

**STORMWATER MANAGEMENT STUDY  
FOR  
THE VILLAGE AT BAILEY'S POND**

**ROUTE 150 & SUMMIT AVENUE  
AMESBURY, MASSACHUSETTS**

Prepared for:

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Project 12013  
October 2015



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### The Village at Bailey's Pond

Summit Ave and Rte 150  
Amesbury, Massachusetts

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### SITE LOCATION USGS MAP

DRAWN BY:  
SPM

CHECKED BY:  
SPM

FIGURE NO.

SCALE:  
AS NOTED

DATE:  
10/1/15

**1**



## 1.0 INTRODUCTION

Oak Consulting Group has prepared the following Stormwater Management Study for the redevelopment of a former gravel pit in Amesbury, Massachusetts. The objective of this study was to engineer a drainage design using Best Management Practices (BMPs) that meet the Stormwater Management Standards set forth in the Massachusetts Department of Environmental Protection's (MA DEP's) Stormwater Policy and standard engineering practice.

The Project Area is located on Bailey's Pond, with access from Beacon Street, Summit Avenue, and Route 150. The project consists of redevelopment of an abandoned gravel pit for a new residential condominium with associated parking, utility, lighting, landscape, and drainage improvements.

The total area of disturbance is approximately 18.0 acres. Portions of the proposed work area are within buffers to wetlands resource areas subject to protection under the Wetlands Protection Act and the local bylaw. The project has been designed to minimize and mitigate disturbance in these buffers and to help protect Bailey's Pond.

### 1.1 Existing Conditions

The site of the proposed project is situated on the north and west sides of Bailey's Pond in areas that were formally used for the mining and export of gravel and sand. The project area is bisected by a culverted stream which daylight on the north end of the property, adjacent to Summit Avenue, and flows into the pond. The day-lighted portion of the stream on the site is subject to protection by the 200-foot Riverfront Area buffer.

Bailey's Pond covers approximately 12.5 acres and its water elevation is controlled by a weir structure at the south end, adjacent to an existing parking area on the north side of Merrimack Street. Overflow from the pond outletted by this structure is piped underground, south across Merrimack Street through the former Merrimack Hat Factory building, and discharged to the Merrimack River.

In addition to the stream there are four observed drainage outlets that contribute offsite drainage to the project area and the pond. These outlets consist of 12- to 18-inch culverts projecting from the side slopes of the site and do not provide any stormwater detention or treatment. High stormwater flows through these culverts have caused some significant erosion at these outfalls. This erosion was observed to have undermined some of the culvert headwalls and eroded deep rills through the sandy site, depositing sediment into the pond.

The project area has been significantly altered over the years. It appears mining operations removed a significant amount of native material. As a result of these operations, the site slopes steeply down from Route 150 and Summit Avenue with a 30- to 40-foot change in elevation, and then flattens at the base, with a more moderate slope across the site. Adjacent to the pond, the slope again drops steeply 6 to 8 feet to the pond elevation. Existing ground cover consists predominantly of a weedy brush and exposed earth in most areas of the former gravel pit. Some tree stands providing forest cover existing primarily around the perimeter of the site, the pond, and stream.

As noted above, the site was previously used as a gravel pit. It is not known when this operation took place or for how long, however an aerial photograph from 1966 shows the project area completely denuded and void of vegetation. Twenty three test pits were conducted on site in November 2004. As expected these tests revealed consistent gravel and sandy material throughout the site with rapid

percolation rates greater than 2 minutes per inch. Because the site had undergone significant alteration, the estimation of seasonal high ground water throughout most of the site was inconclusive. Test pits revealed a top layer of miscellaneous fill and disturbed soil of varying depth with soil mottling observed immediately below the fill layers in most locations. It was concluded that the soil mottling observed was likely relic and was not indicative of current seasonal high ground water levels. Mean High Water of the pond is estimated to be approximately 28.0. Based on the rapid infiltration of water through the soil, it is believed seasonal high groundwater is at or near the pond mean high water elevation.

## 1.2 Proposed Conditions

The project proposes construction of 26 buildings on the ±24-acre site along with new roads, driveways and drainage system. The drainage system has been designed to manage existing off-site culvert outfalls and to mitigate the impacts of development to stormwater runoff from the site. Controlling stormwater runoff together with the new lawn and landscaped areas between and around the proposed buildings will also help to stabilize the site.

The proposed drainage design focuses on filtering and infiltrating runoff to the ground. Infiltration of stormwater will effectively mimic the pre-development drainage condition by helping to control the rate and volume of runoff from the site and recharging runoff generated by new impervious areas to the ground.

Stormwater treatment is provided primarily through the use pre-treatment devices such as deep sump catch basins and sediment forebays prior to directing runoff to infiltration basins spread throughout the project area. The infiltration areas are shallow (1-3' deep) grassed basins with a stone infiltration trench or drywell to help promote infiltration. These stormwater treatment areas are designed to capture, retain and treat at least the first inch of runoff from impervious areas, known as the "first flush."

## 1.3 Methodology

Drainage conditions of the project area were analyzed in both the pre-development and post-development condition using the computer program HydroCAD. This program utilized the SCS TR-20 drainage model to generate estimated peak rates of runoff for the Subcatchment areas modeled. The site is characterized by a single watershed to Bailey's Pond. The pre-development analysis divided the site into seven sub-catchments based on the locations of offsite drainage outfalls and the discharge points of eroded channels. In the post-development analysis the watershed to the pond was broken down to 40 subcatchment areas to analyze the proposed BMP's for the project. The Pre-Development Watershed Plans and Post-Development Watershed Plans depicting the sub-areas analyzed can be found in Appendices A and B, respectively.

## 2.0 STORMWATER MANAGEMENT STANDARDS

The plans included with this drainage study present the existing and proposed storm drain systems and erosion control measures proposed for the project. The stormwater BMPs were designed to meet and exceed the performance standards of the Stormwater Policy. The measures taken to address each of the standards are presented below.

### 2.1 No New Untreated Discharges (Standard 1)

The proposed project will not result in new untreated discharges. Stormwater runoff from off-site and generated on the project site flows overland and via existing drain pipes to Bailey's Pond. Runoff from the proposed project area and new impervious areas will be captured, treated to remove total suspended solids (TSS), and infiltrated on site. Treated runoff not infiltrated on site will be discharged at a rate not to exceed and at approximately the same location as the pre-development condition.

### 2.2 Peak Rate Attenuation (Standard 2)

The Post-development rate and volume of runoff from the site will be less than the Pre-development Conditions. HydroCAD stormwater calculations for the 25- and 100-year design storms are provided in Appendices A and B, and the 2- 10- 25-, and 100-year storm events are summarized in the table below. The existing and proposed drainage conditions were evaluated at the point of discharge to the pond.

Table 2.2.1

	<b>Peak Rate of Runoff for <u>2-Year Storm Event (3.1")</u></b>	<b>Peak Rate of Runoff for <u>10-Year Storm Event (4.6")</u></b>	<b>Peak Rate of Runoff for <u>25-Year Storm Event (5.5")</u></b>	<b>Peak Rate of Runoff for <u>100-Year Storm Event (6.7")</u></b>
Pre-development	3.34 cfs	8.43 cfs	13.91 cfs	23.58 cfs
Post-development	3.31cfs	4.95 cfs	5.93 cfs	11.69 cfs
Change (cfs)	-0.03 cfs	-3.48 cfs	-7.98 cfs	11.89 cfs
Change (%)	<b>-1%</b>	<b>-41%</b>	<b>-57%</b>	<b>-50%</b>

Table 2.2.2

	<b>Volume of Runoff for <u>2-Year Storm Event (3.1")</u></b>	<b>Volume of Runoff for <u>10-Year Storm Event (4.6")</u></b>	<b>Volume of Runoff for <u>25-Year Storm Event (5.5")</u></b>	<b>Volume of Runoff for <u>100-Year Storm Event (6.7")</u></b>
Pre-development	0.577 acft	1.447 acft	2.202 acft	3.425 acft
Post-development	0.269 acft	0.460 acft	0.702 acft	1.211 acft
Change (cfs)	-0.308 acft	-0.987 cfs	-1.50 acft	-2.214 acft

Change (%)	-53%	-68%	-68%	-65%
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As shown above, there will be a net decrease in the rate and volume of runoff to Bailey’s Pond in the post-development condition.

### 2.3 Groundwater Recharge (Standard 3)

The performance standards require an approximate restoration of groundwater recharge in post-development conditions. Soil data was obtained from multiple test pits previously conducted on site. Soils were classified as sands and gravels with a hydrologic Soil Group A. The project will create a net increase of 6.95 acres of impervious area in the form of new building roofs and drives. The MADEP recharge standard for Group A soils (0.60 in./imperv. area) was applied to the entire additional impervious area to determine the minimum amount of recharge required.

$$\text{Volume required} = 6.95 \text{ acre} \times (43,560 \text{ ft}^2/\text{acre}) \times (0.6 \text{ in}) / (12 \text{ in/ft}) = \underline{15,130} \text{ cubic feet}$$

The project will use infiltration basins for stormwater treatment and groundwater recharge. These basins were sized to capture and hold greater than the required stormwater treatment volume for the site. This volume is the first inch of runoff from the contributing impervious areas. This volume was calculated to be 25,229 cf. The treatment volume will be pretreated then held in the infiltration areas and filtered as the runoff percolates through the soil and recharges groundwater. Using the Static Method, the infiltration areas have been calculated to recharge 48,576 cubic feet of water to the aquifer.

$$\text{Total Recharge Volume provided} = \underline{48,576} \text{ cubic feet}$$

The proposed groundwater infiltration systems were designed and modeled as “ponds” in HydroCAD. Based on the soil characterization as sand, an infiltration rate of 8.27 inches/hour was obtained from Rawls Tables as required by the Stormwater Policy. Percolation tests previously performed on site resulted in rates of <2 minutes per inch (30 inch/hour); however, the use of percolation rates for stormwater infiltration is not allowed by the stormwater regulations and therefore the more conservative Rawls rate was used.

### 2.4 Water Quality (Standard 4)

Runoff generated by the site will be treated to remove at least 80 percent of the total annual load of Total Suspended Solids (TSS). Runoff from the new driveway areas will directed to infiltration areas described above primarily via drainage pipes. Pretreatment of runoff to these areas will be primarily provided by a grassed filter strips, deep sump catchbasins, and sediment forebays. The only new impervious areas not directed to the stormwater management system consist of portions of the roof of six buildings closest to the pond. Because this is roof runoff it is considered clean. A summary of the required treatment volumes can be found in Appendix C.

### 2.5 Land Use with Higher Potential Pollutant Loads (LUHPPLs) (Standard 5)

The proposed project involves the construction of a residential development. This use is not associated with higher potential pollutant loads.

## 2.6 Critical Areas (Standard 6)

The site does not contain critical environmental resource areas. Stormwater generated from the site will be infiltrated or treated and released to Bailey's Pond.

## 2.7 Redevelopments and Other Projects Subject to the Standards Only to the Maximum Extent Practicable (Standard 7)

A "redevelopment" project is defined in the MA DEP Stormwater Policy as: "Development, rehabilitation, expansion, and phased projects on previously developed sites, provided the redevelopment results in no net increase in impervious area."

The proposed project does not meet this definition of a redevelopment project and the proposed stormwater management system is in full compliance with stormwater regulations for new development projects.

## 2.8 Construction-Period Pollution Prevention and Erosion and Sedimentation Control (Standard 8)

Below is a summary of the erosion and sediment control procedures. Additional detail can be found on Sheet C-601, Erosion Control Notes, and details provided on the project plans.

Land-disturbing activities proposed under this project will include the items listed in, and be sequenced according to, the following preliminary construction schedule:

1. Installation of temporary erosion controls (hay bales, sedimentation barriers, and catchbasin inlet protection).
2. Clearing and grubbing. Stockpile topsoil.
3. Excavation, grading, construction of drainage system, and stabilization.
4. Construction of roadways and utilities.
5. Construction of buildings, landscaping, and final stabilization.
6. Removal of temporary erosion controls and any trapped sediment.

Erosion/sediment controls will be in place throughout the site during all phases of construction. All existing catchbasins in the project area will have a silt basket installed under the grate. The Contractor shall be responsible for checking all of the erosion/sediment control measures periodically and after every storm. The Contractor shall repair, replace, and maintain all erosion/sediment control measures throughout construction until all disturbed areas have been stabilized. Efforts will be made to establish vegetative cover over all disturbed areas as soon as possible after the work in that area is complete. All disturbed areas will be treated with a 4-inch depth of loam and seed.

The occurrence of an extended shutdown during the construction phase of this project is not anticipated and is unlikely. Should unexpected events dictate, measures will be taken to stabilize the disturbed areas of the site as a last construction activity before the start of an extended shutdown. These measures will include careful planning of the immediate construction schedule so that further land

disturbance is kept to a minimum and the re-stabilization of existing disturbed areas is maximized prior to the extended shutdown. Other measures will include the reinforcement and repair of all erosion/sediment controls in place at the time of the extended shutdown.

2.9 Operation and Maintenance Plan (Standard 9)

See Appendix D.

2.10 Prohibition of Illicit Discharges

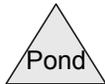
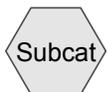
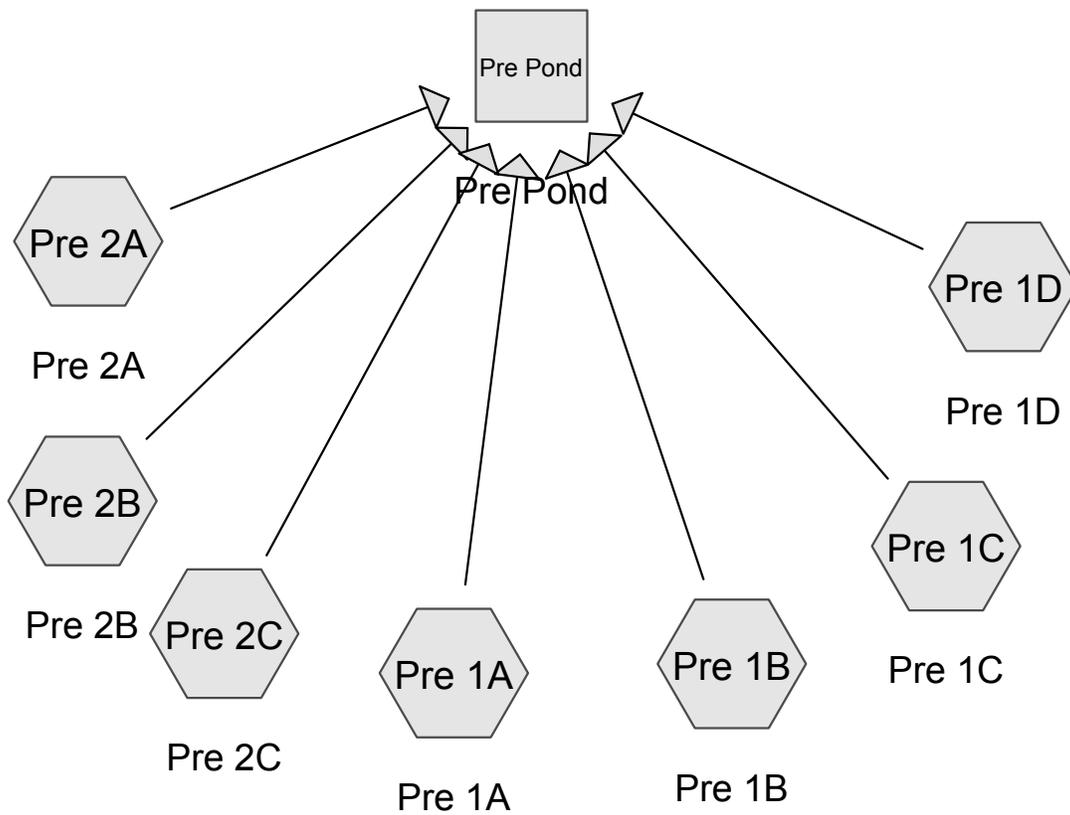
Illicit discharges are prohibited.

**APPENDIX A**

Pre-Development Drainage Calculations

Village at Bailey's Pond  
Route 150 and Summit Avenue  
Amesbury, Massachusetts





**Routing Diagram for 12013 Pre**

Prepared by {enter your company name here}, Printed 10/2/2015  
 HydroCAD® 10.00 s/n 01151 © 2013 HydroCAD Software Solutions LLC

**12013 Pre***Type III 24-hr 2 year Rainfall=3.10"*

Prepared by {enter your company name here}

Printed 10/2/2015

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points  
 Runoff by SCS TR-20 method, UH=SCS, Weighted-Q  
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**SubcatchmentPre 1A: Pre 1A**

Runoff Area=205,388 sf 2.71% Impervious Runoff Depth>0.19"  
 Flow Length=511' Tc=19.8 min CN=51 Runoff=0.33 cfs 0.076 af

**SubcatchmentPre 1B: Pre 1B**

Runoff Area=211,854 sf 6.45% Impervious Runoff Depth>0.31"  
 Flow Length=666' Tc=22.5 min CN=54 Runoff=0.70 cfs 0.128 af

**SubcatchmentPre 1C: Pre 1C**

Runoff Area=157,286 sf 1.51% Impervious Runoff Depth>0.26"  
 Flow Length=642' Tc=28.1 min CN=55 Runoff=0.31 cfs 0.077 af

**SubcatchmentPre 1D: Pre 1D**

Runoff Area=136,654 sf 0.00% Impervious Runoff Depth>0.02"  
 Flow Length=390' Tc=19.2 min CN=39 Runoff=0.01 cfs 0.005 af

**SubcatchmentPre 2A: Pre 2A**

Runoff Area=21,228 sf 32.49% Impervious Runoff Depth>1.39"  
 Flow Length=745' Slope=0.0500 '/' Tc=2.9 min CN=78 Runoff=0.75 cfs 0.056 af

**SubcatchmentPre 2B: Pre 2B**

Runoff Area=277,757 sf 1.93% Impervious Runoff Depth>0.08"  
 Flow Length=569' Tc=18.2 min CN=42 Runoff=0.26 cfs 0.044 af

**SubcatchmentPre 2C: Pre 2C**

Runoff Area=193,937 sf 5.39% Impervious Runoff Depth>0.52"  
 Flow Length=514' Tc=19.0 min CN=48 Runoff=1.66 cfs 0.192 af

**Reach Pre Pond: Pre Pond**

Inflow=3.34 cfs 0.577 af  
 Outflow=3.34 cfs 0.577 af

**Total Runoff Area = 27.642 ac Runoff Volume = 0.577 af Average Runoff Depth = 0.25"**  
**96.32% Pervious = 26.625 ac 3.68% Impervious = 1.017 ac**

**Summary for Subcatchment Pre 1A: Pre 1A**

Runoff = 0.33 cfs @ 12.32 hrs, Volume= 0.076 af, Depth> 0.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2 year Rainfall=3.10"

Area (sf)	CN	Description
154,026	48	Brush, Poor, HSG A
45,802	57	Woods/grass comb., Poor, HSG A
5,560	98	Paved parking & roofs
205,388	51	Weighted Average
199,828	50	97.29% Pervious Area
5,560	98	2.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.1	150	0.0600	0.13		<b>Sheet Flow, AB</b> Woods: Light underbrush n= 0.400 P2= 3.20"
0.7	361	0.0200	8.05	418.35	<b>Trap/Vee/Rect Channel Flow, BC</b> Bot.W=10.00' D=2.00' Z= 8.0 '/' Top.W=42.00' n= 0.030 Earth, grassed & winding
19.8	511	Total			

**Summary for Subcatchment Pre 1B: Pre 1B**

Runoff = 0.70 cfs @ 12.34 hrs, Volume= 0.128 af, Depth> 0.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2 year Rainfall=3.10"

Area (sf)	CN	Description
132,992	48	Brush, Poor, HSG A
65,190	57	Woods/grass comb., Poor, HSG A
13,672	98	Paved parking & roofs
211,854	54	Weighted Average
198,182	51	93.55% Pervious Area
13,672	98	6.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	150	0.1200	0.17		<b>Sheet Flow, AB</b> Woods: Light underbrush n= 0.400 P2= 3.20"
1.2	137	0.1400	1.87		<b>Shallow Concentrated Flow, BC</b> Woodland Kv= 5.0 fps
5.9	292	0.0270	0.82		<b>Shallow Concentrated Flow, CD</b> Woodland Kv= 5.0 fps
0.9	87	0.1100	1.66		<b>Shallow Concentrated Flow, DE</b> Woodland Kv= 5.0 fps
22.5	666	Total			

**Summary for Subcatchment Pre 1C: Pre 1C**

Runoff = 0.31 cfs @ 12.58 hrs, Volume= 0.077 af, Depth> 0.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2 year Rainfall=3.10"

Area (sf)	CN	Description
43,172	48	Brush, Poor, HSG A
111,739	57	Woods/grass comb., Poor, HSG A
2,375	98	Paved parking & roofs
157,286	55	Weighted Average
154,911	54	98.49% Pervious Area
2,375	98	1.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.6	150	0.0500	0.12		<b>Sheet Flow, AB</b>
					Woods: Light underbrush n= 0.400 P2= 3.20"
1.0	156	0.2600	2.55		<b>Shallow Concentrated Flow, BC</b>
					Woodland Kv= 5.0 fps
6.5	336	0.0300	0.87		<b>Shallow Concentrated Flow, CD</b>
					Woodland Kv= 5.0 fps
28.1	642	Total			

**Summary for Subcatchment Pre 1D: Pre 1D**

Runoff = 0.01 cfs @ 14.94 hrs, Volume= 0.005 af, Depth> 0.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2 year Rainfall=3.10"

Area (sf)	CN	Description
33,479	48	Brush, Poor, HSG A
103,175	36	Woods, Fair, HSG A
136,654	39	Weighted Average
136,654	39	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.4	133	0.0600	0.13		<b>Sheet Flow, AB</b>
					Woods: Light underbrush n= 0.400 P2= 3.20"
1.8	257	0.2200	2.35		<b>Shallow Concentrated Flow, BC</b>
					Woodland Kv= 5.0 fps
19.2	390	Total			

**Summary for Subcatchment Pre 2A: Pre 2A**

Runoff = 0.75 cfs @ 12.05 hrs, Volume= 0.056 af, Depth> 1.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2 year Rainfall=3.10"

Area (sf)	CN	Description
0	48	Brush, Poor, HSG A
0	36	Woods, Fair, HSG A
6,898	98	Paved parking & roofs
14,330	68	<50% Grass cover, Poor, HSG A
21,228	78	Weighted Average
14,330	68	67.51% Pervious Area
6,898	98	32.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0500	1.44		<b>Sheet Flow, AB</b> Smooth surfaces n= 0.011 P2= 3.20"
2.7	725	0.0500	4.54		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
2.9	745	Total			

**Summary for Subcatchment Pre 2B: Pre 2B**

Runoff = 0.26 cfs @ 12.24 hrs, Volume= 0.044 af, Depth> 0.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2 year Rainfall=3.10"

Area (sf)	CN	Description
103,591	48	Brush, Poor, HSG A
168,808	36	Woods, Fair, HSG A
5,358	98	Paved parking & roofs
277,757	42	Weighted Average
272,399	41	98.07% Pervious Area
5,358	98	1.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	150	0.1800	0.20		<b>Sheet Flow, AB</b> Woods: Light underbrush n= 0.400 P2= 3.20"
5.7	341	0.0400	1.00		<b>Shallow Concentrated Flow, BC</b> Woodland Kv= 5.0 fps
0.2	78	0.0200	8.05	418.35	<b>Trap/Vee/Rect Channel Flow, CD</b> Bot.W=10.00' D=2.00' Z= 8.0 '/' Top.W=42.00' n= 0.030 Earth, grassed & winding
18.2	569	Total			

**Summary for Subcatchment Pre 2C: Pre 2C**

Runoff = 1.66 cfs @ 12.25 hrs, Volume= 0.192 af, Depth> 0.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2 year Rainfall=3.10"

Area (sf)	CN	Description
144,839	36	Woods, Fair, HSG A
10,452	98	Paved parking & roofs
24,197	98	Water Surface, 0% imp
14,449	48	Brush, Poor, HSG A
193,937	48	Weighted Average
183,485	45	94.61% Pervious Area
10,452	98	5.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.0	150	0.1300	0.18		<b>Sheet Flow, AB</b>
					Woods: Light underbrush n= 0.400 P2= 3.20"
5.0	364	0.0600	1.22		<b>Shallow Concentrated Flow, BC</b>
					Woodland Kv= 5.0 fps
19.0	514	Total			

**Summary for Reach Pre Pond: Pre Pond**

Inflow Area = 27.642 ac, 3.68% Impervious, Inflow Depth > 0.25" for 2 year event

Inflow = 3.34 cfs @ 12.27 hrs, Volume= 0.577 af

Outflow = 3.34 cfs @ 12.27 hrs, Volume= 0.577 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

**12013 Pre**

Type III 24-hr 10 year Rainfall=4.60"

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points  
 Runoff by SCS TR-20 method, UH=SCS, Weighted-Q  
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**SubcatchmentPre 1A: Pre 1A**

Runoff Area=205,388 sf 2.71% Impervious Runoff Depth>0.65"  
 Flow Length=511' Tc=19.8 min CN=51 Runoff=1.50 cfs 0.255 af

**SubcatchmentPre 1B: Pre 1B**

Runoff Area=211,854 sf 6.45% Impervious Runoff Depth>0.83"  
 Flow Length=666' Tc=22.5 min CN=54 Runoff=2.10 cfs 0.338 af

**SubcatchmentPre 1C: Pre 1C**

Runoff Area=157,286 sf 1.51% Impervious Runoff Depth>0.82"  
 Flow Length=642' Tc=28.1 min CN=55 Runoff=1.55 cfs 0.246 af

**SubcatchmentPre 1D: Pre 1D**

Runoff Area=136,654 sf 0.00% Impervious Runoff Depth>0.15"  
 Flow Length=390' Tc=19.2 min CN=39 Runoff=0.14 cfs 0.040 af

**SubcatchmentPre 2A: Pre 2A**

Runoff Area=21,228 sf 32.49% Impervious Runoff Depth>2.50"  
 Flow Length=745' Slope=0.0500 '/' Tc=2.9 min CN=78 Runoff=1.42 cfs 0.101 af

**SubcatchmentPre 2B: Pre 2B**

Runoff Area=277,757 sf 1.93% Impervious Runoff Depth>0.28"  
 Flow Length=569' Tc=18.2 min CN=42 Runoff=0.73 cfs 0.151 af

**SubcatchmentPre 2C: Pre 2C**

Runoff Area=193,937 sf 5.39% Impervious Runoff Depth>0.85"  
 Flow Length=514' Tc=19.0 min CN=48 Runoff=2.52 cfs 0.317 af

**Reach Pre Pond: Pre Pond**

Inflow=8.43 cfs 1.447 af  
 Outflow=8.43 cfs 1.447 af

**Total Runoff Area = 27.642 ac Runoff Volume = 1.447 af Average Runoff Depth = 0.63"**  
**96.32% Pervious = 26.625 ac 3.68% Impervious = 1.017 ac**

**Summary for Subcatchment Pre 1A: Pre 1A**

Runoff = 1.50 cfs @ 12.38 hrs, Volume= 0.255 af, Depth> 0.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10 year Rainfall=4.60"

Area (sf)	CN	Description
154,026	48	Brush, Poor, HSG A
45,802	57	Woods/grass comb., Poor, HSG A
5,560	98	Paved parking & roofs
205,388	51	Weighted Average
199,828	50	97.29% Pervious Area
5,560	98	2.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.1	150	0.0600	0.13		<b>Sheet Flow, AB</b> Woods: Light underbrush n= 0.400 P2= 3.20"
0.7	361	0.0200	8.05	418.35	<b>Trap/Vee/Rect Channel Flow, BC</b> Bot.W=10.00' D=2.00' Z= 8.0 '/' Top.W=42.00' n= 0.030 Earth, grassed & winding
19.8	511	Total			

**Summary for Subcatchment Pre 1B: Pre 1B**

Runoff = 2.10 cfs @ 12.38 hrs, Volume= 0.338 af, Depth> 0.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10 year Rainfall=4.60"

Area (sf)	CN	Description
132,992	48	Brush, Poor, HSG A
65,190	57	Woods/grass comb., Poor, HSG A
13,672	98	Paved parking & roofs
211,854	54	Weighted Average
198,182	51	93.55% Pervious Area
13,672	98	6.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	150	0.1200	0.17		<b>Sheet Flow, AB</b> Woods: Light underbrush n= 0.400 P2= 3.20"
1.2	137	0.1400	1.87		<b>Shallow Concentrated Flow, BC</b> Woodland Kv= 5.0 fps
5.9	292	0.0270	0.82		<b>Shallow Concentrated Flow, CD</b> Woodland Kv= 5.0 fps
0.9	87	0.1100	1.66		<b>Shallow Concentrated Flow, DE</b> Woodland Kv= 5.0 fps
22.5	666	Total			

**Summary for Subcatchment Pre 1C: Pre 1C**

Runoff = 1.55 cfs @ 12.49 hrs, Volume= 0.246 af, Depth> 0.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10 year Rainfall=4.60"

Area (sf)	CN	Description
43,172	48	Brush, Poor, HSG A
111,739	57	Woods/grass comb., Poor, HSG A
2,375	98	Paved parking & roofs
157,286	55	Weighted Average
154,911	54	98.49% Pervious Area
2,375	98	1.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.6	150	0.0500	0.12		<b>Sheet Flow, AB</b>
					Woods: Light underbrush n= 0.400 P2= 3.20"
1.0	156	0.2600	2.55		<b>Shallow Concentrated Flow, BC</b>
					Woodland Kv= 5.0 fps
6.5	336	0.0300	0.87		<b>Shallow Concentrated Flow, CD</b>
					Woodland Kv= 5.0 fps
28.1	642	Total			

**Summary for Subcatchment Pre 1D: Pre 1D**

Runoff = 0.14 cfs @ 12.49 hrs, Volume= 0.040 af, Depth> 0.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10 year Rainfall=4.60"

Area (sf)	CN	Description
33,479	48	Brush, Poor, HSG A
103,175	36	Woods, Fair, HSG A
136,654	39	Weighted Average
136,654	39	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.4	133	0.0600	0.13		<b>Sheet Flow, AB</b>
					Woods: Light underbrush n= 0.400 P2= 3.20"
1.8	257	0.2200	2.35		<b>Shallow Concentrated Flow, BC</b>
					Woodland Kv= 5.0 fps
19.2	390	Total			

**Summary for Subcatchment Pre 2A: Pre 2A**

Runoff = 1.42 cfs @ 12.05 hrs, Volume= 0.101 af, Depth> 2.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10 year Rainfall=4.60"

Area (sf)	CN	Description
0	48	Brush, Poor, HSG A
0	36	Woods, Fair, HSG A
6,898	98	Paved parking & roofs
14,330	68	<50% Grass cover, Poor, HSG A
21,228	78	Weighted Average
14,330	68	67.51% Pervious Area
6,898	98	32.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0500	1.44		<b>Sheet Flow, AB</b> Smooth surfaces n= 0.011 P2= 3.20"
2.7	725	0.0500	4.54		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
2.9	745	Total			

**Summary for Subcatchment Pre 2B: Pre 2B**

Runoff = 0.73 cfs @ 12.36 hrs, Volume= 0.151 af, Depth> 0.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10 year Rainfall=4.60"

Area (sf)	CN	Description
103,591	48	Brush, Poor, HSG A
168,808	36	Woods, Fair, HSG A
5,358	98	Paved parking & roofs
277,757	42	Weighted Average
272,399	41	98.07% Pervious Area
5,358	98	1.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	150	0.1800	0.20		<b>Sheet Flow, AB</b> Woods: Light underbrush n= 0.400 P2= 3.20"
5.7	341	0.0400	1.00		<b>Shallow Concentrated Flow, BC</b> Woodland Kv= 5.0 fps
0.2	78	0.0200	8.05	418.35	<b>Trap/Vee/Rect Channel Flow, CD</b> Bot.W=10.00' D=2.00' Z= 8.0 '/' Top.W=42.00' n= 0.030 Earth, grassed & winding
18.2	569	Total			

### Summary for Subcatchment Pre 2C: Pre 2C

Runoff = 2.52 cfs @ 12.25 hrs, Volume= 0.317 af, Depth> 0.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Type III 24-hr 10 year Rainfall=4.60"

Area (sf)	CN	Description
144,839	36	Woods, Fair, HSG A
10,452	98	Paved parking & roofs
24,197	98	Water Surface, 0% imp
14,449	48	Brush, Poor, HSG A
193,937	48	Weighted Average
183,485	45	94.61% Pervious Area
10,452	98	5.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.0	150	0.1300	0.18		<b>Sheet Flow, AB</b>
					Woods: Light underbrush n= 0.400 P2= 3.20"
5.0	364	0.0600	1.22		<b>Shallow Concentrated Flow, BC</b>
					Woodland Kv= 5.0 fps
19.0	514	Total			

### Summary for Reach Pre Pond: Pre Pond

Inflow Area = 27.642 ac, 3.68% Impervious, Inflow Depth > 0.63" for 10 year event

Inflow = 8.43 cfs @ 12.35 hrs, Volume= 1.447 af

Outflow = 8.43 cfs @ 12.35 hrs, Volume= 1.447 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

**12013 Pre**

Type III 24-hr 25 year Rainfall=5.50"

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points  
 Runoff by SCS TR-20 method, UH=SCS, Weighted-Q  
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**SubcatchmentPre 1A: Pre 1A**

Runoff Area=205,388 sf 2.71% Impervious Runoff Depth>1.03"  
 Flow Length=511' Tc=19.8 min CN=51 Runoff=2.86 cfs 0.406 af

**SubcatchmentPre 1B: Pre 1B**

Runoff Area=211,854 sf 6.45% Impervious Runoff Depth>1.25"  
 Flow Length=666' Tc=22.5 min CN=54 Runoff=3.57 cfs 0.506 af

**SubcatchmentPre 1C: Pre 1C**

Runoff Area=157,286 sf 1.51% Impervious Runoff Depth>1.27"  
 Flow Length=642' Tc=28.1 min CN=55 Runoff=2.66 cfs 0.381 af

**SubcatchmentPre 1D: Pre 1D**

Runoff Area=136,654 sf 0.00% Impervious Runoff Depth>0.33"  
 Flow Length=390' Tc=19.2 min CN=39 Runoff=0.32 cfs 0.087 af

**SubcatchmentPre 2A: Pre 2A**

Runoff Area=21,228 sf 32.49% Impervious Runoff Depth>3.22"  
 Flow Length=745' Slope=0.0500 '/' Tc=2.9 min CN=78 Runoff=1.85 cfs 0.131 af

**SubcatchmentPre 2B: Pre 2B**

Runoff Area=277,757 sf 1.93% Impervious Runoff Depth>0.51"  
 Flow Length=569' Tc=18.2 min CN=42 Runoff=1.42 cfs 0.269 af

**SubcatchmentPre 2C: Pre 2C**

Runoff Area=193,937 sf 5.39% Impervious Runoff Depth>1.14"  
 Flow Length=514' Tc=19.0 min CN=48 Runoff=3.09 cfs 0.422 af

**Reach Pre Pond: Pre Pond**

Inflow=13.91 cfs 2.202 af  
 Outflow=13.91 cfs 2.202 af

**Total Runoff Area = 27.642 ac Runoff Volume = 2.202 af Average Runoff Depth = 0.96"**  
**96.32% Pervious = 26.625 ac 3.68% Impervious = 1.017 ac**

**12013 Pre**

Type III 24-hr 25 year Rainfall=5.50"

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**Summary for Subcatchment Pre 1A: Pre 1A**

Runoff = 2.86 cfs @ 12.34 hrs, Volume= 0.406 af, Depth&gt; 1.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25 year Rainfall=5.50"

Area (sf)	CN	Description
154,026	48	Brush, Poor, HSG A
45,802	57	Woods/grass comb., Poor, HSG A
5,560	98	Paved parking & roofs
205,388	51	Weighted Average
199,828	50	97.29% Pervious Area
5,560	98	2.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.1	150	0.0600	0.13		<b>Sheet Flow, AB</b>
					Woods: Light underbrush n= 0.400 P2= 3.20"
0.7	361	0.0200	8.05	418.35	<b>Trap/Vee/Rect Channel Flow, BC</b>
					Bot.W=10.00' D=2.00' Z= 8.0 '/' Top.W=42.00'
					n= 0.030 Earth, grassed & winding
19.8	511	Total			

**Summary for Subcatchment Pre 1B: Pre 1B**

Runoff = 3.57 cfs @ 12.37 hrs, Volume= 0.506 af, Depth&gt; 1.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25 year Rainfall=5.50"

Area (sf)	CN	Description
132,992	48	Brush, Poor, HSG A
65,190	57	Woods/grass comb., Poor, HSG A
13,672	98	Paved parking & roofs
211,854	54	Weighted Average
198,182	51	93.55% Pervious Area
13,672	98	6.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	150	0.1200	0.17		<b>Sheet Flow, AB</b>
					Woods: Light underbrush n= 0.400 P2= 3.20"
1.2	137	0.1400	1.87		<b>Shallow Concentrated Flow, BC</b>
					Woodland Kv= 5.0 fps
5.9	292	0.0270	0.82		<b>Shallow Concentrated Flow, CD</b>
					Woodland Kv= 5.0 fps
0.9	87	0.1100	1.66		<b>Shallow Concentrated Flow, DE</b>
					Woodland Kv= 5.0 fps
22.5	666	Total			

**Summary for Subcatchment Pre 1C: Pre 1C**

Runoff = 2.66 cfs @ 12.46 hrs, Volume= 0.381 af, Depth> 1.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25 year Rainfall=5.50"

Area (sf)	CN	Description
43,172	48	Brush, Poor, HSG A
111,739	57	Woods/grass comb., Poor, HSG A
2,375	98	Paved parking & roofs
157,286	55	Weighted Average
154,911	54	98.49% Pervious Area
2,375	98	1.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.6	150	0.0500	0.12		<b>Sheet Flow, AB</b>
					Woods: Light underbrush n= 0.400 P2= 3.20"
1.0	156	0.2600	2.55		<b>Shallow Concentrated Flow, BC</b>
					Woodland Kv= 5.0 fps
6.5	336	0.0300	0.87		<b>Shallow Concentrated Flow, CD</b>
					Woodland Kv= 5.0 fps
28.1	642	Total			

**Summary for Subcatchment Pre 1D: Pre 1D**

Runoff = 0.32 cfs @ 12.40 hrs, Volume= 0.087 af, Depth> 0.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25 year Rainfall=5.50"

Area (sf)	CN	Description
33,479	48	Brush, Poor, HSG A
103,175	36	Woods, Fair, HSG A
136,654	39	Weighted Average
136,654	39	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.4	133	0.0600	0.13		<b>Sheet Flow, AB</b>
					Woods: Light underbrush n= 0.400 P2= 3.20"
1.8	257	0.2200	2.35		<b>Shallow Concentrated Flow, BC</b>
					Woodland Kv= 5.0 fps
19.2	390	Total			

**Summary for Subcatchment Pre 2A: Pre 2A**

Runoff = 1.85 cfs @ 12.05 hrs, Volume= 0.131 af, Depth> 3.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25 year Rainfall=5.50"

Area (sf)	CN	Description
0	48	Brush, Poor, HSG A
0	36	Woods, Fair, HSG A
6,898	98	Paved parking & roofs
14,330	68	<50% Grass cover, Poor, HSG A
21,228	78	Weighted Average
14,330	68	67.51% Pervious Area
6,898	98	32.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0500	1.44		<b>Sheet Flow, AB</b> Smooth surfaces n= 0.011 P2= 3.20"
2.7	725	0.0500	4.54		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
2.9	745	Total			

**Summary for Subcatchment Pre 2B: Pre 2B**

Runoff = 1.42 cfs @ 12.32 hrs, Volume= 0.269 af, Depth> 0.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25 year Rainfall=5.50"

Area (sf)	CN	Description
103,591	48	Brush, Poor, HSG A
168,808	36	Woods, Fair, HSG A
5,358	98	Paved parking & roofs
277,757	42	Weighted Average
272,399	41	98.07% Pervious Area
5,358	98	1.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	150	0.1800	0.20		<b>Sheet Flow, AB</b> Woods: Light underbrush n= 0.400 P2= 3.20"
5.7	341	0.0400	1.00		<b>Shallow Concentrated Flow, BC</b> Woodland Kv= 5.0 fps
0.2	78	0.0200	8.05	418.35	<b>Trap/Vee/Rect Channel Flow, CD</b> Bot.W=10.00' D=2.00' Z= 8.0 '/' Top.W=42.00' n= 0.030 Earth, grassed & winding
18.2	569	Total			

**Summary for Subcatchment Pre 2C: Pre 2C**

Runoff = 3.09 cfs @ 12.25 hrs, Volume= 0.422 af, Depth> 1.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Type III 24-hr 25 year Rainfall=5.50"

Area (sf)	CN	Description
144,839	36	Woods, Fair, HSG A
10,452	98	Paved parking & roofs
24,197	98	Water Surface, 0% imp
14,449	48	Brush, Poor, HSG A
193,937	48	Weighted Average
183,485	45	94.61% Pervious Area
10,452	98	5.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.0	150	0.1300	0.18		<b>Sheet Flow, AB</b>
					Woods: Light underbrush n= 0.400 P2= 3.20"
5.0	364	0.0600	1.22		<b>Shallow Concentrated Flow, BC</b>
					Woodland Kv= 5.0 fps
19.0	514	Total			

**Summary for Reach Pre Pond: Pre Pond**

Inflow Area = 27.642 ac, 3.68% Impervious, Inflow Depth > 0.96" for 25 year event

Inflow = 13.91 cfs @ 12.34 hrs, Volume= 2.202 af

Outflow = 13.91 cfs @ 12.34 hrs, Volume= 2.202 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**SubcatchmentPre 1A: Pre 1A** Runoff Area=205,388 sf 2.71% Impervious Runoff Depth>1.64"  
Flow Length=511' Tc=19.8 min CN=51 Runoff=5.19 cfs 0.645 af

**SubcatchmentPre 1B: Pre 1B** Runoff Area=211,854 sf 6.45% Impervious Runoff Depth>1.90"  
Flow Length=666' Tc=22.5 min CN=54 Runoff=5.97 cfs 0.769 af

**SubcatchmentPre 1C: Pre 1C** Runoff Area=157,286 sf 1.51% Impervious Runoff Depth>1.95"  
Flow Length=642' Tc=28.1 min CN=55 Runoff=4.41 cfs 0.588 af

**SubcatchmentPre 1D: Pre 1D** Runoff Area=136,654 sf 0.00% Impervious Runoff Depth>0.68"  
Flow Length=390' Tc=19.2 min CN=39 Runoff=0.92 cfs 0.178 af

**SubcatchmentPre 2A: Pre 2A** Runoff Area=21,228 sf 32.49% Impervious Runoff Depth>4.24"  
Flow Length=745' Slope=0.0500 '/' Tc=2.9 min CN=78 Runoff=2.45 cfs 0.172 af

**SubcatchmentPre 2B: Pre 2B** Runoff Area=277,757 sf 1.93% Impervious Runoff Depth>0.91"  
Flow Length=569' Tc=18.2 min CN=42 Runoff=2.91 cfs 0.481 af

**SubcatchmentPre 2C: Pre 2C** Runoff Area=193,937 sf 5.39% Impervious Runoff Depth>1.60"  
Flow Length=514' Tc=19.0 min CN=48 Runoff=4.05 cfs 0.594 af

