH - 123 (STM-JC)	JUNCTION	0.00	34.01	0	00:48
MH - 124 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 125 (STM-JC)	JUNCTION	0.00	23.82	0	00:47
MH - 126 (STM-JC)	JUNCTION	0.00	23.83	0	00:47
MH - 127 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 128 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 133 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 134 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 137 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 138 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 14 (STM-JC)	JUNCTION	0.00	17.30	0	00:51
MH - 141 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 15 (STM-JC)	JUNCTION	8.04	23.82	0	00:46
MH - 16 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 2 (STM-JC)	JUNCTION	0.00	0.45	0	02:11
MH - 20 (STM-JC)	JUNCTION	9.38	32.83	0	00:47
MH - 21 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 25 (STM-JC)	JUNCTION	0.00	14.93	0	00:50
MH - 27 (STM-JC)	JUNCTION	6.73	6.73	0	00:50
MH - 28 (STM-JC)	JUNCTION	0.00	6.73	0	00:50
MH - 29 (STM-JC)	JUNCTION	0.00	6.73	0	00:50
MH - 3 (STM-JC)	JUNCTION	2.05	2.99	0	01:05
MH - 30 (STM-JC)	JUNCTION	20.00	26.70	0	00:50
MH - 31 (STM-JC)	JUNCTION	0.00	0.00	0	00:00

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Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Day of Maximum Inflow	Hour of Maximum Inflow
MH - 34 (STM-JC)	JUNCTION	0.00	26.63	0	00:52
MH - 39 (STM-JC)	JUNCTION	0.00	26.62	0	00:53
MH - 4 (STM-JC)	JUNCTION	0.00	0.49	0	01:23
MH - 53 (STM-JC)	JUNCTION	0.00	0.12	0	02:26
MH - 57 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 58 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 6 (STM-JC)	JUNCTION	12.00	15.96	0	00:50
MH - 64 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 65 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 7 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 71 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 72 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 73 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 74 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 75 (STM-JC)	JUNCTION	0.00	1.40	0	00:48
MH - 80 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 84 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 91 (STM-JC)	JUNCTION	0.00	32.88	0	00:53
MH - 94 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
WF-JCC_Outfall	OUTFALL	0.85	6.76	0	03:06

Node Inflow Summary

Node	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal	Flow Balance Error Percent
East_Pond	0.0675	3.45	-0.040
East_Pond_Discharge_Structure	0	3.45	0.000
INLET 10-H (STM-JC)	0	0.00801	-0.044
INLET 11-H (STM-JC)	0.475	0.489	-0.080
INLET 1-A (STM-JC)	0.468	0.468	0.000
INLET 1-B (STM-JC)	0.0229	0.0229	0.000
INLET 1-C (STM-JC)	0	0	0.000
INLET 1-D (STM-JC)	0.0226	0.0226	0.000
INLET 1-E (STM-JC)	0	0	0.000
INLET 1-F (STM-JC)	0	0	0.000
INLET 1-G (STM-JC)	0.0237	1.9	0.054
INLET 1-H (STM-JC)	0	0	0.000
INLET 1-I (STM-JC)	0	0	0.000
INLET 1-OS (STM-JC)	0.432	0.432	0.000
INLET 2-A (STM-JC)	0	0	0.000
INLET 2-C (STM-JC)	0	0	0.000
INLET 2-E (STM-JC)	0	0	0.000
INLET 2-F (STM-JC)	0	0	0.000
INLET 2-H (STM-JC)	0	0	0.000
INLET 2-I (STM-JC)	0	0	0.000
INLET 3-A (STM-JC)	0.14	0.14	0.000
INLET 3-C (STM-JC)	0	0	0.000
INLET 3-F (STM-JC)	0	0	0.000
INLET 3-H (STM-JC)	0	0	0.000
INLET 4-A (STM-JC)	0	0	0.000

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Node	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal	Flow Balance Error Percent
INLET 4-C (STM-JC)	0	0	0.000
INLET 4-F (STM-JC)	0	0	0.000
INLET 4-H (STM-JC)	0	0	0.000
INLET 5-C (STM-JC)	0	0	0.000
INLET 5-F (STM-JC)	0	0	0.000
INLET 5-H (STM-JC)	0	0	0.000
INLET 5-I (STM-JC)	0.171	0.996	-0.001
INLET 6-C (STM-JC)	0	0	0.000
INLET 6-F (STM-JC)	0	0	0.000
INLET 6-H (STM-JC)	0	0	0.000
INLET 7-C (STM-JC)	0	0	0.000
INLET 7-F (STM-JC)	0	0	0.000
INLET 7-H (STM-JC)	0	0	0.000
INLET 8-C (STM-JC)	0	0	0.000
INLET 8-F (STM-JC)	0	0	0.000
INLET 8-H (STM-JC)	0	0	0.000
INLET 9-H (STM-JC)	0	0.00249	0.000
MH - 100 (STM-JC)	0	1.5	-0.000
MH - 101 (STM-JC)	0	1.61	-0.001
MH - 108 (STM-JC)	0	1.18	0.001
MH - 112 (STM-JC)	0	0.825	-0.038
MH - 114 (STM-JC)	0	0.149	0.000
MH - 115 (STM-JC)	0	0.149	0.051
MH - 117 (STM-JC)	0	1.52	-0.002
MH - 118 (STM-JC)	0	1.5	-0.002
MH - 119 (STM-JC)	0	0	0.000

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Node	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal	Flow Balance Error Percent
MH - 120 (STM-JC)	0	0.826	0.000
MH - 122 (STM-JC)	0	1.61	-0.000
MH - 123 (STM-JC)	0	1.9	-0.070
MH - 124 (STM-JC)	0	0	0.000
MH - 125 (STM-JC)	0	1.61	-0.001
MH - 126 (STM-JC)	0	1.61	0.007
MH - 127 (STM-JC)	0	0	0.000
MH - 128 (STM-JC)	0	0	0.000
MH - 133 (STM-JC)	0	0	0.000
MH - 134 (STM-JC)	0	0	0.000
MH - 137 (STM-JC)	0	0	0.000
MH - 138 (STM-JC)	0	0	0.000
MH - 14 (STM-JC)	0	1.52	0.001
MH - 141 (STM-JC)	0	0	0.000
MH - 15 (STM-JC)	0.0836	1.61	-0.000
MH - 16 (STM-JC)	0	0	0.000
MH - 2 (STM-JC)	0	0.432	-0.000
MH - 20 (STM-JC)	0.273	1.88	0.017
MH - 21 (STM-JC)	0	0	0.000
MH - 25 (STM-JC)	0	0.478	-0.783
MH - 27 (STM-JC)	0.149	0.149	-0.006
MH - 28 (STM-JC)	0	0.149	0.038
MH - 29 (STM-JC)	0	0.149	-0.007
MH - 3 (STM-JC)	0.12	1.16	-0.003
MH - 30 (STM-JC)	0.677	0.826	-0.029
MH - 31 (STM-JC)	0	0	0.000

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Node	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal	Flow Balance Error Percent
MH - 34 (STM-JC)	0	0.826	0.088
MH - 39 (STM-JC)	0	0.826	-0.003
MH - 4 (STM-JC)	0	0.468	0.000
MH - 53 (STM-JC)	0	0.14	0.000
MH - 57 (STM-JC)	0	0	0.000
MH - 58 (STM-JC)	0	0	0.000
MH - 6 (STM-JC)	0.318	1.5	-0.000
MH - 64 (STM-JC)	0	0	0.000
MH - 65 (STM-JC)	0	0	0.000
MH - 7 (STM-JC)	0	0	0.000
MH - 71 (STM-JC)	0	0	0.000
MH - 72 (STM-JC)	0	0	0.000
MH - 73 (STM-JC)	0	0	0.000
MH - 74 (STM-JC)	0	0	0.000
MH - 75 (STM-JC)	0	0.0181	-0.334
MH - 80 (STM-JC)	0	0	0.000
MH - 84 (STM-JC)	0	0	0.000
MH - 91 (STM-JC)	0	0.996	-0.001
MH - 94 (STM-JC)	0	0	0.000
WF-JCC_Outfall	0.00994	3.46	0.000

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
East_Pond	88.785	9	0	0	253.596	25	0	03:06	6.76

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
WF-JCC_Outfall	75.15	2.05	6.76	3.459

NOTE: See UD-Detention Model for outfall flows

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
A-Street	1.66	0.00	0.00	0.06	1.54	0.02	1.56	0.17	3.44	0.941
Sub-basin_B	1.66	0.00	0.00	0.45	1.06	0.13	1.19	0.03	2.47	0.718
Sub-basin_C	1.66	0.00	0.00	0.49	1.07	0.08	1.15	0.46	19.53	0.694
Sub-basin_D	1.66	0.00	0.00	0.93	0.35	0.37	0.72	0.04	4.11	0.437
Sub-Basin_E	1.66	0.00	0.00	0.99	0.40	0.25	0.66	0.15	12.78	0.398
Sub-basin_F	1.66	0.00	0.00	0.51	1.05	0.07	1.12	0.40	15.41	0.679
Sub-basin_G	1.66	0.00	0.00	0.47	1.06	0.11	1.17	0.04	2.07	0.704
Sub-basin_H	1.66	0.00	0.00	0.55	1.02	0.07	1.09	0.69	26.84	0.658
Sub-basin_I	1.66	0.00	0.00	0.47	1.09	0.08	1.16	0.25	10.54	0.702
Sub-basin_J	1.66	0.00	0.00	0.13	1.45	0.05	1.50	0.21	11.10	0.907
Sub-basin_K	1.66	0.00	0.00	0.52	1.05	0.06	1.11	0.98	33.27	0.673
Sub-basin_M	1.66	0.00	0.00	1.09	0.11	0.46	0.57	0.16	14.15	0.346
Sub-basin_R	1.66	0.00	0.00	1.17	0.11	0.38	0.49	0.02	1.73	0.296

Subcatchment Runoff

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Link Flow Summary

Link	Type	Maximum |Flow| CFS	Day of Maximum Flow	Hour of Maximum Flow	Maximum |Velocity| ft/sec
{STM-JC}.PIPE - 1 (STM-JC)	CONDUIT	1.13	0	01:57	5.63
{STM-JC}.PIPE - 105 (1) (STM-JC)	CONDUIT	25.59	0	00:50	10.64
{STM-JC}.PIPE - 105 (STM-JC)	CONDUIT	25.60	0	00:50	10.67
{STM-JC}.PIPE - 119 (1) (STM-JC)	CONDUIT	28.34	0	00:48	12.15
{STM-JC}.PIPE - 119 (STM-JC)	CONDUIT	25.58	0	00:50	10.60
{STM-JC}.PIPE - 126 (1) (1) (STM-JC)	CONDUIT	39.56	0	00:47	10.16
{STM-JC}.PIPE - 126 (1) (STM-JC)	CONDUIT	39.55	0	00:47	10.29
{STM-JC}.PIPE - 126 (STM-JC)	CONDUIT	39.53	0	00:46	10.88
{STM-JC}.PIPE - 127 (1) (STM-JC)	CONDUIT	39.59	0	00:47	9.90
{STM-JC}.PIPE - 127 (STM-JC)	CONDUIT	39.57	0	00:47	11.20
{STM-JC}.PIPE - 128 (STM-JC)	CONDUIT	43.90	0	00:51	6.31
{STM-JC}.PIPE - 130 (STM-JC)	CONDUIT	43.87	0	00:52	10.73
{STM-JC}.PIPE - 133 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 134 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 135 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 136 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 137 (STM-JC)	CONDUIT	2.47	0	00:45	4.03
{STM-JC}.PIPE - 138 (STM-JC)	CONDUIT	4.11	0	00:45	4.46
{STM-JC}.PIPE - 139 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 14 (STM-JC)	CONDUIT	28.34	0	00:48	10.79
{STM-JC}.PIPE - 140 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 141 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 142 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 143 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 144 (STM-JC)	CONDUIT	0.00	0	00:00	0.00

Link	Type	Maximum |Flow| CFS	Day of Maximum Flow	Hour of Maximum Flow	Maximum |Velocity| ft/sec
{STM-JC}.PIPE - 145 (STM-JC)	CONDUIT	1.28	0	01:38	7.01
{STM-JC}.PIPE - 146 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 15 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 16 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 2 (STM-JC)	CONDUIT	1.13	0	01:58	5.94
{STM-JC}.PIPE - 20 (STM-JC)	CONDUIT	0.05	0	00:46	0.05
{STM-JC}.PIPE - 21 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 22 (1) (STM-JC)	CONDUIT	55.87	0	00:47	4.85
{STM-JC}.PIPE - 22 (STM-JC)	CONDUIT	56.37	0	00:47	7.44
{STM-JC}.PIPE - 23 (STM-JC)	CONDUIT	25.27	0	00:50	2.68
{STM-JC}.PIPE - 24 (STM-JC)	CONDUIT	25.24	0	00:50	2.62
{STM-JC}.PIPE - 25 (STM-JC)	CONDUIT	11.10	0	00:45	4.59
{STM-JC}.PIPE - 26 (STM-JC)	CONDUIT	11.08	0	00:45	4.79
{STM-JC}.PIPE - 27 (1) (1) (STM-JC)	CONDUIT	10.98	0	00:47	7.15
{STM-JC}.PIPE - 27 (1) (STM-JC)	CONDUIT	10.98	0	00:47	11.55
{STM-JC}.PIPE - 27 (STM-JC)	CONDUIT	11.00	0	00:46	10.03
{STM-JC}.PIPE - 28 (STM-JC)	CONDUIT	0.15	0	00:45	0.41
{STM-JC}.PIPE - 31 (STM-JC)	CONDUIT	43.92	0	00:50	5.27
{STM-JC}.PIPE - 36 (1) (STM-JC)	CONDUIT	43.86	0	00:52	6.76
{STM-JC}.PIPE - 39 (STM-JC)	CONDUIT	43.87	0	00:52	10.43
{STM-JC}.PIPE - 4 (STM-JC)	CONDUIT	1.28	0	01:37	3.61
{STM-JC}.PIPE - 45 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 46 (STM-JC)	CONDUIT	0.25	0	02:16	3.71
{STM-JC}.PIPE - 47 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 48 (STM-JC)	CONDUIT	0.25	0	02:16	2.34
{STM-JC}.PIPE - 49 (STM-JC)	CONDUIT	0.00	0	00:00	0.00

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Link	Type	Maximum |Flow| CFS	Day of Maximum Flow	Hour of Maximum Flow	Maximum |Velocity| ft/sec
{STM-JC}.PIPE - 5 (1) (1) (STM-JC)	CONDUIT	6.12	0	00:51	8.67
{STM-JC}.PIPE - 5 (1) (STM-JC)	CONDUIT	4.37	0	00:57	8.11
{STM-JC}.PIPE - 50 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 51 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 52 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 53 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 54 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 56 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 57 (1) (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 57 (2) (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 57 (3) (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 57 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 58 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 59 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 6 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 60 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 61 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 62 (1) (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 62 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 63 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 64 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 65 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 66 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 67 (1) (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 67 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 68 (STM-JC)	CONDUIT	2.48	0	00:45	0.52

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Link	Type	Maximum |Flow| CFS	Day of Maximum Flow	Hour of Maximum Flow	Maximum |Velocity| ft/sec
{STM-JC}.PIPE - 69 (STM-JC)	CONDUIT	0.99	0	00:44	0.50
{STM-JC}.PIPE - 7 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 70 (STM-JC)	CONDUIT	0.44	0	00:44	0.63
{STM-JC}.PIPE - 71 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 72 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 73 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 74 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 75 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 76 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 77 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 78 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 79 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 82 (1) (STM-JC)	CONDUIT	54.04	0	00:52	10.71
{STM-JC}.PIPE - 83 (STM-JC)	CONDUIT	54.04	0	00:52	6.76
{STM-JC}.PIPE - 84 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 85 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 86 (STM-JC)	CONDUIT	54.48	0	00:47	8.18
1	CONDUIT	24.00	0	02:10	15.71
Emergency_Spillway	WEIR	0.00	0	00:00	0.00
Orifice_Row_1	ORIFICE	0.91	0	02:10	1.00
Orifice_Row_2	ORIFICE	0.76	0	02:10	1.00
Orifice_Row_3	ORIFICE	0.51	0	02:10	1.00
Zone_3_Weir	WEIR	21.82	0	02:10	0.16

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Link Flow Summary

Link	Max / Full Flow	Max / Full Depth
{STM-JC}.PIPE - 1 (STM-JC)	0.03	0.11
{STM-JC}.PIPE - 105 (1) (STM-JC)	0.17	0.30
{STM-JC}.PIPE - 105 (STM-JC)	0.17	0.30
{STM-JC}.PIPE - 119 (1) (STM-JC)	0.16	0.29
{STM-JC}.PIPE - 119 (STM-JC)	0.17	0.30
{STM-JC}.PIPE - 126 (1) (1) (STM-JC)	0.21	0.35
{STM-JC}.PIPE - 126 (1) (STM-JC)	0.21	0.35
{STM-JC}.PIPE - 126 (STM-JC)	0.21	0.33
{STM-JC}.PIPE - 127 (1) (STM-JC)	0.18	0.36
{STM-JC}.PIPE - 127 (STM-JC)	0.18	0.32
{STM-JC}.PIPE - 128 (STM-JC)	0.43	0.54
{STM-JC}.PIPE - 130 (STM-JC)	0.21	0.36
{STM-JC}.PIPE - 133 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 134 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 135 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 136 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 137 (STM-JC)	0.23	0.38
{STM-JC}.PIPE - 138 (STM-JC)	0.18	0.33
{STM-JC}.PIPE - 139 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 14 (STM-JC)	0.19	0.32
{STM-JC}.PIPE - 140 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 141 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 142 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 143 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 144 (STM-JC)	0.00	0.00

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Link	Max / Full Flow	Max / Full Depth
{STM-JC}.PIPE - 145 (STM-JC)	0.02	0.11
{STM-JC}.PIPE - 146 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 15 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 16 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 2 (STM-JC)	0.03	0.11
{STM-JC}.PIPE - 20 (STM-JC)	0.00	0.30
{STM-JC}.PIPE - 21 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 22 (1) (STM-JC)	0.39	1.00
{STM-JC}.PIPE - 22 (STM-JC)	0.39	0.91
{STM-JC}.PIPE - 23 (STM-JC)	0.36	1.00
{STM-JC}.PIPE - 24 (STM-JC)	0.38	1.00
{STM-JC}.PIPE - 25 (STM-JC)	0.69	0.72
{STM-JC}.PIPE - 26 (STM-JC)	0.69	0.69
{STM-JC}.PIPE - 27 (1) (1) (STM-JC)	0.07	0.42
{STM-JC}.PIPE - 27 (1) (STM-JC)	0.24	0.34
{STM-JC}.PIPE - 27 (STM-JC)	0.30	0.38
{STM-JC}.PIPE - 28 (STM-JC)	0.01	0.38
{STM-JC}.PIPE - 31 (STM-JC)	1.37	0.63
{STM-JC}.PIPE - 36 (1) (STM-JC)	0.43	0.51
{STM-JC}.PIPE - 39 (STM-JC)	0.22	0.37
{STM-JC}.PIPE - 4 (STM-JC)	0.12	0.25
{STM-JC}.PIPE - 45 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 46 (STM-JC)	0.00	0.04
{STM-JC}.PIPE - 47 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 48 (STM-JC)	0.02	0.11
{STM-JC}.PIPE - 49 (STM-JC)	0.00	0.00

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Link	Max / Full Flow	Max / Full Depth
{STM-JC}.PIPE - 5 (1) (1) (STM-JC)	0.09	0.20
{STM-JC}.PIPE - 5 (1) (STM-JC)	0.06	0.17
{STM-JC}.PIPE - 50 (STM-JC)	0.00	0.02
{STM-JC}.PIPE - 51 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 52 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 53 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 54 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 56 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 57 (1) (STM-JC)	0.01	0.00
{STM-JC}.PIPE - 57 (2) (STM-JC)	0.01	0.00
{STM-JC}.PIPE - 57 (3) (STM-JC)	0.01	0.00
{STM-JC}.PIPE - 57 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 58 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 59 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 6 (STM-JC)	0.00	0.02
{STM-JC}.PIPE - 60 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 61 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 62 (1) (STM-JC)	0.01	0.00
{STM-JC}.PIPE - 62 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 63 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 64 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 65 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 66 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 67 (1) (STM-JC)	0.01	0.50
{STM-JC}.PIPE - 67 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 68 (STM-JC)	0.05	1.00

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Link	Max / Full Flow	Max / Full Depth
{STM-JC}.PIPE - 69 (STM-JC)	0.03	1.00
{STM-JC}.PIPE - 7 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 70 (STM-JC)	0.02	1.00
{STM-JC}.PIPE - 71 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 72 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 73 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 74 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 75 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 76 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 77 (STM-JC)	0.00	0.04
{STM-JC}.PIPE - 78 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 79 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 82 (1) (STM-JC)	0.13	0.42
{STM-JC}.PIPE - 83 (STM-JC)	0.07	0.61
{STM-JC}.PIPE - 84 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 85 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 86 (STM-JC)	0.39	0.53
1	0.08	0.19
Emergency_Spillway		
Orifice_Row_1		
Orifice_Row_2		
Orifice_Row_3		
Zone_3_Weir		

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Node Depth Summary

Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Day of Maximum Depth
East_Pond	STORAGE	3.10	5.91	5825.91	0
East_Pond_Discharge_Structure	JUNCTION	0.19	0.73	5819.23	0
INLET 10-H (STM-JC)	JUNCTION	1.44	3.54	5825.92	0
INLET 11-H (STM-JC)	JUNCTION	2.46	5.02	5825.92	0
INLET 1-A (STM-JC)	JUNCTION	0.14	0.41	5908.26	0
INLET 1-B (STM-JC)	JUNCTION	0.03	0.64	5884.39	0
INLET 1-C (STM-JC)	JUNCTION	0.00	0.00	5879.55	0
INLET 1-D (STM-JC)	JUNCTION	0.02	0.76	5856.07	0
INLET 1-E (STM-JC)	JUNCTION	0.00	0.00	5848.65	0
INLET 1-F (STM-JC)	JUNCTION	0.00	0.00	5871.42	0
INLET 1-G (STM-JC)	JUNCTION	1.26	3.24	5825.94	0
INLET 1-H (STM-JC)	JUNCTION	0.00	0.00	5865.63	0
INLET 1-I (STM-JC)	JUNCTION	0.00	0.00	5841.22	0
INLET 1-OS (STM-JC)	JUNCTION	0.08	0.23	5924.47	0
INLET 2-A (STM-JC)	JUNCTION	0.00	0.00	5908.15	0
INLET 2-C (STM-JC)	JUNCTION	0.00	0.00	5879.78	0
INLET 2-E (STM-JC)	JUNCTION	0.00	0.00	5848.23	0
INLET 2-F (STM-JC)	JUNCTION	0.00	0.00	5871.65	0
INLET 2-H (STM-JC)	JUNCTION	0.00	0.00	5865.70	0
INLET 2-I (STM-JC)	JUNCTION	0.00	0.00	5840.86	0
INLET 3-A (STM-JC)	JUNCTION	0.07	0.17	5908.26	0
INLET 3-C (STM-JC)	JUNCTION	0.00	0.00	5877.81	0
INLET 3-F (STM-JC)	JUNCTION	0.00	0.00	5868.25	0
INLET 3-H (STM-JC)	JUNCTION	0.00	0.00	5854.61	0
INLET 4-A (STM-JC)	JUNCTION	0.00	0.00	5907.91	0

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Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Day of Maximum Depth
INLET 4-C (STM-JC)	JUNCTION	0.00	0.00	5877.34	0
INLET 4-F (STM-JC)	JUNCTION	0.00	0.00	5866.21	0
INLET 4-H (STM-JC)	JUNCTION	0.00	0.00	5854.82	0
INLET 5-C (STM-JC)	JUNCTION	0.00	0.00	5879.34	0
INLET 5-F (STM-JC)	JUNCTION	0.00	0.00	5855.60	0
INLET 5-H (STM-JC)	JUNCTION	0.00	0.00	5837.62	0
INLET 5-I (STM-JC)	JUNCTION	0.13	1.86	5830.06	0
INLET 6-C (STM-JC)	JUNCTION	0.00	0.00	5878.88	0
INLET 6-F (STM-JC)	JUNCTION	0.00	0.00	5852.92	0
INLET 6-H (STM-JC)	JUNCTION	0.00	0.00	5837.53	0
INLET 7-C (STM-JC)	JUNCTION	0.00	0.00	5881.64	0
INLET 7-F (STM-JC)	JUNCTION	0.00	0.00	5827.64	0
INLET 7-H (STM-JC)	JUNCTION	0.00	0.00	5829.38	0
INLET 8-C (STM-JC)	JUNCTION	0.00	0.00	5881.41	0
INLET 8-F (STM-JC)	JUNCTION	0.00	0.00	5827.41	0
INLET 8-H (STM-JC)	JUNCTION	0.00	0.00	5829.61	0
INLET 9-H (STM-JC)	JUNCTION	1.00	2.86	5825.92	0
MH - 100 (STM-JC)	JUNCTION	0.17	1.12	5859.94	0
MH - 101 (STM-JC)	JUNCTION	0.17	1.45	5832.52	0
MH - 108 (STM-JC)	JUNCTION	0.14	0.51	5883.13	0
MH - 112 (STM-JC)	JUNCTION	0.16	2.27	5837.74	0
MH - 114 (STM-JC)	JUNCTION	0.04	0.70	5878.77	0
MH - 115 (STM-JC)	JUNCTION	0.03	0.55	5860.60	0
MH - 117 (STM-JC)	JUNCTION	0.16	1.09	5854.76	0
MH - 118 (STM-JC)	JUNCTION	0.17	1.11	5865.29	0
MH - 119 (STM-JC)	JUNCTION	0.00	0.00	5834.32	0

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Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Day of Maximum Depth
MH - 120 (STM-JC)	JUNCTION	0.11	1.69	5832.63	0
MH - 122 (STM-JC)	JUNCTION	0.18	1.53	5838.98	0
MH - 123 (STM-JC)	JUNCTION	2.61	5.23	5825.92	0
MH - 124 (STM-JC)	JUNCTION	0.00	0.00	5830.17	0
MH - 125 (STM-JC)	JUNCTION	0.18	1.56	5835.68	0
MH - 126 (STM-JC)	JUNCTION	0.17	1.44	5828.89	0
MH - 127 (STM-JC)	JUNCTION	0.00	0.00	5878.17	0
MH - 128 (STM-JC)	JUNCTION	0.00	0.00	5879.19	0
MH - 133 (STM-JC)	JUNCTION	0.00	0.00	5867.87	0
MH - 134 (STM-JC)	JUNCTION	0.00	0.00	5871.06	0
MH - 137 (STM-JC)	JUNCTION	0.00	0.00	5828.14	0
MH - 138 (STM-JC)	JUNCTION	0.00	0.00	5829.02	0
MH - 14 (STM-JC)	JUNCTION	0.17	1.20	5848.60	0
MH - 141 (STM-JC)	JUNCTION	0.00	0.00	5840.68	0
MH - 15 (STM-JC)	JUNCTION	0.27	1.52	5843.95	0
MH - 16 (STM-JC)	JUNCTION	0.00	0.00	5848.09	0
MH - 2 (STM-JC)	JUNCTION	0.08	0.22	5917.81	0
MH - 20 (STM-JC)	JUNCTION	0.59	2.45	5826.43	0
MH - 21 (STM-JC)	JUNCTION	0.00	0.07	5826.43	0
MH - 25 (STM-JC)	JUNCTION	3.04	5.82	5825.91	0
MH - 27 (STM-JC)	JUNCTION	0.08	1.62	5894.90	0
MH - 28 (STM-JC)	JUNCTION	0.67	2.15	5894.40	0
MH - 29 (STM-JC)	JUNCTION	0.04	0.78	5893.11	0
MH - 3 (STM-JC)	JUNCTION	0.14	0.42	5898.36	0
MH - 30 (STM-JC)	JUNCTION	0.24	2.97	5840.14	0
MH - 31 (STM-JC)	JUNCTION	0.01	0.54	5840.15	0

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Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Day of Maximum Depth
MH - 34 (STM-JC)	JUNCTION	0.15	2.18	5839.15	0
MH - 39 (STM-JC)	JUNCTION	0.11	1.65	5835.51	0
MH - 4 (STM-JC)	JUNCTION	0.08	0.22	5907.43	0
MH - 53 (STM-JC)	JUNCTION	0.04	0.10	5907.34	0
MH - 57 (STM-JC)	JUNCTION	0.00	0.00	5877.76	0
MH - 58 (STM-JC)	JUNCTION	0.00	0.00	5881.05	0
MH - 6 (STM-JC)	JUNCTION	0.17	1.11	5870.82	0
MH - 64 (STM-JC)	JUNCTION	0.00	0.00	5841.17	0
MH - 65 (STM-JC)	JUNCTION	0.00	0.00	5844.88	0
MH - 7 (STM-JC)	JUNCTION	0.00	0.00	5876.21	0
MH - 71 (STM-JC)	JUNCTION	0.00	0.00	5865.02	0
MH - 72 (STM-JC)	JUNCTION	0.00	0.00	5864.09	0
MH - 73 (STM-JC)	JUNCTION	0.00	0.00	5853.28	0
MH - 74 (STM-JC)	JUNCTION	0.00	0.00	5836.47	0
MH - 75 (STM-JC)	JUNCTION	1.91	4.24	5825.92	0
MH - 80 (STM-JC)	JUNCTION	0.00	0.00	5854.24	0
MH - 84 (STM-JC)	JUNCTION	0.00	0.00	5839.76	0
MH - 91 (STM-JC)	JUNCTION	0.11	0.91	5825.99	0
MH - 94 (STM-JC)	JUNCTION	0.00	0.00	5838.20	0
WF-JCC_Outfall	OUTFALL	0.19	0.72	5814.72	0

Node Depth Summary

Node	Hour of Maximum Depth	Maximum Reported Depth Feet
East_Pond	02:10	5.91
East_Pond_Discharge_Structure	02:10	0.72
INLET 10-H (STM-JC)	02:07	3.54
INLET 11-H (STM-JC)	02:07	5.02
INLET 1-A (STM-JC)	01:37	0.40
INLET 1-B (STM-JC)	00:45	0.64
INLET 1-C (STM-JC)	00:00	0.00
INLET 1-D (STM-JC)	00:45	0.76
INLET 1-E (STM-JC)	00:00	0.00
INLET 1-F (STM-JC)	00:00	0.00
INLET 1-G (STM-JC)	02:05	3.24
INLET 1-H (STM-JC)	00:00	0.00
INLET 1-I (STM-JC)	00:00	0.00
INLET 1-OS (STM-JC)	01:57	0.23
INLET 2-A (STM-JC)	00:00	0.00
INLET 2-C (STM-JC)	00:00	0.00
INLET 2-E (STM-JC)	00:00	0.00
INLET 2-F (STM-JC)	00:00	0.00
INLET 2-H (STM-JC)	00:00	0.00
INLET 2-I (STM-JC)	00:00	0.00
INLET 3-A (STM-JC)	02:16	0.17
INLET 3-C (STM-JC)	00:00	0.00
INLET 3-F (STM-JC)	00:00	0.00
INLET 3-H (STM-JC)	00:00	0.00
INLET 4-A (STM-JC)	00:00	0.00

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Node	Hour of Maximum Depth	Maximum Reported Depth Feet
INLET 4-C (STM-JC)	00:00	0.00
INLET 4-F (STM-JC)	00:00	0.00
INLET 4-H (STM-JC)	00:00	0.00
INLET 5-C (STM-JC)	00:00	0.00
INLET 5-F (STM-JC)	00:00	0.00
INLET 5-H (STM-JC)	00:00	0.00
INLET 5-I (STM-JC)	00:52	1.73
INLET 6-C (STM-JC)	00:00	0.00
INLET 6-F (STM-JC)	00:00	0.00
INLET 6-H (STM-JC)	00:00	0.00
INLET 7-C (STM-JC)	00:00	0.00
INLET 7-F (STM-JC)	00:00	0.00
INLET 7-H (STM-JC)	00:00	0.00
INLET 8-C (STM-JC)	00:00	0.00
INLET 8-F (STM-JC)	00:00	0.00
INLET 8-H (STM-JC)	00:00	0.00
INLET 9-H (STM-JC)	02:07	2.85
MH - 100 (STM-JC)	00:50	1.02
MH - 101 (STM-JC)	00:47	1.30
MH - 108 (STM-JC)	00:50	0.49
MH - 112 (STM-JC)	00:51	2.11
MH - 114 (STM-JC)	00:47	0.64
MH - 115 (STM-JC)	00:47	0.50
MH - 117 (STM-JC)	00:48	1.02
MH - 118 (STM-JC)	00:50	1.04
MH - 119 (STM-JC)	00:00	0.00

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Node	Hour of Maximum Depth	Maximum Reported Depth Feet
MH - 120 (STM-JC)	00:52	1.58
MH - 122 (STM-JC)	00:47	1.42
MH - 123 (STM-JC)	02:07	5.22
MH - 124 (STM-JC)	00:00	0.00
MH - 125 (STM-JC)	00:47	1.42
MH - 126 (STM-JC)	00:47	1.29
MH - 127 (STM-JC)	00:00	0.00
MH - 128 (STM-JC)	00:00	0.00
MH - 133 (STM-JC)	00:00	0.00
MH - 134 (STM-JC)	00:00	0.00
MH - 137 (STM-JC)	00:00	0.00
MH - 138 (STM-JC)	00:00	0.00
MH - 14 (STM-JC)	00:48	1.10
MH - 141 (STM-JC)	00:00	0.00
MH - 15 (STM-JC)	00:46	1.44
MH - 16 (STM-JC)	00:00	0.00
MH - 2 (STM-JC)	01:58	0.22
MH - 20 (STM-JC)	00:47	2.22
MH - 21 (STM-JC)	00:47	0.00
MH - 25 (STM-JC)	02:09	5.82
MH - 27 (STM-JC)	00:45	1.61
MH - 28 (STM-JC)	00:45	2.13
MH - 29 (STM-JC)	00:46	0.74
MH - 3 (STM-JC)	00:57	0.42
MH - 30 (STM-JC)	00:51	2.74
MH - 31 (STM-JC)	00:50	0.31

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Node	Hour of Maximum Depth	Maximum Reported Depth Feet
MH - 34 (STM-JC)	00:51	2.01
MH - 39 (STM-JC)	00:52	1.55
MH - 4 (STM-JC)	01:38	0.21
MH - 53 (STM-JC)	02:16	0.10
MH - 57 (STM-JC)	00:00	0.00
MH - 58 (STM-JC)	00:00	0.00
MH - 6 (STM-JC)	00:50	1.05
MH - 64 (STM-JC)	00:00	0.00
MH - 65 (STM-JC)	00:00	0.00
MH - 7 (STM-JC)	00:00	0.00
MH - 71 (STM-JC)	00:00	0.00
MH - 72 (STM-JC)	00:00	0.00
MH - 73 (STM-JC)	00:00	0.00
MH - 74 (STM-JC)	00:00	0.00
MH - 75 (STM-JC)	02:07	4.23
MH - 80 (STM-JC)	00:00	0.00
MH - 84 (STM-JC)	00:00	0.00
MH - 91 (STM-JC)	00:53	0.83
MH - 94 (STM-JC)	00:00	0.00
WF-JCC_Outfall	02:10	0.72

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Node Inflow Summary

Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Day of Maximum Inflow	Hour of Maximum Inflow
East_Pond	STORAGE	14.15	145.23	0	00:50
East_Pond_Discharge_Structure	JUNCTION	0.00	24.00	0	02:10
INLET 10-H (STM-JC)	JUNCTION	0.00	0.99	0	00:44
INLET 11-H (STM-JC)	JUNCTION	26.84	26.84	0	00:50
INLET 1-A (STM-JC)	JUNCTION	1.28	1.28	0	01:37
INLET 1-B (STM-JC)	JUNCTION	2.47	2.47	0	00:45
INLET 1-C (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 1-D (STM-JC)	JUNCTION	4.11	4.11	0	00:45
INLET 1-E (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 1-F (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 1-G (STM-JC)	JUNCTION	2.07	56.46	0	00:47
INLET 1-H (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 1-I (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 1-OS (STM-JC)	JUNCTION	1.13	1.13	0	01:57
INLET 2-A (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 2-C (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 2-E (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 2-F (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 2-H (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 2-I (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 3-A (STM-JC)	JUNCTION	0.25	0.25	0	02:16
INLET 3-C (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 3-F (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 3-H (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 4-A (STM-JC)	JUNCTION	0.00	0.00	0	00:00

Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Day of Maximum Inflow	Hour of Maximum Inflow
INLET 4-C (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 4-F (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 4-H (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 5-C (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 5-F (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 5-H (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 5-I (STM-JC)	JUNCTION	10.54	54.04	0	00:52
INLET 6-C (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 6-F (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 6-H (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 7-C (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 7-F (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 7-H (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 8-C (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 8-F (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 8-H (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 9-H (STM-JC)	JUNCTION	0.00	0.44	0	00:44
MH - 100 (STM-JC)	JUNCTION	0.00	25.59	0	00:50
MH - 101 (STM-JC)	JUNCTION	0.00	39.56	0	00:47
MH - 108 (STM-JC)	JUNCTION	0.00	6.13	0	00:50
MH - 112 (STM-JC)	JUNCTION	0.00	43.90	0	00:51
MH - 114 (STM-JC)	JUNCTION	0.00	11.00	0	00:46
MH - 115 (STM-JC)	JUNCTION	0.00	10.98	0	00:47
MH - 117 (STM-JC)	JUNCTION	0.00	28.34	0	00:48
MH - 118 (STM-JC)	JUNCTION	0.00	25.60	0	00:50
MH - 119 (STM-JC)	JUNCTION	0.00	0.00	0	00:00

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Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Day of Maximum Inflow	Hour of Maximum Inflow
MH - 120 (STM-JC)	JUNCTION	0.00	43.87	0	00:52
MH - 122 (STM-JC)	JUNCTION	0.00	39.53	0	00:46
MH - 123 (STM-JC)	JUNCTION	0.00	56.37	0	00:47
MH - 124 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 125 (STM-JC)	JUNCTION	0.00	39.55	0	00:47
MH - 126 (STM-JC)	JUNCTION	0.00	39.57	0	00:47
MH - 127 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 128 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 133 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 134 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 137 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 138 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 14 (STM-JC)	JUNCTION	0.00	28.34	0	00:48
MH - 141 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 15 (STM-JC)	JUNCTION	12.78	39.54	0	00:46
MH - 16 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 2 (STM-JC)	JUNCTION	0.00	1.13	0	01:57
MH - 20 (STM-JC)	JUNCTION	15.41	54.49	0	00:47
MH - 21 (STM-JC)	JUNCTION	0.00	0.05	0	00:46
MH - 25 (STM-JC)	JUNCTION	0.00	25.27	0	00:50
MH - 27 (STM-JC)	JUNCTION	11.10	11.10	0	00:45
MH - 28 (STM-JC)	JUNCTION	0.00	11.10	0	00:45
MH - 29 (STM-JC)	JUNCTION	0.00	11.08	0	00:45
MH - 3 (STM-JC)	JUNCTION	3.44	4.37	0	00:56
MH - 30 (STM-JC)	JUNCTION	33.27	44.15	0	00:50
MH - 31 (STM-JC)	JUNCTION	0.00	0.15	0	00:45

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Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Day of Maximum Inflow	Hour of Maximum Inflow
MH - 34 (STM-JC)	JUNCTION	0.00	43.92	0	00:50
MH - 39 (STM-JC)	JUNCTION	0.00	43.86	0	00:52
MH - 4 (STM-JC)	JUNCTION	0.00	1.28	0	01:37
MH - 53 (STM-JC)	JUNCTION	0.00	0.25	0	02:16
MH - 57 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 58 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 6 (STM-JC)	JUNCTION	19.53	25.63	0	00:50
MH - 64 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 65 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 7 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 71 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 72 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 73 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 74 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 75 (STM-JC)	JUNCTION	0.00	2.48	0	00:45
MH - 80 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 84 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 91 (STM-JC)	JUNCTION	0.00	54.04	0	00:52
MH - 94 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
WF-JCC_Outfall	OUTFALL	1.73	24.01	0	02:09

Node Inflow Summary

Node	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal	Flow Balance Error Percent
East_Pond	0.16	4.77	-0.042
East_Pond_Discharge_Structure	0	4.77	-0.000
INLET 10-H (STM-JC)	0	0.0109	-0.269
INLET 11-H (STM-JC)	0.695	0.711	-0.083
INLET 1-A (STM-JC)	0.521	0.521	0.000
INLET 1-B (STM-JC)	0.0342	0.0342	0.000
INLET 1-C (STM-JC)	0	0	0.000
INLET 1-D (STM-JC)	0.0434	0.0434	0.000
INLET 1-E (STM-JC)	0	0	0.000
INLET 1-F (STM-JC)	0	0	0.000
INLET 1-G (STM-JC)	0.0351	2.46	0.026
INLET 1-H (STM-JC)	0	0	0.000
INLET 1-I (STM-JC)	0	0	0.000
INLET 1-OS (STM-JC)	0.481	0.481	0.000
INLET 2-A (STM-JC)	0	0	0.000
INLET 2-C (STM-JC)	0	0	0.000
INLET 2-E (STM-JC)	0	0	0.000
INLET 2-F (STM-JC)	0	0	0.000
INLET 2-H (STM-JC)	0	0	0.000
INLET 2-I (STM-JC)	0	0	0.000
INLET 3-A (STM-JC)	0.156	0.156	0.000
INLET 3-C (STM-JC)	0	0	0.000
INLET 3-F (STM-JC)	0	0	0.000
INLET 3-H (STM-JC)	0	0	0.000
INLET 4-A (STM-JC)	0	0	0.000

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Node	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal	Flow Balance Error Percent
INLET 4-C (STM-JC)	0	0	0.000
INLET 4-F (STM-JC)	0	0	0.000
INLET 4-H (STM-JC)	0	0	0.000
INLET 5-C (STM-JC)	0	0	0.000
INLET 5-F (STM-JC)	0	0	0.000
INLET 5-H (STM-JC)	0	0	0.000
INLET 5-I (STM-JC)	0.249	1.45	0.016
INLET 6-C (STM-JC)	0	0	0.000
INLET 6-F (STM-JC)	0	0	0.000
INLET 6-H (STM-JC)	0	0	0.000
INLET 7-C (STM-JC)	0	0	0.000
INLET 7-F (STM-JC)	0	0	0.000
INLET 7-H (STM-JC)	0	0	0.000
INLET 8-C (STM-JC)	0	0	0.000
INLET 8-F (STM-JC)	0	0	0.000
INLET 8-H (STM-JC)	0	0	0.000
INLET 9-H (STM-JC)	0	0.00367	0.000
MH - 100 (STM-JC)	0	1.83	-0.000
MH - 101 (STM-JC)	0	2.02	-0.001
MH - 108 (STM-JC)	0	1.36	0.001
MH - 112 (STM-JC)	0	1.2	-0.048
MH - 114 (STM-JC)	0	0.214	-0.001
MH - 115 (STM-JC)	0	0.214	0.029
MH - 117 (STM-JC)	0	1.87	-0.002
MH - 118 (STM-JC)	0	1.83	-0.001
MH - 119 (STM-JC)	0	0	0.000

