

STORMWATER DRAINAGE CALCULATIONS

for

Definitive Subdivision

at

Stoney Brook Farm

New Bedford, MA

Prepared for:

New Bedford Cousins LLC

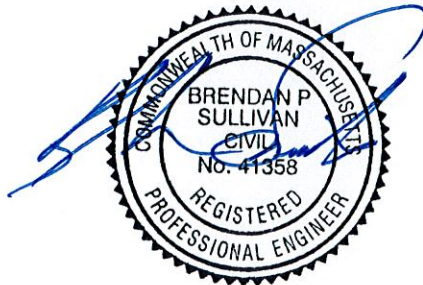
P.O. Box 36

Scituate, MA 02066

Prepared by:

**CAVANARO CONSULTING, INC.
687 MAIN STREET
NORWELL, MASSACHUSETTS 02061**

May 10, 2017



1.0 METHODOLOGY

The adequacy of drainage structures and their ability to function properly must be analyzed to minimize detrimental effects due to flooding conditions. The impacts of storm water are mitigated through several mechanisms such as infiltration, transportation and evaporation. The remaining runoff, can be quantified through developed and accepted methods. By determining the characteristics of site specific storm water conditions, mitigating efforts can be taken to avoid floodwater damage by constructing control devices. Designing and analyzing these facilities requires the acquisition of site data through observations, computer modeling the watershed, and the interpretation and application of the calculated values.

2.0 OVERVIEW

Cavanaro Consulting (CC) has analyzed the existing structures on and adjacent to the site utilizing the HydroCad 7.00 Storm water modeling program. Storm rainfall, run-off curve numbers, and other site characteristics are input into the program. The results of calculations are output into tables and graphs for each area and control structure. The complete calculations are presented in Appendix A of this report.

3.0 DESIGN STORMS

CC has computed storm water run-off calculations for the proposed subdivision site, for a 2, 10, 25, and 100 year, Type III, 24-hour storm events. This results in a 3.2", 4.6", 5.6", and a 6.8" rain event respectively for each storm event.

4.0 EXISTING DRAINAGE AREAS

The existing site is currently divided into three drainage areas: one that flows to the west toward Acushnet Ave through an easement; another flows toward Arnoff and Victoria Street; and a much larger area that flows to the east into an existing bordering vegetated wetland area and eventually to an unnamed river which flows further south to a small pond. It is our understanding that the existing pond located to the southeast has a history of flooding during heavy rainfall events. As a result, we have designed the drainage system for this project to reduce the flow toward the existing wetland while maintaining some flow to continue hydration of the resource area.

5.0 PROPOSED SUBCATCHMENT AREAS

The proposed site was divided into 11 subcatchment areas as shown on the accompanying plan. Three design control points were established to compare the existing with the proposed conditions. The design control points were chosen at the down slope side of the four existing subcatchment areas as shown on the plan. The intent was to direct a limited amount of runoff to the Bordering Vegetated Wetland and to Victoria Street to the South due to the inherent drainage problem at the Easterly end of Victoria Street and the adjacent pond. To achieve this goal more runoff was directed towards Acushnet Avenue, thus resulting in an increase in flow

at design control point No. 1 and a net decrease in flow at design control points No. 2 & 3, as shown in the table below.

6.0 PROPOSED DETENTION POND

The proposed drainage system consists of two infiltration basins. One is an existing underground infiltration basin with outlet structures discharge into the exiting drainage systems in the Acushnet avenue. This infiltration system adjacent to the bank site has been installed as part of that project in 2008. The second open infiltration basin is locate to the southwest portion of the project and discharges towards the adjacent wetlands and unnamed river bordering the eastern portion of the project. Both ponds are designed as dry ponds. Therefore, there is no standing water in the ponds between storm events. All street runoff is captured through deep sump catch basins with oil/gas separators, which discharge to the detention ponds. All of the proposed dwellings have their own onsite stormwater recharge systems.

7.0 DRAINAGE ANALYSIS

Design Control Point No. 1 (Acushnet Ave.)

<u>Storm</u>	<u>Existing Conditions (1E)</u>	<u>Post-Modification(DCP1)</u>
2-Year-24Hour (3.20")	0.08 cfs	0.08 cfs
10-Year-24Hour (4.60")	0.17 cfs	2.19 cfs
25-Year-24Hour (5.60")	0.24 cfs	4.20 cfs
100-Year-24Hour (6.80")	0.32 cfs	7.04 cfs

Flow @ Design control Point No. 2 (Monson & Victoria Street)

<u>Storm</u>	<u>Existing Conditions (3E)</u>	<u>Post-development (DCP2)</u>
2-Year-24Hour (3.20")	3.72 cfs	3.33 cfs
10-Year-24Hour (4.60")	7.72 cfs	6.96 cfs
25-Year-24Hour (5.60")	10.84 cfs	9.78 cfs
100-Year-24Hour (6.80")	14.74 cfs	13.30 cfs

Flow @ Design control Point No. 3 (Rear @ Wetland Area/Southeast corner)