**Reach Pre Pond: Pre Pond** Inflow=23.58 cfs 3.425 af  
Outflow=23.58 cfs 3.425 af

**Total Runoff Area = 27.642 ac Runoff Volume = 3.425 af Average Runoff Depth = 1.49"**  
**96.32% Pervious = 26.625 ac 3.68% Impervious = 1.017 ac**

**Summary for Subcatchment Pre 1A: Pre 1A**

Runoff = 5.19 cfs @ 12.32 hrs, Volume= 0.645 af, Depth> 1.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100 year Rainfall=6.70"

Area (sf)	CN	Description
154,026	48	Brush, Poor, HSG A
45,802	57	Woods/grass comb., Poor, HSG A
5,560	98	Paved parking & roofs
205,388	51	Weighted Average
199,828	50	97.29% Pervious Area
5,560	98	2.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.1	150	0.0600	0.13		<b>Sheet Flow, AB</b>
					Woods: Light underbrush n= 0.400 P2= 3.20"
0.7	361	0.0200	8.05	418.35	<b>Trap/Vee/Rect Channel Flow, BC</b>
					Bot.W=10.00' D=2.00' Z= 8.0 '/' Top.W=42.00'
					n= 0.030 Earth, grassed & winding
19.8	511	Total			

**Summary for Subcatchment Pre 1B: Pre 1B**

Runoff = 5.97 cfs @ 12.35 hrs, Volume= 0.769 af, Depth> 1.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100 year Rainfall=6.70"

Area (sf)	CN	Description
132,992	48	Brush, Poor, HSG A
65,190	57	Woods/grass comb., Poor, HSG A
13,672	98	Paved parking & roofs
211,854	54	Weighted Average
198,182	51	93.55% Pervious Area
13,672	98	6.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	150	0.1200	0.17		<b>Sheet Flow, AB</b>
					Woods: Light underbrush n= 0.400 P2= 3.20"
1.2	137	0.1400	1.87		<b>Shallow Concentrated Flow, BC</b>
					Woodland Kv= 5.0 fps
5.9	292	0.0270	0.82		<b>Shallow Concentrated Flow, CD</b>
					Woodland Kv= 5.0 fps
0.9	87	0.1100	1.66		<b>Shallow Concentrated Flow, DE</b>
					Woodland Kv= 5.0 fps
22.5	666	Total			

**Summary for Subcatchment Pre 1C: Pre 1C**

Runoff = 4.41 cfs @ 12.43 hrs, Volume= 0.588 af, Depth> 1.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100 year Rainfall=6.70"

Area (sf)	CN	Description
43,172	48	Brush, Poor, HSG A
111,739	57	Woods/grass comb., Poor, HSG A
2,375	98	Paved parking & roofs
157,286	55	Weighted Average
154,911	54	98.49% Pervious Area
2,375	98	1.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.6	150	0.0500	0.12		<b>Sheet Flow, AB</b>
					Woods: Light underbrush n= 0.400 P2= 3.20"
1.0	156	0.2600	2.55		<b>Shallow Concentrated Flow, BC</b>
					Woodland Kv= 5.0 fps
6.5	336	0.0300	0.87		<b>Shallow Concentrated Flow, CD</b>
					Woodland Kv= 5.0 fps
28.1	642	Total			

**Summary for Subcatchment Pre 1D: Pre 1D**

Runoff = 0.92 cfs @ 12.45 hrs, Volume= 0.178 af, Depth> 0.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100 year Rainfall=6.70"

Area (sf)	CN	Description
33,479	48	Brush, Poor, HSG A
103,175	36	Woods, Fair, HSG A
136,654	39	Weighted Average
136,654	39	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.4	133	0.0600	0.13		<b>Sheet Flow, AB</b>
					Woods: Light underbrush n= 0.400 P2= 3.20"
1.8	257	0.2200	2.35		<b>Shallow Concentrated Flow, BC</b>
					Woodland Kv= 5.0 fps
19.2	390	Total			

**Summary for Subcatchment Pre 2A: Pre 2A**

Runoff = 2.45 cfs @ 12.05 hrs, Volume= 0.172 af, Depth> 4.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100 year Rainfall=6.70"

Area (sf)	CN	Description
0	48	Brush, Poor, HSG A
0	36	Woods, Fair, HSG A
6,898	98	Paved parking & roofs
14,330	68	<50% Grass cover, Poor, HSG A
21,228	78	Weighted Average
14,330	68	67.51% Pervious Area
6,898	98	32.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0500	1.44		<b>Sheet Flow, AB</b> Smooth surfaces n= 0.011 P2= 3.20"
2.7	725	0.0500	4.54		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
2.9	745	Total			

**Summary for Subcatchment Pre 2B: Pre 2B**

Runoff = 2.91 cfs @ 12.33 hrs, Volume= 0.481 af, Depth> 0.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100 year Rainfall=6.70"

Area (sf)	CN	Description
103,591	48	Brush, Poor, HSG A
168,808	36	Woods, Fair, HSG A
5,358	98	Paved parking & roofs
277,757	42	Weighted Average
272,399	41	98.07% Pervious Area
5,358	98	1.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	150	0.1800	0.20		<b>Sheet Flow, AB</b> Woods: Light underbrush n= 0.400 P2= 3.20"
5.7	341	0.0400	1.00		<b>Shallow Concentrated Flow, BC</b> Woodland Kv= 5.0 fps
0.2	78	0.0200	8.05	418.35	<b>Trap/Vee/Rect Channel Flow, CD</b> Bot.W=10.00' D=2.00' Z= 8.0 '/' Top.W=42.00' n= 0.030 Earth, grassed & winding
18.2	569	Total			

**Summary for Subcatchment Pre 2C: Pre 2C**

Runoff = 4.05 cfs @ 12.27 hrs, Volume= 0.594 af, Depth> 1.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Type III 24-hr 100 year Rainfall=6.70"

Area (sf)	CN	Description
144,839	36	Woods, Fair, HSG A
10,452	98	Paved parking & roofs
24,197	98	Water Surface, 0% imp
14,449	48	Brush, Poor, HSG A
193,937	48	Weighted Average
183,485	45	94.61% Pervious Area
10,452	98	5.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.0	150	0.1300	0.18		<b>Sheet Flow, AB</b>
					Woods: Light underbrush n= 0.400 P2= 3.20"
5.0	364	0.0600	1.22		<b>Shallow Concentrated Flow, BC</b>
					Woodland Kv= 5.0 fps
19.0	514	Total			

**Summary for Reach Pre Pond: Pre Pond**

Inflow Area = 27.642 ac, 3.68% Impervious, Inflow Depth > 1.49" for 100 year event

Inflow = 23.58 cfs @ 12.34 hrs, Volume= 3.425 af

Outflow = 23.58 cfs @ 12.34 hrs, Volume= 3.425 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

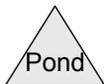
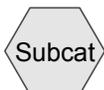
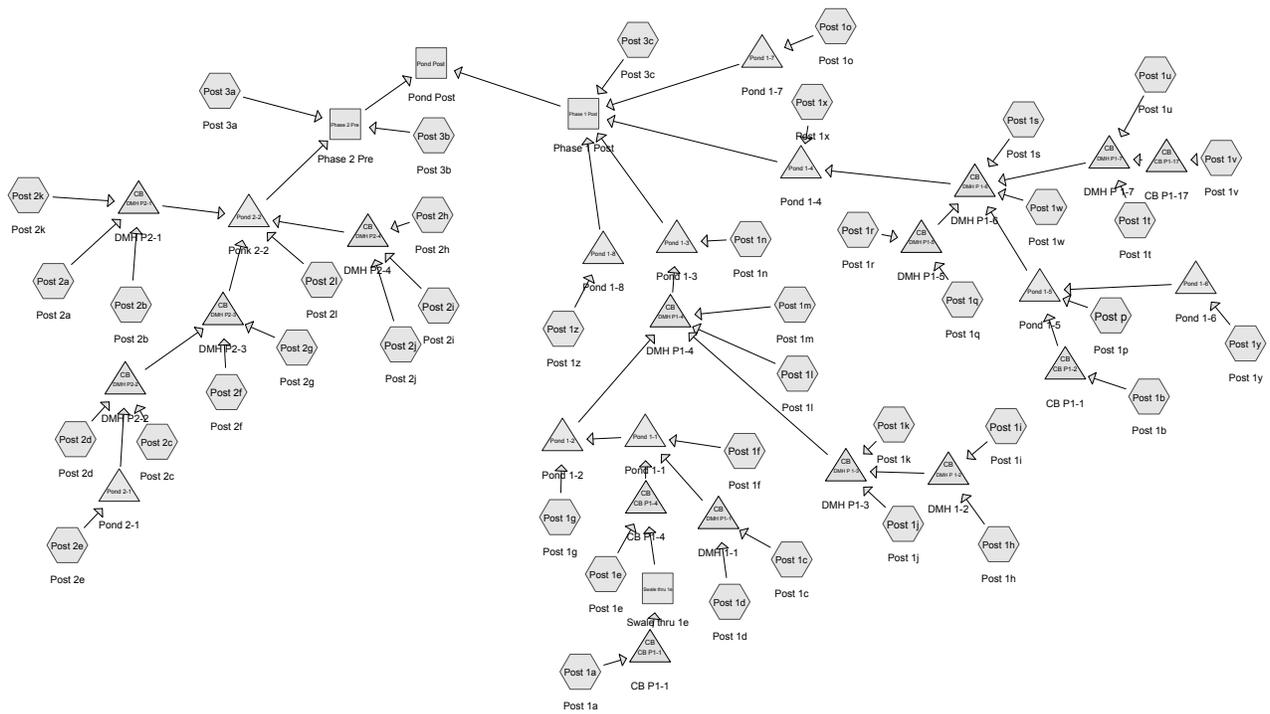


## **APPENDIX B**

Post-Development Drainage Calculations

Village at Bailey's Pond  
Route 150 and Summit Avenue  
Amesbury, Massachusetts





**Routing Diagram for 12013 Post**  
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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points  
 Runoff by SCS TR-20 method, UH=SCS, Weighted-Q  
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

<b>SubcatchmentPost 1a: Post 1a</b>	Runoff Area=11,472 sf 78.57% Impervious Runoff Depth>2.25" Flow Length=293' Tc=6.0 min CN=85 Runoff=0.61 cfs 0.049 af
<b>SubcatchmentPost 1b: Post 1b</b>	Runoff Area=8,942 sf 86.42% Impervious Runoff Depth>2.48" Flow Length=241' Tc=6.0 min CN=90 Runoff=0.52 cfs 0.042 af
<b>SubcatchmentPost 1c: Post 1c</b>	Runoff Area=4,893 sf 100.00% Impervious Runoff Depth>2.87" Flow Length=341' Tc=6.0 min CN=98 Runoff=0.33 cfs 0.027 af
<b>SubcatchmentPost 1d: Post 1d</b>	Runoff Area=9,994 sf 77.29% Impervious Runoff Depth>2.22" Flow Length=156' Slope=0.0800 ' ' Tc=6.0 min CN=85 Runoff=0.52 cfs 0.042 af
<b>SubcatchmentPost 1e: Post 1e</b>	Runoff Area=100,547 sf 33.55% Impervious Runoff Depth>0.96" Flow Length=607' Tc=9.0 min CN=58 Runoff=2.08 cfs 0.185 af
<b>SubcatchmentPost 1f: Post 1f</b>	Runoff Area=18,589 sf 17.03% Impervious Runoff Depth>0.49" Flow Length=84' Slope=0.3000 ' ' Tc=6.0 min CN=49 Runoff=0.21 cfs 0.017 af
<b>SubcatchmentPost 1g: Post 1g</b>	Runoff Area=57,573 sf 29.05% Impervious Runoff Depth>0.83" Flow Length=220' Slope=0.0400 ' ' Tc=6.0 min UI Adjusted CN=54 Runoff=1.13 cfs 0.092 af
<b>SubcatchmentPost 1h: Post 1h</b>	Runoff Area=22,719 sf 81.49% Impervious Runoff Depth>2.34" Flow Length=341' Slope=0.0400 ' ' Tc=6.0 min CN=87 Runoff=1.25 cfs 0.102 af
<b>SubcatchmentPost 1i: Post 1i</b>	Runoff Area=5,823 sf 87.31% Impervious Runoff Depth>2.50" Flow Length=76' Slope=0.0200 ' ' Tc=6.0 min CN=91 Runoff=0.34 cfs 0.028 af
<b>SubcatchmentPost 1j: Post 1j</b>	Runoff Area=7,803 sf 72.95% Impervious Runoff Depth>2.09" Flow Length=131' Slope=0.0400 ' ' Tc=6.0 min CN=82 Runoff=0.38 cfs 0.031 af
<b>SubcatchmentPost 1k: Post 1k</b>	Runoff Area=6,348 sf 65.39% Impervious Runoff Depth>1.87" Flow Length=83' Tc=6.0 min CN=78 Runoff=0.28 cfs 0.023 af
<b>SubcatchmentPost 1l: Post 1l</b>	Runoff Area=7,856 sf 67.41% Impervious Runoff Depth>1.93" Flow Length=86' Slope=0.0150 ' ' Tc=6.0 min CN=79 Runoff=0.36 cfs 0.029 af
<b>SubcatchmentPost 1m: Post 1m</b>	Runoff Area=3,397 sf 87.87% Impervious Runoff Depth>2.52" Flow Length=73' Slope=0.0200 ' ' Tc=6.0 min CN=91 Runoff=0.20 cfs 0.016 af
<b>SubcatchmentPost 1n: Post 1n</b>	Runoff Area=12,274 sf 17.17% Impervious Runoff Depth>0.49" Flow Length=107' Tc=6.0 min CN=49 Runoff=0.14 cfs 0.012 af
<b>SubcatchmentPost 1o: Post 1o</b>	Runoff Area=9,346 sf 65.17% Impervious Runoff Depth>1.87" Flow Length=131' Slope=0.0150 ' ' Tc=6.0 min CN=77 Runoff=0.41 cfs 0.033 af
<b>SubcatchmentPost 1q: Post 1q</b>	Runoff Area=8,656 sf 83.78% Impervious Runoff Depth>2.40" Flow Length=89' Slope=0.0200 ' ' Tc=6.0 min CN=88 Runoff=0.49 cfs 0.040 af

**12013 Post**

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<b>SubcatchmentPost 1r: Post 1r</b>	Runoff Area=9,365 sf 62.78% Impervious Runoff Depth>1.80" Flow Length=108' Tc=6.0 min CN=76 Runoff=0.40 cfs 0.032 af
<b>SubcatchmentPost 1s: Post 1s</b>	Runoff Area=16,065 sf 78.18% Impervious Runoff Depth>2.24" Flow Length=195' Slope=0.0200 '/' Tc=6.0 min CN=85 Runoff=0.85 cfs 0.069 af
<b>SubcatchmentPost 1t: Post 1t</b>	Runoff Area=13,362 sf 80.26% Impervious Runoff Depth>2.30" Flow Length=236' Slope=0.0800 '/' Tc=6.0 min CN=86 Runoff=0.72 cfs 0.059 af
<b>SubcatchmentPost 1u: Post 1u</b>	Runoff Area=25,450 sf 74.16% Impervious Runoff Depth>2.13" Flow Length=509' Slope=0.0800 '/' Tc=6.0 min CN=83 Runoff=1.27 cfs 0.103 af
<b>SubcatchmentPost 1v: Post 1v</b>	Runoff Area=39,981 sf 7.01% Impervious Runoff Depth>0.20" Flow Length=321' Tc=6.0 min CN=42 Runoff=0.19 cfs 0.015 af
<b>SubcatchmentPost 1w: Post 1w</b>	Runoff Area=13,938 sf 83.43% Impervious Runoff Depth>2.39" Flow Length=157' Tc=6.0 min CN=88 Runoff=0.78 cfs 0.064 af
<b>SubcatchmentPost 1x: Post 1x</b>	Runoff Area=30,765 sf 21.56% Impervious Runoff Depth>0.62" Flow Length=72' Tc=6.0 min CN=52 Runoff=0.45 cfs 0.036 af
<b>SubcatchmentPost 1y: Post 1y</b>	Runoff Area=107,930 sf 13.13% Impervious Runoff Depth>0.38" Flow Length=314' Tc=10.2 min UI Adjusted CN=45 Runoff=0.84 cfs 0.078 af
<b>SubcatchmentPost 1z: Post 1z</b>	Runoff Area=9,726 sf 44.70% Impervious Runoff Depth>1.28" Flow Length=91' Slope=0.0200 '/' Tc=6.0 min CN=65 Runoff=0.29 cfs 0.024 af
<b>SubcatchmentPost 2a: Post 2a</b>	Runoff Area=3,183 sf 100.00% Impervious Runoff Depth>2.87" Flow Length=243' Slope=0.0800 '/' Tc=6.0 min CN=98 Runoff=0.21 cfs 0.017 af
<b>SubcatchmentPost 2b: Post 2b</b>	Runoff Area=2,939 sf 100.00% Impervious Runoff Depth>2.87" Flow Length=249' Slope=0.0800 '/' Tc=6.0 min CN=98 Runoff=0.20 cfs 0.016 af
<b>SubcatchmentPost 2c: Post 2c</b>	Runoff Area=13,057 sf 87.09% Impervious Runoff Depth>2.50" Flow Length=166' Tc=6.0 min CN=90 Runoff=0.77 cfs 0.062 af
<b>SubcatchmentPost 2d: Post 2d</b>	Runoff Area=10,331 sf 85.27% Impervious Runoff Depth>2.44" Flow Length=122' Slope=0.0200 '/' Tc=6.0 min CN=89 Runoff=0.59 cfs 0.048 af
<b>SubcatchmentPost 2e: Post 2e</b>	Runoff Area=102,692 sf 10.83% Impervious Runoff Depth>0.31" Flow Length=501' Tc=21.3 min UI Adjusted CN=43 Runoff=0.51 cfs 0.061 af
<b>SubcatchmentPost 2f: Post 2f</b>	Runoff Area=5,479 sf 48.49% Impervious Runoff Depth>1.39" Flow Length=91' Tc=6.0 min CN=68 Runoff=0.18 cfs 0.015 af
<b>SubcatchmentPost 2g: Post 2g</b>	Runoff Area=8,559 sf 83.39% Impervious Runoff Depth>2.39" Flow Length=171' Slope=0.0800 '/' Tc=6.0 min CN=88 Runoff=0.48 cfs 0.039 af
<b>SubcatchmentPost 2h: Post 2h</b>	Runoff Area=18,917 sf 11.90% Impervious Runoff Depth>0.34" Flow Length=294' Tc=8.7 min CN=44 Runoff=0.14 cfs 0.012 af

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<b>SubcatchmentPost 2i: Post 2i</b>	Runoff Area=7,032 sf 73.25% Impervious Runoff Depth>2.10" Flow Length=86' Tc=6.0 min CN=82 Runoff=0.35 cfs 0.028 af
<b>SubcatchmentPost 2j: Post 2j</b>	Runoff Area=4,244 sf 91.35% Impervious Runoff Depth>2.62" Flow Length=107' Tc=6.0 min CN=93 Runoff=0.26 cfs 0.021 af
<b>SubcatchmentPost 2k: Post 2k</b>	Runoff Area=25,495 sf 10.01% Impervious Runoff Depth>0.29" Flow Length=183' Tc=6.0 min CN=44 Runoff=0.17 cfs 0.014 af
<b>SubcatchmentPost 2l: Post 2l</b>	Runoff Area=54,661 sf 27.88% Impervious Runoff Depth>0.80" Flow Length=248' Tc=6.0 min CN=55 Runoff=1.03 cfs 0.084 af
<b>SubcatchmentPost 3a: Post 3a</b>	Runoff Area=21,228 sf 32.49% Impervious Runoff Depth>0.93" Flow Length=745' Slope=0.0500 '/' Tc=6.0 min CN=58 Runoff=0.46 cfs 0.038 af
<b>SubcatchmentPost 3b: Post 3b</b>	Runoff Area=238,088 sf 13.07% Impervious Runoff Depth>0.37" Flow Length=344' Slope=0.3300 '/' Tc=6.0 min UI Adjusted CN=44 Runoff=2.10 cfs 0.171 af
<b>SubcatchmentPost 3c: Post 3c</b>	Runoff Area=85,113 sf 13.07% Impervious Runoff Depth>0.37" Flow Length=267' Tc=6.0 min CN=46 Runoff=0.75 cfs 0.061 af
<b>SubcatchmentPost p: Post 1p</b>	Runoff Area=40,272 sf 25.26% Impervious Runoff Depth>0.72" Flow Length=111' Slope=0.3000 '/' Tc=6.0 min CN=54 Runoff=0.69 cfs 0.056 af
<b>Reach Phase 1 Post: Phase 1 Post</b>	Inflow=0.75 cfs 0.061 af Outflow=0.75 cfs 0.061 af
<b>Reach Phase 2 Pre: Phase 2 Pre</b>	Inflow=2.56 cfs 0.208 af Outflow=2.56 cfs 0.208 af
<b>Reach Pond Post: Pond Post</b>	Inflow=3.31 cfs 0.269 af Outflow=3.31 cfs 0.269 af
<b>Reach Swale thru 1e: Swale thru 1e</b>	Avg. Flow Depth=0.11' Max Vel=1.63 fps Inflow=0.61 cfs 0.049 af n=0.030 L=436.0' S=0.0344 '/' Capacity=60.14 cfs Outflow=0.54 cfs 0.049 af
<b>Pond CB P1-1: CB P1-1</b>	Peak Elev=63.42' Inflow=0.61 cfs 0.049 af 12.0" Round Culvert n=0.012 L=68.0' S=0.0147 '/' Outflow=0.61 cfs 0.049 af
<b>Pond CB P1-17: CB P1-17</b>	Peak Elev=51.23' Inflow=0.19 cfs 0.015 af 12.0" Round Culvert n=0.012 L=200.0' S=0.0655 '/' Outflow=0.19 cfs 0.015 af
<b>Pond CB P1-2: CB P1-1</b>	Peak Elev=63.39' Inflow=0.52 cfs 0.042 af 12.0" Round Culvert n=0.012 L=34.0' S=0.4706 '/' Outflow=0.52 cfs 0.042 af
<b>Pond CB P1-4: CB P1-4</b>	Peak Elev=39.82' Inflow=2.61 cfs 0.234 af 15.0" Round Culvert n=0.012 L=90.0' S=0.0111 '/' Outflow=2.61 cfs 0.234 af
<b>Pond DMH P 1-2: DMH 1-2</b>	Peak Elev=35.68' Inflow=1.59 cfs 0.129 af 12.0" Round Culvert n=0.012 L=46.0' S=0.0043 '/' Outflow=1.59 cfs 0.129 af

<b>Pond DMH P 1-3: DMH P1-3</b>	Peak Elev=35.44'	Inflow=2.25 cfs	0.183 af
15.0" Round Culvert n=0.012 L=100.0' S=0.0050 '/'	Outflow=2.25 cfs	0.183 af	
<b>Pond DMH P 1-6: DMH P1-6</b>	Peak Elev=36.45'	Inflow=4.70 cfs	0.382 af
15.0" Round Culvert n=0.012 L=100.0' S=0.0050 '/'	Outflow=4.70 cfs	0.382 af	
<b>Pond DMH P1-1: DMH 1-1</b>	Peak Elev=45.59'	Inflow=0.85 cfs	0.069 af
12.0" Round Culvert n=0.012 L=30.0' S=0.0100 '/'	Outflow=0.85 cfs	0.069 af	
<b>Pond DMH P1-4: DMH P1-4</b>	Peak Elev=35.02'	Inflow=2.81 cfs	0.229 af
15.0" Round Culvert n=0.012 L=94.0' S=0.0053 '/'	Outflow=2.81 cfs	0.229 af	
<b>Pond DMH P1-5: DMH P1-5</b>	Peak Elev=36.55'	Inflow=0.89 cfs	0.072 af
12.0" Round Culvert n=0.012 L=114.0' S=0.0044 '/'	Outflow=0.89 cfs	0.072 af	
<b>Pond DMH P1-7: DMH P 1-7</b>	Peak Elev=38.53'	Inflow=2.18 cfs	0.178 af
15.0" Round Culvert n=0.012 L=174.0' S=0.0155 '/'	Outflow=2.18 cfs	0.178 af	
<b>Pond DMH P2-1: DMH P2-1</b>	Peak Elev=49.41'	Inflow=0.58 cfs	0.048 af
12.0" Round Culvert n=0.012 L=60.0' S=0.0833 '/'	Outflow=0.58 cfs	0.048 af	
<b>Pond DMH P2-2: DMH P2-2</b>	Peak Elev=48.26'	Inflow=1.36 cfs	0.111 af
12.0" Round Culvert n=0.012 L=90.0' S=0.0067 '/'	Outflow=1.36 cfs	0.111 af	
<b>Pond DMH P2-3: DMH P2-3</b>	Peak Elev=47.81'	Inflow=2.02 cfs	0.164 af
12.0" Round Culvert n=0.012 L=94.0' S=0.0053 '/'	Outflow=2.02 cfs	0.164 af	
<b>Pond DMH P2-4: DMH P2-4</b>	Peak Elev=54.47'	Inflow=0.74 cfs	0.062 af
12.0" Round Culvert n=0.012 L=65.0' S=0.0923 '/'	Outflow=0.74 cfs	0.062 af	
<b>Pond Pond 1-1: Pond 1-1</b>	Peak Elev=37.52'	Storage=4,103 cf	Inflow=3.63 cfs
Discarded=0.64 cfs	0.321 af	Primary=0.00 cfs	0.000 af
	Outflow=0.64 cfs	0.321 af	
<b>Pond Pond 1-2: Pond 1-2</b>	Peak Elev=36.09'	Storage=275 cf	Inflow=1.13 cfs
Discarded=0.59 cfs	0.092 af	Primary=0.00 cfs	0.000 af
	Outflow=0.59 cfs	0.092 af	
<b>Pond Pond 1-3: Pond 1-3</b>	Peak Elev=34.92'	Storage=2,579 cf	Inflow=2.95 cfs
Discarded=0.61 cfs	0.241 af	Primary=0.00 cfs	0.000 af
	Outflow=0.61 cfs	0.241 af	
<b>Pond Pond 1-4: Pond 1-4</b>	Peak Elev=34.84'	Storage=4,329 cf	Inflow=5.15 cfs
Discarded=1.09 cfs	0.419 af	Primary=0.00 cfs	0.000 af
	Outflow=1.09 cfs	0.419 af	
<b>Pond Pond 1-5: Pond 1-5</b>	Peak Elev=39.33'	Storage=644 cf	Inflow=1.21 cfs
Discarded=0.46 cfs	0.098 af	Primary=0.00 cfs	0.000 af
	Outflow=0.46 cfs	0.098 af	
<b>Pond Pond 1-6: Pond 1-6</b>	Peak Elev=41.89'	Storage=813 cf	Inflow=0.84 cfs
Discarded=0.22 cfs	0.078 af	Primary=0.00 cfs	0.000 af
	Outflow=0.22 cfs	0.078 af	
<b>Pond Pond 1-7: Pond 1-7</b>	Peak Elev=35.55'	Storage=284 cf	Inflow=0.41 cfs
Discarded=0.11 cfs	0.033 af	Primary=0.00 cfs	0.000 af
	Outflow=0.11 cfs	0.033 af	

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**Pond Pond 1-8: Pond 1-8**

Peak Elev=34.43' Storage=181 cf Inflow=0.29 cfs 0.024 af  
Discarded=0.09 cfs 0.024 af Primary=0.00 cfs 0.000 af Outflow=0.09 cfs 0.024 af

**Pond Pond 2-1: Pond 2-1**

Peak Elev=50.22' Storage=291 cf Inflow=0.51 cfs 0.061 af  
Discarded=0.28 cfs 0.061 af Primary=0.00 cfs 0.000 af Outflow=0.28 cfs 0.061 af

**Pond Pond 2-2: Ponk 2-2**

Peak Elev=38.56' Storage=3,088 cf Inflow=4.38 cfs 0.357 af  
Discarded=1.14 cfs 0.358 af Primary=0.00 cfs 0.000 af Outflow=1.14 cfs 0.358 af

**Total Runoff Area = 27.642 ac Runoff Volume = 1.992 af Average Runoff Depth = 0.86"**  
**69.82% Pervious = 19.300 ac 30.18% Impervious = 8.342 ac**

**12013 Post**

Type III 24-hr 2-Year Rainfall=3.10"

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**Summary for Subcatchment Post 1a: Post 1a**

Runoff = 0.61 cfs @ 12.09 hrs, Volume= 0.049 af, Depth&gt; 2.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
8,275	98	Paved parking, HSG A
738	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
2,459	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
11,472	85	Weighted Average
2,459		21.43% Pervious Area
9,013		78.57% Impervious Area
738		8.19% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	40	0.0200	1.13		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.7	253	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.3	293	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1b: Post 1b**

Runoff = 0.52 cfs @ 12.09 hrs, Volume= 0.042 af, Depth&gt; 2.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
6,817	98	Paved parking, HSG A
911	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,214	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
8,942	90	Weighted Average
1,214		13.58% Pervious Area
7,728		86.42% Impervious Area
911		11.79% Unconnected

**12013 Post**

Type III 24-hr 2-Year Rainfall=3.10"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	60	0.0200	1.22		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.5	181	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.3	241	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1c: Post 1c**

Runoff = 0.33 cfs @ 12.09 hrs, Volume= 0.027 af, Depth&gt; 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
4,893	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
0	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
4,893	98	Weighted Average
4,893		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.9	321	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.2	341	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1d: Post 1d**

Runoff = 0.52 cfs @ 12.09 hrs, Volume= 0.042 af, Depth&gt; 2.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
7,724	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
2,270	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
9,994	85	Weighted Average
2,270		22.71% Pervious Area
7,724		77.29% Impervious Area

**12013 Post**

Type III 24-hr 2-Year Rainfall=3.10"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0800	1.71		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.4	136	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.6	156	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1e: Post 1e**

Runoff = 2.08 cfs @ 12.12 hrs, Volume= 0.185 af, Depth&gt; 0.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
21,601	98	Paved parking, HSG A
12,130	98	Unconnected pavement, HSG A
13,021	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
53,795	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
100,547	58	Weighted Average
66,816		66.45% Pervious Area
33,731		33.55% Impervious Area
12,130		35.96% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	30	0.0800	0.16		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 3.10"
0.3	65	0.3000	3.83		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
5.5	512	0.0500	1.57		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
9.0	607	Total			

**Summary for Subcatchment Post 1f: Post 1f**

Runoff = 0.21 cfs @ 12.09 hrs, Volume= 0.017 af, Depth&gt; 0.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

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Type III 24-hr 2-Year Rainfall=3.10"

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Area (sf)	CN	Description
3,165	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
15,424	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
18,589	49	Weighted Average
15,424		82.97% Pervious Area
3,165		17.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	10	0.3000	0.21		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 3.10"
0.3	74	0.3000	3.83		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.1	84	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1g: Post 1g**

Runoff = 1.13 cfs @ 12.09 hrs, Volume= 0.092 af, Depth> 0.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Adj	Description
14,132	98	98	Paved parking, HSG A
2,594	98	98	Unconnected pavement, HSG A
6,828	36	36	Woods, Fair, HSG A
0	48		Brush, Poor, HSG A
34,019	39	39	>75% Grass cover, Good, HSG A
0	98		Water Surface, HSG A
57,573	56	54	Weighted Average, UI Adjusted
40,847			70.95% Pervious Area
16,726			29.05% Impervious Area
2,594			15.51% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	62	0.0400	1.62		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.6	158	0.0400	4.06		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.2	220	Total, Increased to minimum Tc = 6.0 min			

**12013 Post**

Type III 24-hr 2-Year Rainfall=3.10"

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**Summary for Subcatchment Post 1h: Post 1h**

Runoff = 1.25 cfs @ 12.09 hrs, Volume= 0.102 af, Depth&gt; 2.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
18,514	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
4,205	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
22,719	87	Weighted Average
4,205		18.51% Pervious Area
18,514		81.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0400	1.29		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
1.3	321	0.0400	4.06		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.6	341	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1i: Post 1i**

Runoff = 0.34 cfs @ 12.09 hrs, Volume= 0.028 af, Depth&gt; 2.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
5,084	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
739	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
5,823	91	Weighted Average
739		12.69% Pervious Area
5,084		87.31% Impervious Area

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Type III 24-hr 2-Year Rainfall=3.10"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.3	56	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.6	76	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1j: Post 1j**

Runoff = 0.38 cfs @ 12.09 hrs, Volume= 0.031 af, Depth&gt; 2.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
5,692	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
2,111	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
7,803	82	Weighted Average
2,111		27.05% Pervious Area
5,692		72.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0400	1.29		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.5	111	0.0400	4.06		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.8	131	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1k: Post 1k**

Runoff = 0.28 cfs @ 12.09 hrs, Volume= 0.023 af, Depth&gt; 1.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

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Type III 24-hr 2-Year Rainfall=3.10"

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Area (sf)	CN	Description
4,151	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
2,197	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
6,348	78	Weighted Average
2,197		34.61% Pervious Area
4,151		65.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	10	0.0200	0.85		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.6	73	0.0100	2.03		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.8	83	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 11: Post 11**

Runoff = 0.36 cfs @ 12.09 hrs, Volume= 0.029 af, Depth> 1.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
5,296	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
2,560	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
7,856	79	Weighted Average
2,560		32.59% Pervious Area
5,296		67.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	52	0.0150	1.06		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.2	34	0.0150	2.49		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.0	86	Total, Increased to minimum Tc = 6.0 min			

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**Summary for Subcatchment Post 1m: Post 1m**

Runoff = 0.20 cfs @ 12.09 hrs, Volume= 0.016 af, Depth&gt; 2.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
2,985	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
412	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
3,397	91	Weighted Average
412		12.13% Pervious Area
2,985		87.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	40	0.0200	1.13		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.2	33	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.8	73	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1n: Post 1n**

Runoff = 0.14 cfs @ 12.09 hrs, Volume= 0.012 af, Depth&gt; 0.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
2,108	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
10,166	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
12,274	49	Weighted Average
10,166		82.83% Pervious Area
2,108		17.17% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	27	0.0200	1.04		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.5	80	0.0150	2.49		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.9	107	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1o: Post 1o**

Runoff = 0.41 cfs @ 12.09 hrs, Volume= 0.033 af, Depth&gt; 1.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
6,091	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
3,255	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
9,346	77	Weighted Average
3,255		34.83% Pervious Area
6,091		65.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.05		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.5	81	0.0150	2.49		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.3	131	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1q: Post 1q**

Runoff = 0.49 cfs @ 12.09 hrs, Volume= 0.040 af, Depth&gt; 2.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

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Area (sf)	CN	Description
7,252	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,404	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
8,656	88	Weighted Average
1,404		16.22% Pervious Area
7,252		83.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	69	0.0200	1.26		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.1	20	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.0	89	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1r: Post 1r**

Runoff = 0.40 cfs @ 12.09 hrs, Volume= 0.032 af, Depth> 1.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
5,879	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
3,486	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
9,365	76	Weighted Average
3,486		37.22% Pervious Area
5,879		62.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	70	0.0200	1.26		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.3	38	0.0100	2.03		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.2	108	Total, Increased to minimum Tc = 6.0 min			

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**Summary for Subcatchment Post 1s: Post 1s**

Runoff = 0.85 cfs @ 12.09 hrs, Volume= 0.069 af, Depth&gt; 2.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
12,559	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
3,506	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
16,065	85	Weighted Average
3,506		21.82% Pervious Area
12,559		78.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	95	0.0200	1.34		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.6	100	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.8	195	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1t: Post 1t**

Runoff = 0.72 cfs @ 12.09 hrs, Volume= 0.059 af, Depth&gt; 2.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
10,725	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
2,637	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
13,362	86	Weighted Average
2,637		19.74% Pervious Area
10,725		80.26% Impervious Area

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Type III 24-hr 2-Year Rainfall=3.10"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0800	1.71		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.6	216	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.8	236	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1u: Post 1u**

Runoff = 1.27 cfs @ 12.09 hrs, Volume= 0.103 af, Depth&gt; 2.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
18,874	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
6,576	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
25,450	83	Weighted Average
6,576		25.84% Pervious Area
18,874		74.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0800	1.71		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
1.4	489	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.6	509	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1v: Post 1v**

Runoff = 0.19 cfs @ 12.09 hrs, Volume= 0.015 af, Depth&gt; 0.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

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Area (sf)	CN	Description
2,802	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
13,176	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
24,003	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
39,981	42	Weighted Average
37,179		92.99% Pervious Area
2,802		7.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.4	40	0.3000	0.28		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 3.10"
0.8	281	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
3.2	321	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1w: Post 1w**

Runoff = 0.78 cfs @ 12.09 hrs, Volume= 0.064 af, Depth> 2.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
11,629	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
2,309	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
13,938	88	Weighted Average
2,309		16.57% Pervious Area
11,629		83.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	80	0.0200	1.29		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.5	77	0.0150	2.49		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.5	157	Total, Increased to minimum Tc = 6.0 min			

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**Summary for Subcatchment Post 1x: Post 1x**

Runoff = 0.45 cfs @ 12.09 hrs, Volume= 0.036 af, Depth&gt; 0.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
6,633	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
24,132	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
30,765	52	Weighted Average
24,132		78.44% Pervious Area
6,633		21.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	40	0.0200	1.13		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.1	32	0.3300	4.02		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
0.7	72	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1y: Post 1y**

Runoff = 0.84 cfs @ 12.14 hrs, Volume= 0.078 af, Depth&gt; 0.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Adj	Description
9,738	98	98	Paved parking, HSG A
4,436	98	98	Unconnected pavement, HSG A
24,536	36	36	Woods, Fair, HSG A
0	48		Brush, Poor, HSG A
69,220	39	39	>75% Grass cover, Good, HSG A
0	98		Water Surface, HSG A
107,930	46	45	Weighted Average, UI Adjusted
93,756			86.87% Pervious Area
14,174			13.13% Impervious Area
4,436			31.30% Unconnected

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	94	0.1500	0.17		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 3.10"
0.9	220	0.3300	4.02		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
10.2	314	Total			

**Summary for Subcatchment Post 1z: Post 1z**

Runoff = 0.29 cfs @ 12.09 hrs, Volume= 0.024 af, Depth&gt; 1.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
4,348	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
5,378	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
9,726	65	Weighted Average
5,378		55.30% Pervious Area
4,348		44.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	61	0.0200	1.23		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.2	30	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.0	91	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 2a: Post 2a**

Runoff = 0.21 cfs @ 12.09 hrs, Volume= 0.017 af, Depth&gt; 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

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Area (sf)	CN	Description
2,844	98	Paved parking, HSG A
339	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
0	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
3,183	98	Weighted Average
3,183		100.00% Impervious Area
339		10.65% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0800	1.71		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.6	223	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.8	243	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 2b: Post 2b**

Runoff = 0.20 cfs @ 12.09 hrs, Volume= 0.016 af, Depth> 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
2,884	98	Paved parking, HSG A
55	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
0	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
2,939	98	Weighted Average
2,939		100.00% Impervious Area
55		1.87% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0800	1.71		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.7	229	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.9	249	Total, Increased to minimum Tc = 6.0 min			

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**Summary for Subcatchment Post 2c: Post 2c**

Runoff = 0.77 cfs @ 12.09 hrs, Volume= 0.062 af, Depth&gt; 2.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
11,371	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,686	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
13,057	90	Weighted Average
1,686		12.91% Pervious Area
11,371		87.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0800	1.71		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.8	146	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.0	166	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 2d: Post 2d**

Runoff = 0.59 cfs @ 12.09 hrs, Volume= 0.048 af, Depth&gt; 2.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
8,809	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,522	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
10,331	89	Weighted Average
1,522		14.73% Pervious Area
8,809		85.27% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.6	102	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.9	122	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 2e: Post 2e**

Runoff = 0.51 cfs @ 12.28 hrs, Volume= 0.061 af, Depth> 0.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Adj	Description
9,320	98	98	Paved parking, HSG A
1,806	98	98	Unconnected pavement, HSG A
51,208	36	36	Woods, Fair, HSG A
0	48		Brush, Poor, HSG A
40,358	39	39	>75% Grass cover, Good, HSG A
0	98		Water Surface, HSG A
102,692	44	43	Weighted Average, UI Adjusted
91,566			89.17% Pervious Area
11,126			10.83% Impervious Area
1,806			16.23% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.8	85	0.1300	0.09		<b>Sheet Flow,</b> Woods: Dense underbrush n= 0.800 P2= 3.10"
0.4	116	0.5000	4.95		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
5.1	300	0.0200	0.99		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
21.3	501	Total			

**Summary for Subcatchment Post 2f: Post 2f**

Runoff = 0.18 cfs @ 12.09 hrs, Volume= 0.015 af, Depth> 1.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

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Area (sf)	CN	Description
2,657	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
2,822	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
5,479	68	Weighted Average
2,822		51.51% Pervious Area
2,657		48.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	32	0.0200	1.08		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.2	59	0.0500	4.54		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.7	91	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 2g: Post 2g**

Runoff = 0.48 cfs @ 12.09 hrs, Volume= 0.039 af, Depth> 2.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
7,137	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,422	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
8,559	88	Weighted Average
1,422		16.61% Pervious Area
7,137		83.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	41	0.0800	1.97		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.4	130	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.7	171	Total, Increased to minimum Tc = 6.0 min			

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**Summary for Subcatchment Post 2h: Post 2h**

Runoff = 0.14 cfs @ 12.12 hrs, Volume= 0.012 af, Depth&gt; 0.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
2,252	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
9,717	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
6,948	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
18,917	44	Weighted Average
16,665		88.10% Pervious Area
2,252		11.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.3	40	0.0500	0.09		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 3.10"
0.9	107	0.1600	2.00		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
0.5	147	0.5000	4.95		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
8.7	294	Total			

**Summary for Subcatchment Post 2i: Post 2i**

Runoff = 0.35 cfs @ 12.09 hrs, Volume= 0.028 af, Depth&gt; 2.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
5,151	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,881	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
7,032	82	Weighted Average
1,881		26.75% Pervious Area
5,151		73.25% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	46	0.0400	1.53		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.1	40	0.1000	5.09		<b>Shallow Concentrated Flow,</b> Unpaved Kv= 16.1 fps
0.6	86	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 2j: Post 2j**

Runoff = 0.26 cfs @ 12.09 hrs, Volume= 0.021 af, Depth&gt; 2.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
3,877	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
367	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
4,244	93	Weighted Average
367		8.65% Pervious Area
3,877		91.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	27	0.0400	1.37		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.2	80	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.5	107	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 2k: Post 2k**

Runoff = 0.17 cfs @ 12.09 hrs, Volume= 0.014 af, Depth&gt; 0.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

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Area (sf)	CN	Description
2,552	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
7,447	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
15,496	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
25,495	44	Weighted Average
22,943		89.99% Pervious Area
2,552		10.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	20	0.2500	0.23		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 3.10"
0.7	163	0.3300	4.02		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
2.2	183	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 21: Post 21**

Runoff = 1.03 cfs @ 12.09 hrs, Volume= 0.084 af, Depth> 0.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
15,240	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
2,191	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
37,230	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
54,661	55	Weighted Average
39,421		72.12% Pervious Area
15,240		27.88% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	53	0.5000	4.32		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
1.5	195	0.1000	2.21		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.7	248	Total, Increased to minimum Tc = 6.0 min			

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**Summary for Subcatchment Post 3a: Post 3a**

Runoff = 0.46 cfs @ 12.09 hrs, Volume= 0.038 af, Depth&gt; 0.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
0	98	Paved parking, HSG A
6,898	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
14,330	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
21,228	58	Weighted Average
14,330		67.51% Pervious Area
6,898		32.49% Impervious Area
6,898		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0500	1.42		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
2.7	725	0.0500	4.54		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
2.9	745	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 3b: Post 3b**