Node	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal	Flow Balance Error Percent
MH - 120 (STM-JC)	0	1.2	0.000
MH - 122 (STM-JC)	0	2.02	-0.001
MH - 123 (STM-JC)	0	2.46	-0.070
MH - 124 (STM-JC)	0	0	0.000
MH - 125 (STM-JC)	0	2.02	-0.000
MH - 126 (STM-JC)	0	2.02	0.042
MH - 127 (STM-JC)	0	0	0.000
MH - 128 (STM-JC)	0	0	0.000
MH - 133 (STM-JC)	0	0	0.000
MH - 134 (STM-JC)	0	0	0.000
MH - 137 (STM-JC)	0	0	0.000
MH - 138 (STM-JC)	0	0	0.000
MH - 14 (STM-JC)	0	1.87	0.001
MH - 141 (STM-JC)	0	0	0.000
MH - 15 (STM-JC)	0.153	2.02	-0.000
MH - 16 (STM-JC)	0	0	0.000
MH - 2 (STM-JC)	0	0.481	-0.000
MH - 20 (STM-JC)	0.399	2.42	0.008
MH - 21 (STM-JC)	0	1.42e-05	0.384
MH - 25 (STM-JC)	0	0.702	-0.607
MH - 27 (STM-JC)	0.214	0.214	-0.000
MH - 28 (STM-JC)	0	0.214	0.023
MH - 29 (STM-JC)	0	0.214	-0.006
MH - 3 (STM-JC)	0.169	1.33	-0.002
MH - 30 (STM-JC)	0.982	1.2	0.014
MH - 31 (STM-JC)	0	0.000157	0.478

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Node	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal	Flow Balance Error Percent
MH - 34 (STM-JC)	0	1.2	0.030
MH - 39 (STM-JC)	0	1.2	-0.002
MH - 4 (STM-JC)	0	0.521	0.000
MH - 53 (STM-JC)	0	0.156	0.000
MH - 57 (STM-JC)	0	0	0.000
MH - 58 (STM-JC)	0	0	0.000
MH - 6 (STM-JC)	0.464	1.83	-0.000
MH - 64 (STM-JC)	0	0	0.000
MH - 65 (STM-JC)	0	0	0.000
MH - 7 (STM-JC)	0	0	0.000
MH - 71 (STM-JC)	0	0	0.000
MH - 72 (STM-JC)	0	0	0.000
MH - 73 (STM-JC)	0	0	0.000
MH - 74 (STM-JC)	0	0	0.000
MH - 75 (STM-JC)	0	0.0222	-0.417
MH - 80 (STM-JC)	0	0	0.000
MH - 84 (STM-JC)	0	0	0.000
MH - 91 (STM-JC)	0	1.45	-0.043
MH - 94 (STM-JC)	0	0	0.000
WF-JCC_Outfall	0.0249	4.79	0.000

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
East_Pond	106.769	10	0	0	334.286	33	0	02:10	24.00

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
WF-JCC_Outfall	76.01	3.89	24.01	4.791

NOTE: See UD-Detention Model for outfall flows

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
A-Street	3.51	0.00	0.00	0.08	3.31	0.10	3.40	0.37	10.69	0.969
Sub-basin_B	3.51	0.00	0.00	0.55	2.27	0.68	2.95	0.09	6.96	0.841
Sub-basin_C	3.51	0.00	0.00	0.66	2.31	0.54	2.84	1.15	58.94	0.809
Sub-basin_D	3.51	0.00	0.00	1.13	0.75	1.65	2.40	0.14	14.16	0.683
Sub-Basin_E	3.51	0.00	0.00	1.25	0.87	1.41	2.27	0.53	39.10	0.647
Sub-basin_F	3.51	0.00	0.00	0.71	2.27	0.52	2.79	0.99	46.17	0.793
Sub-basin_G	3.51	0.00	0.00	0.60	2.27	0.63	2.91	0.09	6.09	0.827
Sub-basin_H	3.51	0.00	0.00	0.77	2.19	0.54	2.73	1.74	80.43	0.777
Sub-basin_I	3.51	0.00	0.00	0.64	2.33	0.53	2.86	0.61	31.81	0.815
Sub-basin_J	3.51	0.00	0.00	0.15	3.12	0.23	3.34	0.48	32.73	0.952
Sub-basin_K	3.51	0.00	0.00	0.75	2.27	0.48	2.75	2.43	101.65	0.783
Sub-basin_M	3.51	0.00	0.00	1.32	0.24	1.97	2.22	0.62	61.83	0.631
Sub-basin_R	3.51	0.00	0.00	1.43	0.24	1.85	2.10	0.11	7.75	0.597

Subcatchment Runoff

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Link Flow Summary

Link	Type	Maximum |Flow| CFS	Day of Maximum Flow	Hour of Maximum Flow	Maximum |Velocity| ft/sec
{STM-JC}.PIPE - 1 (STM-JC)	CONDUIT	16.22	0	01:10	11.36
{STM-JC}.PIPE - 105 (1) (STM-JC)	CONDUIT	88.47	0	00:54	13.76
{STM-JC}.PIPE - 105 (STM-JC)	CONDUIT	88.47	0	00:54	13.83
{STM-JC}.PIPE - 119 (1) (STM-JC)	CONDUIT	98.79	0	00:46	15.53
{STM-JC}.PIPE - 119 (STM-JC)	CONDUIT	88.47	0	00:54	13.69
{STM-JC}.PIPE - 126 (1) (1) (STM-JC)	CONDUIT	127.02	0	00:48	12.16
{STM-JC}.PIPE - 126 (1) (STM-JC)	CONDUIT	127.02	0	00:48	12.50
{STM-JC}.PIPE - 126 (STM-JC)	CONDUIT	127.38	0	00:45	13.43
{STM-JC}.PIPE - 127 (1) (STM-JC)	CONDUIT	127.02	0	00:48	12.76
{STM-JC}.PIPE - 127 (STM-JC)	CONDUIT	127.02	0	00:48	15.27
{STM-JC}.PIPE - 128 (STM-JC)	CONDUIT	131.74	0	00:47	10.48
{STM-JC}.PIPE - 130 (STM-JC)	CONDUIT	131.77	0	00:47	12.57
{STM-JC}.PIPE - 133 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 134 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 135 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 136 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 137 (STM-JC)	CONDUIT	6.95	0	00:45	5.15
{STM-JC}.PIPE - 138 (STM-JC)	CONDUIT	14.15	0	00:45	6.10
{STM-JC}.PIPE - 139 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 14 (STM-JC)	CONDUIT	98.35	0	00:52	13.60
{STM-JC}.PIPE - 140 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 141 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 142 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 143 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 144 (STM-JC)	CONDUIT	0.00	0	00:00	0.00

Link	Type	Maximum |Flow| CFS	Day of Maximum Flow	Hour of Maximum Flow	Maximum |Velocity| ft/sec
{STM-JC}.PIPE - 145 (STM-JC)	CONDUIT	19.43	0	01:00	14.32
{STM-JC}.PIPE - 146 (STM-JC)	CONDUIT	3.01	0	00:41	2.27
{STM-JC}.PIPE - 15 (STM-JC)	CONDUIT	6.08	0	00:47	3.32
{STM-JC}.PIPE - 16 (STM-JC)	CONDUIT	1.52	0	00:47	1.36
{STM-JC}.PIPE - 2 (STM-JC)	CONDUIT	16.21	0	01:11	12.58
{STM-JC}.PIPE - 20 (STM-JC)	CONDUIT	13.46	0	00:06	11.67
{STM-JC}.PIPE - 21 (STM-JC)	CONDUIT	1.40	0	00:43	1.64
{STM-JC}.PIPE - 22 (1) (STM-JC)	CONDUIT	178.32	0	00:48	14.19
{STM-JC}.PIPE - 22 (STM-JC)	CONDUIT	178.32	0	00:48	14.19
{STM-JC}.PIPE - 23 (STM-JC)	CONDUIT	76.43	0	00:44	7.94
{STM-JC}.PIPE - 24 (STM-JC)	CONDUIT	76.45	0	00:44	7.95
{STM-JC}.PIPE - 25 (STM-JC)	CONDUIT	32.75	0	00:45	10.43
{STM-JC}.PIPE - 26 (STM-JC)	CONDUIT	32.77	0	00:45	10.51
{STM-JC}.PIPE - 27 (1) (1) (STM-JC)	CONDUIT	31.89	0	00:46	7.25
{STM-JC}.PIPE - 27 (1) (STM-JC)	CONDUIT	31.91	0	00:46	14.82
{STM-JC}.PIPE - 27 (STM-JC)	CONDUIT	32.01	0	00:45	12.62
{STM-JC}.PIPE - 28 (STM-JC)	CONDUIT	4.88	0	00:41	1.56
{STM-JC}.PIPE - 31 (STM-JC)	CONDUIT	131.74	0	00:47	10.48
{STM-JC}.PIPE - 36 (1) (STM-JC)	CONDUIT	131.74	0	00:47	10.70
{STM-JC}.PIPE - 39 (STM-JC)	CONDUIT	131.77	0	00:47	11.60
{STM-JC}.PIPE - 4 (STM-JC)	CONDUIT	19.44	0	01:00	11.00
{STM-JC}.PIPE - 45 (STM-JC)	CONDUIT	0.00	0	00:56	0.07
{STM-JC}.PIPE - 46 (STM-JC)	CONDUIT	4.42	0	01:23	8.60
{STM-JC}.PIPE - 47 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 48 (STM-JC)	CONDUIT	4.42	0	01:18	4.84
{STM-JC}.PIPE - 49 (STM-JC)	CONDUIT	0.00	0	00:00	0.00

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Link	Type	Maximum |Flow| CFS	Day of Maximum Flow	Hour of Maximum Flow	Maximum |Velocity| ft/sec
{STM-JC}.PIPE - 5 (1) (1) (STM-JC)	CONDUIT	48.27	0	01:06	14.48
{STM-JC}.PIPE - 5 (1) (STM-JC)	CONDUIT	46.18	0	01:06	14.89
{STM-JC}.PIPE - 50 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 51 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 52 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 53 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 54 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 56 (STM-JC)	CONDUIT	1.03	0	00:47	3.82
{STM-JC}.PIPE - 57 (1) (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 57 (2) (STM-JC)	CONDUIT	0.08	0	00:47	0.09
{STM-JC}.PIPE - 57 (3) (STM-JC)	CONDUIT	3.06	0	00:46	2.05
{STM-JC}.PIPE - 57 (STM-JC)	CONDUIT	5.15	0	00:44	3.06
{STM-JC}.PIPE - 58 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 59 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 6 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 60 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 61 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 62 (1) (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 62 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 63 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 64 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 65 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 66 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 67 (1) (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 67 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 68 (STM-JC)	CONDUIT	5.98	0	00:40	0.86

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Link	Type	Maximum |Flow| CFS	Day of Maximum Flow	Hour of Maximum Flow	Maximum |Velocity| ft/sec
{STM-JC}.PIPE - 69 (STM-JC)	CONDUIT	4.92	0	00:41	1.00
{STM-JC}.PIPE - 7 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 70 (STM-JC)	CONDUIT	3.10	0	00:41	0.66
{STM-JC}.PIPE - 71 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 72 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 73 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 74 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 75 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 76 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 77 (STM-JC)	CONDUIT	6.70	0	00:43	2.13
{STM-JC}.PIPE - 78 (STM-JC)	CONDUIT	5.94	0	00:43	3.37
{STM-JC}.PIPE - 79 (STM-JC)	CONDUIT	2.13	0	00:43	1.93
{STM-JC}.PIPE - 82 (1) (STM-JC)	CONDUIT	163.00	0	00:47	13.91
{STM-JC}.PIPE - 83 (STM-JC)	CONDUIT	162.97	0	00:47	13.56
{STM-JC}.PIPE - 84 (STM-JC)	CONDUIT	1.00	0	00:06	3.03
{STM-JC}.PIPE - 85 (STM-JC)	CONDUIT	0.00	0	00:00	0.00
{STM-JC}.PIPE - 86 (STM-JC)	CONDUIT	172.88	0	00:48	13.76
1	CONDUIT	130.77	0	01:22	25.35
Emergency_Spillway	WEIR	0.00	0	00:00	0.00
Orifice_Row_1	ORIFICE	1.04	0	01:22	1.00
Orifice_Row_2	ORIFICE	0.92	0	01:22	1.00
Orifice_Row_3	ORIFICE	1.02	0	01:22	1.00
Zone_3_Weir	WEIR	127.79	0	01:22	0.52

Link Flow Summary

Link	Max / Full Flow	Max / Full Depth
{STM-JC}.PIPE - 1 (STM-JC)	0.39	0.46
{STM-JC}.PIPE - 105 (1) (STM-JC)	0.59	0.63
{STM-JC}.PIPE - 105 (STM-JC)	0.59	0.63
{STM-JC}.PIPE - 119 (1) (STM-JC)	0.56	0.96
{STM-JC}.PIPE - 119 (STM-JC)	0.59	0.67
{STM-JC}.PIPE - 126 (1) (1) (STM-JC)	1.66	1.00
{STM-JC}.PIPE - 126 (1) (STM-JC)	0.66	1.00
{STM-JC}.PIPE - 126 (STM-JC)	0.66	1.00
{STM-JC}.PIPE - 127 (1) (STM-JC)	0.57	1.00
{STM-JC}.PIPE - 127 (STM-JC)	0.57	1.00
{STM-JC}.PIPE - 128 (STM-JC)	1.30	1.00
{STM-JC}.PIPE - 130 (STM-JC)	0.62	1.00
{STM-JC}.PIPE - 133 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 134 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 135 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 136 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 137 (STM-JC)	0.66	0.71
{STM-JC}.PIPE - 138 (STM-JC)	0.63	0.88
{STM-JC}.PIPE - 139 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 14 (STM-JC)	0.65	1.00
{STM-JC}.PIPE - 140 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 141 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 142 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 143 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 144 (STM-JC)	0.00	0.00

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Link	Max / Full Flow	Max / Full Depth
{STM-JC}.PIPE - 145 (STM-JC)	0.36	0.45
{STM-JC}.PIPE - 146 (STM-JC)	0.29	1.00
{STM-JC}.PIPE - 15 (STM-JC)	0.06	0.99
{STM-JC}.PIPE - 16 (STM-JC)	0.10	1.00
{STM-JC}.PIPE - 2 (STM-JC)	0.37	0.43
{STM-JC}.PIPE - 20 (STM-JC)	0.18	1.00
{STM-JC}.PIPE - 21 (STM-JC)	0.13	1.00
{STM-JC}.PIPE - 22 (1) (STM-JC)	1.25	1.00
{STM-JC}.PIPE - 22 (STM-JC)	1.23	1.00
{STM-JC}.PIPE - 23 (STM-JC)	1.07	1.00
{STM-JC}.PIPE - 24 (STM-JC)	1.15	1.00
{STM-JC}.PIPE - 25 (STM-JC)	2.04	1.00
{STM-JC}.PIPE - 26 (STM-JC)	2.05	0.97
{STM-JC}.PIPE - 27 (1) (1) (STM-JC)	0.28	0.66
{STM-JC}.PIPE - 27 (1) (STM-JC)	0.77	0.65
{STM-JC}.PIPE - 27 (STM-JC)	0.86	0.75
{STM-JC}.PIPE - 28 (STM-JC)	0.22	1.00
{STM-JC}.PIPE - 31 (STM-JC)	4.09	1.00
{STM-JC}.PIPE - 36 (1) (STM-JC)	1.30	0.99
{STM-JC}.PIPE - 39 (STM-JC)	0.65	1.00
{STM-JC}.PIPE - 4 (STM-JC)	1.85	1.00
{STM-JC}.PIPE - 45 (STM-JC)	0.00	0.06
{STM-JC}.PIPE - 46 (STM-JC)	0.05	0.19
{STM-JC}.PIPE - 47 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 48 (STM-JC)	0.43	0.51
{STM-JC}.PIPE - 49 (STM-JC)	0.00	0.00

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Link	Max / Full Flow	Max / Full Depth
{STM-JC}.PIPE - 5 (1) (1) (STM-JC)	0.61	0.64
{STM-JC}.PIPE - 5 (1) (STM-JC)	0.63	0.60
{STM-JC}.PIPE - 50 (STM-JC)	0.00	0.30
{STM-JC}.PIPE - 51 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 52 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 53 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 54 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 56 (STM-JC)	0.07	1.00
{STM-JC}.PIPE - 57 (1) (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 57 (2) (STM-JC)	0.00	0.50
{STM-JC}.PIPE - 57 (3) (STM-JC)	0.16	1.00
{STM-JC}.PIPE - 57 (STM-JC)	0.26	1.00
{STM-JC}.PIPE - 58 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 59 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 6 (STM-JC)	0.00	0.30
{STM-JC}.PIPE - 60 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 61 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 62 (1) (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 62 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 63 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 64 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 65 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 66 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 67 (1) (STM-JC)	0.00	0.50
{STM-JC}.PIPE - 67 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 68 (STM-JC)	0.13	1.00

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Link	Max / Full Flow	Max / Full Depth
{STM-JC}.PIPE - 69 (STM-JC)	0.17	1.00
{STM-JC}.PIPE - 7 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 70 (STM-JC)	0.11	1.00
{STM-JC}.PIPE - 71 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 72 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 73 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 74 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 75 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 76 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 77 (STM-JC)	0.36	1.00
{STM-JC}.PIPE - 78 (STM-JC)	0.57	1.00
{STM-JC}.PIPE - 79 (STM-JC)	0.20	1.00
{STM-JC}.PIPE - 82 (1) (STM-JC)	0.93	0.90
{STM-JC}.PIPE - 83 (STM-JC)	0.20	0.94
{STM-JC}.PIPE - 84 (STM-JC)	0.09	1.00
{STM-JC}.PIPE - 85 (STM-JC)	0.00	0.00
{STM-JC}.PIPE - 86 (STM-JC)	1.24	1.00
1	0.41	0.45
Emergency_Spillway		
Orifice_Row_1		
Orifice_Row_2		
Orifice_Row_3		
Zone_3_Weir		

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Node Depth Summary

Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Day of Maximum Depth
East_Pond	STORAGE	2.76	7.73	5827.73	0
East_Pond_Discharge_Structure	JUNCTION	0.25	1.74	5820.24	0
INLET 10-H (STM-JC)	JUNCTION	1.38	5.02	5827.40	0
INLET 11-H (STM-JC)	JUNCTION	2.23	6.46	5827.35	0
INLET 1-A (STM-JC)	JUNCTION	0.26	4.22	5912.06	0
INLET 1-B (STM-JC)	JUNCTION	0.05	1.25	5885.00	0
INLET 1-C (STM-JC)	JUNCTION	0.00	0.00	5879.55	0
INLET 1-D (STM-JC)	JUNCTION	0.06	1.81	5857.12	0
INLET 1-E (STM-JC)	JUNCTION	0.01	3.35	5852.01	0
INLET 1-F (STM-JC)	JUNCTION	0.00	0.00	5871.42	0
INLET 1-G (STM-JC)	JUNCTION	1.45	11.61	5834.30	0
INLET 1-H (STM-JC)	JUNCTION	0.00	0.00	5865.63	0
INLET 1-I (STM-JC)	JUNCTION	0.05	8.05	5849.28	0
INLET 1-OS (STM-JC)	JUNCTION	0.11	0.99	5925.23	0
INLET 2-A (STM-JC)	JUNCTION	0.00	0.01	5908.16	0
INLET 2-C (STM-JC)	JUNCTION	0.00	0.00	5879.78	0
INLET 2-E (STM-JC)	JUNCTION	0.16	2.62	5850.85	0
INLET 2-F (STM-JC)	JUNCTION	0.00	0.00	5871.65	0
INLET 2-H (STM-JC)	JUNCTION	0.00	0.00	5865.70	0
INLET 2-I (STM-JC)	JUNCTION	0.06	8.40	5849.26	0
INLET 3-A (STM-JC)	JUNCTION	0.10	0.85	5908.94	0
INLET 3-C (STM-JC)	JUNCTION	0.00	0.00	5877.81	0
INLET 3-F (STM-JC)	JUNCTION	0.00	0.00	5868.25	0
INLET 3-H (STM-JC)	JUNCTION	0.00	0.00	5854.61	0
INLET 4-A (STM-JC)	JUNCTION	0.00	0.00	5907.91	0

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Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Day of Maximum Depth
INLET 4-C (STM-JC)	JUNCTION	0.00	0.00	5877.34	0
INLET 4-F (STM-JC)	JUNCTION	0.00	0.00	5866.21	0
INLET 4-H (STM-JC)	JUNCTION	0.00	0.00	5854.82	0
INLET 5-C (STM-JC)	JUNCTION	0.00	0.00	5879.34	0
INLET 5-F (STM-JC)	JUNCTION	0.00	0.00	5855.60	0
INLET 5-H (STM-JC)	JUNCTION	0.00	0.00	5837.62	0
INLET 5-I (STM-JC)	JUNCTION	0.24	5.73	5833.93	0
INLET 6-C (STM-JC)	JUNCTION	0.00	0.00	5878.88	0
INLET 6-F (STM-JC)	JUNCTION	0.00	0.00	5852.92	0
INLET 6-H (STM-JC)	JUNCTION	0.00	0.00	5837.53	0
INLET 7-C (STM-JC)	JUNCTION	0.00	0.00	5881.64	0
INLET 7-F (STM-JC)	JUNCTION	0.29	10.02	5837.67	0
INLET 7-H (STM-JC)	JUNCTION	0.00	0.00	5829.38	0
INLET 8-C (STM-JC)	JUNCTION	0.00	0.00	5881.41	0
INLET 8-F (STM-JC)	JUNCTION	0.31	10.25	5837.66	0
INLET 8-H (STM-JC)	JUNCTION	0.00	0.00	5829.61	0
INLET 9-H (STM-JC)	JUNCTION	1.02	4.29	5827.35	0
MH - 100 (STM-JC)	JUNCTION	0.24	2.53	5861.36	0
MH - 101 (STM-JC)	JUNCTION	0.42	18.47	5849.53	0
MH - 108 (STM-JC)	JUNCTION	0.19	1.70	5884.32	0
MH - 112 (STM-JC)	JUNCTION	0.29	6.41	5841.89	0
MH - 114 (STM-JC)	JUNCTION	0.06	1.35	5879.42	0
MH - 115 (STM-JC)	JUNCTION	0.05	0.94	5860.99	0
MH - 117 (STM-JC)	JUNCTION	0.23	3.22	5856.89	0
MH - 118 (STM-JC)	JUNCTION	0.24	2.51	5866.69	0
MH - 119 (STM-JC)	JUNCTION	0.04	4.91	5839.23	0

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Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Day of Maximum Depth
MH - 120 (STM-JC)	JUNCTION	0.22	5.42	5836.37	0
MH - 122 (STM-JC)	JUNCTION	0.37	16.37	5853.82	0
MH - 123 (STM-JC)	JUNCTION	2.45	9.30	5829.99	0
MH - 124 (STM-JC)	JUNCTION	0.17	10.59	5840.77	0
MH - 125 (STM-JC)	JUNCTION	0.40	14.66	5848.78	0
MH - 126 (STM-JC)	JUNCTION	0.49	15.94	5843.39	0
MH - 127 (STM-JC)	JUNCTION	0.00	0.00	5878.17	0
MH - 128 (STM-JC)	JUNCTION	0.00	0.00	5879.19	0
MH - 133 (STM-JC)	JUNCTION	0.00	0.00	5867.87	0
MH - 134 (STM-JC)	JUNCTION	0.00	0.00	5871.06	0
MH - 137 (STM-JC)	JUNCTION	0.00	0.00	5828.14	0
MH - 138 (STM-JC)	JUNCTION	0.00	0.00	5829.02	0
MH - 14 (STM-JC)	JUNCTION	0.28	7.37	5854.77	0
MH - 141 (STM-JC)	JUNCTION	0.13	8.58	5849.26	0
MH - 15 (STM-JC)	JUNCTION	0.41	12.43	5854.86	0
MH - 16 (STM-JC)	JUNCTION	0.29	2.76	5850.85	0
MH - 2 (STM-JC)	JUNCTION	0.10	0.88	5918.47	0
MH - 20 (STM-JC)	JUNCTION	0.97	13.65	5837.63	0
MH - 21 (STM-JC)	JUNCTION	0.40	11.27	5837.63	0
MH - 25 (STM-JC)	JUNCTION	2.71	7.50	5827.59	0
MH - 27 (STM-JC)	JUNCTION	0.17	6.30	5899.58	0
MH - 28 (STM-JC)	JUNCTION	0.73	4.93	5897.17	0
MH - 29 (STM-JC)	JUNCTION	0.07	1.58	5893.92	0
MH - 3 (STM-JC)	JUNCTION	0.18	1.59	5899.52	0
MH - 30 (STM-JC)	JUNCTION	0.47	11.75	5848.92	0
MH - 31 (STM-JC)	JUNCTION	0.18	9.58	5849.19	0

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Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Day of Maximum Depth
MH - 34 (STM-JC)	JUNCTION	0.32	9.00	5845.97	0
MH - 39 (STM-JC)	JUNCTION	0.21	4.96	5838.82	0
MH - 4 (STM-JC)	JUNCTION	0.11	0.96	5908.16	0
MH - 53 (STM-JC)	JUNCTION	0.06	0.41	5907.65	0
MH - 57 (STM-JC)	JUNCTION	0.00	0.00	5877.76	0
MH - 58 (STM-JC)	JUNCTION	0.00	0.00	5881.05	0
MH - 6 (STM-JC)	JUNCTION	0.24	2.49	5872.21	0
MH - 64 (STM-JC)	JUNCTION	0.00	0.00	5841.17	0
MH - 65 (STM-JC)	JUNCTION	0.00	0.00	5844.88	0
MH - 7 (STM-JC)	JUNCTION	0.00	0.00	5876.21	0
MH - 71 (STM-JC)	JUNCTION	0.00	0.00	5865.02	0
MH - 72 (STM-JC)	JUNCTION	0.00	0.00	5864.09	0
MH - 73 (STM-JC)	JUNCTION	0.00	0.00	5853.28	0
MH - 74 (STM-JC)	JUNCTION	0.00	0.00	5836.47	0
MH - 75 (STM-JC)	JUNCTION	1.77	5.71	5827.39	0
MH - 80 (STM-JC)	JUNCTION	0.00	0.00	5854.24	0
MH - 84 (STM-JC)	JUNCTION	0.09	9.27	5849.04	0
MH - 91 (STM-JC)	JUNCTION	0.30	3.54	5828.61	0
MH - 94 (STM-JC)	JUNCTION	0.00	0.00	5838.20	0
WF-JCC_Outfall	OUTFALL	0.25	1.74	5815.74	0

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Node Depth Summary

Node	Hour of Maximum Depth	Maximum Reported Depth Feet
East_Pond	01:22	7.68
East_Pond_Discharge_Structure	01:21	1.72
INLET 10-H (STM-JC)	00:47	4.98
INLET 11-H (STM-JC)	00:44	6.45
INLET 1-A (STM-JC)	01:00	4.21
INLET 1-B (STM-JC)	00:45	1.25
INLET 1-C (STM-JC)	00:00	0.00
INLET 1-D (STM-JC)	00:49	1.62
INLET 1-E (STM-JC)	00:47	0.00
INLET 1-F (STM-JC)	00:00	0.00
INLET 1-G (STM-JC)	00:50	10.48
INLET 1-H (STM-JC)	00:00	0.00
INLET 1-I (STM-JC)	00:43	3.89
INLET 1-OS (STM-JC)	01:10	0.99
INLET 2-A (STM-JC)	01:00	0.01
INLET 2-C (STM-JC)	00:00	0.00
INLET 2-E (STM-JC)	00:48	0.17
INLET 2-F (STM-JC)	00:00	0.00
INLET 2-H (STM-JC)	00:00	0.00
INLET 2-I (STM-JC)	00:43	4.28
INLET 3-A (STM-JC)	01:18	0.85
INLET 3-C (STM-JC)	00:00	0.00
INLET 3-F (STM-JC)	00:00	0.00
INLET 3-H (STM-JC)	00:00	0.00
INLET 4-A (STM-JC)	00:00	0.00

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Node	Hour of Maximum Depth	Maximum Reported Depth Feet
INLET 4-C (STM-JC)	00:00	0.00
INLET 4-F (STM-JC)	00:00	0.00
INLET 4-H (STM-JC)	00:00	0.00
INLET 5-C (STM-JC)	00:00	0.00
INLET 5-F (STM-JC)	00:00	0.00
INLET 5-H (STM-JC)	00:00	0.00
INLET 5-I (STM-JC)	00:46	4.62
INLET 6-C (STM-JC)	00:00	0.00
INLET 6-F (STM-JC)	00:00	0.00
INLET 6-H (STM-JC)	00:00	0.00
INLET 7-C (STM-JC)	00:00	0.00
INLET 7-F (STM-JC)	00:45	8.02
INLET 7-H (STM-JC)	00:00	0.00
INLET 8-C (STM-JC)	00:00	0.00
INLET 8-F (STM-JC)	00:45	8.25
INLET 8-H (STM-JC)	00:00	0.00
INLET 9-H (STM-JC)	00:49	4.29
MH - 100 (STM-JC)	00:54	2.48
MH - 101 (STM-JC)	00:45	18.47
MH - 108 (STM-JC)	01:06	1.62
MH - 112 (STM-JC)	00:43	5.68
MH - 114 (STM-JC)	00:46	1.27
MH - 115 (STM-JC)	00:46	0.89
MH - 117 (STM-JC)	00:49	2.37
MH - 118 (STM-JC)	00:54	2.45
MH - 119 (STM-JC)	00:47	1.52

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Node	Hour of Maximum Depth	Maximum Reported Depth Feet
MH - 120 (STM-JC)	00:46	4.14
MH - 122 (STM-JC)	00:45	6.28
MH - 123 (STM-JC)	00:56	9.21
MH - 124 (STM-JC)	00:44	5.56
MH - 125 (STM-JC)	00:45	7.46
MH - 126 (STM-JC)	00:45	15.94
MH - 127 (STM-JC)	00:00	0.00
MH - 128 (STM-JC)	00:00	0.00
MH - 133 (STM-JC)	00:00	0.00
MH - 134 (STM-JC)	00:00	0.00
MH - 137 (STM-JC)	00:00	0.00
MH - 138 (STM-JC)	00:00	0.00
MH - 14 (STM-JC)	00:47	2.70
MH - 141 (STM-JC)	00:43	7.73
MH - 15 (STM-JC)	00:46	4.18
MH - 16 (STM-JC)	00:48	0.31
MH - 2 (STM-JC)	01:11	0.88
MH - 20 (STM-JC)	00:50	12.03
MH - 21 (STM-JC)	00:50	9.30
MH - 25 (STM-JC)	01:20	7.46
MH - 27 (STM-JC)	00:45	6.30
MH - 28 (STM-JC)	00:45	4.93
MH - 29 (STM-JC)	00:45	1.53
MH - 3 (STM-JC)	01:06	1.50
MH - 30 (STM-JC)	00:47	11.48
MH - 31 (STM-JC)	00:43	8.83

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Node	Hour of Maximum Depth	Maximum Reported Depth Feet
MH - 34 (STM-JC)	00:43	8.33
MH - 39 (STM-JC)	00:46	3.69
MH - 4 (STM-JC)	01:00	0.96
MH - 53 (STM-JC)	01:23	0.41
MH - 57 (STM-JC)	00:00	0.00
MH - 58 (STM-JC)	00:00	0.00
MH - 6 (STM-JC)	00:54	2.43
MH - 64 (STM-JC)	00:00	0.00
MH - 65 (STM-JC)	00:00	0.00
MH - 7 (STM-JC)	00:00	0.00
MH - 71 (STM-JC)	00:00	0.00
MH - 72 (STM-JC)	00:00	0.00
MH - 73 (STM-JC)	00:00	0.00
MH - 74 (STM-JC)	00:00	0.00
MH - 75 (STM-JC)	00:46	5.67
MH - 80 (STM-JC)	00:00	0.00
MH - 84 (STM-JC)	00:43	5.38
MH - 91 (STM-JC)	00:53	3.41
MH - 94 (STM-JC)	00:47	0.00
WF-JCC_Outfall	01:22	1.72

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Node Inflow Summary

Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Day of Maximum Inflow	Hour of Maximum Inflow
East_Pond	STORAGE	61.83	462.62	0	00:46
East_Pond_Discharge_Structure	JUNCTION	0.00	130.77	0	01:22
INLET 10-H (STM-JC)	JUNCTION	0.00	4.92	0	00:41
INLET 11-H (STM-JC)	JUNCTION	80.43	80.43	0	00:45
INLET 1-A (STM-JC)	JUNCTION	19.44	19.44	0	01:00
INLET 1-B (STM-JC)	JUNCTION	6.96	6.96	0	00:45
INLET 1-C (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 1-D (STM-JC)	JUNCTION	14.16	14.16	0	00:45
INLET 1-E (STM-JC)	JUNCTION	0.00	1.52	0	00:47
INLET 1-F (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 1-G (STM-JC)	JUNCTION	6.09	178.33	0	00:48
INLET 1-H (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 1-I (STM-JC)	JUNCTION	0.00	5.94	0	00:43
INLET 1-OS (STM-JC)	JUNCTION	16.22	16.22	0	01:10
INLET 2-A (STM-JC)	JUNCTION	0.00	0.00	0	00:56
INLET 2-C (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 2-E (STM-JC)	JUNCTION	0.00	1.03	0	00:47
INLET 2-F (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 2-H (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 2-I (STM-JC)	JUNCTION	0.00	2.13	0	00:43
INLET 3-A (STM-JC)	JUNCTION	4.42	4.42	0	01:18
INLET 3-C (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 3-F (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 3-H (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 4-A (STM-JC)	JUNCTION	0.00	0.00	0	00:00

Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Day of Maximum Inflow	Hour of Maximum Inflow
INLET 4-C (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 4-F (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 4-H (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 5-C (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 5-F (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 5-H (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 5-I (STM-JC)	JUNCTION	31.81	163.00	0	00:46
INLET 6-C (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 6-F (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 6-H (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 7-C (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 7-F (STM-JC)	JUNCTION	0.00	1.40	0	00:43
INLET 7-H (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 8-C (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 8-F (STM-JC)	JUNCTION	0.00	1.00	0	00:06
INLET 8-H (STM-JC)	JUNCTION	0.00	0.00	0	00:00
INLET 9-H (STM-JC)	JUNCTION	0.00	3.10	0	00:41
MH - 100 (STM-JC)	JUNCTION	0.00	88.47	0	00:54
MH - 101 (STM-JC)	JUNCTION	0.00	127.02	0	00:48
MH - 108 (STM-JC)	JUNCTION	0.00	48.28	0	01:06
MH - 112 (STM-JC)	JUNCTION	0.00	131.74	0	00:47
MH - 114 (STM-JC)	JUNCTION	0.00	32.01	0	00:45
MH - 115 (STM-JC)	JUNCTION	0.00	31.91	0	00:46
MH - 117 (STM-JC)	JUNCTION	0.00	97.60	0	00:46
MH - 118 (STM-JC)	JUNCTION	0.00	88.47	0	00:54
MH - 119 (STM-JC)	JUNCTION	0.00	3.06	0	00:46

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Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Day of Maximum Inflow	Hour of Maximum Inflow
MH - 120 (STM-JC)	JUNCTION	0.00	131.77	0	00:47
MH - 122 (STM-JC)	JUNCTION	0.00	127.38	0	00:45
MH - 123 (STM-JC)	JUNCTION	0.00	178.32	0	00:48
MH - 124 (STM-JC)	JUNCTION	0.00	5.15	0	00:44
MH - 125 (STM-JC)	JUNCTION	0.00	127.02	0	00:48
MH - 126 (STM-JC)	JUNCTION	0.00	127.02	0	00:48
MH - 127 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 128 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 133 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 134 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 137 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 138 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 14 (STM-JC)	JUNCTION	0.00	98.79	0	00:46
MH - 141 (STM-JC)	JUNCTION	0.00	3.01	0	00:41
MH - 15 (STM-JC)	JUNCTION	39.10	132.32	0	00:46
MH - 16 (STM-JC)	JUNCTION	0.00	6.08	0	00:47
MH - 2 (STM-JC)	JUNCTION	0.00	16.22	0	01:10
MH - 20 (STM-JC)	JUNCTION	46.17	172.87	0	00:48
MH - 21 (STM-JC)	JUNCTION	0.00	12.51	0	00:06
MH - 25 (STM-JC)	JUNCTION	0.00	76.43	0	00:44
MH - 27 (STM-JC)	JUNCTION	32.73	32.73	0	00:45
MH - 28 (STM-JC)	JUNCTION	0.00	32.75	0	00:45
MH - 29 (STM-JC)	JUNCTION	0.00	32.77	0	00:45
MH - 3 (STM-JC)	JUNCTION	10.69	46.20	0	01:06
MH - 30 (STM-JC)	JUNCTION	101.65	131.74	0	00:47
MH - 31 (STM-JC)	JUNCTION	0.00	4.88	0	00:41

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Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Day of Maximum Inflow	Hour of Maximum Inflow
MH - 34 (STM-JC)	JUNCTION	0.00	131.74	0	00:47
MH - 39 (STM-JC)	JUNCTION	0.00	131.74	0	00:47
MH - 4 (STM-JC)	JUNCTION	0.00	19.44	0	01:00
MH - 53 (STM-JC)	JUNCTION	0.00	4.42	0	01:18
MH - 57 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 58 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 6 (STM-JC)	JUNCTION	58.94	88.48	0	00:53
MH - 64 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 65 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 7 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 71 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 72 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 73 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 74 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 75 (STM-JC)	JUNCTION	0.00	5.98	0	00:40
MH - 80 (STM-JC)	JUNCTION	0.00	0.00	0	00:00
MH - 84 (STM-JC)	JUNCTION	0.00	7.18	0	00:43
MH - 91 (STM-JC)	JUNCTION	0.00	163.00	0	00:47
MH - 94 (STM-JC)	JUNCTION	0.00	0.08	0	00:47
WF-JCC_Outfall	OUTFALL	7.75	132.49	0	01:21

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Node Inflow Summary

Node	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal	Flow Balance Error Percent
East_Pond	0.619	10.5	-0.001
East_Pond_Discharge_Structure	0	10.1	-0.000
INLET 10-H (STM-JC)	0	0.00944	-0.555
INLET 11-H (STM-JC)	1.74	2.2	-0.034
INLET 1-A (STM-JC)	0.934	0.934	0.000
INLET 1-B (STM-JC)	0.085	0.085	0.000
INLET 1-C (STM-JC)	0	0	0.000
INLET 1-D (STM-JC)	0.144	0.144	0.000
INLET 1-E (STM-JC)	0	0.000195	0.000
INLET 1-F (STM-JC)	0	0	0.000
INLET 1-G (STM-JC)	0.0876	5.45	0.057
INLET 1-H (STM-JC)	0	0	0.000
INLET 1-I (STM-JC)	0	0.000333	0.000
INLET 1-OS (STM-JC)	0.863	0.863	0.000
INLET 2-A (STM-JC)	0	1.49e-06	0.000
INLET 2-C (STM-JC)	0	0	0.000
INLET 2-E (STM-JC)	0	0.0153	0.000
INLET 2-F (STM-JC)	0	0	0.000
INLET 2-H (STM-JC)	0	0	0.000
INLET 2-I (STM-JC)	0	0.000191	0.000
INLET 3-A (STM-JC)	0.281	0.281	0.000
INLET 3-C (STM-JC)	0	0	0.000
INLET 3-F (STM-JC)	0	0	0.000
INLET 3-H (STM-JC)	0	0	0.000
INLET 4-A (STM-JC)	0	0	0.000

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Node	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal	Flow Balance Error Percent
INLET 4-C (STM-JC)	0	0	0.000
INLET 4-F (STM-JC)	0	0	0.000
INLET 4-H (STM-JC)	0	0	0.000
INLET 5-C (STM-JC)	0	0	0.000
INLET 5-F (STM-JC)	0	0	0.000
INLET 5-H (STM-JC)	0	0	0.000
INLET 5-I (STM-JC)	0.614	3.52	0.302
INLET 6-C (STM-JC)	0	0	0.000
INLET 6-F (STM-JC)	0	0	0.000
INLET 6-H (STM-JC)	0	0	0.000
INLET 7-C (STM-JC)	0	0	0.000
INLET 7-F (STM-JC)	0	0.000221	0.000
INLET 7-H (STM-JC)	0	0	0.000
INLET 8-C (STM-JC)	0	0	0.000
INLET 8-F (STM-JC)	0	0.000249	0.000
INLET 8-H (STM-JC)	0	0	0.000
INLET 9-H (STM-JC)	0	0.00297	0.000
MH - 100 (STM-JC)	0	3.68	-0.004
MH - 101 (STM-JC)	0	4.35	-0.021
MH - 108 (STM-JC)	0	2.53	-0.114
MH - 112 (STM-JC)	0	2.9	-0.043
MH - 114 (STM-JC)	0	0.477	0.000
MH - 115 (STM-JC)	0	0.477	0.020
MH - 117 (STM-JC)	0	3.83	0.006
MH - 118 (STM-JC)	0	3.68	-0.000
MH - 119 (STM-JC)	0	0.00138	-1.317

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Node	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal	Flow Balance Error Percent
MH - 120 (STM-JC)	0	2.9	-0.004
MH - 122 (STM-JC)	0	4.35	-0.007
MH - 123 (STM-JC)	0	5.44	-0.073
MH - 124 (STM-JC)	0	0.00412	-0.779
MH - 125 (STM-JC)	0	4.36	0.004
MH - 126 (STM-JC)	0	4.36	-0.271
MH - 127 (STM-JC)	0	0	0.000
MH - 128 (STM-JC)	0	0	0.000
MH - 133 (STM-JC)	0	0	0.000
MH - 134 (STM-JC)	0	0	0.000
MH - 137 (STM-JC)	0	0	0.000
MH - 138 (STM-JC)	0	0	0.000
MH - 14 (STM-JC)	0	3.83	-0.026
MH - 141 (STM-JC)	0	0.000285	0.000
MH - 15 (STM-JC)	0.529	4.36	0.030
MH - 16 (STM-JC)	0	0.0221	24.803
MH - 2 (STM-JC)	0	0.863	-0.000
MH - 20 (STM-JC)	0.989	5.36	-0.034
MH - 21 (STM-JC)	0	0.00888	-4.219
MH - 25 (STM-JC)	0	1.38	-0.138
MH - 27 (STM-JC)	0.478	0.478	0.001
MH - 28 (STM-JC)	0	0.478	0.008
MH - 29 (STM-JC)	0	0.477	-0.001
MH - 3 (STM-JC)	0.37	2.45	0.016
MH - 30 (STM-JC)	2.43	2.9	-0.008
MH - 31 (STM-JC)	0	0.00136	-4.594