<u>Storm</u>	<u>Existing Conditions (4E)</u>	<u>Post-development (DCP3)</u>
2-Year-24Hour (3.20")	7.93 cfs	4.75 cfs
10-Year-24Hour (4.60")	16.42 cfs	9.50 cfs
25-Year-24Hour (5.60")	23.06 cfs	13.10 cfs
100-Year-24Hour (6.80")	31.37 cfs	17.56 cfs

The portion of the proposed project will conform to the Stormwater Standards as follows:

Standard 1: No New Stormwater Conveyances of Untreated Stormwater or Erosion Offsite

The proposed improvements have an increase in pavement that will be treated prior to flowing into the infiltration fields. Also deep sump catch basins with hoods will be provided on all new catch basins, and all runoff will flow through a Stormceptor unit prior to discharging off site.

Standard 2: Peak Rate Attenuation

All proposed runoff rates are less than proposed with the exception of design control point number 1. This existing connection to the street was constructed in 2008 as part of the adjacent bank project. The flow was increased in this area to help alleviate an existing drainage problem with the pond off property to the southeast of the project.

Standard 3: Recharge and Discharge Volume

The required recharge volume for the site is 0.25" per net increase of new impervious, or $0.25"/12 \times 63,559 \text{ s.f.} = 1,324 \text{ cubic feet}$. The infiltration systems for each individual house lot have a volume of 226 Cubic feet below the outlet. Therefore, the total recharge for the site including just the infiltration systems on the individual house lots is just under 3,400 cubic feet ($226 \times 15 \text{ house lots} = 3,390$) this is well above the required 1,324 cubic feet.

Standard 4: Water Quality

The implementation of a Long Term Operation and Maintenance Plan will further improve water quality in the long term. The required Water Quality Volume for this site is 1.0" per net increase of new pavement, or $1.0"/12 \times 36,526 \text{ s.f.} = 3,044 \text{ cubic feet}$, new roadway and driveways. The existing infiltration systems for the individual house lots have a total volume of 3,390 cubic feet of storage (see above), therefore this requirement is met.

Standard 5: Land Uses with Higher Pollutant Loads (LUHPPLs)

The proposed use of the site does not constitute a higher potential pollutant load, therefore this standard does not apply.

Standard 6: Critical Areas

The locus site is not located within a critical area as can be seen on the attached DEP priority resource map. Thus, Standard 6 does not pertain to this project.

Standard 7: Redevelopment

The project is considered new development.

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control

The Operation and Maintenance Plan included with this submittal will ensure proper maintenance of the proposed pollution, erosion and sedimentation measures proposed during construction.

Standard 9: Long Term Operation and Maintenance Plan

The Long Term Operation and Maintenance Plan is included within the Operation and Maintenance Plan which is enclosed in this submittal to ensure drainage non-structural BMP's are maintained as intended.

Standard 10: Prohibition of Illicit Discharges

Routine visual inspections are scheduled as part of the Operations and Maintenance Plan to prevent illicit discharges. Furthermore, an Illicit Compliance Statement is included in this submittal.

Improvement Over Existing Conditions

Water quality will be improved through the implementation of an Operation and Maintenance Plan (O & M Plan). This O & M Plan includes good practice measures such as visual maintenance and inspections onsite. The runoff from the existing site has no stormwater controls, the proposed infiltration and stormwater controls will remove greater than 80% of total suspended solids (TSS) from the site improving the downstream runoff dramatically.

Long Term Stormwater Operation and Maintenance Plan and Illicit Discharge Statement

Proposed Residential Development

"Stoney Brook Farm"

Stoney Brook Farm Subdivision – New Bedford, MA 02045

Stormwater Management System's Owner: New Bedford Cousins LLC

System Owner's Address: P.O. Box 36, Scituate, MA 02066

Party responsible for Operations and Maintenance: Owners of Stoney Brook Farm

It is most important for a drainage system to be maintained in order for it to work properly. The following is an Operation and Maintenance plan to upkeep the existing non-structural and structural best performance practices as outlined in the Massachusetts Department of Environmental Protection's Stormwater Management Policy.

Operation and Maintenance Plan After Construction:

Good housekeeping:

General trash and litter cleanup of the site, inspect all vehicles on a regular basis for detection of leaking oil, gas and other fluids, provide routine visual inspections of potential pollution sources, and maintain an inventory of potential pollution sources stored on site. Initiate and maintain record keeping of activity with regard to the contents of this plan.

Spill prevention and response:

In the event of a spill, immediately initiate containment and cleanup procedures appropriate for the material and notify the proper authorities. All attempts must be made to prevent spilled material from entering the drainage system or infiltrating into the ground.

Landscape Maintenance:

Maintenance of lawns and landscaped areas: Regularly mow lawn areas and weed landscaped areas.

Pipes:

Drainage pipes (inlets and outlets) shall be inspected to ensure that they are free of all obstructions and that they are structurally sound during every catch basin inspection.