Runoff = 2.10 cfs @ 12.09 hrs, Volume= 0.171 af, Depth&gt; 0.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Adj	Description
2,975	98	98	Paved parking, HSG A
3,956	98	98	Unconnected pavement, HSG A
137,577	36	36	Woods, Fair, HSG A
0	48		Brush, Poor, HSG A
69,383	39	39	>75% Grass cover, Good, HSG A
24,197	98	98	Water Surface, HSG A
238,088	45	44	Weighted Average, UI Adjusted
206,960			86.93% Pervious Area
31,128			13.07% Impervious Area
3,956			12.71% Unconnected

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	20	0.3300	0.17		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 3.10"
1.3	324	0.3300	4.02		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
3.3	344	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 3c: Post 3c**

Runoff = 0.75 cfs @ 12.09 hrs, Volume= 0.061 af, Depth&gt; 0.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
11,125	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
24,759	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
49,229	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
85,113	46	Weighted Average
73,988		86.93% Pervious Area
11,125		13.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.8	30	0.0500	0.13		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 3.10"
1.0	237	0.3300	4.02		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
4.8	267	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post p: Post 1p**

Runoff = 0.69 cfs @ 12.09 hrs, Volume= 0.056 af, Depth&gt; 0.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
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Area (sf)	CN	Description
10,174	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
30,098	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
40,272	54	Weighted Average
30,098		74.74% Pervious Area
10,174		25.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	10	0.3000	0.21		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 3.10"
0.4	101	0.3000	3.83		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.2	111	Total, Increased to minimum Tc = 6.0 min			

**Summary for Reach Phase 1 Post: Phase 1 Post**

Inflow Area = 15.799 ac, 36.19% Impervious, Inflow Depth > 0.05" for 2-Year event  
 Inflow = 0.75 cfs @ 12.09 hrs, Volume= 0.061 af  
 Outflow = 0.75 cfs @ 12.09 hrs, Volume= 0.061 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

**Summary for Reach Phase 2 Pre: Phase 2 Pre**

Inflow Area = 11.844 ac, 22.16% Impervious, Inflow Depth > 0.21" for 2-Year event  
 Inflow = 2.56 cfs @ 12.09 hrs, Volume= 0.208 af  
 Outflow = 2.56 cfs @ 12.09 hrs, Volume= 0.208 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

**Summary for Reach Pond Post: Pond Post**

Inflow Area = 27.642 ac, 30.18% Impervious, Inflow Depth > 0.12" for 2-Year event  
 Inflow = 3.31 cfs @ 12.09 hrs, Volume= 0.269 af  
 Outflow = 3.31 cfs @ 12.09 hrs, Volume= 0.269 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

**Summary for Reach Swale thru 1e: Swale thru 1e**

Inflow Area = 0.263 ac, 78.57% Impervious, Inflow Depth > 2.25" for 2-Year event  
 Inflow = 0.61 cfs @ 12.09 hrs, Volume= 0.049 af  
 Outflow = 0.54 cfs @ 12.13 hrs, Volume= 0.049 af, Atten= 12%, Lag= 2.8 min

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Max. Velocity= 1.63 fps, Min. Travel Time= 4.5 min

Avg. Velocity = 0.56 fps, Avg. Travel Time= 13.0 min

Peak Storage= 143 cf @ 12.13 hrs

Average Depth at Peak Storage= 0.11'

Bank-Full Depth= 1.00' Flow Area= 8.7 sf, Capacity= 60.14 cfs

13.00' x 1.00' deep Parabolic Channel, n= 0.030 Short grass

Length= 436.0' Slope= 0.0344 '/'

Inlet Invert= 56.00', Outlet Invert= 41.00'



**Summary for Pond CB P1-1: CB P1-1**

Inflow Area = 0.263 ac, 78.57% Impervious, Inflow Depth > 2.25" for 2-Year event

Inflow = 0.61 cfs @ 12.09 hrs, Volume= 0.049 af

Outflow = 0.61 cfs @ 12.09 hrs, Volume= 0.049 af, Atten= 0%, Lag= 0.0 min

Primary = 0.61 cfs @ 12.09 hrs, Volume= 0.049 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Peak Elev= 63.42' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	63.00'	<b>12.0" Round 12" Culvert</b> L= 68.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 63.00' / 62.00' S= 0.0147 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.59 cfs @ 12.09 hrs HW=63.41' TW=56.11' (Dynamic Tailwater)

↑**1=12" Culvert** (Inlet Controls 0.59 cfs @ 1.93 fps)

**Summary for Pond CB P1-17: CB P1-17**

Inflow Area = 0.918 ac, 7.01% Impervious, Inflow Depth > 0.20" for 2-Year event

Inflow = 0.19 cfs @ 12.09 hrs, Volume= 0.015 af

Outflow = 0.19 cfs @ 12.09 hrs, Volume= 0.015 af, Atten= 0%, Lag= 0.0 min

Primary = 0.19 cfs @ 12.09 hrs, Volume= 0.015 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Peak Elev= 51.23' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.00'	<b>12.0" Round 12" Culvert</b> L= 200.0' CPP, mitered to conform to fill, Ke= 0.700

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Inlet / Outlet Invert= 51.00' / 37.90' S= 0.0655 '/' Cc= 0.900  
 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.18 cfs @ 12.09 hrs HW=51.22' TW=38.52' (Dynamic Tailwater)

↑1=12" Culvert (Inlet Controls 0.18 cfs @ 1.42 fps)

**Summary for Pond CB P1-2: CB P1-1**

Inflow Area = 0.205 ac, 86.42% Impervious, Inflow Depth > 2.48" for 2-Year event  
 Inflow = 0.52 cfs @ 12.09 hrs, Volume= 0.042 af  
 Outflow = 0.52 cfs @ 12.09 hrs, Volume= 0.042 af, Atten= 0%, Lag= 0.0 min  
 Primary = 0.52 cfs @ 12.09 hrs, Volume= 0.042 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 63.39' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	63.00'	<b>12.0" Round 12" Culvert</b> L= 34.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 63.00' / 47.00' S= 0.4706 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.51 cfs @ 12.09 hrs HW=63.38' TW=39.22' (Dynamic Tailwater)

↑1=12" Culvert (Inlet Controls 0.51 cfs @ 1.85 fps)

**Summary for Pond CB P1-4: CB P1-4**

Inflow Area = 2.572 ac, 38.16% Impervious, Inflow Depth > 1.09" for 2-Year event  
 Inflow = 2.61 cfs @ 12.12 hrs, Volume= 0.234 af  
 Outflow = 2.61 cfs @ 12.12 hrs, Volume= 0.234 af, Atten= 0%, Lag= 0.0 min  
 Primary = 2.61 cfs @ 12.12 hrs, Volume= 0.234 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 39.82' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	39.00'	<b>15.0" Round Culvert</b> L= 90.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 39.00' / 38.00' S= 0.0111 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

**Primary OutFlow** Max=2.55 cfs @ 12.12 hrs HW=39.80' TW=36.89' (Dynamic Tailwater)

↑1=Culvert (Inlet Controls 2.55 cfs @ 3.05 fps)

**Summary for Pond DMH P 1-2: DMH 1-2**

Inflow Area = 0.655 ac, 82.68% Impervious, Inflow Depth > 2.37" for 2-Year event  
 Inflow = 1.59 cfs @ 12.09 hrs, Volume= 0.129 af  
 Outflow = 1.59 cfs @ 12.09 hrs, Volume= 0.129 af, Atten= 0%, Lag= 0.0 min  
 Primary = 1.59 cfs @ 12.09 hrs, Volume= 0.129 af

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Peak Elev= 35.68' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	34.80'	<b>12.0" Round 12" Culvert</b> L= 46.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 34.80' / 34.60' S= 0.0043 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.29 cfs @ 12.09 hrs HW=35.65' TW=35.42' (Dynamic Tailwater)↑**1=12" Culvert** (Outlet Controls 1.29 cfs @ 2.44 fps)**Summary for Pond DMH P 1-3: DMH P1-3**

Inflow Area =	0.980 ac, 78.33% Impervious, Inflow Depth > 2.24" for 2-Year event
Inflow =	2.25 cfs @ 12.09 hrs, Volume= 0.183 af
Outflow =	2.25 cfs @ 12.09 hrs, Volume= 0.183 af, Atten= 0%, Lag= 0.0 min
Primary =	2.25 cfs @ 12.09 hrs, Volume= 0.183 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Peak Elev= 35.44' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	34.50'	<b>15.0" Round 15" Culvert</b> L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 34.50' / 34.00' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

**Primary OutFlow** Max=1.98 cfs @ 12.09 hrs HW=35.42' TW=34.99' (Dynamic Tailwater)↑**1=15" Culvert** (Outlet Controls 1.98 cfs @ 2.86 fps)**Summary for Pond DMH P 1-6: DMH P1-6**

Inflow Area =	6.519 ac, 35.85% Impervious, Inflow Depth > 0.70" for 2-Year event
Inflow =	4.70 cfs @ 12.09 hrs, Volume= 0.382 af
Outflow =	4.70 cfs @ 12.09 hrs, Volume= 0.382 af, Atten= 0%, Lag= 0.0 min
Primary =	4.70 cfs @ 12.09 hrs, Volume= 0.382 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Peak Elev= 36.45' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	35.00'	<b>15.0" Round 12" Culvert</b> L= 100.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 35.00' / 34.50' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

**Primary OutFlow** Max=4.58 cfs @ 12.09 hrs HW=36.42' TW=34.45' (Dynamic Tailwater)↑**1=12" Culvert** (Barrel Controls 4.58 cfs @ 4.12 fps)

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**Summary for Pond DMH P1-1: DMH 1-1**

Inflow Area = 0.342 ac, 84.75% Impervious, Inflow Depth > 2.43" for 2-Year event  
 Inflow = 0.85 cfs @ 12.09 hrs, Volume= 0.069 af  
 Outflow = 0.85 cfs @ 12.09 hrs, Volume= 0.069 af, Atten= 0%, Lag= 0.0 min  
 Primary = 0.85 cfs @ 12.09 hrs, Volume= 0.069 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 45.59' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	45.10'	<b>12.0" Round 12" Culvert</b> L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.10' / 44.80' S= 0.0100 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.83 cfs @ 12.09 hrs HW=45.58' TW=36.75' (Dynamic Tailwater)  
 ↑1=12" Culvert (Barrel Controls 0.83 cfs @ 3.23 fps)

**Summary for Pond DMH P1-4: DMH P1-4**

Inflow Area = 5.900 ac, 45.51% Impervious, Inflow Depth > 0.47" for 2-Year event  
 Inflow = 2.81 cfs @ 12.09 hrs, Volume= 0.229 af  
 Outflow = 2.81 cfs @ 12.09 hrs, Volume= 0.229 af, Atten= 0%, Lag= 0.0 min  
 Primary = 2.81 cfs @ 12.09 hrs, Volume= 0.229 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 35.02' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	34.00'	<b>15.0" Round 15" Culvert</b> L= 94.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 34.00' / 33.50' S= 0.0053 '/ Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

**Primary OutFlow** Max=2.41 cfs @ 12.09 hrs HW=34.99' TW=34.51' (Dynamic Tailwater)  
 ↑1=15" Culvert (Outlet Controls 2.41 cfs @ 3.16 fps)

**Summary for Pond DMH P1-5: DMH P1-5**

Inflow Area = 0.414 ac, 72.86% Impervious, Inflow Depth > 2.09" for 2-Year event  
 Inflow = 0.89 cfs @ 12.09 hrs, Volume= 0.072 af  
 Outflow = 0.89 cfs @ 12.09 hrs, Volume= 0.072 af, Atten= 0%, Lag= 0.0 min  
 Primary = 0.89 cfs @ 12.09 hrs, Volume= 0.072 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 36.55' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	35.60'	<b>12.0" Round 12" Culvert</b> L= 114.0' CPP, mitered to conform to fill, Ke= 0.700

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Inlet / Outlet Invert= 35.60' / 35.10' S= 0.0044 '/' Cc= 0.900  
 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.40 cfs @ 12.09 hrs HW=36.45' TW=36.42' (Dynamic Tailwater)

↑1=12" Culvert (Outlet Controls 0.40 cfs @ 0.75 fps)

**Summary for Pond DMH P1-7: DMH P 1-7**

Inflow Area = 1.809 ac, 41.12% Impervious, Inflow Depth > 1.18" for 2-Year event  
 Inflow = 2.18 cfs @ 12.09 hrs, Volume= 0.178 af  
 Outflow = 2.18 cfs @ 12.09 hrs, Volume= 0.178 af, Atten= 0%, Lag= 0.0 min  
 Primary = 2.18 cfs @ 12.09 hrs, Volume= 0.178 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 38.53' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	37.80'	<b>15.0" Round 15" Culvert</b> L= 174.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 37.80' / 35.10' S= 0.0155 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

**Primary OutFlow** Max=2.13 cfs @ 12.09 hrs HW=38.52' TW=36.42' (Dynamic Tailwater)

↑1=15" Culvert (Inlet Controls 2.13 cfs @ 2.89 fps)

**Summary for Pond DMH P2-1: DMH P2-1**

Inflow Area = 0.726 ac, 27.43% Impervious, Inflow Depth > 0.79" for 2-Year event  
 Inflow = 0.58 cfs @ 12.09 hrs, Volume= 0.048 af  
 Outflow = 0.58 cfs @ 12.09 hrs, Volume= 0.048 af, Atten= 0%, Lag= 0.0 min  
 Primary = 0.58 cfs @ 12.09 hrs, Volume= 0.048 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 49.41' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	49.00'	<b>12.0" Round 12" Culvert</b> L= 60.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 49.00' / 44.00' S= 0.0833 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.57 cfs @ 12.09 hrs HW=49.40' TW=38.30' (Dynamic Tailwater)

↑1=12" Culvert (Inlet Controls 0.57 cfs @ 1.91 fps)

**Summary for Pond DMH P2-2: DMH P2-2**

Inflow Area = 2.894 ac, 24.83% Impervious, Inflow Depth > 0.46" for 2-Year event  
 Inflow = 1.36 cfs @ 12.09 hrs, Volume= 0.111 af  
 Outflow = 1.36 cfs @ 12.09 hrs, Volume= 0.111 af, Atten= 0%, Lag= 0.0 min  
 Primary = 1.36 cfs @ 12.09 hrs, Volume= 0.111 af

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 48.26' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	47.50'	<b>12.0" Round 12" Culvert</b> L= 90.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 47.50' / 46.90' S= 0.0067 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.23 cfs @ 12.09 hrs HW=48.24' TW=47.79' (Dynamic Tailwater)  
 ↑1=12" Culvert (Outlet Controls 1.23 cfs @ 2.73 fps)

**Summary for Pond DMH P2-3: DMH P2-3**

Inflow Area = 3.217 ac, 29.33% Impervious, Inflow Depth > 0.61" for 2-Year event  
 Inflow = 2.02 cfs @ 12.09 hrs, Volume= 0.164 af  
 Outflow = 2.02 cfs @ 12.09 hrs, Volume= 0.164 af, Atten= 0%, Lag= 0.0 min  
 Primary = 2.02 cfs @ 12.09 hrs, Volume= 0.164 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 47.81' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	46.90'	<b>12.0" Round 12" Culvert</b> L= 94.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 46.90' / 46.40' S= 0.0053 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.97 cfs @ 12.09 hrs HW=47.79' TW=38.30' (Dynamic Tailwater)  
 ↑1=12" Culvert (Barrel Controls 1.97 cfs @ 3.52 fps)

**Summary for Pond DMH P2-4: DMH P2-4**

Inflow Area = 0.693 ac, 37.36% Impervious, Inflow Depth > 1.07" for 2-Year event  
 Inflow = 0.74 cfs @ 12.09 hrs, Volume= 0.062 af  
 Outflow = 0.74 cfs @ 12.09 hrs, Volume= 0.062 af, Atten= 0%, Lag= 0.0 min  
 Primary = 0.74 cfs @ 12.09 hrs, Volume= 0.062 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 54.47' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	54.00'	<b>12.0" Round 12" Culvert</b> L= 65.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 54.00' / 48.00' S= 0.0923 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.73 cfs @ 12.09 hrs HW=54.46' TW=38.31' (Dynamic Tailwater)  
 ↑1=12" Culvert (Inlet Controls 0.73 cfs @ 2.05 fps)

**Summary for Pond Pond 1-1: Pond 1-1**

Inflow Area = 3.340 ac, 40.23% Impervious, Inflow Depth > 1.15" for 2-Year event  
 Inflow = 3.63 cfs @ 12.11 hrs, Volume= 0.321 af  
 Outflow = 0.64 cfs @ 12.61 hrs, Volume= 0.321 af, Atten= 82%, Lag= 30.0 min  
 Discarded = 0.64 cfs @ 12.61 hrs, Volume= 0.321 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 37.52' @ 12.61 hrs Surf.Area= 3,325 sf Storage= 4,103 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 42.3 min ( 801.5 - 759.2 )

Volume	Invert	Avail.Storage	Storage Description
#1	36.00'	8,207 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.00	2,087	0	0
38.00	3,720	5,807	5,807
38.50	5,879	2,400	8,207

Device	Routing	Invert	Outlet Devices
#1	Discarded	36.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	38.00'	<b>18.0" x 18.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads

**Discarded OutFlow** Max=0.64 cfs @ 12.61 hrs HW=37.52' (Free Discharge)  
 ↑1=**Exfiltration** (Exfiltration Controls 0.64 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=36.00' TW=36.00' (Dynamic Tailwater)  
 ↑2=**Orifice/Grate** ( Controls 0.00 cfs)

**Summary for Pond Pond 1-2: Pond 1-2**

Inflow Area = 4.662 ac, 37.06% Impervious, Inflow Depth > 0.24" for 2-Year event  
 Inflow = 1.13 cfs @ 12.09 hrs, Volume= 0.092 af  
 Outflow = 0.59 cfs @ 12.23 hrs, Volume= 0.092 af, Atten= 48%, Lag= 8.4 min  
 Discarded = 0.59 cfs @ 12.23 hrs, Volume= 0.092 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 36.09' @ 12.23 hrs Surf.Area= 3,057 sf Storage= 275 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 1.6 min ( 758.3 - 756.6 )

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Volume	Invert	Avail.Storage	Storage Description
#1	36.00'	11,681 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.00	2,943	0	0
38.00	5,430	8,373	8,373
38.50	7,800	3,308	11,681

Device	Routing	Invert	Outlet Devices
#1	Discarded	36.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	38.00'	<b>18.0" x 18.0" Horiz. Orifice/Grate C= 0.600</b> Limited to weir flow at low heads

**Discarded OutFlow** Max=0.59 cfs @ 12.23 hrs HW=36.09' (Free Discharge)  
 ↑**1=Exfiltration** (Exfiltration Controls 0.59 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=36.00' TW=34.00' (Dynamic Tailwater)  
 ↑**2=Orifice/Grate** ( Controls 0.00 cfs)

**Summary for Pond Pond 1-3: Pond 1-3**

Inflow Area = 6.182 ac, 44.22% Impervious, Inflow Depth > 0.47" for 2-Year event  
 Inflow = 2.95 cfs @ 12.09 hrs, Volume= 0.240 af  
 Outflow = 0.61 cfs @ 12.51 hrs, Volume= 0.241 af, Atten= 79%, Lag= 25.1 min  
 Discarded = 0.61 cfs @ 12.51 hrs, Volume= 0.241 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 34.92' @ 12.51 hrs Surf.Area= 3,202 sf Storage= 2,579 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 23.8 min ( 780.5 - 756.6 )

Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	6,541 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	2,398	0	0
36.00	4,143	6,541	6,541

Device	Routing	Invert	Outlet Devices
#1	Discarded	34.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	35.50'	<b>10.0' long x 3.0' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

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**Discarded OutFlow** Max=0.61 cfs @ 12.51 hrs HW=34.92' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 0.61 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=34.00' TW=0.00' (Dynamic Tailwater)

↑2=Broad-Crested Rectangular Weir( Controls 0.00 cfs)

**Summary for Pond Pond 1-4: Pond 1-4**

Inflow Area = 7.225 ac, 34.45% Impervious, Inflow Depth > 0.70" for 2-Year event  
 Inflow = 5.15 cfs @ 12.09 hrs, Volume= 0.419 af  
 Outflow = 1.09 cfs @ 12.50 hrs, Volume= 0.419 af, Atten= 79%, Lag= 24.8 min  
 Discarded = 1.09 cfs @ 12.50 hrs, Volume= 0.419 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Peak Elev= 34.84' @ 12.50 hrs Surf.Area= 5,708 sf Storage= 4,329 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 21.5 min ( 778.1 - 756.6 )

Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	11,836 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	4,612	0	0
36.00	7,224	11,836	11,836

Device	Routing	Invert	Outlet Devices
#1	Discarded	34.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	35.50'	<b>10.0' long x 3.0' breadth Broad-Crested Rectangular Weir</b>
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.50 4.00 4.50
			Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68
			2.72 2.81 2.92 2.97 3.07 3.32

**Discarded OutFlow** Max=1.09 cfs @ 12.50 hrs HW=34.84' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 1.09 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=34.00' TW=0.00' (Dynamic Tailwater)

↑2=Broad-Crested Rectangular Weir( Controls 0.00 cfs)

**Summary for Pond Pond 1-5: Pond 1-5**

Inflow Area = 3.608 ac, 20.41% Impervious, Inflow Depth > 0.33" for 2-Year event  
 Inflow = 1.21 cfs @ 12.09 hrs, Volume= 0.098 af  
 Outflow = 0.46 cfs @ 12.32 hrs, Volume= 0.098 af, Atten= 62%, Lag= 14.0 min  
 Discarded = 0.46 cfs @ 12.32 hrs, Volume= 0.098 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 39.33' @ 12.32 hrs Surf.Area= 2,423 sf Storage= 644 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
Center-of-Mass det. time= 7.1 min ( 763.8 - 756.6 )

Volume	Invert	Avail.Storage	Storage Description
#1	39.00'	2,915 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
39.00	1,434	0	0
40.00	4,396	2,915	2,915

Device	Routing	Invert	Outlet Devices
#1	Discarded	39.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	39.80'	<b>18.0" x 18.0" Horiz. Orifice/Grate C= 0.600</b> Limited to weir flow at low heads

**Discarded OutFlow** Max=0.46 cfs @ 12.32 hrs HW=39.33' (Free Discharge)  
↑**1=Exfiltration** (Exfiltration Controls 0.46 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=39.00' TW=35.00' (Dynamic Tailwater)  
↑**2=Orifice/Grate** ( Controls 0.00 cfs)

**Summary for Pond Pond 1-6: Pond 1-6**

Inflow Area = 2.478 ac, 13.13% Impervious, Inflow Depth > 0.38" for 2-Year event  
 Inflow = 0.84 cfs @ 12.14 hrs, Volume= 0.078 af  
 Outflow = 0.22 cfs @ 12.55 hrs, Volume= 0.078 af, Atten= 74%, Lag= 24.6 min  
 Discarded = 0.22 cfs @ 12.55 hrs, Volume= 0.078 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 41.89' @ 12.55 hrs Surf.Area= 1,147 sf Storage= 813 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
Center-of-Mass det. time= 22.0 min ( 782.1 - 760.1 )

Volume	Invert	Avail.Storage	Storage Description
#1	41.00'	1,796 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
41.00	681	0	0
42.00	1,204	943	943
42.50	2,210	854	1,796

Device	Routing	Invert	Outlet Devices
#1	Discarded	41.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	42.25'	<b>10.0' long x 3.0' breadth Broad-Crested Rectangular Weir</b>

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Head (feet)	0.20	0.40	0.60	0.80	1.00	1.20	1.40	1.60	1.80	2.00
	2.50	3.00	3.50	4.00	4.50					
Coef. (English)	2.44	2.58	2.68	2.67	2.65	2.64	2.64	2.68	2.68	
	2.72	2.81	2.92	2.97	3.07	3.32				

**Discarded OutFlow** Max=0.22 cfs @ 12.55 hrs HW=41.89' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 0.22 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=41.00' TW=39.00' (Dynamic Tailwater)

↑2=Broad-Crested Rectangular Weir ( Controls 0.00 cfs)

**Summary for Pond Pond 1-7: Pond 1-7**

Inflow Area =	0.215 ac, 65.17% Impervious, Inflow Depth > 1.87" for 2-Year event
Inflow =	0.41 cfs @ 12.09 hrs, Volume= 0.033 af
Outflow =	0.11 cfs @ 12.43 hrs, Volume= 0.033 af, Atten= 72%, Lag= 20.4 min
Discarded =	0.11 cfs @ 12.43 hrs, Volume= 0.033 af
Primary =	0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Peak Elev= 35.55' @ 12.43 hrs Surf.Area= 600 sf Storage= 284 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 12.4 min ( 769.0 - 756.6 )

Volume	Invert	Avail.Storage	Storage Description
#1	35.00'	1,493 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
35.00	441	0	0
36.00	732	587	587
37.00	1,080	906	1,493

Device	Routing	Invert	Outlet Devices
#1	Discarded	35.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	36.90'	<b>10.0' long x 3.0' breadth Broad-Crested Rectangular Weir</b>
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.50 4.00 4.50
			Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68
			2.72 2.81 2.92 2.97 3.07 3.32

**Discarded OutFlow** Max=0.11 cfs @ 12.43 hrs HW=35.55' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 0.11 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=35.00' TW=0.00' (Dynamic Tailwater)

↑2=Broad-Crested Rectangular Weir ( Controls 0.00 cfs)

**Summary for Pond Pond 1-8: Pond 1-8**

Inflow Area = 0.223 ac, 44.70% Impervious, Inflow Depth > 1.28" for 2-Year event  
 Inflow = 0.29 cfs @ 12.09 hrs, Volume= 0.024 af  
 Outflow = 0.09 cfs @ 12.41 hrs, Volume= 0.024 af, Atten= 70%, Lag= 19.2 min  
 Discarded = 0.09 cfs @ 12.41 hrs, Volume= 0.024 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 34.43' @ 12.41 hrs Surf.Area= 457 sf Storage= 181 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 9.7 min ( 766.3 - 756.6 )

Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	2,445 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	378	0	0
37.50	1,019	2,445	2,445

Device	Routing	Invert	Outlet Devices
#1	Discarded	34.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	37.00'	<b>10.0' long x 3.0' breadth Broad-Crested Rectangular Weir</b>
Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00			
2.50 3.00 3.50 4.00 4.50			
Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68			
2.72 2.81 2.92 2.97 3.07 3.32			

**Discarded OutFlow** Max=0.09 cfs @ 12.41 hrs HW=34.43' (Free Discharge)  
 ↑1=Exfiltration (Exfiltration Controls 0.09 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=34.00' TW=0.00' (Dynamic Tailwater)  
 ↑2=Broad-Crested Rectangular Weir( Controls 0.00 cfs)

**Summary for Pond Pond 2-1: Pond 2-1**

Inflow Area = 2.357 ac, 10.83% Impervious, Inflow Depth > 0.31" for 2-Year event  
 Inflow = 0.51 cfs @ 12.28 hrs, Volume= 0.061 af  
 Outflow = 0.28 cfs @ 12.59 hrs, Volume= 0.061 af, Atten= 46%, Lag= 18.6 min  
 Discarded = 0.28 cfs @ 12.59 hrs, Volume= 0.061 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 50.22' @ 12.59 hrs Surf.Area= 1,438 sf Storage= 291 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 4.4 min ( 773.7 - 769.3 )

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Volume	Invert	Avail.Storage	Storage Description
#1	50.00'	10,246 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.00	1,217	0	0
52.00	3,235	4,452	4,452
53.00	8,352	5,794	10,246

Device	Routing	Invert	Outlet Devices
#1	Primary	51.50'	<b>18.0" x 18.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#2	Discarded	50.00'	<b>8.270 in/hr Exfiltration over Surface area</b>

**Discarded OutFlow** Max=0.28 cfs @ 12.59 hrs HW=50.22' (Free Discharge)  
 ↳ **2=Exfiltration** (Exfiltration Controls 0.28 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=50.00' TW=47.50' (Dynamic Tailwater)  
 ↳ **1=Orifice/Grate** ( Controls 0.00 cfs)

**Summary for Pond Pond 2-2: Ponk 2-2**

Inflow Area = 5.890 ac, 29.73% Impervious, Inflow Depth > 0.73" for 2-Year event  
 Inflow = 4.38 cfs @ 12.09 hrs, Volume= 0.357 af  
 Outflow = 1.14 cfs @ 12.45 hrs, Volume= 0.358 af, Atten= 74%, Lag= 21.8 min  
 Discarded = 1.14 cfs @ 12.45 hrs, Volume= 0.358 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 38.56' @ 12.45 hrs Surf.Area= 5,963 sf Storage= 3,088 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 13.3 min ( 770.1 - 756.7 )

Volume	Invert	Avail.Storage	Storage Description
#1	38.00'	13,363 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
38.00	5,043	0	0
40.00	8,320	13,363	13,363

Device	Routing	Invert	Outlet Devices
#1	Primary	39.50'	<b>10.0' long x 3.0' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32
#2	Discarded	38.00'	<b>8.270 in/hr Exfiltration over Surface area</b>

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**Discarded OutFlow** Max=1.14 cfs @ 12.45 hrs HW=38.56' (Free Discharge)

↳ **2=Exfiltration** (Exfiltration Controls 1.14 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=38.00' TW=0.00' (Dynamic Tailwater)

↳ **1=Broad-Crested Rectangular Weir** ( Controls 0.00 cfs)

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points  
 Runoff by SCS TR-20 method, UH=SCS, Weighted-Q  
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

<b>SubcatchmentPost 1a: Post 1a</b>	Runoff Area=11,472 sf 78.57% Impervious Runoff Depth>3.45" Flow Length=293' Tc=6.0 min CN=85 Runoff=0.91 cfs 0.076 af
<b>SubcatchmentPost 1b: Post 1b</b>	Runoff Area=8,942 sf 86.42% Impervious Runoff Depth>3.79" Flow Length=241' Tc=6.0 min CN=90 Runoff=0.78 cfs 0.065 af
<b>SubcatchmentPost 1c: Post 1c</b>	Runoff Area=4,893 sf 100.00% Impervious Runoff Depth>4.36" Flow Length=341' Tc=6.0 min CN=98 Runoff=0.49 cfs 0.041 af
<b>SubcatchmentPost 1d: Post 1d</b>	Runoff Area=9,994 sf 77.29% Impervious Runoff Depth>3.40" Flow Length=156' Slope=0.0800 ' ' Tc=6.0 min CN=85 Runoff=0.78 cfs 0.065 af
<b>SubcatchmentPost 1e: Post 1e</b>	Runoff Area=100,547 sf 33.55% Impervious Runoff Depth>1.54" Flow Length=607' Tc=9.0 min CN=58 Runoff=3.11 cfs 0.296 af
<b>SubcatchmentPost 1f: Post 1f</b>	Runoff Area=18,589 sf 17.03% Impervious Runoff Depth>0.85" Flow Length=84' Slope=0.3000 ' ' Tc=6.0 min CN=49 Runoff=0.32 cfs 0.030 af
<b>SubcatchmentPost 1g: Post 1g</b>	Runoff Area=57,573 sf 29.05% Impervious Runoff Depth>1.35" Flow Length=220' Slope=0.0400 ' ' Tc=6.0 min UI Adjusted CN=54 Runoff=1.69 cfs 0.149 af
<b>SubcatchmentPost 1h: Post 1h</b>	Runoff Area=22,719 sf 81.49% Impervious Runoff Depth>3.58" Flow Length=341' Slope=0.0400 ' ' Tc=6.0 min CN=87 Runoff=1.87 cfs 0.155 af
<b>SubcatchmentPost 1i: Post 1i</b>	Runoff Area=5,823 sf 87.31% Impervious Runoff Depth>3.82" Flow Length=76' Slope=0.0200 ' ' Tc=6.0 min CN=91 Runoff=0.51 cfs 0.043 af
<b>SubcatchmentPost 1j: Post 1j</b>	Runoff Area=7,803 sf 72.95% Impervious Runoff Depth>3.22" Flow Length=131' Slope=0.0400 ' ' Tc=6.0 min CN=82 Runoff=0.57 cfs 0.048 af
<b>SubcatchmentPost 1k: Post 1k</b>	Runoff Area=6,348 sf 65.39% Impervious Runoff Depth>2.90" Flow Length=83' Tc=6.0 min CN=78 Runoff=0.42 cfs 0.035 af
<b>SubcatchmentPost 1l: Post 1l</b>	Runoff Area=7,856 sf 67.41% Impervious Runoff Depth>2.98" Flow Length=86' Slope=0.0150 ' ' Tc=6.0 min CN=79 Runoff=0.53 cfs 0.045 af
<b>SubcatchmentPost 1m: Post 1m</b>	Runoff Area=3,397 sf 87.87% Impervious Runoff Depth>3.85" Flow Length=73' Slope=0.0200 ' ' Tc=6.0 min CN=91 Runoff=0.30 cfs 0.025 af
<b>SubcatchmentPost 1n: Post 1n</b>	Runoff Area=12,274 sf 17.17% Impervious Runoff Depth>0.85" Flow Length=107' Tc=6.0 min CN=49 Runoff=0.21 cfs 0.020 af
<b>SubcatchmentPost 1o: Post 1o</b>	Runoff Area=9,346 sf 65.17% Impervious Runoff Depth>2.89" Flow Length=131' Slope=0.0150 ' ' Tc=6.0 min CN=77 Runoff=0.61 cfs 0.052 af
<b>SubcatchmentPost 1q: Post 1q</b>	Runoff Area=8,656 sf 83.78% Impervious Runoff Depth>3.67" Flow Length=89' Slope=0.0200 ' ' Tc=6.0 min CN=88 Runoff=0.73 cfs 0.061 af

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<b>SubcatchmentPost 1r: Post 1r</b>	Runoff Area=9,365 sf 62.78% Impervious Runoff Depth>2.78" Flow Length=108' Tc=6.0 min CN=76 Runoff=0.59 cfs 0.050 af
<b>SubcatchmentPost 1s: Post 1s</b>	Runoff Area=16,065 sf 78.18% Impervious Runoff Depth>3.44" Flow Length=195' Slope=0.0200 '/' Tc=6.0 min CN=85 Runoff=1.27 cfs 0.106 af
<b>SubcatchmentPost 1t: Post 1t</b>	Runoff Area=13,362 sf 80.26% Impervious Runoff Depth>3.53" Flow Length=236' Slope=0.0800 '/' Tc=6.0 min CN=86 Runoff=1.08 cfs 0.090 af
<b>SubcatchmentPost 1u: Post 1u</b>	Runoff Area=25,450 sf 74.16% Impervious Runoff Depth>3.27" Flow Length=509' Slope=0.0800 '/' Tc=6.0 min CN=83 Runoff=1.90 cfs 0.159 af
<b>SubcatchmentPost 1v: Post 1v</b>	Runoff Area=39,981 sf 7.01% Impervious Runoff Depth>0.40" Flow Length=321' Tc=6.0 min CN=42 Runoff=0.28 cfs 0.031 af
<b>SubcatchmentPost 1w: Post 1w</b>	Runoff Area=13,938 sf 83.43% Impervious Runoff Depth>3.66" Flow Length=157' Tc=6.0 min CN=88 Runoff=1.17 cfs 0.098 af
<b>SubcatchmentPost 1x: Post 1x</b>	Runoff Area=30,765 sf 21.56% Impervious Runoff Depth>1.04" Flow Length=72' Tc=6.0 min CN=52 Runoff=0.67 cfs 0.061 af
<b>SubcatchmentPost 1y: Post 1y</b>	Runoff Area=107,930 sf 13.13% Impervious Runoff Depth>0.67" Flow Length=314' Tc=10.2 min UI Adjusted CN=45 Runoff=1.26 cfs 0.138 af
<b>SubcatchmentPost 1z: Post 1z</b>	Runoff Area=9,726 sf 44.70% Impervious Runoff Depth>2.02" Flow Length=91' Slope=0.0200 '/' Tc=6.0 min CN=65 Runoff=0.44 cfs 0.038 af
<b>SubcatchmentPost 2a: Post 2a</b>	Runoff Area=3,183 sf 100.00% Impervious Runoff Depth>4.36" Flow Length=243' Slope=0.0800 '/' Tc=6.0 min CN=98 Runoff=0.32 cfs 0.027 af
<b>SubcatchmentPost 2b: Post 2b</b>	Runoff Area=2,939 sf 100.00% Impervious Runoff Depth>4.36" Flow Length=249' Slope=0.0800 '/' Tc=6.0 min CN=98 Runoff=0.30 cfs 0.025 af
<b>SubcatchmentPost 2c: Post 2c</b>	Runoff Area=13,057 sf 87.09% Impervious Runoff Depth>3.81" Flow Length=166' Tc=6.0 min CN=90 Runoff=1.15 cfs 0.095 af
<b>SubcatchmentPost 2d: Post 2d</b>	Runoff Area=10,331 sf 85.27% Impervious Runoff Depth>3.74" Flow Length=122' Slope=0.0200 '/' Tc=6.0 min CN=89 Runoff=0.89 cfs 0.074 af
<b>SubcatchmentPost 2e: Post 2e</b>	Runoff Area=102,692 sf 10.83% Impervious Runoff Depth>0.55" Flow Length=501' Tc=21.3 min UI Adjusted CN=43 Runoff=0.76 cfs 0.108 af
<b>SubcatchmentPost 2f: Post 2f</b>	Runoff Area=5,479 sf 48.49% Impervious Runoff Depth>2.18" Flow Length=91' Tc=6.0 min CN=68 Runoff=0.27 cfs 0.023 af
<b>SubcatchmentPost 2g: Post 2g</b>	Runoff Area=8,559 sf 83.39% Impervious Runoff Depth>3.66" Flow Length=171' Slope=0.0800 '/' Tc=6.0 min CN=88 Runoff=0.72 cfs 0.060 af
<b>SubcatchmentPost 2h: Post 2h</b>	Runoff Area=18,917 sf 11.90% Impervious Runoff Depth>0.59" Flow Length=294' Tc=8.7 min CN=44 Runoff=0.21 cfs 0.022 af

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<b>SubcatchmentPost 2i: Post 2i</b>	Runoff Area=7,032 sf 73.25% Impervious Runoff Depth>3.23" Flow Length=86' Tc=6.0 min CN=82 Runoff=0.52 cfs 0.043 af
<b>SubcatchmentPost 2j: Post 2j</b>	Runoff Area=4,244 sf 91.35% Impervious Runoff Depth>3.99" Flow Length=107' Tc=6.0 min CN=93 Runoff=0.39 cfs 0.032 af
<b>SubcatchmentPost 2k: Post 2k</b>	Runoff Area=25,495 sf 10.01% Impervious Runoff Depth>0.53" Flow Length=183' Tc=6.0 min CN=44 Runoff=0.26 cfs 0.026 af
<b>SubcatchmentPost 2l: Post 2l</b>	Runoff Area=54,661 sf 27.88% Impervious Runoff Depth>1.30" Flow Length=248' Tc=6.0 min CN=55 Runoff=1.54 cfs 0.136 af
<b>SubcatchmentPost 3a: Post 3a</b>	Runoff Area=21,228 sf 32.49% Impervious Runoff Depth>1.50" Flow Length=745' Slope=0.0500 '/' Tc=6.0 min CN=58 Runoff=0.70 cfs 0.061 af
<b>SubcatchmentPost 3b: Post 3b</b>	Runoff Area=238,088 sf 13.07% Impervious Runoff Depth>0.64" Flow Length=344' Slope=0.3300 '/' Tc=6.0 min UI Adjusted CN=44 Runoff=3.14 cfs 0.292 af
<b>SubcatchmentPost 3c: Post 3c</b>	Runoff Area=85,113 sf 13.07% Impervious Runoff Depth>0.66" Flow Length=267' Tc=6.0 min CN=46 Runoff=1.12 cfs 0.107 af
<b>SubcatchmentPost p: Post 1p</b>	Runoff Area=40,272 sf 25.26% Impervious Runoff Depth>1.20" Flow Length=111' Slope=0.3000 '/' Tc=6.0 min CN=54 Runoff=1.03 cfs 0.092 af
<b>Reach Phase 1 Post: Phase 1 Post</b>	Inflow=1.12 cfs 0.108 af Outflow=1.12 cfs 0.108 af
<b>Reach Phase 2 Pre: Phase 2 Pre</b>	Inflow=3.83 cfs 0.353 af Outflow=3.83 cfs 0.353 af
<b>Reach Pond Post: Pond Post</b>	Inflow=4.95 cfs 0.460 af Outflow=4.95 cfs 0.460 af
<b>Reach Swale thru 1e: Swale thru 1e</b>	Avg. Flow Depth=0.14' Max Vel=1.85 fps Inflow=0.91 cfs 0.076 af n=0.030 L=436.0' S=0.0344 '/' Capacity=60.14 cfs Outflow=0.82 cfs 0.076 af
<b>Pond CB P1-1: CB P1-1</b>	Peak Elev=63.52' Inflow=0.91 cfs 0.076 af 12.0" Round Culvert n=0.012 L=68.0' S=0.0147 '/' Outflow=0.91 cfs 0.076 af
<b>Pond CB P1-17: CB P1-17</b>	Peak Elev=51.28' Inflow=0.28 cfs 0.031 af 12.0" Round Culvert n=0.012 L=200.0' S=0.0655 '/' Outflow=0.28 cfs 0.031 af
<b>Pond CB P1-2: CB P1-1</b>	Peak Elev=63.48' Inflow=0.78 cfs 0.065 af 12.0" Round Culvert n=0.012 L=34.0' S=0.4706 '/' Outflow=0.78 cfs 0.065 af
<b>Pond CB P1-4: CB P1-4</b>	Peak Elev=40.07' Inflow=3.93 cfs 0.371 af 15.0" Round Culvert n=0.012 L=90.0' S=0.0111 '/' Outflow=3.93 cfs 0.371 af
<b>Pond DMH P 1-2: DMH 1-2</b>	Peak Elev=36.03' Inflow=2.38 cfs 0.198 af 12.0" Round Culvert n=0.012 L=46.0' S=0.0043 '/' Outflow=2.38 cfs 0.198 af