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Node	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal	Flow Balance Error Percent
MH - 34 (STM-JC)	0	2.91	0.013
MH - 39 (STM-JC)	0	2.9	0.004
MH - 4 (STM-JC)	0	0.934	-0.000
MH - 53 (STM-JC)	0	0.281	-0.123
MH - 57 (STM-JC)	0	0	0.000
MH - 58 (STM-JC)	0	0	0.000
MH - 6 (STM-JC)	1.15	3.68	0.046
MH - 64 (STM-JC)	0	0	0.000
MH - 65 (STM-JC)	0	0	0.000
MH - 7 (STM-JC)	0	0	0.000
MH - 71 (STM-JC)	0	0	0.000
MH - 72 (STM-JC)	0	0	0.000
MH - 73 (STM-JC)	0	0	0.000
MH - 74 (STM-JC)	0	0	0.000
MH - 75 (STM-JC)	0	0.0197	-1.937
MH - 80 (STM-JC)	0	0	0.000
MH - 84 (STM-JC)	0	0.00303	-0.991
MH - 91 (STM-JC)	0	3.53	-0.222
MH - 94 (STM-JC)	0	7.8e-07	0.133
WF-JCC_Outfall	0.107	10.2	0.000

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
East_Pond	114.872	11	0	0	631.130	61	0	01:22	158.94

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
WF-JCC_Outfall	77.54	13.02	132.49	10.174

NOTE: See UD-Detention Model for outfall flows

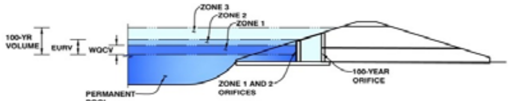
Storage Volume
&
Outfall Loading

DETENTION BASIN STAGE-STORAGE TABLE BUILDER

UD-Detention, Version 3.07 (February 2017)

Project: Trails at Aspen Ridge

Basin ID: Approximation of Detention for full development of Offsite Area North of Bradley Road (Big Johnson Reservoir CDOT flows considered as routed back to correct basin and are not included)



Example Zone Configuration (Retention Pond)

Required Volume Calculation

			Optional User Override 1-hr Precipitation	
Selected BMP Type =	EDB			
Watershed Area =	12.41	acres		
Watershed Length =	1,142	ft		
Watershed Slope =	0.050	ft/ft		
Watershed Imperviousness =	95.00%	percent		
Percentage Hydrologic Soil Group A =	0.0%	percent		
Percentage Hydrologic Soil Group B =	100.0%	percent		
Percentage Hydrologic Soil Groups C/D =	0.0%	percent		
Desired WQCV Drain Time =	40.0	hours		
Location for 1-hr Rainfall Depths =	User Input			
Water Quality Capture Volume (WQCV) =	0.463	acre-feet		
Excess Urban Runoff Volume (EURV) =	1.327	acre-feet		
2-yr Runoff Volume (P1 = 1.19 in.) =	1.140	acre-feet	1.19	inches
5-yr Runoff Volume (P1 = 1.5 in.) =	1.478	acre-feet	1.50	inches
10-yr Runoff Volume (P1 = 1.75 in.) =	1.780	acre-feet	1.75	inches
25-yr Runoff Volume (P1 = 2 in.) =	2.081	acre-feet	2.00	inches
50-yr Runoff Volume (P1 = 2.25 in.) =	2.326	acre-feet	2.25	inches
100-yr Runoff Volume (P1 = 2.52 in.) =	2.649	acre-feet	2.52	inches
500-yr Runoff Volume (P1 = 3.55 in.) =	3.798	acre-feet	3.55	inches
Approximate 2-yr Detention Volume =	1.070	acre-feet		
Approximate 5-yr Detention Volume =	1.390	acre-feet		
Approximate 10-yr Detention Volume =	1.692	acre-feet		
Approximate 25-yr Detention Volume =	1.814	acre-feet		
Approximate 50-yr Detention Volume =	1.883	acre-feet		
Approximate 100-yr Detention Volume =	1.942	acre-feet		

Stage-Storage Calculation

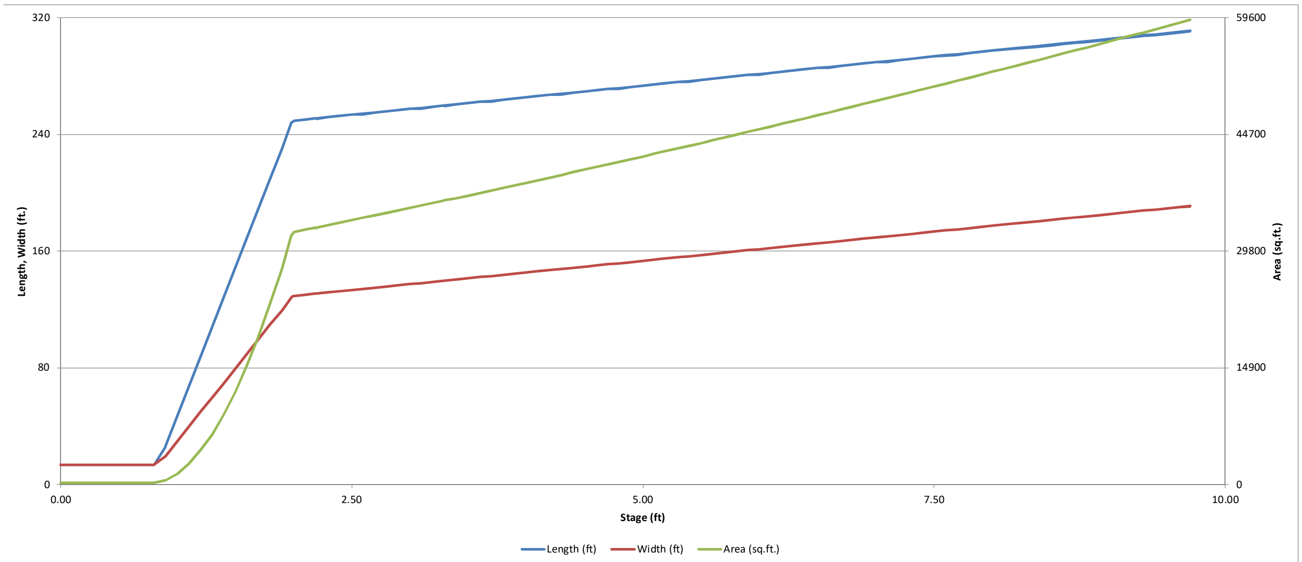
Zone 1 Volume (WQCV) =	0.463	acre-feet
Zone 2 Volume (EURV - Zone 1) =	0.864	acre-feet
Zone 3 Volume (100-year - Zones 1 & 2) =	0.616	acre-feet
Total Detention Basin Volume =	1.942	acre-feet
Initial Surcharge Volume (ISV) =	60	ft^3
Initial Surcharge Depth (ISD) =	0.33	ft
Total Available Detention Depth (H_{total}) =	4.00	ft
Depth of Trickle Channel (H_{TC}) =	0.50	ft
Slope of Trickle Channel (S_{TC}) =	0.005	ft/ft
Slopes of Main Basin Sides (S_{main}) =	4	H:V
Basin Length-to-Width Ratio ($R_{L/W}$) =	2	
Initial Surcharge Area (A_{ISV}) =	183	ft^2
Surcharge Volume Length (L_{ISV}) =	13.5	ft
Surcharge Volume Width (W_{ISV}) =	13.5	ft
Depth of Basin Floor (H_{FLOOR}) =	1.15	ft
Length of Basin Floor (L_{FLOOR}) =	249.1	ft
Width of Basin Floor (W_{FLOOR}) =	129.0	ft
Area of Basin Floor (A_{FLOOR}) =	32,144	ft^2
Volume of Basin Floor (V_{FLOOR}) =	13,379	ft^3
Depth of Main Basin (H_{MAIN}) =	2.02	ft
Length of Main Basin (L_{MAIN}) =	265.3	ft
Width of Main Basin (W_{MAIN}) =	145.1	ft
Area of Main Basin (A_{MAIN}) =	38,500	ft^2
Volume of Main Basin (V_{MAIN}) =	71,081	ft^3
Calculated Total Basin Volume (V_{total}) =	**1.942**	acre-feet

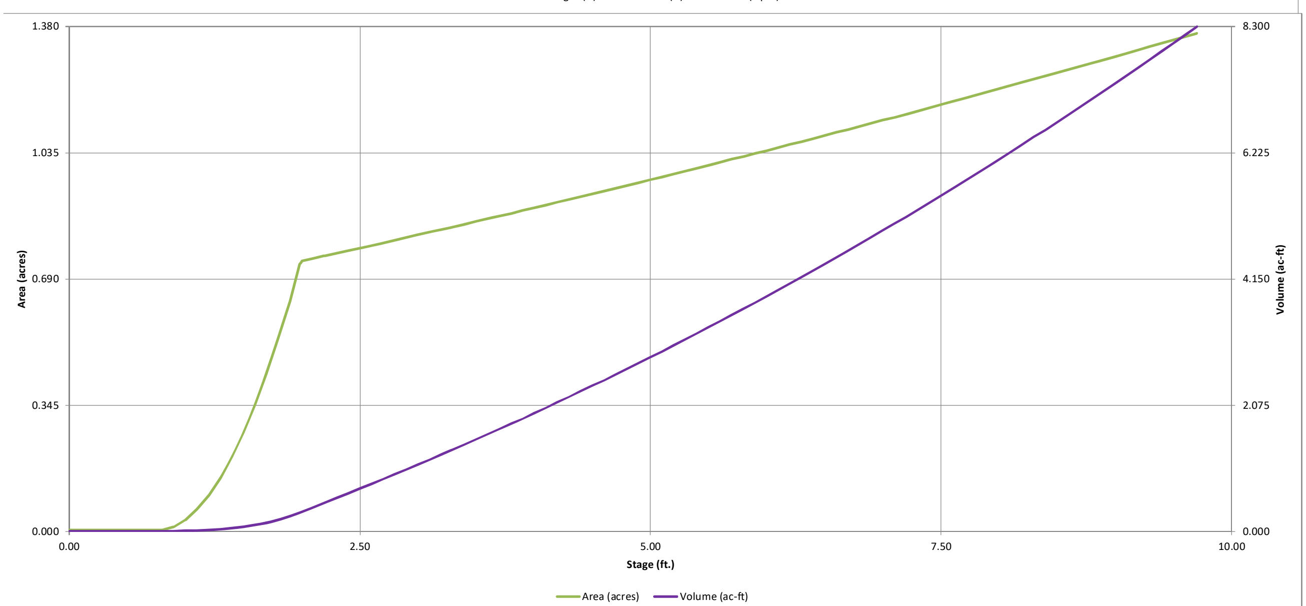
Depth Increment = 0.1 ft

Stage - Storage Description	Stage (ft)	Optional Override Stage (ft)	Length (ft)	Width (ft)	Area (ft^2)	Optional Override Area (ft^2)	Area (acre)	Volume (ft^3)	Volume (ac-ft)
Top of Micropool	0.00		13.5	13.5	183		0.004		
ISV	0.33		13.5	13.5	183		0.004	59	0.001
	0.40		13.5	13.5	183		0.004	71	0.002
	0.50		13.5	13.5	183		0.004	90	0.002
	0.60		13.5	13.5	183		0.004	108	0.002
	0.70		13.5	13.5	183		0.004	126	0.003
	0.80		13.5	13.5	183		0.004	145	0.003
	0.90		25.8	19.5	503		0.012	172	0.004
	1.00		46.2	29.5	1,364		0.031	262	0.006
	1.10		66.6	39.5	2,632		0.060	458	0.011
	1.20		87.0	49.5	4,308		0.099	802	0.018
	1.30		107.4	59.5	6,392		0.147	1,333	0.031
	1.40		127.8	69.5	8,885		0.204	2,094	0.048
	1.50		148.2	79.5	11,785		0.271	3,124	0.072
	1.60		168.6	89.5	15,093		0.346	4,464	0.102
	1.70		189.0	99.5	18,809		0.432	6,156	0.141
	1.80		209.4	109.5	22,933		0.526	8,240	0.189
	1.90		229.8	119.5	27,466		0.631	10,756	0.247
Floor	1.98		248.1	128.5	31,893		0.732	13,425	0.308
	2.00		249.2	129.1	32,159		0.738	13,745	0.316
	2.10		250.1	129.9	32,493		0.746	17,301	0.397
Zone 1 (WQCV)	2.19		250.8	130.7	32,767		0.752	20,238	0.465
	2.20		250.9	130.7	32,798		0.753	20,566	0.472
	2.30		251.7	131.5	33,104		0.760	23,861	0.548
	2.40		252.5	132.3	33,411		0.767	27,187	0.624
	2.50		253.3	133.1	33,719		0.774	30,543	0.701
	2.60		254.1	133.9	34,029		0.781	33,930	0.779
	2.70		254.9	134.7	34,340		0.788	37,349	0.857
	2.80		255.7	135.5	34,652		0.796	40,799	0.937
	2.90		256.5	136.3	34,966		0.803	44,279	1.017
	3.00		257.3	137.1	35,281		0.810	47,792	1.097
	3.10		258.1	137.9	35,597		0.817	51,336	1.179
	3.20		258.9	138.7	35,915		0.824	54,911	1.261
Zone 2 (EURV)	3.28		259.5	139.4	36,169		0.830	57,795	1.327
	3.30		259.7	139.5	36,233		0.832	58,519	1.343
	3.40		260.5	140.3	36,553		0.839	62,158	1.427
	3.50		261.3	141.1	36,875		0.847	65,829	1.511
	3.60		262.1	141.9	37,197		0.854	69,533	1.596
	3.70		262.9	142.7	37,521		0.861	73,269	1.682
	3.80		263.7	143.5	37,846		0.869	77,037	1.769
	3.90		264.5	144.3	38,172		0.876	80,838	1.856
Zone 3 (100-year)	4.00		265.3	145.1	38,500		0.884	84,672	1.944
	4.10		266.1	145.9	38,829		0.891	88,538	2.033
	4.20		266.9	146.7	39,159		0.899	92,437	2.122
	4.30		267.7	147.5	39,491		0.907	96,370	2.212
	4.40		268.5	148.3	39,824		0.914	100,336	2.303
	4.50		269.3	149.1	40,158		0.922	104,335	2.395
	4.60		270.1	149.9	40,493		0.930	108,367	2.488
	4.70		270.9	150.7	40,830		0.937	112,433	2.581
	4.80		271.7	151.5	41,168		0.945	116,533	2.675
	4.90		272.5	152.3	41,507		0.953	120,667	2.770
	5.00		273.3	153.1	41,847		0.961	124,835	2.866
	5.10		274.1	153.9	42,189		0.969	129,036	2.962
	5.20		274.9	154.7	42,532		0.976	133,273	3.060
	5.30		275.7	155.5	42,876		0.984	137,543	3.158
	5.40		276.5	156.3	43,222		0.992	141,848	3.256
	5.50		277.3	157.1	43,569		1.000	146,187	3.356
	5.60		278.1	157.9	43,917		1.008	150,562	3.456
	5.70		278.9	158.7	44,266		1.016	154,971	3.558
	5.80		279.7	159.5	44,617		1.024	159,415	3.660
	5.90		280.5	160.3	44,969		1.032	163,894	3.762

DETENTION BASIN STAGE-STORAGE TABLE BUILDER

UD-Detention, Version 3.07 (February 2017)



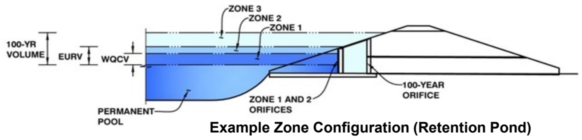


Detention Basin Outlet Structure Design

UD-Detention, Version 3.07 (February 2017)

Project: Trails at Aspen Ridge

Basin ID: Approximation of Detention for full development of Offsite Area North of Bradley Road (Big Johnson Reservoir CDOT flows considered as routed back to correct basin and are no



Example Zone Configuration (Retention Pond)

	Stage (ft)	Zone Volume (ac-ft)	Outlet Type
Zone 1 (WQCV)	2.19	0.463	Orifice Plate
Zone 2 (EURV)	3.28	0.864	Circular Orifice
Zone 3 (100-year)	4.00	0.616	Weir&Pipe (Restrict)
		1.942	Total

User Input: Orifice at Underdrain Outlet (typically used to drain WQCV in a Filtration BMP)

Underdrain Orifice Invert Depth =	N/A	ft (distance below the filtration media surface)
Underdrain Orifice Diameter =	N/A	inches

Calculated Parameters for Underdrain

Underdrain Orifice Area =	N/A	ft^2
Underdrain Orifice Centroid =	N/A	feet

User Input: Orifice Plate with one or more orifices or Elliptical Slot Weir (typically used to drain WQCV and/or EURV in a sedimentation BMP)

Invert of Lowest Orifice =	0.00	ft (relative to basin bottom at Stage = 0 ft)
Depth at top of Zone using Orifice Plate =	2.19	ft (relative to basin bottom at Stage = 0 ft)
Orifice Plate: Orifice Vertical Spacing =	8.80	inches
Orifice Plate: Orifice Area per Row =	1.49	sq. inches (diameter = 1-3/8 inches)

Calculated Parameters for Plate

WQ Orifice Area per Row =	1.035E-02	ft^2
Elliptical Half-Width =	N/A	feet
Elliptical Slot Centroid =	N/A	feet
Elliptical Slot Area =	N/A	ft^2

User Input: Stage and Total Area of Each Orifice Row (numbered from lowest to highest)

	Row 1 (required)	Row 2 (optional)	Row 3 (optional)	Row 4 (optional)	Row 5 (optional)	Row 6 (optional)	Row 7 (optional)	Row 8 (optional)
Stage of Orifice Centroid (ft)	0.00	0.73	1.46					
Orifice Area (sq. inches)	1.49	1.49	1.49					

	Row 9 (optional)	Row 10 (optional)	Row 11 (optional)	Row 12 (optional)	Row 13 (optional)	Row 14 (optional)	Row 15 (optional)	Row 16 (optional)
Stage of Orifice Centroid (ft)								
Orifice Area (sq. inches)								

User Input: Vertical Orifice (Circular or Rectangular)

	Zone 2 Circular	Not Selected	
Invert of Vertical Orifice =	2.19	N/A	ft (relative to basin bottom at Stage = 0 ft)
Depth at top of Zone using Vertical Orifice =	3.28	N/A	ft (relative to basin bottom at Stage = 0 ft)
Vertical Orifice Diameter =	2.93	N/A	inches

Calculated Parameters for Vertical Orifice

	Zone 2 Circular	Not Selected	
Vertical Orifice Area =	0.05	N/A	ft^2
Vertical Orifice Centroid =	0.12	N/A	feet

User Input: Overflow Weir (Dropbox) and Grate (Flat or Sloped)

	Zone 3 Weir	Not Selected	
Overflow Weir Front Edge Height, Ho =	3.28	N/A	ft (relative to basin bottom at Stage = 0 ft)
Overflow Weir Front Edge Length =	4.00	N/A	feet
Overflow Weir Slope =	0.00	N/A	H:V (enter zero for flat grate)
Horiz. Length of Weir Sides =	4.00	N/A	feet
Overflow Grate Open Area % =	70%	N/A	%, grate open area/total area
Debris Clogging % =	50%	N/A	%

Calculated Parameters for Overflow Weir

	Zone 3 Weir	Not Selected	
Height of Grate Upper Edge, H_t =	3.28	N/A	feet
Over Flow Weir Slope Length =	4.00	N/A	feet
Grate Open Area / 100-yr Orifice Area =	6.34	N/A	should be ≥ 4
Overflow Grate Open Area w/o Debris =	11.20	N/A	ft^2
Overflow Grate Open Area w/ Debris =	5.60	N/A	ft^2

User Input: Outlet Pipe w/ Flow Restriction Plate (Circular Orifice, Restrictor Plate, or Rectangular Orifice)

	Zone 3 Restrictor	Not Selected	
Depth to Invert of Outlet Pipe =	0.50	N/A	ft (distance below basin bottom at Stage = 0 ft)
Outlet Pipe Diameter =	18.00	N/A	inches
Restrictor Plate Height Above Pipe Invert =	18.00		inches

Calculated Parameters for Outlet Pipe w/ Flow Restriction Plate

	Zone 3 Restrictor	Not Selected	
Outlet Orifice Area =	1.77	N/A	ft^2
Outlet Orifice Centroid =	0.75	N/A	feet
Half-Central Angle of Restrictor Plate on Pipe =	3.14	N/A	radians

User Input: Emergency Spillway (Rectangular or Trapezoidal)

Spillway Invert Stage=	4.50	ft (relative to basin bottom at Stage = 0 ft)
Spillway Crest Length =	15.00	feet
Spillway End Slopes =	4.00	H:V
Freeboard above Max Water Surface =	1.00	feet

Calculated Parameters for Spillway

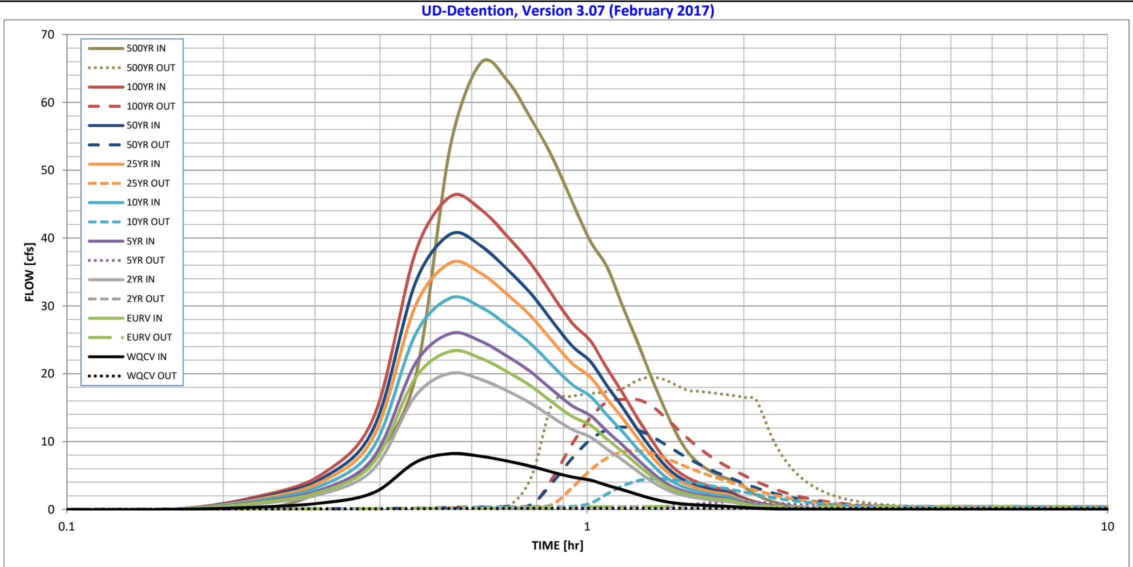
Spillway Design Flow Depth=	0.90	feet
Stage at Top of Freeboard =	6.40	feet
Basin Area at Top of Freeboard =	1.07	acres

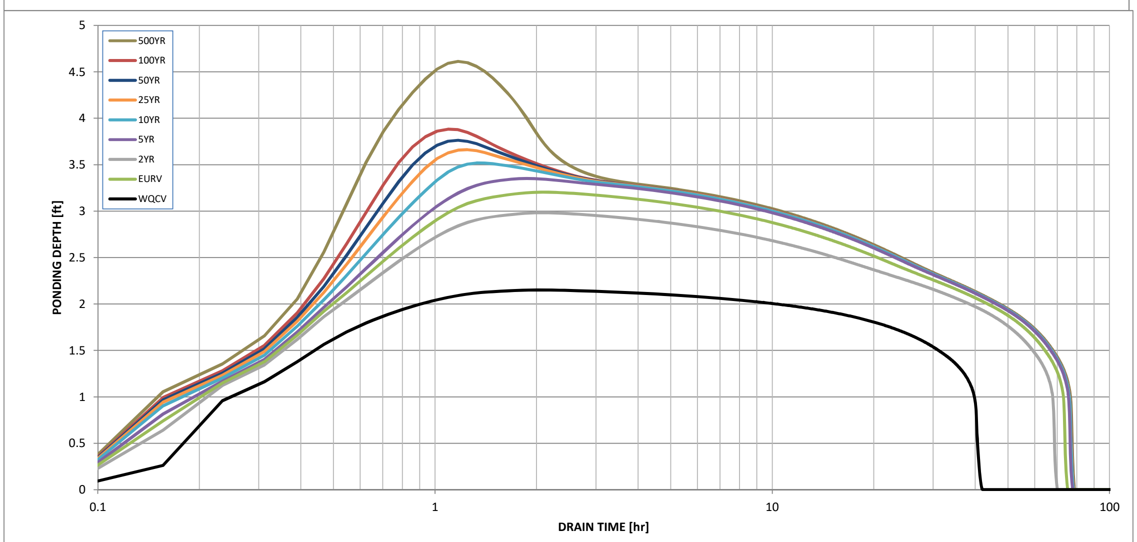
Routed Hydrograph Results

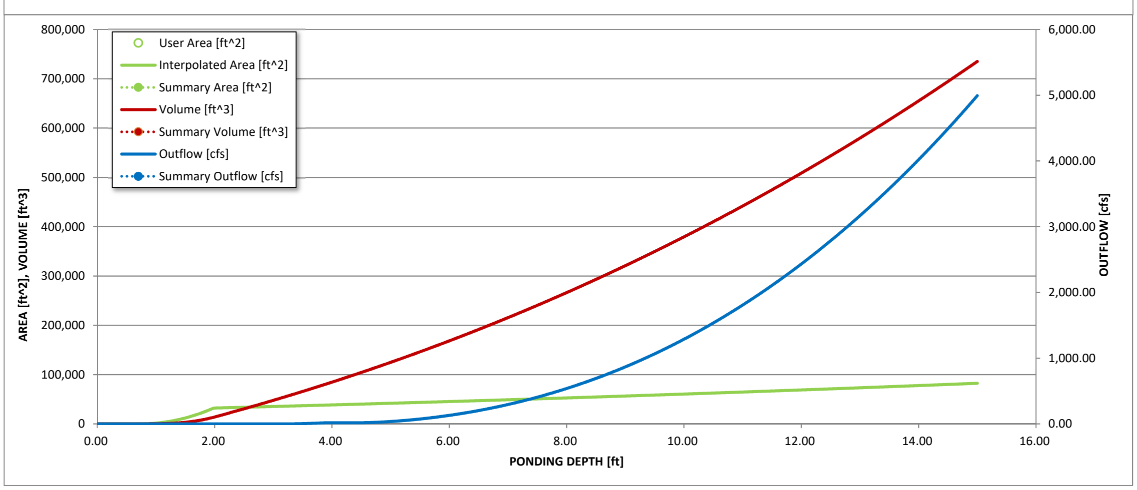
Design Storm Return Period =	WQCV	EURV	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	500 Year
One-Hour Rainfall Depth (in) =	0.53	1.07	1.19	1.50	1.75	2.00	2.25	2.52	3.55
Calculated Runoff Volume (acre-ft) =	0.463	1.327	1.140	1.478	1.780	2.081	2.326	2.649	3.798
OPTIONAL Override Runoff Volume (acre-ft) =									
Inflow Hydrograph Volume (acre-ft) =	0.462	1.325	1.139	1.476	1.779	2.079	2.324	2.647	3.795
Predevelopment Unit Peak Flow, q (cfs/acre) =	0.00	0.00	0.01	0.02	0.21	0.70	0.97	1.30	2.17
Predevelopment Peak Q (cfs) =	0.0	0.0	0.2	0.3	2.6	8.7	12.0	16.1	26.9
Peak Inflow Q (cfs) =	8.2	23.3	20.1	25.9	31.2	36.4	40.6	46.1	65.8
Peak Outflow Q (cfs) =	0.2	0.4	0.4	1.1	4.5	8.7	12.1	16.2	19.5
Ratio Peak Outflow to Predevelopment Q =	N/A	N/A	N/A	4.1	1.7	1.0	1.0	1.0	0.7
Structure Controlling Flow =	Plate	Vertical Orifice 1	Vertical Orifice 1	Overflow Grate 1	Overflow Grate 1	Overflow Grate 1	Overflow Grate 1	Outlet Plate 1	Spillway
Max Velocity through Grate 1 (fps) =	N/A	N/A	N/A	0.1	0.4	0.7	1.0	1.4	1.5
Max Velocity through Grate 2 (fps) =	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Time to Drain 97% of Inflow Volume (hours) =	39	69	64	71	70	69	68	67	64
Time to Drain 99% of Inflow Volume (hours) =	40	72	67	74	74	74	74	74	72
Maximum Ponding Depth (ft) =	2.15	3.20	2.98	3.35	3.52	3.66	3.76	3.88	4.61
Area at Maximum Ponding Depth (acres) =	0.75	0.82	0.81	0.84	0.85	0.86	0.87	0.87	0.93
Maximum Volume Stored (acre-ft) =	0.435	1.261	1.081	1.385	1.520	1.648	1.734	1.838	2.497

Detention Basin Outlet Structure Design

UD-Detention, Version 3.07 (February 2017)





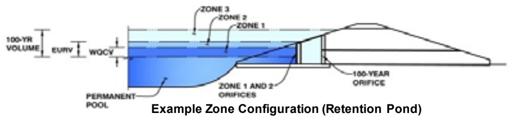


DETENTION BASIN STAGE-STORAGE TABLE BUILDER

UD-Detention, Version 3.07 (February 2017)

Project: Trails at Aspen Ridge

Basin ID: Approximated future detention for Commercial lot South of Bradley Road and West of Legacy Drive



Example Zone Configuration (Retention Pond)

Required Volume Calculation

Selected BMP Type =	**EDB**			
Watershed Area =	13.43	acres		
Watershed Length =	894	ft		
Watershed Slope =	0.070	ft/ft		
Watershed Imperviousness =	95.00%	percent		
Percentage Hydrologic Soil Group A =	0.0%	percent		
Percentage Hydrologic Soil Group B =	100.0%	percent		
Percentage Hydrologic Soil Groups C/D =	0.0%	percent		
Desired WQCV Drain Time =	40.0	hours		
Location for 1-hr Rainfall Depths =	User Input			
Water Quality Capture Volume (WQCV) =	0.501	acre-feet	Optional User Override	
Excess Urban Runoff Volume (EURV) =	1.436	acre-feet	1-hr Precipitation	
2-yr Runoff Volume (P1 = 1.19 in.) =	1.234	acre-feet	1.19	inches
5-yr Runoff Volume (P1 = 1.5 in.) =	1.600	acre-feet	1.50	inches
10-yr Runoff Volume (P1 = 1.75 in.) =	1.926	acre-feet	1.75	inches
25-yr Runoff Volume (P1 = 2 in.) =	2.252	acre-feet	2.00	inches
50-yr Runoff Volume (P1 = 2.25 in.) =	2.517	acre-feet	2.25	inches
100-yr Runoff Volume (P1 = 2.52 in.) =	2.867	acre-feet	2.52	inches
500-yr Runoff Volume (P1 = 3.55 in.) =	4.110	acre-feet	3.55	inches
Approximate 2-yr Detention Volume =	1.158	acre-feet		
Approximate 5-yr Detention Volume =	1.504	acre-feet		
Approximate 10-yr Detention Volume =	1.831	acre-feet		
Approximate 25-yr Detention Volume =	1.964	acre-feet		
Approximate 50-yr Detention Volume =	2.037	acre-feet		
Approximate 100-yr Detention Volume =	2.102	acre-feet		

Stage-Storage Calculation

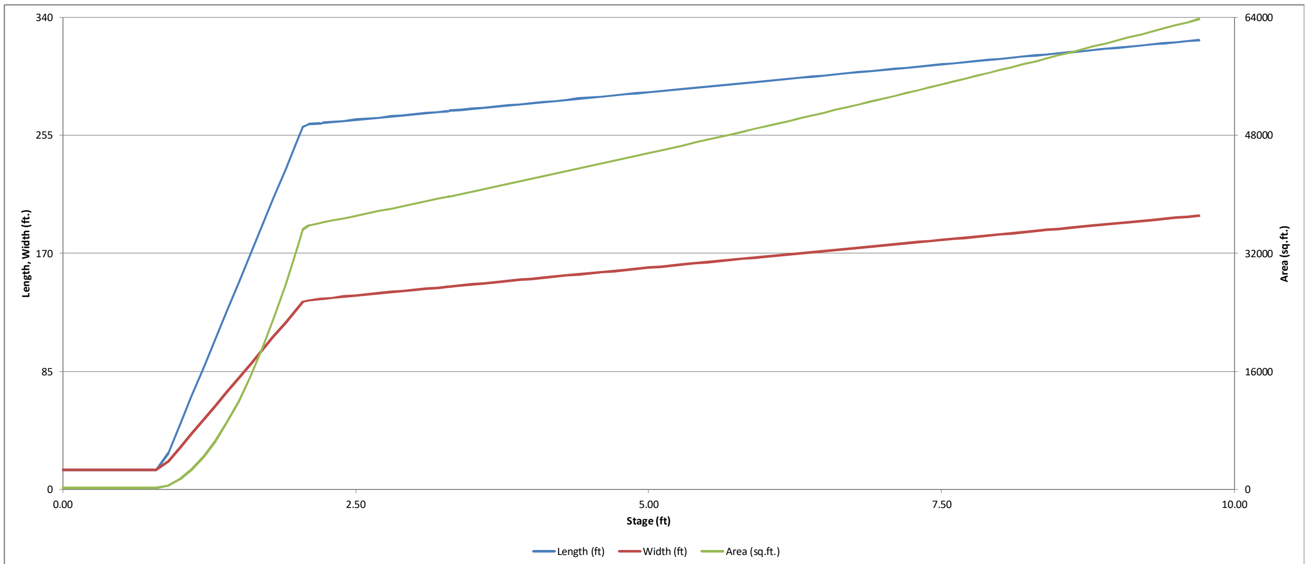
Zone 1 Volume (WQCV) =	0.501	acre-feet
Zone 2 Volume (EURV - Zone 1) =	0.935	acre-feet
Zone 3 Volume (100-year - Zones 1 & 2) =	0.666	acre-feet
Total Detention Basin Volume =	2.102	acre-feet
Initial Surcharge Volume (ISV) =	65	ft^3
Initial Surcharge Depth (ISD) =	0.33	ft
Total Available Detention Depth (H_{total}) =	4.00	ft
Depth of Trickle Channel (H_{TC}) =	0.50	ft
Slope of Trickle Channel (S_{TC}) =	0.005	ft/ft
Slopes of Main Basin Sides (S_{main}) =	4	H:V
Basin Length-to-Width Ratio ($R_{L/W}$) =	2	
Initial Surcharge Area (A_{ISV}) =	198	ft^2
Surcharge Volume Length (L_{ISV}) =	14.1	ft
Surcharge Volume Width (W_{ISV}) =	14.1	ft
Depth of Basin Floor (H_{FLOOR}) =	1.22	ft
Length of Basin Floor (L_{FLOOR}) =	262.3	ft
Width of Basin Floor (W_{FLOOR}) =	135.8	ft
Area of Basin Floor (A_{FLOOR}) =	35,621	ft^2
Volume of Basin Floor (V_{FLOOR}) =	15,609	ft^3
Depth of Main Basin (H_{MAIN}) =	1.95	ft
Length of Main Basin (L_{MAIN}) =	278.0	ft
Width of Main Basin (W_{MAIN}) =	151.4	ft
Area of Main Basin (A_{MAIN}) =	42,086	ft^2
Volume of Main Basin (V_{MAIN}) =	75,793	ft^3
Calculated Total Basin Volume (V_{total}) =	**2.102**	acre-feet

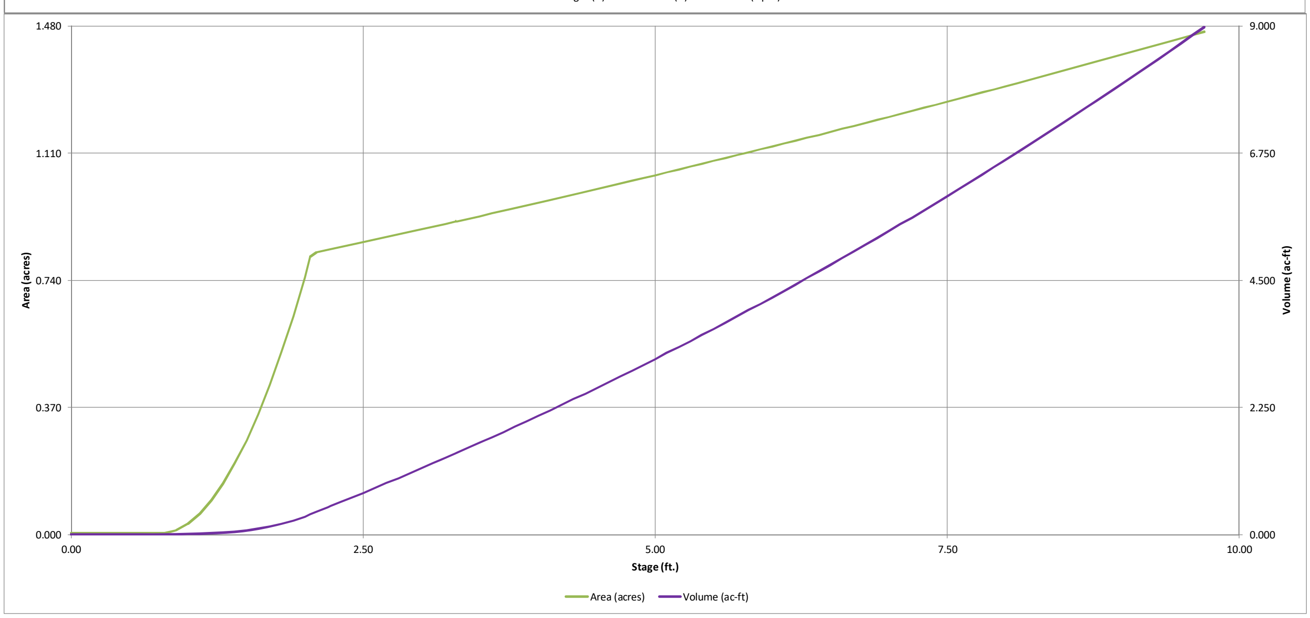
Depth Increment = 0.1 ft

Stage - Storage Description	Stage (ft)	Optional Override Stage (ft)	Length (ft)	Width (ft)	Area (ft^2)	Optional Override Area (ft^2)	Area (acre)	Volume (ft^3)	Volume (ac-ft)
Top of Micropool	0.00		14.1	14.1	198		0.005		
ISV	0.33		14.1	14.1	198		0.005	63	0.001
	0.40		14.1	14.1	198		0.005	77	0.002
	0.50		14.1	14.1	198		0.005	97	0.002
	0.60		14.1	14.1	198		0.005	117	0.003
	0.70		14.1	14.1	198		0.005	137	0.003
	0.80		14.1	14.1	198		0.005	157	0.004
	0.90		26.3	20.1	528		0.012	186	0.004
	1.00		46.7	30.1	1,405		0.032	279	0.006
	1.10		67.1	40.1	2,690		0.062	480	0.011
	1.20		87.5	50.1	4,383		0.101	830	0.019
	1.30		107.9	60.1	6,484		0.149	1,370	0.031
	1.40		128.3	70.1	8,992		0.206	2,141	0.049
	1.50		148.7	80.1	11,909		0.273	3,182	0.073
	1.60		169.1	90.1	15,234		0.350	4,536	0.104
	1.70		189.5	100.1	18,967		0.435	6,243	0.143
	1.80		209.9	110.1	23,108		0.530	8,343	0.192
	1.90		230.3	120.1	27,656		0.635	10,878	0.250
	2.00		250.7	130.1	32,613		0.749	13,888	0.319
Floor	2.05		260.9	135.1	35,245		0.809	15,584	0.358
	2.10		262.8	136.2	35,790		0.822	17,724	0.407
	2.20		263.6	137.0	36,110		0.829	21,319	0.489
Zone 1 (WQCV)	2.22		263.7	137.2	36,174		0.830	22,042	0.506
	2.30		264.4	137.8	36,431		0.836	24,946	0.573
	2.40		265.2	138.6	36,753		0.844	28,605	0.657
	2.50		266.0	139.4	37,077		0.851	32,297	0.741
	2.60		266.8	140.2	37,402		0.859	36,021	0.827
	2.70		267.6	141.0	37,728		0.866	39,777	0.913
	2.80		268.4	141.8	38,056		0.874	43,566	1.000
	2.90		269.2	142.6	38,384		0.881	47,388	1.088
	3.00		270.0	143.4	38,715		0.889	51,243	1.176
	3.10		270.8	144.2	39,046		0.896	55,131	1.266
	3.20		271.6	145.0	39,378		0.904	59,053	1.356
Zone 2 (EURV)	3.29		272.3	145.7	39,679		0.911	62,610	1.437
	3.30		272.4	145.8	39,712		0.912	63,007	1.446
	3.40		273.2	146.6	40,048		0.919	66,995	1.538
	3.50		274.0	147.4	40,384		0.927	71,017	1.630
	3.60		274.8	148.2	40,722		0.935	75,072	1.723
	3.70		275.6	149.0	41,061		0.943	79,161	1.817
	3.80		276.4	149.8	41,401		0.950	83,284	1.912
	3.90		277.2	150.6	41,743		0.958	87,441	2.007
Zone 3 (100-year)	4.00		278.0	151.4	42,086		0.966	91,633	2.104
	4.10		278.8	152.2	42,430		0.974	95,858	2.201
	4.20		279.6	153.0	42,775		0.982	100,119	2.298
	4.30		280.4	153.8	43,122		0.990	104,413	2.397
	4.40		281.2	154.6	43,470		0.998	108,743	2.496
	4.50		282.0	155.4	43,819		1.006	113,107	2.597
	4.60		282.8	156.2	44,170		1.014	117,507	2.698
	4.70		283.6	157.0	44,521		1.022	121,941	2.799
	4.80		284.4	157.8	44,874		1.030	126,411	2.902
	4.90		285.2	158.6	45,229		1.038	130,916	3.005
	5.00		286.0	159.4	45,585		1.046	135,457	3.110
	5.10		286.8	160.2	45,941		1.055	140,033	3.215
	5.20		287.6	161.0	46,300		1.063	144,645	3.321
	5.30		288.4	161.8	46,659		1.071	149,293	3.427
	5.40		289.2	162.6	47,020		1.079	153,977	3.535
	5.50		290.0	163.4	47,382		1.088	158,697	3.643
	5.60		290.8	164.2	47,745		1.096	163,454	3.752
	5.70		291.6	165.0	48,110		1.104	168,246	3.862
	5.80		292.4	165.8	48,476		1.113	173,076	3.973
	5.90		293.2	166.6	48,843		1.121	177,942	4.085

DETENTION BASIN STAGE-STORAGE TABLE BUILDER

UD-Detention, Version 3.07 (February 2017)