Street Sweeping:

Sweeping of the parking lots and driveways should be done at least 2 times annually, namely in the spring and fall. It is imperative that sweeping take place immediately following final winter snowmelt to remove winter sand. All sediments containing hydrocarbons shall be handled properly and disposed of in accordance with local, state and federal guidelines and regulations.

Catch Basin Cleaning:

Catch basins shall be inspected and sediment removed at least two times per year and at the end of the foliage and snow removal seasons. Sediment must be removed at the required interval or whenever the depth of deposits is greater than or equal to one half the depth of the sump (2 feet). Care must be exercised to not damage the outlet hood when using a clamshell type cleaning bucket. A damaged or dislodged hood must be repaired or replaced immediately.

Culverts, pipes, and manholes:

All culverts, pipes, and manholes shall be inspected two times per year and cleaned when drainage impediments are discovered. Flushing of pipes may be required to remove accumulated sediment.

Riprap Drain Outfalls:

All riprap drain outfalls shall be inspected two times per year and repaired as necessary. Riprap shall be replaced/repared as necessary, debris and accumulated sediment removed, and any woody growth removed.

Infiltration Basins:

The infiltration basin shall be inspected at least once a year to ensure that the basin is operating as intended. Inspections conducted at intervals during and after storm events will help to determine if the basin is meeting the expected detention times. The outlet structures should be inspected for evidence of clogging or outflow release velocities that are greater than design flow. Potential problems that should be checked include: subsidence, erosion, cracking or tree growth on the embankment; damage to the emergency spillway; sediment accumulation around the outlet; inadequacy of the inlet/outlet channel erosion control measures and erosion within the basin and banks. Any necessary repairs should be made immediately. During inspections, changes to the detention basin or the contributing watershed should be noted, as these may affect basin performance.

The upper-stage side slopes, embankment and emergency spillway should be mowed at least twice a year. Trash and debris should also be removed at this time. Sediment should be removed from the basin as necessary, and at least once every five years.

The subsurface system is designed to fully drain after a storm event therefore if standing water is observed within the system beyond 24 hours since the cessation of inflow to the system from a rain storm, this may indicate a problem and should be noted on the inspection log and further inspected for repairs. The Owner may need to contact a Registered Professional Engineer to evaluate the system in the event of major problems.

Pet Waste Management

All pet owners and keepers are required to immediately and properly dispose of their pet's solid waste deposited on any property, public or private, not owned or possessed by that person.

Snow Management

Place snow in pervious areas where it can slowly infiltrate however it should not be placed over any component of the site's stormwater management system, particularly the catch basins. Any sand and debris mixed with snow would block the inlet or be quickly introduced into the drainage system upon snowmelt.

At no time shall the stormwater infiltration basins or wetlands be used for the stockpiling of snow.

Estimated Operation and Maintenance Budget:

Maintenance cost will be approximately \$5,000.00 per year.

Illicit Discharges:

At no time will the owner or any other individual utilize the stormwater management system for any purpose other than its intended use. The stormwater management system as shown on the attached site plan at no time shall receive discharges other than stormwater, this includes "wastewater discharges and discharges of stormwater contaminated by contact with process wastes, raw materials, toxic pollutants, hazardous substances, oil or grease."