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<b>Pond DMH P 1-3: DMH P1-3</b>	Peak Elev=35.78'	Inflow=3.37 cfs	0.281 af
15.0" Round Culvert n=0.012 L=100.0' S=0.0050 '/'	Outflow=3.37 cfs	0.281 af	
<b>Pond DMH P 1-6: DMH P1-6</b>	Peak Elev=37.62'	Inflow=7.03 cfs	0.594 af
15.0" Round Culvert n=0.012 L=100.0' S=0.0050 '/'	Outflow=7.03 cfs	0.594 af	
<b>Pond DMH P1-1: DMH 1-1</b>	Peak Elev=45.72'	Inflow=1.27 cfs	0.106 af
12.0" Round Culvert n=0.012 L=30.0' S=0.0100 '/'	Outflow=1.27 cfs	0.106 af	
<b>Pond DMH P1-4: DMH P1-4</b>	Peak Elev=35.52'	Inflow=4.20 cfs	0.351 af
15.0" Round Culvert n=0.012 L=94.0' S=0.0053 '/'	Outflow=4.20 cfs	0.351 af	
<b>Pond DMH P1-5: DMH P1-5</b>	Peak Elev=37.77'	Inflow=1.32 cfs	0.111 af
12.0" Round Culvert n=0.012 L=114.0' S=0.0044 '/'	Outflow=1.32 cfs	0.111 af	
<b>Pond DMH P1-7: DMH P 1-7</b>	Peak Elev=38.76'	Inflow=3.27 cfs	0.280 af
15.0" Round Culvert n=0.012 L=174.0' S=0.0155 '/'	Outflow=3.27 cfs	0.280 af	
<b>Pond DMH P2-1: DMH P2-1</b>	Peak Elev=49.51'	Inflow=0.87 cfs	0.077 af
12.0" Round Culvert n=0.012 L=60.0' S=0.0833 '/'	Outflow=0.87 cfs	0.077 af	
<b>Pond DMH P2-2: DMH P2-2</b>	Peak Elev=48.66'	Inflow=2.03 cfs	0.169 af
12.0" Round Culvert n=0.012 L=90.0' S=0.0067 '/'	Outflow=2.03 cfs	0.169 af	
<b>Pond DMH P2-3: DMH P2-3</b>	Peak Elev=48.36'	Inflow=3.02 cfs	0.252 af
12.0" Round Culvert n=0.012 L=94.0' S=0.0053 '/'	Outflow=3.02 cfs	0.252 af	
<b>Pond DMH P2-4: DMH P2-4</b>	Peak Elev=54.59'	Inflow=1.11 cfs	0.097 af
12.0" Round Culvert n=0.012 L=65.0' S=0.0923 '/'	Outflow=1.11 cfs	0.097 af	
<b>Pond Pond 1-1: Pond 1-1</b>	Peak Elev=38.13'	Storage=6,340 cf	Inflow=5.44 cfs
Discarded=0.82 cfs	0.482 af	Primary=0.95 cfs	0.026 af
	Outflow=1.77 cfs	0.508 af	
<b>Pond Pond 1-2: Pond 1-2</b>	Peak Elev=36.43'	Storage=1,373 cf	Inflow=1.69 cfs
Discarded=0.67 cfs	0.174 af	Primary=0.00 cfs	0.000 af
	Outflow=0.67 cfs	0.174 af	
<b>Pond Pond 1-3: Pond 1-3</b>	Peak Elev=35.51'	Storage=4,609 cf	Inflow=4.42 cfs
Discarded=0.71 cfs	0.371 af	Primary=0.02 cfs	0.000 af
	Outflow=0.73 cfs	0.371 af	
<b>Pond Pond 1-4: Pond 1-4</b>	Peak Elev=35.42'	Storage=7,871 cf	Inflow=7.69 cfs
Discarded=1.24 cfs	0.655 af	Primary=0.00 cfs	0.000 af
	Outflow=1.24 cfs	0.655 af	
<b>Pond Pond 1-5: Pond 1-5</b>	Peak Elev=39.55'	Storage=1,238 cf	Inflow=1.80 cfs
Discarded=0.59 cfs	0.158 af	Primary=0.00 cfs	0.000 af
	Outflow=0.59 cfs	0.158 af	
<b>Pond Pond 1-6: Pond 1-6</b>	Peak Elev=42.27'	Storage=1,343 cf	Inflow=1.26 cfs
Discarded=0.33 cfs	0.137 af	Primary=0.07 cfs	0.001 af
	Outflow=0.41 cfs	0.138 af	
<b>Pond Pond 1-7: Pond 1-7</b>	Peak Elev=35.93'	Storage=537 cf	Inflow=0.61 cfs
Discarded=0.14 cfs	0.052 af	Primary=0.00 cfs	0.000 af
	Outflow=0.14 cfs	0.052 af	

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**Pond Pond 1-8: Pond 1-8**

Peak Elev=34.80' Storage=361 cf Inflow=0.44 cfs 0.038 af  
Discarded=0.10 cfs 0.038 af Primary=0.00 cfs 0.000 af Outflow=0.10 cfs 0.038 af

**Pond Pond 2-1: Pond 2-1**

Peak Elev=50.47' Storage=678 cf Inflow=0.76 cfs 0.108 af  
Discarded=0.32 cfs 0.108 af Primary=0.00 cfs 0.000 af Outflow=0.32 cfs 0.108 af

**Pond Pond 2-2: Ponk 2-2**

Peak Elev=39.01' Storage=5,957 cf Inflow=6.54 cfs 0.563 af  
Discarded=1.28 cfs 0.564 af Primary=0.00 cfs 0.000 af Outflow=1.28 cfs 0.564 af

**Total Runoff Area = 27.642 ac Runoff Volume = 3.196 af Average Runoff Depth = 1.39"**  
**69.82% Pervious = 19.300 ac 30.18% Impervious = 8.342 ac**

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**Summary for Subcatchment Post 1a: Post 1a**

Runoff = 0.91 cfs @ 12.09 hrs, Volume= 0.076 af, Depth&gt; 3.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description			
8,275	98	Paved parking, HSG A			
738	98	Unconnected pavement, HSG A			
0	36	Woods, Fair, HSG A			
0	48	Brush, Poor, HSG A			
2,459	39	>75% Grass cover, Good, HSG A			
0	98	Water Surface, HSG A			
11,472	85	Weighted Average			
2,459		21.43% Pervious Area			
9,013		78.57% Impervious Area			
738		8.19% Unconnected			
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	40	0.0200	1.13		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.7	253	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.3	293	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1b: Post 1b**

Runoff = 0.78 cfs @ 12.09 hrs, Volume= 0.065 af, Depth&gt; 3.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
6,817	98	Paved parking, HSG A
911	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,214	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
8,942	90	Weighted Average
1,214		13.58% Pervious Area
7,728		86.42% Impervious Area
911		11.79% Unconnected

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	60	0.0200	1.22		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.5	181	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.3	241	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1c: Post 1c**

Runoff = 0.49 cfs @ 12.09 hrs, Volume= 0.041 af, Depth&gt; 4.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
4,893	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
0	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
4,893	98	Weighted Average
4,893		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.9	321	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.2	341	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1d: Post 1d**

Runoff = 0.78 cfs @ 12.09 hrs, Volume= 0.065 af, Depth&gt; 3.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
7,724	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
2,270	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
9,994	85	Weighted Average
2,270		22.71% Pervious Area
7,724		77.29% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0800	1.71		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.4	136	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.6	156	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1e: Post 1e**

Runoff = 3.11 cfs @ 12.12 hrs, Volume= 0.296 af, Depth&gt; 1.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
21,601	98	Paved parking, HSG A
12,130	98	Unconnected pavement, HSG A
13,021	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
53,795	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
100,547	58	Weighted Average
66,816		66.45% Pervious Area
33,731		33.55% Impervious Area
12,130		35.96% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	30	0.0800	0.16		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 3.10"
0.3	65	0.3000	3.83		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
5.5	512	0.0500	1.57		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
9.0	607	Total			

**Summary for Subcatchment Post 1f: Post 1f**

Runoff = 0.32 cfs @ 12.09 hrs, Volume= 0.030 af, Depth&gt; 0.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

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Area (sf)	CN	Description
3,165	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
15,424	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
18,589	49	Weighted Average
15,424		82.97% Pervious Area
3,165		17.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	10	0.3000	0.21		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 3.10"
0.3	74	0.3000	3.83		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.1	84	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1g: Post 1g**

Runoff = 1.69 cfs @ 12.09 hrs, Volume= 0.149 af, Depth> 1.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Adj	Description
14,132	98	98	Paved parking, HSG A
2,594	98	98	Unconnected pavement, HSG A
6,828	36	36	Woods, Fair, HSG A
0	48		Brush, Poor, HSG A
34,019	39	39	>75% Grass cover, Good, HSG A
0	98		Water Surface, HSG A
57,573	56	54	Weighted Average, UI Adjusted
40,847			70.95% Pervious Area
16,726			29.05% Impervious Area
2,594			15.51% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	62	0.0400	1.62		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.6	158	0.0400	4.06		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.2	220	Total, Increased to minimum Tc = 6.0 min			

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**Summary for Subcatchment Post 1h: Post 1h**

Runoff = 1.87 cfs @ 12.09 hrs, Volume= 0.155 af, Depth&gt; 3.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
18,514	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
4,205	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
22,719	87	Weighted Average
4,205		18.51% Pervious Area
18,514		81.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0400	1.29		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
1.3	321	0.0400	4.06		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.6	341	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1i: Post 1i**

Runoff = 0.51 cfs @ 12.09 hrs, Volume= 0.043 af, Depth&gt; 3.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
5,084	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
739	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
5,823	91	Weighted Average
739		12.69% Pervious Area
5,084		87.31% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.3	56	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.6	76	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1j: Post 1j**

Runoff = 0.57 cfs @ 12.09 hrs, Volume= 0.048 af, Depth&gt; 3.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
5,692	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
2,111	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
7,803	82	Weighted Average
2,111		27.05% Pervious Area
5,692		72.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0400	1.29		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.5	111	0.0400	4.06		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.8	131	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1k: Post 1k**

Runoff = 0.42 cfs @ 12.09 hrs, Volume= 0.035 af, Depth&gt; 2.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

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Area (sf)	CN	Description
4,151	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
2,197	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
6,348	78	Weighted Average
2,197		34.61% Pervious Area
4,151		65.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	10	0.0200	0.85		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.6	73	0.0100	2.03		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.8	83	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 11: Post 11**

Runoff = 0.53 cfs @ 12.09 hrs, Volume= 0.045 af, Depth&gt; 2.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
5,296	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
2,560	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
7,856	79	Weighted Average
2,560		32.59% Pervious Area
5,296		67.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	52	0.0150	1.06		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.2	34	0.0150	2.49		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.0	86	Total, Increased to minimum Tc = 6.0 min			

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**Summary for Subcatchment Post 1m: Post 1m**

Runoff = 0.30 cfs @ 12.09 hrs, Volume= 0.025 af, Depth&gt; 3.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
2,985	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
412	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
3,397	91	Weighted Average
412		12.13% Pervious Area
2,985		87.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	40	0.0200	1.13		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.2	33	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.8	73	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1n: Post 1n**

Runoff = 0.21 cfs @ 12.09 hrs, Volume= 0.020 af, Depth&gt; 0.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
2,108	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
10,166	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
12,274	49	Weighted Average
10,166		82.83% Pervious Area
2,108		17.17% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	27	0.0200	1.04		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.5	80	0.0150	2.49		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.9	107	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1o: Post 1o**

Runoff = 0.61 cfs @ 12.09 hrs, Volume= 0.052 af, Depth&gt; 2.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
6,091	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
3,255	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
9,346	77	Weighted Average
3,255		34.83% Pervious Area
6,091		65.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.05		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.5	81	0.0150	2.49		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.3	131	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1q: Post 1q**

Runoff = 0.73 cfs @ 12.09 hrs, Volume= 0.061 af, Depth&gt; 3.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

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Area (sf)	CN	Description
7,252	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,404	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
8,656	88	Weighted Average
1,404		16.22% Pervious Area
7,252		83.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	69	0.0200	1.26		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.1	20	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.0	89	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1r: Post 1r**

Runoff = 0.59 cfs @ 12.09 hrs, Volume= 0.050 af, Depth> 2.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
5,879	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
3,486	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
9,365	76	Weighted Average
3,486		37.22% Pervious Area
5,879		62.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	70	0.0200	1.26		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.3	38	0.0100	2.03		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.2	108	Total, Increased to minimum Tc = 6.0 min			

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**Summary for Subcatchment Post 1s: Post 1s**

Runoff = 1.27 cfs @ 12.09 hrs, Volume= 0.106 af, Depth&gt; 3.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
12,559	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
3,506	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
16,065	85	Weighted Average
3,506		21.82% Pervious Area
12,559		78.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	95	0.0200	1.34		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.6	100	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.8	195	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1t: Post 1t**

Runoff = 1.08 cfs @ 12.09 hrs, Volume= 0.090 af, Depth&gt; 3.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
10,725	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
2,637	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
13,362	86	Weighted Average
2,637		19.74% Pervious Area
10,725		80.26% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0800	1.71		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.6	216	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.8	236	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1u: Post 1u**

Runoff = 1.90 cfs @ 12.09 hrs, Volume= 0.159 af, Depth&gt; 3.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
18,874	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
6,576	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
25,450	83	Weighted Average
6,576		25.84% Pervious Area
18,874		74.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0800	1.71		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
1.4	489	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.6	509	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1v: Post 1v**

Runoff = 0.28 cfs @ 12.09 hrs, Volume= 0.031 af, Depth&gt; 0.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

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Area (sf)	CN	Description
2,802	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
13,176	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
24,003	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
39,981	42	Weighted Average
37,179		92.99% Pervious Area
2,802		7.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.4	40	0.3000	0.28		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 3.10"
0.8	281	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
3.2	321	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1w: Post 1w**

Runoff = 1.17 cfs @ 12.09 hrs, Volume= 0.098 af, Depth> 3.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
11,629	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
2,309	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
13,938	88	Weighted Average
2,309		16.57% Pervious Area
11,629		83.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	80	0.0200	1.29		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.5	77	0.0150	2.49		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.5	157	Total, Increased to minimum Tc = 6.0 min			

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**Summary for Subcatchment Post 1x: Post 1x**

Runoff = 0.67 cfs @ 12.09 hrs, Volume= 0.061 af, Depth&gt; 1.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
6,633	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
24,132	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
30,765	52	Weighted Average
24,132		78.44% Pervious Area
6,633		21.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	40	0.0200	1.13		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.1	32	0.3300	4.02		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
0.7	72	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1y: Post 1y**

Runoff = 1.26 cfs @ 12.14 hrs, Volume= 0.138 af, Depth&gt; 0.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Adj	Description
9,738	98	98	Paved parking, HSG A
4,436	98	98	Unconnected pavement, HSG A
24,536	36	36	Woods, Fair, HSG A
0	48		Brush, Poor, HSG A
69,220	39	39	>75% Grass cover, Good, HSG A
0	98		Water Surface, HSG A
107,930	46	45	Weighted Average, UI Adjusted
93,756			86.87% Pervious Area
14,174			13.13% Impervious Area
4,436			31.30% Unconnected

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Type III 24-hr 10-Year Rainfall=4.60"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	94	0.1500	0.17		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 3.10"
0.9	220	0.3300	4.02		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
10.2	314	Total			

**Summary for Subcatchment Post 1z: Post 1z**

Runoff = 0.44 cfs @ 12.09 hrs, Volume= 0.038 af, Depth&gt; 2.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
4,348	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
5,378	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
9,726	65	Weighted Average
5,378		55.30% Pervious Area
4,348		44.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	61	0.0200	1.23		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.2	30	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.0	91	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 2a: Post 2a**

Runoff = 0.32 cfs @ 12.09 hrs, Volume= 0.027 af, Depth&gt; 4.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

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Area (sf)	CN	Description
2,844	98	Paved parking, HSG A
339	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
0	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
3,183	98	Weighted Average
3,183		100.00% Impervious Area
339		10.65% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0800	1.71		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.6	223	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.8	243	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 2b: Post 2b**

Runoff = 0.30 cfs @ 12.09 hrs, Volume= 0.025 af, Depth> 4.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
2,884	98	Paved parking, HSG A
55	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
0	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
2,939	98	Weighted Average
2,939		100.00% Impervious Area
55		1.87% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0800	1.71		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.7	229	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.9	249	Total, Increased to minimum Tc = 6.0 min			

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Type III 24-hr 10-Year Rainfall=4.60"

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**Summary for Subcatchment Post 2c: Post 2c**

Runoff = 1.15 cfs @ 12.09 hrs, Volume= 0.095 af, Depth&gt; 3.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
11,371	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,686	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
13,057	90	Weighted Average
1,686		12.91% Pervious Area
11,371		87.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0800	1.71		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.8	146	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.0	166	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 2d: Post 2d**

Runoff = 0.89 cfs @ 12.09 hrs, Volume= 0.074 af, Depth&gt; 3.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
8,809	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,522	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
10,331	89	Weighted Average
1,522		14.73% Pervious Area
8,809		85.27% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.6	102	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.9	122	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 2e: Post 2e**

Runoff = 0.76 cfs @ 12.28 hrs, Volume= 0.108 af, Depth> 0.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Adj	Description
9,320	98	98	Paved parking, HSG A
1,806	98	98	Unconnected pavement, HSG A
51,208	36	36	Woods, Fair, HSG A
0	48		Brush, Poor, HSG A
40,358	39	39	>75% Grass cover, Good, HSG A
0	98		Water Surface, HSG A
102,692	44	43	Weighted Average, UI Adjusted
91,566			89.17% Pervious Area
11,126			10.83% Impervious Area
1,806			16.23% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.8	85	0.1300	0.09		<b>Sheet Flow,</b> Woods: Dense underbrush n= 0.800 P2= 3.10"
0.4	116	0.5000	4.95		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
5.1	300	0.0200	0.99		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
21.3	501	Total			

**Summary for Subcatchment Post 2f: Post 2f**

Runoff = 0.27 cfs @ 12.09 hrs, Volume= 0.023 af, Depth> 2.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

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Area (sf)	CN	Description
2,657	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
2,822	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
5,479	68	Weighted Average
2,822		51.51% Pervious Area
2,657		48.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	32	0.0200	1.08		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.2	59	0.0500	4.54		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.7	91	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 2g: Post 2g**

Runoff = 0.72 cfs @ 12.09 hrs, Volume= 0.060 af, Depth> 3.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
7,137	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,422	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
8,559	88	Weighted Average
1,422		16.61% Pervious Area
7,137		83.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	41	0.0800	1.97		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.4	130	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.7	171	Total, Increased to minimum Tc = 6.0 min			

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Type III 24-hr 10-Year Rainfall=4.60"

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**Summary for Subcatchment Post 2h: Post 2h**

Runoff = 0.21 cfs @ 12.12 hrs, Volume= 0.022 af, Depth&gt; 0.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
2,252	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
9,717	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
6,948	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
18,917	44	Weighted Average
16,665		88.10% Pervious Area
2,252		11.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.3	40	0.0500	0.09		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 3.10"
0.9	107	0.1600	2.00		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
0.5	147	0.5000	4.95		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
8.7	294	Total			

**Summary for Subcatchment Post 2i: Post 2i**

Runoff = 0.52 cfs @ 12.09 hrs, Volume= 0.043 af, Depth&gt; 3.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
5,151	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,881	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
7,032	82	Weighted Average
1,881		26.75% Pervious Area
5,151		73.25% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	46	0.0400	1.53		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.1	40	0.1000	5.09		<b>Shallow Concentrated Flow,</b> Unpaved Kv= 16.1 fps
0.6	86	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 2j: Post 2j**

Runoff = 0.39 cfs @ 12.09 hrs, Volume= 0.032 af, Depth&gt; 3.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
3,877	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
367	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
4,244	93	Weighted Average
367		8.65% Pervious Area
3,877		91.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	27	0.0400	1.37		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.2	80	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.5	107	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 2k: Post 2k**

Runoff = 0.26 cfs @ 12.09 hrs, Volume= 0.026 af, Depth&gt; 0.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

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Area (sf)	CN	Description
2,552	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
7,447	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
15,496	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
25,495	44	Weighted Average
22,943		89.99% Pervious Area
2,552		10.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	20	0.2500	0.23		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 3.10"
0.7	163	0.3300	4.02		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
2.2	183	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 2I: Post 2I**

Runoff = 1.54 cfs @ 12.09 hrs, Volume= 0.136 af, Depth> 1.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
15,240	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
2,191	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
37,230	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
54,661	55	Weighted Average
39,421		72.12% Pervious Area
15,240		27.88% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	53	0.5000	4.32		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
1.5	195	0.1000	2.21		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.7	248	Total, Increased to minimum Tc = 6.0 min			

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**Summary for Subcatchment Post 3a: Post 3a**

Runoff = 0.70 cfs @ 12.09 hrs, Volume= 0.061 af, Depth&gt; 1.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
0	98	Paved parking, HSG A
6,898	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
14,330	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
21,228	58	Weighted Average
14,330		67.51% Pervious Area
6,898		32.49% Impervious Area
6,898		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0500	1.42		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
2.7	725	0.0500	4.54		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
2.9	745	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 3b: Post 3b**

Runoff = 3.14 cfs @ 12.09 hrs, Volume= 0.292 af, Depth&gt; 0.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Adj	Description
2,975	98	98	Paved parking, HSG A
3,956	98	98	Unconnected pavement, HSG A
137,577	36	36	Woods, Fair, HSG A
0	48		Brush, Poor, HSG A
69,383	39	39	>75% Grass cover, Good, HSG A
24,197	98	98	Water Surface, HSG A
238,088	45	44	Weighted Average, UI Adjusted
206,960			86.93% Pervious Area
31,128			13.07% Impervious Area
3,956			12.71% Unconnected

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	20	0.3300	0.17		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 3.10"
1.3	324	0.3300	4.02		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
3.3	344	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 3c: Post 3c**

Runoff = 1.12 cfs @ 12.09 hrs, Volume= 0.107 af, Depth&gt; 0.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
11,125	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
24,759	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
49,229	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
85,113	46	Weighted Average
73,988		86.93% Pervious Area
11,125		13.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.8	30	0.0500	0.13		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 3.10"
1.0	237	0.3300	4.02		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
4.8	267	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post p: Post 1p**

Runoff = 1.03 cfs @ 12.09 hrs, Volume= 0.092 af, Depth&gt; 1.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

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Area (sf)	CN	Description
10,174	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
30,098	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
40,272	54	Weighted Average
30,098		74.74% Pervious Area
10,174		25.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	10	0.3000	0.21		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 3.10"
0.4	101	0.3000	3.83		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.2	111	Total, Increased to minimum Tc = 6.0 min			

**Summary for Reach Phase 1 Post: Phase 1 Post**

Inflow Area = 15.799 ac, 36.19% Impervious, Inflow Depth > 0.08" for 10-Year event  
 Inflow = 1.12 cfs @ 12.09 hrs, Volume= 0.108 af  
 Outflow = 1.12 cfs @ 12.09 hrs, Volume= 0.108 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

**Summary for Reach Phase 2 Pre: Phase 2 Pre**

Inflow Area = 11.844 ac, 22.16% Impervious, Inflow Depth > 0.36" for 10-Year event  
 Inflow = 3.83 cfs @ 12.09 hrs, Volume= 0.353 af  
 Outflow = 3.83 cfs @ 12.09 hrs, Volume= 0.353 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

**Summary for Reach Pond Post: Pond Post**

Inflow Area = 27.642 ac, 30.18% Impervious, Inflow Depth > 0.20" for 10-Year event  
 Inflow = 4.95 cfs @ 12.09 hrs, Volume= 0.460 af  
 Outflow = 4.95 cfs @ 12.09 hrs, Volume= 0.460 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

**Summary for Reach Swale thru 1e: Swale thru 1e**

Inflow Area = 0.263 ac, 78.57% Impervious, Inflow Depth > 3.45" for 10-Year event  
 Inflow = 0.91 cfs @ 12.09 hrs, Volume= 0.076 af  
 Outflow = 0.82 cfs @ 12.13 hrs, Volume= 0.076 af, Atten= 10%, Lag= 2.4 min

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Max. Velocity= 1.85 fps, Min. Travel Time= 3.9 min  
Avg. Velocity = 0.63 fps, Avg. Travel Time= 11.5 min

Peak Storage= 191 cf @ 12.13 hrs  
Average Depth at Peak Storage= 0.14'  
Bank-Full Depth= 1.00' Flow Area= 8.7 sf, Capacity= 60.14 cfs

13.00' x 1.00' deep Parabolic Channel, n= 0.030 Short grass  
Length= 436.0' Slope= 0.0344 '/'  
Inlet Invert= 56.00', Outlet Invert= 41.00'



**Summary for Pond CB P1-1: CB P1-1**

Inflow Area = 0.263 ac, 78.57% Impervious, Inflow Depth > 3.45" for 10-Year event  
Inflow = 0.91 cfs @ 12.09 hrs, Volume= 0.076 af  
Outflow = 0.91 cfs @ 12.09 hrs, Volume= 0.076 af, Atten= 0%, Lag= 0.0 min  
Primary = 0.91 cfs @ 12.09 hrs, Volume= 0.076 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 63.52' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	63.00'	<b>12.0" Round 12" Culvert</b> L= 68.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 63.00' / 62.00' S= 0.0147 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.88 cfs @ 12.09 hrs HW=63.52' TW=56.13' (Dynamic Tailwater)  
↑**1=12" Culvert** (Inlet Controls 0.88 cfs @ 2.16 fps)

**Summary for Pond CB P1-17: CB P1-17**

Inflow Area = 0.918 ac, 7.01% Impervious, Inflow Depth > 0.40" for 10-Year event  
Inflow = 0.28 cfs @ 12.09 hrs, Volume= 0.031 af  
Outflow = 0.28 cfs @ 12.09 hrs, Volume= 0.031 af, Atten= 0%, Lag= 0.0 min  
Primary = 0.28 cfs @ 12.09 hrs, Volume= 0.031 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 51.28' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.00'	<b>12.0" Round 12" Culvert</b> L= 200.0' CPP, mitered to conform to fill, Ke= 0.700

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Inlet / Outlet Invert= 51.00' / 37.90' S= 0.0655 '/ Cc= 0.900  
n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.27 cfs @ 12.09 hrs HW=51.27' TW=38.74' (Dynamic Tailwater)

↑1=12" Culvert (Inlet Controls 0.27 cfs @ 1.57 fps)

**Summary for Pond CB P1-2: CB P1-1**

Inflow Area = 0.205 ac, 86.42% Impervious, Inflow Depth > 3.79" for 10-Year event  
Inflow = 0.78 cfs @ 12.09 hrs, Volume= 0.065 af  
Outflow = 0.78 cfs @ 12.09 hrs, Volume= 0.065 af, Atten= 0%, Lag= 0.0 min  
Primary = 0.78 cfs @ 12.09 hrs, Volume= 0.065 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 63.48' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	63.00'	<b>12.0" Round 12" Culvert</b> L= 34.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 63.00' / 47.00' S= 0.4706 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.76 cfs @ 12.09 hrs HW=63.47' TW=39.37' (Dynamic Tailwater)

↑1=12" Culvert (Inlet Controls 0.76 cfs @ 2.07 fps)

**Summary for Pond CB P1-4: CB P1-4**

Inflow Area = 2.572 ac, 38.16% Impervious, Inflow Depth > 1.73" for 10-Year event  
Inflow = 3.93 cfs @ 12.12 hrs, Volume= 0.371 af  
Outflow = 3.93 cfs @ 12.12 hrs, Volume= 0.371 af, Atten= 0%, Lag= 0.0 min  
Primary = 3.93 cfs @ 12.12 hrs, Volume= 0.371 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 40.07' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	39.00'	<b>15.0" Round Culvert</b> L= 90.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 39.00' / 38.00' S= 0.0111 '/ Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

**Primary OutFlow** Max=3.82 cfs @ 12.12 hrs HW=40.05' TW=37.45' (Dynamic Tailwater)

↑1=Culvert (Inlet Controls 3.82 cfs @ 3.48 fps)

**Summary for Pond DMH P 1-2: DMH 1-2**

Inflow Area = 0.655 ac, 82.68% Impervious, Inflow Depth > 3.63" for 10-Year event  
Inflow = 2.38 cfs @ 12.09 hrs, Volume= 0.198 af  
Outflow = 2.38 cfs @ 12.09 hrs, Volume= 0.198 af, Atten= 0%, Lag= 0.0 min  
Primary = 2.38 cfs @ 12.09 hrs, Volume= 0.198 af

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Peak Elev= 36.03' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	34.80'	<b>12.0" Round 12" Culvert</b> L= 46.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 34.80' / 34.60' S= 0.0043 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.78 cfs @ 12.09 hrs HW=35.96' TW=35.73' (Dynamic Tailwater)

↑1=12" Culvert (Outlet Controls 1.78 cfs @ 2.46 fps)

**Summary for Pond DMH P 1-3: DMH P1-3**

Inflow Area =	0.980 ac, 78.33% Impervious, Inflow Depth > 3.44" for 10-Year event
Inflow =	3.37 cfs @ 12.09 hrs, Volume= 0.281 af
Outflow =	3.37 cfs @ 12.09 hrs, Volume= 0.281 af, Atten= 0%, Lag= 0.0 min
Primary =	3.37 cfs @ 12.09 hrs, Volume= 0.281 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Peak Elev= 35.78' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	34.50'	<b>15.0" Round 15" Culvert</b> L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 34.50' / 34.00' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

**Primary OutFlow** Max=2.77 cfs @ 12.09 hrs HW=35.73' TW=35.35' (Dynamic Tailwater)

↑1=15" Culvert (Outlet Controls 2.77 cfs @ 2.85 fps)

**Summary for Pond DMH P 1-6: DMH P1-6**

Inflow Area =	6.519 ac, 35.85% Impervious, Inflow Depth > 1.09" for 10-Year event
Inflow =	7.03 cfs @ 12.09 hrs, Volume= 0.594 af
Outflow =	7.03 cfs @ 12.09 hrs, Volume= 0.594 af, Atten= 0%, Lag= 0.0 min
Primary =	7.03 cfs @ 12.09 hrs, Volume= 0.594 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Peak Elev= 37.62' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	35.00'	<b>15.0" Round 12" Culvert</b> L= 100.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 35.00' / 34.50' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

**Primary OutFlow** Max=6.84 cfs @ 12.09 hrs HW=37.53' TW=34.79' (Dynamic Tailwater)

↑1=12" Culvert (Barrel Controls 6.84 cfs @ 5.57 fps)

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**Summary for Pond DMH P1-1: DMH 1-1**

Inflow Area = 0.342 ac, 84.75% Impervious, Inflow Depth > 3.72" for 10-Year event  
 Inflow = 1.27 cfs @ 12.09 hrs, Volume= 0.106 af  
 Outflow = 1.27 cfs @ 12.09 hrs, Volume= 0.106 af, Atten= 0%, Lag= 0.0 min  
 Primary = 1.27 cfs @ 12.09 hrs, Volume= 0.106 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 45.72' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	45.10'	<b>12.0" Round 12" Culvert</b> L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.10' / 44.80' S= 0.0100 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.24 cfs @ 12.09 hrs HW=45.71' TW=37.27' (Dynamic Tailwater)  
 ↑1=12" Culvert (Barrel Controls 1.24 cfs @ 3.51 fps)

**Summary for Pond DMH P1-4: DMH P1-4**

Inflow Area = 5.900 ac, 45.51% Impervious, Inflow Depth > 0.71" for 10-Year event  
 Inflow = 4.20 cfs @ 12.09 hrs, Volume= 0.351 af  
 Outflow = 4.20 cfs @ 12.09 hrs, Volume= 0.351 af, Atten= 0%, Lag= 0.0 min  
 Primary = 4.20 cfs @ 12.09 hrs, Volume= 0.351 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 35.52' @ 12.58 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	34.00'	<b>15.0" Round 15" Culvert</b> L= 94.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 34.00' / 33.50' S= 0.0053 '/ Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

**Primary OutFlow** Max=3.44 cfs @ 12.09 hrs HW=35.35' TW=34.87' (Dynamic Tailwater)  
 ↑1=15" Culvert (Outlet Controls 3.44 cfs @ 3.24 fps)

**Summary for Pond DMH P1-5: DMH P1-5**

Inflow Area = 0.414 ac, 72.86% Impervious, Inflow Depth > 3.21" for 10-Year event  
 Inflow = 1.32 cfs @ 12.09 hrs, Volume= 0.111 af  
 Outflow = 1.32 cfs @ 12.09 hrs, Volume= 0.111 af, Atten= 0%, Lag= 0.0 min  
 Primary = 1.32 cfs @ 12.09 hrs, Volume= 0.111 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 37.77' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	35.60'	<b>12.0" Round 12" Culvert</b> L= 114.0' CPP, mitered to conform to fill, Ke= 0.700

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Inlet / Outlet Invert= 35.60' / 35.10' S= 0.0044 '/ Cc= 0.900  
 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.00 cfs @ 12.09 hrs HW=37.32' TW=37.53' (Dynamic Tailwater)

↑1=12" Culvert ( Controls 0.00 cfs)

### Summary for Pond DMH P1-7: DMH P 1-7

Inflow Area = 1.809 ac, 41.12% Impervious, Inflow Depth > 1.86" for 10-Year event  
 Inflow = 3.27 cfs @ 12.09 hrs, Volume= 0.280 af  
 Outflow = 3.27 cfs @ 12.09 hrs, Volume= 0.280 af, Atten= 0%, Lag= 0.0 min  
 Primary = 3.27 cfs @ 12.09 hrs, Volume= 0.280 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 38.76' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	37.80'	<b>15.0" Round 15" Culvert</b> L= 174.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 37.80' / 35.10' S= 0.0155 '/ Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

**Primary OutFlow** Max=2.94 cfs @ 12.09 hrs HW=38.74' TW=37.53' (Dynamic Tailwater)

↑1=15" Culvert (Outlet Controls 2.94 cfs @ 4.11 fps)

### Summary for Pond DMH P2-1: DMH P2-1

Inflow Area = 0.726 ac, 27.43% Impervious, Inflow Depth > 1.27" for 10-Year event  
 Inflow = 0.87 cfs @ 12.09 hrs, Volume= 0.077 af  
 Outflow = 0.87 cfs @ 12.09 hrs, Volume= 0.077 af, Atten= 0%, Lag= 0.0 min  
 Primary = 0.87 cfs @ 12.09 hrs, Volume= 0.077 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 49.51' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	49.00'	<b>12.0" Round 12" Culvert</b> L= 60.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 49.00' / 44.00' S= 0.0833 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.85 cfs @ 12.09 hrs HW=49.51' TW=38.56' (Dynamic Tailwater)

↑1=12" Culvert (Inlet Controls 0.85 cfs @ 2.14 fps)

### Summary for Pond DMH P2-2: DMH P2-2

Inflow Area = 2.894 ac, 24.83% Impervious, Inflow Depth > 0.70" for 10-Year event  
 Inflow = 2.03 cfs @ 12.09 hrs, Volume= 0.169 af  
 Outflow = 2.03 cfs @ 12.09 hrs, Volume= 0.169 af, Atten= 0%, Lag= 0.0 min  
 Primary = 2.03 cfs @ 12.09 hrs, Volume= 0.169 af

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 48.66' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	47.50'	<b>12.0" Round 12" Culvert</b> L= 90.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 47.50' / 46.90' S= 0.0067 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.41 cfs @ 12.09 hrs HW=48.54' TW=48.28' (Dynamic Tailwater)  
 ↑1=12" Culvert (Outlet Controls 1.41 cfs @ 2.15 fps)

**Summary for Pond DMH P2-3: DMH P2-3**

Inflow Area = 3.217 ac, 29.33% Impervious, Inflow Depth > 0.94" for 10-Year event  
 Inflow = 3.02 cfs @ 12.09 hrs, Volume= 0.252 af  
 Outflow = 3.02 cfs @ 12.09 hrs, Volume= 0.252 af, Atten= 0%, Lag= 0.0 min  
 Primary = 3.02 cfs @ 12.09 hrs, Volume= 0.252 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 48.36' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	46.90'	<b>12.0" Round 12" Culvert</b> L= 94.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 46.90' / 46.40' S= 0.0053 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=2.89 cfs @ 12.09 hrs HW=48.28' TW=38.56' (Dynamic Tailwater)  
 ↑1=12" Culvert (Barrel Controls 2.89 cfs @ 3.68 fps)

**Summary for Pond DMH P2-4: DMH P2-4**

Inflow Area = 0.693 ac, 37.36% Impervious, Inflow Depth > 1.69" for 10-Year event  
 Inflow = 1.11 cfs @ 12.09 hrs, Volume= 0.097 af  
 Outflow = 1.11 cfs @ 12.09 hrs, Volume= 0.097 af, Atten= 0%, Lag= 0.0 min  
 Primary = 1.11 cfs @ 12.09 hrs, Volume= 0.097 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 54.59' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	54.00'	<b>12.0" Round 12" Culvert</b> L= 65.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 54.00' / 48.00' S= 0.0923 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.09 cfs @ 12.09 hrs HW=54.58' TW=38.57' (Dynamic Tailwater)  
 ↑1=12" Culvert (Inlet Controls 1.09 cfs @ 2.29 fps)

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**Summary for Pond Pond 1-1: Pond 1-1**

Inflow Area = 3.340 ac, 40.23% Impervious, Inflow Depth > 1.82" for 10-Year event  
 Inflow = 5.44 cfs @ 12.11 hrs, Volume= 0.507 af  
 Outflow = 1.77 cfs @ 12.45 hrs, Volume= 0.508 af, Atten= 67%, Lag= 20.3 min  
 Discarded = 0.82 cfs @ 12.45 hrs, Volume= 0.482 af  
 Primary = 0.95 cfs @ 12.45 hrs, Volume= 0.026 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 38.13' @ 12.45 hrs Surf.Area= 4,294 sf Storage= 6,340 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 57.7 min ( 820.4 - 762.7 )

Volume	Invert	Avail.Storage	Storage Description
#1	36.00'	8,207 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.00	2,087	0	0
38.00	3,720	5,807	5,807
38.50	5,879	2,400	8,207

Device	Routing	Invert	Outlet Devices
#1	Discarded	36.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	38.00'	<b>18.0" x 18.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads

**Discarded OutFlow** Max=0.82 cfs @ 12.45 hrs HW=38.13' (Free Discharge)

↑**1=Exfiltration** (Exfiltration Controls 0.82 cfs)

**Primary OutFlow** Max=0.95 cfs @ 12.45 hrs HW=38.13' TW=36.35' (Dynamic Tailwater)

↑**2=Orifice/Grate** (Weir Controls 0.95 cfs @ 1.19 fps)

**Summary for Pond Pond 1-2: Pond 1-2**

Inflow Area = 4.662 ac, 37.06% Impervious, Inflow Depth > 0.45" for 10-Year event  
 Inflow = 1.69 cfs @ 12.09 hrs, Volume= 0.174 af  
 Outflow = 0.67 cfs @ 12.65 hrs, Volume= 0.174 af, Atten= 61%, Lag= 33.8 min  
 Discarded = 0.67 cfs @ 12.65 hrs, Volume= 0.174 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 36.43' @ 12.65 hrs Surf.Area= 3,475 sf Storage= 1,373 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 10.4 min ( 775.2 - 764.8 )

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Volume	Invert	Avail.Storage	Storage Description
#1	36.00'	11,681 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.00	2,943	0	0
38.00	5,430	8,373	8,373
38.50	7,800	3,308	11,681

Device	Routing	Invert	Outlet Devices
#1	Discarded	36.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	38.00'	<b>18.0" x 18.0" Horiz. Orifice/Grate C= 0.600</b> Limited to weir flow at low heads

**Discarded OutFlow** Max=0.67 cfs @ 12.65 hrs HW=36.43' (Free Discharge)  
 ↑1=Exfiltration (Exfiltration Controls 0.67 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=36.00' TW=34.00' (Dynamic Tailwater)  
 ↑2=Orifice/Grate ( Controls 0.00 cfs)

**Summary for Pond Pond 1-3: Pond 1-3**

Inflow Area = 6.182 ac, 44.22% Impervious, Inflow Depth > 0.72" for 10-Year event  
 Inflow = 4.42 cfs @ 12.09 hrs, Volume= 0.371 af  
 Outflow = 0.73 cfs @ 12.56 hrs, Volume= 0.371 af, Atten= 84%, Lag= 28.3 min  
 Discarded = 0.71 cfs @ 12.56 hrs, Volume= 0.371 af  
 Primary = 0.02 cfs @ 12.56 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 35.51' @ 12.56 hrs Surf.Area= 3,714 sf Storage= 4,609 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 41.5 min ( 794.7 - 753.3 )

Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	6,541 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	2,398	0	0
36.00	4,143	6,541	6,541

Device	Routing	Invert	Outlet Devices
#1	Discarded	34.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	35.50'	<b>10.0' long x 3.0' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

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**Discarded OutFlow** Max=0.71 cfs @ 12.56 hrs HW=35.51' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 0.71 cfs)

**Primary OutFlow** Max=0.02 cfs @ 12.56 hrs HW=35.51' TW=0.00' (Dynamic Tailwater)

↑2=Broad-Crested Rectangular Weir (Weir Controls 0.02 cfs @ 0.21 fps)

**Summary for Pond Pond 1-4: Pond 1-4**

Inflow Area = 7.225 ac, 34.45% Impervious, Inflow Depth > 1.09" for 10-Year event  
 Inflow = 7.69 cfs @ 12.09 hrs, Volume= 0.655 af  
 Outflow = 1.24 cfs @ 12.56 hrs, Volume= 0.655 af, Atten= 84%, Lag= 28.7 min  
 Discarded = 1.24 cfs @ 12.56 hrs, Volume= 0.655 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 35.42' @ 12.56 hrs Surf.Area= 6,468 sf Storage= 7,871 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 39.3 min ( 796.5 - 757.2 )

Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	11,836 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	4,612	0	0
36.00	7,224	11,836	11,836

Device	Routing	Invert	Outlet Devices
#1	Discarded	34.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	35.50'	<b>10.0' long x 3.0' breadth Broad-Crested Rectangular Weir</b>
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.50 4.00 4.50
			Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68
			2.72 2.81 2.92 2.97 3.07 3.32

**Discarded OutFlow** Max=1.24 cfs @ 12.56 hrs HW=35.42' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 1.24 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=34.00' TW=0.00' (Dynamic Tailwater)

↑2=Broad-Crested Rectangular Weir ( Controls 0.00 cfs)

**Summary for Pond Pond 1-5: Pond 1-5**

Inflow Area = 3.608 ac, 20.41% Impervious, Inflow Depth > 0.52" for 10-Year event  
 Inflow = 1.80 cfs @ 12.09 hrs, Volume= 0.158 af  
 Outflow = 0.59 cfs @ 12.38 hrs, Volume= 0.158 af, Atten= 67%, Lag= 17.7 min  
 Discarded = 0.59 cfs @ 12.38 hrs, Volume= 0.158 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 39.55' @ 12.38 hrs Surf.Area= 3,064 sf Storage= 1,238 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 11.7 min ( 774.8 - 763.1 )

Volume	Invert	Avail.Storage	Storage Description
#1	39.00'	2,915 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
39.00	1,434	0	0
40.00	4,396	2,915	2,915

Device	Routing	Invert	Outlet Devices
#1	Discarded	39.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	39.80'	<b>18.0" x 18.0" Horiz. Orifice/Grate C= 0.600</b> Limited to weir flow at low heads

**Discarded OutFlow** Max=0.59 cfs @ 12.38 hrs HW=39.55' (Free Discharge)  
 ↑1=Exfiltration (Exfiltration Controls 0.59 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=39.00' TW=35.00' (Dynamic Tailwater)  
 ↑2=Orifice/Grate ( Controls 0.00 cfs)

**Summary for Pond Pond 1-6: Pond 1-6**

Inflow Area = 2.478 ac, 13.13% Impervious, Inflow Depth > 0.67" for 10-Year event  
 Inflow = 1.26 cfs @ 12.14 hrs, Volume= 0.138 af  
 Outflow = 0.41 cfs @ 12.50 hrs, Volume= 0.138 af, Atten= 68%, Lag= 21.5 min  
 Discarded = 0.33 cfs @ 12.50 hrs, Volume= 0.137 af  
 Primary = 0.07 cfs @ 12.50 hrs, Volume= 0.001 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 42.27' @ 12.50 hrs Surf.Area= 1,749 sf Storage= 1,343 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 29.1 min ( 824.1 - 795.0 )

Volume	Invert	Avail.Storage	Storage Description
#1	41.00'	1,796 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
41.00	681	0	0
42.00	1,204	943	943
42.50	2,210	854	1,796

Device	Routing	Invert	Outlet Devices
#1	Discarded	41.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	42.25'	<b>10.0' long x 3.0' breadth Broad-Crested Rectangular Weir</b>

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Head (feet)	0.20	0.40	0.60	0.80	1.00	1.20	1.40	1.60	1.80	2.00
	2.50	3.00	3.50	4.00	4.50					
Coef. (English)	2.44	2.58	2.68	2.67	2.65	2.64	2.64	2.68	2.68	
	2.72	2.81	2.92	2.97	3.07	3.32				