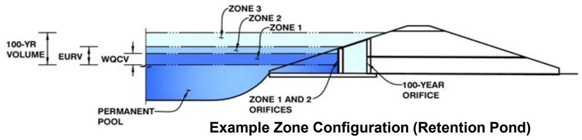


Detention Basin Outlet Structure Design

UD-Detention, Version 3.07 (February 2017)

Project: Trails at Aspen Ridge

Basin ID: Approximated future detention for Commercial lot South of Bradley Road and West of Legacy Drive



Example Zone Configuration (Retention Pond)

	Stage (ft)	Zone Volume (ac-ft)	Outlet Type
Zone 1 (WQCV)	2.22	0.501	Orifice Plate
Zone 2 (EURV)	3.29	0.935	Circular Orifice
Zone 3 (100-year)	4.00	0.666	Weir&Pipe (Restrict)
		2.102	Total

User Input: Orifice at Underdrain Outlet (typically used to drain WQCV in a Filtration BMP)

Underdrain Orifice Invert Depth =	N/A	ft (distance below the filtration media surface)
Underdrain Orifice Diameter =	N/A	inches

Calculated Parameters for Underdrain

Underdrain Orifice Area =	N/A	ft^2
Underdrain Orifice Centroid =	N/A	feet

User Input: Orifice Plate with one or more orifices or Elliptical Slot Weir (typically used to drain WQCV and/or EURV in a sedimentation BMP)

Invert of Lowest Orifice =	0.00	ft (relative to basin bottom at Stage = 0 ft)
Depth at top of Zone using Orifice Plate =	2.22	ft (relative to basin bottom at Stage = 0 ft)
Orifice Plate: Orifice Vertical Spacing =	8.90	inches
Orifice Plate: Orifice Area per Row =	1.60	sq. inches (diameter = 1-7/16 inches)

Calculated Parameters for Plate

WQ Orifice Area per Row =	1.111E-02	ft^2
Elliptical Half-Width =	N/A	feet
Elliptical Slot Centroid =	N/A	feet
Elliptical Slot Area =	N/A	ft^2

User Input: Stage and Total Area of Each Orifice Row (numbered from lowest to highest)

	Row 1 (required)	Row 2 (optional)	Row 3 (optional)	Row 4 (optional)	Row 5 (optional)	Row 6 (optional)	Row 7 (optional)	Row 8 (optional)
Stage of Orifice Centroid (ft)	0.00	0.74	1.48					
Orifice Area (sq. inches)	1.60	1.60	1.60					

	Row 9 (optional)	Row 10 (optional)	Row 11 (optional)	Row 12 (optional)	Row 13 (optional)	Row 14 (optional)	Row 15 (optional)	Row 16 (optional)
Stage of Orifice Centroid (ft)								
Orifice Area (sq. inches)								

User Input: Vertical Orifice (Circular or Rectangular)

	Zone 2 Circular	Not Selected	
Invert of Vertical Orifice =	2.22	N/A	ft (relative to basin bottom at Stage = 0 ft)
Depth at top of Zone using Vertical Orifice =	3.29	N/A	ft (relative to basin bottom at Stage = 0 ft)
Vertical Orifice Diameter =	3.13	N/A	inches

Calculated Parameters for Vertical Orifice

	Zone 2 Circular	Not Selected	
Vertical Orifice Area =	0.05	N/A	ft^2
Vertical Orifice Centroid =	0.13	N/A	feet

User Input: Overflow Weir (Dropbox) and Grate (Flat or Sloped)

	Zone 3 Weir	Not Selected	
Overflow Weir Front Edge Height, Ho =	3.29	N/A	ft (relative to basin bottom at Stage = 0 ft)
Overflow Weir Front Edge Length =	18.00	N/A	feet
Overflow Weir Slope =	4.00	N/A	H:V (enter zero for flat grate)
Horiz. Length of Weir Sides =	4.00	N/A	feet
Overflow Grate Open Area % =	70%	N/A	%, grate open area/total area
Debris Clogging % =	50%	N/A	%

Calculated Parameters for Overflow Weir

	Zone 3 Weir	Not Selected	
Height of Grate Upper Edge, H_t =	4.29	N/A	feet
Over Flow Weir Slope Length =	4.12	N/A	feet
Grate Open Area / 100-yr Orifice Area =	27.07	N/A	should be $\geq$ 4
Overflow Grate Open Area w/o Debris =	51.95	N/A	ft^2
Overflow Grate Open Area w/ Debris =	25.98	N/A	ft^2

User Input: Outlet Pipe w/ Flow Restriction Plate (Circular Orifice, Restrictor Plate, or Rectangular Orifice)

	Zone 3 Restrictor	Not Selected	
Depth to Invert of Outlet Pipe =	0.30	N/A	ft (distance below basin bottom at Stage = 0 ft)
Outlet Pipe Diameter =	24.00	N/A	inches
Restrictor Plate Height Above Pipe Invert =	14.10		inches

Calculated Parameters for Outlet Pipe w/ Flow Restriction Plate

	Zone 3 Restrictor	Not Selected	
Outlet Orifice Area =	1.92	N/A	ft^2
Outlet Orifice Centroid =	0.67	N/A	feet
Half-Central Angle of Restrictor Plate on Pipe =	1.75	N/A	radians

User Input: Emergency Spillway (Rectangular or Trapezoidal)

Spillway Invert Stage=	4.00	ft (relative to basin bottom at Stage = 0 ft)
Spillway Crest Length =	21.00	feet
Spillway End Slopes =	4.00	H:V
Freeboard above Max Water Surface =	1.00	feet

Calculated Parameters for Spillway

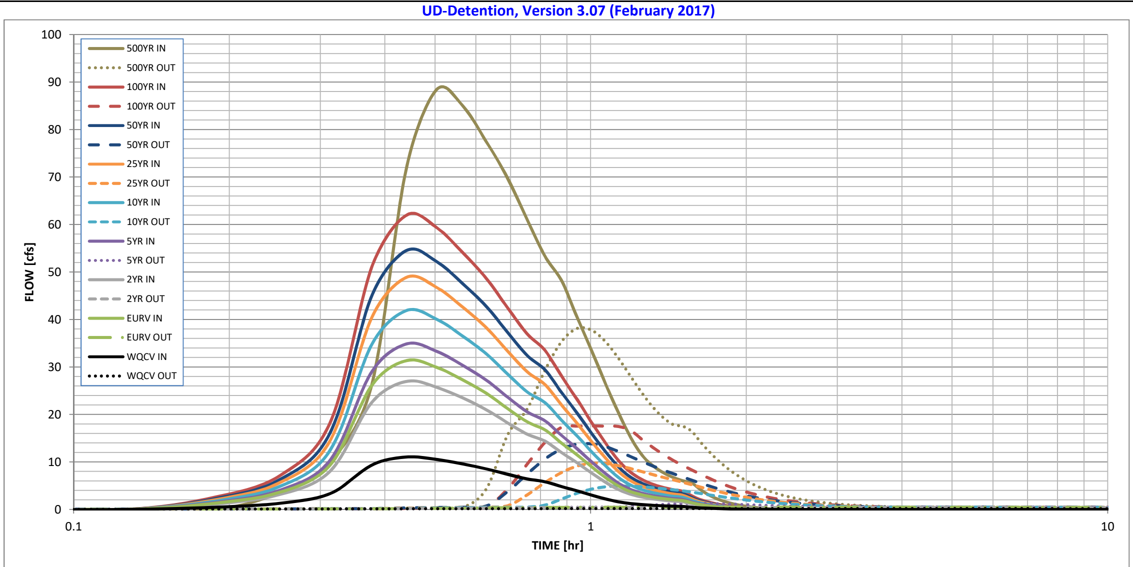
Spillway Design Flow Depth=	0.90	feet
Stage at Top of Freeboard =	5.90	feet
Basin Area at Top of Freeboard =	1.12	acres

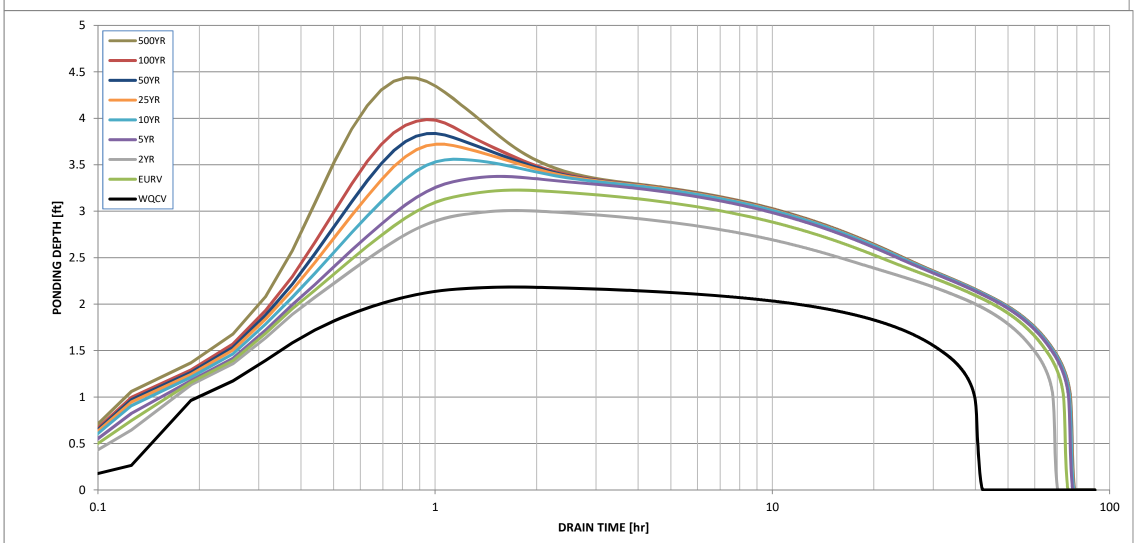
Routed Hydrograph Results

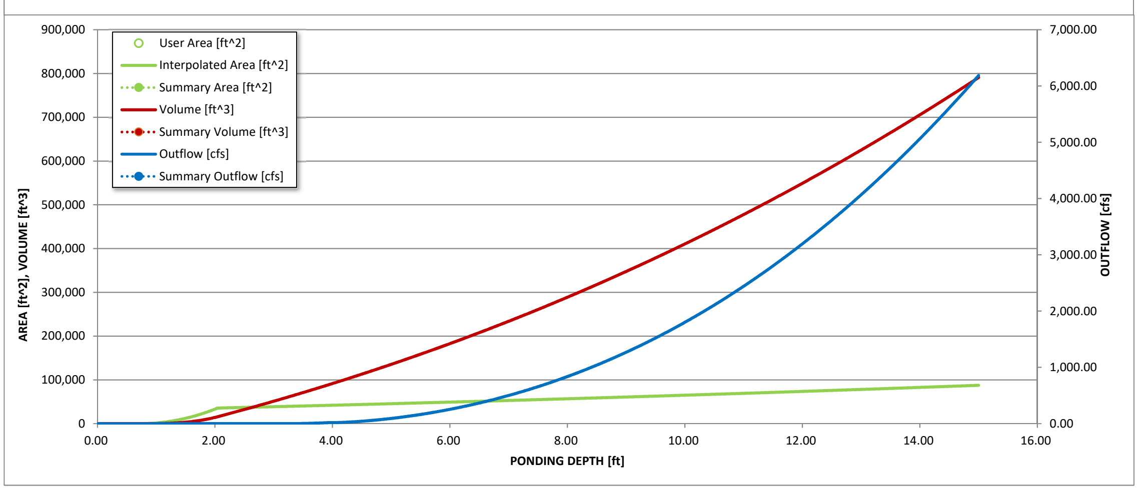
Design Storm Return Period =	WQCV	EURV	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	500 Year
One-Hour Rainfall Depth (in) =	0.53	1.07	1.19	1.50	1.75	2.00	2.25	2.52	3.55
Calculated Runoff Volume (acre-ft) =	0.501	1.436	1.234	1.600	1.926	2.252	2.517	2.867	4.110
OPTIONAL Override Runoff Volume (acre-ft) =									
Inflow Hydrograph Volume (acre-ft) =	0.500	1.436	1.233	1.599	1.926	2.253	2.517	2.867	4.110
Predevelopment Unit Peak Flow, q (cfs/acre) =	0.00	0.00	0.02	0.03	0.27	0.87	1.19	1.59	2.64
Predevelopment Peak Q (cfs) =	0.0	0.0	0.2	0.4	3.7	11.6	16.0	21.4	35.5
Peak Inflow Q (cfs) =	11.0	31.3	27.0	34.8	41.9	48.9	54.5	62.0	88.3
Peak Outflow Q (cfs) =	0.2	0.5	0.4	1.3	4.9	9.7	13.8	17.6	38.1
Ratio Peak Outflow to Predevelopment Q =	N/A	N/A	N/A	3.5	1.3	0.8	0.9	0.8	1.1
Structure Controlling Flow =	Plate	Vertical Orifice 1	Vertical Orifice 1	Overflow Grate 1	Overflow Grate 1	Overflow Grate 1	Overflow Grate 1	Outlet Plate 1	Spillway
Max Velocity through Grate 1 (fps) =	N/A	N/A	N/A	0.0	0.1	0.2	0.3	0.3	0.3
Max Velocity through Grate 2 (fps) =	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Time to Drain 97% of Inflow Volume (hours) =	39	69	64	70	70	69	68	67	64
Time to Drain 99% of Inflow Volume (hours) =	40	72	67	74	75	74	74	74	72
Maximum Ponding Depth (ft) =	2.18	3.23	3.01	3.38	3.56	3.72	3.84	3.99	4.44
Area at Maximum Ponding Depth (acres) =	0.83	0.91	0.89	0.92	0.93	0.94	0.95	0.96	1.00
Maximum Volume Stored (acre-ft) =	0.473	1.374	1.176	1.510	1.677	1.836	1.940	2.084	2.526

Detention Basin Outlet Structure Design

UD-Detention, Version 3.07 (February 2017)





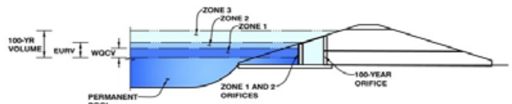


DETENTION BASIN STAGE-STORAGE TABLE BUILDER

UD-Detention, Version 3.07 (February 2017)

Project: Trails at Aspen Ridge

Basin ID: Approximation of Commercial Area Detention in South of Bradley Road and East of Legacy Drive



Example Zone Configuration (Retention Pond)

Required Volume Calculation

Selected BMP Type =	**EDB**			
Watershed Area =	4.04	acres		
Watershed Length =	550	ft		
Watershed Slope =	0.011	ft/ft		
Watershed Imperviousness =	95.00%	percent		
Percentage Hydrologic Soil Group A =	0.0%	percent		
Percentage Hydrologic Soil Group B =	100.0%	percent		
Percentage Hydrologic Soil Groups C/D =	0.0%	percent		
Desired WQCV Drain Time =	40.0	hours		
Location for 1-hr Rainfall Depths =	Denver - Capitol Building			
Water Quality Capture Volume (WQCV) =	0.150	acre-feet	Optional User Override	
Excess Urban Runoff Volume (EURV) =	0.431	acre-feet	1-hr Precipitation	
2-yr Runoff Volume (P1 = 1.19 in.) =	0.371	acre-feet	1.19	inches
5-yr Runoff Volume (P1 = 1.5 in.) =	0.481	acre-feet	1.50	inches
10-yr Runoff Volume (P1 = 1.75 in.) =	0.579	acre-feet	1.75	inches
25-yr Runoff Volume (P1 = 2 in.) =	0.677	acre-feet	2.00	inches
50-yr Runoff Volume (P1 = 2.25 in.) =	0.756	acre-feet	2.25	inches
100-yr Runoff Volume (P1 = 2.52 in.) =	0.861	acre-feet	2.52	inches
500-yr Runoff Volume (P1 = 3.55 in.) =	1.235	acre-feet	3.55	inches
Approximate 2-yr Detention Volume =	0.348	acre-feet		
Approximate 5-yr Detention Volume =	0.452	acre-feet		
Approximate 10-yr Detention Volume =	0.550	acre-feet		
Approximate 25-yr Detention Volume =	0.590	acre-feet		
Approximate 50-yr Detention Volume =	0.612	acre-feet		
Approximate 100-yr Detention Volume =	0.632	acre-feet		

Stage-Storage Calculation

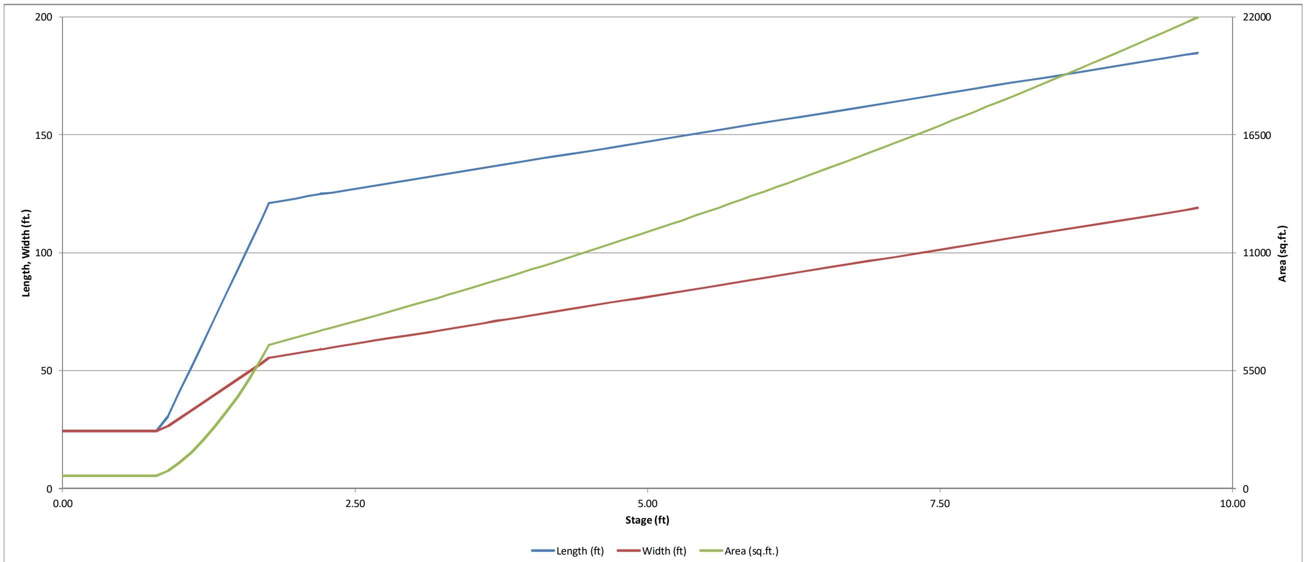
Zone 1 Volume (WQCV) =	0.150	acre-feet
Zone 2 Volume (EURV - Zone 1) =	0.281	acre-feet
Zone 3 Volume (100-year - Zones 1 & 2) =	0.200	acre-feet
Total Detention Basin Volume =	0.632	acre-feet
Initial Surcharge Volume (ISV) =	197	ft^3
Initial Surcharge Depth (ISD) =	0.33	ft
Total Available Detention Depth (H_{total}) =	4.50	ft
Depth of Trickle Channel (H_{TC}) =	0.50	ft
Slope of Trickle Channel (S_{TC}) =	0.010	ft/ft
Slopes of Main Basin Sides (S_{main}) =	4	H:V
Basin Length-to-Width Ratio ($R_{L/W}$) =	3	
Initial Surcharge Area (A_{ISV}) =	596	ft^2
Surcharge Volume Length (L_{ISV}) =	24.4	ft
Surcharge Volume Width (W_{ISV}) =	24.4	ft
Depth of Basin Floor (H_{FLOOR}) =	0.93	ft
Length of Basin Floor (L_{FLOOR}) =	121.3	ft
Width of Basin Floor (W_{FLOOR}) =	55.4	ft
Area of Basin Floor (A_{FLOOR}) =	6,724	ft^2
Volume of Basin Floor (V_{FLOOR}) =	2,893	ft^3
Depth of Main Basin (H_{MAIN}) =	2.74	ft
Length of Main Basin (L_{MAIN}) =	143.2	ft
Width of Main Basin (W_{MAIN}) =	77.4	ft
Area of Main Basin (A_{MAIN}) =	11,075	ft^2
Volume of Main Basin (V_{MAIN}) =	24,127	ft^3
Calculated Total Basin Volume (V_{total}) =	**0.632**	acre-feet

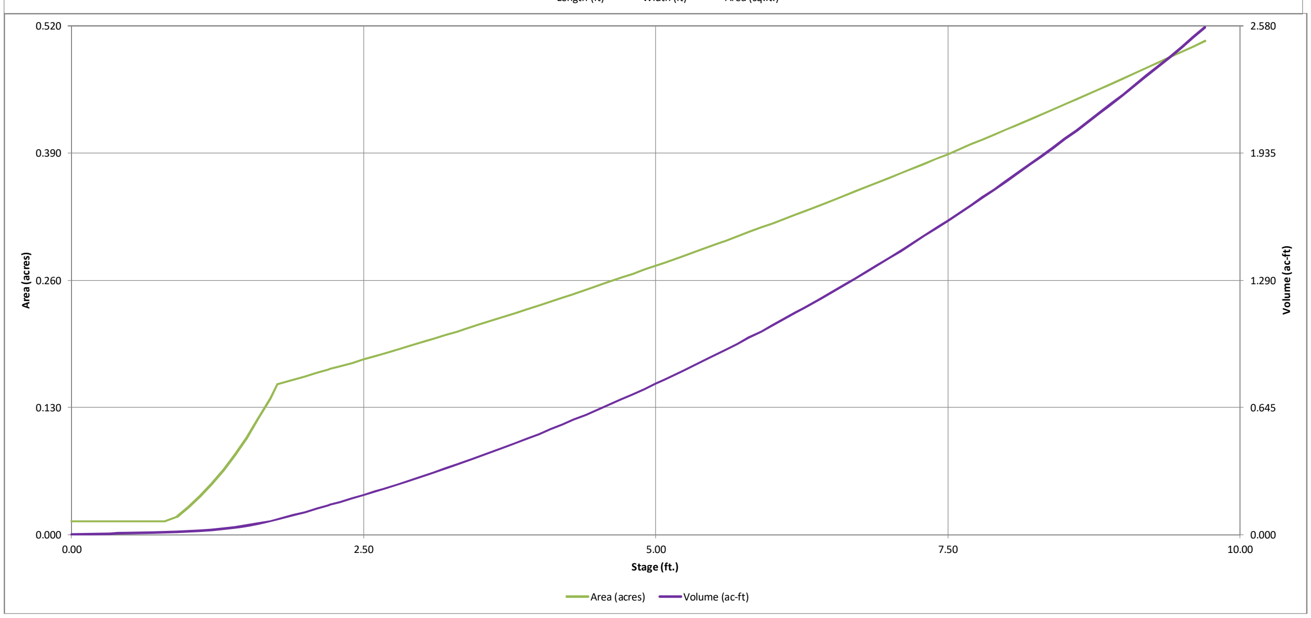
Depth Increment = 0.1 ft

Stage - Storage Description	Stage (ft)	Optional Override Stage (ft)	Length (ft)	Width (ft)	Area (ft^2)	Optional Override Area (ft^2)	Area (acre)	Volume (ft^3)	Volume (ac-ft)
Top of Micropool	0.00		24.4	24.4	596		0.014		
ISV	0.33		24.4	24.4	596		0.014	191	0.004
	0.40		24.4	24.4	596		0.014	232	0.005
	0.50		24.4	24.4	596		0.014	292	0.007
	0.60		24.4	24.4	596		0.014	351	0.008
	0.70		24.4	24.4	596		0.014	411	0.009
	0.80		24.4	24.4	596		0.014	471	0.011
	0.90		30.6	26.4	809		0.019	536	0.012
	1.00		41.0	29.7	1,221		0.028	637	0.015
	1.10		51.4	33.1	1,701		0.039	783	0.018
	1.20		61.8	36.4	2,251		0.052	980	0.022
	1.30		72.2	39.7	2,871		0.066	1,235	0.028
	1.40		82.6	43.1	3,560		0.082	1,556	0.036
	1.50		93.0	46.4	4,318		0.099	1,950	0.045
	1.60		103.4	49.7	5,145		0.118	2,422	0.056
	1.70		113.8	53.1	6,042		0.139	2,981	0.068
Floor	1.76		121.1	55.4	6,711		0.154	3,427	0.079
	1.80		121.5	55.7	6,764		0.155	3,629	0.083
	1.90		122.3	56.5	6,907		0.159	4,313	0.099
	2.00		123.1	57.3	7,050		0.162	5,011	0.115
	2.10		124.0	58.2	7,210		0.166	5,795	0.133
	2.20		124.8	59.0	7,356		0.169	6,523	0.150
Zone 1 (WQCV)	2.21		124.9	59.0	7,371		0.169	6,597	0.151
	2.30		125.6	59.8	7,504		0.172	7,266	0.167
	2.40		126.4	60.6	7,653		0.176	8,024	0.184
	2.50		127.2	61.4	7,803		0.179	8,797	0.202
	2.60		128.0	62.2	7,954		0.183	9,585	0.220
	2.70		128.8	63.0	8,107		0.186	10,388	0.238
	2.80		129.6	63.8	8,261		0.190	11,206	0.257
	2.90		130.4	64.6	8,416		0.193	12,040	0.276
	3.00		131.2	65.4	8,573		0.197	12,890	0.296
	3.10		132.0	66.2	8,731		0.200	13,755	0.316
	3.20		132.8	67.0	8,890		0.204	14,636	0.336
	3.30		133.6	67.8	9,050		0.208	15,533	0.357
	3.40		134.4	68.6	9,212		0.211	16,446	0.378
	3.50		135.2	69.4	9,375		0.215	17,375	0.399
	3.60		136.0	70.2	9,539		0.219	18,321	0.421
Zone 2 (EURV)	3.65		136.4	70.6	9,622		0.221	18,800	0.432
	3.70		136.8	71.0	9,705		0.223	19,283	0.443
	3.80		137.6	71.8	9,872		0.227	20,262	0.465
	3.90		138.4	72.6	10,040		0.230	21,258	0.488
	4.00		139.2	73.4	10,209		0.234	22,270	0.511
	4.10		140.0	74.2	10,380		0.238	23,300	0.535
	4.20		140.8	75.0	10,552		0.242	24,346	0.559
	4.30		141.6	75.8	10,725		0.246	25,410	0.583
	4.40		142.4	76.6	10,900		0.250	26,491	0.608
Zone 3 (100-year)	4.50		143.2	77.4	11,075		0.254	27,590	0.633
	4.60		144.0	78.2	11,252		0.258	28,706	0.659
	4.70		144.8	79.0	11,431		0.262	29,840	0.685
	4.80		145.6	79.8	11,610		0.267	30,993	0.711
	4.90		146.4	80.6	11,791		0.271	32,163	0.738
	5.00		147.2	81.4	11,973		0.275	33,351	0.766
	5.10		148.0	82.2	12,157		0.279	34,557	0.793
	5.20		148.8	83.0	12,342		0.283	35,782	0.821
	5.30		149.6	83.8	12,528		0.288	37,026	0.850
	5.40		150.4	84.6	12,715		0.292	38,288	0.879
	5.50		151.2	85.4	12,904		0.296	39,569	0.908
	5.60		152.0	86.2	13,093		0.301	40,869	0.938
	5.70		152.8	87.0	13,285		0.305	42,188	0.968
	5.80		153.6	87.8	13,477		0.309	43,526	0.999
	5.90		154.4	88.6	13,671		0.314	44,883	1.030

DETENTION BASIN STAGE-STORAGE TABLE BUILDER

UD-Detention, Version 3.07 (February 2017)

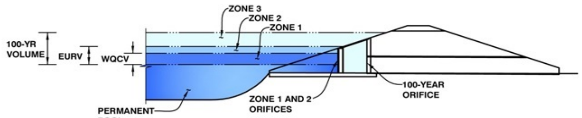




Detention Basin Outlet Structure Design

UD-Detention, Version 3.07 (February 2017)

Project: Trails at Aspen Ridge
Basin ID: Approximation of Commercial Area Detention in South of Bradley Road and East of Legacy Drive



Example Zone Configuration (Retention Pond)

	Stage (ft)	Zone Volume (ac-ft)	Outlet Type
Zone 1 (WQCV)	2.21	0.150	Orifice Plate
Zone 2 (EURV)	3.65	0.281	Circular Orifice
Zone 3 (100-year)	4.50	0.200	Weir&Pipe (Restrict)
		0.632	Total

User Input: Orifice at Underdrain Outlet (typically used to drain WQCV in a Filtration BMP)

Underdrain Orifice Invert Depth =	N/A	ft (distance below the filtration media surface)
Underdrain Orifice Diameter =	N/A	inches

Calculated Parameters for Underdrain

Underdrain Orifice Area =	N/A	ft^2
Underdrain Orifice Centroid =	N/A	feet

User Input: Orifice Plate with one or more orifices or Elliptical Slot Weir (typically used to drain WQCV and/or EURV in a sedimentation BMP)

Invert of Lowest Orifice =	0.00	ft (relative to basin bottom at Stage = 0 ft)
Depth at top of Zone using Orifice Plate =	2.21	ft (relative to basin bottom at Stage = 0 ft)
Orifice Plate: Orifice Vertical Spacing =	8.80	inches
Orifice Plate: Orifice Area per Row =	0.60	sq. inches (diameter = 7/8 inch)

Calculated Parameters for Plate

WQ Orifice Area per Row =	4.167E-03	ft^2
Elliptical Half-Width =	N/A	feet
Elliptical Slot Centroid =	N/A	feet
Elliptical Slot Area =	N/A	ft^2

User Input: Stage and Total Area of Each Orifice Row (numbered from lowest to highest)

	Row 1 (required)	Row 2 (optional)	Row 3 (optional)	Row 4 (optional)	Row 5 (optional)	Row 6 (optional)	Row 7 (optional)	Row 8 (optional)
Stage of Orifice Centroid (ft)	0.00	0.74	1.47					
Orifice Area (sq. inches)	0.60	0.60	0.60					

	Row 9 (optional)	Row 10 (optional)	Row 11 (optional)	Row 12 (optional)	Row 13 (optional)	Row 14 (optional)	Row 15 (optional)	Row 16 (optional)
Stage of Orifice Centroid (ft)								
Orifice Area (sq. inches)								

User Input: Vertical Orifice (Circular or Rectangular)

	Zone 2 Circular	Not Selected	
Invert of Vertical Orifice =	2.21	N/A	ft (relative to basin bottom at Stage = 0 ft)
Depth at top of Zone using Vertical Orifice =	3.65	N/A	ft (relative to basin bottom at Stage = 0 ft)
Vertical Orifice Diameter =	0.89	N/A	inches

Calculated Parameters for Vertical Orifice

	Zone 2 Circular	Not Selected	
Vertical Orifice Area =	0.00	N/A	ft^2
Vertical Orifice Centroid =	0.04	N/A	feet

User Input: Overflow Weir (Dropbox) and Grate (Flat or Sloped)

	Zone 3 Weir	Not Selected	
Overflow Weir Front Edge Height, Ho =	3.65	N/A	ft (relative to basin bottom at Stage = 0 ft)
Overflow Weir Front Edge Length =	2.00	N/A	feet
Overflow Weir Slope =	4.00	N/A	H:V (enter zero for flat grate)
Horiz. Length of Weir Sides =	4.00	N/A	feet
Overflow Grate Open Area % =	70%	N/A	%, grate open area/total area
Debris Clogging % =	50%	N/A	%

Calculated Parameters for Overflow Weir

	Zone 3 Weir	Not Selected	
Height of Grate Upper Edge, H_t =	4.65	N/A	feet
Over Flow Weir Slope Length =	4.12	N/A	feet
Grate Open Area / 100-yr Orifice Area =	13.29	N/A	should be ≥ 4
Overflow Grate Open Area w/o Debris =	5.77	N/A	ft^2
Overflow Grate Open Area w/ Debris =	2.89	N/A	ft^2

User Input: Outlet Pipe w/ Flow Restriction Plate (Circular Orifice, Restrictor Plate, or Rectangular Orifice)

	Zone 3 Restrictor	Not Selected	
Depth to Invert of Outlet Pipe =	0.30	N/A	ft (distance below basin bottom at Stage = 0 ft)
Outlet Pipe Diameter =	18.00	N/A	inches
Restrictor Plate Height Above Pipe Invert =	5.30		inches

Calculated Parameters for Outlet Pipe w/ Flow Restriction Plate

	Zone 3 Restrictor	Not Selected	
Outlet Orifice Area =	0.43	N/A	ft^2
Outlet Orifice Centroid =	0.26	N/A	feet
Half-Central Angle of Restrictor Plate on Pipe =	1.15	N/A	radians

User Input: Emergency Spillway (Rectangular or Trapezoidal)

Spillway Invert Stage=	4.50	ft (relative to basin bottom at Stage = 0 ft)
Spillway Crest Length =	5.00	feet
Spillway End Slopes =	4.00	H:V
Freeboard above Max Water Surface =	1.00	feet

Calculated Parameters for Spillway

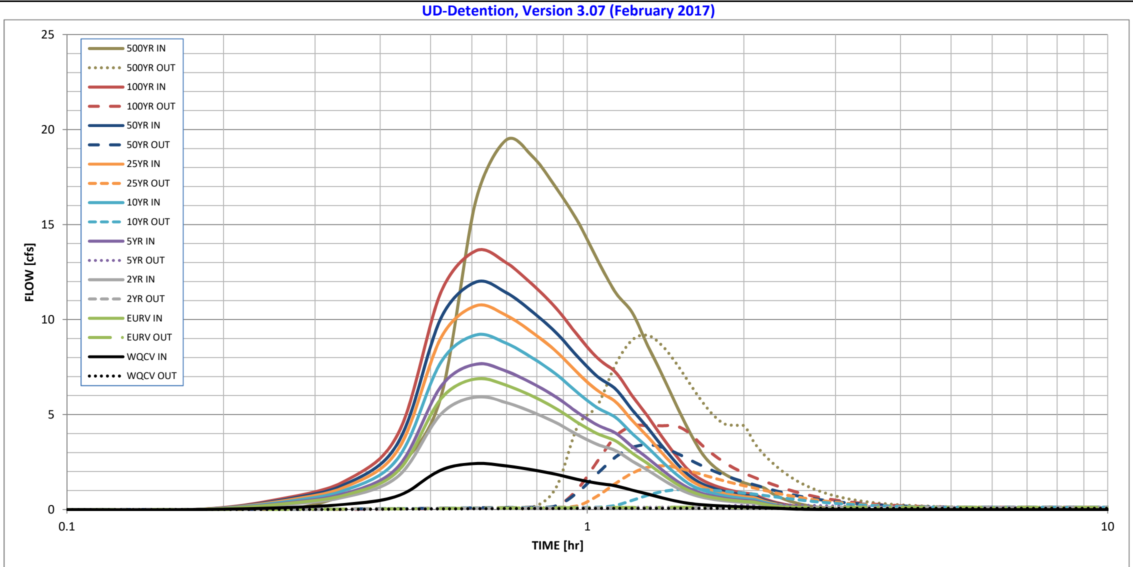
Spillway Design Flow Depth=	0.72	feet
Stage at Top of Freeboard =	6.22	feet
Basin Area at Top of Freeboard =	0.33	acres

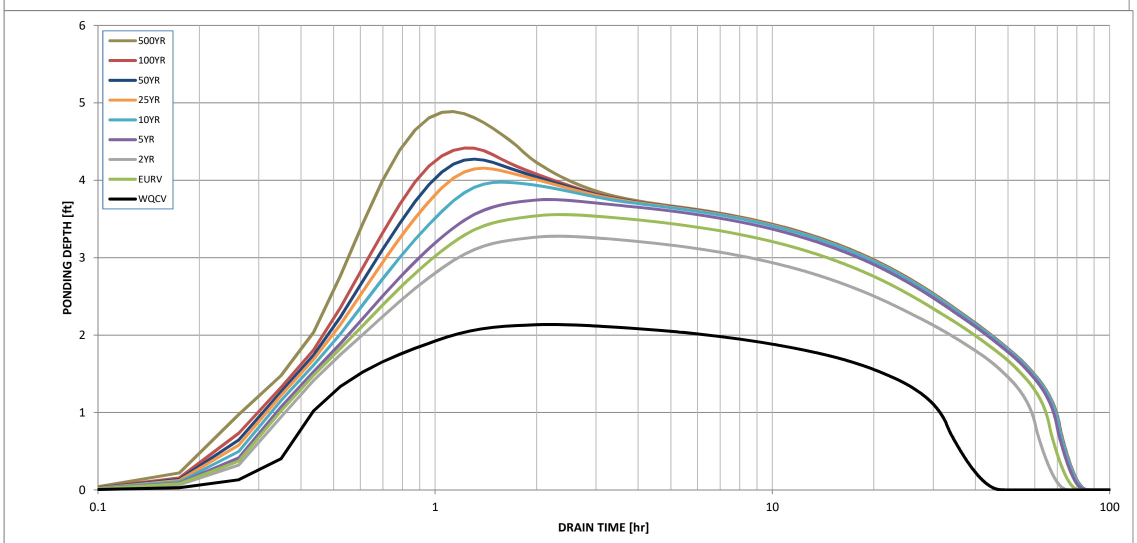
Routed Hydrograph Results

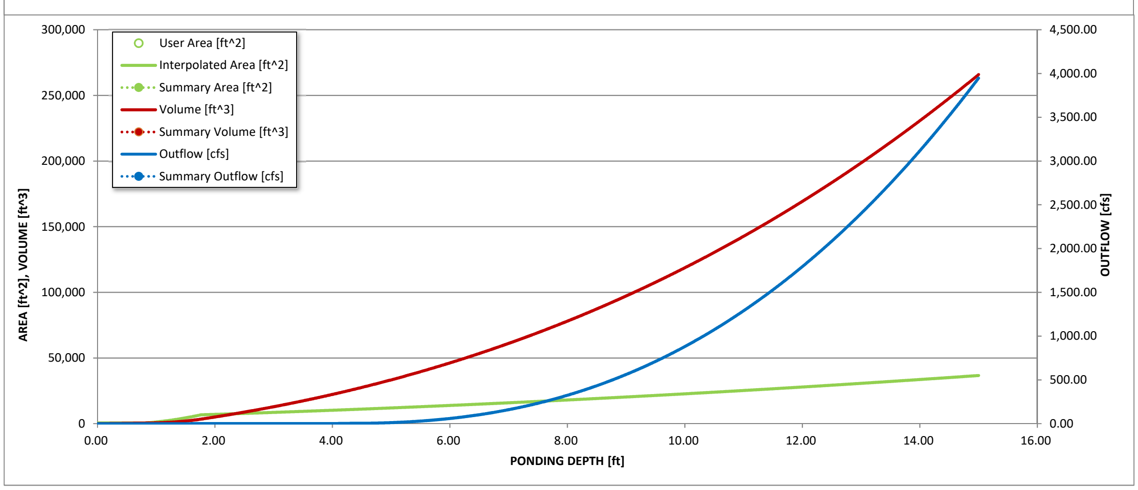
Design Storm Return Period =	WQCV	EURV	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	500 Year
One-Hour Rainfall Depth (in) =	0.53	1.07	1.19	1.50	1.75	2.00	2.25	2.52	3.55
Calculated Runoff Volume (acre-ft) =	0.150	0.431	0.371	0.481	0.579	0.677	0.756	0.861	1.235
OPTIONAL Override Runoff Volume (acre-ft) =									
Inflow Hydrograph Volume (acre-ft) =	0.150	0.431	0.370	0.480	0.578	0.676	0.756	0.861	1.234
Predevelopment Unit Peak Flow, q (cfs/acre) =	0.00	0.00	0.01	0.02	0.19	0.63	0.88	1.18	1.97
Predevelopment Peak Q (cfs) =	0.0	0.0	0.0	0.1	0.8	2.6	3.5	4.8	8.0
Peak Inflow Q (cfs) =	2.4	6.9	5.9	7.7	9.2	10.7	12.0	13.6	19.4
Peak Outflow Q (cfs) =	0.1	0.1	0.1	0.3	1.1	2.3	3.4	4.4	9.2
Ratio Peak Outflow to Predevelopment Q =	N/A	N/A	N/A	3.2	1.4	0.9	1.0	0.9	1.2
Structure Controlling Flow =	Plate	Vertical Orifice 1	Vertical Orifice 1	Overflow Grate 1	Overflow Grate 1	Overflow Grate 1	Overflow Grate 1	Outlet Plate 1	Spillway
Max Velocity through Grate 1 (fps) =	N/A	N/A	N/A	0.0	0.2	0.4	0.6	0.7	0.8
Max Velocity through Grate 2 (fps) =	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Time to Drain 97% of Inflow Volume (hours) =	38	66	61	68	68	67	67	66	62
Time to Drain 99% of Inflow Volume (hours) =	43	72	67	75	75	74	74	73	71
Maximum Ponding Depth (ft) =	2.14	3.56	3.28	3.75	3.98	4.16	4.27	4.42	4.89
Area at Maximum Ponding Depth (acres) =	0.17	0.22	0.21	0.22	0.23	0.24	0.25	0.25	0.27
Maximum Volume Stored (acre-ft) =	0.138	0.410	0.350	0.454	0.504	0.547	0.576	0.611	0.733

Detention Basin Outlet Structure Design

UD-Detention, Version 3.07 (February 2017)





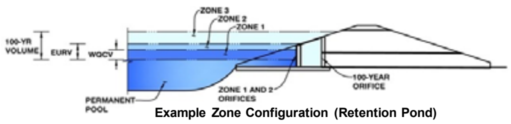


DETENTION BASIN STAGE-STORAGE TABLE BUILDER

UD-Detention, Version 3.07 (February 2017)

Project: Trails at Aspen Ridge

Basin ID: West Fork of Jimmy Camp Creek: East Pond(located in Sub-basin M)(Full Buildout)



Example Zone Configuration (Retention Pond)

Required Volume Calculation

Selected BMP Type =	**EDB**	
Watershed Area =	157.90	acres
Watershed Length =	3,742	ft
Watershed Slope =	0.030	ft/ft
Watershed Imperviousness =	45.40%	percent
Percentage Hydrologic Soil Group A =	0.0%	percent
Percentage Hydrologic Soil Group B =	87.0%	percent
Percentage Hydrologic Soil Groups C/D =	13.0%	percent
Desired WQCV Drain Time =	40.0	hours
Location for 1-hr Rainfall Depths =	User Input	
Water Quality Capture Volume (WQCV) =	2.553	acre-feet
Excess Urban Runoff Volume (EURV) =	7.491	acre-feet
2-yr Runoff Volume (P1 = 1.19 in.) =	6.103	acre-feet
5-yr Runoff Volume (P1 = 1.5 in.) =	8.512	acre-feet
10-yr Runoff Volume (P1 = 1.75 in.) =	11.664	acre-feet
25-yr Runoff Volume (P1 = 2 in.) =	16.728	acre-feet
50-yr Runoff Volume (P1 = 2.25 in.) =	20.230	acre-feet
100-yr Runoff Volume (P1 = 2.52 in.) =	24.794	acre-feet
500-yr Runoff Volume (P1 = 3.55 in.) =	38.509	acre-feet
Approximate 2-yr Detention Volume =	5.710	acre-feet
Approximate 5-yr Detention Volume =	7.997	acre-feet
Approximate 10-yr Detention Volume =	10.523	acre-feet
Approximate 25-yr Detention Volume =	11.595	acre-feet
Approximate 50-yr Detention Volume =	12.129	acre-feet
Approximate 100-yr Detention Volume =	13.732	acre-feet