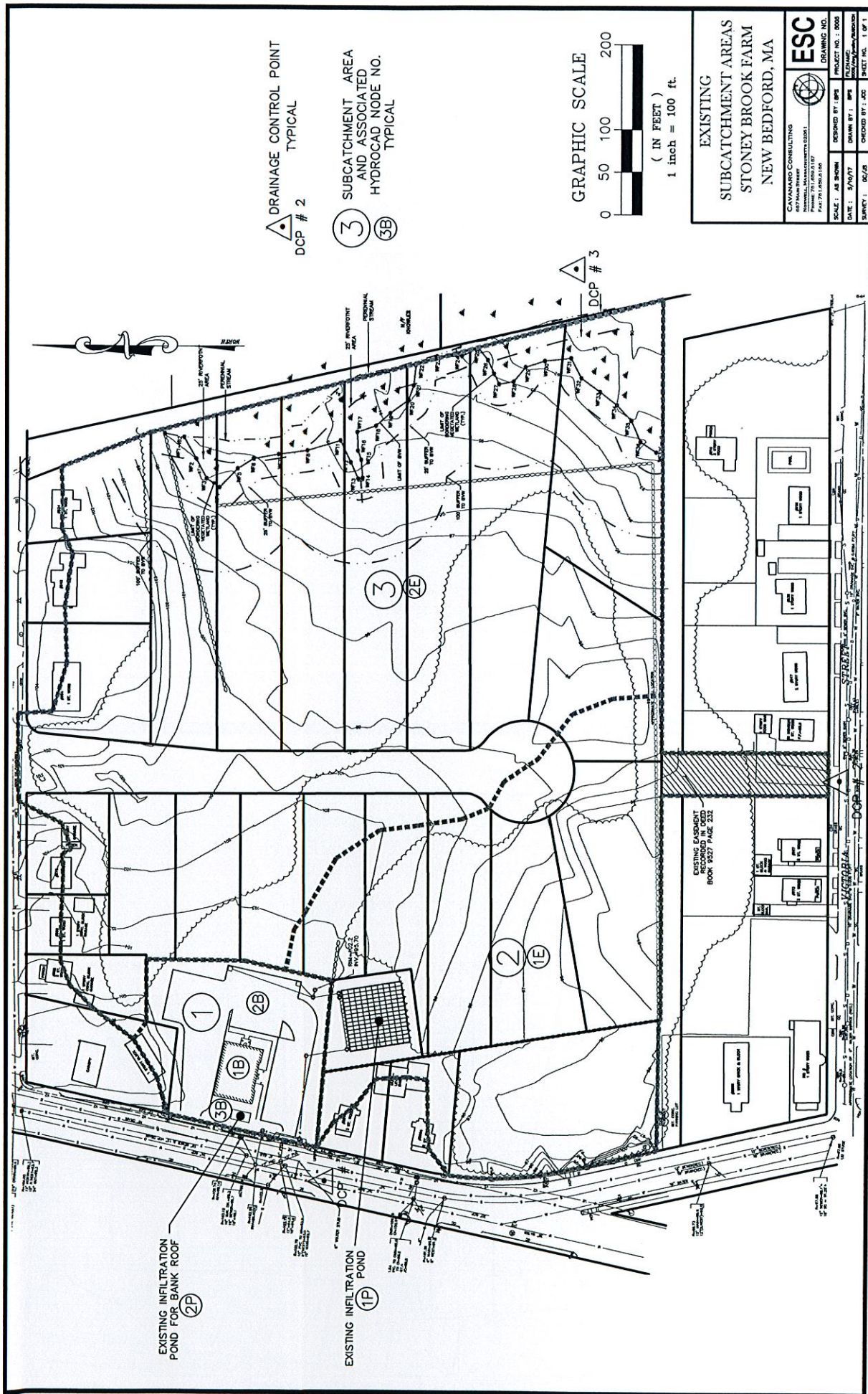
Terence Tedeschi
Applicant (Signature)