**Discarded OutFlow** Max=0.33 cfs @ 12.50 hrs HW=42.27' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 0.33 cfs)

**Primary OutFlow** Max=0.07 cfs @ 12.50 hrs HW=42.27' TW=39.54' (Dynamic Tailwater)

↑2=Broad-Crested Rectangular Weir (Weir Controls 0.07 cfs @ 0.35 fps)

**Summary for Pond Pond 1-7: Pond 1-7**

Inflow Area =	0.215 ac, 65.17% Impervious, Inflow Depth > 2.89" for 10-Year event		
Inflow =	0.61 cfs @	12.09 hrs,	Volume= 0.052 af
Outflow =	0.14 cfs @	12.49 hrs,	Volume= 0.052 af, Atten= 78%, Lag= 24.2 min
Discarded =	0.14 cfs @	12.49 hrs,	Volume= 0.052 af
Primary =	0.00 cfs @	0.00 hrs,	Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Peak Elev= 35.93' @ 12.49 hrs Surf.Area= 712 sf Storage= 537 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 22.4 min ( 775.8 - 753.5 )

Volume	Invert	Avail.Storage	Storage Description
#1	35.00'	1,493 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
35.00	441	0	0
36.00	732	587	587
37.00	1,080	906	1,493

Device	Routing	Invert	Outlet Devices
#1	Discarded	35.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	36.90'	<b>10.0' long x 3.0' breadth Broad-Crested Rectangular Weir</b>
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.50 4.00 4.50
			Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68
			2.72 2.81 2.92 2.97 3.07 3.32

**Discarded OutFlow** Max=0.14 cfs @ 12.49 hrs HW=35.93' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 0.14 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=35.00' TW=0.00' (Dynamic Tailwater)

↑2=Broad-Crested Rectangular Weir ( Controls 0.00 cfs)

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**Summary for Pond Pond 1-8: Pond 1-8**

Inflow Area = 0.223 ac, 44.70% Impervious, Inflow Depth > 2.02" for 10-Year event  
 Inflow = 0.44 cfs @ 12.09 hrs, Volume= 0.038 af  
 Outflow = 0.10 cfs @ 12.48 hrs, Volume= 0.038 af, Atten= 77%, Lag= 23.7 min  
 Discarded = 0.10 cfs @ 12.48 hrs, Volume= 0.038 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 34.80' @ 12.48 hrs Surf.Area= 525 sf Storage= 361 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 18.8 min ( 777.9 - 759.1 )

Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	2,445 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	378	0	0
37.50	1,019	2,445	2,445

Device	Routing	Invert	Outlet Devices
#1	Discarded	34.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	37.00'	<b>10.0' long x 3.0' breadth Broad-Crested Rectangular Weir</b>
Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00			
2.50 3.00 3.50 4.00 4.50			
Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68			
2.72 2.81 2.92 2.97 3.07 3.32			

**Discarded OutFlow** Max=0.10 cfs @ 12.48 hrs HW=34.80' (Free Discharge)  
 ↑1=Exfiltration (Exfiltration Controls 0.10 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=34.00' TW=0.00' (Dynamic Tailwater)  
 ↑2=Broad-Crested Rectangular Weir( Controls 0.00 cfs)

**Summary for Pond Pond 2-1: Pond 2-1**

Inflow Area = 2.357 ac, 10.83% Impervious, Inflow Depth > 0.55" for 10-Year event  
 Inflow = 0.76 cfs @ 12.28 hrs, Volume= 0.108 af  
 Outflow = 0.32 cfs @ 12.67 hrs, Volume= 0.108 af, Atten= 58%, Lag= 23.7 min  
 Discarded = 0.32 cfs @ 12.67 hrs, Volume= 0.108 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 50.47' @ 12.67 hrs Surf.Area= 1,688 sf Storage= 678 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 9.2 min ( 815.3 - 806.1 )

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Volume	Invert	Avail.Storage	Storage Description
#1	50.00'	10,246 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.00	1,217	0	0
52.00	3,235	4,452	4,452
53.00	8,352	5,794	10,246

Device	Routing	Invert	Outlet Devices
#1	Primary	51.50'	<b>18.0" x 18.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#2	Discarded	50.00'	<b>8.270 in/hr Exfiltration over Surface area</b>

**Discarded OutFlow** Max=0.32 cfs @ 12.67 hrs HW=50.47' (Free Discharge)  
 ↳ **2=Exfiltration** (Exfiltration Controls 0.32 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=50.00' TW=47.50' (Dynamic Tailwater)  
 ↳ **1=Orifice/Grate** ( Controls 0.00 cfs)

**Summary for Pond Pond 2-2: Ponk 2-2**

Inflow Area = 5.890 ac, 29.73% Impervious, Inflow Depth > 1.15" for 10-Year event  
 Inflow = 6.54 cfs @ 12.09 hrs, Volume= 0.563 af  
 Outflow = 1.28 cfs @ 12.52 hrs, Volume= 0.564 af, Atten= 80%, Lag= 26.0 min  
 Discarded = 1.28 cfs @ 12.52 hrs, Volume= 0.564 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 39.01' @ 12.52 hrs Surf.Area= 6,705 sf Storage= 5,957 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 26.0 min ( 785.2 - 759.2 )

Volume	Invert	Avail.Storage	Storage Description
#1	38.00'	13,363 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
38.00	5,043	0	0
40.00	8,320	13,363	13,363

Device	Routing	Invert	Outlet Devices
#1	Primary	39.50'	<b>10.0' long x 3.0' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32
#2	Discarded	38.00'	<b>8.270 in/hr Exfiltration over Surface area</b>

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**Discarded OutFlow** Max=1.28 cfs @ 12.52 hrs HW=39.01' (Free Discharge)

↳ **2=Exfiltration** (Exfiltration Controls 1.28 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=38.00' TW=0.00' (Dynamic Tailwater)

↳ **1=Broad-Crested Rectangular Weir** ( Controls 0.00 cfs)

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points  
 Runoff by SCS TR-20 method, UH=SCS, Weighted-Q  
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

<b>SubcatchmentPost 1a: Post 1a</b>	Runoff Area=11,472 sf 78.57% Impervious Runoff Depth>4.20" Flow Length=293' Tc=6.0 min CN=85 Runoff=1.09 cfs 0.092 af
<b>SubcatchmentPost 1b: Post 1b</b>	Runoff Area=8,942 sf 86.42% Impervious Runoff Depth>4.59" Flow Length=241' Tc=6.0 min CN=90 Runoff=0.93 cfs 0.078 af
<b>SubcatchmentPost 1c: Post 1c</b>	Runoff Area=4,893 sf 100.00% Impervious Runoff Depth>5.26" Flow Length=341' Tc=6.0 min CN=98 Runoff=0.59 cfs 0.049 af
<b>SubcatchmentPost 1d: Post 1d</b>	Runoff Area=9,994 sf 77.29% Impervious Runoff Depth>4.14" Flow Length=156' Slope=0.0800 ' ' Tc=6.0 min CN=85 Runoff=0.93 cfs 0.079 af
<b>SubcatchmentPost 1e: Post 1e</b>	Runoff Area=100,547 sf 33.55% Impervious Runoff Depth>1.95" Flow Length=607' Tc=9.0 min CN=58 Runoff=3.73 cfs 0.376 af
<b>SubcatchmentPost 1f: Post 1f</b>	Runoff Area=18,589 sf 17.03% Impervious Runoff Depth>1.15" Flow Length=84' Slope=0.3000 ' ' Tc=6.0 min CN=49 Runoff=0.38 cfs 0.041 af
<b>SubcatchmentPost 1g: Post 1g</b>	Runoff Area=57,573 sf 29.05% Impervious Runoff Depth>1.73" Flow Length=220' Slope=0.0400 ' ' Tc=6.0 min UI Adjusted CN=54 Runoff=2.02 cfs 0.191 af
<b>SubcatchmentPost 1h: Post 1h</b>	Runoff Area=22,719 sf 81.49% Impervious Runoff Depth>4.34" Flow Length=341' Slope=0.0400 ' ' Tc=6.0 min CN=87 Runoff=2.24 cfs 0.189 af
<b>SubcatchmentPost 1i: Post 1i</b>	Runoff Area=5,823 sf 87.31% Impervious Runoff Depth>4.63" Flow Length=76' Slope=0.0200 ' ' Tc=6.0 min CN=91 Runoff=0.61 cfs 0.052 af
<b>SubcatchmentPost 1j: Post 1j</b>	Runoff Area=7,803 sf 72.95% Impervious Runoff Depth>3.92" Flow Length=131' Slope=0.0400 ' ' Tc=6.0 min CN=82 Runoff=0.69 cfs 0.059 af
<b>SubcatchmentPost 1k: Post 1k</b>	Runoff Area=6,348 sf 65.39% Impervious Runoff Depth>3.55" Flow Length=83' Tc=6.0 min CN=78 Runoff=0.50 cfs 0.043 af
<b>SubcatchmentPost 1l: Post 1l</b>	Runoff Area=7,856 sf 67.41% Impervious Runoff Depth>3.65" Flow Length=86' Slope=0.0150 ' ' Tc=6.0 min CN=79 Runoff=0.64 cfs 0.055 af
<b>SubcatchmentPost 1m: Post 1m</b>	Runoff Area=3,397 sf 87.87% Impervious Runoff Depth>4.66" Flow Length=73' Slope=0.0200 ' ' Tc=6.0 min CN=91 Runoff=0.36 cfs 0.030 af
<b>SubcatchmentPost 1n: Post 1n</b>	Runoff Area=12,274 sf 17.17% Impervious Runoff Depth>1.16" Flow Length=107' Tc=6.0 min CN=49 Runoff=0.25 cfs 0.027 af
<b>SubcatchmentPost 1o: Post 1o</b>	Runoff Area=9,346 sf 65.17% Impervious Runoff Depth>3.54" Flow Length=131' Slope=0.0150 ' ' Tc=6.0 min CN=77 Runoff=0.74 cfs 0.063 af
<b>SubcatchmentPost 1q: Post 1q</b>	Runoff Area=8,656 sf 83.78% Impervious Runoff Depth>4.46" Flow Length=89' Slope=0.0200 ' ' Tc=6.0 min CN=88 Runoff=0.88 cfs 0.074 af

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<b>SubcatchmentPost 1r: Post 1r</b>	Runoff Area=9,365 sf 62.78% Impervious Runoff Depth>3.42" Flow Length=108' Tc=6.0 min CN=76 Runoff=0.71 cfs 0.061 af
<b>SubcatchmentPost 1s: Post 1s</b>	Runoff Area=16,065 sf 78.18% Impervious Runoff Depth>4.18" Flow Length=195' Slope=0.0200 '/' Tc=6.0 min CN=85 Runoff=1.52 cfs 0.128 af
<b>SubcatchmentPost 1t: Post 1t</b>	Runoff Area=13,362 sf 80.26% Impervious Runoff Depth>4.28" Flow Length=236' Slope=0.0800 '/' Tc=6.0 min CN=86 Runoff=1.29 cfs 0.109 af
<b>SubcatchmentPost 1u: Post 1u</b>	Runoff Area=25,450 sf 74.16% Impervious Runoff Depth>3.98" Flow Length=509' Slope=0.0800 '/' Tc=6.0 min CN=83 Runoff=2.28 cfs 0.194 af
<b>SubcatchmentPost 1v: Post 1v</b>	Runoff Area=39,981 sf 7.01% Impervious Runoff Depth>0.62" Flow Length=321' Tc=6.0 min CN=42 Runoff=0.34 cfs 0.047 af
<b>SubcatchmentPost 1w: Post 1w</b>	Runoff Area=13,938 sf 83.43% Impervious Runoff Depth>4.44" Flow Length=157' Tc=6.0 min CN=88 Runoff=1.40 cfs 0.118 af
<b>SubcatchmentPost 1x: Post 1x</b>	Runoff Area=30,765 sf 21.56% Impervious Runoff Depth>1.38" Flow Length=72' Tc=6.0 min CN=52 Runoff=0.80 cfs 0.081 af
<b>SubcatchmentPost 1y: Post 1y</b>	Runoff Area=107,930 sf 13.13% Impervious Runoff Depth>0.93" Flow Length=314' Tc=10.2 min UI Adjusted CN=45 Runoff=1.51 cfs 0.193 af
<b>SubcatchmentPost 1z: Post 1z</b>	Runoff Area=9,726 sf 44.70% Impervious Runoff Depth>2.52" Flow Length=91' Slope=0.0200 '/' Tc=6.0 min CN=65 Runoff=0.52 cfs 0.047 af
<b>SubcatchmentPost 2a: Post 2a</b>	Runoff Area=3,183 sf 100.00% Impervious Runoff Depth>5.26" Flow Length=243' Slope=0.0800 '/' Tc=6.0 min CN=98 Runoff=0.38 cfs 0.032 af
<b>SubcatchmentPost 2b: Post 2b</b>	Runoff Area=2,939 sf 100.00% Impervious Runoff Depth>5.26" Flow Length=249' Slope=0.0800 '/' Tc=6.0 min CN=98 Runoff=0.35 cfs 0.030 af
<b>SubcatchmentPost 2c: Post 2c</b>	Runoff Area=13,057 sf 87.09% Impervious Runoff Depth>4.62" Flow Length=166' Tc=6.0 min CN=90 Runoff=1.37 cfs 0.115 af
<b>SubcatchmentPost 2d: Post 2d</b>	Runoff Area=10,331 sf 85.27% Impervious Runoff Depth>4.53" Flow Length=122' Slope=0.0200 '/' Tc=6.0 min CN=89 Runoff=1.06 cfs 0.090 af
<b>SubcatchmentPost 2e: Post 2e</b>	Runoff Area=102,692 sf 10.83% Impervious Runoff Depth>0.78" Flow Length=501' Tc=21.3 min UI Adjusted CN=43 Runoff=0.92 cfs 0.154 af
<b>SubcatchmentPost 2f: Post 2f</b>	Runoff Area=5,479 sf 48.49% Impervious Runoff Depth>2.71" Flow Length=91' Tc=6.0 min CN=68 Runoff=0.32 cfs 0.028 af
<b>SubcatchmentPost 2g: Post 2g</b>	Runoff Area=8,559 sf 83.39% Impervious Runoff Depth>4.44" Flow Length=171' Slope=0.0800 '/' Tc=6.0 min CN=88 Runoff=0.86 cfs 0.073 af
<b>SubcatchmentPost 2h: Post 2h</b>	Runoff Area=18,917 sf 11.90% Impervious Runoff Depth>0.84" Flow Length=294' Tc=8.7 min CN=44 Runoff=0.25 cfs 0.030 af

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<b>SubcatchmentPost 2i: Post 2i</b>	Runoff Area=7,032 sf 73.25% Impervious Runoff Depth>3.94" Flow Length=86' Tc=6.0 min CN=82 Runoff=0.62 cfs 0.053 af
<b>SubcatchmentPost 2j: Post 2j</b>	Runoff Area=4,244 sf 91.35% Impervious Runoff Depth>4.83" Flow Length=107' Tc=6.0 min CN=93 Runoff=0.47 cfs 0.039 af
<b>SubcatchmentPost 2k: Post 2k</b>	Runoff Area=25,495 sf 10.01% Impervious Runoff Depth>0.77" Flow Length=183' Tc=6.0 min CN=44 Runoff=0.31 cfs 0.038 af
<b>SubcatchmentPost 2l: Post 2l</b>	Runoff Area=54,661 sf 27.88% Impervious Runoff Depth>1.69" Flow Length=248' Tc=6.0 min CN=55 Runoff=1.84 cfs 0.176 af
<b>SubcatchmentPost 3a: Post 3a</b>	Runoff Area=21,228 sf 32.49% Impervious Runoff Depth>1.92" Flow Length=745' Slope=0.0500 '/' Tc=6.0 min CN=58 Runoff=0.83 cfs 0.078 af
<b>SubcatchmentPost 3b: Post 3b</b>	Runoff Area=238,088 sf 13.07% Impervious Runoff Depth>0.89" Flow Length=344' Slope=0.3300 '/' Tc=6.0 min UI Adjusted CN=44 Runoff=3.76 cfs 0.405 af
<b>SubcatchmentPost 3c: Post 3c</b>	Runoff Area=85,113 sf 13.07% Impervious Runoff Depth>0.92" Flow Length=267' Tc=6.0 min CN=46 Runoff=1.34 cfs 0.150 af
<b>SubcatchmentPost p: Post 1p</b>	Runoff Area=40,272 sf 25.26% Impervious Runoff Depth>1.56" Flow Length=111' Slope=0.3000 '/' Tc=6.0 min CN=54 Runoff=1.23 cfs 0.120 af
<b>Reach Phase 1 Post: Phase 1 Post</b>	Inflow=2.95 cfs 0.219 af Outflow=2.95 cfs 0.219 af
<b>Reach Phase 2 Pre: Phase 2 Pre</b>	Inflow=4.59 cfs 0.483 af Outflow=4.59 cfs 0.483 af
<b>Reach Pond Post: Pond Post</b>	Inflow=5.93 cfs 0.702 af Outflow=5.93 cfs 0.702 af
<b>Reach Swale thru 1e: Swale thru 1e</b>	Avg. Flow Depth=0.15' Max Vel=1.96 fps Inflow=1.09 cfs 0.092 af n=0.030 L=436.0' S=0.0344 '/' Capacity=60.14 cfs Outflow=0.99 cfs 0.092 af
<b>Pond CB P1-1: CB P1-1</b>	Peak Elev=63.58' Inflow=1.09 cfs 0.092 af 12.0" Round Culvert n=0.012 L=68.0' S=0.0147 '/' Outflow=1.09 cfs 0.092 af
<b>Pond CB P1-17: CB P1-17</b>	Peak Elev=51.31' Inflow=0.34 cfs 0.047 af 12.0" Round Culvert n=0.012 L=200.0' S=0.0655 '/' Outflow=0.34 cfs 0.047 af
<b>Pond CB P1-2: CB P1-1</b>	Peak Elev=63.53' Inflow=0.93 cfs 0.078 af 12.0" Round Culvert n=0.012 L=34.0' S=0.4706 '/' Outflow=0.93 cfs 0.078 af
<b>Pond CB P1-4: CB P1-4</b>	Peak Elev=40.25' Inflow=4.71 cfs 0.468 af 15.0" Round Culvert n=0.012 L=90.0' S=0.0111 '/' Outflow=4.71 cfs 0.468 af
<b>Pond DMH P 1-2: DMH 1-2</b>	Peak Elev=36.37' Inflow=2.85 cfs 0.240 af 12.0" Round Culvert n=0.012 L=46.0' S=0.0043 '/' Outflow=2.85 cfs 0.240 af

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<b>Pond DMH P 1-3: DMH P1-3</b>	Peak Elev=36.12'	Inflow=4.04 cfs	0.342 af
15.0" Round Culvert n=0.012 L=100.0' S=0.0050 '/'	Outflow=4.04 cfs	0.342 af	
<b>Pond DMH P 1-6: DMH P1-6</b>	Peak Elev=38.43'	Inflow=8.42 cfs	0.732 af
15.0" Round Culvert n=0.012 L=100.0' S=0.0050 '/'	Outflow=8.42 cfs	0.732 af	
<b>Pond DMH P1-1: DMH 1-1</b>	Peak Elev=45.80'	Inflow=1.52 cfs	0.128 af
12.0" Round Culvert n=0.012 L=30.0' S=0.0100 '/'	Outflow=1.52 cfs	0.128 af	
<b>Pond DMH P1-4: DMH P1-4</b>	Peak Elev=35.79'	Inflow=5.04 cfs	0.427 af
15.0" Round Culvert n=0.012 L=94.0' S=0.0053 '/'	Outflow=5.04 cfs	0.427 af	
<b>Pond DMH P1-5: DMH P1-5</b>	Peak Elev=38.65'	Inflow=1.59 cfs	0.135 af
12.0" Round Culvert n=0.012 L=114.0' S=0.0044 '/'	Outflow=1.59 cfs	0.135 af	
<b>Pond DMH P1-7: DMH P 1-7</b>	Peak Elev=39.08'	Inflow=3.91 cfs	0.351 af
15.0" Round Culvert n=0.012 L=174.0' S=0.0155 '/'	Outflow=3.91 cfs	0.351 af	
<b>Pond DMH P2-1: DMH P2-1</b>	Peak Elev=49.57'	Inflow=1.05 cfs	0.099 af
12.0" Round Culvert n=0.012 L=60.0' S=0.0833 '/'	Outflow=1.05 cfs	0.099 af	
<b>Pond DMH P2-2: DMH P2-2</b>	Peak Elev=49.26'	Inflow=2.44 cfs	0.205 af
12.0" Round Culvert n=0.012 L=90.0' S=0.0067 '/'	Outflow=2.44 cfs	0.205 af	
<b>Pond DMH P2-3: DMH P2-3</b>	Peak Elev=48.78'	Inflow=3.62 cfs	0.306 af
12.0" Round Culvert n=0.012 L=94.0' S=0.0053 '/'	Outflow=3.62 cfs	0.306 af	
<b>Pond DMH P2-4: DMH P2-4</b>	Peak Elev=54.66'	Inflow=1.33 cfs	0.123 af
12.0" Round Culvert n=0.012 L=65.0' S=0.0923 '/'	Outflow=1.33 cfs	0.123 af	
<b>Pond Pond 1-1: Pond 1-1</b>	Peak Elev=38.24'	Storage=6,839 cf	Inflow=6.53 cfs
Discarded=0.91 cfs	0.560 af	Primary=2.35 cfs	0.077 af
	Outflow=3.26 cfs	0.637 af	
<b>Pond Pond 1-2: Pond 1-2</b>	Peak Elev=37.04'	Storage=3,727 cf	Inflow=3.20 cfs
Discarded=0.81 cfs	0.269 af	Primary=0.00 cfs	0.000 af
	Outflow=0.81 cfs	0.269 af	
<b>Pond Pond 1-3: Pond 1-3</b>	Peak Elev=35.63'	Storage=5,080 cf	Inflow=5.29 cfs
Discarded=0.73 cfs	0.424 af	Primary=1.19 cfs	0.031 af
	Outflow=1.92 cfs	0.455 af	
<b>Pond Pond 1-4: Pond 1-4</b>	Peak Elev=35.65'	Storage=9,355 cf	Inflow=9.22 cfs
Discarded=1.29 cfs	0.776 af	Primary=1.35 cfs	0.038 af
	Outflow=2.64 cfs	0.814 af	
<b>Pond Pond 1-5: Pond 1-5</b>	Peak Elev=39.79'	Storage=2,055 cf	Inflow=2.16 cfs
Discarded=0.72 cfs	0.213 af	Primary=0.00 cfs	0.000 af
	Outflow=0.72 cfs	0.213 af	
<b>Pond Pond 1-6: Pond 1-6</b>	Peak Elev=42.33'	Storage=1,448 cf	Inflow=1.51 cfs
Discarded=0.36 cfs	0.179 af	Primary=0.54 cfs	0.014 af
	Outflow=0.90 cfs	0.193 af	
<b>Pond Pond 1-7: Pond 1-7</b>	Peak Elev=36.15'	Storage=701 cf	Inflow=0.74 cfs
Discarded=0.15 cfs	0.063 af	Primary=0.00 cfs	0.000 af
	Outflow=0.15 cfs	0.063 af	

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**Pond Pond 1-8: Pond 1-8**

Peak Elev=35.03' Storage=486 cf Inflow=0.52 cfs 0.047 af  
Discarded=0.11 cfs 0.047 af Primary=0.00 cfs 0.000 af Outflow=0.11 cfs 0.047 af

**Pond Pond 2-1: Pond 2-1**

Peak Elev=50.66' Storage=1,026 cf Inflow=0.92 cfs 0.154 af  
Discarded=0.36 cfs 0.154 af Primary=0.00 cfs 0.000 af Outflow=0.36 cfs 0.154 af

**Pond Pond 2-2: Ponk 2-2**

Peak Elev=39.30' Storage=7,924 cf Inflow=7.84 cfs 0.704 af  
Discarded=1.37 cfs 0.705 af Primary=0.00 cfs 0.000 af Outflow=1.37 cfs 0.705 af

**Total Runoff Area = 27.642 ac Runoff Volume = 4.089 af Average Runoff Depth = 1.78"**  
**69.82% Pervious = 19.300 ac 30.18% Impervious = 8.342 ac**

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**Summary for Subcatchment Post 1a: Post 1a**

Runoff = 1.09 cfs @ 12.09 hrs, Volume= 0.092 af, Depth&gt; 4.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description			
8,275	98	Paved parking, HSG A			
738	98	Unconnected pavement, HSG A			
0	36	Woods, Fair, HSG A			
0	48	Brush, Poor, HSG A			
2,459	39	>75% Grass cover, Good, HSG A			
0	98	Water Surface, HSG A			
11,472	85	Weighted Average			
2,459		21.43% Pervious Area			
9,013		78.57% Impervious Area			
738		8.19% Unconnected			
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	40	0.0200	1.13		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.7	253	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.3	293	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1b: Post 1b**

Runoff = 0.93 cfs @ 12.09 hrs, Volume= 0.078 af, Depth&gt; 4.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
6,817	98	Paved parking, HSG A
911	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,214	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
8,942	90	Weighted Average
1,214		13.58% Pervious Area
7,728		86.42% Impervious Area
911		11.79% Unconnected

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Type III 24-hr 25-Year Rainfall=5.50"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	60	0.0200	1.22		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.5	181	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.3	241	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1c: Post 1c**

Runoff = 0.59 cfs @ 12.09 hrs, Volume= 0.049 af, Depth> 5.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
4,893	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
0	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
4,893	98	Weighted Average
4,893		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.9	321	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.2	341	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1d: Post 1d**

Runoff = 0.93 cfs @ 12.09 hrs, Volume= 0.079 af, Depth> 4.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
7,724	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
2,270	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
9,994	85	Weighted Average
2,270		22.71% Pervious Area
7,724		77.29% Impervious Area

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Type III 24-hr 25-Year Rainfall=5.50"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0800	1.71		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.4	136	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.6	156	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1e: Post 1e**

Runoff = 3.73 cfs @ 12.12 hrs, Volume= 0.376 af, Depth&gt; 1.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
21,601	98	Paved parking, HSG A
12,130	98	Unconnected pavement, HSG A
13,021	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
53,795	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
100,547	58	Weighted Average
66,816		66.45% Pervious Area
33,731		33.55% Impervious Area
12,130		35.96% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	30	0.0800	0.16		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 3.10"
0.3	65	0.3000	3.83		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
5.5	512	0.0500	1.57		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
9.0	607	Total			

**Summary for Subcatchment Post 1f: Post 1f**

Runoff = 0.38 cfs @ 12.09 hrs, Volume= 0.041 af, Depth&gt; 1.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

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Area (sf)	CN	Description
3,165	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
15,424	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
18,589	49	Weighted Average
15,424		82.97% Pervious Area
3,165		17.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	10	0.3000	0.21		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 3.10"
0.3	74	0.3000	3.83		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.1	84	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1g: Post 1g**

Runoff = 2.02 cfs @ 12.09 hrs, Volume= 0.191 af, Depth> 1.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Adj	Description
14,132	98	98	Paved parking, HSG A
2,594	98	98	Unconnected pavement, HSG A
6,828	36	36	Woods, Fair, HSG A
0	48		Brush, Poor, HSG A
34,019	39	39	>75% Grass cover, Good, HSG A
0	98		Water Surface, HSG A
57,573	56	54	Weighted Average, UI Adjusted
40,847			70.95% Pervious Area
16,726			29.05% Impervious Area
2,594			15.51% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	62	0.0400	1.62		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.6	158	0.0400	4.06		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.2	220	Total, Increased to minimum Tc = 6.0 min			

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**Summary for Subcatchment Post 1h: Post 1h**

Runoff = 2.24 cfs @ 12.09 hrs, Volume= 0.189 af, Depth&gt; 4.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
18,514	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
4,205	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
22,719	87	Weighted Average
4,205		18.51% Pervious Area
18,514		81.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0400	1.29		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
1.3	321	0.0400	4.06		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.6	341	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1i: Post 1i**

Runoff = 0.61 cfs @ 12.09 hrs, Volume= 0.052 af, Depth&gt; 4.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
5,084	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
739	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
5,823	91	Weighted Average
739		12.69% Pervious Area
5,084		87.31% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.3	56	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.6	76	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1j: Post 1j**

Runoff = 0.69 cfs @ 12.09 hrs, Volume= 0.059 af, Depth&gt; 3.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
5,692	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
2,111	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
7,803	82	Weighted Average
2,111		27.05% Pervious Area
5,692		72.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0400	1.29		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.5	111	0.0400	4.06		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.8	131	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1k: Post 1k**

Runoff = 0.50 cfs @ 12.09 hrs, Volume= 0.043 af, Depth&gt; 3.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

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Area (sf)	CN	Description
4,151	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
2,197	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
6,348	78	Weighted Average
2,197		34.61% Pervious Area
4,151		65.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	10	0.0200	0.85		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.6	73	0.0100	2.03		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.8	83	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 11: Post 11**

Runoff = 0.64 cfs @ 12.09 hrs, Volume= 0.055 af, Depth> 3.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
5,296	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
2,560	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
7,856	79	Weighted Average
2,560		32.59% Pervious Area
5,296		67.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	52	0.0150	1.06		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.2	34	0.0150	2.49		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.0	86	Total, Increased to minimum Tc = 6.0 min			

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**Summary for Subcatchment Post 1m: Post 1m**

Runoff = 0.36 cfs @ 12.09 hrs, Volume= 0.030 af, Depth&gt; 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
2,985	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
412	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
3,397	91	Weighted Average
412		12.13% Pervious Area
2,985		87.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	40	0.0200	1.13		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.2	33	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.8	73	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1n: Post 1n**

Runoff = 0.25 cfs @ 12.09 hrs, Volume= 0.027 af, Depth&gt; 1.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
2,108	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
10,166	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
12,274	49	Weighted Average
10,166		82.83% Pervious Area
2,108		17.17% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	27	0.0200	1.04		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.5	80	0.0150	2.49		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.9	107	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1o: Post 1o**

Runoff = 0.74 cfs @ 12.09 hrs, Volume= 0.063 af, Depth&gt; 3.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
6,091	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
3,255	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
9,346	77	Weighted Average
3,255		34.83% Pervious Area
6,091		65.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.05		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.5	81	0.0150	2.49		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.3	131	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1q: Post 1q**

Runoff = 0.88 cfs @ 12.09 hrs, Volume= 0.074 af, Depth&gt; 4.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

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Area (sf)	CN	Description
7,252	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,404	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
8,656	88	Weighted Average
1,404		16.22% Pervious Area
7,252		83.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	69	0.0200	1.26		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.1	20	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.0	89	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1r: Post 1r**

Runoff = 0.71 cfs @ 12.09 hrs, Volume= 0.061 af, Depth> 3.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
5,879	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
3,486	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
9,365	76	Weighted Average
3,486		37.22% Pervious Area
5,879		62.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	70	0.0200	1.26		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.3	38	0.0100	2.03		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.2	108	Total, Increased to minimum Tc = 6.0 min			

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**Summary for Subcatchment Post 1s: Post 1s**

Runoff = 1.52 cfs @ 12.09 hrs, Volume= 0.128 af, Depth&gt; 4.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
12,559	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
3,506	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
16,065	85	Weighted Average
3,506		21.82% Pervious Area
12,559		78.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	95	0.0200	1.34		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.6	100	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.8	195	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1t: Post 1t**

Runoff = 1.29 cfs @ 12.09 hrs, Volume= 0.109 af, Depth&gt; 4.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
10,725	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
2,637	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
13,362	86	Weighted Average
2,637		19.74% Pervious Area
10,725		80.26% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0800	1.71		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.6	216	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.8	236	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1u: Post 1u**

Runoff = 2.28 cfs @ 12.09 hrs, Volume= 0.194 af, Depth&gt; 3.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
18,874	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
6,576	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
25,450	83	Weighted Average
6,576		25.84% Pervious Area
18,874		74.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0800	1.71		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
1.4	489	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.6	509	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1v: Post 1v**

Runoff = 0.34 cfs @ 12.09 hrs, Volume= 0.047 af, Depth&gt; 0.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

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Area (sf)	CN	Description
2,802	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
13,176	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
24,003	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
39,981	42	Weighted Average
37,179		92.99% Pervious Area
2,802		7.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.4	40	0.3000	0.28		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 3.10"
0.8	281	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
3.2	321	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1w: Post 1w**

Runoff = 1.40 cfs @ 12.09 hrs, Volume= 0.118 af, Depth> 4.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
11,629	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
2,309	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
13,938	88	Weighted Average
2,309		16.57% Pervious Area
11,629		83.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	80	0.0200	1.29		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.5	77	0.0150	2.49		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.5	157	Total, Increased to minimum Tc = 6.0 min			

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**Summary for Subcatchment Post 1x: Post 1x**

Runoff = 0.80 cfs @ 12.09 hrs, Volume= 0.081 af, Depth&gt; 1.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
6,633	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
24,132	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
30,765	52	Weighted Average
24,132		78.44% Pervious Area
6,633		21.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	40	0.0200	1.13		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.1	32	0.3300	4.02		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
0.7	72	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1y: Post 1y**

Runoff = 1.51 cfs @ 12.14 hrs, Volume= 0.193 af, Depth&gt; 0.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Adj	Description
9,738	98	98	Paved parking, HSG A
4,436	98	98	Unconnected pavement, HSG A
24,536	36	36	Woods, Fair, HSG A
0	48		Brush, Poor, HSG A
69,220	39	39	>75% Grass cover, Good, HSG A
0	98		Water Surface, HSG A
107,930	46	45	Weighted Average, UI Adjusted
93,756			86.87% Pervious Area
14,174			13.13% Impervious Area
4,436			31.30% Unconnected

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	94	0.1500	0.17		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 3.10"
0.9	220	0.3300	4.02		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
10.2	314	Total			

**Summary for Subcatchment Post 1z: Post 1z**

Runoff = 0.52 cfs @ 12.09 hrs, Volume= 0.047 af, Depth&gt; 2.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
4,348	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
5,378	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
9,726	65	Weighted Average
5,378		55.30% Pervious Area
4,348		44.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	61	0.0200	1.23		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.2	30	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.0	91	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 2a: Post 2a**

Runoff = 0.38 cfs @ 12.09 hrs, Volume= 0.032 af, Depth&gt; 5.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

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Area (sf)	CN	Description
2,844	98	Paved parking, HSG A
339	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
0	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A

3,183	98	Weighted Average
3,183		100.00% Impervious Area
339		10.65% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0800	1.71		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.6	223	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.8	243	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 2b: Post 2b**

Runoff = 0.35 cfs @ 12.09 hrs, Volume= 0.030 af, Depth> 5.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
2,884	98	Paved parking, HSG A
55	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
0	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A

2,939	98	Weighted Average
2,939		100.00% Impervious Area
55		1.87% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0800	1.71		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.7	229	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.9	249	Total, Increased to minimum Tc = 6.0 min			

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**Summary for Subcatchment Post 2c: Post 2c**

Runoff = 1.37 cfs @ 12.09 hrs, Volume= 0.115 af, Depth&gt; 4.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
11,371	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,686	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
13,057	90	Weighted Average
1,686		12.91% Pervious Area
11,371		87.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0800	1.71		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.8	146	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.0	166	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 2d: Post 2d**

Runoff = 1.06 cfs @ 12.09 hrs, Volume= 0.090 af, Depth&gt; 4.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
8,809	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,522	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
10,331	89	Weighted Average
1,522		14.73% Pervious Area
8,809		85.27% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.6	102	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.9	122	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 2e: Post 2e**

Runoff = 0.92 cfs @ 12.29 hrs, Volume= 0.154 af, Depth&gt; 0.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Adj	Description
9,320	98	98	Paved parking, HSG A
1,806	98	98	Unconnected pavement, HSG A
51,208	36	36	Woods, Fair, HSG A
0	48		Brush, Poor, HSG A
40,358	39	39	>75% Grass cover, Good, HSG A
0	98		Water Surface, HSG A
102,692	44	43	Weighted Average, UI Adjusted
91,566			89.17% Pervious Area
11,126			10.83% Impervious Area
1,806			16.23% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.8	85	0.1300	0.09		<b>Sheet Flow,</b> Woods: Dense underbrush n= 0.800 P2= 3.10"
0.4	116	0.5000	4.95		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
5.1	300	0.0200	0.99		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
21.3	501	Total			

**Summary for Subcatchment Post 2f: Post 2f**

Runoff = 0.32 cfs @ 12.09 hrs, Volume= 0.028 af, Depth&gt; 2.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

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Area (sf)	CN	Description
2,657	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
2,822	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
5,479	68	Weighted Average
2,822		51.51% Pervious Area
2,657		48.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	32	0.0200	1.08		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.2	59	0.0500	4.54		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.7	91	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 2g: Post 2g**

Runoff = 0.86 cfs @ 12.09 hrs, Volume= 0.073 af, Depth> 4.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
7,137	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,422	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
8,559	88	Weighted Average
1,422		16.61% Pervious Area
7,137		83.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	41	0.0800	1.97		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.4	130	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.7	171	Total, Increased to minimum Tc = 6.0 min			

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**Summary for Subcatchment Post 2h: Post 2h**

Runoff = 0.25 cfs @ 12.12 hrs, Volume= 0.030 af, Depth&gt; 0.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
2,252	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
9,717	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
6,948	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
18,917	44	Weighted Average
16,665		88.10% Pervious Area
2,252		11.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.3	40	0.0500	0.09		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 3.10"
0.9	107	0.1600	2.00		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
0.5	147	0.5000	4.95		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
8.7	294	Total			

**Summary for Subcatchment Post 2i: Post 2i**

Runoff = 0.62 cfs @ 12.09 hrs, Volume= 0.053 af, Depth&gt; 3.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
5,151	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,881	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
7,032	82	Weighted Average
1,881		26.75% Pervious Area
5,151		73.25% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	46	0.0400	1.53		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.1	40	0.1000	5.09		<b>Shallow Concentrated Flow,</b> Unpaved Kv= 16.1 fps
0.6	86	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 2j: Post 2j**

Runoff = 0.47 cfs @ 12.09 hrs, Volume= 0.039 af, Depth&gt; 4.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
3,877	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
367	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
4,244	93	Weighted Average
367		8.65% Pervious Area
3,877		91.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	27	0.0400	1.37		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.2	80	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.5	107	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 2k: Post 2k**

Runoff = 0.31 cfs @ 12.09 hrs, Volume= 0.038 af, Depth&gt; 0.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

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Area (sf)	CN	Description
2,552	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
7,447	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
15,496	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
25,495	44	Weighted Average
22,943		89.99% Pervious Area
2,552		10.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	20	0.2500	0.23		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 3.10"
0.7	163	0.3300	4.02		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
2.2	183	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 2I: Post 2I**

Runoff = 1.84 cfs @ 12.09 hrs, Volume= 0.176 af, Depth> 1.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
15,240	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
2,191	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
37,230	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
54,661	55	Weighted Average
39,421		72.12% Pervious Area
15,240		27.88% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	53	0.5000	4.32		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
1.5	195	0.1000	2.21		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.7	248	Total, Increased to minimum Tc = 6.0 min			

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**Summary for Subcatchment Post 3a: Post 3a**

Runoff = 0.83 cfs @ 12.09 hrs, Volume= 0.078 af, Depth&gt; 1.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
0	98	Paved parking, HSG A
6,898	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
14,330	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
21,228	58	Weighted Average
14,330		67.51% Pervious Area
6,898		32.49% Impervious Area
6,898		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0500	1.42		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
2.7	725	0.0500	4.54		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
2.9	745	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 3b: Post 3b**

Runoff = 3.76 cfs @ 12.09 hrs, Volume= 0.405 af, Depth&gt; 0.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Adj	Description
2,975	98	98	Paved parking, HSG A
3,956	98	98	Unconnected pavement, HSG A
137,577	36	36	Woods, Fair, HSG A
0	48		Brush, Poor, HSG A
69,383	39	39	>75% Grass cover, Good, HSG A
24,197	98	98	Water Surface, HSG A
238,088	45	44	Weighted Average, UI Adjusted
206,960			86.93% Pervious Area
31,128			13.07% Impervious Area
3,956			12.71% Unconnected

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	20	0.3300	0.17		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 3.10"
1.3	324	0.3300	4.02		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
3.3	344	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 3c: Post 3c**

Runoff = 1.34 cfs @ 12.09 hrs, Volume= 0.150 af, Depth> 0.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
11,125	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
24,759	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
49,229	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
85,113	46	Weighted Average
73,988		86.93% Pervious Area
11,125		13.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.8	30	0.0500	0.13		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 3.10"
1.0	237	0.3300	4.02		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
4.8	267	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post p: Post 1p**

Runoff = 1.23 cfs @ 12.09 hrs, Volume= 0.120 af, Depth> 1.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

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Area (sf)	CN	Description
10,174	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
30,098	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
40,272	54	Weighted Average
30,098		74.74% Pervious Area
10,174		25.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	10	0.3000	0.21		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 3.10"
0.4	101	0.3000	3.83		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.2	111	Total, Increased to minimum Tc = 6.0 min			

**Summary for Reach Phase 1 Post: Phase 1 Post**

Inflow Area = 15.799 ac, 36.19% Impervious, Inflow Depth > 0.17" for 25-Year event  
 Inflow = 2.95 cfs @ 12.40 hrs, Volume= 0.219 af  
 Outflow = 2.95 cfs @ 12.40 hrs, Volume= 0.219 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

**Summary for Reach Phase 2 Pre: Phase 2 Pre**

Inflow Area = 11.844 ac, 22.16% Impervious, Inflow Depth > 0.49" for 25-Year event  
 Inflow = 4.59 cfs @ 12.09 hrs, Volume= 0.483 af  
 Outflow = 4.59 cfs @ 12.09 hrs, Volume= 0.483 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

**Summary for Reach Pond Post: Pond Post**

Inflow Area = 27.642 ac, 30.18% Impervious, Inflow Depth > 0.30" for 25-Year event  
 Inflow = 5.93 cfs @ 12.09 hrs, Volume= 0.702 af  
 Outflow = 5.93 cfs @ 12.09 hrs, Volume= 0.702 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

**Summary for Reach Swale thru 1e: Swale thru 1e**

Inflow Area = 0.263 ac, 78.57% Impervious, Inflow Depth > 4.20" for 25-Year event  
 Inflow = 1.09 cfs @ 12.09 hrs, Volume= 0.092 af  
 Outflow = 0.99 cfs @ 12.12 hrs, Volume= 0.092 af, Atten= 9%, Lag= 2.3 min

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Max. Velocity= 1.96 fps, Min. Travel Time= 3.7 min

Avg. Velocity = 0.67 fps, Avg. Travel Time= 10.9 min

Peak Storage= 219 cf @ 12.12 hrs

Average Depth at Peak Storage= 0.15'

Bank-Full Depth= 1.00' Flow Area= 8.7 sf, Capacity= 60.14 cfs

13.00' x 1.00' deep Parabolic Channel, n= 0.030 Short grass

Length= 436.0' Slope= 0.0344 '/'

Inlet Invert= 56.00', Outlet Invert= 41.00'



**Summary for Pond CB P1-1: CB P1-1**

Inflow Area = 0.263 ac, 78.57% Impervious, Inflow Depth > 4.20" for 25-Year event

Inflow = 1.09 cfs @ 12.09 hrs, Volume= 0.092 af

Outflow = 1.09 cfs @ 12.09 hrs, Volume= 0.092 af, Atten= 0%, Lag= 0.0 min

Primary = 1.09 cfs @ 12.09 hrs, Volume= 0.092 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Peak Elev= 63.58' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	63.00'	<b>12.0" Round 12" Culvert</b> L= 68.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 63.00' / 62.00' S= 0.0147 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.06 cfs @ 12.09 hrs HW=63.57' TW=56.14' (Dynamic Tailwater)