Optional User Override 1-hr Precipitation

1.19	inches
1.50	inches
1.75	inches
2.00	inches
2.25	inches
2.52	inches
3.55	inches

Stage-Storage Calculation

Zone 1 Volume (WQCV) =	2.553	acre-feet
Zone 2 Volume (EURV - Zone 1) =	4.938	acre-feet
Zone 3 Volume (100-year - Zones 1 & 2) =	6.241	acre-feet
Total Detention Basin Volume =	13.732	acre-feet
Initial Surcharge Volume (ISV) =	user	ft^3
Initial Surcharge Depth (ISD) =	user	ft
Total Available Detention Depth (H_{total}) =	user	ft
Depth of Trickle Channel (H_{TC}) =	user	ft
Slope of Trickle Channel (S_{TC}) =	user	ft/ft
Slopes of Main Basin Sides (S_{main}) =	user	H:V
Basin Length-to-Width Ratio ($R_{L/W}$) =	user	
Initial Surcharge Area (A_{ISV}) =	user	ft^2
Surcharge Volume Length (L_{ISV}) =	user	ft
Surcharge Volume Width (W_{ISV}) =	user	ft
Depth of Basin Floor (H_{FLOOR}) =	user	ft
Length of Basin Floor (L_{FLOOR}) =	user	ft
Width of Basin Floor (W_{FLOOR}) =	user	ft
Area of Basin Floor (A_{FLOOR}) =	user	ft^2
Volume of Basin Floor (V_{FLOOR}) =	user	ft^3
Depth of Main Basin (H_{MAIN}) =	user	ft
Length of Main Basin (L_{MAIN}) =	user	ft
Width of Main Basin (W_{MAIN}) =	user	ft
Area of Main Basin (A_{MAIN}) =	user	ft^2
Volume of Main Basin (V_{MAIN}) =	user	ft^3
Calculated Total Basin Volume (V_{total}) =	**user**	acre-feet

Depth Increment = 1 ft

Stage - Storage Description	Stage (ft)	Optional Override Stage (ft)	Length (ft)	Width (ft)	Area (ft^2)	Optional Override Area (ft^2)	Area (acre)	Volume (ft^3)	Volume (ac-ft)
Top of Micropool	--	0.00	--	--	--	443	0.010		
5817	--	1.00	--	--	--	6,211	0.143	3,265	0.075
5818	--	2.00	--	--	--	31,782	0.730	22,007	0.505
5819	--	3.00	--	--	--	76,551	1.757	76,490	1.756
5820	--	4.00	--	--	--	116,770	2.681	173,150	3.975
5821	--	5.00	--	--	--	141,034	3.238	302,052	6.934
5822	--	6.00	--	--	--	154,951	3.557	450,045	10.332
5823	--	7.00	--	--	--	165,754	3.805	610,397	14.013
5824	--	8.00	--	--	--	174,708	4.011	780,628	17.921
5825	--	9.00	--	--	--	180,233	4.138	958,098	21.995
5826	--	10.00	--	--	--	186,799	4.288	1,141,614	26.208
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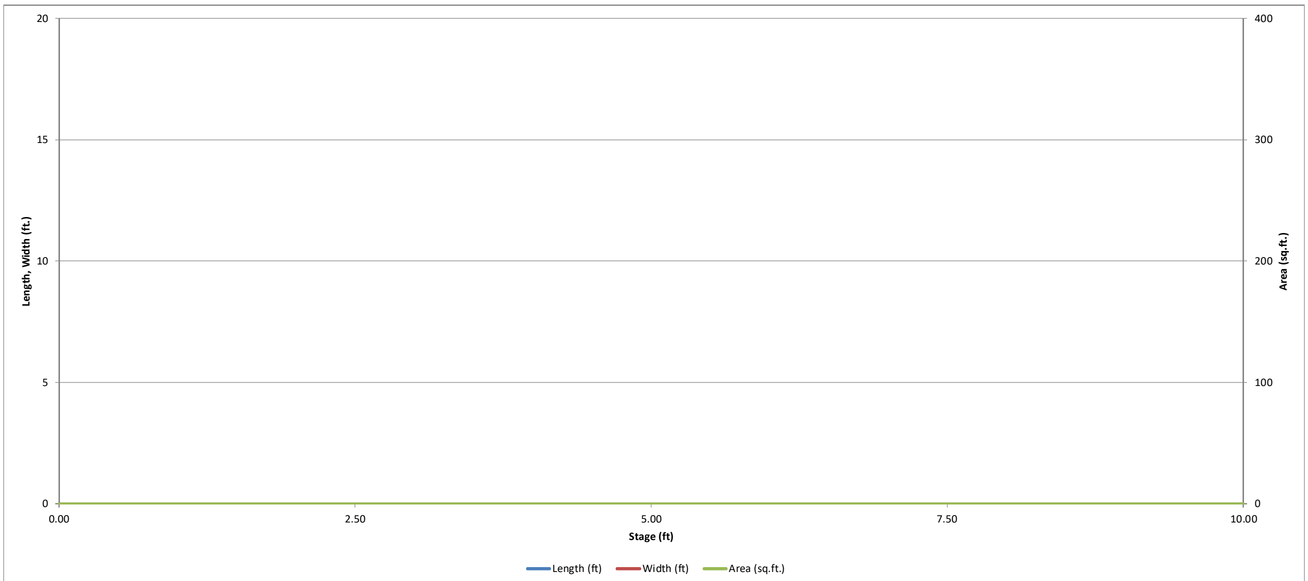
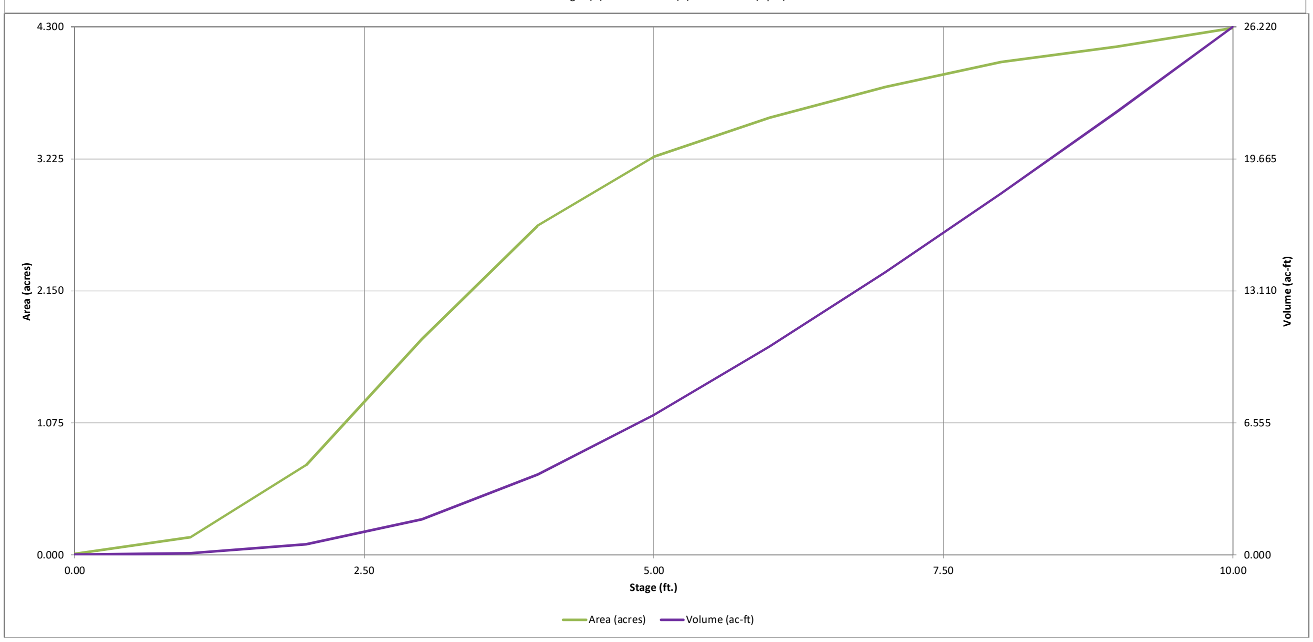
DETENTION BASIN STAGE-STORAGE TABLE BUILDER

UD-Detention, Version 3.07 (February 2017)



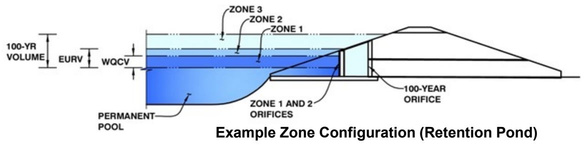


Detention Basin Outlet Structure Design

UD-Detention, Version 3.07 (February 2017)

Project: Trails at Aspen Ridge

Basin ID: West Fork of Jimmy Camp Creek-East Pond. (Full Buildout with SWMM Hydrographs)



Example Zone Configuration (Retention Pond)

	Stage (ft)	Zone Volume (ac-ft)	Outlet Type
Zone 1 (WQCV)	3.41	2.553	Orifice Plate
Zone 2 (EURV)	5.18	4.938	Rectangular Orifice
Zone 3 (100-year)	6.93	6.241	Weir&Pipe (Restrict)
		13.732	Total

User Input: Orifice at Underdrain Outlet (typically used to drain WQCV in a Filtration BMP)

Underdrain Orifice Invert Depth =	N/A	ft (distance below the filtration media surface)
Underdrain Orifice Diameter =	N/A	inches

Calculated Parameters for Underdrain

Underdrain Orifice Area =	N/A	ft^2
Underdrain Orifice Centroid =	N/A	feet

User Input: Orifice Plate with one or more orifices or Elliptical Slot Weir (typically used to drain WQCV and/or EURV in a sedimentation BMP)

Invert of Lowest Orifice =	0.00	ft (relative to basin bottom at Stage = 0 ft)
Depth at top of Zone using Orifice Plate =	4.00	ft (relative to basin bottom at Stage = 0 ft)
Orifice Plate: Orifice Vertical Spacing =	N/A	inches
Orifice Plate: Orifice Area per Row =	N/A	inches

Calculated Parameters for Plate

WQ Orifice Area CHECK CELLS AB84:BE84	N/A	ft^2
Elliptical Half-Width =	N/A	feet
Elliptical Slot Centroid =	N/A	feet
Elliptical Slot Area =	N/A	ft^2

User Input: Stage and Total Area of Each Orifice Row (numbered from lowest to highest)

	Row 1 (required)	Row 2 (optional)	Row 3 (optional)	Row 4 (optional)	Row 5 (optional)	Row 6 (optional)	Row 7 (optional)	Row 8 (optional)
Stage of Orifice Centroid (ft)	0.00	1.73	3.47					
Orifice Area (sq. inches)	26.00	3.00						

	Row 9 (optional)	Row 10 (optional)	Row 11 (optional)	Row 12 (optional)	Row 13 (optional)	Row 14 (optional)	Row 15 (optional)	Row 16 (optional)
Stage of Orifice Centroid (ft)								
Orifice Area (sq. inches)								

User Input: Vertical Orifice (Circular or Rectangular)

	Zone 2 Rectangular	Not Selected	
Invert of Vertical Orifice =	5.18	N/A	ft (relative to basin bottom at Stage = 0 ft)
Depth at top of Zone using Vertical Orifice =	8.00	N/A	ft (relative to basin bottom at Stage = 0 ft)
Vertical Orifice Height =	15.00	N/A	inches
Vertical Orifice Width =	24.00		inches

Calculated Parameters for Vertical Orifice

	Zone 2 Rectangular	Not Selected	
Vertical Orifice Area =	2.50	N/A	ft^2
Vertical Orifice Centroid =	0.63	N/A	feet

User Input: Overflow Weir (Dropbox) and Grate (Flat or Sloped)

	Zone 3 Weir	Not Selected	
Overflow Weir Front Edge Height, Ho =	6.95	N/A	ft (relative to basin bottom at Stage = 0 ft)
Overflow Weir Front Edge Length =	14.50	N/A	feet
Overflow Weir Slope =	0.00	N/A	H:V (enter zero for flat grate)
Horiz. Length of Weir Sides =	9.50	N/A	feet
Overflow Grate Open Area % =	70%	N/A	%, grate open area/total area
Debris Clogging % =	50%	N/A	%

Calculated Parameters for Overflow Weir

	Zone 3 Weir	Not Selected	
Height of Grate Upper Edge, H_t =	6.95	N/A	feet
Over Flow Weir Slope Length =	9.50	N/A	feet
Grate Open Area / 100-yr Orifice Area =	8.62	N/A	should be ≥ 4
Overflow Grate Open Area w/o Debris =	96.43	N/A	ft^2
Overflow Grate Open Area w/ Debris =	48.21	N/A	ft^2

User Input: Outlet Pipe w/ Flow Restriction Plate (Circular Orifice, Restrictor Plate, or Rectangular Orifice)

	Zone 3 Restrictor	Not Selected	
Depth to Invert of Outlet Pipe =	0.50	N/A	ft (distance below basin bottom at Stage = 0 ft)
Outlet Pipe Diameter =	48.00	N/A	inches
Restrictor Plate Height Above Pipe Invert =	40.00		inches

Calculated Parameters for Outlet Pipe w/ Flow Restriction Plate

	Zone 3 Restrictor	Not Selected	
Outlet Orifice Area =	11.19	N/A	ft^2
Outlet Orifice Centroid =	1.80	N/A	feet
Half-Central Angle of Restrictor Plate on Pipe =	2.30	N/A	radians

User Input: Emergency Spillway (Rectangular or Trapezoidal)

Spillway Invert Stage=	8.05	ft (relative to basin bottom at Stage = 0 ft)
Spillway Crest Length =	136.00	feet
Spillway End Slopes =	5.00	H:V
Freeboard above Max Water Surface =	1.00	feet

Calculated Parameters for Spillway

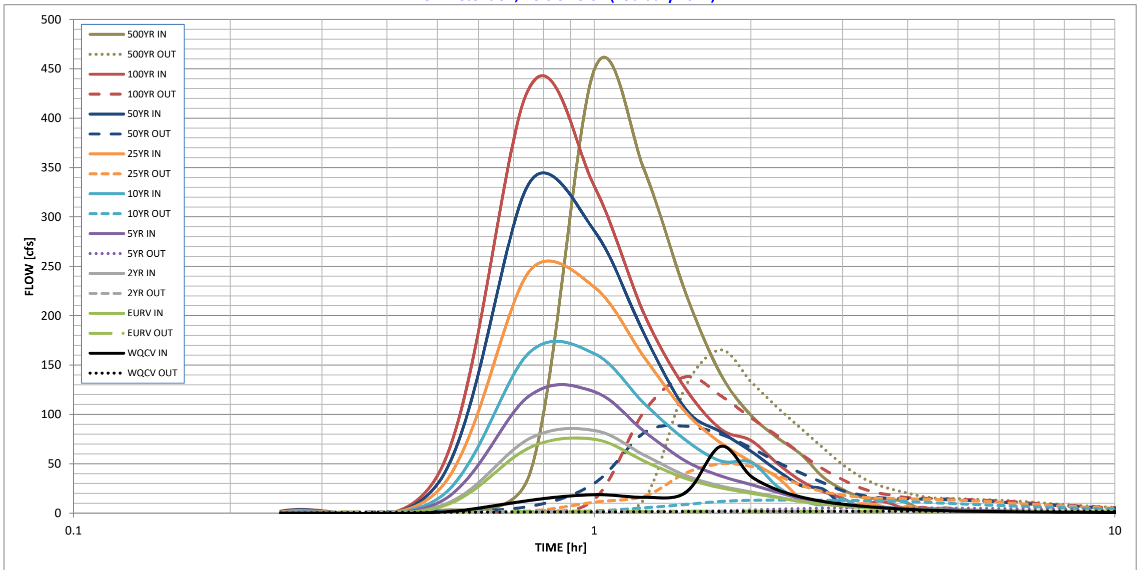
Spillway Design Flow Depth=	1.01	feet
Stage at Top of Freeboard =	10.06	feet
Basin Area at Top of Freeboard =	4.29	acres

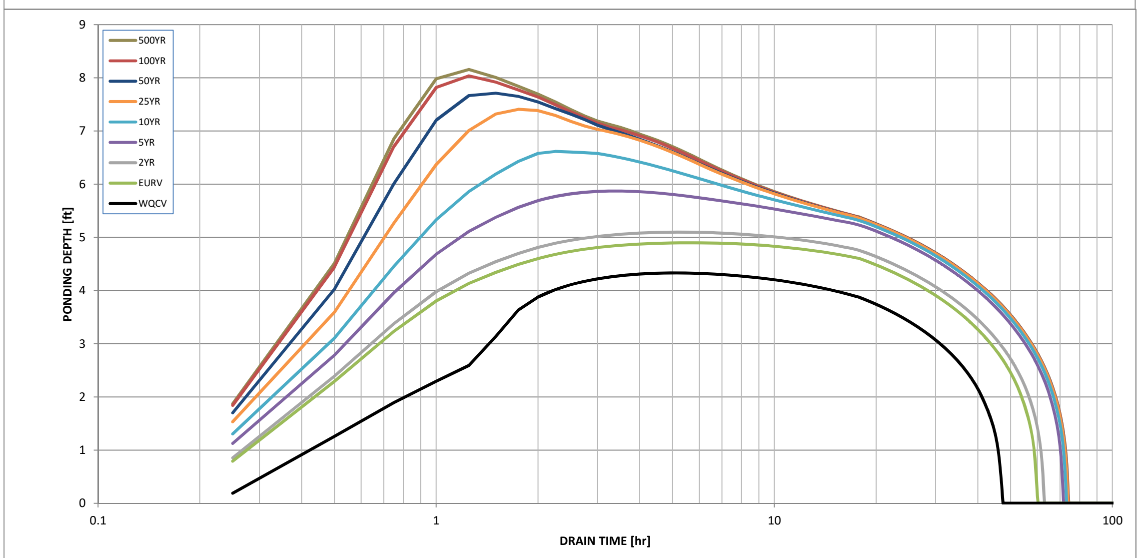
Routed Hydrograph Results

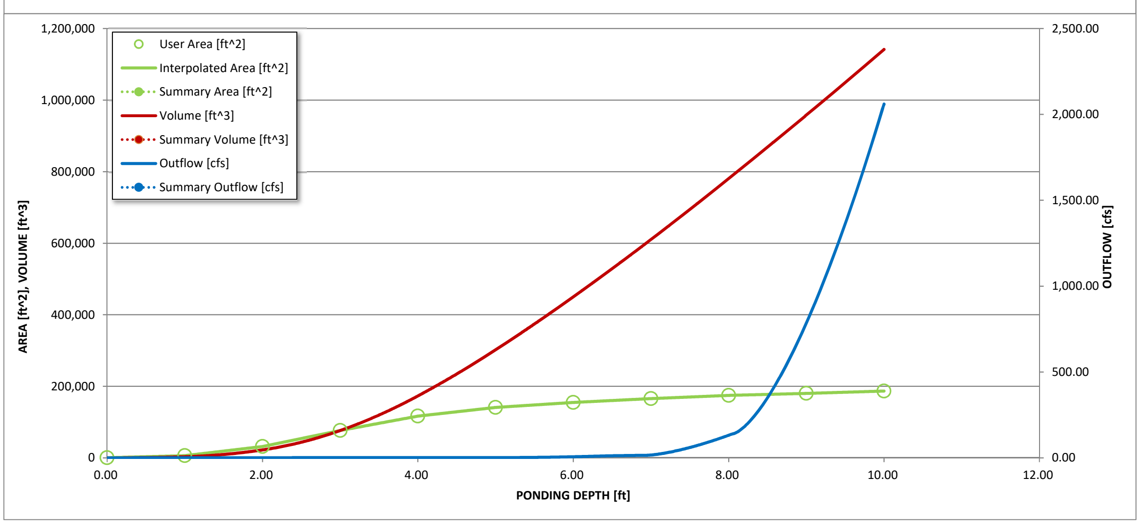
Design Storm Return Period =	WQCV	EURV	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	500 Year
One-Hour Rainfall Depth (in) =	0.53	1.07	1.19	1.50	1.75	2.00	2.25	2.52	3.55
Calculated Runoff Volume (acre-ft) =	2.553	7.491	6.103	8.512	11.664	16.728	20.230	24.794	38.509
OPTIONAL Override Runoff Volume (acre-ft) =									
Inflow Hydrograph Volume (acre-ft) =	6.373	8.682	9.212	12.694	16.432	21.907	26.696	31.518	33.910
Predevelopment Unit Peak Flow, q (cfs/acre) =	0.00	0.00	0.01	0.04	0.24	0.73	1.00	1.33	2.22
Predevelopment Peak Q (cfs) =	0.0	0.0	2.1	5.8	37.2	114.6	157.3	210.2	349.8
Peak Inflow Q (cfs) =	67.7	74.9	83.8	123.0	162.5	244.8	334.3	430.8	448.9
Peak Outflow Q (cfs) =	2.0	2.1	2.1	5.6	13.3	50.0	88.2	138.2	165.4
Ratio Peak Outflow to Predevelopment Q =	N/A	N/A	N/A	1.0	0.4	0.4	0.6	0.7	0.5
Structure Controlling Flow =	Plate	Plate	Plate	Vertical Orifice 1	Vertical Orifice 1	Overflow Grate 1	Overflow Grate 1	Outlet Plate 1	Spillway
Max Velocity through Grate 1 (fps) =	N/A	N/A	N/A	N/A	N/A	0.3	0.7	1.2	1.2
Max Velocity through Grate 2 (fps) =	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Time to Drain 97% of Inflow Volume (hours) =	45	57	59	67	67	67	65	64	64
Time to Drain 99% of Inflow Volume (hours) =	46	59	61	70	71	71	70	70	70
Maximum Ponding Depth (ft) =	4.33	4.90	5.10	5.87	6.62	7.41	7.71	8.04	8.16
Area at Maximum Ponding Depth (acres) =	2.86	3.18	3.27	3.52	3.71	3.89	3.95	4.01	4.03
Maximum Volume Stored (acre-ft) =	4.890	6.581	7.227	9.872	12.548	15.551	16.766	18.041	18.524

Detention Basin Outlet Structure Design

UD-Detention, Version 3.07 (February 2017)







Detention Basin Outlet Structure Design

Outflow Hydrograph Workbook Filename:

Storm Inflow Hydrographs **UD-Detention, Version 3.07 (February 2017)**

The user can override the calculated inflow hydrographs from this workbook with inflow hydrographs developed in a separate program.

User-Defined Time Interval	Hydrograph Constant
15.00 min	1.057

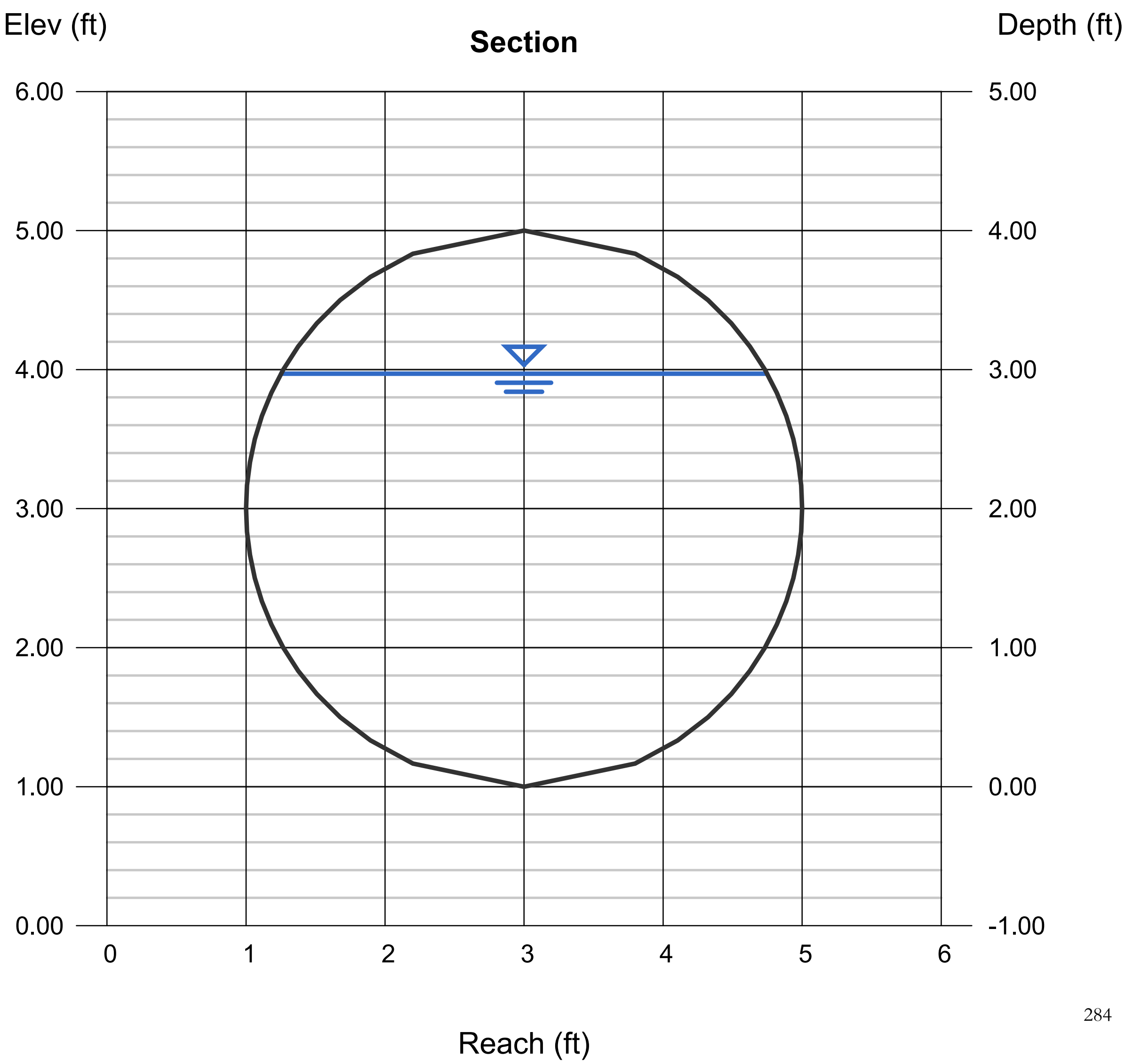
SOURCE	USER	USER	USER	USER	USER	USER	USER	USER	USER
TIME	WQCV [cfs]	EURV [cfs]	2 Year [cfs]	5 Year [cfs]	10 Year [cfs]	25 Year [cfs]	50 Year [cfs]	100 Year [cfs]	500 Year [cfs]
0:00:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0:15:00	0.05	0.16	0.20	0.49	0.82	1.40	1.99	1.73	2.59
0:30:00	0.79	5.53	6.27	10.11	14.38	22.08	29.41	38.00	38.17
0:45:00	13.04	66.20	75.47	118.72	162.47	244.81	334.30	430.75	448.91
1:00:00	18.78	74.88	83.80	122.99	161.71	229.11	286.12	331.36	346.20
1:15:00	16.06	52.52	58.59	82.43	110.71	157.31	180.41	200.54	222.45
1:30:00	21.05	35.03	38.06	52.69	73.86	101.97	105.14	125.75	140.70
1:45:00	67.69	25.73	27.58	37.77	52.89	71.29	82.33	85.27	99.35
2:00:00	37.53	20.45	21.50	29.05	51.62	52.32	62.86	73.70	76.35
2:15:00	23.70	15.63	16.38	21.13	26.94	36.07	43.14	50.34	59.38
2:30:00	16.31	11.68	12.13	14.95	13.27	14.86	28.06	32.53	36.74
2:45:00	11.92	9.11	9.39	11.32	8.45	10.24	24.47	22.02	24.07
3:00:00	9.08	7.34	7.52	8.77	13.94	7.38	8.30	15.15	16.48
3:15:00	7.14	6.08	6.19	7.09	6.19	9.68	6.54	6.71	14.94
3:30:00	5.76	5.15	5.21	5.90	6.64	8.21	7.36	12.16	13.91
3:45:00	4.76	4.44	4.47	5.02	5.42	3.81	3.97	8.93	10.21
4:00:00	3.99	3.90	3.89	4.35	4.65	6.99	3.41	3.55	3.86
4:15:00	3.41	3.46	3.44	3.83	4.06	4.29	3.11	5.90	4.43
4:30:00	2.96	3.11	3.08	3.42	3.60	3.81	3.94	4.12	5.36
4:45:00	2.59	2.83	2.78	3.09	3.23	3.40	3.51	3.61	3.59
5:00:00	2.30	2.60	2.54	2.82	2.93	3.07	3.16	3.24	3.26
5:15:00	2.06	2.40	2.34	2.60	2.69	2.80	2.87	2.94	2.96
5:30:00	1.85	2.24	2.17	2.41	2.49	2.58	2.64	2.70	2.71
5:45:00	1.69	2.10	2.03	2.25	2.32	2.40	2.45	2.50	2.50
6:00:00	1.55	2.03	1.94	2.12	2.10	2.24	2.29	2.33	2.33
6:15:00	1.44	1.89	1.93	2.03	2.02	2.12	2.27	2.07	2.32
6:30:00	1.35	2.15	1.44	1.90	1.76	1.75	2.40	2.11	1.98
6:45:00	1.24	1.66	1.45	2.12	1.70	1.83	2.03	1.96	1.95
7:00:00	1.13	1.98	1.36	1.64	1.60	1.79	1.89	1.88	1.80
7:15:00	1.09	1.77	1.45	1.77	1.53	1.31	1.96	1.69	1.71
7:30:00	1.03	1.52	1.43	1.92	1.57	1.94	1.82	1.97	1.94
7:45:00	0.98	1.30	1.39	1.45	1.66	1.46	1.45	1.41	1.63
8:00:00	0.93	1.60	1.31	1.83	1.58	1.53	1.74	1.82	1.32
8:15:00	0.89	1.40	1.26	1.52	1.35	1.63	1.28	1.73	1.43
8:30:00	0.85	1.36	1.23	1.37	1.30	1.32	1.49	1.29	1.45
8:45:00	0.82	1.50	1.22	1.50	1.41	1.31	1.43	1.26	1.45
9:00:00	0.79	1.22	1.13	1.33	1.29	1.39	1.61	1.23	1.31
9:15:00	0.76	1.34	1.09	1.41	1.49	1.26	1.59	1.22	1.50
9:30:00	0.74	1.24	1.16	1.37	1.36	1.48	1.35	1.20	1.38
9:45:00	0.72	1.23	1.14	1.40	1.36	1.28	1.27	1.18	1.35
10:00:00	0.70	1.18	1.09	1.30	1.38	1.35	1.23	1.42	1.29
10:15:00	0.68	1.17	1.07	1.46	1.41	1.21	1.27	1.32	1.37
10:30:00	0.66	1.15	1.05	1.38	1.17	1.13	1.35	1.34	1.45
10:45:00	0.64	1.14	1.04	1.10	1.20	1.24	1.16	1.34	1.17
11:00:00	0.63	1.11	1.02	1.09	1.25	1.17	1.11	1.24	1.15
11:15:00	0.62	1.10	1.00	1.17	1.19	1.20	1.10	1.27	1.10
11:30:00	0.60	1.09	0.99	1.14	1.16	1.14	1.11	1.19	1.16
11:45:00	0.59	1.08	0.97	1.15	1.14	1.15	1.15	1.18	1.16
12:00:00	0.58	1.05	0.96	1.11	1.13	1.13	1.14	1.14	1.15
12:15:00	0.57	1.04	0.94	1.10	1.11	1.12	1.12	1.13	1.13
12:30:00	0.56	1.03	0.93	1.09	1.10	1.11	1.11	1.12	1.12
12:45:00	0.55	1.02	0.92	1.07	1.09	1.09	1.10	1.10	1.11
13:00:00	0.55	1.01	0.91	1.06	1.08	1.08	1.09	1.09	1.09
13:15:00	0.54	1.00	0.89	1.05	1.07	1.07	1.07	1.08	1.08
13:30:00	0.53	0.99	0.88	1.04	1.05	1.06	1.06	1.07	1.07
13:45:00	0.52	0.98	0.87	1.03	1.04	1.05	1.05	1.06	1.06
14:00:00	0.52	0.97	0.86	1.02	1.03	1.04	1.04	1.05	1.05
14:15:00	0.51	0.96	0.85	1.01	1.02	1.03	1.03	1.04	1.04
14:30:00	0.51	0.95	0.84	1.00	1.01	1.02	1.02	1.02	1.03
14:45:00	0.50	0.94	0.83	0.99	1.00	1.01	1.01	1.01	1.02
15:00:00	0.49	0.93	0.82	0.98	1.00	1.00	1.00	1.00	1.01
15:15:00	0.49	0.92	0.81	0.97	0.99	0.99	0.99	0.99	1.00
15:30:00	0.48	0.91	0.80	0.97	0.98	0.98	0.99	0.98	0.99
15:45:00	0.48	0.91	0.79	0.96	0.97	0.97	0.98	0.98	0.98
16:00:00	0.48	0.90	0.79	0.95	0.96	0.97	0.97	0.97	0.98
16:15:00	0.47	0.89	0.78	0.94	0.95	0.96	0.96	0.96	0.97
16:30:00	0.47	0.88	0.77	0.93	0.95	0.95	0.95	0.95	0.96
16:45:00	0.46	0.88	0.76	0.93	0.94	0.94	0.94	0.94	0.95
17:00:00	0.46	0.86	0.75	0.92	0.93	0.94	0.94	0.94	0.94
17:15:00	0.46	0.86	0.74	0.91	0.92	0.93	0.93	0.93	0.94
17:30:00	0.45	0.85	0.73	0.90	0.92	0.92	0.92	0.92	0.93

Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. — Thursday, Aug 1 2019

Q100 - East Pond Outfall Pipe

Circular		**Highlighted**	
Diameter (ft)	= 4.00	Depth (ft)	= 2.97
		Q (cfs)	= 129.60
		Area (sqft)	= 10.02
Invert Elev (ft)	= 1.00	Velocity (ft/s)	= 12.93
Slope (%)	= 1.00	Wetted Perim (ft)	= 8.32
N-Value	= 0.013	Crit Depth, Yc (ft)	= 3.41
		Top Width (ft)	= 3.49
Calculations		EGL (ft)	= 5.57
Compute by:	Known Q		
Known Q (cfs)	= 129.60		



Channel Report

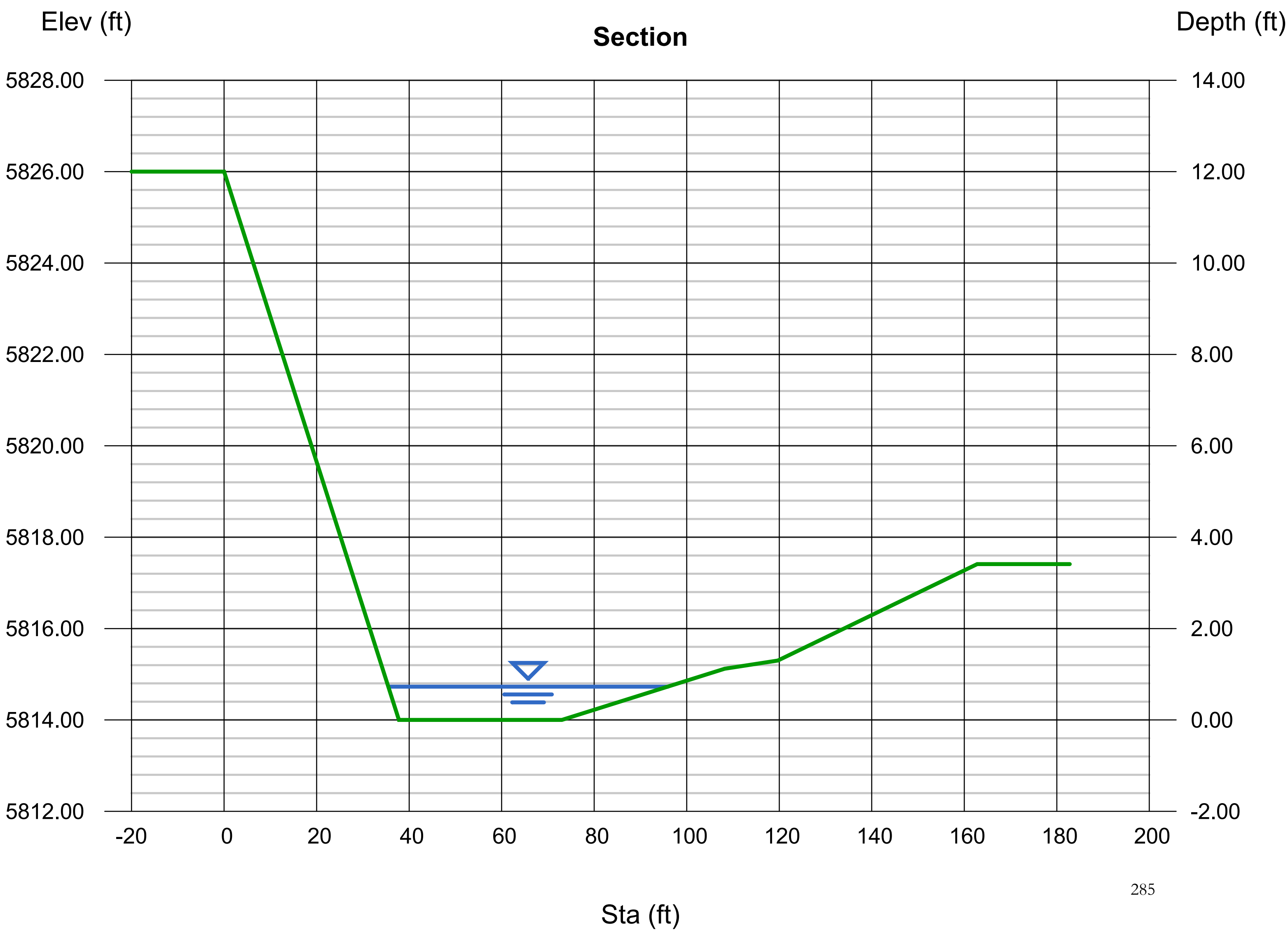
Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Thursday, Aug 1 2019

Q100 - East Pond Outfall Swale

User-defined			**Highlighted**		
Invert Elev (ft)	=	5814.00	Depth (ft)	=	0.73
Slope (%)	=	1.59	Q (cfs)	=	129.60
N-Value	=	0.035	Area (sqft)	=	34.92
			Velocity (ft/s)	=	3.71
Calculations			Wetted Perim (ft)	=	60.57
Compute by:		Known Q	Crit Depth, Yc (ft)	=	0.67
Known Q (cfs)	=	129.60	Top Width (ft)	=	60.45
			EGL (ft)	=	0.94

(Sta, El, n)-(Sta, El, n)...