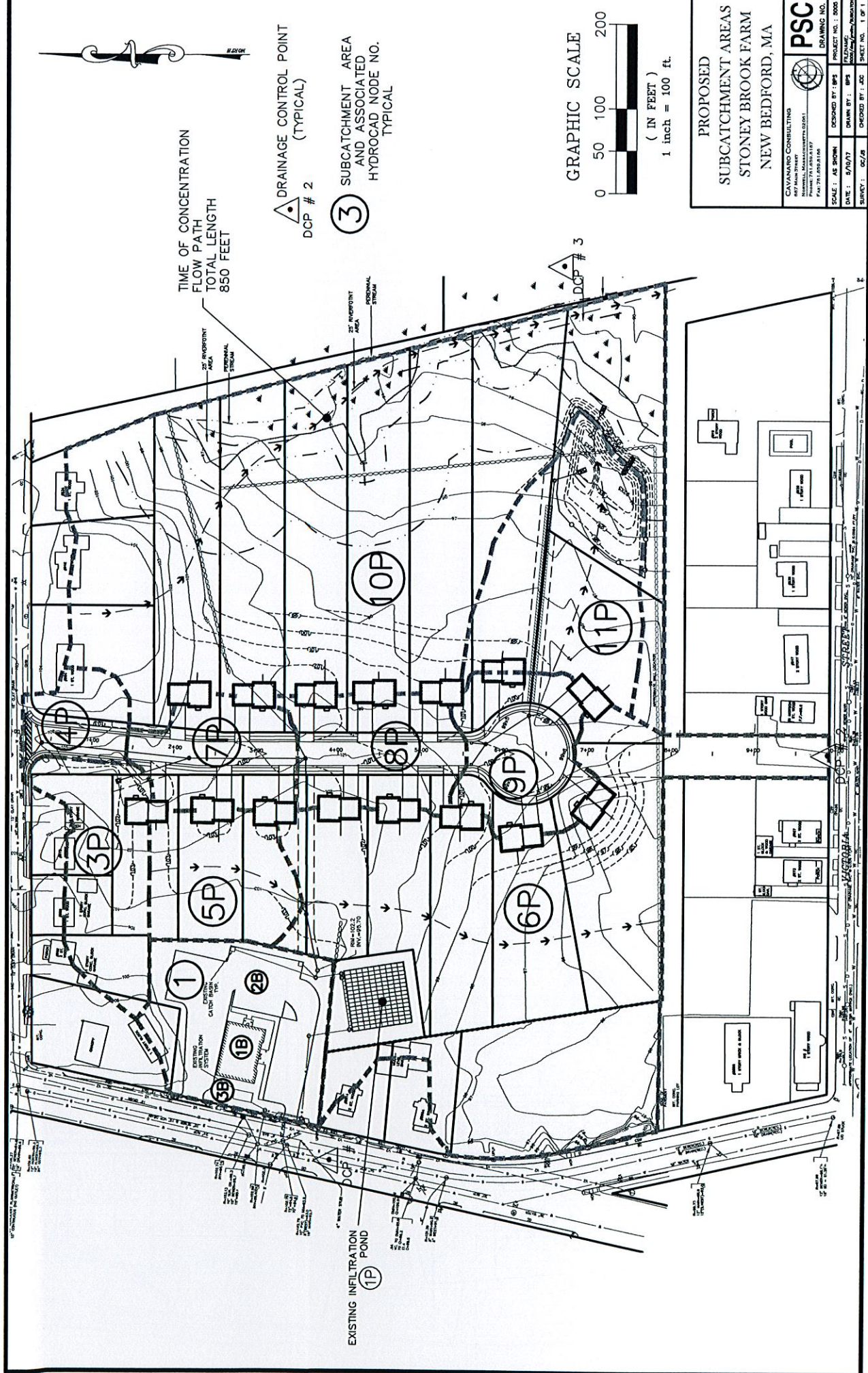
Terrence Tedeschi

Applicant (Print)

Stoney Brook Farm, New Bedford, MA

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TIME OF CONCENTRATION
FLOW PATH
TOTAL LENGTH
850 FEET

△ DRAINAGE CONTROL POINT
(TYPICAL)
DOP # 2

③ SUBCATCHMENT AREA
AND ASSOCIATED
HYDROCAD NODE NO.
TYPICAL



PROPOSED
SUBCATCHMENT AREAS
STONEY BROOK FARM
NEW BEDFORD, MA

		PROJECT NO. : 0005
		DRAWING NO. :
SCALE : AS SHOWN	DESIGNED BY : BPS	PROJECT NO. : 0005
DATE : 5/9/07	DRAWN BY : BPS	PROJECT NO. : 0005
SURVEY : 05/08	CHECKED BY : JJC	SHEET NO. : 1 OF 1

INSTRUCTIONS:

1. In BMP Column, click on Blue Cell to Activate Drop Down Menu
2. Select BMP from Drop Down Menu
3. After BMP is selected, TSS Removal and other Columns are automatically completed.

Version 1, Automated: Mar. 4, 2008

Location: DCP 3 - Prior to Pond No. 2

B	C	D	E	F
BMP ¹	TSS Removal Rate ¹	Starting TSS Load*	Amount Removed (C*D)	Remaining Load (D-E)
Street Sweeping - 5%	0.05	1.00	0.05	0.95
Deep Sump and Hooded Catch Basin	0.25	0.95	0.24	0.71
Sediment Forebay	0.25	0.71	0.18	0.53
	0.00	0.53	0.00	0.53
	0.00	0.53	0.00	0.53

Separate Form Needs to be Completed for Each Outlet or BMP Train

Total TSS Removal =

47%

Project: 5005

Prepared By: BPS

Date: 2/10/2017

*Equals remaining load from previous BMP (E) which enters the BMP

Non-automated TSS Calculation Sheet must be used if Proprietary BMP Proposed

1. From MassDEP Stormwater Handbook Vol. 1

INSTRUCTIONS:

1. Sheet is nonautomated. Print sheet and complete using hand calculations. Column A and B: See MassDEP Structural BMP Table
2. The calculations must be completed using the Column Headings specified in Chart and Not the Excel Column Headings
3. To complete Chart Column D, multiple Column B value within Row x Column C value within Row
4. To complete Chart Column E value, subtract Column D value within Row from Column C value within Row
5. Total TSS Removal = Sum All Values in Column D

Non-automated: Mar. 4, 2008

Location: DCP No. 1 prior to Existing Infiltration Basin

A	B	C	D	E
BMP ¹	TSS Removal Rate ¹	Starting TSS Load*	Amount Removed (B*C)	Remaining Load (C-D)
Street sweeping	0.05	1.00	0.05	0.95
Deep sump catch basin	0.25	0.95	0.24	0.71
Stormceptor Model STC 450i	0.91	0.71	0.65	0.06
			94%	