↑**1=12" Culvert** (Inlet Controls 1.06 cfs @ 2.27 fps)

**Summary for Pond CB P1-17: CB P1-17**

Inflow Area = 0.918 ac, 7.01% Impervious, Inflow Depth > 0.62" for 25-Year event

Inflow = 0.34 cfs @ 12.09 hrs, Volume= 0.047 af

Outflow = 0.34 cfs @ 12.09 hrs, Volume= 0.047 af, Atten= 0%, Lag= 0.0 min

Primary = 0.34 cfs @ 12.09 hrs, Volume= 0.047 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Peak Elev= 51.31' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.00'	<b>12.0" Round 12" Culvert</b> L= 200.0' CPP, mitered to conform to fill, Ke= 0.700

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Inlet / Outlet Invert= 51.00' / 37.90' S= 0.0655 '/ Cc= 0.900  
n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.33 cfs @ 12.09 hrs HW=51.30' TW=38.99' (Dynamic Tailwater)

↑1=12" Culvert (Inlet Controls 0.33 cfs @ 1.65 fps)

**Summary for Pond CB P1-2: CB P1-1**

Inflow Area = 0.205 ac, 86.42% Impervious, Inflow Depth > 4.59" for 25-Year event  
Inflow = 0.93 cfs @ 12.09 hrs, Volume= 0.078 af  
Outflow = 0.93 cfs @ 12.09 hrs, Volume= 0.078 af, Atten= 0%, Lag= 0.0 min  
Primary = 0.93 cfs @ 12.09 hrs, Volume= 0.078 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 63.53' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	63.00'	<b>12.0" Round 12" Culvert</b> L= 34.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 63.00' / 47.00' S= 0.4706 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.91 cfs @ 12.09 hrs HW=63.52' TW=39.46' (Dynamic Tailwater)

↑1=12" Culvert (Inlet Controls 0.91 cfs @ 2.18 fps)

**Summary for Pond CB P1-4: CB P1-4**

Inflow Area = 2.572 ac, 38.16% Impervious, Inflow Depth > 2.18" for 25-Year event  
Inflow = 4.71 cfs @ 12.12 hrs, Volume= 0.468 af  
Outflow = 4.71 cfs @ 12.12 hrs, Volume= 0.468 af, Atten= 0%, Lag= 0.0 min  
Primary = 4.71 cfs @ 12.12 hrs, Volume= 0.468 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 40.25' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	39.00'	<b>15.0" Round Culvert</b> L= 90.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 39.00' / 38.00' S= 0.0111 '/ Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

**Primary OutFlow** Max=4.59 cfs @ 12.12 hrs HW=40.22' TW=37.79' (Dynamic Tailwater)

↑1=Culvert (Inlet Controls 4.59 cfs @ 3.76 fps)

**Summary for Pond DMH P 1-2: DMH 1-2**

Inflow Area = 0.655 ac, 82.68% Impervious, Inflow Depth > 4.40" for 25-Year event  
Inflow = 2.85 cfs @ 12.09 hrs, Volume= 0.240 af  
Outflow = 2.85 cfs @ 12.09 hrs, Volume= 0.240 af, Atten= 0%, Lag= 0.0 min  
Primary = 2.85 cfs @ 12.09 hrs, Volume= 0.240 af

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 36.37' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	34.80'	<b>12.0" Round 12" Culvert</b> L= 46.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 34.80' / 34.60' S= 0.0043 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=2.05 cfs @ 12.09 hrs HW=36.26' TW=35.96' (Dynamic Tailwater)  
↑1=12" Culvert (Inlet Controls 2.05 cfs @ 2.61 fps)

**Summary for Pond DMH P 1-3: DMH P1-3**

Inflow Area = 0.980 ac, 78.33% Impervious, Inflow Depth > 4.19" for 25-Year event  
 Inflow = 4.04 cfs @ 12.09 hrs, Volume= 0.342 af  
 Outflow = 4.04 cfs @ 12.09 hrs, Volume= 0.342 af, Atten= 0%, Lag= 0.0 min  
 Primary = 4.04 cfs @ 12.09 hrs, Volume= 0.342 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 36.12' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	34.50'	<b>15.0" Round 15" Culvert</b> L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 34.50' / 34.00' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

**Primary OutFlow** Max=2.71 cfs @ 12.09 hrs HW=35.96' TW=35.69' (Dynamic Tailwater)  
↑1=15" Culvert (Outlet Controls 2.71 cfs @ 2.38 fps)

**Summary for Pond DMH P 1-6: DMH P1-6**

Inflow Area = 6.519 ac, 35.85% Impervious, Inflow Depth > 1.35" for 25-Year event  
 Inflow = 8.42 cfs @ 12.09 hrs, Volume= 0.732 af  
 Outflow = 8.42 cfs @ 12.09 hrs, Volume= 0.732 af, Atten= 0%, Lag= 0.0 min  
 Primary = 8.42 cfs @ 12.09 hrs, Volume= 0.732 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 38.43' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	35.00'	<b>15.0" Round 12" Culvert</b> L= 100.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 35.00' / 34.50' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

**Primary OutFlow** Max=8.19 cfs @ 12.09 hrs HW=38.30' TW=35.00' (Dynamic Tailwater)  
↑1=12" Culvert (Barrel Controls 8.19 cfs @ 6.68 fps)

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**Summary for Pond DMH P1-1: DMH 1-1**

Inflow Area = 0.342 ac, 84.75% Impervious, Inflow Depth > 4.50" for 25-Year event  
 Inflow = 1.52 cfs @ 12.09 hrs, Volume= 0.128 af  
 Outflow = 1.52 cfs @ 12.09 hrs, Volume= 0.128 af, Atten= 0%, Lag= 0.0 min  
 Primary = 1.52 cfs @ 12.09 hrs, Volume= 0.128 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 45.80' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	45.10'	<b>12.0" Round 12" Culvert</b> L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.10' / 44.80' S= 0.0100 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.48 cfs @ 12.09 hrs HW=45.79' TW=37.58' (Dynamic Tailwater)  
 ↑1=12" Culvert (Barrel Controls 1.48 cfs @ 3.65 fps)

**Summary for Pond DMH P1-4: DMH P1-4**

Inflow Area = 5.900 ac, 45.51% Impervious, Inflow Depth > 0.87" for 25-Year event  
 Inflow = 5.04 cfs @ 12.09 hrs, Volume= 0.427 af  
 Outflow = 5.04 cfs @ 12.09 hrs, Volume= 0.427 af, Atten= 0%, Lag= 0.0 min  
 Primary = 5.04 cfs @ 12.09 hrs, Volume= 0.427 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 35.79' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	34.00'	<b>15.0" Round 15" Culvert</b> L= 94.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 34.00' / 33.50' S= 0.0053 '/ Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

**Primary OutFlow** Max=4.17 cfs @ 12.09 hrs HW=35.69' TW=35.09' (Dynamic Tailwater)  
 ↑1=15" Culvert (Outlet Controls 4.17 cfs @ 3.40 fps)

**Summary for Pond DMH P1-5: DMH P1-5**

Inflow Area = 0.414 ac, 72.86% Impervious, Inflow Depth > 3.92" for 25-Year event  
 Inflow = 1.59 cfs @ 12.09 hrs, Volume= 0.135 af  
 Outflow = 1.59 cfs @ 12.09 hrs, Volume= 0.135 af, Atten= 0%, Lag= 0.0 min  
 Primary = 1.59 cfs @ 12.09 hrs, Volume= 0.135 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 38.65' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	35.60'	<b>12.0" Round 12" Culvert</b> L= 114.0' CPP, mitered to conform to fill, Ke= 0.700

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Inlet / Outlet Invert= 35.60' / 35.10' S= 0.0044 '/ Cc= 0.900  
n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.00 cfs @ 12.09 hrs HW=38.03' TW=38.30' (Dynamic Tailwater)

↑1=12" Culvert ( Controls 0.00 cfs)

**Summary for Pond DMH P1-7: DMH P 1-7**

Inflow Area = 1.809 ac, 41.12% Impervious, Inflow Depth > 2.33" for 25-Year event  
Inflow = 3.91 cfs @ 12.09 hrs, Volume= 0.351 af  
Outflow = 3.91 cfs @ 12.09 hrs, Volume= 0.351 af, Atten= 0%, Lag= 0.0 min  
Primary = 3.91 cfs @ 12.09 hrs, Volume= 0.351 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 39.08' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	37.80'	<b>15.0" Round 15" Culvert</b> L= 174.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 37.80' / 35.10' S= 0.0155 '/ Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

**Primary OutFlow** Max=3.03 cfs @ 12.09 hrs HW=38.99' TW=38.30' (Dynamic Tailwater)

↑1=15" Culvert (Outlet Controls 3.03 cfs @ 3.23 fps)

**Summary for Pond DMH P2-1: DMH P2-1**

Inflow Area = 0.726 ac, 27.43% Impervious, Inflow Depth > 1.64" for 25-Year event  
Inflow = 1.05 cfs @ 12.09 hrs, Volume= 0.099 af  
Outflow = 1.05 cfs @ 12.09 hrs, Volume= 0.099 af, Atten= 0%, Lag= 0.0 min  
Primary = 1.05 cfs @ 12.09 hrs, Volume= 0.099 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 49.57' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	49.00'	<b>12.0" Round 12" Culvert</b> L= 60.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 49.00' / 44.00' S= 0.0833 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.02 cfs @ 12.09 hrs HW=49.56' TW=38.71' (Dynamic Tailwater)

↑1=12" Culvert (Inlet Controls 1.02 cfs @ 2.25 fps)

**Summary for Pond DMH P2-2: DMH P2-2**

Inflow Area = 2.894 ac, 24.83% Impervious, Inflow Depth > 0.85" for 25-Year event  
Inflow = 2.44 cfs @ 12.09 hrs, Volume= 0.205 af  
Outflow = 2.44 cfs @ 12.09 hrs, Volume= 0.205 af, Atten= 0%, Lag= 0.0 min  
Primary = 2.44 cfs @ 12.09 hrs, Volume= 0.205 af

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Peak Elev= 49.26' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	47.50'	<b>12.0" Round 12" Culvert</b> L= 90.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 47.50' / 46.90' S= 0.0067 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.72 cfs @ 12.09 hrs HW=49.02' TW=48.72' (Dynamic Tailwater)

↑1=12" Culvert (Outlet Controls 1.72 cfs @ 2.19 fps)

**Summary for Pond DMH P2-3: DMH P2-3**

Inflow Area =	3.217 ac, 29.33% Impervious, Inflow Depth > 1.14" for 25-Year event
Inflow =	3.62 cfs @ 12.09 hrs, Volume= 0.306 af
Outflow =	3.62 cfs @ 12.09 hrs, Volume= 0.306 af, Atten= 0%, Lag= 0.0 min
Primary =	3.62 cfs @ 12.09 hrs, Volume= 0.306 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Peak Elev= 48.78' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	46.90'	<b>12.0" Round 12" Culvert</b> L= 94.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 46.90' / 46.40' S= 0.0053 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=3.52 cfs @ 12.09 hrs HW=48.72' TW=38.71' (Dynamic Tailwater)

↑1=12" Culvert (Barrel Controls 3.52 cfs @ 4.49 fps)

**Summary for Pond DMH P2-4: DMH P2-4**

Inflow Area =	0.693 ac, 37.36% Impervious, Inflow Depth > 2.12" for 25-Year event
Inflow =	1.33 cfs @ 12.09 hrs, Volume= 0.123 af
Outflow =	1.33 cfs @ 12.09 hrs, Volume= 0.123 af, Atten= 0%, Lag= 0.0 min
Primary =	1.33 cfs @ 12.09 hrs, Volume= 0.123 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Peak Elev= 54.66' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	54.00'	<b>12.0" Round 12" Culvert</b> L= 65.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 54.00' / 48.00' S= 0.0923 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.31 cfs @ 12.09 hrs HW=54.65' TW=38.73' (Dynamic Tailwater)

↑1=12" Culvert (Inlet Controls 1.31 cfs @ 2.42 fps)

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**Summary for Pond Pond 1-1: Pond 1-1**

Inflow Area = 3.340 ac, 40.23% Impervious, Inflow Depth > 2.29" for 25-Year event  
 Inflow = 6.53 cfs @ 12.11 hrs, Volume= 0.637 af  
 Outflow = 3.26 cfs @ 12.32 hrs, Volume= 0.637 af, Atten= 50%, Lag= 12.6 min  
 Discarded = 0.91 cfs @ 12.32 hrs, Volume= 0.560 af  
 Primary = 2.35 cfs @ 12.32 hrs, Volume= 0.077 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 38.24' @ 12.32 hrs Surf.Area= 4,769 sf Storage= 6,839 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 56.1 min ( 822.6 - 766.6 )

Volume	Invert	Avail.Storage	Storage Description
#1	36.00'	8,207 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.00	2,087	0	0
38.00	3,720	5,807	5,807
38.50	5,879	2,400	8,207

Device	Routing	Invert	Outlet Devices
#1	Discarded	36.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	38.00'	<b>18.0" x 18.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads

**Discarded OutFlow** Max=0.91 cfs @ 12.32 hrs HW=38.24' (Free Discharge)

↑**1=Exfiltration** (Exfiltration Controls 0.91 cfs)

**Primary OutFlow** Max=2.31 cfs @ 12.32 hrs HW=38.24' TW=36.61' (Dynamic Tailwater)

↑**2=Orifice/Grate** (Weir Controls 2.31 cfs @ 1.60 fps)

**Summary for Pond Pond 1-2: Pond 1-2**

Inflow Area = 4.662 ac, 37.06% Impervious, Inflow Depth > 0.69" for 25-Year event  
 Inflow = 3.20 cfs @ 12.31 hrs, Volume= 0.268 af  
 Outflow = 0.81 cfs @ 12.72 hrs, Volume= 0.269 af, Atten= 75%, Lag= 25.1 min  
 Discarded = 0.81 cfs @ 12.72 hrs, Volume= 0.269 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 37.04' @ 12.72 hrs Surf.Area= 4,235 sf Storage= 3,727 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 29.6 min ( 796.3 - 766.7 )

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Volume	Invert	Avail.Storage	Storage Description
#1	36.00'	11,681 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.00	2,943	0	0
38.00	5,430	8,373	8,373
38.50	7,800	3,308	11,681

Device	Routing	Invert	Outlet Devices
#1	Discarded	36.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	38.00'	<b>18.0" x 18.0" Horiz. Orifice/Grate C= 0.600</b> Limited to weir flow at low heads

**Discarded OutFlow** Max=0.81 cfs @ 12.72 hrs HW=37.04' (Free Discharge)  
 ↑1=Exfiltration (Exfiltration Controls 0.81 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=36.00' TW=34.00' (Dynamic Tailwater)  
 ↑2=Orifice/Grate ( Controls 0.00 cfs)

**Summary for Pond Pond 1-3: Pond 1-3**

Inflow Area = 6.182 ac, 44.22% Impervious, Inflow Depth > 0.88" for 25-Year event  
 Inflow = 5.29 cfs @ 12.09 hrs, Volume= 0.454 af  
 Outflow = 1.92 cfs @ 12.36 hrs, Volume= 0.455 af, Atten= 64%, Lag= 16.2 min  
 Discarded = 0.73 cfs @ 12.36 hrs, Volume= 0.424 af  
 Primary = 1.19 cfs @ 12.36 hrs, Volume= 0.031 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 35.63' @ 12.36 hrs Surf.Area= 3,823 sf Storage= 5,080 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 40.9 min ( 793.8 - 752.9 )

Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	6,541 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	2,398	0	0
36.00	4,143	6,541	6,541

Device	Routing	Invert	Outlet Devices
#1	Discarded	34.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	35.50'	<b>10.0' long x 3.0' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

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**Discarded OutFlow** Max=0.73 cfs @ 12.36 hrs HW=35.63' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 0.73 cfs)

**Primary OutFlow** Max=1.17 cfs @ 12.36 hrs HW=35.63' TW=0.00' (Dynamic Tailwater)

↑2=Broad-Crested Rectangular Weir (Weir Controls 1.17 cfs @ 0.89 fps)

**Summary for Pond Pond 1-4: Pond 1-4**

Inflow Area = 7.225 ac, 34.45% Impervious, Inflow Depth > 1.35" for 25-Year event  
 Inflow = 9.22 cfs @ 12.09 hrs, Volume= 0.814 af  
 Outflow = 2.64 cfs @ 12.44 hrs, Volume= 0.814 af, Atten= 71%, Lag= 21.2 min  
 Discarded = 1.29 cfs @ 12.44 hrs, Volume= 0.776 af  
 Primary = 1.35 cfs @ 12.44 hrs, Volume= 0.038 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Peak Elev= 35.65' @ 12.44 hrs Surf.Area= 6,761 sf Storage= 9,355 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 43.3 min ( 802.6 - 759.3 )

Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	11,836 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	4,612	0	0
36.00	7,224	11,836	11,836

Device	Routing	Invert	Outlet Devices
#1	Discarded	34.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	35.50'	<b>10.0' long x 3.0' breadth Broad-Crested Rectangular Weir</b>
Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00			
2.50 3.00 3.50 4.00 4.50			
Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68			
2.72 2.81 2.92 2.97 3.07 3.32			

**Discarded OutFlow** Max=1.29 cfs @ 12.44 hrs HW=35.64' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 1.29 cfs)

**Primary OutFlow** Max=1.34 cfs @ 12.44 hrs HW=35.64' TW=0.00' (Dynamic Tailwater)

↑2=Broad-Crested Rectangular Weir (Weir Controls 1.34 cfs @ 0.93 fps)

**Summary for Pond Pond 1-5: Pond 1-5**

Inflow Area = 3.608 ac, 20.41% Impervious, Inflow Depth > 0.71" for 25-Year event  
 Inflow = 2.16 cfs @ 12.09 hrs, Volume= 0.213 af  
 Outflow = 0.72 cfs @ 12.54 hrs, Volume= 0.213 af, Atten= 67%, Lag= 27.5 min  
 Discarded = 0.72 cfs @ 12.54 hrs, Volume= 0.213 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 39.79' @ 12.54 hrs Surf.Area= 3,773 sf Storage= 2,055 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 17.5 min ( 784.0 - 766.6 )

Volume	Invert	Avail.Storage	Storage Description
#1	39.00'	2,915 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
39.00	1,434	0	0
40.00	4,396	2,915	2,915

Device	Routing	Invert	Outlet Devices
#1	Discarded	39.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	39.80'	<b>18.0" x 18.0" Horiz. Orifice/Grate C= 0.600</b> Limited to weir flow at low heads

**Discarded OutFlow** Max=0.72 cfs @ 12.54 hrs HW=39.79' (Free Discharge)  
 ↑1=Exfiltration (Exfiltration Controls 0.72 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=39.00' TW=35.00' (Dynamic Tailwater)  
 ↑2=Orifice/Grate ( Controls 0.00 cfs)

**Summary for Pond Pond 1-6: Pond 1-6**

Inflow Area = 2.478 ac, 13.13% Impervious, Inflow Depth > 0.93" for 25-Year event  
 Inflow = 1.51 cfs @ 12.14 hrs, Volume= 0.193 af  
 Outflow = 0.90 cfs @ 12.35 hrs, Volume= 0.193 af, Atten= 40%, Lag= 12.4 min  
 Discarded = 0.36 cfs @ 12.35 hrs, Volume= 0.179 af  
 Primary = 0.54 cfs @ 12.35 hrs, Volume= 0.014 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 42.33' @ 12.35 hrs Surf.Area= 1,866 sf Storage= 1,448 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 32.0 min ( 844.0 - 812.0 )

Volume	Invert	Avail.Storage	Storage Description
#1	41.00'	1,796 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
41.00	681	0	0
42.00	1,204	943	943
42.50	2,210	854	1,796

Device	Routing	Invert	Outlet Devices
#1	Discarded	41.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	42.25'	<b>10.0' long x 3.0' breadth Broad-Crested Rectangular Weir</b>

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Head (feet)	0.20	0.40	0.60	0.80	1.00	1.20	1.40	1.60	1.80	2.00
	2.50	3.00	3.50	4.00	4.50					
Coef. (English)	2.44	2.58	2.68	2.67	2.65	2.64	2.64	2.68	2.68	
	2.72	2.81	2.92	2.97	3.07	3.32				

**Discarded OutFlow** Max=0.36 cfs @ 12.35 hrs HW=42.33' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 0.36 cfs)

**Primary OutFlow** Max=0.54 cfs @ 12.35 hrs HW=42.33' TW=39.72' (Dynamic Tailwater)

↑2=Broad-Crested Rectangular Weir (Weir Controls 0.54 cfs @ 0.69 fps)

**Summary for Pond Pond 1-7: Pond 1-7**

Inflow Area = 0.215 ac, 65.17% Impervious, Inflow Depth > 3.54" for 25-Year event  
 Inflow = 0.74 cfs @ 12.09 hrs, Volume= 0.063 af  
 Outflow = 0.15 cfs @ 12.52 hrs, Volume= 0.063 af, Atten= 80%, Lag= 25.8 min  
 Discarded = 0.15 cfs @ 12.52 hrs, Volume= 0.063 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 36.15' @ 12.52 hrs Surf.Area= 785 sf Storage= 701 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
Center-of-Mass det. time= 28.5 min ( 781.7 - 753.2 )

Volume	Invert	Avail.Storage	Storage Description
#1	35.00'	1,493 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
35.00	441	0	0
36.00	732	587	587
37.00	1,080	906	1,493

Device	Routing	Invert	Outlet Devices
#1	Discarded	35.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	36.90'	<b>10.0' long x 3.0' breadth Broad-Crested Rectangular Weir</b>
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.50 4.00 4.50
			Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68
			2.72 2.81 2.92 2.97 3.07 3.32

**Discarded OutFlow** Max=0.15 cfs @ 12.52 hrs HW=36.15' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 0.15 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=35.00' TW=0.00' (Dynamic Tailwater)

↑2=Broad-Crested Rectangular Weir ( Controls 0.00 cfs)

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**Summary for Pond Pond 1-8: Pond 1-8**

Inflow Area = 0.223 ac, 44.70% Impervious, Inflow Depth > 2.52" for 25-Year event  
 Inflow = 0.52 cfs @ 12.09 hrs, Volume= 0.047 af  
 Outflow = 0.11 cfs @ 12.53 hrs, Volume= 0.047 af, Atten= 79%, Lag= 26.4 min  
 Discarded = 0.11 cfs @ 12.53 hrs, Volume= 0.047 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 35.03' @ 12.53 hrs Surf.Area= 567 sf Storage= 486 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 25.7 min ( 787.7 - 762.0 )

Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	2,445 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	378	0	0
37.50	1,019	2,445	2,445

Device	Routing	Invert	Outlet Devices
#1	Discarded	34.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	37.00'	<b>10.0' long x 3.0' breadth Broad-Crested Rectangular Weir</b>
Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00			
2.50 3.00 3.50 4.00 4.50			
Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68			
2.72 2.81 2.92 2.97 3.07 3.32			

**Discarded OutFlow** Max=0.11 cfs @ 12.53 hrs HW=35.03' (Free Discharge)

↑1=**Exfiltration** (Exfiltration Controls 0.11 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=34.00' TW=0.00' (Dynamic Tailwater)

↑2=**Broad-Crested Rectangular Weir**( Controls 0.00 cfs)

**Summary for Pond Pond 2-1: Pond 2-1**

Inflow Area = 2.357 ac, 10.83% Impervious, Inflow Depth > 0.78" for 25-Year event  
 Inflow = 0.92 cfs @ 12.29 hrs, Volume= 0.154 af  
 Outflow = 0.36 cfs @ 12.79 hrs, Volume= 0.154 af, Atten= 61%, Lag= 30.0 min  
 Discarded = 0.36 cfs @ 12.79 hrs, Volume= 0.154 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 50.66' @ 12.79 hrs Surf.Area= 1,884 sf Storage= 1,026 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 15.0 min ( 842.2 - 827.2 )

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Volume	Invert	Avail.Storage	Storage Description
#1	50.00'	10,246 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.00	1,217	0	0
52.00	3,235	4,452	4,452
53.00	8,352	5,794	10,246

Device	Routing	Invert	Outlet Devices
#1	Primary	51.50'	<b>18.0" x 18.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#2	Discarded	50.00'	<b>8.270 in/hr Exfiltration over Surface area</b>

**Discarded OutFlow** Max=0.36 cfs @ 12.79 hrs HW=50.66' (Free Discharge)  
 ↑**2=Exfiltration** (Exfiltration Controls 0.36 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=50.00' TW=47.50' (Dynamic Tailwater)  
 ↑**1=Orifice/Grate** ( Controls 0.00 cfs)

**Summary for Pond Pond 2-2: Ponk 2-2**

Inflow Area = 5.890 ac, 29.73% Impervious, Inflow Depth > 1.43" for 25-Year event  
 Inflow = 7.84 cfs @ 12.09 hrs, Volume= 0.704 af  
 Outflow = 1.37 cfs @ 12.57 hrs, Volume= 0.705 af, Atten= 82%, Lag= 28.8 min  
 Discarded = 1.37 cfs @ 12.57 hrs, Volume= 0.705 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 39.30' @ 12.57 hrs Surf.Area= 7,169 sf Storage= 7,924 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 35.4 min ( 798.0 - 762.6 )

Volume	Invert	Avail.Storage	Storage Description
#1	38.00'	13,363 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
38.00	5,043	0	0
40.00	8,320	13,363	13,363

Device	Routing	Invert	Outlet Devices
#1	Primary	39.50'	<b>10.0' long x 3.0' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32
#2	Discarded	38.00'	<b>8.270 in/hr Exfiltration over Surface area</b>

**12013 Post**

*Type III 24-hr 25-Year Rainfall=5.50"*

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**Discarded OutFlow** Max=1.37 cfs @ 12.57 hrs HW=39.30' (Free Discharge)

↳ **2=Exfiltration** (Exfiltration Controls 1.37 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=38.00' TW=0.00' (Dynamic Tailwater)

↳ **1=Broad-Crested Rectangular Weir** ( Controls 0.00 cfs)

**12013 Post**

Type III 24-hr 100-Year Rainfall=6.70"

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points  
 Runoff by SCS TR-20 method, UH=SCS, Weighted-Q  
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

<b>SubcatchmentPost 1a: Post 1a</b>	Runoff Area=11,472 sf 78.57% Impervious Runoff Depth>5.22" Flow Length=293' Tc=6.0 min CN=85 Runoff=1.34 cfs 0.114 af
<b>SubcatchmentPost 1b: Post 1b</b>	Runoff Area=8,942 sf 86.42% Impervious Runoff Depth>5.67" Flow Length=241' Tc=6.0 min CN=90 Runoff=1.14 cfs 0.097 af
<b>SubcatchmentPost 1c: Post 1c</b>	Runoff Area=4,893 sf 100.00% Impervious Runoff Depth>6.46" Flow Length=341' Tc=6.0 min CN=98 Runoff=0.72 cfs 0.060 af
<b>SubcatchmentPost 1d: Post 1d</b>	Runoff Area=9,994 sf 77.29% Impervious Runoff Depth>5.14" Flow Length=156' Slope=0.0800 ' ' Tc=6.0 min CN=85 Runoff=1.15 cfs 0.098 af
<b>SubcatchmentPost 1e: Post 1e</b>	Runoff Area=100,547 sf 33.55% Impervious Runoff Depth>2.58" Flow Length=607' Tc=9.0 min CN=58 Runoff=4.75 cfs 0.496 af
<b>SubcatchmentPost 1f: Post 1f</b>	Runoff Area=18,589 sf 17.03% Impervious Runoff Depth>1.65" Flow Length=84' Slope=0.3000 ' ' Tc=6.0 min CN=49 Runoff=0.55 cfs 0.059 af
<b>SubcatchmentPost 1g: Post 1g</b>	Runoff Area=57,573 sf 29.05% Impervious Runoff Depth>2.32" Flow Length=220' Slope=0.0400 ' ' Tc=6.0 min UI Adjusted CN=54 Runoff=2.64 cfs 0.256 af
<b>SubcatchmentPost 1h: Post 1h</b>	Runoff Area=22,719 sf 81.49% Impervious Runoff Depth>5.38" Flow Length=341' Slope=0.0400 ' ' Tc=6.0 min CN=87 Runoff=2.75 cfs 0.234 af
<b>SubcatchmentPost 1i: Post 1i</b>	Runoff Area=5,823 sf 87.31% Impervious Runoff Depth>5.72" Flow Length=76' Slope=0.0200 ' ' Tc=6.0 min CN=91 Runoff=0.75 cfs 0.064 af
<b>SubcatchmentPost 1j: Post 1j</b>	Runoff Area=7,803 sf 72.95% Impervious Runoff Depth>4.89" Flow Length=131' Slope=0.0400 ' ' Tc=6.0 min CN=82 Runoff=0.85 cfs 0.073 af
<b>SubcatchmentPost 1k: Post 1k</b>	Runoff Area=6,348 sf 65.39% Impervious Runoff Depth>4.45" Flow Length=83' Tc=6.0 min CN=78 Runoff=0.62 cfs 0.054 af
<b>SubcatchmentPost 1l: Post 1l</b>	Runoff Area=7,856 sf 67.41% Impervious Runoff Depth>4.57" Flow Length=86' Slope=0.0150 ' ' Tc=6.0 min CN=79 Runoff=0.79 cfs 0.069 af
<b>SubcatchmentPost 1m: Post 1m</b>	Runoff Area=3,397 sf 87.87% Impervious Runoff Depth>5.75" Flow Length=73' Slope=0.0200 ' ' Tc=6.0 min CN=91 Runoff=0.44 cfs 0.037 af
<b>SubcatchmentPost 1n: Post 1n</b>	Runoff Area=12,274 sf 17.17% Impervious Runoff Depth>1.66" Flow Length=107' Tc=6.0 min CN=49 Runoff=0.36 cfs 0.039 af
<b>SubcatchmentPost 1o: Post 1o</b>	Runoff Area=9,346 sf 65.17% Impervious Runoff Depth>4.44" Flow Length=131' Slope=0.0150 ' ' Tc=6.0 min CN=77 Runoff=0.91 cfs 0.079 af
<b>SubcatchmentPost 1q: Post 1q</b>	Runoff Area=8,656 sf 83.78% Impervious Runoff Depth>5.52" Flow Length=89' Slope=0.0200 ' ' Tc=6.0 min CN=88 Runoff=1.07 cfs 0.091 af

**12013 Post**

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<b>SubcatchmentPost 1r: Post 1r</b>	Runoff Area=9,365 sf 62.78% Impervious Runoff Depth>4.30" Flow Length=108' Tc=6.0 min CN=76 Runoff=0.88 cfs 0.077 af
<b>SubcatchmentPost 1s: Post 1s</b>	Runoff Area=16,065 sf 78.18% Impervious Runoff Depth>5.19" Flow Length=195' Slope=0.0200 '/' Tc=6.0 min CN=85 Runoff=1.87 cfs 0.160 af
<b>SubcatchmentPost 1t: Post 1t</b>	Runoff Area=13,362 sf 80.26% Impervious Runoff Depth>5.31" Flow Length=236' Slope=0.0800 '/' Tc=6.0 min CN=86 Runoff=1.59 cfs 0.136 af
<b>SubcatchmentPost 1u: Post 1u</b>	Runoff Area=25,450 sf 74.16% Impervious Runoff Depth>4.96" Flow Length=509' Slope=0.0800 '/' Tc=6.0 min CN=83 Runoff=2.81 cfs 0.241 af
<b>SubcatchmentPost 1v: Post 1v</b>	Runoff Area=39,981 sf 7.01% Impervious Runoff Depth>1.01" Flow Length=321' Tc=6.0 min CN=42 Runoff=0.56 cfs 0.077 af
<b>SubcatchmentPost 1w: Post 1w</b>	Runoff Area=13,938 sf 83.43% Impervious Runoff Depth>5.50" Flow Length=157' Tc=6.0 min CN=88 Runoff=1.72 cfs 0.147 af
<b>SubcatchmentPost 1x: Post 1x</b>	Runoff Area=30,765 sf 21.56% Impervious Runoff Depth>1.91" Flow Length=72' Tc=6.0 min CN=52 Runoff=1.10 cfs 0.113 af
<b>SubcatchmentPost 1y: Post 1y</b>	Runoff Area=107,930 sf 13.13% Impervious Runoff Depth>1.38" Flow Length=314' Tc=10.2 min UI Adjusted CN=45 Runoff=2.18 cfs 0.285 af
<b>SubcatchmentPost 1z: Post 1z</b>	Runoff Area=9,726 sf 44.70% Impervious Runoff Depth>3.25" Flow Length=91' Slope=0.0200 '/' Tc=6.0 min CN=65 Runoff=0.67 cfs 0.061 af
<b>SubcatchmentPost 2a: Post 2a</b>	Runoff Area=3,183 sf 100.00% Impervious Runoff Depth>6.46" Flow Length=243' Slope=0.0800 '/' Tc=6.0 min CN=98 Runoff=0.47 cfs 0.039 af
<b>SubcatchmentPost 2b: Post 2b</b>	Runoff Area=2,939 sf 100.00% Impervious Runoff Depth>6.46" Flow Length=249' Slope=0.0800 '/' Tc=6.0 min CN=98 Runoff=0.43 cfs 0.036 af
<b>SubcatchmentPost 2c: Post 2c</b>	Runoff Area=13,057 sf 87.09% Impervious Runoff Depth>5.71" Flow Length=166' Tc=6.0 min CN=90 Runoff=1.68 cfs 0.143 af
<b>SubcatchmentPost 2d: Post 2d</b>	Runoff Area=10,331 sf 85.27% Impervious Runoff Depth>5.60" Flow Length=122' Slope=0.0200 '/' Tc=6.0 min CN=89 Runoff=1.30 cfs 0.111 af
<b>SubcatchmentPost 2e: Post 2e</b>	Runoff Area=102,692 sf 10.83% Impervious Runoff Depth>1.19" Flow Length=501' Tc=21.3 min UI Adjusted CN=43 Runoff=1.34 cfs 0.234 af
<b>SubcatchmentPost 2f: Post 2f</b>	Runoff Area=5,479 sf 48.49% Impervious Runoff Depth>3.47" Flow Length=91' Tc=6.0 min CN=68 Runoff=0.41 cfs 0.036 af
<b>SubcatchmentPost 2g: Post 2g</b>	Runoff Area=8,559 sf 83.39% Impervious Runoff Depth>5.49" Flow Length=171' Slope=0.0800 '/' Tc=6.0 min CN=88 Runoff=1.06 cfs 0.090 af
<b>SubcatchmentPost 2h: Post 2h</b>	Runoff Area=18,917 sf 11.90% Impervious Runoff Depth>1.25" Flow Length=294' Tc=8.7 min CN=44 Runoff=0.34 cfs 0.045 af

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<b>SubcatchmentPost 2i: Post 2i</b>	Runoff Area=7,032 sf 73.25% Impervious Runoff Depth>4.91" Flow Length=86' Tc=6.0 min CN=82 Runoff=0.77 cfs 0.066 af
<b>SubcatchmentPost 2j: Post 2j</b>	Runoff Area=4,244 sf 91.35% Impervious Runoff Depth>5.96" Flow Length=107' Tc=6.0 min CN=93 Runoff=0.57 cfs 0.048 af
<b>SubcatchmentPost 2k: Post 2k</b>	Runoff Area=25,495 sf 10.01% Impervious Runoff Depth>1.19" Flow Length=183' Tc=6.0 min CN=44 Runoff=0.46 cfs 0.058 af
<b>SubcatchmentPost 2l: Post 2l</b>	Runoff Area=54,661 sf 27.88% Impervious Runoff Depth>2.27" Flow Length=248' Tc=6.0 min CN=55 Runoff=2.43 cfs 0.237 af
<b>SubcatchmentPost 3a: Post 3a</b>	Runoff Area=21,228 sf 32.49% Impervious Runoff Depth>2.55" Flow Length=745' Slope=0.0500 '/' Tc=6.0 min CN=58 Runoff=1.09 cfs 0.103 af
<b>SubcatchmentPost 3b: Post 3b</b>	Runoff Area=238,088 sf 13.07% Impervious Runoff Depth>1.31" Flow Length=344' Slope=0.3300 '/' Tc=6.0 min UI Adjusted CN=44 Runoff=5.01 cfs 0.597 af
<b>SubcatchmentPost 3c: Post 3c</b>	Runoff Area=85,113 sf 13.07% Impervious Runoff Depth>1.36" Flow Length=267' Tc=6.0 min CN=46 Runoff=1.91 cfs 0.222 af
<b>SubcatchmentPost p: Post 1p</b>	Runoff Area=40,272 sf 25.26% Impervious Runoff Depth>2.13" Flow Length=111' Slope=0.3000 '/' Tc=6.0 min CN=54 Runoff=1.65 cfs 0.164 af
<b>Reach Phase 1 Post: Phase 1 Post</b>	Inflow=8.01 cfs 0.478 af Outflow=8.01 cfs 0.478 af
<b>Reach Phase 2 Pre: Phase 2 Pre</b>	Inflow=6.09 cfs 0.733 af Outflow=6.09 cfs 0.733 af
<b>Reach Pond Post: Pond Post</b>	Inflow=11.69 cfs 1.211 af Outflow=11.69 cfs 1.211 af
<b>Reach Swale thru 1e: Swale thru 1e</b>	Avg. Flow Depth=0.17' Max Vel=2.09 fps Inflow=1.34 cfs 0.114 af n=0.030 L=436.0' S=0.0344 '/' Capacity=60.14 cfs Outflow=1.23 cfs 0.114 af
<b>Pond CB P1-1: CB P1-1</b>	Peak Elev=63.66' Inflow=1.34 cfs 0.114 af 12.0" Round Culvert n=0.012 L=68.0' S=0.0147 '/' Outflow=1.34 cfs 0.114 af
<b>Pond CB P1-17: CB P1-17</b>	Peak Elev=51.40' Inflow=0.56 cfs 0.077 af 12.0" Round Culvert n=0.012 L=200.0' S=0.0655 '/' Outflow=0.56 cfs 0.077 af
<b>Pond CB P1-2: CB P1-1</b>	Peak Elev=63.60' Inflow=1.14 cfs 0.097 af 12.0" Round Culvert n=0.012 L=34.0' S=0.4706 '/' Outflow=1.14 cfs 0.097 af
<b>Pond CB P1-4: CB P1-4</b>	Peak Elev=40.64' Inflow=5.97 cfs 0.611 af 15.0" Round Culvert n=0.012 L=90.0' S=0.0111 '/' Outflow=5.97 cfs 0.611 af
<b>Pond DMH P 1-2: DMH 1-2</b>	Peak Elev=37.50' Inflow=3.50 cfs 0.298 af 12.0" Round Culvert n=0.012 L=46.0' S=0.0043 '/' Outflow=3.50 cfs 0.298 af

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<b>Pond DMH P 1-3: DMH P1-3</b>	Peak Elev=37.07' Inflow=4.97 cfs 0.425 af 15.0" Round Culvert n=0.012 L=100.0' S=0.0050 '/ Outflow=4.97 cfs 0.425 af
<b>Pond DMH P 1-6: DMH P1-6</b>	Peak Elev=39.92' Inflow=10.49 cfs 0.970 af 15.0" Round Culvert n=0.012 L=100.0' S=0.0050 '/ Outflow=10.49 cfs 0.970 af
<b>Pond DMH P1-1: DMH 1-1</b>	Peak Elev=45.90' Inflow=1.87 cfs 0.159 af 12.0" Round Culvert n=0.012 L=30.0' S=0.0100 '/ Outflow=1.87 cfs 0.159 af
<b>Pond DMH P1-4: DMH P1-4</b>	Peak Elev=36.51' Inflow=6.20 cfs 0.531 af 15.0" Round Culvert n=0.012 L=94.0' S=0.0053 '/ Outflow=6.20 cfs 0.531 af
<b>Pond DMH P1-5: DMH P1-5</b>	Peak Elev=40.24' Inflow=1.96 cfs 0.168 af 12.0" Round Culvert n=0.012 L=114.0' S=0.0044 '/ Outflow=1.96 cfs 0.168 af
<b>Pond DMH P1-7: DMH P 1-7</b>	Peak Elev=40.83' Inflow=4.94 cfs 0.454 af 15.0" Round Culvert n=0.012 L=174.0' S=0.0155 '/ Outflow=4.94 cfs 0.454 af
<b>Pond DMH P2-1: DMH P2-1</b>	Peak Elev=49.66' Inflow=1.36 cfs 0.134 af 12.0" Round Culvert n=0.012 L=60.0' S=0.0833 '/ Outflow=1.36 cfs 0.134 af
<b>Pond DMH P2-2: DMH P2-2</b>	Peak Elev=50.22' Inflow=2.99 cfs 0.253 af 12.0" Round Culvert n=0.012 L=90.0' S=0.0067 '/ Outflow=2.99 cfs 0.253 af
<b>Pond DMH P2-3: DMH P2-3</b>	Peak Elev=49.49' Inflow=4.45 cfs 0.380 af 12.0" Round Culvert n=0.012 L=94.0' S=0.0053 '/ Outflow=4.45 cfs 0.380 af
<b>Pond DMH P2-4: DMH P2-4</b>	Peak Elev=54.75' Inflow=1.66 cfs 0.160 af 12.0" Round Culvert n=0.012 L=65.0' S=0.0923 '/ Outflow=1.66 cfs 0.160 af
<b>Pond Pond 1-1: Pond 1-1</b>	Peak Elev=38.38' Storage=7,552 cf Inflow=8.29 cfs 0.828 af Discarded=1.03 cfs 0.659 af Primary=4.66 cfs 0.169 af Outflow=5.69 cfs 0.828 af
<b>Pond Pond 1-2: Pond 1-2</b>	Peak Elev=37.89' Storage=7,794 cf Inflow=6.26 cfs 0.425 af Discarded=1.01 cfs 0.425 af Primary=0.00 cfs 0.000 af Outflow=1.01 cfs 0.425 af
<b>Pond Pond 1-3: Pond 1-3</b>	Peak Elev=35.75' Storage=5,518 cf Inflow=6.56 cfs 0.570 af Discarded=0.75 cfs 0.489 af Primary=3.00 cfs 0.081 af Outflow=3.75 cfs 0.570 af
<b>Pond Pond 1-4: Pond 1-4</b>	Peak Elev=35.82' Storage=10,545 cf Inflow=11.58 cfs 1.082 af Discarded=1.34 cfs 0.908 af Primary=4.53 cfs 0.175 af Outflow=5.87 cfs 1.083 af
<b>Pond Pond 1-5: Pond 1-5</b>	Peak Elev=39.97' Storage=2,789 cf Inflow=3.08 cfs 0.311 af Discarded=0.83 cfs 0.270 af Primary=1.39 cfs 0.041 af Outflow=2.21 cfs 0.311 af
<b>Pond Pond 1-6: Pond 1-6</b>	Peak Elev=42.41' Storage=1,598 cf Inflow=2.18 cfs 0.285 af Discarded=0.39 cfs 0.235 af Primary=1.51 cfs 0.050 af Outflow=1.89 cfs 0.285 af
<b>Pond Pond 1-7: Pond 1-7</b>	Peak Elev=36.45' Storage=947 cf Inflow=0.91 cfs 0.079 af Discarded=0.17 cfs 0.079 af Primary=0.00 cfs 0.000 af Outflow=0.17 cfs 0.079 af

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**Pond Pond 1-8: Pond 1-8**

Peak Elev=35.37' Storage=689 cf Inflow=0.67 cfs 0.061 af  
Discarded=0.12 cfs 0.061 af Primary=0.00 cfs 0.000 af Outflow=0.12 cfs 0.061 af