(0.00, 5826.00)-(37.80, 5814.00, 0.035)-(73.02, 5814.00, 0.035)-(108.20, 5815.12, 0.035)-(119.70, 5815.30, 0.035)-(162.80, 5817.41, 0.035)

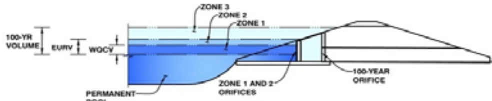


DETENTION BASIN STAGE-STORAGE TABLE BUILDER

UD-Detention, Version 3.07 (February 2017)

Project: **Trails at Aspen Ridge - MDDPA and PDR**

Basin ID: **West Pond: Big Johnson Reservoir Basin**



Example Zone Configuration (Retention Pond)

Required Volume Calculation

			Optional User Override 1-hr Precipitation	
Selected BMP Type =	**EDB**			
Watershed Area =	34.69	acres		
Watershed Length =	2,691	ft		
Watershed Slope =	0.020	ft/ft		
Watershed Imperviousness =	55.10%	percent		
Percentage Hydrologic Soil Group A =	8.6%	percent		
Percentage Hydrologic Soil Group B =	81.2%	percent		
Percentage Hydrologic Soil Groups C/D =	10.2%	percent		
Desired WQCV Drain Time =	40.0	hours		
Location for 1-hr Rainfall Depths =	User Input			
Water Quality Capture Volume (WQCV) =	0.638	acre-feet		
Excess Urban Runoff Volume (EURV) =	2.053	acre-feet		
2-yr Runoff Volume (P1 = 1.19 in.) =	1.670	acre-feet	1.19	inches
5-yr Runoff Volume (P1 = 1.5 in.) =	2.275	acre-feet	1.50	inches
10-yr Runoff Volume (P1 = 1.75 in.) =	2.984	acre-feet	1.75	inches
25-yr Runoff Volume (P1 = 2 in.) =	4.003	acre-feet	2.00	inches
50-yr Runoff Volume (P1 = 2.25 in.) =	4.751	acre-feet	2.25	inches
100-yr Runoff Volume (P1 = 2.52 in.) =	5.719	acre-feet	2.52	inches
500-yr Runoff Volume (P1 = 3.55 in.) =	8.742	acre-feet	3.55	inches
Approximate 2-yr Detention Volume =	1.565	acre-feet		
Approximate 5-yr Detention Volume =	2.139	acre-feet		
Approximate 10-yr Detention Volume =	2.737	acre-feet		
Approximate 25-yr Detention Volume =	2.997	acre-feet		
Approximate 50-yr Detention Volume =	3.142	acre-feet		
Approximate 100-yr Detention Volume =	3.474	acre-feet		

Stage-Storage Calculation

Zone 1 Volume (WQCV) =	0.638	acre-feet
Zone 2 Volume (EURV - Zone 1) =	1.415	acre-feet
Zone 3 Volume (100-year - Zones 1 & 2) =	1.421	acre-feet
Total Detention Basin Volume =	3.474	acre-feet
Initial Surcharge Volume (ISV) =	user	ft^3
Initial Surcharge Depth (ISD) =	user	ft
Total Available Detention Depth (H_{total}) =	user	ft
Depth of Trickle Channel (H_{TC}) =	user	ft
Slope of Trickle Channel (S_{TC}) =	user	ft/ft
Slopes of Main Basin Sides (S_{main}) =	user	H:V
Basin Length-to-Width Ratio ($R_{L/W}$) =	user	
Initial Surcharge Area (A_{ISV}) =	user	ft^2
Surcharge Volume Length (L_{ISV}) =	user	ft
Surcharge Volume Width (W_{ISV}) =	user	ft
Depth of Basin Floor (H_{FLOOR}) =	user	ft
Length of Basin Floor (L_{FLOOR}) =	user	ft
Width of Basin Floor (W_{FLOOR}) =	user	ft
Area of Basin Floor (A_{FLOOR}) =	user	ft^2
Volume of Basin Floor (V_{FLOOR}) =	user	ft^3
Depth of Main Basin (H_{MAIN}) =	user	ft
Length of Main Basin (L_{MAIN}) =	user	ft
Width of Main Basin (W_{MAIN}) =	user	ft
Area of Main Basin (A_{MAIN}) =	user	ft^2
Volume of Main Basin (V_{MAIN}) =	user	ft^3
Calculated Total Basin Volume (V_{total}) =	**user**	acre-feet

Depth Increment = 0.5 ft

Stage - Storage Description	Stage (ft)	Optional Override Stage (ft)	Length (ft)	Width (ft)	Area (ft^2)	Optional Override Area (ft^2)	Area (acre)	Volume (ft^3)	Volume (ac-ft)
Top of Micropool	--	0.00	--	--	--	162	0.004		
5875	--	0.50	--	--	--	32,822	0.753	7,920	0.182
5876	--	1.50	--	--	--	36,246	0.832	42,416	0.974
5877	--	2.50	--	--	--	39,757	0.913	80,780	1.854
5878	--	3.50	--	--	--	43,358	0.995	122,338	2.808
5879	--	4.50	--	--	--	47,046	1.080	167,540	3.846
5880	--	5.50	--	--	--	50,823	1.167	216,474	4.970
5881	--	6.50	--	--	--	54,761	1.257	269,266	6.181
5882	--	7.50	--	--	--	58,731	1.348	326,012	7.484
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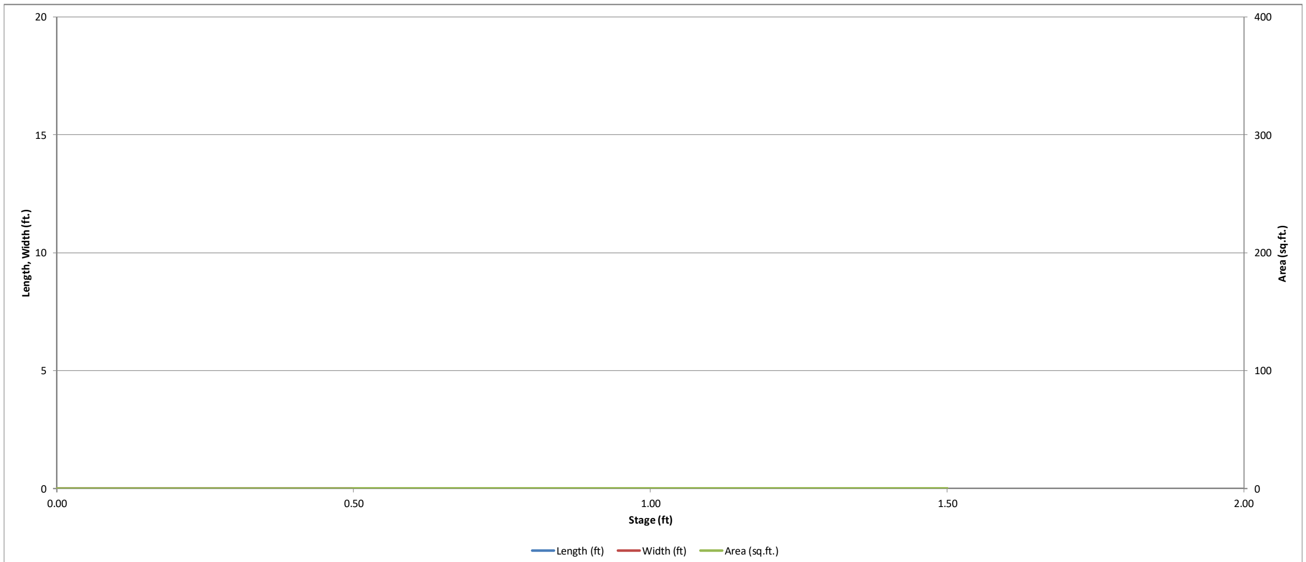
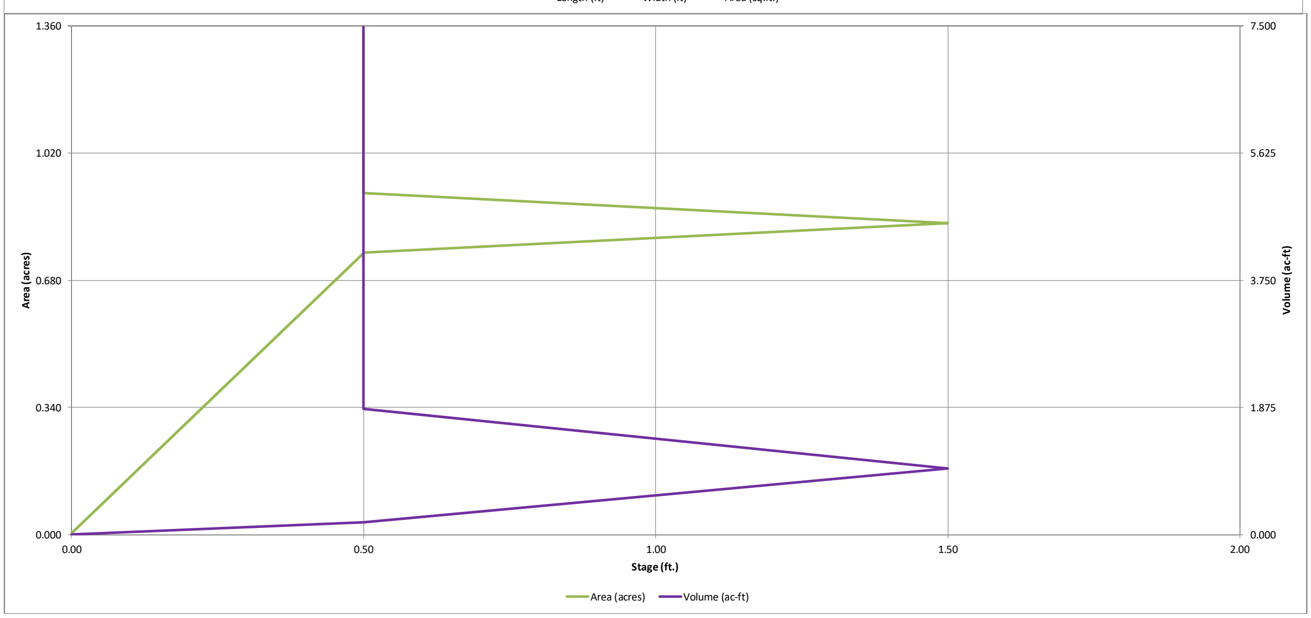
DETENTION BASIN STAGE-STORAGE TABLE BUILDER

UD-Detention, Version 3.07 (February 2017)

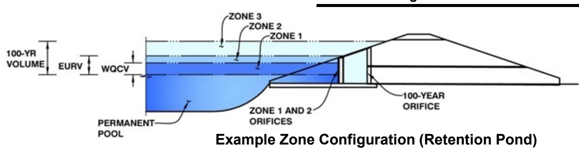




Detention Basin Outlet Structure Design

UD-Detention, Version 3.07 (February 2017)

Project: Trails at Aspen Ridge - MDDPA and PDR
Basin ID: West Pond: Big Johnson Reservoir Basin



Example Zone Configuration (Retention Pond)

	Stage (ft)	Zone Volume (ac-ft)	Outlet Type
Zone 1 (WQCV)	1.08	0.638	Orifice Plate
Zone 2 (EURV)	2.72	1.415	Orifice Plate
Zone 3 (100-year)	4.16	1.421	Weir&Pipe (Restrict)
		3.474	Total

User Input: Orifice at Underdrain Outlet (typically used to drain WQCV in a Filtration BMP)

Underdrain Orifice Invert Depth =	N/A	ft (distance below the filtration media surface)
Underdrain Orifice Diameter =	N/A	inches

Calculated Parameters for Underdrain

Underdrain Orifice Area =	N/A	ft^2
Underdrain Orifice Centroid =	N/A	feet

User Input: Orifice Plate with one or more orifices or Elliptical Slot Weir (typically used to drain WQCV and/or EURV in a sedimentation BMP)

Invert of Lowest Orifice =	0.00	ft (relative to basin bottom at Stage = 0 ft)
Depth at top of Zone using Orifice Plate =	2.72	ft (relative to basin bottom at Stage = 0 ft)
Orifice Plate: Orifice Vertical Spacing =	10.90	inches
Orifice Plate: Orifice Area per Row =	N/A	inches

Calculated Parameters for Plate

WQ Orifice Area per Row =	N/A	ft^2
Elliptical Half-Width =	N/A	feet
Elliptical Slot Centroid =	N/A	feet
Elliptical Slot Area =	N/A	ft^2

User Input: Stage and Total Area of Each Orifice Row (numbered from lowest to highest)

	Row 1 (required)	Row 2 (optional)	Row 3 (optional)	Row 4 (optional)	Row 5 (optional)	Row 6 (optional)	Row 7 (optional)	Row 8 (optional)
Stage of Orifice Centroid (ft)	0.00	0.91	1.81					
Orifice Area (sq. inches)	7.58	4.25	4.20					

	Row 9 (optional)	Row 10 (optional)	Row 11 (optional)	Row 12 (optional)	Row 13 (optional)	Row 14 (optional)	Row 15 (optional)	Row 16 (optional)
Stage of Orifice Centroid (ft)								
Orifice Area (sq. inches)								

User Input: Vertical Orifice (Circular or Rectangular)

	Not Selected	Not Selected	
Invert of Vertical Orifice =	N/A	N/A	ft (relative to basin bottom at Stage = 0 ft)
Depth at top of Zone using Vertical Orifice =	N/A	N/A	ft (relative to basin bottom at Stage = 0 ft)
Vertical Orifice Diameter =	N/A	N/A	inches

Calculated Parameters for Vertical Orifice

	Not Selected	Not Selected	
Vertical Orifice Area =	N/A	N/A	ft^2
Vertical Orifice Centroid =	N/A	N/A	feet

User Input: Overflow Weir (Dropbox) and Grate (Flat or Sloped)

	Zone 3 Weir	Not Selected	
Overflow Weir Front Edge Height, Ho =	3.00	N/A	ft (relative to basin bottom at Stage = 0 ft)
Overflow Weir Front Edge Length =	6.00	N/A	feet
Overflow Weir Slope =	4.00	N/A	H:V (enter zero for flat grate)
Horiz. Length of Weir Sides =	4.00	N/A	feet
Overflow Grate Open Area % =	70%	N/A	%, grate open area/total area
Debris Clogging % =	50%	N/A	%

Calculated Parameters for Overflow Weir

	Zone 3 Weir	Not Selected	
Height of Grate Upper Edge, H_t =	4.00	N/A	feet
Over Flow Weir Slope Length =	4.12	N/A	feet
Grate Open Area / 100-yr Orifice Area =	5.60	N/A	should be ≥ 4
Overflow Grate Open Area w/o Debris =	17.32	N/A	ft^2
Overflow Grate Open Area w/ Debris =	8.66	N/A	ft^2

User Input: Outlet Pipe w/ Flow Restriction Plate (Circular Orifice, Restrictor Plate, or Rectangular Orifice)

	Zone 3 Restrictor	Not Selected	
Depth to Invert of Outlet Pipe =	0.30	N/A	ft (distance below basin bottom at Stage = 0 ft)
Outlet Pipe Diameter =	27.00	N/A	inches
Restrictor Plate Height Above Pipe Invert =	19.60		inches

Calculated Parameters for Outlet Pipe w/ Flow Restriction Plate

	Zone 3 Restrictor	Not Selected	
Outlet Orifice Area =	3.09	N/A	ft^2
Outlet Orifice Centroid =	0.91	N/A	feet
Half-Central Angle of Restrictor Plate on Pipe =	2.04	N/A	radians

User Input: Emergency Spillway (Rectangular or Trapezoidal)

Spillway Invert Stage=	5.00	ft (relative to basin bottom at Stage = 0 ft)
Spillway Crest Length =	23.00	feet
Spillway End Slopes =	4.00	H:V
Freeboard above Max Water Surface =	1.00	feet

Calculated Parameters for Spillway

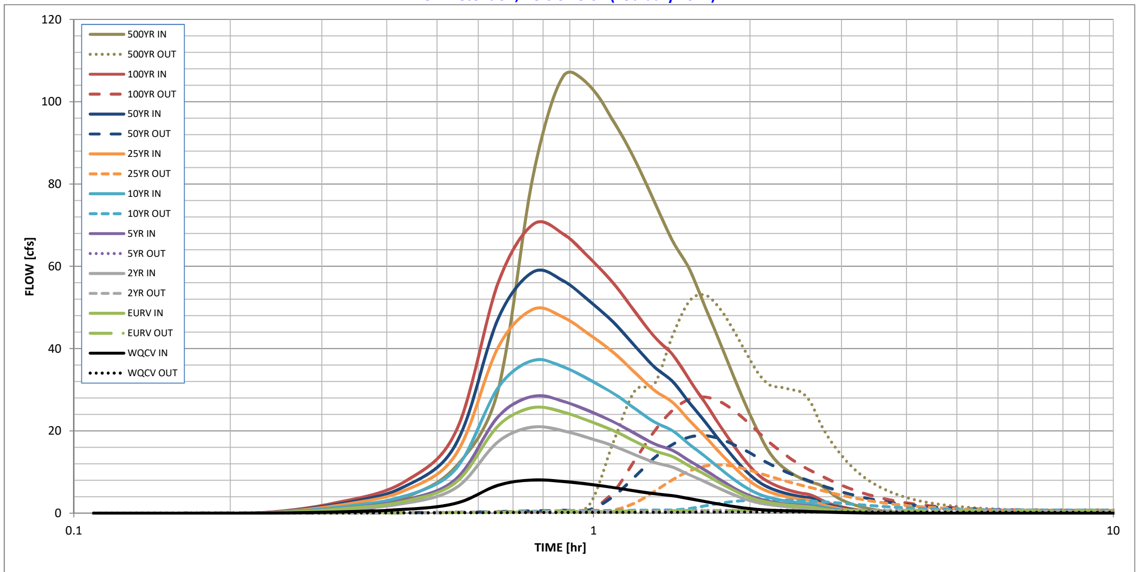
Spillway Design Flow Depth=	0.93	feet
Stage at Top of Freeboard =	6.93	feet
Basin Area at Top of Freeboard =	1.30	acres

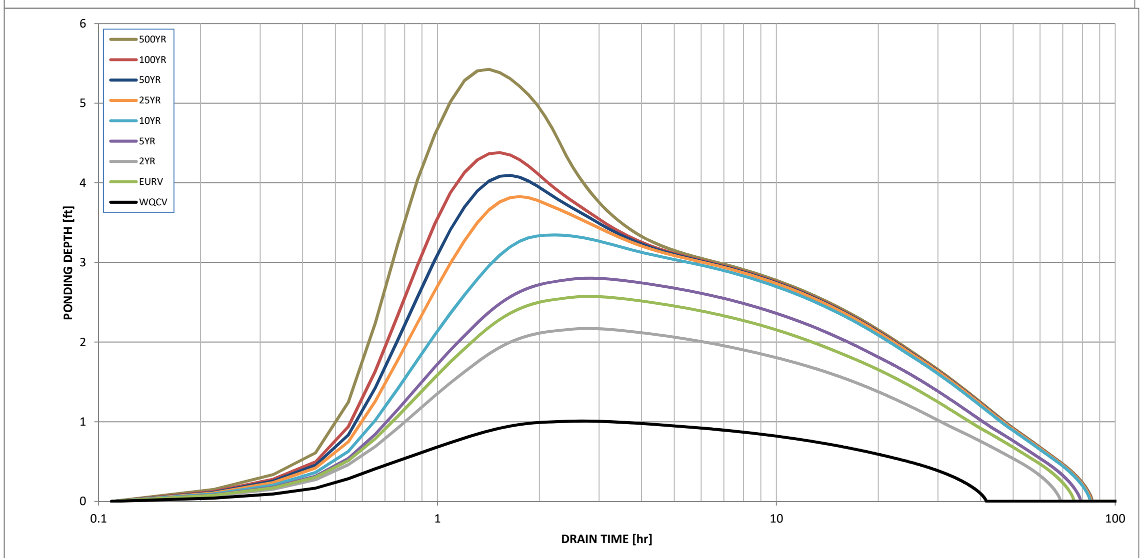
Routed Hydrograph Results

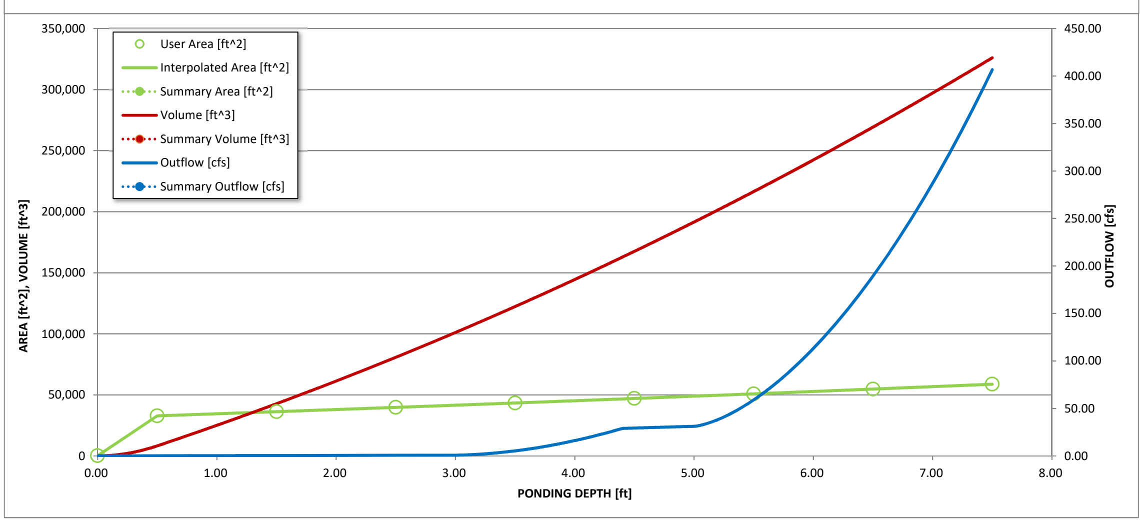
Design Storm Return Period =	WQCV	EURV	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	500 Year
One-Hour Rainfall Depth (in) =	0.53	1.07	1.19	1.50	1.75	2.00	2.25	2.52	3.55
Calculated Runoff Volume (acre-ft) =	0.638	2.053	1.670	2.275	2.984	4.003	4.751	5.719	8.742
OPTIONAL Override Runoff Volume (acre-ft) =									
Inflow Hydrograph Volume (acre-ft) =	0.638	2.053	1.670	2.276	2.985	4.004	4.752	5.714	8.739
Predevelopment Unit Peak Flow, q (cfs/acre) =	0.00	0.00	0.01	0.02	0.14	0.45	0.63	0.87	1.48
Predevelopment Peak Q (cfs) =	0.0	0.0	0.3	0.7	4.7	15.6	21.8	30.1	51.4
Peak Inflow Q (cfs) =	8.1	25.7	20.9	28.4	37.1	49.6	58.6	70.2	106.1
Peak Outflow Q (cfs) =	0.3	0.7	0.6	0.8	3.2	11.8	18.8	28.2	53.0
Ratio Peak Outflow to Predevelopment Q =	N/A	N/A	N/A	1.0	0.7	0.8	0.9	0.9	1.0
Structure Controlling Flow =	Plate	Plate	Plate	Plate	Overflow Grate 1	Overflow Grate 1	Overflow Grate 1	Overflow Grate 1	Spillway
Max Velocity through Grate 1 (fps) =	N/A	N/A	N/A	N/A	0.1	0.6	1.0	1.6	1.8
Max Velocity through Grate 2 (fps) =	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Time to Drain 97% of Inflow Volume (hours) =	39	68	63	71	75	73	71	69	64
Time to Drain 99% of Inflow Volume (hours) =	**40**	72	66	76	80	80	79	78	76
Maximum Ponding Depth (ft) =	1.01	2.57	2.17	2.80	3.35	3.83	4.10	4.38	5.43
Area at Maximum Ponding Depth (acres) =	0.79	0.92	0.89	0.94	0.98	1.02	1.05	1.07	1.16
Maximum Volume Stored (acre-ft) =	0.576	1.919	1.558	2.132	2.650	3.131	3.410	3.717	4.876

Detention Basin Outlet Structure Design

UD-Detention, Version 3.07 (February 2017)





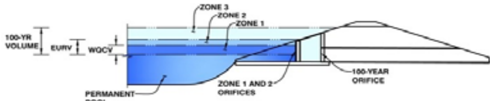


DETENTION BASIN STAGE-STORAGE TABLE BUILDER

UD-Detention, Version 3.07 (February 2017)

Project: Trails at Aspen Ridge

Basin ID: Marksheffel Tributary to Jimmy Camp Creek: Sub-basin L



Example Zone Configuration (Retention Pond)

Required Volume Calculation

			Optional User Override 1-hr Precipitation	
Selected BMP Type =	EDB			
Watershed Area =	7.59	acres		
Watershed Length =	1,058	ft		
Watershed Slope =	0.060	ft/ft		
Watershed Imperviousness =	52.50%	percent		
Percentage Hydrologic Soil Group A =	0.0%	percent		
Percentage Hydrologic Soil Group B =	100.0%	percent		
Percentage Hydrologic Soil Groups C/D =	0.0%	percent		
Desired WQCV Drain Time =	40.0	hours		
Location for 1-hr Rainfall Depths =	User Input			
Water Quality Capture Volume (WQCV) =	0.135	acre-feet		
Excess Urban Runoff Volume (EURV) =	0.428	acre-feet		
2-yr Runoff Volume (P1 = 1.19 in.) =	0.346	acre-feet	1.19	inches
5-yr Runoff Volume (P1 = 1.5 in.) =	0.471	acre-feet	1.50	inches
10-yr Runoff Volume (P1 = 1.75 in.) =	0.631	acre-feet	1.75	inches
25-yr Runoff Volume (P1 = 2 in.) =	0.866	acre-feet	2.00	inches
50-yr Runoff Volume (P1 = 2.25 in.) =	1.031	acre-feet	2.25	inches
100-yr Runoff Volume (P1 = 2.52 in.) =	1.246	acre-feet	2.52	inches
500-yr Runoff Volume (P1 = 3.55 in.) =	1.910	acre-feet	3.55	inches
Approximate 2-yr Detention Volume =	0.324	acre-feet		
Approximate 5-yr Detention Volume =	0.443	acre-feet		
Approximate 10-yr Detention Volume =	0.582	acre-feet		
Approximate 25-yr Detention Volume =	0.635	acre-feet		
Approximate 50-yr Detention Volume =	0.663	acre-feet		
Approximate 100-yr Detention Volume =	0.736	acre-feet		

Stage-Storage Calculation

Zone 1 Volume (WQCV) =	0.135	acre-feet
Zone 2 Volume (EURV - Zone 1) =	0.293	acre-feet
Zone 3 Volume (100-year - Zones 1 & 2) =	0.308	acre-feet
Total Detention Basin Volume =	0.736	acre-feet
Initial Surcharge Volume (ISV) =	user	ft^3
Initial Surcharge Depth (ISD) =	user	ft
Total Available Detention Depth (H_{total}) =	user	ft
Depth of Trickle Channel (H_{TC}) =	user	ft
Slope of Trickle Channel (S_{TC}) =	user	ft/ft
Slopes of Main Basin Sides (S_{main}) =	user	H:V
Basin Length-to-Width Ratio ($R_{L/W}$) =	user	
Initial Surcharge Area (A_{ISV}) =	user	ft^2
Surcharge Volume Length (L_{ISV}) =	user	ft
Surcharge Volume Width (W_{ISV}) =	user	ft
Depth of Basin Floor (H_{FLOOR}) =	user	ft
Length of Basin Floor (L_{FLOOR}) =	user	ft
Width of Basin Floor (W_{FLOOR}) =	user	ft
Area of Basin Floor (A_{FLOOR}) =	user	ft^2
Volume of Basin Floor (V_{FLOOR}) =	user	ft^3
Depth of Main Basin (H_{MAIN}) =	user	ft
Length of Main Basin (L_{MAIN}) =	user	ft
Width of Main Basin (W_{MAIN}) =	user	ft
Area of Main Basin (A_{MAIN}) =	user	ft^2
Volume of Main Basin (V_{MAIN}) =	user	ft^3
Calculated Total Basin Volume (V_{total}) =	**user**	acre-feet

Depth Increment = ft

Stage - Storage Description	Stage (ft)	Optional Override Stage (ft)	Length (ft)	Width (ft)	Area (ft^2)	Optional Override Area (ft^2)	Area (acre)	Volume (ft^3)	Volume (ac-ft)
Top of Micropool	--	0.00	--	--	--	100	0.002		
79.1	--	0.30	--	--	--	4,541	0.104	651	0.015
80.1	--	1.30	--	--	--	5,841	0.134	5,829	0.134
81	--	2.30	--	--	--	7,137	0.164	12,376	0.284
82	--	3.30	--	--	--	9,723	0.223	20,806	0.478
83	--	4.30	--	--	--	11,603	0.266	31,469	0.722
84	--	5.30	--	--	--	13,603	0.312	44,072	1.012
85	--	6.30	--	--	--	15,793	0.363	58,770	1.349
86	--	7.30	--	--	--	14,207	0.326	73,770	1.694
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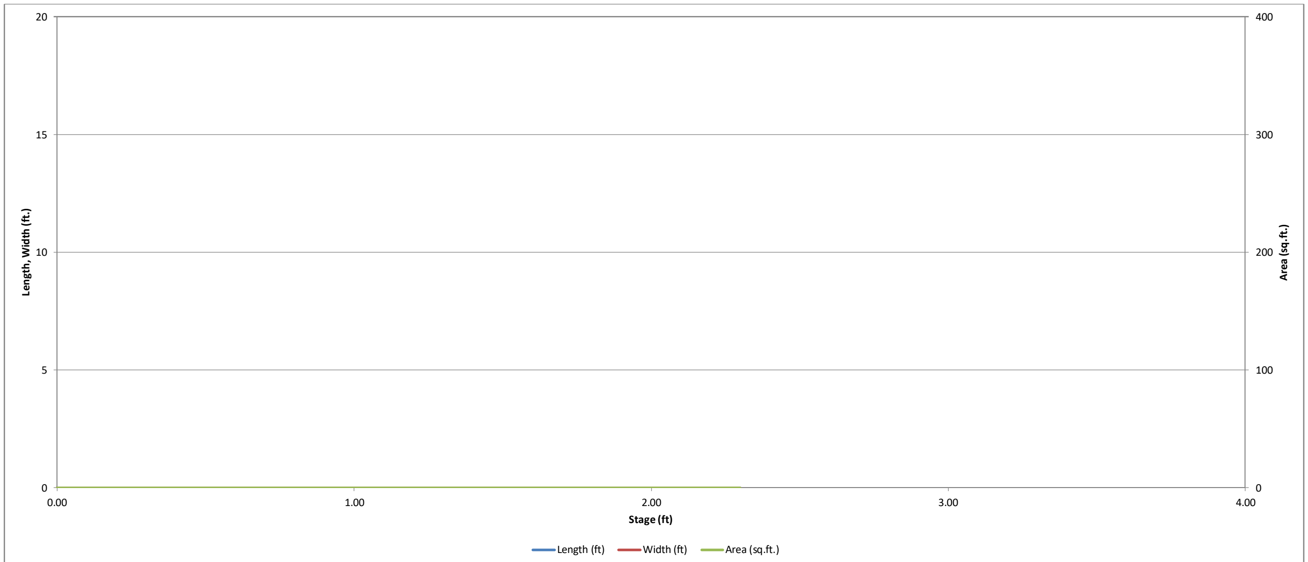
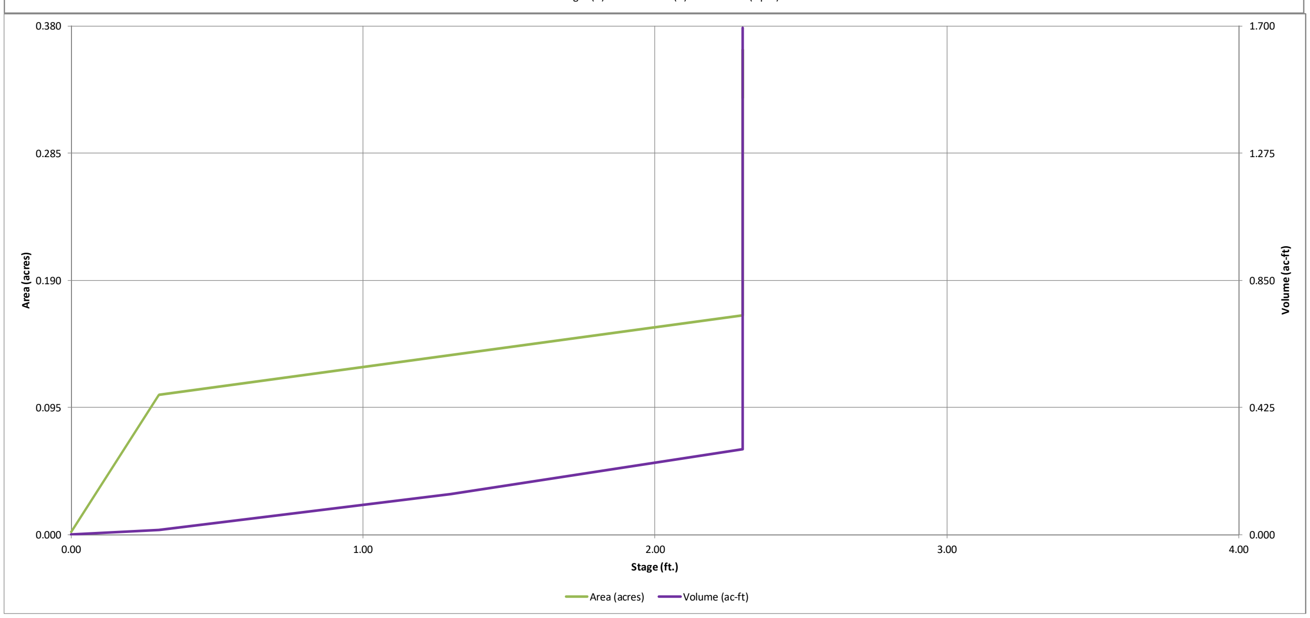
DETENTION BASIN STAGE-STORAGE TABLE BUILDER

UD-Detention, Version 3.07 (February 2017)



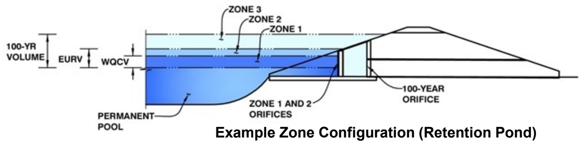


Detention Basin Outlet Structure Design

UD-Detention, Version 3.07 (February 2017)

Project: Trails at Aspen Ridge

Basin ID: Marksheffel Tributary to Jimmy Camp Creek: Sub-basin L



Example Zone Configuration (Retention Pond)

	Stage (ft)	Zone Volume (ac-ft)	Outlet Type
Zone 1 (WQCV)	1.30	0.135	Orifice Plate
Zone 2 (EURV)	3.07	0.293	Orifice Plate
Zone 3 (100-year)	4.35	0.308	Weir&Pipe (Restrict)
		0.736	Total

User Input: Orifice at Underdrain Outlet (typically used to drain WQCV in a Filtration BMP)

Underdrain Orifice Invert Depth =	N/A	ft (distance below the filtration media surface)
Underdrain Orifice Diameter =	N/A	inches

Calculated Parameters for Underdrain

Underdrain Orifice Area =	N/A	ft^2
Underdrain Orifice Centroid =	N/A	feet

User Input: Orifice Plate with one or more orifices or Elliptical Slot Weir (typically used to drain WQCV and/or EURV in a sedimentation BMP)

Invert of Lowest Orifice =	0.00	ft (relative to basin bottom at Stage = 0 ft)
Depth at top of Zone using Orifice Plate =	3.07	ft (relative to basin bottom at Stage = 0 ft)
Orifice Plate: Orifice Vertical Spacing =	12.30	inches
Orifice Plate: Orifice Area per Row =	N/A	inches

Calculated Parameters for Plate

WQ Orifice Area per Row =	N/A	ft^2
Elliptical Half-Width =	N/A	feet
Elliptical Slot Centroid =	N/A	feet
Elliptical Slot Area =	N/A	ft^2

User Input: Stage and Total Area of Each Orifice Row (numbered from lowest to highest)

	Row 1 (required)	Row 2 (optional)	Row 3 (optional)	Row 4 (optional)	Row 5 (optional)	Row 6 (optional)	Row 7 (optional)	Row 8 (optional)
Stage of Orifice Centroid (ft)	0.00	1.02	2.05					
Orifice Area (sq. inches)	1.55	0.57	0.58					

	Row 9 (optional)	Row 10 (optional)	Row 11 (optional)	Row 12 (optional)	Row 13 (optional)	Row 14 (optional)	Row 15 (optional)	Row 16 (optional)
Stage of Orifice Centroid (ft)								
Orifice Area (sq. inches)								

User Input: Vertical Orifice (Circular or Rectangular)

	Not Selected	Not Selected	
Invert of Vertical Orifice =	N/A	N/A	ft (relative to basin bottom at Stage = 0 ft)
Depth at top of Zone using Vertical Orifice =	N/A	N/A	ft (relative to basin bottom at Stage = 0 ft)
Vertical Orifice Diameter =	N/A	N/A	inches

Calculated Parameters for Vertical Orifice

	Not Selected	Not Selected	
Vertical Orifice Area =	N/A	N/A	ft^2
Vertical Orifice Centroid =	N/A	N/A	feet

User Input: Overflow Weir (Dropbox) and Grate (Flat or Sloped)

	Zone 3 Weir	Not Selected	
Overflow Weir Front Edge Height, Ho =	3.60	N/A	ft (relative to basin bottom at Stage = 0 ft)
Overflow Weir Front Edge Length =	6.00	N/A	feet
Overflow Weir Slope =	4.00	N/A	H:V (enter zero for flat grate)
Horiz. Length of Weir Sides =	4.00	N/A	feet
Overflow Grate Open Area % =	70%	N/A	%, grate open area/total area
Debris Clogging % =	50%	N/A	%

Calculated Parameters for Overflow Weir

	Zone 3 Weir	Not Selected	
Height of Grate Upper Edge, H_t =	4.60	N/A	feet
Over Flow Weir Slope Length =	4.12	N/A	feet
Grate Open Area / 100-yr Orifice Area =	21.09	N/A	should be $\geq$ 4
Overflow Grate Open Area w/o Debris =	17.32	N/A	ft^2
Overflow Grate Open Area w/ Debris =	8.66	N/A	ft^2

User Input: Outlet Pipe w/ Flow Restriction Plate (Circular Orifice, Restrictor Plate, or Rectangular Orifice)

	Zone 3 Restrictor	Not Selected	
Depth to Invert of Outlet Pipe =	0.30	N/A	ft (distance below basin bottom at Stage = 0 ft)
Outlet Pipe Diameter =	18.00	N/A	inches
Restrictor Plate Height Above Pipe Invert =	8.50		inches

Calculated Parameters for Outlet Pipe w/ Flow Restriction Plate

	Zone 3 Restrictor	Not Selected	
Outlet Orifice Area =	0.82	N/A	ft^2
Outlet Orifice Centroid =	0.41	N/A	feet
Half-Central Angle of Restrictor Plate on Pipe =	1.52	N/A	radians

User Input: Emergency Spillway (Rectangular or Trapezoidal)

Spillway Invert Stage=	5.00	ft (relative to basin bottom at Stage = 0 ft)
Spillway Crest Length =	7.00	feet
Spillway End Slopes =	4.00	H:V
Freeboard above Max Water Surface =	1.00	feet

Calculated Parameters for Spillway

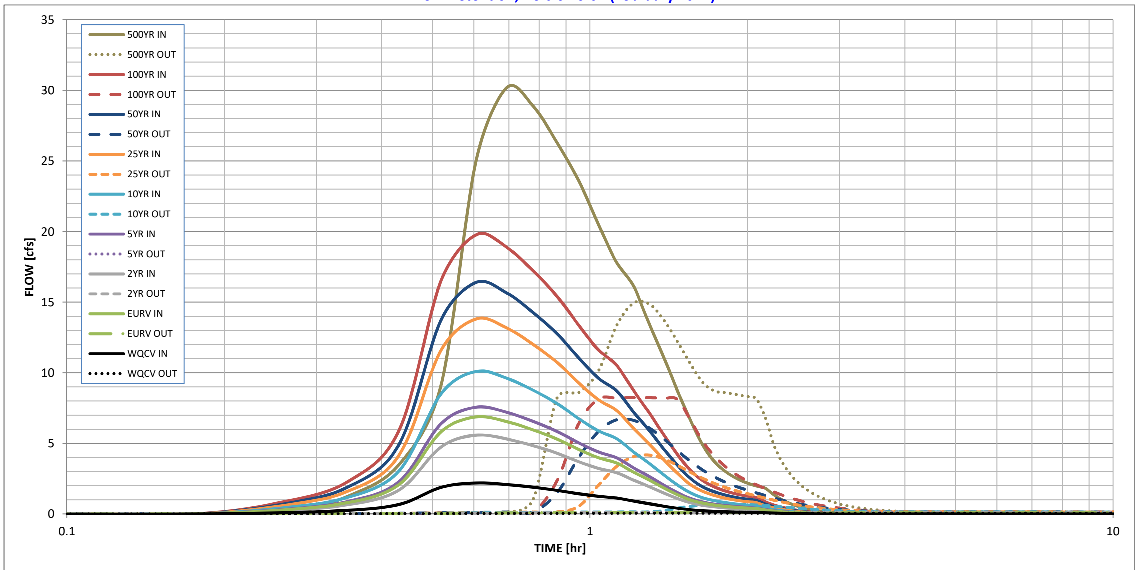
Spillway Design Flow Depth=	0.78	feet
Stage at Top of Freeboard =	6.78	feet
Basin Area at Top of Freeboard =	0.35	acres

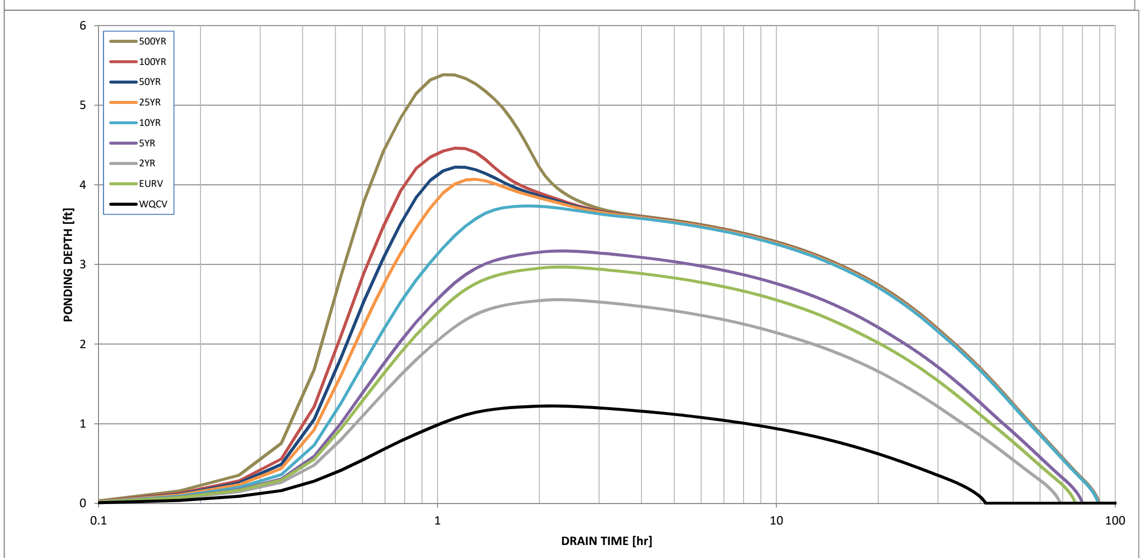
Routed Hydrograph Results

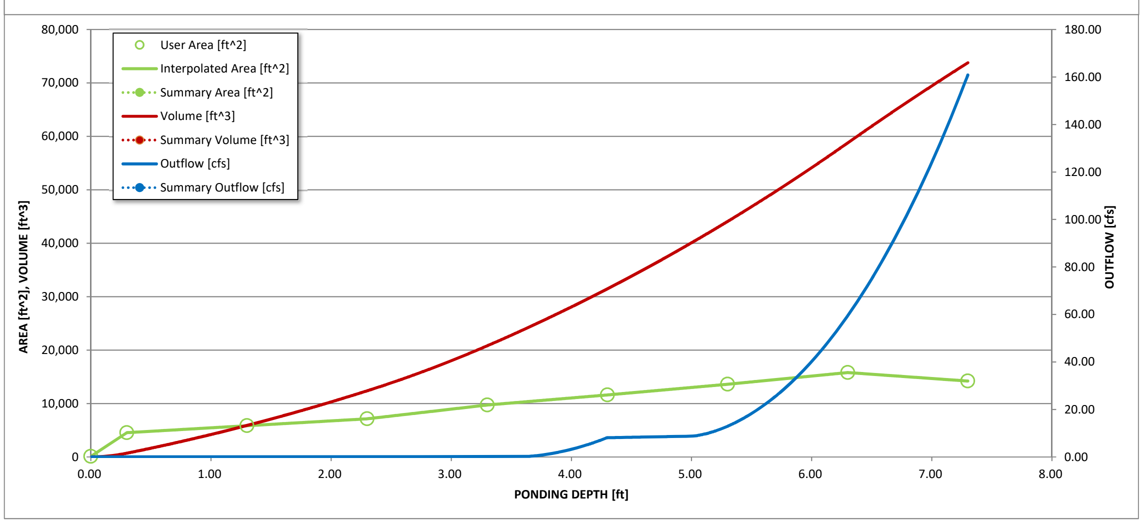
Design Storm Return Period =	WQCV	EURV	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	500 Year
One-Hour Rainfall Depth (in) =	0.53	1.07	1.19	1.50	1.75	2.00	2.25	2.52	3.55
Calculated Runoff Volume (acre-ft) =	0.135	0.428	0.346	0.471	0.631	0.866	1.031	1.246	1.910
OPTIONAL Override Runoff Volume (acre-ft) =									
Inflow Hydrograph Volume (acre-ft) =	0.135	0.427	0.346	0.471	0.631	0.866	1.031	1.246	1.910
Predevelopment Unit Peak Flow, q (cfs/acre) =	0.00	0.00	0.01	0.02	0.18	0.62	0.85	1.15	1.93
Predevelopment Peak Q (cfs) =	0.0	0.0	0.1	0.1	1.4	4.7	6.5	8.7	14.6
Peak Inflow Q (cfs) =	2.2	6.9	5.6	7.6	10.1	13.8	16.4	19.8	30.2
Peak Outflow Q (cfs) =	0.1	0.1	0.1	0.1	0.7	4.2	6.7	8.2	14.9
Ratio Peak Outflow to Predevelopment Q =	N/A	N/A	N/A	1.0	0.5	0.9	1.0	0.9	1.0
Structure Controlling Flow =	Plate	Plate	Plate	Plate	Overflow Grate 1	Overflow Grate 1	Overflow Grate 1	Outlet Plate 1	Spillway
Max Velocity through Grate 1 (fps) =	N/A	N/A	N/A	N/A	0.0	0.2	0.4	0.5	0.5
Max Velocity through Grate 2 (fps) =	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Time to Drain 97% of Inflow Volume (hours) =	38	69	62	72	79	76	75	72	66
Time to Drain 99% of Inflow Volume (hours) =	40	73	66	76	85	84	83	82	79
Maximum Ponding Depth (ft) =	1.22	2.97	2.56	3.17	3.73	4.07	4.22	4.46	5.38
Area at Maximum Ponding Depth (acres) =	0.13	0.20	0.18	0.21	0.24	0.26	0.26	0.27	0.32
Maximum Volume Stored (acre-ft) =	0.125	0.405	0.327	0.447	0.578	0.662	0.701	0.766	1.037