TSS Removal Calculation Worksheet

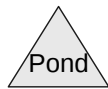
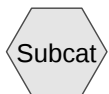
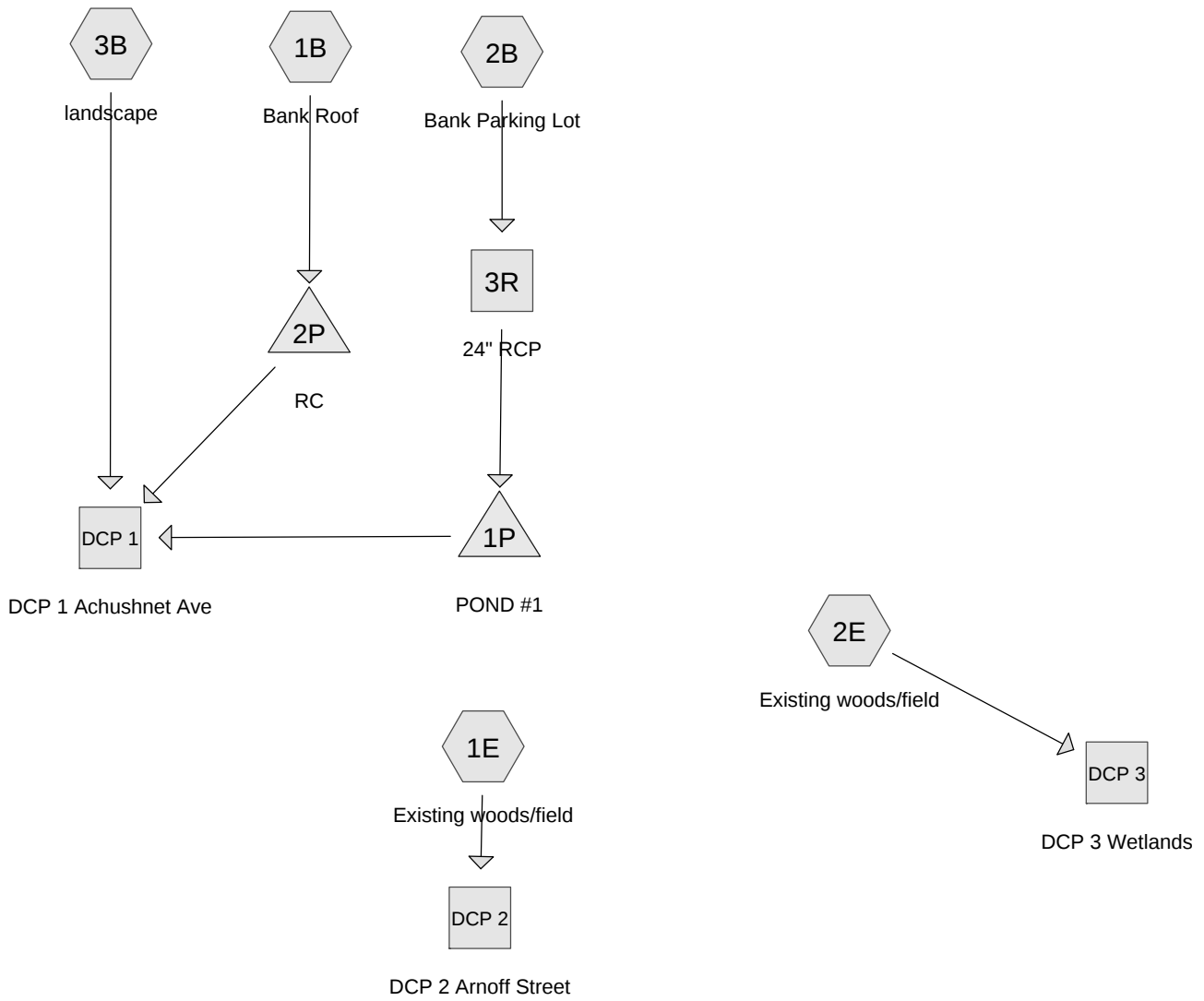
Separate Form Needs to be Completed for Each Outlet or BMP Train

Total TSS Removal =

94%

Project:	5005
Prepared By:	BPS
Date:	2/5/17

*Equals remaining load from previous BMP (E) which enters the BMP



Routing Diagram for NORTHSIDE FARM ECON - 5-23-16

Prepared by Microsoft, Printed 2/9/2017

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NORTHSIDE FARM ECON - 5-23-16

Type III 24-hr 2 Year Event Rainfall=3.20"

Prepared by Microsoft

Printed 2/9/2017

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1B: Bank RoofRunoff Area=3,300 sf 100.00% Impervious Runoff Depth>2.77"
Tc=5.0 min CN=98 Runoff=0.24 cfs 0.018 af**Subcatchment1E: Existing woods/field**Runoff Area=185,628 sf 1.83% Impervious Runoff Depth>0.94"
Flow Length=600' Tc=14.5 min CN=74 Runoff=3.72 cfs 0.335 af**Subcatchment2B: Bank Parking Lot**Runoff Area=36,670 sf 59.99% Impervious Runoff Depth>1.87"
Tc=5.0 min CN=88 Runoff=1.96 cfs 0.131 af**Subcatchment2E: Existing woods/field**Runoff Area=417,719 sf 1.18% Impervious Runoff Depth>0.94"
Flow Length=1,200' Tc=16.7 min CN=74 Runoff=7.93 cfs 0.753 af**Subcatchment3B: landscape**Runoff Area=3,128 sf 0.00% Impervious Runoff Depth>0.95"
Tc=5.0 min CN=74 Runoff=0.08 cfs 0.006 af**Reach 3R: 24" RCP**Avg. Flow Depth=0.46' Max Vel=3.60 fps Inflow=1.96 cfs 0.131 af
24.0" Round Pipe n=0.013 L=35.0' S=0.0057 ' Capacity=17.10 cfs Outflow=1.95 cfs 0.131 af**Reach DCP 1: DCP 1 Achushnet Ave**Inflow=0.08 cfs 0.006 af
Outflow=0.08 cfs 0.006 af**Reach DCP 2: DCP 2 Arnoff Street**Inflow=3.72 cfs 0.335 af
Outflow=3.72 cfs 0.335 af**Reach DCP 3: DCP 3 Wetlands**Inflow=7.93 cfs 0.753 af
Outflow=7.93 cfs 0.753 af**Pond 1P: POND #1**Peak Elev=95.51' Storage=604 cf Inflow=1.95 cfs 0.131 af
Discarded=1.02 cfs 0.131 af Primary=0.00 cfs 0.000 af Outflow=1.02 cfs 0.131 af**Pond 2P: RC**Peak Elev=91.26' Storage=156 cf Inflow=0.24 cfs 0.018 af
Discarded=0.08 cfs 0.018 af Primary=0.00 cfs 0.000 af Outflow=0.08 cfs 0.018 af