**Pond Pond 2-1: Pond 2-1**

Peak Elev=51.12' Storage=1,986 cf Inflow=1.34 cfs 0.234 af  
Discarded=0.45 cfs 0.234 af Primary=0.00 cfs 0.000 af Outflow=0.45 cfs 0.234 af

**Pond Pond 2-2: Ponk 2-2**

Peak Elev=39.63' Storage=10,405 cf Inflow=9.89 cfs 0.910 af  
Discarded=1.48 cfs 0.878 af Primary=1.16 cfs 0.033 af Outflow=2.63 cfs 0.911 af

**Total Runoff Area = 27.642 ac Runoff Volume = 5.447 af Average Runoff Depth = 2.36"**  
**69.82% Pervious = 19.300 ac 30.18% Impervious = 8.342 ac**

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**Summary for Subcatchment Post 1a: Post 1a**

Runoff = 1.34 cfs @ 12.09 hrs, Volume= 0.114 af, Depth&gt; 5.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
8,275	98	Paved parking, HSG A
738	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
2,459	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
11,472	85	Weighted Average
2,459		21.43% Pervious Area
9,013		78.57% Impervious Area
738		8.19% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	40	0.0200	1.13		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.7	253	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.3	293	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1b: Post 1b**

Runoff = 1.14 cfs @ 12.09 hrs, Volume= 0.097 af, Depth&gt; 5.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
6,817	98	Paved parking, HSG A
911	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,214	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
8,942	90	Weighted Average
1,214		13.58% Pervious Area
7,728		86.42% Impervious Area
911		11.79% Unconnected

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	60	0.0200	1.22		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.5	181	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.3	241	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1c: Post 1c**

Runoff = 0.72 cfs @ 12.09 hrs, Volume= 0.060 af, Depth&gt; 6.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
4,893	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
0	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
4,893	98	Weighted Average
4,893		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.9	321	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.2	341	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1d: Post 1d**

Runoff = 1.15 cfs @ 12.09 hrs, Volume= 0.098 af, Depth&gt; 5.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
7,724	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
2,270	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
9,994	85	Weighted Average
2,270		22.71% Pervious Area
7,724		77.29% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0800	1.71		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.4	136	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.6	156	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1e: Post 1e**

Runoff = 4.75 cfs @ 12.13 hrs, Volume= 0.496 af, Depth> 2.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
21,601	98	Paved parking, HSG A
12,130	98	Unconnected pavement, HSG A
13,021	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
53,795	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
100,547	58	Weighted Average
66,816		66.45% Pervious Area
33,731		33.55% Impervious Area
12,130		35.96% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	30	0.0800	0.16		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 3.10"
0.3	65	0.3000	3.83		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
5.5	512	0.0500	1.57		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
9.0	607	Total			

**Summary for Subcatchment Post 1f: Post 1f**

Runoff = 0.55 cfs @ 12.10 hrs, Volume= 0.059 af, Depth> 1.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

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Area (sf)	CN	Description
3,165	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
15,424	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
18,589	49	Weighted Average
15,424		82.97% Pervious Area
3,165		17.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	10	0.3000	0.21		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 3.10"
0.3	74	0.3000	3.83		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.1	84	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1g: Post 1g**

Runoff = 2.64 cfs @ 12.09 hrs, Volume= 0.256 af, Depth> 2.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Adj	Description
14,132	98	98	Paved parking, HSG A
2,594	98	98	Unconnected pavement, HSG A
6,828	36	36	Woods, Fair, HSG A
0	48		Brush, Poor, HSG A
34,019	39	39	>75% Grass cover, Good, HSG A
0	98		Water Surface, HSG A
57,573	56	54	Weighted Average, UI Adjusted
40,847			70.95% Pervious Area
16,726			29.05% Impervious Area
2,594			15.51% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	62	0.0400	1.62		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.6	158	0.0400	4.06		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.2	220	Total, Increased to minimum Tc = 6.0 min			

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**Summary for Subcatchment Post 1h: Post 1h**

Runoff = 2.75 cfs @ 12.09 hrs, Volume= 0.234 af, Depth&gt; 5.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
18,514	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
4,205	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
22,719	87	Weighted Average
4,205		18.51% Pervious Area
18,514		81.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0400	1.29		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
1.3	321	0.0400	4.06		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.6	341	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1i: Post 1i**

Runoff = 0.75 cfs @ 12.09 hrs, Volume= 0.064 af, Depth&gt; 5.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
5,084	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
739	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
5,823	91	Weighted Average
739		12.69% Pervious Area
5,084		87.31% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.3	56	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.6	76	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1j: Post 1j**

Runoff = 0.85 cfs @ 12.09 hrs, Volume= 0.073 af, Depth&gt; 4.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
5,692	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
2,111	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
7,803	82	Weighted Average
2,111		27.05% Pervious Area
5,692		72.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0400	1.29		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.5	111	0.0400	4.06		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.8	131	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1k: Post 1k**

Runoff = 0.62 cfs @ 12.09 hrs, Volume= 0.054 af, Depth&gt; 4.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

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Area (sf)	CN	Description
4,151	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
2,197	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
6,348	78	Weighted Average
2,197		34.61% Pervious Area
4,151		65.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	10	0.0200	0.85		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.6	73	0.0100	2.03		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.8	83	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 11: Post 11**

Runoff = 0.79 cfs @ 12.09 hrs, Volume= 0.069 af, Depth> 4.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
5,296	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
2,560	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
7,856	79	Weighted Average
2,560		32.59% Pervious Area
5,296		67.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	52	0.0150	1.06		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.2	34	0.0150	2.49		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.0	86	Total, Increased to minimum Tc = 6.0 min			

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**Summary for Subcatchment Post 1m: Post 1m**

Runoff = 0.44 cfs @ 12.09 hrs, Volume= 0.037 af, Depth&gt; 5.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
2,985	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
412	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
3,397	91	Weighted Average
412		12.13% Pervious Area
2,985		87.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	40	0.0200	1.13		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.2	33	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.8	73	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1n: Post 1n**

Runoff = 0.36 cfs @ 12.10 hrs, Volume= 0.039 af, Depth&gt; 1.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
2,108	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
10,166	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
12,274	49	Weighted Average
10,166		82.83% Pervious Area
2,108		17.17% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	27	0.0200	1.04		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.5	80	0.0150	2.49		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.9	107	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1o: Post 1o**

Runoff = 0.91 cfs @ 12.09 hrs, Volume= 0.079 af, Depth&gt; 4.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
6,091	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
3,255	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
9,346	77	Weighted Average
3,255		34.83% Pervious Area
6,091		65.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.05		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.5	81	0.0150	2.49		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.3	131	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1q: Post 1q**

Runoff = 1.07 cfs @ 12.09 hrs, Volume= 0.091 af, Depth&gt; 5.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

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Area (sf)	CN	Description
7,252	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,404	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
8,656	88	Weighted Average
1,404		16.22% Pervious Area
7,252		83.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	69	0.0200	1.26		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.1	20	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.0	89	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1r: Post 1r**

Runoff = 0.88 cfs @ 12.09 hrs, Volume= 0.077 af, Depth> 4.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
5,879	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
3,486	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
9,365	76	Weighted Average
3,486		37.22% Pervious Area
5,879		62.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	70	0.0200	1.26		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.3	38	0.0100	2.03		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.2	108	Total, Increased to minimum Tc = 6.0 min			

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**Summary for Subcatchment Post 1s: Post 1s**

Runoff = 1.87 cfs @ 12.09 hrs, Volume= 0.160 af, Depth&gt; 5.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
12,559	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
3,506	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
16,065	85	Weighted Average
3,506		21.82% Pervious Area
12,559		78.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	95	0.0200	1.34		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.6	100	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.8	195	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1t: Post 1t**

Runoff = 1.59 cfs @ 12.09 hrs, Volume= 0.136 af, Depth&gt; 5.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
10,725	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
2,637	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
13,362	86	Weighted Average
2,637		19.74% Pervious Area
10,725		80.26% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0800	1.71		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.6	216	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.8	236	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1u: Post 1u**

Runoff = 2.81 cfs @ 12.09 hrs, Volume= 0.241 af, Depth&gt; 4.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
18,874	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
6,576	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
25,450	83	Weighted Average
6,576		25.84% Pervious Area
18,874		74.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0800	1.71		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
1.4	489	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.6	509	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1v: Post 1v**

Runoff = 0.56 cfs @ 12.12 hrs, Volume= 0.077 af, Depth&gt; 1.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

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Area (sf)	CN	Description
2,802	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
13,176	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
24,003	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
39,981	42	Weighted Average
37,179		92.99% Pervious Area
2,802		7.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.4	40	0.3000	0.28		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 3.10"
0.8	281	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
3.2	321	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1w: Post 1w**

Runoff = 1.72 cfs @ 12.09 hrs, Volume= 0.147 af, Depth> 5.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
11,629	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
2,309	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
13,938	88	Weighted Average
2,309		16.57% Pervious Area
11,629		83.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	80	0.0200	1.29		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.5	77	0.0150	2.49		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.5	157	Total, Increased to minimum Tc = 6.0 min			

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**Summary for Subcatchment Post 1x: Post 1x**

Runoff = 1.10 cfs @ 12.10 hrs, Volume= 0.113 af, Depth&gt; 1.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
6,633	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
24,132	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
30,765	52	Weighted Average
24,132		78.44% Pervious Area
6,633		21.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	40	0.0200	1.13		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.1	32	0.3300	4.02		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
0.7	72	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 1y: Post 1y**

Runoff = 2.18 cfs @ 12.16 hrs, Volume= 0.285 af, Depth&gt; 1.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Adj	Description
9,738	98	98	Paved parking, HSG A
4,436	98	98	Unconnected pavement, HSG A
24,536	36	36	Woods, Fair, HSG A
0	48		Brush, Poor, HSG A
69,220	39	39	>75% Grass cover, Good, HSG A
0	98		Water Surface, HSG A
107,930	46	45	Weighted Average, UI Adjusted
93,756			86.87% Pervious Area
14,174			13.13% Impervious Area
4,436			31.30% Unconnected

**12013 Post**

Type III 24-hr 100-Year Rainfall=6.70"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	94	0.1500	0.17		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 3.10"
0.9	220	0.3300	4.02		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
10.2	314	Total			

**Summary for Subcatchment Post 1z: Post 1z**

Runoff = 0.67 cfs @ 12.09 hrs, Volume= 0.061 af, Depth&gt; 3.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
4,348	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
5,378	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
9,726	65	Weighted Average
5,378		55.30% Pervious Area
4,348		44.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	61	0.0200	1.23		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.2	30	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.0	91	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 2a: Post 2a**

Runoff = 0.47 cfs @ 12.09 hrs, Volume= 0.039 af, Depth&gt; 6.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

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Area (sf)	CN	Description
2,844	98	Paved parking, HSG A
339	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
0	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A

3,183	98	Weighted Average
3,183		100.00% Impervious Area
339		10.65% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0800	1.71		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.6	223	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.8	243	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 2b: Post 2b**

Runoff = 0.43 cfs @ 12.09 hrs, Volume= 0.036 af, Depth> 6.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
2,884	98	Paved parking, HSG A
55	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
0	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A

2,939	98	Weighted Average
2,939		100.00% Impervious Area
55		1.87% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0800	1.71		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.7	229	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.9	249	Total, Increased to minimum Tc = 6.0 min			

**12013 Post**

Type III 24-hr 100-Year Rainfall=6.70"

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**Summary for Subcatchment Post 2c: Post 2c**

Runoff = 1.68 cfs @ 12.09 hrs, Volume= 0.143 af, Depth&gt; 5.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
11,371	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,686	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
13,057	90	Weighted Average
1,686		12.91% Pervious Area
11,371		87.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0800	1.71		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.8	146	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.0	166	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 2d: Post 2d**

Runoff = 1.30 cfs @ 12.09 hrs, Volume= 0.111 af, Depth&gt; 5.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
8,809	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,522	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
10,331	89	Weighted Average
1,522		14.73% Pervious Area
8,809		85.27% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.6	102	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.9	122	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 2e: Post 2e**

Runoff = 1.34 cfs @ 12.34 hrs, Volume= 0.234 af, Depth> 1.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Adj	Description
9,320	98	98	Paved parking, HSG A
1,806	98	98	Unconnected pavement, HSG A
51,208	36	36	Woods, Fair, HSG A
0	48		Brush, Poor, HSG A
40,358	39	39	>75% Grass cover, Good, HSG A
0	98		Water Surface, HSG A
102,692	44	43	Weighted Average, UI Adjusted
91,566			89.17% Pervious Area
11,126			10.83% Impervious Area
1,806			16.23% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.8	85	0.1300	0.09		<b>Sheet Flow,</b> Woods: Dense underbrush n= 0.800 P2= 3.10"
0.4	116	0.5000	4.95		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
5.1	300	0.0200	0.99		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
21.3	501	Total			

**Summary for Subcatchment Post 2f: Post 2f**

Runoff = 0.41 cfs @ 12.09 hrs, Volume= 0.036 af, Depth> 3.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

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Type III 24-hr 100-Year Rainfall=6.70"

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Area (sf)	CN	Description
2,657	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
2,822	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
5,479	68	Weighted Average
2,822		51.51% Pervious Area
2,657		48.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	32	0.0200	1.08		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.2	59	0.0500	4.54		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.7	91	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 2g: Post 2g**

Runoff = 1.06 cfs @ 12.09 hrs, Volume= 0.090 af, Depth&gt; 5.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
7,137	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,422	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
8,559	88	Weighted Average
1,422		16.61% Pervious Area
7,137		83.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	41	0.0800	1.97		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.4	130	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.7	171	Total, Increased to minimum Tc = 6.0 min			

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**Summary for Subcatchment Post 2h: Post 2h**

Runoff = 0.34 cfs @ 12.14 hrs, Volume= 0.045 af, Depth&gt; 1.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
2,252	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
9,717	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
6,948	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
18,917	44	Weighted Average
16,665		88.10% Pervious Area
2,252		11.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.3	40	0.0500	0.09		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 3.10"
0.9	107	0.1600	2.00		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
0.5	147	0.5000	4.95		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
8.7	294	Total			

**Summary for Subcatchment Post 2i: Post 2i**

Runoff = 0.77 cfs @ 12.09 hrs, Volume= 0.066 af, Depth&gt; 4.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
5,151	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,881	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
7,032	82	Weighted Average
1,881		26.75% Pervious Area
5,151		73.25% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	46	0.0400	1.53		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.1	40	0.1000	5.09		<b>Shallow Concentrated Flow,</b> Unpaved Kv= 16.1 fps
0.6	86	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 2j: Post 2j**

Runoff = 0.57 cfs @ 12.09 hrs, Volume= 0.048 af, Depth&gt; 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
3,877	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
367	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
4,244	93	Weighted Average
367		8.65% Pervious Area
3,877		91.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	27	0.0400	1.37		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.2	80	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.5	107	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 2k: Post 2k**

Runoff = 0.46 cfs @ 12.11 hrs, Volume= 0.058 af, Depth&gt; 1.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

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Area (sf)	CN	Description
2,552	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
7,447	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
15,496	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
25,495	44	Weighted Average
22,943		89.99% Pervious Area
2,552		10.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	20	0.2500	0.23		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 3.10"
0.7	163	0.3300	4.02		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
2.2	183	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 2I: Post 2I**

Runoff = 2.43 cfs @ 12.10 hrs, Volume= 0.237 af, Depth> 2.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
15,240	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
2,191	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
37,230	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
54,661	55	Weighted Average
39,421		72.12% Pervious Area
15,240		27.88% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	53	0.5000	4.32		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
1.5	195	0.1000	2.21		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.7	248	Total, Increased to minimum Tc = 6.0 min			

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**Summary for Subcatchment Post 3a: Post 3a**

Runoff = 1.09 cfs @ 12.09 hrs, Volume= 0.103 af, Depth&gt; 2.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
0	98	Paved parking, HSG A
6,898	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
14,330	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
21,228	58	Weighted Average
14,330		67.51% Pervious Area
6,898		32.49% Impervious Area
6,898		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0500	1.42		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
2.7	725	0.0500	4.54		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
2.9	745	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 3b: Post 3b**

Runoff = 5.01 cfs @ 12.10 hrs, Volume= 0.597 af, Depth&gt; 1.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Adj	Description
2,975	98	98	Paved parking, HSG A
3,956	98	98	Unconnected pavement, HSG A
137,577	36	36	Woods, Fair, HSG A
0	48		Brush, Poor, HSG A
69,383	39	39	>75% Grass cover, Good, HSG A
24,197	98	98	Water Surface, HSG A
238,088	45	44	Weighted Average, UI Adjusted
206,960			86.93% Pervious Area
31,128			13.07% Impervious Area
3,956			12.71% Unconnected

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	20	0.3300	0.17		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 3.10"
1.3	324	0.3300	4.02		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
3.3	344	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post 3c: Post 3c**

Runoff = 1.91 cfs @ 12.10 hrs, Volume= 0.222 af, Depth&gt; 1.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
11,125	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
24,759	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
49,229	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
85,113	46	Weighted Average
73,988		86.93% Pervious Area
11,125		13.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.8	30	0.0500	0.13		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 3.10"
1.0	237	0.3300	4.02		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
4.8	267	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Post p: Post 1p**

Runoff = 1.65 cfs @ 12.10 hrs, Volume= 0.164 af, Depth&gt; 2.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

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Area (sf)	CN	Description
10,174	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
30,098	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
40,272	54	Weighted Average
30,098		74.74% Pervious Area
10,174		25.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	10	0.3000	0.21		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 3.10"
0.4	101	0.3000	3.83		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.2	111	Total, Increased to minimum Tc = 6.0 min			

**Summary for Reach Phase 1 Post: Phase 1 Post**

Inflow Area = 15.799 ac, 36.19% Impervious, Inflow Depth > 0.36" for 100-Year event  
 Inflow = 8.01 cfs @ 12.28 hrs, Volume= 0.478 af  
 Outflow = 8.01 cfs @ 12.28 hrs, Volume= 0.478 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

**Summary for Reach Phase 2 Pre: Phase 2 Pre**

Inflow Area = 11.844 ac, 22.16% Impervious, Inflow Depth > 0.74" for 100-Year event  
 Inflow = 6.09 cfs @ 12.10 hrs, Volume= 0.733 af  
 Outflow = 6.09 cfs @ 12.10 hrs, Volume= 0.733 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

**Summary for Reach Pond Post: Pond Post**

Inflow Area = 27.642 ac, 30.18% Impervious, Inflow Depth > 0.53" for 100-Year event  
 Inflow = 11.69 cfs @ 12.25 hrs, Volume= 1.211 af  
 Outflow = 11.69 cfs @ 12.25 hrs, Volume= 1.211 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

**Summary for Reach Swale thru 1e: Swale thru 1e**

Inflow Area = 0.263 ac, 78.57% Impervious, Inflow Depth > 5.22" for 100-Year event  
 Inflow = 1.34 cfs @ 12.09 hrs, Volume= 0.114 af  
 Outflow = 1.23 cfs @ 12.12 hrs, Volume= 0.114 af, Atten= 8%, Lag= 2.2 min

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Max. Velocity= 2.09 fps, Min. Travel Time= 3.5 min  
Avg. Velocity = 0.71 fps, Avg. Travel Time= 10.2 min

Peak Storage= 254 cf @ 12.12 hrs  
Average Depth at Peak Storage= 0.17'  
Bank-Full Depth= 1.00' Flow Area= 8.7 sf, Capacity= 60.14 cfs

13.00' x 1.00' deep Parabolic Channel, n= 0.030 Short grass  
Length= 436.0' Slope= 0.0344 '/'  
Inlet Invert= 56.00', Outlet Invert= 41.00'



**Summary for Pond CB P1-1: CB P1-1**

Inflow Area =	0.263 ac, 78.57% Impervious, Inflow Depth > 5.22" for 100-Year event
Inflow =	1.34 cfs @ 12.09 hrs, Volume= 0.114 af
Outflow =	1.34 cfs @ 12.09 hrs, Volume= 0.114 af, Atten= 0%, Lag= 0.0 min
Primary =	1.34 cfs @ 12.09 hrs, Volume= 0.114 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 63.66' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	63.00'	<b>12.0" Round 12" Culvert</b> L= 68.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 63.00' / 62.00' S= 0.0147 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.30 cfs @ 12.09 hrs HW=63.65' TW=56.16' (Dynamic Tailwater)  
↑**1=12" Culvert** (Inlet Controls 1.30 cfs @ 2.42 fps)

**Summary for Pond CB P1-17: CB P1-17**

Inflow Area =	0.918 ac, 7.01% Impervious, Inflow Depth > 1.01" for 100-Year event
Inflow =	0.56 cfs @ 12.12 hrs, Volume= 0.077 af
Outflow =	0.56 cfs @ 12.12 hrs, Volume= 0.077 af, Atten= 0%, Lag= 0.0 min
Primary =	0.56 cfs @ 12.12 hrs, Volume= 0.077 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 51.40' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.00'	<b>12.0" Round 12" Culvert</b> L= 200.0' CPP, mitered to conform to fill, Ke= 0.700

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Inlet / Outlet Invert= 51.00' / 37.90' S= 0.0655 '/ Cc= 0.900  
n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.54 cfs @ 12.12 hrs HW=51.39' TW=40.56' (Dynamic Tailwater)

↑1=12" Culvert (Inlet Controls 0.54 cfs @ 1.88 fps)

**Summary for Pond CB P1-2: CB P1-1**

Inflow Area = 0.205 ac, 86.42% Impervious, Inflow Depth > 5.67" for 100-Year event  
Inflow = 1.14 cfs @ 12.09 hrs, Volume= 0.097 af  
Outflow = 1.14 cfs @ 12.09 hrs, Volume= 0.097 af, Atten= 0%, Lag= 0.0 min  
Primary = 1.14 cfs @ 12.09 hrs, Volume= 0.097 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 63.60' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	63.00'	<b>12.0" Round 12" Culvert</b> L= 34.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 63.00' / 47.00' S= 0.4706 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.11 cfs @ 12.09 hrs HW=63.59' TW=39.57' (Dynamic Tailwater)

↑1=12" Culvert (Inlet Controls 1.11 cfs @ 2.31 fps)

**Summary for Pond CB P1-4: CB P1-4**

Inflow Area = 2.572 ac, 38.16% Impervious, Inflow Depth > 2.85" for 100-Year event  
Inflow = 5.97 cfs @ 12.13 hrs, Volume= 0.611 af  
Outflow = 5.97 cfs @ 12.13 hrs, Volume= 0.611 af, Atten= 0%, Lag= 0.0 min  
Primary = 5.97 cfs @ 12.13 hrs, Volume= 0.611 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 40.64' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	39.00'	<b>15.0" Round Culvert</b> L= 90.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 39.00' / 38.00' S= 0.0111 '/ Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

**Primary OutFlow** Max=5.85 cfs @ 12.13 hrs HW=40.61' TW=38.20' (Dynamic Tailwater)

↑1=Culvert (Inlet Controls 5.85 cfs @ 4.77 fps)

**Summary for Pond DMH P 1-2: DMH 1-2**

Inflow Area = 0.655 ac, 82.68% Impervious, Inflow Depth > 5.45" for 100-Year event  
Inflow = 3.50 cfs @ 12.09 hrs, Volume= 0.298 af  
Outflow = 3.50 cfs @ 12.09 hrs, Volume= 0.298 af, Atten= 0%, Lag= 0.0 min  
Primary = 3.50 cfs @ 12.09 hrs, Volume= 0.298 af

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 37.50' @ 12.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	34.80'	<b>12.0" Round 12" Culvert</b> L= 46.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 34.80' / 34.60' S= 0.0043 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.02 cfs @ 12.09 hrs HW=36.80' TW=36.73' (Dynamic Tailwater)  
↑1=12" Culvert (Inlet Controls 1.02 cfs @ 1.29 fps)

**Summary for Pond DMH P 1-3: DMH P1-3**

Inflow Area = 0.980 ac, 78.33% Impervious, Inflow Depth > 5.20" for 100-Year event  
 Inflow = 4.97 cfs @ 12.09 hrs, Volume= 0.425 af  
 Outflow = 4.97 cfs @ 12.09 hrs, Volume= 0.425 af, Atten= 0%, Lag= 0.0 min  
 Primary = 4.97 cfs @ 12.09 hrs, Volume= 0.425 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 37.07' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	34.50'	<b>15.0" Round 15" Culvert</b> L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 34.50' / 34.00' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

**Primary OutFlow** Max=3.09 cfs @ 12.09 hrs HW=36.74' TW=36.39' (Dynamic Tailwater)  
↑1=15" Culvert (Outlet Controls 3.09 cfs @ 2.52 fps)

**Summary for Pond DMH P 1-6: DMH P1-6**

Inflow Area = 6.519 ac, 35.85% Impervious, Inflow Depth > 1.79" for 100-Year event  
 Inflow = 10.49 cfs @ 12.09 hrs, Volume= 0.970 af  
 Outflow = 10.49 cfs @ 12.09 hrs, Volume= 0.970 af, Atten= 0%, Lag= 0.0 min  
 Primary = 10.49 cfs @ 12.09 hrs, Volume= 0.970 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 39.92' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	35.00'	<b>15.0" Round 12" Culvert</b> L= 100.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 35.00' / 34.50' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

**Primary OutFlow** Max=10.24 cfs @ 12.09 hrs HW=39.74' TW=35.31' (Dynamic Tailwater)  
↑1=12" Culvert (Barrel Controls 10.24 cfs @ 8.35 fps)

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**Summary for Pond DMH P1-1: DMH 1-1**

Inflow Area = 0.342 ac, 84.75% Impervious, Inflow Depth > 5.57" for 100-Year event  
 Inflow = 1.87 cfs @ 12.09 hrs, Volume= 0.159 af  
 Outflow = 1.87 cfs @ 12.09 hrs, Volume= 0.159 af, Atten= 0%, Lag= 0.0 min  
 Primary = 1.87 cfs @ 12.09 hrs, Volume= 0.159 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 45.90' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	45.10'	<b>12.0" Round 12" Culvert</b> L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.10' / 44.80' S= 0.0100 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.82 cfs @ 12.09 hrs HW=45.88' TW=38.00' (Dynamic Tailwater)  
 ↑1=12" Culvert (Barrel Controls 1.82 cfs @ 3.80 fps)

**Summary for Pond DMH P1-4: DMH P1-4**

Inflow Area = 5.900 ac, 45.51% Impervious, Inflow Depth > 1.08" for 100-Year event  
 Inflow = 6.20 cfs @ 12.09 hrs, Volume= 0.531 af  
 Outflow = 6.20 cfs @ 12.09 hrs, Volume= 0.531 af, Atten= 0%, Lag= 0.0 min  
 Primary = 6.20 cfs @ 12.09 hrs, Volume= 0.531 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 36.51' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	34.00'	<b>15.0" Round 15" Culvert</b> L= 94.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 34.00' / 33.50' S= 0.0053 '/ Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

**Primary OutFlow** Max=5.36 cfs @ 12.09 hrs HW=36.39' TW=35.40' (Dynamic Tailwater)  
 ↑1=15" Culvert (Outlet Controls 5.36 cfs @ 4.37 fps)

**Summary for Pond DMH P1-5: DMH P1-5**

Inflow Area = 0.414 ac, 72.86% Impervious, Inflow Depth > 4.88" for 100-Year event  
 Inflow = 1.96 cfs @ 12.09 hrs, Volume= 0.168 af  
 Outflow = 1.96 cfs @ 12.09 hrs, Volume= 0.168 af, Atten= 0%, Lag= 0.0 min  
 Primary = 1.96 cfs @ 12.09 hrs, Volume= 0.168 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 40.24' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	35.60'	<b>12.0" Round 12" Culvert</b> L= 114.0' CPP, mitered to conform to fill, Ke= 0.700

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Inlet / Outlet Invert= 35.60' / 35.10' S= 0.0044 '/ Cc= 0.900  
 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.00 cfs @ 12.09 hrs HW=39.25' TW=39.72' (Dynamic Tailwater)

↑1=12" Culvert ( Controls 0.00 cfs)

**Summary for Pond DMH P1-7: DMH P 1-7**

Inflow Area = 1.809 ac, 41.12% Impervious, Inflow Depth > 3.01" for 100-Year event  
 Inflow = 4.94 cfs @ 12.09 hrs, Volume= 0.454 af  
 Outflow = 4.94 cfs @ 12.09 hrs, Volume= 0.454 af, Atten= 0%, Lag= 0.0 min  
 Primary = 4.94 cfs @ 12.09 hrs, Volume= 0.454 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 40.83' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	37.80'	<b>15.0" Round 15" Culvert</b> L= 174.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 37.80' / 35.10' S= 0.0155 '/ Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

**Primary OutFlow** Max=2.98 cfs @ 12.09 hrs HW=40.22' TW=39.76' (Dynamic Tailwater)

↑1=15" Culvert (Outlet Controls 2.98 cfs @ 2.43 fps)

**Summary for Pond DMH P2-1: DMH P2-1**

Inflow Area = 0.726 ac, 27.43% Impervious, Inflow Depth > 2.21" for 100-Year event  
 Inflow = 1.36 cfs @ 12.09 hrs, Volume= 0.134 af  
 Outflow = 1.36 cfs @ 12.09 hrs, Volume= 0.134 af, Atten= 0%, Lag= 0.0 min  
 Primary = 1.36 cfs @ 12.09 hrs, Volume= 0.134 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 49.66' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	49.00'	<b>12.0" Round 12" Culvert</b> L= 60.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 49.00' / 44.00' S= 0.0833 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.34 cfs @ 12.09 hrs HW=49.66' TW=38.96' (Dynamic Tailwater)

↑1=12" Culvert (Inlet Controls 1.34 cfs @ 2.44 fps)

**Summary for Pond DMH P2-2: DMH P2-2**

Inflow Area = 2.894 ac, 24.83% Impervious, Inflow Depth > 1.05" for 100-Year event  
 Inflow = 2.99 cfs @ 12.09 hrs, Volume= 0.253 af  
 Outflow = 2.99 cfs @ 12.09 hrs, Volume= 0.253 af, Atten= 0%, Lag= 0.0 min  
 Primary = 2.99 cfs @ 12.09 hrs, Volume= 0.253 af

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 50.22' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	47.50'	<b>12.0" Round 12" Culvert</b> L= 90.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 47.50' / 46.90' S= 0.0067 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.99 cfs @ 12.09 hrs HW=49.80' TW=49.39' (Dynamic Tailwater)  
 ↑1=12" Culvert (Outlet Controls 1.99 cfs @ 2.54 fps)

**Summary for Pond DMH P2-3: DMH P2-3**

Inflow Area = 3.217 ac, 29.33% Impervious, Inflow Depth > 1.42" for 100-Year event  
 Inflow = 4.45 cfs @ 12.09 hrs, Volume= 0.380 af  
 Outflow = 4.45 cfs @ 12.09 hrs, Volume= 0.380 af, Atten= 0%, Lag= 0.0 min  
 Primary = 4.45 cfs @ 12.09 hrs, Volume= 0.380 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 49.49' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	46.90'	<b>12.0" Round 12" Culvert</b> L= 94.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 46.90' / 46.40' S= 0.0053 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=4.34 cfs @ 12.09 hrs HW=49.40' TW=38.93' (Dynamic Tailwater)  
 ↑1=12" Culvert (Barrel Controls 4.34 cfs @ 5.52 fps)

**Summary for Pond DMH P2-4: DMH P2-4**

Inflow Area = 0.693 ac, 37.36% Impervious, Inflow Depth > 2.77" for 100-Year event  
 Inflow = 1.66 cfs @ 12.09 hrs, Volume= 0.160 af  
 Outflow = 1.66 cfs @ 12.09 hrs, Volume= 0.160 af, Atten= 0%, Lag= 0.0 min  
 Primary = 1.66 cfs @ 12.09 hrs, Volume= 0.160 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 54.75' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	54.00'	<b>12.0" Round 12" Culvert</b> L= 65.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 54.00' / 48.00' S= 0.0923 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.64 cfs @ 12.09 hrs HW=54.75' TW=38.96' (Dynamic Tailwater)  
 ↑1=12" Culvert (Inlet Controls 1.64 cfs @ 2.60 fps)

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**Summary for Pond Pond 1-1: Pond 1-1**

Inflow Area = 3.340 ac, 40.23% Impervious, Inflow Depth > 2.97" for 100-Year event  
 Inflow = 8.29 cfs @ 12.11 hrs, Volume= 0.828 af  
 Outflow = 5.69 cfs @ 12.24 hrs, Volume= 0.828 af, Atten= 31%, Lag= 7.5 min  
 Discarded = 1.03 cfs @ 12.24 hrs, Volume= 0.659 af  
 Primary = 4.66 cfs @ 12.24 hrs, Volume= 0.169 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 38.38' @ 12.24 hrs Surf.Area= 5,376 sf Storage= 7,552 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 54.8 min ( 825.2 - 770.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	36.00'	8,207 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.00	2,087	0	0
38.00	3,720	5,807	5,807
38.50	5,879	2,400	8,207

Device	Routing	Invert	Outlet Devices
#1	Discarded	36.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	38.00'	<b>18.0" x 18.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads

**Discarded OutFlow** Max=1.03 cfs @ 12.24 hrs HW=38.38' (Free Discharge)

↑**1=Exfiltration** (Exfiltration Controls 1.03 cfs)

**Primary OutFlow** Max=4.62 cfs @ 12.24 hrs HW=38.38' TW=36.94' (Dynamic Tailwater)

↑**2=Orifice/Grate** (Weir Controls 4.62 cfs @ 2.02 fps)

**Summary for Pond Pond 1-2: Pond 1-2**

Inflow Area = 4.662 ac, 37.06% Impervious, Inflow Depth > 1.09" for 100-Year event  
 Inflow = 6.26 cfs @ 12.22 hrs, Volume= 0.425 af  
 Outflow = 1.01 cfs @ 12.82 hrs, Volume= 0.425 af, Atten= 84%, Lag= 35.9 min  
 Discarded = 1.01 cfs @ 12.82 hrs, Volume= 0.425 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 37.89' @ 12.82 hrs Surf.Area= 5,296 sf Storage= 7,794 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 62.0 min ( 829.4 - 767.4 )

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Volume	Invert	Avail.Storage	Storage Description
#1	36.00'	11,681 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.00	2,943	0	0
38.00	5,430	8,373	8,373
38.50	7,800	3,308	11,681

Device	Routing	Invert	Outlet Devices
#1	Discarded	36.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	38.00'	<b>18.0" x 18.0" Horiz. Orifice/Grate C= 0.600</b> Limited to weir flow at low heads

**Discarded OutFlow** Max=1.01 cfs @ 12.82 hrs HW=37.89' (Free Discharge)  
 ↑1=Exfiltration (Exfiltration Controls 1.01 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=36.00' TW=34.00' (Dynamic Tailwater)  
 ↑2=Orifice/Grate ( Controls 0.00 cfs)

**Summary for Pond Pond 1-3: Pond 1-3**

Inflow Area = 6.182 ac, 44.22% Impervious, Inflow Depth > 1.11" for 100-Year event  
 Inflow = 6.56 cfs @ 12.09 hrs, Volume= 0.570 af  
 Outflow = 3.75 cfs @ 12.22 hrs, Volume= 0.570 af, Atten= 43%, Lag= 8.0 min  
 Discarded = 0.75 cfs @ 12.22 hrs, Volume= 0.489 af  
 Primary = 3.00 cfs @ 12.22 hrs, Volume= 0.081 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 35.75' @ 12.22 hrs Surf.Area= 3,922 sf Storage= 5,518 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 39.2 min ( 792.0 - 752.8 )

Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	6,541 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	2,398	0	0
36.00	4,143	6,541	6,541

Device	Routing	Invert	Outlet Devices
#1	Discarded	34.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	35.50'	<b>10.0' long x 3.0' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

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**Discarded OutFlow** Max=0.75 cfs @ 12.22 hrs HW=35.74' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 0.75 cfs)

**Primary OutFlow** Max=2.85 cfs @ 12.22 hrs HW=35.74' TW=0.00' (Dynamic Tailwater)

↑2=Broad-Crested Rectangular Weir (Weir Controls 2.85 cfs @ 1.20 fps)

**Summary for Pond Pond 1-4: Pond 1-4**

Inflow Area = 7.225 ac, 34.45% Impervious, Inflow Depth > 1.80" for 100-Year event  
 Inflow = 11.58 cfs @ 12.09 hrs, Volume= 1.082 af  
 Outflow = 5.87 cfs @ 12.35 hrs, Volume= 1.083 af, Atten= 49%, Lag= 15.6 min  
 Discarded = 1.34 cfs @ 12.35 hrs, Volume= 0.908 af  
 Primary = 4.53 cfs @ 12.35 hrs, Volume= 0.175 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 35.82' @ 12.35 hrs Surf.Area= 6,987 sf Storage= 10,545 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 40.7 min ( 801.8 - 761.2 )

Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	11,836 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	4,612	0	0
36.00	7,224	11,836	11,836

Device	Routing	Invert	Outlet Devices
#1	Discarded	34.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	35.50'	<b>10.0' long x 3.0' breadth Broad-Crested Rectangular Weir</b>
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.50 4.00 4.50
			Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68
			2.72 2.81 2.92 2.97 3.07 3.32

**Discarded OutFlow** Max=1.34 cfs @ 12.35 hrs HW=35.82' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 1.34 cfs)

**Primary OutFlow** Max=4.53 cfs @ 12.35 hrs HW=35.82' TW=0.00' (Dynamic Tailwater)

↑2=Broad-Crested Rectangular Weir (Weir Controls 4.53 cfs @ 1.42 fps)

**Summary for Pond Pond 1-5: Pond 1-5**

Inflow Area = 3.608 ac, 20.41% Impervious, Inflow Depth > 1.03" for 100-Year event  
 Inflow = 3.08 cfs @ 12.22 hrs, Volume= 0.311 af  
 Outflow = 2.21 cfs @ 12.38 hrs, Volume= 0.311 af, Atten= 28%, Lag= 10.0 min  
 Discarded = 0.83 cfs @ 12.38 hrs, Volume= 0.270 af  
 Primary = 1.39 cfs @ 12.38 hrs, Volume= 0.041 af

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 39.97' @ 12.38 hrs Surf.Area= 4,311 sf Storage= 2,789 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 18.5 min ( 787.0 - 768.6 )

Volume	Invert	Avail.Storage	Storage Description
#1	39.00'	2,915 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
39.00	1,434	0	0
40.00	4,396	2,915	2,915

Device	Routing	Invert	Outlet Devices
#1	Discarded	39.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	39.80'	<b>18.0" x 18.0" Horiz. Orifice/Grate C= 0.600</b> Limited to weir flow at low heads

**Discarded OutFlow** Max=0.82 cfs @ 12.38 hrs HW=39.97' (Free Discharge)  
 ↑1=Exfiltration (Exfiltration Controls 0.82 cfs)

**Primary OutFlow** Max=1.38 cfs @ 12.38 hrs HW=39.97' TW=36.77' (Dynamic Tailwater)  
 ↑2=Orifice/Grate (Weir Controls 1.38 cfs @ 1.35 fps)

**Summary for Pond Pond 1-6: Pond 1-6**

Inflow Area = 2.478 ac, 13.13% Impervious, Inflow Depth > 1.38" for 100-Year event  
 Inflow = 2.18 cfs @ 12.16 hrs, Volume= 0.285 af  
 Outflow = 1.89 cfs @ 12.26 hrs, Volume= 0.285 af, Atten= 13%, Lag= 5.7 min  
 Discarded = 0.39 cfs @ 12.26 hrs, Volume= 0.235 af  
 Primary = 1.51 cfs @ 12.26 hrs, Volume= 0.050 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 42.41' @ 12.26 hrs Surf.Area= 2,021 sf Storage= 1,598 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 32.8 min ( 855.9 - 823.1 )

Volume	Invert	Avail.Storage	Storage Description
#1	41.00'	1,796 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
41.00	681	0	0
42.00	1,204	943	943
42.50	2,210	854	1,796

Device	Routing	Invert	Outlet Devices
#1	Discarded	41.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	42.25'	<b>10.0' long x 3.0' breadth Broad-Crested Rectangular Weir</b>

Head (feet)	0.20	0.40	0.60	0.80	1.00	1.20	1.40	1.60	1.80	2.00
	2.50	3.00	3.50	4.00	4.50					
Coef. (English)	2.44	2.58	2.68	2.67	2.65	2.64	2.64	2.68	2.68	
	2.72	2.81	2.92	2.97	3.07	3.32				

Discarded OutFlow Max=0.39 cfs @ 12.26 hrs HW=42.41' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 0.39 cfs)

Primary OutFlow Max=1.49 cfs @ 12.26 hrs HW=42.41' TW=39.91' (Dynamic Tailwater)

↑2=Broad-Crested Rectangular Weir (Weir Controls 1.49 cfs @ 0.96 fps)

**Summary for Pond Pond 1-7: Pond 1-7**

Inflow Area =	0.215 ac, 65.17% Impervious, Inflow Depth > 4.44" for 100-Year event
Inflow =	0.91 cfs @ 12.09 hrs, Volume= 0.079 af
Outflow =	0.17 cfs @ 12.55 hrs, Volume= 0.079 af, Atten= 81%, Lag= 27.4 min
Discarded =	0.17 cfs @ 12.55 hrs, Volume= 0.079 af
Primary =	0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Peak Elev= 36.45' @ 12.55 hrs Surf.Area= 887 sf Storage= 947 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 37.1 min ( 790.3 - 753.2 )

Volume	Invert	Avail.Storage	Storage Description
#1	35.00'	1,493 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
35.00	441	0	0
36.00	732	587	587
37.00	1,080	906	1,493

Device	Routing	Invert	Outlet Devices
#1	Discarded	35.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	36.90'	<b>10.0' long x 3.0' breadth Broad-Crested Rectangular Weir</b>
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.50 4.00 4.50
			Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68
			2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.17 cfs @ 12.55 hrs HW=36.45' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 0.17 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=35.00' TW=0.00' (Dynamic Tailwater)

↑2=Broad-Crested Rectangular Weir ( Controls 0.00 cfs)

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**Summary for Pond Pond 1-8: Pond 1-8**

Inflow Area = 0.223 ac, 44.70% Impervious, Inflow Depth > 3.25" for 100-Year event  
 Inflow = 0.67 cfs @ 12.09 hrs, Volume= 0.061 af  
 Outflow = 0.12 cfs @ 12.57 hrs, Volume= 0.061 af, Atten= 82%, Lag= 28.8 min  
 Discarded = 0.12 cfs @ 12.57 hrs, Volume= 0.061 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 35.37' @ 12.57 hrs Surf.Area= 629 sf Storage= 689 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 36.6 min ( 801.6 - 765.0 )

Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	2,445 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	378	0	0
37.50	1,019	2,445	2,445

Device	Routing	Invert	Outlet Devices
#1	Discarded	34.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	37.00'	<b>10.0' long x 3.0' breadth Broad-Crested Rectangular Weir</b>
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.50 4.00 4.50
			Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68
			2.72 2.81 2.92 2.97 3.07 3.32

**Discarded OutFlow** Max=0.12 cfs @ 12.57 hrs HW=35.37' (Free Discharge)  
 ↑1=Exfiltration (Exfiltration Controls 0.12 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=34.00' TW=0.00' (Dynamic Tailwater)  
 ↑2=Broad-Crested Rectangular Weir ( Controls 0.00 cfs)

**Summary for Pond Pond 2-1: Pond 2-1**

Inflow Area = 2.357 ac, 10.83% Impervious, Inflow Depth > 1.19" for 100-Year event  
 Inflow = 1.34 cfs @ 12.34 hrs, Volume= 0.234 af  
 Outflow = 0.45 cfs @ 13.00 hrs, Volume= 0.234 af, Atten= 67%, Lag= 39.6 min  
 Discarded = 0.45 cfs @ 13.00 hrs, Volume= 0.234 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 51.12' @ 13.00 hrs Surf.Area= 2,343 sf Storage= 1,986 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 31.0 min ( 871.1 - 840.0 )

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Volume	Invert	Avail.Storage	Storage Description
#1	50.00'	10,246 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.00	1,217	0	0
52.00	3,235	4,452	4,452
53.00	8,352	5,794	10,246

Device	Routing	Invert	Outlet Devices
#1	Primary	51.50'	<b>18.0" x 18.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#2	Discarded	50.00'	<b>8.270 in/hr Exfiltration over Surface area</b>

**Discarded OutFlow** Max=0.45 cfs @ 13.00 hrs HW=51.12' (Free Discharge)  
 ↳ **2=Exfiltration** (Exfiltration Controls 0.45 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=50.00' TW=47.50' (Dynamic Tailwater)  
 ↳ **1=Orifice/Grate** ( Controls 0.00 cfs)

**Summary for Pond Pond 2-2: Ponk 2-2**

Inflow Area = 5.890 ac, 29.73% Impervious, Inflow Depth > 1.85" for 100-Year event  
 Inflow = 9.89 cfs @ 12.09 hrs, Volume= 0.910 af  
 Outflow = 2.63 cfs @ 12.49 hrs, Volume= 0.911 af, Atten= 73%, Lag= 23.7 min  
 Discarded = 1.48 cfs @ 12.49 hrs, Volume= 0.878 af  
 Primary = 1.16 cfs @ 12.49 hrs, Volume= 0.033 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 39.63' @ 12.49 hrs Surf.Area= 7,716 sf Storage= 10,405 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 43.8 min ( 810.0 - 766.2 )

Volume	Invert	Avail.Storage	Storage Description
#1	38.00'	13,363 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
38.00	5,043	0	0
40.00	8,320	13,363	13,363

Device	Routing	Invert	Outlet Devices
#1	Primary	39.50'	<b>10.0' long x 3.0' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32
#2	Discarded	38.00'	<b>8.270 in/hr Exfiltration over Surface area</b>

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**Discarded OutFlow** Max=1.48 cfs @ 12.49 hrs HW=39.63' (Free Discharge)

↳ **2=Exfiltration** (Exfiltration Controls 1.48 cfs)

**Primary OutFlow** Max=1.14 cfs @ 12.49 hrs HW=39.63' TW=0.00' (Dynamic Tailwater)

↳ **1=Broad-Crested Rectangular Weir** (Weir Controls 1.14 cfs @ 0.88 fps)



## **APPENDIX C**

### Stormwater Checklist and Treatment Calculations

Village at Bailey's Pond  
Route 150 and Summit Avenue  
Amesbury, Massachusetts





# Checklist for Stormwater Report

## A. Introduction

**Important:** When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A Stormwater Report must be submitted with the Notice of Intent permit application to document compliance with the Stormwater Management Standards. The following checklist is NOT a substitute for the Stormwater Report (which should provide more substantive and detailed information) but is offered here as a tool to help the applicant organize their Stormwater Management documentation for their Report and for the reviewer to assess this information in a consistent format. As noted in the Checklist, the Stormwater Report must contain the engineering computations and supporting information set forth in Volume 3 of the [Massachusetts Stormwater Handbook](#). The Stormwater Report must be prepared and certified by a Registered Professional Engineer (RPE) licensed in the Commonwealth.