Detention Basin Outlet Structure Design

UD-Detention, Version 3.07 (February 2017)







APPENDIX B

STANDARD DESIGN CHARTS AND TABLES

El Paso County Drainage Basin Fees

Resolution No. 18-470

Basin Number	Receiving Waters	Year Studied	Drainage Basin Name	2019 Drainage Fee (per Impervious Acre)	2019 Bridge Fee (per Impervious Acre)
Drainage Basins with DBPS's:					
CHMS0200	Chico Creek	2013	Haegler Ranch	$10,324	$1,524
CHWS1200	Chico Creek	2001	Bennett Ranch	$11,558	$4,433
CHWS1400	Chico Creek	2013	Falcon	$29,622	$4,069
FOFO2000	Fountain Creek	2001	West Fork Jimmy Camp Creek	$12,564	$3,717
FOFO2600	Fountain Creek	1991*	Big Johnson / Crews Gulch	$18,350	$2,370
FOFO2800	Fountain Creek	1988*	Widefield	$18,350	$0
FOFO2900	Fountain Creek	1988*	Security	$18,350	$0
FOFO3000	Fountain Creek	1991*	Windmill Gulch	$18,350	$275
FOFO3100 / FOFO3200	Fountain Creek	1988*	Carson Street / Little Johnson	$11,192	$0
FOFO3400	Fountain Creek	1984*	Peterson Field	$13,235	$1,004
FOFO3600	Fountain Creek	1991*	Fisher's Canyon	$18,350	$0
FOFO4000	Fountain Creek	1996	Sand Creek	$18,940	$5,559
FOFO4200	Fountain Creek	1977	Spring Creek	$9,517	$0
FOFO4600	Fountain Creek	1984*	Southwest Area	$18,350	$0
FOFO4800	Fountain Creek	1991	Bear Creek	$18,350	$1,004
FOFO5400	Fountain Creek	1977	21st Street	$5,521	$0
FOFO5600	Fountain Creek	1964	19th Street	$3,611	$0
FOFO5800	Fountain Creek	1964	Camp Creek	$2,033	$0
FOMO0400	Monument Creek	1986*	Mesa	$9,598	$0
FOMO1000	Monument Creek	1981	Douglas Creek	$11,540	$255
FOMO1200	Monument Creek	1977	Templeton Gap	$11,847	$275
FOMO1400	Monument Creek	1976	Pope's Bluff	$3,676	$627
FOMO1600	Monument Creek	1976	South Rockrimmon	$4,314	$0
FOMO1800	Monument Creek	1973	North Rockrimmon	$5,521	$0
FOMO2000	Monument Creek	1971	Pulpit Rock	$6,085	$0
FOMO2200	Monument Creek	1994	Cottonwood Creek / S. Pine	$18,350	$1,004
FOMO2400	Monument Creek	1966	Dry Creek	$14,486	$524
FOMO3600	Monument Creek	1989*	Black Squirrel Creek	$8,331	$524
FOMO3700	Monument Creek	1987*	Middle Tributary	$15,312	$0
FOMO3800	Monument Creek	1987*	Monument Branch	$18,350	$0
FOMO4000	Monument Creek	1996	Smith Creek	$7,481	$1,004
FOMO4200	Monument Creek	1989*	Black Forest	$18,350	$500
FOMO5200	Monument Creek	1993*	Dirty Woman Creek	$18,350	$1,004
FOMO5300	Fountain Creek	1993*	Crystal Creek	$18,350	$1,004
Miscellaneous Drainage Basins: [1]					
CHBS0800	Chico Creek		Book Ranch	$17,217	$2,492
CHEC0400	Chico Creek		Upper East Chico	$9,380	$272
CHWS0200	Chico Creek		Telephone Exchange	$10,306	$241
CHWS0400	Chico Creek		Livestock Company	$16,976	$202
CHWS0600	Chico Creek		West Squirrel	$8,849	$3,672
CHWS0800	Chico Creek		Solberg Ranch	$18,350	$0
FOFO1200	Fountain Creek		Crooked Canyon	$5,540	$0
FOFO1400	Fountain Creek		Calhan Reservoir	$4,625	$270
FOFO1600	Fountain Creek		Sand Canyon	$3,342	$0
FOFO2000	Fountain Creek		Jimmy Camp Creek[3]	$18,350	$858
FOFO2200	Fountain Creek		Fort Carson	$14,486	$524
FOFO2700	Fountain Creek		West Little Johnson	$1,209	$0
FOFO3800	Fountain Creek		Stratton	$8,801	$394
FOFO5000	Fountain Creek		Midland	$14,486	$524
FOFO6000	Fountain Creek		Palmer Trail	$14,486	$524
FOFO6800	Fountain Creek		Black Canyon	$14,486	$524
FOMO4600	Monument Creek		Beaver Creek	$10,970	$0
FOMO3000	Monument Creek		Kettle Creek	$9,909	$0
FOMO3400	Monument Creek		Elkhorn	$1,665	$0
FOMO5000	Monument Creek		Monument Rock	$7,953	$0
FOMO5400	Monument Creek		Palmer Lake	$12,717	$0
FOMO5600	Monument Creek		Raspberry Mountain	$4,278	$0
PLPL0200	Monument Creek		Bald Mountain	$9,116	$0
Interim Drainage Basins: [2]					
FOFO1800	Fountain Creek		Little Fountain Creek	$2,346	$0
FOMO4400	Monument Creek		Jackson Creek	$7,263	$0
FOMO4800	Monument Creek		Teachout Creek	$5,044	$758

1. The miscellaneous drainage fee previous to September 1999 resolution was the average of all drainage fees for basins with Basin Planning Studies perform

2. Interim Drainage Fees are based upon draft Drainage Basin Planning Studies or the Drainage Basin Identification and Fee Estimation Report. (Best availabl

3. This is an interim fee and will be adjusted when a DBPS is completed. In addition to the Drainage Fee a surety in the amount of $7,285 per impervious acre sh the DBPS results in a fee greater than the current fee. Fees paid in excess of the future revised fee will be reimbursed. See Resolution 06-326 (9/14/06) and Res

EPC Stormwater Management ____ *Jennifer Irvine, P.E.*

depths over the duration of the storm as a fraction of the 1-hour depth and is also shown in Figure 6-19. By applying the 1-hour depths shown in Table 6-2 to the values shown in Table 6-3, a short-duration project design storm can be developed for any return period storm from a 2-year up to 100-year frequency. By applying the appropriate 1-hour depth for other project locations, a project design storm can be created for any location.

Table 6-3. 2-Hour Design Storm Distribution, ≤ 1 mi^2

Time (minutes)	Fraction of 1-Hour Rainfall Depth	Time (minutes)	Fraction of 1-Hour Rainfall Depth
5	0.014	65	1.004
10	0.046	70	1.018
15	0.079	75	1.030
20	0.120	80	1.041
25	0.179	85	1.052
30	0.258	90	1.063
35	0.421	95	1.072
40	0.712	100	1.082
45	0.824	105	1.091
50	0.892	110	1.100
55	0.935	115	1.109
60	0.972	120	1.119

- **Frontal Storms**: The characteristics of longer-duration "frontal storms" (general) is less well understood than the shorter duration thunderstorms and should be studied further. However, some events of this nature have been observed, such as the April 1999 storm which produced flooding on Fountain Creek, showing that these types of events do occur and tend to produce hazardous flood flows. In addition, modeling of the Jimmy Camp Creek drainage basin using the 24-hour, Type II distribution shows that it produces results reasonably comparably to recorded flow data. Therefore, the NRCS 24-hour Type II distribution has replaced the Type IIa distribution as the standard, long-duration design storm. This distribution can be applied to drainage basins up to 10 square miles without a DARF correction and is shown in Table 6-4. This distribution is included as a standard storm option in the HEC-HMS program.

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

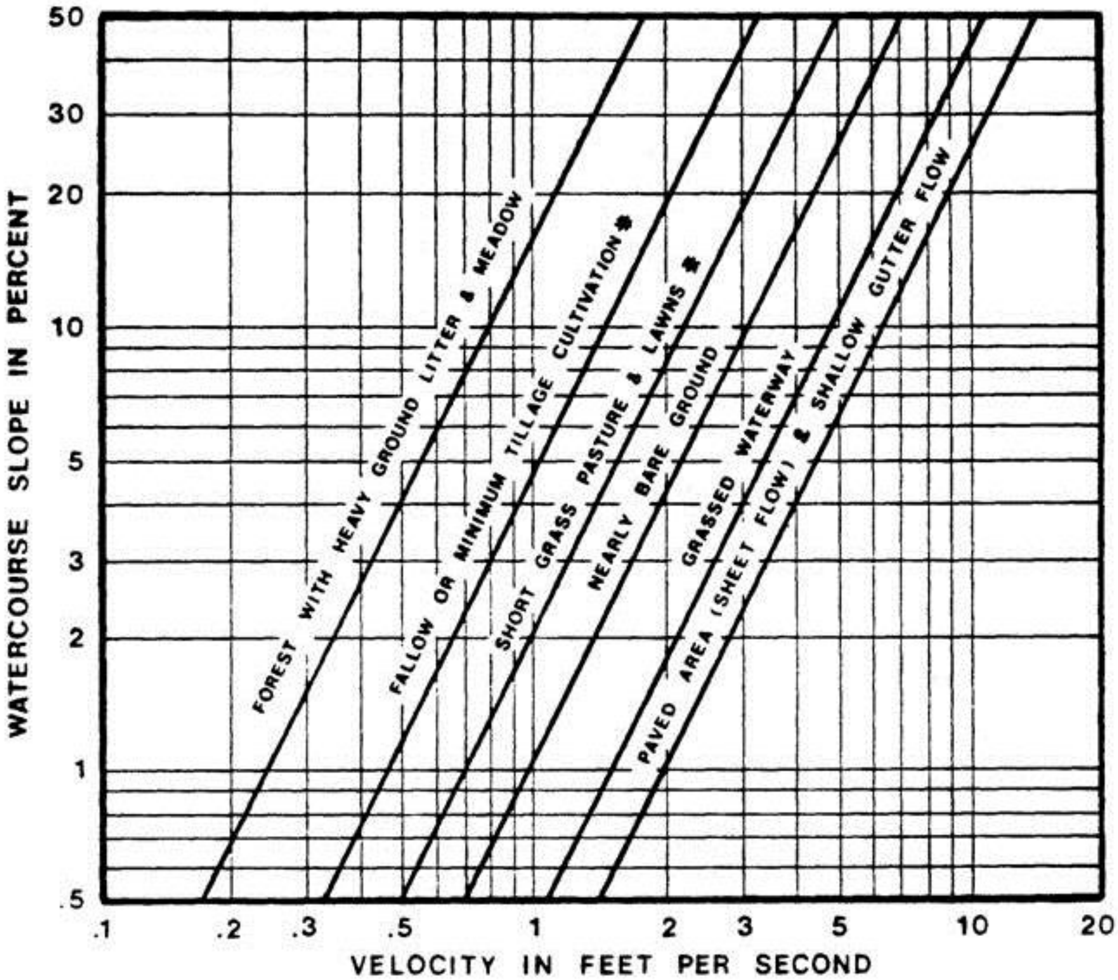
Land Use or Surface Characteristics	Percent Impervious	Runoff Coefficients											
		2-year		5-year		10-year		25-year		50-year		100-year	
		HSG A&B	HSG C&D	HSG A&B	HSG C&D	HSG A&B	HSG C&D	HSG A&B	HSG C&D	HSG A&B	HSG C&D	HSG A&B	HSG C&D
Business													
Commercial Areas	95	0.79	0.80	0.81	0.82	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



APPENDIX C

REPORT REFERENCES

EXCERPTS FROM DBPS
JIMMY CAMP CREEK

key characteristics for each reach that has been delineated for the purposes of alternative evaluation. Drainageways serving areas of at least 100-acres will be studied in detail as part of the conceptual planning process, however the reaches determined and explained in this section were developed so that alternatives for the treatments of the major drainageways could be advanced in a systematic way. Detailed topographic mapping is available only for the major drainageways shown on Figure IV-1.

4.3 Hydraulic Structure Inventory

As part of the field investigation, the existing drainage facilities were verified and inventoried. The size, type, and general hydraulic condition were recorded for bridges, culverts, detention basins and miscellaneous drainage features that existing along the major drainageways were inventoried. Hydraulic capacities were estimated for the culverts and bridges over the major drainageways. An inventory of the major structures is presented in Table IV-2. It was assumed that the maximum hydraulic capacity of a roadway crossing was reached when the hydraulic grade line equaled the road surface.

Very limited segments of the major drainageways in the Jimmy Camp Creek watershed have been improved and most of the banks are unlined or naturally lined with vegetation. Where bank linings have been built they exist mostly at the approach and outlet sides of roadway crossings. The 100-year channel capacities were estimated using the HEC-RAS computer program.

One detention basin now exists within the watershed. The detention basin along the Marksheffel Tributary has adequate storage volume to route the 100-year existing and developed discharge downstream to the mainstem of Jimmy Camp Creek.

4.4 Watershed and Flood History

Disagreement has taken place as to the origin of the name "Jimmy Camp Creek," but a consistent thread throughout the years is that an early trapper-trader named Jimmy was killed near the spring at the headwaters of the Jimmy Camp Creek Basin. The legendary campsite was located along an ancient route that connected the Arkansas and Platte Rivers called "The Old Divide Trail," "The Trappers Trail," "The Cherokee Trail," or "Jimmy's Camp Trail" among other names. Jimmy, most likely James Daughtery, appears to date from the early 1830s. The trail and camp had long been used Native Americans by the time the trapper-traders had arrived.

Comanche, Kiowa, Arapahoe, Cheyenne, and Sioux tribes are thought to have lived in the area at times. On-going archaeological excavations by the University of Colorado at Colorado Springs have uncovered evidence documenting prehistoric use during the Developmental Period with radiocarbon dates of about 655 A.D., 1650 A.D. and a third in the range of 1270 A.D. to 1400 A.D. Early hunters migrating into North America may have used the ancient route along the watercourse for thousands of years.

One of the earliest published reports along the trail was by Rufus Sage in 1842 who stated in his journal during his northward travel that "we reached an affluent of Fontaine qui Bouitte, called Daugherty's creek...Our place of stay is a sweet little valley enclosed by piney ridges...the creek derives its name from Daugherty, a trader who was murdered upon it several years ago." Subsequent to Sage's journal entry, many other parties were documented to use the route up the basin. Among them are Lt. John C. Fremont (1843), Francis Parkman (1846), a band of Mormon emigrants (1846-7), bands of Cherokees (1849 and 1850), the Loring-Marcy Expedition (1857-58), numerous cattle drives such as the Goodnight-Loving, and the many gold seekers of 1858-59. In general, many people made use of the availability of wood, water and grass on the easiest crossing of the Platte-Arkansas Divide.

Settlement during the homesteading era produced many farms and ranches in the basin. Prior to the fencing movement, an annual round-up known as the "Jimmy Camp Round-up" occurred and herded the cattle toward Corral Bluffs on the east edge of the basin to separate the cattle. Well into the 1900s, farmers and ranchers traveling to Colorado Springs from eastern El Paso County would camp on their way into and out of the city where an old county highway passed the historic springs and calling their camp "Farmer's Rest." Many of the ranches too small to be viable became abandoned and were commingled into larger, more viable spreads such as the Banning-Lewis Ranch.

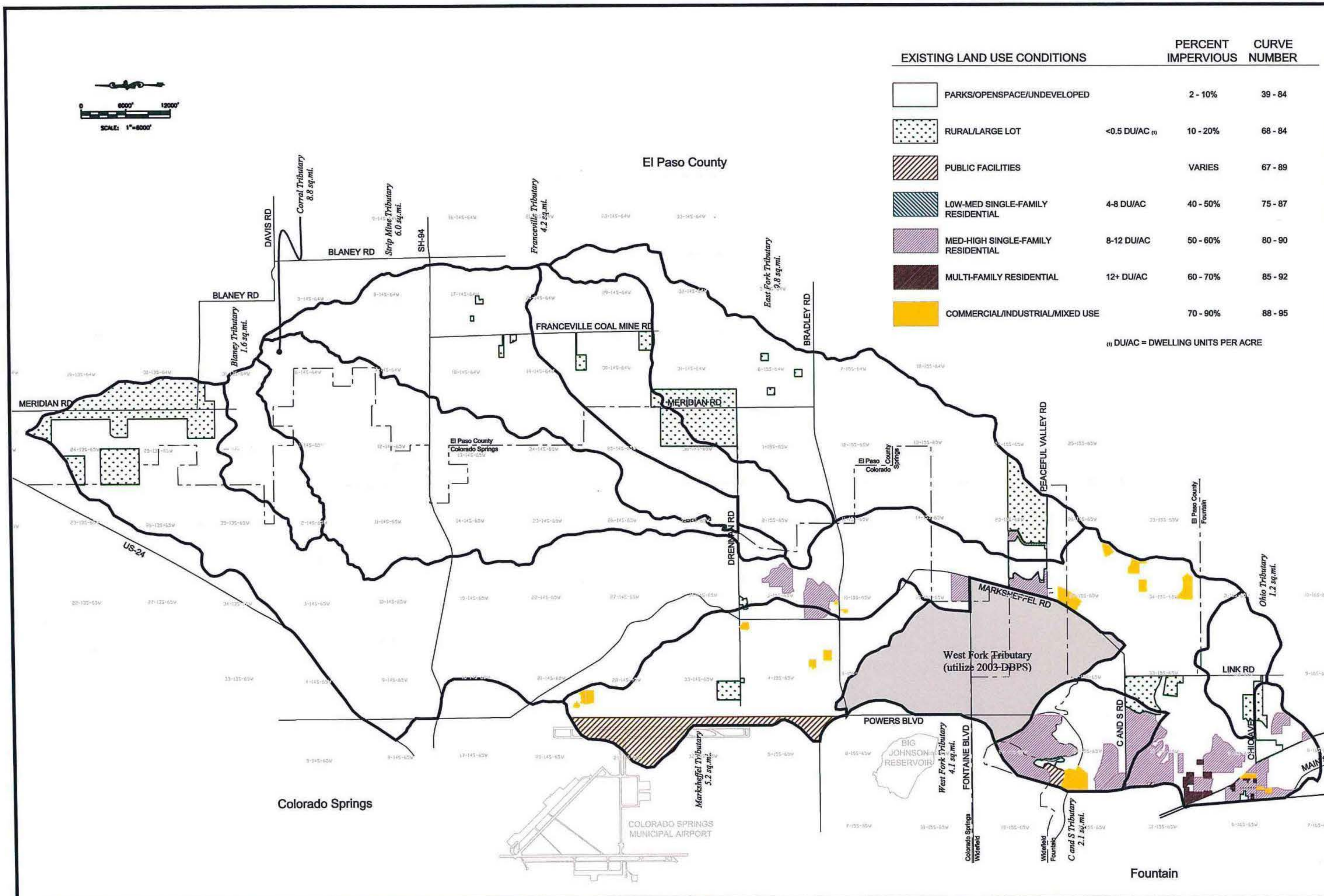
In addition to ranching and dairy farms, coal, sand and gravel mining have occurred in the basin. Railroads traversed the basin to support the dairy, ranching and mining industries, with spurs such as the one to the Franceville Coal Mine. The Fountain Mutual Irrigation Canal and Chilcotte Ditch No. 27 originating at Fountain Creek supplied irrigation water to fields around the City of Fountain.

Currently, a large portion of the basin has been annexed into the City of Colorado Springs and will be converted to mixed urban uses. A similar situation is predicted to occur in the City of Fountain at the downstream end of the basin. The area remaining in El Paso County will be subject to urbanization, however some of the upper reaches that lie within El Paso County will retain rural residential uses

Throughout recorded history, the Jimmy Camp Basin has always experienced severe weather events with wide fluctuations that include drought, hail, floods and devastating snowstorms. With low population density in the basin prior to the last twenty years, endangerment of lives and damage to property was limited and rarely reported. Infrequent yet potentially dangerous precipitation events need to be kept in mind while planning for development in this basin.

Flooding is mainly occurs in the summer months of May to August during intense rain events of several days duration when a warm, moist air mass from the Gulf of Mexico collides with a colder air mass from the north. Although frequently severe, isolated summer thunderstorms rarely cause major flooding as they tend to be limited in area and duration.

Heavy snowstorms and rainstorms are caused by similar meteorological patterns, but snowstorms do not typically cause floods as peak flows are attenuated by snowmelt. A few early accounts snowstorms will be conveyed here to illustrate the intermittent, but severe events that have taken place in the past. During the Loring-Marcy military expedition of 1858, a snowstorm started on April 29 on "a mild and pleasant spring day, with no appearance of bad weather, but as night approached it became cloudy, and about dark a



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Colorado Springs, Colorado 80904
(719) 630-7342

JIMMY CAMP CREEK WATERSHED
DRAINAGE BASIN PLANNING STUDY
EXISTING CONDITIONS LAND USE MAP
CITY OF COLORADO SPRINGS

Project No.: 14008
Date: OCT 2014
Design:
Drawn: BJW
Check:
Revisions:

II-1

VII. IMPLEMENTATION OF SELECTED PLAN

7.1 General

The results of the analyses summarized in Chapter 6 represent a concept level design process. The selected plan improvements shown on the conceptual design drawings will be subject to refinement as the development of the land within the Jimmy Camp Creek Basin commences. The size and location of the channel conveyances will have to be determined based upon a higher level of engineering analysis that is typically carried out during the preparation of the master development drainage and final drainage planning reports. It is an underlying intent of the selected to plan to preserve to the greatest extent practical the existing condition 100-year floodplain and environmental resources that exist therein. It will be important that the major drainageway channel conveyances that have been identified in this DBPS be followed and major deviations from the concepts presented herein should be discouraged when land development applications are made to the City of Colorado Springs.

With respect to FSD as presented in this DBPS, the location of future FSD basins will be refined during the land development process. Guidelines for locating FSD's have been provided in previous sections of the DBPS. If implemented, FSD will result in the limitation of peak discharges released from developing areas to pre-development conditions. As such, the future major drainageway conveyances and road crossings need only to be designed to be able to carry the pre-development condition discharges. Consolidation of FSD sites should be encouraged in order to limit long-term maintenance costs so long as the intent of the FSD system is achieved. Implementation of the concepts in this DBPS will reduce the level of planning and engineering that will be required during later drainage planning phases associated with the land development process.

7.2 Cost Estimates

Presented on Table VII-1 are the costs estimates for the major drainageway conveyances for Jimmy Camp Creek and its major sub-tributaries within the City of Colorado Springs. Presented on Table VII-2 are conveyance costs for sub-drainageways for the City of Colorado Springs. There has been no cost estimate made for local storm sewer systems. An estimate for the cost to replace roadway crossings found to be deficient when the hydraulic analysis was prepared has also not been made in this DBPS. Unit costs applied when calculating the conveyance costs are prepared on the tables. Engineering design costs have been estimated at 10 percent of the construction. A contingency allowance of 10 percent off the construction has been assumed. No allowance for the relocation of utilities has been assumed when developing the conveyance cost estimates.

Presented on tables within the DBPS are costs estimates for the major drainageway conveyances for Jimmy Camp Creek and its major sub-tributaries within the City of Colorado Springs. There has been no cost estimate made for local storm sewer systems. An estimate for the cost to replace roadway crossings found to be deficient when the hydraulic analysis was prepared has also not been made in this DBPS. Unit costs applied when calculating the conveyance costs are prepared on the tables. The estimated cost of the FSD basins was presented in Chapter 5 of the DBPS. The cost and acreage data associated with FSD has been provided in the DBPS and used in the development of a storage fee. Since the effect of implementing the FSD alternative is to maintain rates of runoff to be conveyed by the receiving drainageways to pre-development conditions it is has been concluded to be reasonable to spread only the cost of the major drainage conveyances in amongst all un-platted property within Colorado Springs.

The total cost for future roadway culverts and bridges has not been made in this DBPS. This is primarily because the number and location of the future roadway crossing cannot be accurately determined at this time. All future roadway crossings should be sized to convey the pre-development condition discharge. Because runoff will be controlled to existing peak discharges, there is no additional costs for culverts and bridges associated with providing capacity because of increased runoff due to development.

7.3 Unplatted Acreage

Presented on Figure VII-1 are the jurisdictional limits and corresponding acreage of the three governmental entities in the Jimmy Camp Creek watershed. Presented on Figure VII-2 are the un-plattable acreage that lies within the City of Colorado Springs, City of Fountain and El Paso County. Using El Paso County Tax Assessor maps, plats and ownership records the amount of un-platted and developable acreage was estimated. From these records the following total un-platted acreages were determined:

City of Colorado Spring outside BLR	**148 acres**
City of Colorado Spring inside BLR	**13,341acres**
City of Colorado Springs Total	**13,489 acres**
El Paso County	**14,018 acres**
City of Fountain	**664 acres**

The unplatted acreage shown on Figure VII-2 excludes the existing 100-year floodplains, large regional parks, school sites and public utility easement corridors Land that is already platted has not been accounted for in the estimate of the plattable acreage unless the platted parcel exceeded 15 acres in size. Most of these large acreage platted parcels occur within the County. The un-platted acreage listed in the report is the land that is considered developable and would be subject to drainage and storage fees.

The weighted percent imperviousness was estimated for the entire watershed. Based upon the land use planning information accumulated and applied in this DBPS, the weighted percent imperviousness for the watershed was determined to be 57.5 percent.

7.4 Unit Drainage Costs

Presented on Table VII-3 of the DBPS and this Executive Summary are the unit major drainageway and FSD storage fee calculations for the City of Colorado Springs. All of the improvements that were used in the calculation of the unit drainage costs are considered public facilities subject to maintenance by the Colorado Springs in accordance with this DBPS and applicable drainage criteria. The unit drainage costs can be used to structure a fee system for the Jimmy Camp Creek watershed to replace the present fee system that has been established using the 1987 Wilson DBPS. It is recommended that a drainage fee be established within each of the jurisdictions to cover the capital improvement costs associated with the stabilization of the major and sub-drainageways identified in this DBPS. Since FSD is the selected storage option for the watershed, it may be possible to have the fees associated with the unit drainage costs accumulate during the initial phases of land development until such time that major drainageway or sub-drainageway stabilization is needed. Having the drainage fund accumulate by not requiring a developer to install major drainageway improvements during the initial phase of the land development process will help the keep the drainage fund from becoming immediately in debt. It will also give the City time and some greater flexibility in focusing the capital improvement funds generated by the fee system. Managing the fees system in this way may also help the land development process by not front-end loading the very initial phases of development with the costs of major and sub-drainageway improvements that could very well be offsite from the land development activity itself.

The FSD storage cost can be used to develop a FSD storage fee. The unit storage fee can be assessed at the time of platting if the parcel subject to platting is so limited in size as to not to be feasible to site a regional FSD. In developing the FSD unit storage fee 15 percent has been added to the unit acre-foot construction cost presented on Table V-4 of the DBPS to bring the unit storage cost to 2014 dollars. Fees that accumulate in the FSD storage fund could later be used to reimburse a property owner that would be required because of its size to construct and FSD. It is however preferable to construct the regional FSD's at the earliest possible time during the development of a sub-watershed so that the impact of develop runoff on the receiving drainageway is mitigated.

Because the land area within the watershed and the land that is within the City is controlled by one major land owner it may be feasible to "close" the basin to fees. This would then end the need to collect drainage and FSD fees at the time of platting land. Accordingly, no reimbursement for any public major drainageway or FSD facilities would occur.

A bridge fee has not been calculated for this watershed. This is primarily because the number and location of bridges cannot be accurately determined, and the fact that any bridge or major roadway crossing would only have to be sized to convey pre-development condition discharges. In this regard, the cost of a bridge or culvert associated with a future road is based on the need for transportation and not storm water conveyance. It may be necessary to establish some form of interim fee to cover the cost of reimbursements already established under the present Jimmy Camp Creek bridge fee system.

Teble I[illegible]xisting Major Drainegeway Structure Inventory

Dralnageway	Dratnage Structure Description	Structure tnvantory #	Roadway	Structure Condition	Intet Channel Condition	Outlet Channel Condition	Existing 100-year (cfs)	Structure Capacity (cfs)	% of Exlsting 100-year Q
Jimmy Camp Creek	360' Bridge 3-spans	PR1	Old Pueblo Road	Good to Fair	Good	Fair	22,100	>24000	100
	244' Bridga Mulit-span	RR1	D & RGW RR	Good to Falr	Good to Fair	Good to Feir	22,100	>>24000	100
	220' Bridga 3-spens	O1	Ohio Avenua	Good to Feir	Good to Fair	Fair	22,100	19800	95
	190' Bridge 3-spans	LR1	Link Roed	Good	Good Floodplain well vegatated	Poor Headcut et outlet	21,880	26000	100
	4-48" X 29" CMP	PV1	Peeceful Velley Roed	Poor Mosliy clogged	Poor	Poor	17,360	< 200	<5
	Bridge	FB1	Fonlalna Boulaverd	Good	Good	Good Riprap channel	15,380	>16000	100
	360' Bridge 3-spans	B2	Bradley Roed	Good	Fair	Fair Benk sloughing along west benk	15,380	>18000	100
	54' Bridge 2-spans	DR3	Drennen Roed	Feir	Good	Low flow stable	5,760	>6500	100
	160' Bridge 4-spans	NF2	State Highway 94	Good	Good to Fair	Felr Bank sloughing elong west bank	4,760	15000	100
East Fork Jimmy Camp Creek	Twin CBC 8' x 12'	B4	Bradley Roed	Good	Good Chennel poorly defined	Good Chennel poorly defined	2,860	2400	84
	54' Bridge 2-spans	DR5	Drannan Road	Poor to Feir	Good	Good	1,720	>3000	100
	2-43" X 29" CMP	M7	Meridien Roed	Inlet bent Outlat rusted	Poor	Poor	1,610	140	<10
Marksheffel Tributery	Twin 72-inch CMP	MS2	Marksheffal Road	Poor No wingwalls	Good	Feir	950	300	32
	Detention Basin	MK1	Marksheffel Roed	Good	Good	Poor	1,920 in/950 out	na	100
	Triple 7' X 12' CBC	B3	Bradley Road	Good	Good Well vegeleted	Good Well vegeteted	1,640	2800	100
Corral Tributary	80' Bridga 2-spans	DR4	Drannan Roed	Fair Wingwalls in poor condition	Good Send invert	Poor Bank sloughing on west benk	11,550	>40000	100
	Triple 12' X 10' CBC	NF12	Stete Hghway 94	Good	Feir Wide sand Invert	Feir Wide sand Invert	3,230	>3750	100

(1) Bridge capacity equel to the bridge erea below the low chord et a velocity of 10 feet per second. Culvart cepacity besed upon inlet control at a HW/D equal to 1.

EXCERPTS FROM DBPS WEST FORK JIMMY CAMP CREEK

on the design plans. The purpose of the detention basins is to limit peak discharges at the basin's outfall to Jimmy Camp Creek to the existing hydrologic condition. The regional basins have also been sited within each of the major land developments to more locally control runoff to existing levels. Wherever practical, the regional detention basins should be designed so as to take advantage of the adjacent roadway embankments. It is not anticipated that any of the regional detention basins will be subject to State Engineer's regulations. Stormwater quality measures should be designed into the regional stormwater detention basins. These measures would include the provision of a water quality and sediment pool area in addition to the volume required for stormwater detention.

Right-of-Way

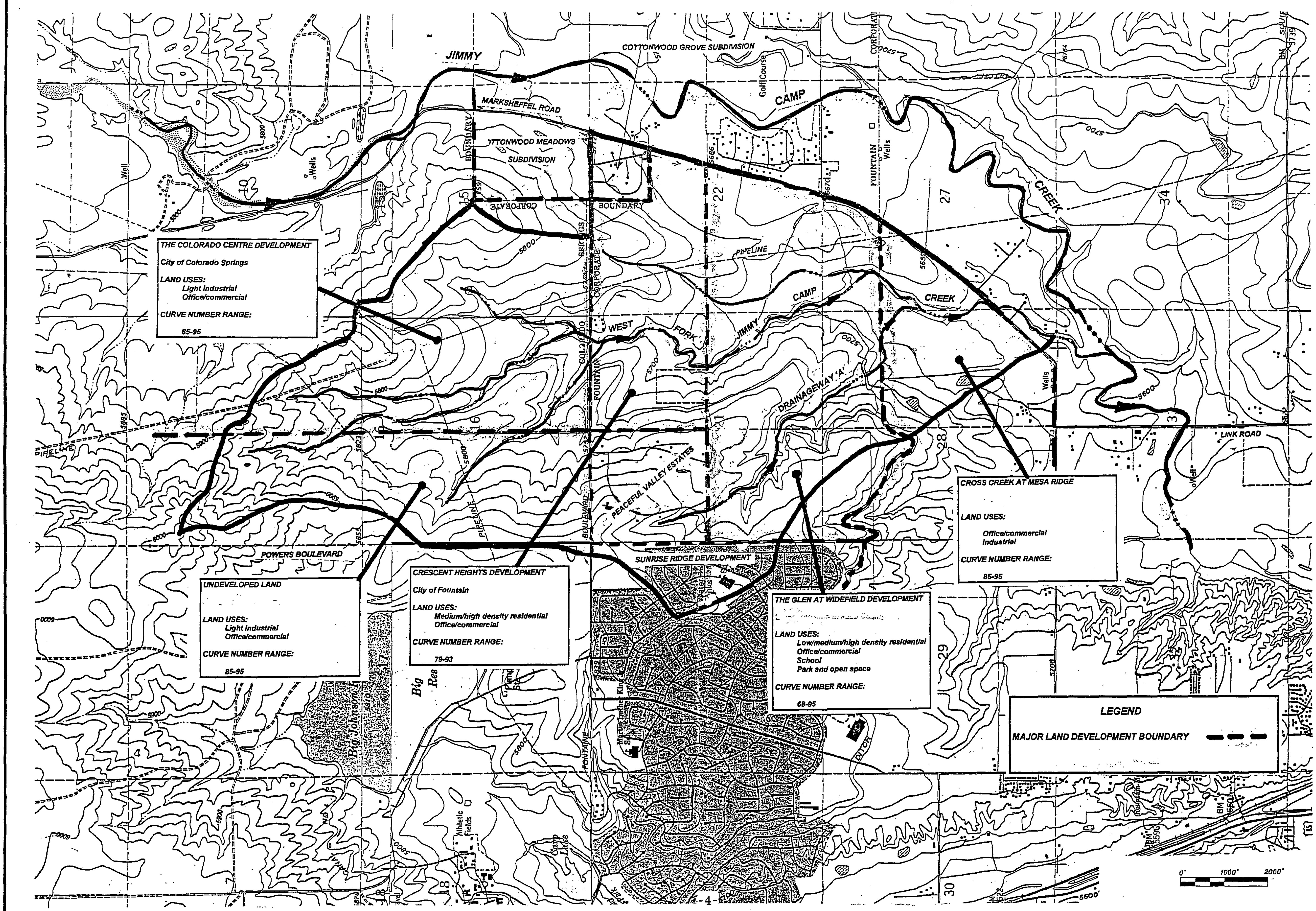
For the most part the main channels within the basin which pass through undeveloped areas and the right-of-way can be dedicated as part of the land development process. For those segments of the drainageway where floodplain preservation is the recommended plan, a combination of open space dedication (such as park-land and greenbelts), in combination with a more narrow dedicated right-of-way along the low flow area of the drainageway should be obtained through the land development process. Land acquisition will be required for the regional detention basins. The dedication of easements and right-of-way for the drainageways and detention basins would be accomplished at the time of development planning and platting of the parcels that lie adjacent to or upstream of the stormwater facility.

Cost Estimates and Drainage Basin Fees

Cost estimates have been prepared and are contained within the DBPS. The cost of the major drainageway facilities has been determined for each jurisdiction. The facility cost estimate will be used in the determination of the drainage and bridge fees for this basin. Bridge crossing costs have been determined as well for the basin.

Presented on Table 17 through 19 is the cost and plattable acreage (i.e., that area available for platting into subdivisions), data associated with the determination of drainage and bridge fees for the basin. The plattable acreage has been determined using a combination of assessor's maps, aerial photographs and topographic mapping that covering the watershed. As presented on Table 17, the reductions in the area available for platting have been listed. The reductions are mostly attributable to areas that are already platted, known roadway or planned road right-of-ways for minor and major arterials, and the area underlying the proposed detention basins.

Drainage basin fees have been determined for those areas that are within the City of Colorado Springs and El Paso County. The City of Fountain does not have a drainage basin fee system and therefore no fees have been calculated for the areas within the City of Fountain. The area of the basin within the City of Colorado Springs lies within the Colorado Centre development and the Banning-Lewis Ranch Flood Conservancy District (District). It is the intent of the City of Colorado Springs that the District will be responsible for all drainage, detention and bridge improvement construction and maintenance. Prior to any development within the City, specific agreements will have to be finalized between the City and the District. The drainage and bridge fees calculated for the County areas have been determined in accordance with Resolution No. 99-383. The percent impervious values listed on Exhibit 3 of this resolution where applied when calculating the weighted percent impervious value for the sub-basins within the County.



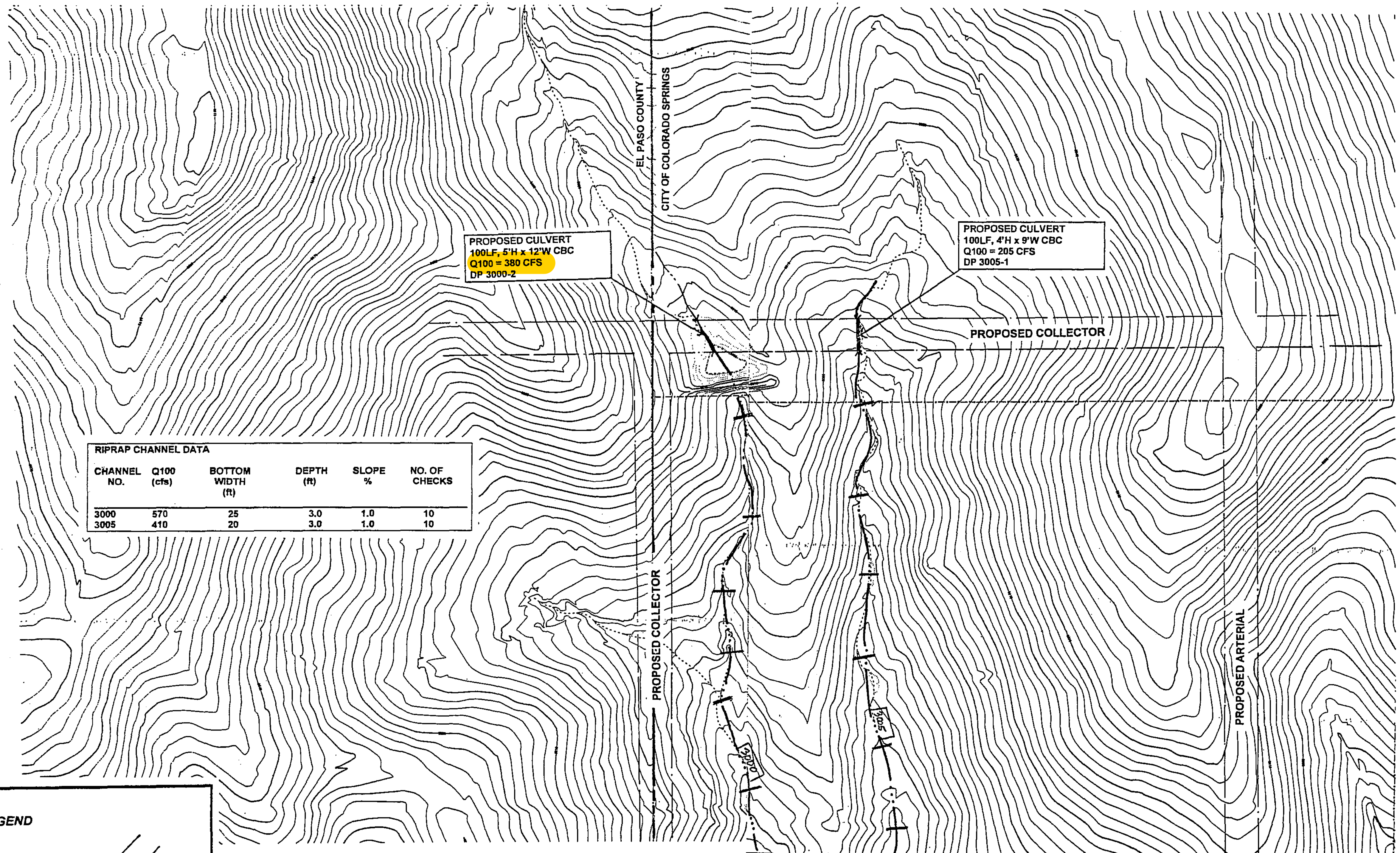
Kiowa Engineering Corporation
1604 South 21st Street
Colorado Springs, Colorado
80904
(719) 630-7342

West Fork Jimmy Camp Creek
Drainage Basin Planning Study
MAJOR DEVELOPMENT & LAND USE MAP
EL PASO COUNTY, COLORADO

Project No.: 9893
Date: 6/99
Design: RNW
Drawn: CAD
Check: RNW
Revisions:

FIGURE 2

THIS DRAWING IS A MASTER PLANNING SHEET REPRESENTING PRELIMINARY AND CONCEPTUAL ENGINEERING. IT SHOULD NOT BE USED FOR CONSTRUCTION PURPOSES.