Summary for Subcatchment 1B: Bank Roof

Runoff = 0.24 cfs @ 12.07 hrs, Volume= 0.018 af, Depth> 2.77"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	3,300	98	Bank Roof
	3,300		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, DIRECT

Summary for Subcatchment 1E: Existing woods/field

Runoff = 3.72 cfs @ 12.22 hrs, Volume= 0.335 af, Depth> 0.94"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
	130,145	73	Woods, Fair, HSG C
	49,442	76	Woods/grass comb., Fair, HSG C
*	0	74	Lawn adj. Phillips
*	1,290	98	Roofs Achushnet Ave
*	0	98	Roofs Phillips Ave west
*	0	98	Roofs Phillips Ave East
*	2,651	76	grass adj. to Monson St
*	2,100	98	drive adj. to Monson st
	185,628	74	Weighted Average
	182,238		98.17% Pervious Area
	3,390		1.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	50	0.0300	0.08		Sheet Flow, SHEET
					Woods: Light underbrush n= 0.400 P2= 3.20"
4.0	550	0.0200	2.28		Shallow Concentrated Flow, SHALLOW
					Unpaved Kv= 16.1 fps
14.5	600	Total			

Summary for Subcatchment 2B: Bank Parking Lot

Runoff = 1.96 cfs @ 12.08 hrs, Volume= 0.131 af, Depth> 1.87"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

NORTHSIDE FARM ECON - 5-23-16

Type III 24-hr 2 Year Event Rainfall=3.20"

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Area (sf)	CN	Description
22,000	98	Paved parking & roofs
14,670	74	>75% Grass cover, Good, HSG C
36,670	88	Weighted Average
14,670		40.01% Pervious Area
22,000		59.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, direct

Summary for Subcatchment 2E: Existing woods/field

Runoff = 7.93 cfs @ 12.25 hrs, Volume= 0.753 af, Depth> 0.94"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Type III 24-hr 2 Year Event Rainfall=3.20"

Area (sf)	CN	Description
283,267	73	Woods, Fair, HSG C
90,464	76	Woods/grass comb., Fair, HSG C
* 39,058	74	Lawn adj. Phillips
* 0	98	Roofs Achushnet Ave
* 2,059	98	Roofs Phillips Ave west
* 2,871	98	Roofs Phillips Ave East
* 0	76	grass adj. to Monson St
* 0	98	drive adj. to Monson st
417,719	74	Weighted Average
412,789		98.82% Pervious Area
4,930		1.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	50	0.0300	0.08		Sheet Flow, SHEET
					Woods: Light underbrush n= 0.400 P2= 3.20"
5.1	700	0.0200	2.28		Shallow Concentrated Flow, SHALLOW
					Unpaved Kv= 16.1 fps
1.1	450	0.0200	6.67	40.03	Channel Flow, CHANNEL
					Area= 6.0 sf Perim= 8.0' r= 0.75' n= 0.026
16.7	1,200	Total			

Summary for Subcatchment 3B: landscape

Runoff = 0.08 cfs @ 12.09 hrs, Volume= 0.006 af, Depth> 0.95"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Type III 24-hr 2 Year Event Rainfall=3.20"

NORTHSIDE FARM ECON - 5-23-16

Type III 24-hr 2 Year Event Rainfall=3.20"

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Area (sf)	CN	Description
3,128	74	>75% Grass cover, Good, HSG C
3,128		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Direct

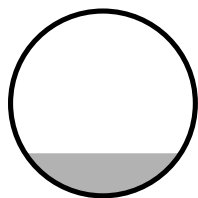
Summary for Reach 3R: 24" RCP

Inflow Area = 0.842 ac, 59.99% Impervious, Inflow Depth > 1.87" for 2 Year Event event
 Inflow = 1.96 cfs @ 12.08 hrs, Volume= 0.131 af
 Outflow = 1.95 cfs @ 12.08 hrs, Volume= 0.131 af, Atten= 1%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Max. Velocity= 3.60 fps, Min. Travel Time= 0.2 min
 Avg. Velocity= 1.32 fps, Avg. Travel Time= 0.4 min