The Stormwater Report must include:

- The Stormwater Checklist completed and stamped by a Registered Professional Engineer (see page 2) that certifies that the Stormwater Report contains all required submittals.<sup>1</sup> This Checklist is to be used as the cover for the completed Stormwater Report.
- Applicant/Project Name
- Project Address
- Name of Firm and Registered Professional Engineer that prepared the Report
- Long-Term Pollution Prevention Plan required by Standards 4-6
- Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan required by Standard 8<sup>2</sup>
- Operation and Maintenance Plan required by Standard 9

In addition to all plans and supporting information, the Stormwater Report must include a brief narrative describing stormwater management practices, including environmentally sensitive site design and LID techniques, along with a diagram depicting runoff through the proposed BMP treatment train. Plans are required to show existing and proposed conditions, identify all wetland resource areas, NRCS soil types, critical areas, Land Uses with Higher Potential Pollutant Loads (LUHPPL), and any areas on the site where infiltration rate is greater than 2.4 inches per hour. The Plans shall identify the drainage areas for both existing and proposed conditions at a scale that enables verification of supporting calculations.

As noted in the Checklist, the Stormwater Management Report shall document compliance with each of the Stormwater Management Standards as provided in the Massachusetts Stormwater Handbook. The soils evaluation and calculations shall be done using the methodologies set forth in Volume 3 of the Massachusetts Stormwater Handbook.

To ensure that the Stormwater Report is complete, applicants are required to fill in the Stormwater Report Checklist by checking the box to indicate that the specified information has been included in the Stormwater Report. If any of the information specified in the checklist has not been submitted, the applicant must provide an explanation. The completed Stormwater Report Checklist and Certification must be submitted with the Stormwater Report.

<sup>1</sup> The Stormwater Report may also include the Illicit Discharge Compliance Statement required by Standard 10. If not included in the Stormwater Report, the Illicit Discharge Compliance Statement must be submitted prior to the discharge of stormwater runoff to the post-construction best management practices.

<sup>2</sup> For some complex projects, it may not be possible to include the Construction Period Erosion and Sedimentation Control Plan in the Stormwater Report. In that event, the issuing authority has the discretion to issue an Order of Conditions that approves the project and includes a condition requiring the proponent to submit the Construction Period Erosion and Sedimentation Control Plan before commencing any land disturbance activity on the site.



# Checklist for Stormwater Report

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## B. Stormwater Checklist and Certification

The following checklist is intended to serve as a guide for applicants as to the elements that ordinarily need to be addressed in a complete Stormwater Report. The checklist is also intended to provide conservation commissions and other reviewing authorities with a summary of the components necessary for a comprehensive Stormwater Report that addresses the ten Stormwater Standards.

*Note:* Because stormwater requirements vary from project to project, it is possible that a complete Stormwater Report may not include information on some of the subjects specified in the Checklist. If it is determined that a specific item does not apply to the project under review, please note that the item is not applicable (N.A.) and provide the reasons for that determination.

A complete checklist must include the Certification set forth below signed by the Registered Professional Engineer who prepared the Stormwater Report.

---

### Registered Professional Engineer's Certification

I have reviewed the Stormwater Report, including the soil evaluation, computations, Long-term Pollution Prevention Plan, the Construction Period Erosion and Sedimentation Control Plan (if included), the Long-term Post-Construction Operation and Maintenance Plan, the Illicit Discharge Compliance Statement (if included) and the plans showing the stormwater management system, and have determined that they have been prepared in accordance with the requirements of the Stormwater Management Standards as further elaborated by the Massachusetts Stormwater Handbook. I have also determined that the information presented in the Stormwater Checklist is accurate and that the information presented in the Stormwater Report accurately reflects conditions at the site as of the date of this permit application.

Registered Professional Engineer Block and Signature

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Signature and Date

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## Checklist

**Project Type:** Is the application for new development, redevelopment, or a mix of new and redevelopment?

- New development
- Redevelopment
- Mix of New Development and Redevelopment



# Checklist for Stormwater Report

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## Checklist (continued)

**LID Measures:** Stormwater Standards require LID measures to be considered. Document what environmentally sensitive design and LID Techniques were considered during the planning and design of the project:

- No disturbance to any Wetland Resource Areas
- Site Design Practices (e.g. clustered development, reduced frontage setbacks)
- Reduced Impervious Area (Redevelopment Only)
- Minimizing disturbance to existing trees and shrubs
- LID Site Design Credit Requested:
  - Credit 1
  - Credit 2
  - Credit 3
- Use of “country drainage” versus curb and gutter conveyance and pipe
- Bioretention Cells (includes Rain Gardens)
- Constructed Stormwater Wetlands (includes Gravel Wetlands designs)
- Treebox Filter
- Water Quality Swale
- Grass Channel
- Green Roof
- Other (describe): Infiltration Basins

### Standard 1: No New Untreated Discharges

- No new untreated discharges
- Outlets have been designed so there is no erosion or scour to wetlands and waters of the Commonwealth
- Supporting calculations specified in Volume 3 of the Massachusetts Stormwater Handbook included.



# Checklist for Stormwater Report

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## Checklist (continued)

### Standard 2: Peak Rate Attenuation

- Standard 2 waiver requested because the project is located in land subject to coastal storm flowage and stormwater discharge is to a wetland subject to coastal flooding.
- Evaluation provided to determine whether off-site flooding increases during the 100-year 24-hour storm.
- Calculations provided to show that post-development peak discharge rates do not exceed pre-development rates for the 2-year and 10-year 24-hour storms. If evaluation shows that off-site flooding increases during the 100-year 24-hour storm, calculations are also provided to show that post-development peak discharge rates do not exceed pre-development rates for the 100-year 24-hour storm.

### Standard 3: Recharge

- Soil Analysis provided.
- Required Recharge Volume calculation provided.
- Required Recharge volume reduced through use of the LID site Design Credits.
- Sizing the infiltration, BMPs is based on the following method: Check the method used.
  - Static
  - Simple Dynamic
  - Dynamic Field<sup>1</sup>
- Runoff from all impervious areas at the site discharging to the infiltration BMP.
- Runoff from all impervious areas at the site is *not* discharging to the infiltration BMP and calculations are provided showing that the drainage area contributing runoff to the infiltration BMPs is sufficient to generate the required recharge volume.
- Recharge BMPs have been sized to infiltrate the Required Recharge Volume.
- Recharge BMPs have been sized to infiltrate the Required Recharge Volume *only* to the maximum extent practicable for the following reason:
  - Site is comprised solely of C and D soils and/or bedrock at the land surface
  - M.G.L. c. 21E sites pursuant to 310 CMR 40.0000
  - Solid Waste Landfill pursuant to 310 CMR 19.000
  - Project is otherwise subject to Stormwater Management Standards only to the maximum extent practicable.
- Calculations showing that the infiltration BMPs will drain in 72 hours are provided.
- Property includes a M.G.L. c. 21E site or a solid waste landfill and a mounding analysis is included.

<sup>1</sup> 80% TSS removal is required prior to discharge to infiltration BMP if Dynamic Field method is used.



# Checklist for Stormwater Report

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## Checklist (continued)

### Standard 3: Recharge (continued)

- The infiltration BMP is used to attenuate peak flows during storms greater than or equal to the 10-year 24-hour storm and separation to seasonal high groundwater is less than 4 feet and a mounding analysis is provided.
- Documentation is provided showing that infiltration BMPs do not adversely impact nearby wetland resource areas.

### Standard 4: Water Quality

The Long-Term Pollution Prevention Plan typically includes the following:

- Good housekeeping practices;
  - Provisions for storing materials and waste products inside or under cover;
  - Vehicle washing controls;
  - Requirements for routine inspections and maintenance of stormwater BMPs;
  - Spill prevention and response plans;
  - Provisions for maintenance of lawns, gardens, and other landscaped areas;
  - Requirements for storage and use of fertilizers, herbicides, and pesticides;
  - Pet waste management provisions;
  - Provisions for operation and management of septic systems;
  - Provisions for solid waste management;
  - Snow disposal and plowing plans relative to Wetland Resource Areas;
  - Winter Road Salt and/or Sand Use and Storage restrictions;
  - Street sweeping schedules;
  - Provisions for prevention of illicit discharges to the stormwater management system;
  - Documentation that Stormwater BMPs are designed to provide for shutdown and containment in the event of a spill or discharges to or near critical areas or from LUHPPL;
  - Training for staff or personnel involved with implementing Long-Term Pollution Prevention Plan;
  - List of Emergency contacts for implementing Long-Term Pollution Prevention Plan.
- A Long-Term Pollution Prevention Plan is attached to Stormwater Report and is included as an attachment to the Wetlands Notice of Intent.
  - Treatment BMPs subject to the 44% TSS removal pretreatment requirement and the one inch rule for calculating the water quality volume are included, and discharge:
    - is within the Zone II or Interim Wellhead Protection Area
    - is near or to other critical areas
    - is within soils with a rapid infiltration rate (greater than 2.4 inches per hour)
    - involves runoff from land uses with higher potential pollutant loads.
  - The Required Water Quality Volume is reduced through use of the LID site Design Credits.
  - Calculations documenting that the treatment train meets the 80% TSS removal requirement and, if applicable, the 44% TSS removal pretreatment requirement, are provided.



# Checklist for Stormwater Report

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## Checklist (continued)

### Standard 4: Water Quality (continued)

- The BMP is sized (and calculations provided) based on:
  - The ½" or 1" Water Quality Volume or
  - The equivalent flow rate associated with the Water Quality Volume and documentation is provided showing that the BMP treats the required water quality volume.
- The applicant proposes to use proprietary BMPs, and documentation supporting use of proprietary BMP and proposed TSS removal rate is provided. This documentation may be in the form of the propriety BMP checklist found in Volume 2, Chapter 4 of the Massachusetts Stormwater Handbook and submitting copies of the TARP Report, STEP Report, and/or other third party studies verifying performance of the proprietary BMPs.
- A TMDL exists that indicates a need to reduce pollutants other than TSS and documentation showing that the BMPs selected are consistent with the TMDL is provided.

### Standard 5: Land Uses With Higher Potential Pollutant Loads (LUHPPLs)

- The NPDES Multi-Sector General Permit covers the land use and the Stormwater Pollution Prevention Plan (SWPPP) has been included with the Stormwater Report.
- The NPDES Multi-Sector General Permit covers the land use and the SWPPP will be submitted **prior to** the discharge of stormwater to the post-construction stormwater BMPs.
- The NPDES Multi-Sector General Permit does **not** cover the land use.
- LUHPPLs are located at the site and industry specific source control and pollution prevention measures have been proposed to reduce or eliminate the exposure of LUHPPLs to rain, snow, snow melt and runoff, and been included in the long term Pollution Prevention Plan.
- All exposure has been eliminated.
- All exposure has **not** been eliminated and all BMPs selected are on MassDEP LUHPPL list.
- The LUHPPL has the potential to generate runoff with moderate to higher concentrations of oil and grease (e.g. all parking lots with >1000 vehicle trips per day) and the treatment train includes an oil grit separator, a filtering bioretention area, a sand filter or equivalent.

### Standard 6: Critical Areas

- The discharge is near or to a critical area and the treatment train includes only BMPs that MassDEP has approved for stormwater discharges to or near that particular class of critical area.
- Critical areas and BMPs are identified in the Stormwater Report.



# Checklist for Stormwater Report

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## Checklist (continued)

### Standard 7: Redevelopments and Other Projects Subject to the Standards only to the maximum extent practicable

- The project is subject to the Stormwater Management Standards only to the maximum Extent Practicable as a:
  - Limited Project
  - Small Residential Projects: 5-9 single family houses or 5-9 units in a multi-family development provided there is no discharge that may potentially affect a critical area.
  - Small Residential Projects: 2-4 single family houses or 2-4 units in a multi-family development with a discharge to a critical area
  - Marina and/or boatyard provided the hull painting, service and maintenance areas are protected from exposure to rain, snow, snow melt and runoff
  - Bike Path and/or Foot Path
  - Redevelopment Project
  - Redevelopment portion of mix of new and redevelopment.
- Certain standards are not fully met (Standard No. 1, 8, 9, and 10 must always be fully met) and an explanation of why these standards are not met is contained in the Stormwater Report.
- The project involves redevelopment and a description of all measures that have been taken to improve existing conditions is provided in the Stormwater Report. The redevelopment checklist found in Volume 2 Chapter 3 of the Massachusetts Stormwater Handbook may be used to document that the proposed stormwater management system (a) complies with Standards 2, 3 and the pretreatment and structural BMP requirements of Standards 4-6 to the maximum extent practicable and (b) improves existing conditions.

### Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control

A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan must include the following information:

- Narrative;
  - Construction Period Operation and Maintenance Plan;
  - Names of Persons or Entity Responsible for Plan Compliance;
  - Construction Period Pollution Prevention Measures;
  - Erosion and Sedimentation Control Plan Drawings;
  - Detail drawings and specifications for erosion control BMPs, including sizing calculations;
  - Vegetation Planning;
  - Site Development Plan;
  - Construction Sequencing Plan;
  - Sequencing of Erosion and Sedimentation Controls;
  - Operation and Maintenance of Erosion and Sedimentation Controls;
  - Inspection Schedule;
  - Maintenance Schedule;
  - Inspection and Maintenance Log Form.
- A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan containing the information set forth above has been included in the Stormwater Report.



# Checklist for Stormwater Report

---

## Checklist (continued)

### Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control (continued)

- The project is highly complex and information is included in the Stormwater Report that explains why it is not possible to submit the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan with the application. A Construction Period Pollution Prevention and Erosion and Sedimentation Control has **not** been included in the Stormwater Report but will be submitted **before** land disturbance begins.
- The project is **not** covered by a NPDES Construction General Permit.
- The project is covered by a NPDES Construction General Permit and a copy of the SWPPP is in the Stormwater Report.
- The project is covered by a NPDES Construction General Permit but no SWPPP been submitted. The SWPPP will be submitted BEFORE land disturbance begins.

### Standard 9: Operation and Maintenance Plan

- The Post Construction Operation and Maintenance Plan is included in the Stormwater Report and includes the following information:
  - Name of the stormwater management system owners;
  - Party responsible for operation and maintenance;
  - Schedule for implementation of routine and non-routine maintenance tasks;
  - Plan showing the location of all stormwater BMPs maintenance access areas;
  - Description and delineation of public safety features;
  - Estimated operation and maintenance budget; and
  - Operation and Maintenance Log Form.
- The responsible party is **not** the owner of the parcel where the BMP is located and the Stormwater Report includes the following submissions:
  - A copy of the legal instrument (deed, homeowner's association, utility trust or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the project site stormwater BMPs;
  - A plan and easement deed that allows site access for the legal entity to operate and maintain BMP functions.

### Standard 10: Prohibition of Illicit Discharges

- The Long-Term Pollution Prevention Plan includes measures to prevent illicit discharges;
- An Illicit Discharge Compliance Statement is attached;
- NO Illicit Discharge Compliance Statement is attached but will be submitted **prior to** the discharge of any stormwater to post-construction BMPs.

Project 12013 The Village at Bailey's Pond  
 By SPM  
 Date 10/2/2015  
 Stnwater Treatment Calculations

Project	By	Date	Water Oaul Volume										
			Total Area	Impervious	Existing Impervious	Woods (A)	Brush	Open(A)	Water	Total	1" x Imperv	Treatment	Volume provided
Small Pod			102692	9320	1806	51208	0	40358	0	102692	777	45% Filter Strip 80% Infiltration	3,339.00
<b>Pond 2-1</b>											<b>Volume Provided</b>	<b>3,339.00</b>	
Post2e													
<b>Pond 2-2</b>													
Post2a			2844	339	0	0	0	0	3183	237	25% Deep Sum CB 80% Infiltration		
Post2b			2939	2884	55	0	0	0	2939	240			
Post2c			13057	11371	0	0	0	1686	0	13057	948		
Post2d			10331	8809	0	0	0	1522	0	10331	734		
Post2f			5479	2657	0	0	0	2822	0	5479	221		
Post2g			8559	7137	0	0	0	1422	0	8559	595		
Post2h			18917	2252	0	9717	0	6948	0	18917	188		
Post2i			5151	0	0	0	0	1881	0	7032	429		
Post2j			4244	3877	0	0	0	367	0	4244	323		
Post2k			25495	2852	0	7447	0	15496	0	25495	213		
Post2l			54661	12905	0	2191	0	39965	0	54661	1,042		
Large Pod											<b>Volume Provided</b>	<b>6,681.50</b>	
<b>Pond 1-1</b>													
Post1a			11472	8275	738	0	0	2459	0	11472	690	25% Deep Sum CB 80% Infiltration	
Post1c			4893	4893	0	0	0	4893	0	4893	408		
Post1d			9994	7724	0	0	0	2270	0	9994	644		
Post1e			100547	21601	12130	13021	0	53795	0	100547	1,800		
Post1f			18589	3165	0	0	0	15424	0	18589	264		
<b>Pond 1-2</b>											<b>Volume Provided</b>	<b>5,974.50</b>	
Post1g			57573	14132	2594	6828	0	34019	0	57573	1,178	25% Deep Sum CB 80% Infiltration	
<b>Pond 1-3</b>													
Post1h			22719	18514	0	0	0	4205	0	22719	1,543	25% Deep Sum CB 80% Infiltration	
Post1i			5823	5084	0	0	0	739	0	5823	424		
Post1j			7803	5892	0	0	0	2111	0	7803	474		
Post1k			6348	4151	0	0	0	2197	0	6348	346		
Post1l			7856	5296	0	0	0	2560	0	7856	441		
Post1m			3397	2985	0	0	0	412	0	3397	249		
Post1n			12274	2108	0	0	0	10166	0	12274	176		
<b>Pond 1-4</b>											<b>Volume Provided</b>	<b>8,176.25</b>	
Post1q			8656	7252	0	0	0	1404	0	8656	604	25% Deep Sum CB 80% Infiltration wpretreatment	
Post1r			9365	5879	0	0	0	3486	0	9365	490		
Post1s			16065	12559	0	0	0	3506	0	16065	1,047		
Post1t			13362	10725	0	0	0	2637	0	13362	894		
Post1u			25450	18874	0	0	0	6576	0	25450	1,573		
Post1v			39981	2902	0	13176	0	24003	0	39981	234		
Post1w			13938	11629	0	0	0	2309	0	13938	969		
<b>Pond 1-5</b>											<b>Volume Provided</b>	<b>8,877.00</b>	
Post1b			8942	6817	911	0	0	1214	0	8942	588	25% Deep Sum CB 80% Infiltration	
Post1p			40272	10174	0	0	0	30098	0	40272	848		
<b>Pond 1-6</b>											<b>Volume Provided</b>	<b>1,457.50</b>	
Post1y			107930	9738	4436	24536	0	69220	0	107930	812	80% Infiltration	
<b>Pond 1-7</b>											<b>Volume Provided</b>	<b>1,806.88</b>	
Post1o			9346	6091	0	0	0	3255	0	9346	508	80% Infiltration	
<b>Pond 1-8</b>											<b>Volume Provided</b>	<b>1,521.00</b>	
Post1z			9726	4348	0	0	0	5378	0	9726	362	80 Infiltration	
<b>Pond 1-9</b>											<b>Volume Provided</b>	<b>2,096</b>	



Village at Bailey's Pond  
 Rip Rap Outlet Protection Sizing  
 Project: 12/2013  
 Date: 10/2/2015  
 By: SPM

Subcatchment	Outlet	TW	Q (25-yr) (CFS)	Do(ft)	W1 (ft)	W2 (ft)	L(ft)	D50 (in)
1a	FES 1-1	0.1	1.09	1	3	6.32	8.31	1
	FES 1-2	0.1	1.52	1	3	6.53	8.82	1
	FES 1-3	0.1	4.71	1	3	8.06	12.65	6
	FES 1-4	0.5	2.35	1	3	7.68	11.70	0
	FES 1-5	0.1	5.04	1.25	3.75	9.19	13.59	5
	FES 1-6	0.1	8.42	1	3	9.84	17.10	12
	FES 1-7	0.1	33	1.5	4.5	19.26	36.90	12
	FES 2-1	0.1	1.05	1	3	6.30	8.26	1
	FES 2-2	0.1	3.62	1	3	7.54	11.34	4
	FES 2-3	0.1	1.33	1	3	6.44	8.60	1
	FES 2-4	0.1	0	1	3	5.80	7.00	0
3A	Existing outfall	0.1	0.83	1.5	4.5	8.97	11.16	0

\*Presumed flow added based on existing off-site culvert flowing full

Formulas:

L	$L=1.8Q/Do^{1.5} + 7Do$ $L=3Q/Do^{1.5} + 7Do$	(when $TW < Do/2$ ) (when $TW > Do/2$ )
W1	$W=3Do$	
W2	$W=3Do + L$ $W=3Do + 0.4L$	(when $TW < Do/2$ ) (when $TW > Do/2$ )
D50	$D50=(.02Q^{.1.3})/(TW*Do)$	



**APPENDIX D**

Pollution Prevention and  
Stormwater Operation and Maintenance Plan

Village at Bailey's Pond  
Route 150 and Summit Avenue  
Amesbury, Massachusetts



**Pollution Prevention and  
Stormwater Operation and Maintenance Plan**

**For**

**THE VILLAGE AT BAILEY'S POND**

**Route 150/Summit Avenue  
Amesbury, Massachusetts**

Prepared by:



**P.O. Box 1123  
Newburyport, Massachusetts  
(978) 312-3120**

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**APPENDICES:**

Appendix A: Stormwater System O&M Inspection Report

## 1.0 INTRODUCTION

This Pollution Prevention and Operation and Maintenance (O&M) Plan has been prepared to implement procedures for the Village at Bailey's Pond (Project) which will minimize the potential for stormwater pollution and adverse impacts to resource areas subject to protection under the Massachusetts Wetlands Protections Act and City of Amesbury Wetlands Bylaw. This plan has been prepared to identify pollution prevention measures which are implemented as part of daily operations as well as O&M practices and procedures for stormwater Best Management Practices (BMPs).

The Project encompasses approximately 24 acres located around portions of Bailey's Pond. Wetlands resource areas associated with Bailey's Pond include bordering vegetated wetlands (BVW), flood plain, riverfront area and the pond itself. A plan showing the configuration of the Project stormwater systems and wetlands resource areas is provided on Sheets C-301 and C-302, Grading, Drainage & Erosion Control Plan. Inspection forms for Stormwater BMPs are enclosed in Appendix A.

### 1.1 Roles and Responsibilities

#### Owner

Village at Bailey's Pond Condominium (Association)

#### Implementation

Village at Bailey's Pond Condominium (Association)

This plan shall be maintained by the Association and distributed to all residents, homeowners and outside contractors on an annual basis.

## **2.0 POLLUTION PREVENTION**

The following section presents methods and procedures implemented by the Project as part of daily operations to minimize potential stormwater pollution. The procedures presented below have been developed to be practical to implement and sufficiently protective of nearby resource areas and the environment in general.

### **2.1 Equipment and Material Storage**

Seasonal equipment is not to be permanently stored on-site. This equipment is generally limited to snow plows, lawn mowers and other miscellaneous equipment used by the personnel or companies conducting routine maintenance at the Project. Equipment used at the Project shall be generally clean and free of oil leaks and/or hazardous material which could potentially impact storm water quality.

Supplies such as sand, grass seed, fertilizers, and other materials which may be affected by weather or become airborne shall not be stored on site unless they are stored indoors.

### **2.2 Fuel Storage**

There is no proposed fuel storage at the Project. Any fueling on site of maintenance equipment shall be conducted on paved areas at least 100' away from any resource area.

### **2.3 Trash and Recyclables Collection**

Trash and recyclables will be picked up from the Project on a routine basis by an outside, licensed hauler. Trash and recyclable containers shall be kept under cover until they are brought by the homeowner to the curb side for pickup. Trash and recyclable containers may not be brought to the curbside more than 24 hours prior to the scheduled pickup.

### **2.4 General Housekeeping**

Cleanup to remove accumulated trash and debris shall be performed on both an as-needed and scheduled basis. Routine cleanup activities include the following:

#### **2.4.1 Trash and Debris Pickup**

Trash and debris pickup shall be performed continuously as needed. Landscape and maintenance contractors shall be responsible for removing litter from the grounds. Residents and guests are prohibited from littering and are encouraged to pickup miscellaneous debris which they may encounter.

#### **2.4.2 Sweeping**

Sweeping of roadways and parking areas shall be performed on an annual basis during the early spring to remove salt and sand applied to these surfaces during the winter months. Should the need arise; selected areas of the Project may be swept more frequently. Sweeping will be performed by an outside contractor using suitable equipment. Recovered sweepings shall be disposed with other yard waste off-site in accordance with all applicable state, local and federal laws.

### 2.4.3 Spring and Fall Cleanup

Spring and fall cleanups shall be performed once per year following snow melt and tree defoliation, respectively. The majority of the spring and fall cleanup efforts shall focus on landscaped and lawn areas throughout the Project. Yard waste, including leaves, grass cuttings, nuisance vegetation, branches, stumps, rocks, etc., shall be disposed of off-site in accordance with all applicable state, local and federal laws.

### 2.5 Snow Plowing/Deicing

Snow and ice removal operations shall be performed on an as-needed basis. Snow from driveways, parking areas and walkways shall be plowed to the sides of the paved surfaces in accordance with customary snow plowing procedures. Snow shall be plowed away from wetlands resource areas. Snow stockpiles shall be located beyond wetlands buffer zones to the greatest extent practicable and in designated locations throughout the Project. Snow banks or piles may be removed from parking lots or other critical areas as needed. Snow which may be removed in this manner shall be disposed of off-site in accordance with applicable state, local and federal laws. Snow shall not be dumped or pushed into the pond or resource areas.

Deicing operations consist of applying sand or salt to walkways and other paved surfaces as needed for vehicle and pedestrian safety. Salt shall be applied at the minimal acceptable rates to provide safe vehicle and pedestrian safety and shall not be applied to areas of the Project which are within wetlands resource areas or associated buffer zones.

### 2.6 Landscape Maintenance

Lawn and landscape areas shall be regularly maintained by a qualified landscape contractor. The landscape contractor shall be responsible for the maintenance and upkeep of the stormwater Basins including by not limited to replacement of dead or dying vegetation, removal of sediment and replacement of mulch.

The use of fertilizers, pesticides, and herbicides shall be minimized and in not case shall they be used within 100' of a wetland resource area.

### 3.0 OPERATION AND MAINTENANCE

An outside contractor shall inspect the stormwater management systems on a routine basis. Refer to the Grading, Drainage & Erosion Control Plans (Plans) for drainage structure locations. Inspection and maintenance shall be performed as follows:

#### 3.1 Catch Basins and Manholes

Catch basins and manholes shall be inspected for accumulation of silt, sediment, or debris on a semi-annual basis. Cleaning will be performed at least once per year or more frequently if the sediment level rises 2 feet above the bottom of the sump. Removed sediment will be disposed off site by a qualified waste disposal contractor in accordance with local, state and federal regulations.

#### 3.2 Stormwater Basins

Stormwater basins consist of sedimentation and infiltration basins. The basins will be inspected for sediment and debris accumulation on regular basis. Vegetation will also be inspected and mowed or replaced as needed. The maintenance schedule for stormwater basins is as follows:

<b>Activity</b>	<b>Time of Year</b>	<b>Frequency</b>
Inspect and Remove Trash	Year round	Biannually
Mulch	Spring	Biannually
Mow	Fall	Annually
Replace Dead Vegetation	Spring	Annually
Prune	Spring	Annually
Repair areas of erosion and revegetate	Spring	As necessary, but not less than once a year.
Remove sediment from forebay	Spring	Annually
Remove sediment from grass swale	Spring	Annually
Inspect basin to ensure it is operating as designed	Summer	First few months after construction and semi-annually thereafter
Check drywell	Spring	Annually
Remove sediment from basin and drywell	Spring	As necessary

#### 3.3 Record Keeping

The Association shall complete the Stormwater System Inspection Report (Appendix A) as part of routine inspections. Copies of completed reports shall be kept for at least 5 years. Receipts of

catch basin cleaning and other O&M activities which require contracted services shall also kept on file for a minimum of 5 years.

#### 3.4 Pet Waste

Owners and guests will be responsible for clean up and disposal of pet waste on the site.

#### 3.5 Steep Slopes

Steep slopes shall be inspected annually for signs of erosion of slope instability. Any signs of erosion shall be immediately repaired by sodding or reseeded and the installation of erosion control matting such as just mat. Slopes steeper than 2:1 shall not be mowed more than once per year and shall be mowed with the use of a boom mounted mower from positioned at the bottom of the slope.

**APPENDIX A**

Stormwater System O&M Inspection Report

The Village at Bailey's Pond

## **STORMWATER MANAGEMENT OPERATIONS AND MAINTENANCE PLAN**

Village at Bailey's Pond  
Route 150 and Summit Avenue  
Amesbury, Massachusetts

The following Stormwater Management Operation and Maintenance (O&M) Plan has been prepared to operate and maintain the stormwater management system for the Village at Bailey's Pond. The condominium association and not the City of Amesbury shall be responsible for maintenance of all BMP's and drainage structures on-site.

**Owner/Operator:** The Village at Bailey's Pond Condominium Association

### **Inspection and Maintenance Schedule**

Facility personnel will inspect the stormwater management system on a routine basis not less than once per month for the first 6 months of operation and annually thereafter. Refer to Sheets C-301 and C-302, Grading, Drainage & Erosion Control Plan, for drainage structure locations. Inspection and maintenance shall be performed as follows:

1. Catchbasins and Manholes shall be inspected for accumulation of silt, sediment, or debris on a semi-annual basis. Cleaning will be performed whenever the sediment level rises to within 1 foot of the invert elevation of the outlet pipe. Removed sediment will be disposed off site by a qualified waste disposal contractor in accordance with state and federal regulations.
2. Landscaped Areas shall be inspected and maintained on a regular basis. Areas which may be subject to erosion will be stabilized and reseeded immediately. These operations will be performed as part of ongoing routine grounds maintenance operations.
3. Infiltration Areas shall be visually inspected monthly and voids in soil or stone shall be repaired. Vegetation shall be inspected monthly for disease or pest problems. If treatment is warranted, use the least toxic approach. Promptly replace any vegetation that is beyond treatment. Infiltration areas shall be mowed at least four times a year as required.
4. Drain outfalls shall be inspected annually. Any signs of erosion shall be promptly repaired. Level spreaders and berm outlets shall be inspected for erosion and for good vegetated growth. Rip-rap aprons shall be inspected to ensure the aprons are in good order with no erosion. Rip-rap shall be repaired or replaced as required.

## Stormwater System Inspection Report

General Information			
<b>Location:</b> Village at Bailey's Pond			
<b>Date of Inspection</b>		<b>Start/End Time</b>	
<b>Inspector's Name(s)</b>			
<b>Inspector's Title(s)</b>			
<b>Inspector's Contact Information</b>			
<b>Purpose of Inspection</b>			
Weather Information			
<b>Has it rained since the last inspection?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No			
<b>Weather at time of this inspection?</b>			

### Site-Specific Stormwater Devices

	Description	Installed and Operating Properly?	Corrective Action Needed	Date for Corrective Action/Responsible Person
1		<input type="checkbox"/> Yes <input type="checkbox"/> No		
2		<input type="checkbox"/> Yes <input type="checkbox"/> No		
3		<input type="checkbox"/> Yes <input type="checkbox"/> No		
4		<input type="checkbox"/> Yes <input type="checkbox"/> No		
5		<input type="checkbox"/> Yes <input type="checkbox"/> No		
6		<input type="checkbox"/> Yes <input type="checkbox"/> No		
7		<input type="checkbox"/> Yes <input type="checkbox"/> No		
8		<input type="checkbox"/> Yes <input type="checkbox"/> No		
9		<input type="checkbox"/> Yes <input type="checkbox"/> No		

	Description	Installed and Operating Properly?	Corrective Action Needed	Date for Corrective Action/Responsible Person
10		<input type="checkbox"/> Yes <input type="checkbox"/> No		

	Description	Installed and Operating Properly?	Corrective Action Needed	Date for Corrective Action/Responsible Person
11		<input type="checkbox"/> Yes <input type="checkbox"/> No		
12		<input type="checkbox"/> Yes <input type="checkbox"/> No		
13		<input type="checkbox"/> Yes <input type="checkbox"/> No		
14		<input type="checkbox"/> Yes <input type="checkbox"/> No		
15		<input type="checkbox"/> Yes <input type="checkbox"/> No		
16		<input type="checkbox"/> Yes <input type="checkbox"/> No		
17		<input type="checkbox"/> Yes <input type="checkbox"/> No		
18		<input type="checkbox"/> Yes <input type="checkbox"/> No		
19		<input type="checkbox"/> Yes <input type="checkbox"/> No		
20		<input type="checkbox"/> Yes <input type="checkbox"/> No		
21		<input type="checkbox"/> Yes <input type="checkbox"/> No		
22		<input type="checkbox"/> Yes <input type="checkbox"/> No		
23		<input type="checkbox"/> Yes <input type="checkbox"/> No		
24		<input type="checkbox"/> Yes <input type="checkbox"/> No		
25		<input type="checkbox"/> Yes <input type="checkbox"/> No		
26		<input type="checkbox"/> Yes <input type="checkbox"/> No		

	Description	Installed and Operating Properly?	Corrective Action Needed	Date for Corrective Action/Responsible Person
27		<input type="checkbox"/> Yes <input type="checkbox"/> No		
28		<input type="checkbox"/> Yes <input type="checkbox"/> No		
29		<input type="checkbox"/> Yes <input type="checkbox"/> No		
30		<input type="checkbox"/> Yes <input type="checkbox"/> No		

**Overall Site Issues**

	Description		Corrective Action	Date for Corrective Action/Responsible Person
1	Are all slopes properly stabilized?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
2	Are natural resource areas (e.g., streams, wetlands, etc.) being subjected to erosion?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
3	Are discharge points free of sediment deposits?	<input type="checkbox"/> Yes <input type="checkbox"/> No		

**Certification Statement:**

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

Print name: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

## **APPENDIX E**

### Soils Information

Village at Bailey's Pond  
Route 150 and Summit Avenue  
Amesbury, Massachusetts













On-Site Review

Deep Hole Number 04-6 Date 11/16/04 Time \_\_\_\_\_ Weather Cloudy

Location (identify on site plan) \_\_\_\_\_

Land Use Res. Slope (%) \_\_\_\_\_ Surface Stones \_\_\_\_\_

Vegetation Grass

Landform Kame Terrace

Position on landscape (sketch on the back) \_\_\_\_\_

Distances from: \_\_\_\_\_

Open Water Body >100 feet Drainage way >50 feet

Possible Wet Area >100 feet Property Line >50 feet

Drinking Water Well >110 feet Other \_\_\_\_\_

**DEEP OBSERVATION HOLE LOG**

Depth from Surface (Inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, %Gravel)
0" - 14"	Fill	FSL	2.5 Y 4/2		Friable 10 % Gravel
14" - 54"	Fill	LS	10 YR 4/4		Friable, 15% gravel Coarse to medium
54" - 60"	Ab	FSL	10 YR 2/2		Friable
60" - 68"	B	SL	10 YR 4/6		Friable
68" - 104"	C	FLS	2.5 Y 5/4	Dominant @ 78"	Friable 7.5 YR 5/8 massive

Receiving Layers C Design Class I

Parent Material (geologic) Ice contact outwash Depth to Bedrock: \_\_\_\_\_

Depth to Groundwater: Standing Water in the Hole: None Weeping from Pit Face: No weeping

Estimated Seasonal High Ground Water: 78"







On-Site Review

Deep Hole Number 04-10 Date 11/16/04 Time \_\_\_\_\_ Weather Cloudy  
 Location (identify on site plan) \_\_\_\_\_  
 Land Use Res. Slope (%) 2 Surface Stones \_\_\_\_\_  
 Vegetation Wooded  
 Landform Kame Terrace  
 Position on landscape (sketch on the back) \_\_\_\_\_  
 Distances from:  
 Open Water Body >200 feet Drainage way >50 feet  
 Possible Wet Area >100 feet Property Line >50 feet  
 Drinking Water Well >110 feet Other \_\_\_\_\_

**DEEP OBSERVATION HOLE LOG**

Depth from Surface (Inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, %Gravel)
0" - 8"	Fill	SL	10 YR 3/3		Friable
8" - 33"	C1	LS	2.5 Y 5/4	@ 18"	Friable
				7.5 YR 5/8	
				2.5 Y 6/2	
33" - 70"	C2	S	2.5 Y 6/3		Loose
					Single Grain

Receiving Layers C1, C2 Design Class I

Parent Material (geologic) Ice contact outwash Depth to Bedrock: \_\_\_\_\_

Depth to Groundwater: Standing Water in the Hole: None Weeping from Pit Face: No weeping

Estimated Seasonal High Ground Water: \_\_\_\_\_

















On-Site Review

Deep Hole Number 04-19 Date 11/17/04 Time \_\_\_\_\_ Weather Sunny  
 Location (identify on site plan) \_\_\_\_\_  
 Land Use Res. Slope (%) \_\_\_\_\_ Surface Stones Few  
 Vegetation Brush  
 Landform Kame Terrace  
 Position on landscape (sketch on the back) \_\_\_\_\_  
 Distances from:  
 Open Water Body >200 feet Drainage way >30 feet  
 Possible Wet Area >100 feet Property Line >50 feet  
 Drinking Water Well >100 feet Other \_\_\_\_\_

**DEEP OBSERVATION HOLE LOG**

Depth from Surface (Inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, %Gravel)
No top soil					
0" - 26"	C1	S	2.5 Y 5/6		Loose Medium
26" - 38"	C2	S	2.5 Y 5/4		Friable Medium
38" - 164"	C3	S	2.5 Y 6/4	@10" 7.5 YR 5/8 2.5 Y 6/2	Firm Fine
				@58" restrictive fine sand layer firm 4" thick 2.5 Y 5/4	

Sealing Layers C1, C2, C3 Design Class I  
 Parent Material (geologic) Ice contact outwash Depth to Bedrock: \_\_\_\_\_  
 Depth to Groundwater: Standing Water in the Hole: 160 Weeping from Pit Face: 152"  
 Estimated Seasonal High Ground Water: \_\_\_\_\_









Location Address or Lot No. Corner of Rte.150 and Summit Avenue, Amesbury

Job #04142

COMMONWEALTH OF MASSACHUSETTS  
Amesbury, Massachusetts

Percolation Test*			
Date:	11/17/2004	Time:	
Observation Hole#		04-18	04-19
Depth of Perc		24" + 18"	24" + 16"
Start Pre-soak		N/A	N/A
End Pre-soak		N/A	N/A
Time at 12"		0:00:00	0:00:00
Time at 9"		0:00:50	0:03:05
Time at 6"		0:02:00	0:07:40
Time (9"-6)		1 Min: 10 sec	4 Min:35 sec
Rate Min./Inch		<1 min/inch	<2 min/inch

\* Minimum of 1 percolation test must be performed in both the primary area AND reserve area.

Site Passed  Site Failed

Performed By: M. Tessier

Witnessed By: \_\_\_\_\_

Comments: \_\_\_\_\_

Location Address or Lot No. Corner of Rte. 150 and Summit Avenue, Amesbury

Job #04142

COMMONWEALTH OF MASSACHUSETTS  
Amesbury, Massachusetts

Percolation Test*				
Date:	11/16/2004		Time:	
Observation Hole#	04-1	04-7	04-9	04-13
Depth of Perc	30" + 18"	28" + 18"	24" + 18"	24" + 16"
Start Pre-soak	N/A	N/A	N/A	N/A
End Pre-soak	N/A	N/A	N/A	N/A
Time at 12"	7:45	9:29:00	9:58:45	12:40:15
Time at 9"	7:45:30	9:29:40	9:59:40	12:42:18
Time at 6"	7:46:10	9:30:24	10:00:45	12:44:20
Time (9"-6")	40 SEC			
Rate Min./Inch	<1 MIN/inch	<1 min/inch	<1 min/inch	<2 min/in

\* Minimum of 1 percolation test must be performed in both the primary area AND reserve area.

Site Passed  Site Failed

Performed By: M. Tessier

Witnessed By: \_\_\_\_\_

Comments: \_\_\_\_\_