RIPRAP CHANNEL DATA

CHANNEL NO.	Q100 (cfs)	BOTTOM WIDTH (ft)	DEPTH (ft)	SLOPE %	NO. OF CHECKS
3000	570	25	3.0	1.0	10
3005	410	20	3.0	1.0	10

LEGEND

ROADWAY CROSSING

DRAINAGEWAY AND ROUTING ELEMENT NUMBER 3015

DRAINAGEWAY GRADE CONTROL STRUCTURE

DESIGN POINT NUMBER 3021

0' 200' 400'

Kiowa Engineering Corporation
1604 South 21st Street
Colorado Springs, Colorado
80904
(719) 630-7342

WEST FORK JIMMY CAMP CREEK
DRAINAGE BASIN PLANNING STUDY
PRELIMINARY PLAN
EL PASO COUNTY, COLORADO

Project No.: 9893
Date: 2/00
Design: RNW
Drawn: CAD
Check: RNW
Revisions:

6

EXCERPTS FROM DBPS BIG JOHNSON RESERVOIR/CREWS GULCH

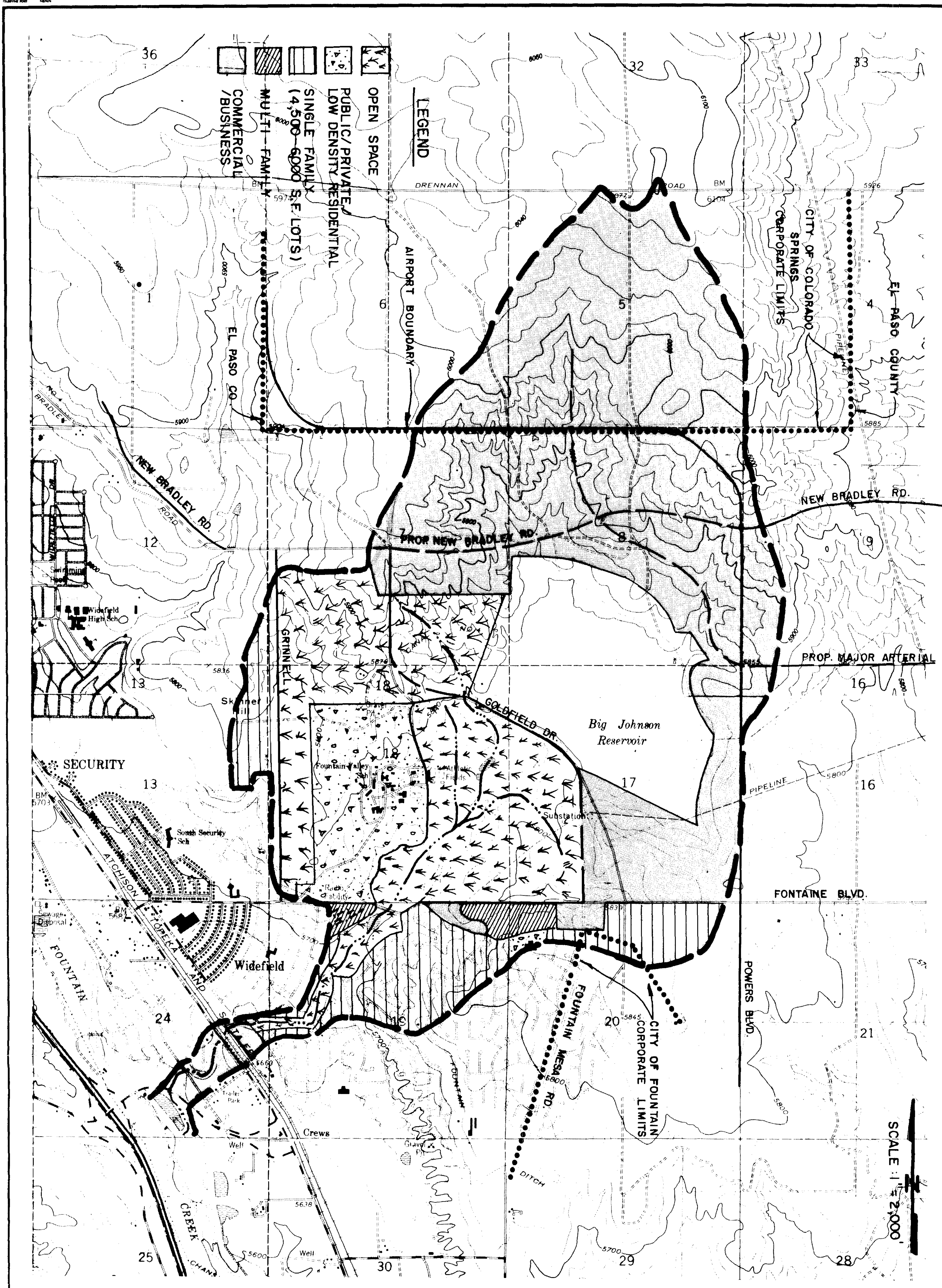


FIGURE 5

Project No.: 88-05-09
Date: 8-88
Design: RNW
Drawn: EAK
Check: RNW
Revisions:

BIG JOHNSON RESERVOIR/CREWS GULCH DRAINAGE BASIN PLANNING STUDY

LAND USE MAP

Kiowa Engineering Corporation

419 W. Bijou St.
Colorado Springs, CO 80905

TABLE 15

BIG JOHNSON RESERVOIR/CREWS GULCH DRAINAGE PLANNING STUDY   DRAINAGEWAY COSTS
PRELIMINARY DESIGN COST ESTIMATE

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL	NON-REIMBURSABLE COSTS	REIMBURSABLE COSTS
REACH 4 BOULDER LOW FLOW STA 96+00 TO 122+20	4180	LF	$58	$242,440	$0	$242,44
ST 32+85 GRADE CONTROL STRUCTURES (2 TOTAL)	100	LF	$88	$8,800	$0	$8,800
- 141-15 DROP STRUCTURES STA 109+25, 112-25, 117+25	120	LF	$336	$40,320	$0	$40,320
ENERGY DISSAPATOR STA 82+85	1	LS	$80,000	$80,000	$40,000	$40,000
2.5'x8' CBC, STA 106+75	50	LF	$380	$19,000	$19,000	$0
36" PCCP AND HEADWALL	520	LF	$150	$78,000	$0	$78,000
PRESSURE MANHOLE	1	LS	$5,000	$5,000	$0	$5,000
MC RAE RESERVOIR IMPROVEMENTS						
SHEET PILE WALL	27900	SF	$20	$558,000	$279,000	$279,000
OUTLET RECONSTRUCTION (18"CSP)	1	LS	$8,000	$8,000	$8,000	$0
TWIN 48"INCH REHABILITATION	1	LS	$10,000	$10,000	$0	$10,000
20' MAINTENANCE BENCH	870	LF	$30	$26,100	$0	$26,100
RIPRAP EMBANKMENT PROTECT. FONTAINE BLVD	820	CY	$24	$19,680	$0	$19,680
EARTHWORK	2000	CY	$3	$6,000	$0	$6,000
BIG JOHNSON RESERVOIR IMPROVEMENTS						
WATER QUALITY PONDS	67.0	AC-FT	$10,000	$670,000	$0	$670,000
EMBANKMENT ROAD RECONSTRUCTION	1500	LF	$25	$37,500	$0	$37,500
RIPRAP SPILLWAY CREST PROTECTION	1960	CY	$24	$47,040	$0	$47,040
DROP INLET AND TRASH RACK	1	LS	$7,000	$7,000	$0	$7,000
3' FOOT HIGH CONTOUR BERMS	4400	LF	$15	$66,000	$0	$66,000
SUBTOTAL REACH 4				$1,926,880	$346,000	$1,58[illegible],88[illegible]

correcting existing deficiencies within the basin (non-reimbursable costs). Construction funding for these facilities will have to be provided through other funding mechanisms. A suggested allocation of the non-reimbursable cost has been presented on Table 18. The construction of initial systems within the basin will not be reimbursable, and shall be the responsibility of the property owner or developer.

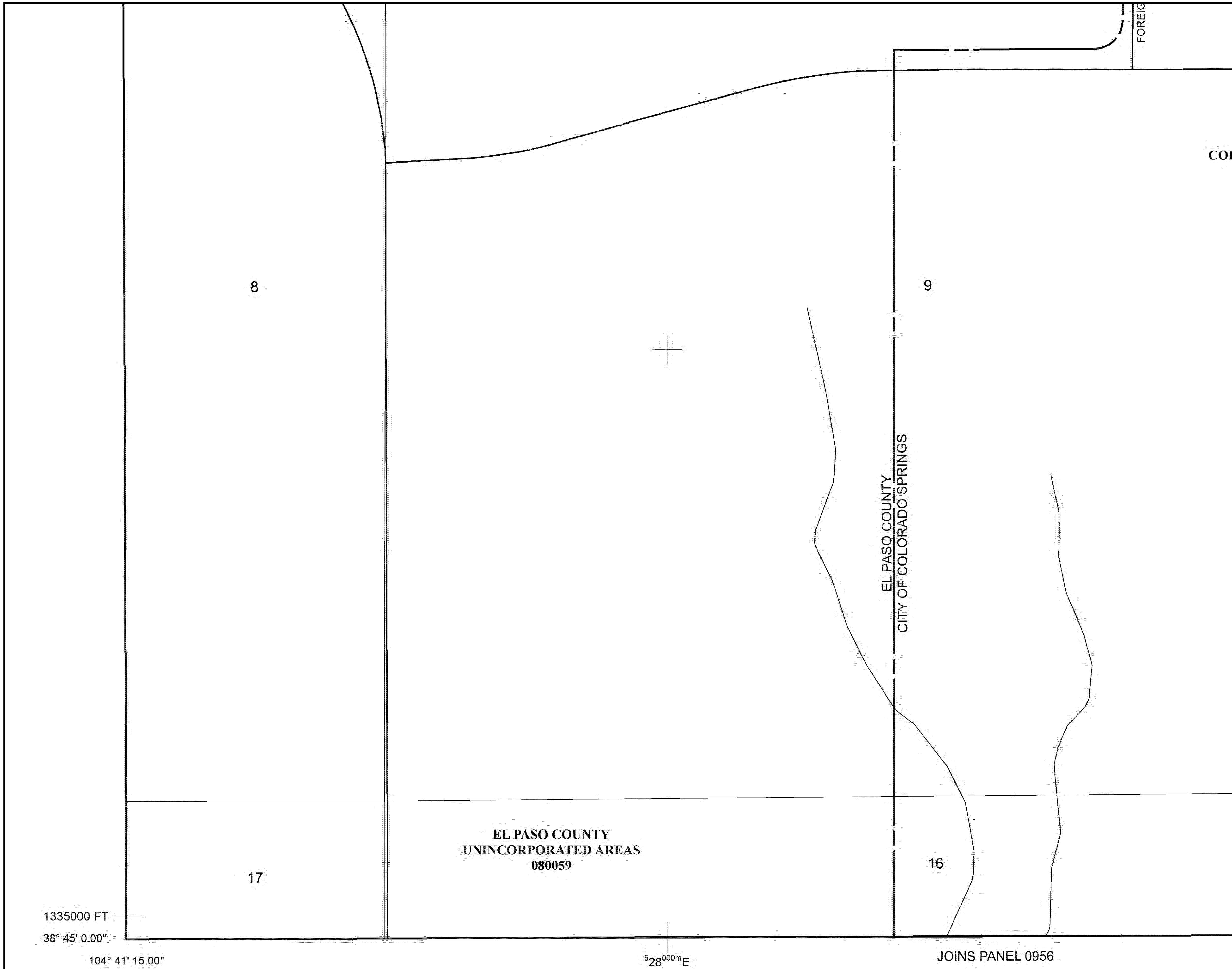
Table 19 presents the fee calculation for the Big Johnson/Crews Gulch Basin. Drainage fees have been calculated using the reimbursable costs shown on Table 15. Reimbursable road crossing replacement costs at locations where there is an existing inadequacy have been calculated using the bridge cost-sharing formula, as per Resolution number 89-31. The land fee has been estimated without the acreage associated with channel right-of-ways, McRae Reservoir, and the detention/water quality ponds above Powers Boulevard. Easements establishing long-term construction and maintenance access for the channels crossing the Fountain Valley School property and for the water quality ponds at Big Johnson Reservoir, as well as for all public facilities, will be needed.

Implementation

The proposed plan separates the basin into three distinct systems, namely, the Crews Gulch system (Reaches 1 through 4), the Big Johnson system (Reach 5), and the Fountain Mesa Tributary system (Reach 3A). These systems will be impacted differently by land development, and therefore, the prioritization of improvements is dependent upon differing factors in each of these basins. A discussion of implementation follows:

Crews Gulch: Of primary importance in this basin are the improvements to McRae Reservoir. Substantial park improvements exist downstream of McRae Reservoir, and more are proposed at Fountain Creek Regional Park. Adjacent to Harvard Street the potential for flood damages to residences exists for the 100-year event. McRae Reservoir's flood history is well documented, and

FIRMETTE



MAP SCALE 1" = 500'

250 0 500 1000 FEET

METERS 150 0 150 300

NATIONAL FLOOD INSURANCE PROGRAM

NFIP

PANEL 0768G

FIRM

FLOOD INSURANCE RATE MAP

EL PASO COUNTY, COLORADO

AND INCORPORATED AREAS

PANEL 768 OF 1300

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS

COMMUNITY	NUMBER	PANEL	SUFFIX
COLORADO SPRINGS, CITY OF	080060	0768	G
EL PASO COUNTY	080059	0768	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
08041C0768G

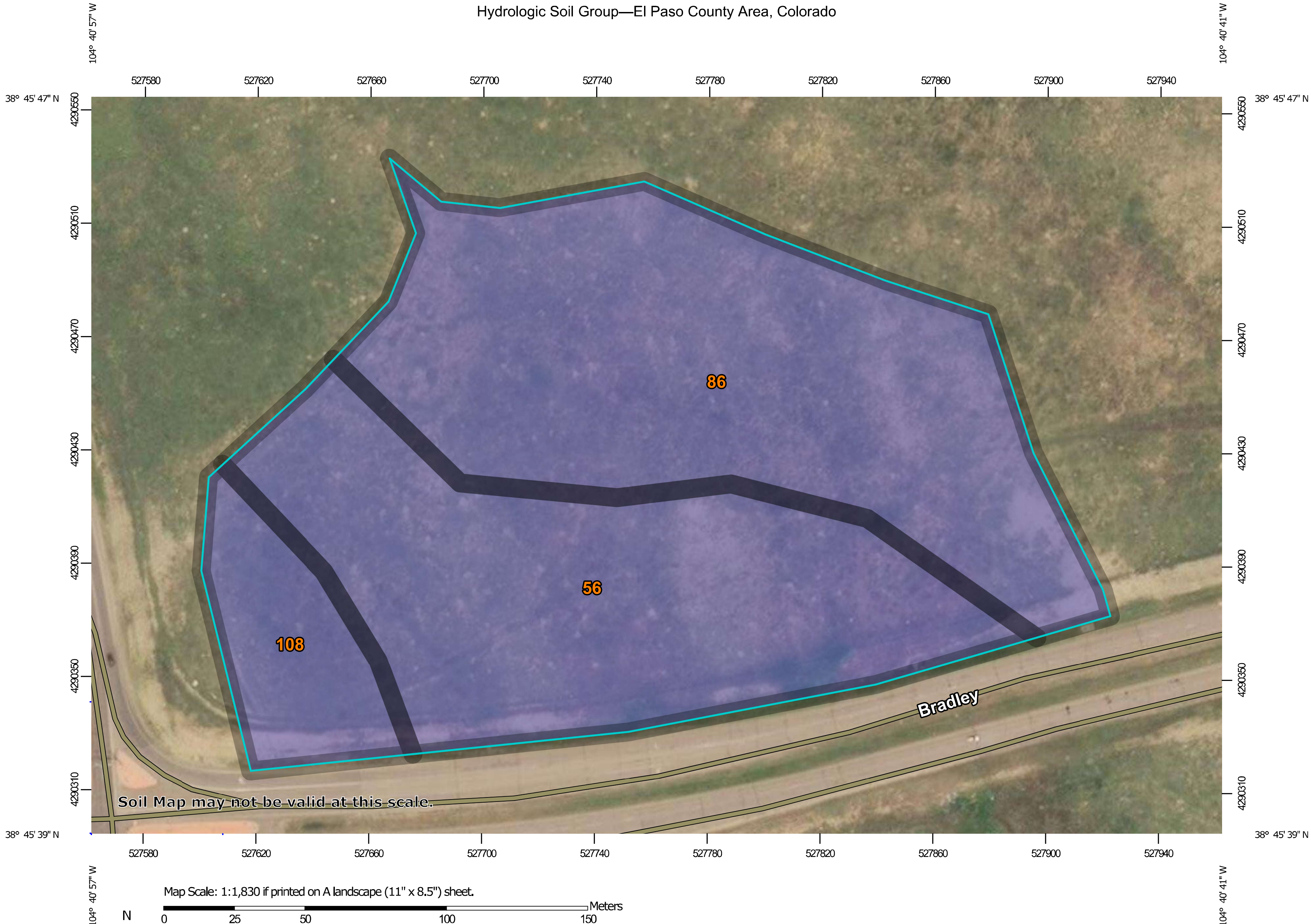
MAP REVISED
DECEMBER 7, 2018

Federal Emergency Management Agency

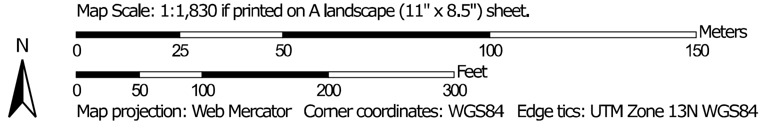
This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program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

USDA NRCS WEB SOIL SURVEY REPORT

Hydrologic Soil Group—El Paso County Area, Colorado



Map Scale: 1:1,830 if printed on A landscape (11" x 8.5") sheet.



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

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- 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: Apr 12, 2017—Nov 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.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
56	Nelson-Tassel fine sandy loams, 3 to 18 percent slopes	B	4.8	41.2%
86	Stoneham sandy loam, 3 to 8 percent slopes	B	5.7	49.2%
108	Wiley silt loam, 3 to 9 percent slopes	B	1.1	9.6%
Totals for Area of Interest			**11.6**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

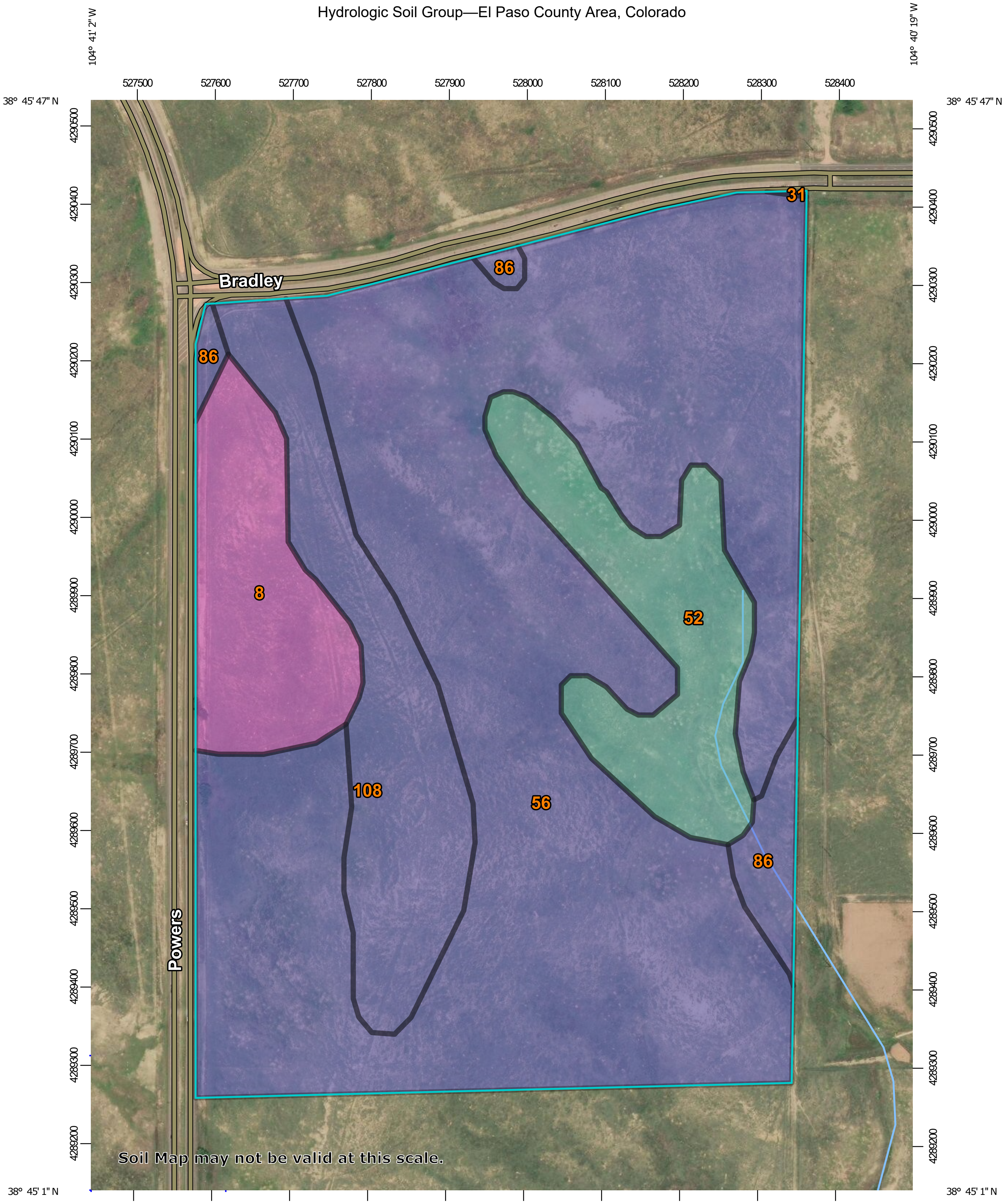
If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher



Map Scale: 1:6,790 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0, 100, 200, 400, 600

Feet: 0, 300, 600, 1200, 1800

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

5/8/2019

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- 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: Apr 12, 2017—Nov 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.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
8	Blakeland loamy sand, 1 to 9 percent slopes	A	17.8	8.6%
31	Fort Collins loam, 3 to 8 percent slopes	B	0.0	0.0%
52	Manzanst clay loam, 0 to 3 percent slopes	C	21.0	10.2%
56	Nelson-Tassel fine sandy loams, 3 to 18 percent slopes	B	137.7	66.8%
86	Stoneham sandy loam, 3 to 8 percent slopes	B	5.3	2.6%
108	Wiley silt loam, 3 to 9 percent slopes	B	24.3	11.8%
Totals for Area of Interest			**206.0**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

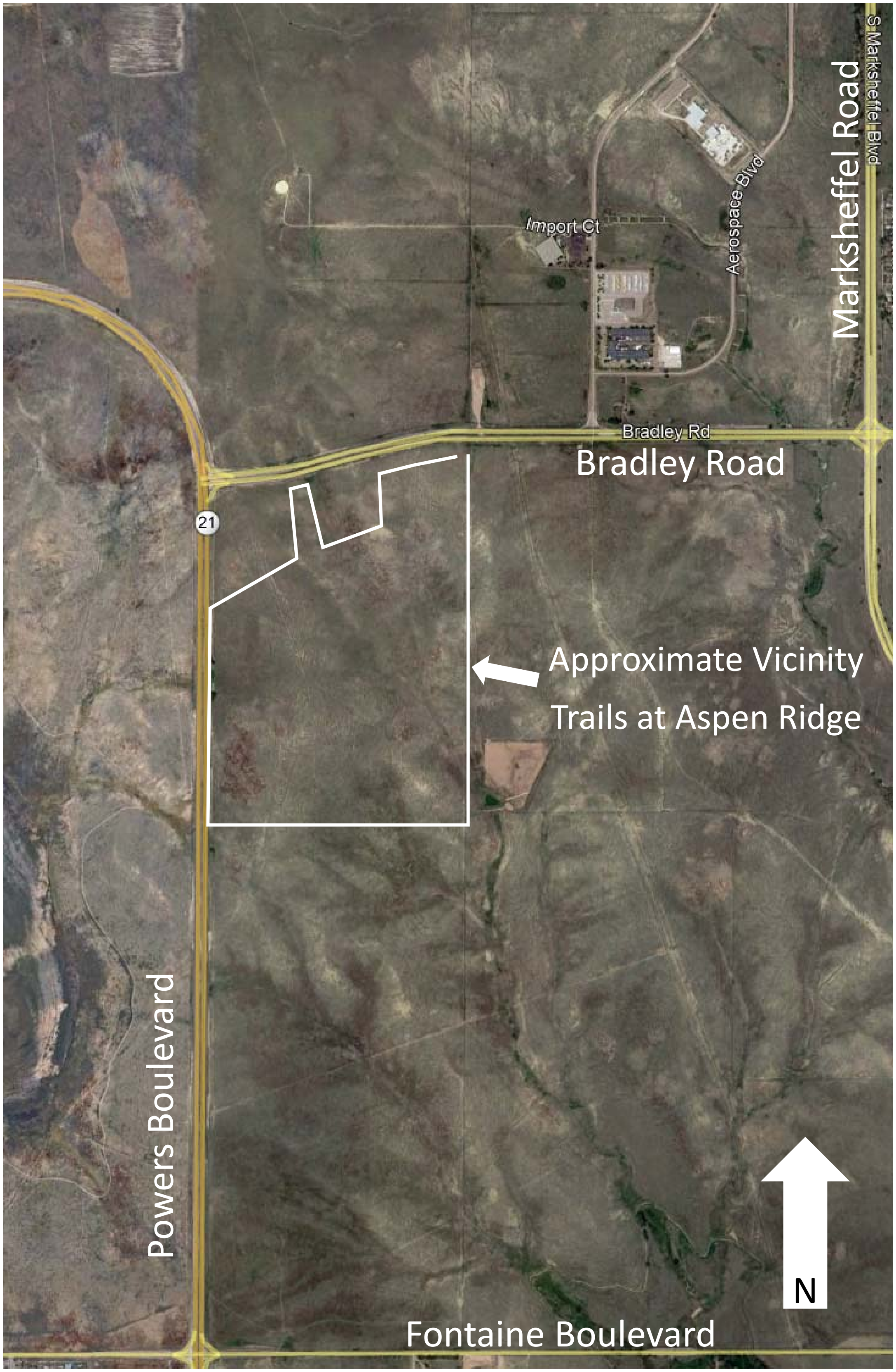
Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

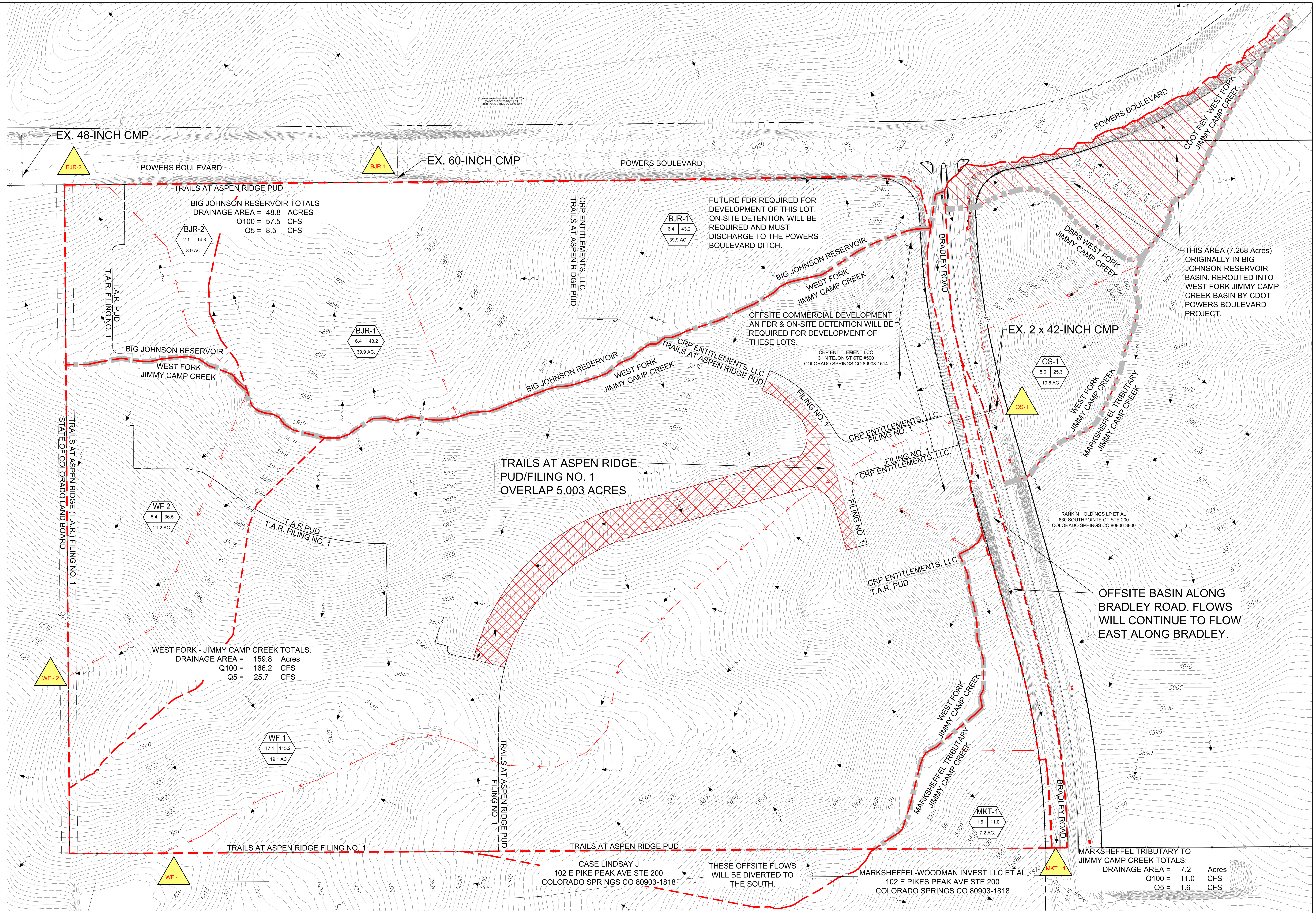
APPENDIX D

MAPS



Trails at Aspen Ridge Vicinity Map

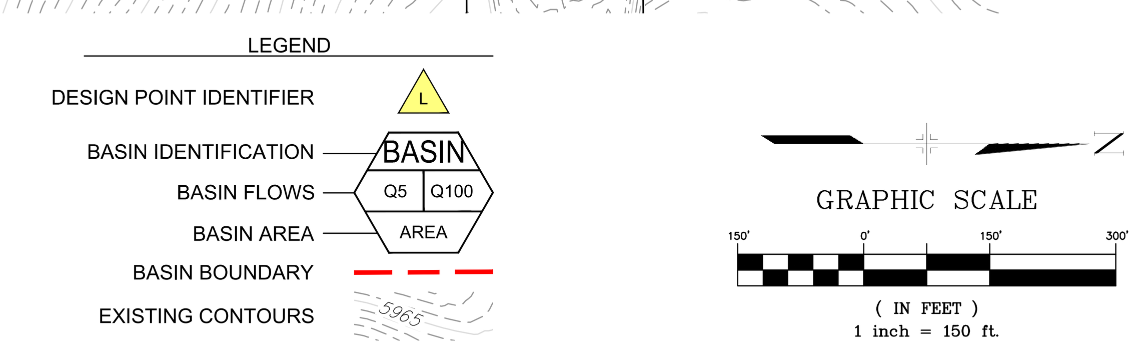
811 Know what's below. Call before you dig.



Trails at Aspen Ridge MDDPA & PDR Existing DP Summary				
Design Point	**Sub-Basins**	**Total Area (ac.)**	**Q(5) (cfs)**	**Q(100) (cfs)**
BJR-1	BJR-1	39.94	6.43	43.22
BJR-2	BJR-2	8.85	2.13	14.32
TO BIG JOHNSON RESERVOIR	BJR-1 & BJR-2 (Basins are parallel so this is a sum of BJR-1 & BJR-2.)	**48.79**	**8.56**	**57.54**
OS-1	OS-1	19.60	11.8*	47.4*
WF-1	WF-1 & OS-1	138.69	33.2*	139.1*
WF-2	WF-2	21.15	5.5*	31.1*
TO WEST FORK JIMMY CAMP CREEK	WF-1, WF-2, & OS-1 (Basins are parallel so this is a sum of WF-1 & WF-2.)	**159.84**	**37.0***	**170.0***
MKT-1 TO MARKSHEFFEL TRIBUTARY TO JIMMY CAMP CREEK	MKT-1	**7.21**	**1.63**	**10.95**
*SWMM Values	Overall Totals:	215.84	32.63	213.84

Trails at Aspen Ridge MDDPA & PDR Existing Conditions Basin Summary Table			
Area ID	**Area (Acres)**	**Q5 (cfs)**	**Q100 (cfs)**
Big Johnson Reservoir / BJR-1	39.94	6.43	43.22
Big Johnson Reservoir / BJR-2	8.85	2.13	14.32
West Fork Jimmy Camp Creek / OS - 1	19.60	11.8*	47.4*
West Fork Jimmy Camp Creek / WF-1	119.08	33.2*	139.1*
West Fork Jimmy Camp Creek / WF-2	21.15	5.5*	31.1*
Markstheffel Tributary to Jimmy Camp Creek / MKT-1	7.21	1.63	10.95

*SWMM Values



REFERENCE DRAWINGS
X-886-PR SITE_F1
X-886-PR SITE
10415-Storm Base-2017
886-PR Legacy Drive
X-886-EX SURVEY
X-Title(Drainage)

NO.	DATE	DESCRIPTION	BY

REVISIONS

NAME: S:\19.886.008 Trails at Aspen Ridge\200 Drainage\201 Drainage Reports\MDDP\DWG\DR01.dwg
PCP: Matrix.ctb
PLOT DATE: Mon Aug 05, 2019 3:09pm

BENCHMARK DATA(ELEV.) __________
(DATUM) __________
(DESCRIPTION/LOCATION) __________

VERTICAL BENCHMARK:

BASIS OF BEARING:

NOT FOR CONSTRUCTION PURPOSES

Matrix DESIGN GROUP
2435 Research Parkway, Suite 300 Colorado Springs, CO 80920
Phone 719-575-0100
Fax 719-575-0208

COLA, LLC.

TRAILS AT ASPEN RIDGE: FILING #1 & PUD

MDDP-AMENDMENT & PRELIMINARY DRAINAGE REPORT

DESIGNED BY: JTS
DRAWN BY: JTS
CHECKED BY:

SCALE
HORIZ:
VERT:

DATE ISSUED: AUGUST 2019
SHEET NO. 1 OF 2 SHEETS

DR-01

Trails at Aspen Ridge Proposed Conditions - Sub-basin Summary			
Basin	Area	Q5	Q100
	acres	cfs	cfs
West Fork-Jimmy Camp Creek			
West Fork-Jimmy Camp Creek OS-1	19.6	1.1	16.2
A	18.5	5.0	34.6
B	1.1	2.5	7.0
C	14.9	19.5	58.9
D	2.2	4.1	14.2
E	8.6	12.8	39.1
F	13.1	15.4	46.2
G	1.1	2.1	6.1
H	23.5	26.8	80.4
I	7.9	10.5	31.8
J	5.3	11.1	32.7
K	32.5	33.3	101.7
West Fork-Jimmy Camp Creek M	10.3	14.2	61.8
R	1.9	1.7	7.8
Big Johnson Reservoir			
Big Johnson Reservoir N	14.10	21.2	46.8
O	11.72	16.8	37.1
P	8.52	22.0	43.9
Q	2.43	4.9	10.3
OS-2	11.44	1.7	11.7
Marksheffel Tributary to Jimmy Camp Creek			
Marksheffel Tributary to Jimmy Camp Creek L	5.3	17.2	32.2
BR1	0.3	0.8	1.6
BR2	2.8	2.9	7.4

Trails at Aspen Ridge
Big Johnson Reservoir
Proposed Design Point Summary

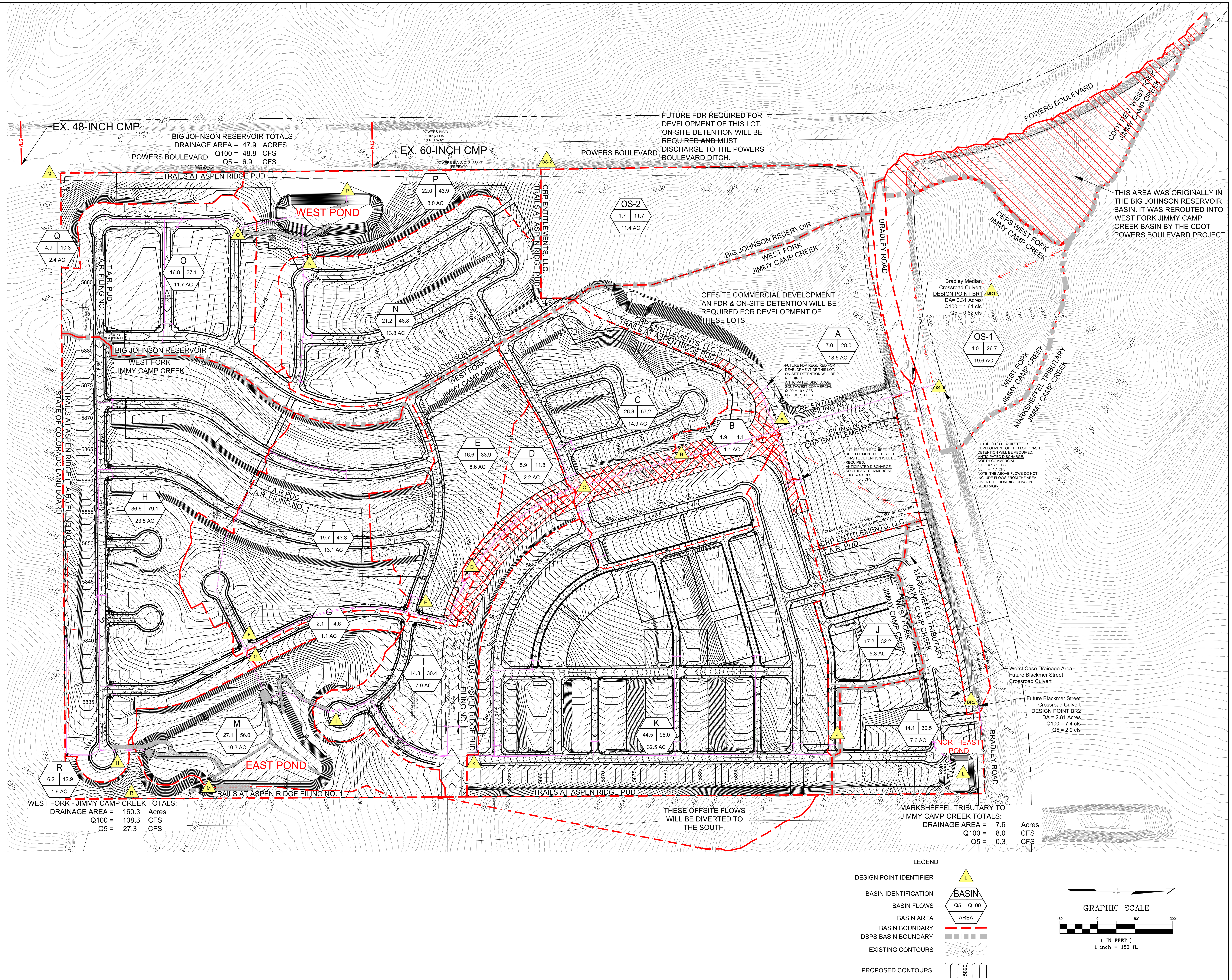
Design Point	Sub-Basins	Downstream Design Point	Total Area (ac.)	Q(5) (cfs)	Q(100) (cfs)
N	N	P	14.1	21.2	46.8
O	O	P	11.7	16.8	37.1
P (Into West Pond)	N, O, P	West Pond Discharge	34.3	47.1	100.6
West Pond Discharge (UD-Detention)	N, O, P	Powers Ditch		1.0	28.3
Q	Q	Powers Ditch	2.4	4.9	10.3
OS-2	OS-2	Powers Ditch	11.4	1.7	11.7

Trails at Aspen Ridge
West Fork - Jimmy Camp Creek
Proposed Design Point Summary

Design Point	Sub-Basins	Downstream Design Point	Total Area (ac.)	Q(5) (cfs)	Q(100) (cfs)
OS-1	OS-1	A	19.6	4.0	26.7
A	OS-1 & A	B	38.1	11.6	57.5
B	OS-1, A, B	C	39.1	12.4	58.5
C	OS-1, A, B, C	D	54.0	27.3	90.3
D	OS-1, A, B, C, D	E	56.2	30.2	95.6
E	OS-1, A, B, C, D, E	F	64.8	39.3	111.6
F	F	G	13.1	19.7	43.3
G	OS-1, A, B, C, D, E, F, G	M	79.0	46.9	125.9
H	H	M	23.5	36.6	79.1
J	J	K	5.3	17.2	32.2
K	J, K	I	37.7	57.2	121.7
I	J, K, I	M	45.6	59.7	127.2
M (Into East Pond	OS-1, A, B, C, D, E, F, G, J, K, I, H, M	East Pond Discharge	158.4	122.6	287.5
East Pond Discharge (SWMM)	OS-1, A, B, C, D, E, F, G, J, K, I, H, M	Offsite Swale		21.1	127.4
R	R	Offsite Swale	1.9	6.2	12.9

Trails at Aspen Ridge
Marksheffel Tributary to Jimmy Camp Creek
Proposed Design Point Summary

Design Point	Sub-Basins	Downstream Design Point	Total Area (ac.)	Q(5) (cfs)	Q(100) (cfs)
L	L	Northeast Pond Discharge	7.6	14.1	30.5
Northeast Pond Discharge	L	Bradley Road Ditch		0.3	8
BR1	BR1	Bradley Road Ditch	0.3	0.8	1.6
BR2	BR2	Bradley Road Ditch	2.8	2.9	7.4



REFERENCE DRAWINGS
X-886-PR SITE_F1
X-886-PR SITE
10415-Storm Base-2017
X-886-PR STORM
X-Title(Drainage)
X-886-PR STORM_F1
886-PR Legacy Drive-Roundabout
886-PR Legacy Drive

NO.	DATE	DESCRIPTION	BY

REVISIONS

NAME: \\Eros\Projects\19.886.008 Trails at Aspen Ridge\200 Drainage\201 Drainage Reports\MDDP\DWG\DR02-MDDP Basins_1_8325_2357.sv$.dwg
PCP: Matrix.ctb
PLOT DATE: Mon Sep 23, 2019 9:57am

BENCHMARK DATA(ELEV.)
(DATUM)
(DESCRIPTION/LOCATION)

VERTICAL BENCHMARK:

BASIS OF BEARING:

PREPARED UNDER MY DIRECT SUPERVISION, FOR AND ON BEHALF OF MATRIX DESIGN GROUP, INC.

Matrix DESIGN GROUP
2435 Research Parkway, Suite 300 Colorado Springs, CO 80920
Phone 719-575-0100
Fax 719-575-0208

COLA, LLC.

TRAILS AT ASPEN RIDGE: FILING #1 & PUD
MDDP-AMENDMENT & PRELIMINARY DRAINAGE REPORT

DESIGNED BY: JTS
DRAWN BY: JTS
CHECKED BY:
SCALE
HORIZ:
VERT:
DATE ISSUED: September 2019
SHEET NO. 2 OF 2 SHEETS
DR-02