Peak Storage= 19 cf @ 12.08 hrs
 Average Depth at Peak Storage= 0.46'
 Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 17.10 cfs

24.0" Round Pipe
 n= 0.013
 Length= 35.0' Slope= 0.0057 '/
 Inlet Invert= 95.65', Outlet Invert= 95.45'

**Summary for Reach DCP 1: DCP 1 Achushnet Ave**

Inflow Area = 0.989 ac, 58.70% Impervious, Inflow Depth > 0.07" for 2 Year Event event
 Inflow = 0.08 cfs @ 12.09 hrs, Volume= 0.006 af
 Outflow = 0.08 cfs @ 12.09 hrs, Volume= 0.006 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach DCP 2: DCP 2 Arnoff Street

Inflow Area = 4.261 ac, 1.83% Impervious, Inflow Depth > 0.94" for 2 Year Event event
 Inflow = 3.72 cfs @ 12.22 hrs, Volume= 0.335 af
 Outflow = 3.72 cfs @ 12.22 hrs, Volume= 0.335 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach DCP 3: DCP 3 Wetlands

Inflow Area = 9.590 ac, 1.18% Impervious, Inflow Depth > 0.94" for 2 Year Event event
 Inflow = 7.93 cfs @ 12.25 hrs, Volume= 0.753 af
 Outflow = 7.93 cfs @ 12.25 hrs, Volume= 0.753 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond 1P: POND #1

Inflow Area = 0.842 ac, 59.99% Impervious, Inflow Depth > 1.87" for 2 Year Event event
 Inflow = 1.95 cfs @ 12.08 hrs, Volume= 0.131 af
 Outflow = 1.02 cfs @ 12.05 hrs, Volume= 0.131 af, Atten= 48%, Lag= 0.0 min
 Discarded = 1.02 cfs @ 12.05 hrs, Volume= 0.131 af
 Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 95.51' @ 12.22 hrs Surf.Area= 5,325 sf Storage= 604 cf

Plug-Flow detention time= 4.5 min calculated for 0.131 af (100% of inflow)
 Center-of-Mass det. time= 4.1 min (785.1 - 781.0)

Volume	Invert	Avail.Storage	Storage Description
#1	95.40'	11,746 cf	Custom Stage Data (Irregular) Listed below 18,638 cf Overall - 6,891 cf Embedded = 11,746 cf
#2	95.90'	6,891 cf	StormTech SC-740 x 150 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		18,638 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
95.40	5,325	292.0	0	0	5,325
98.90	5,325	292.0	18,638	18,638	6,347

Device	Routing	Invert	Outlet Devices
#1	Primary	95.90'	8.0" Vert. Orifice/Grate C= 0.600
#2	Primary	96.30'	11.0" Vert. Orifice/Grate C= 0.600
#3	Discarded	95.40'	8.270 in/hr Exfiltration over Surface area

Discarded OutFlow Max=1.02 cfs @ 12.05 hrs HW=95.45' (Free Discharge)
 ↳ **3=Exfiltration** (Exfiltration Controls 1.02 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=95.40' (Free Discharge)
 ↳ **1=Orifice/Grate** (Controls 0.00 cfs)
 ↳ **2=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 2P: RC

Inflow Area = 0.076 ac, 100.00% Impervious, Inflow Depth > 2.77" for 2 Year Event event
 Inflow = 0.24 cfs @ 12.07 hrs, Volume= 0.018 af
 Outflow = 0.08 cfs @ 12.85 hrs, Volume= 0.018 af, Atten= 67%, Lag= 46.8 min
 Discarded = 0.08 cfs @ 12.85 hrs, Volume= 0.018 af
 Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 91.26' @ 12.35 hrs Surf.Area= 408 sf Storage= 156 cf

Plug-Flow detention time= 13.3 min calculated for 0.017 af (100% of inflow)
 Center-of-Mass det. time= 13.0 min (750.8 - 737.8)

Volume	Invert	Avail.Storage	Storage Description
#1	90.00'	320 cf	Custom Stage Data (Irregular) Listed below 800 cf Overall x 40.0% Voids
#2	91.00'	368 cf	StormTech SC-740 x 8 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		688 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
90.00	200	60.0	0	0	200
94.00	200	60.0	800	800	440

Device	Routing	Invert	Outlet Devices
#1	Primary	93.50'	6.0" Vert. Orifice/Grate C= 0.600
#2	Discarded	90.00'	8.270 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.08 cfs @ 12.85 hrs HW=91.01' (Free Discharge)
 ↑ **2=Exfiltration** (Exfiltration Controls 0.08 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=90.00' (Free Discharge)
 ↑ **1=Orifice/Grate** (Controls 0.00 cfs)

NORTHSIDE FARM ECON - 5-23-16

Type III 24-hr 10 Year Event Rainfall=4.60"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1B: Bank RoofRunoff Area=3,300 sf 100.00% Impervious Runoff Depth>4.05"
Tc=5.0 min CN=98 Runoff=0.34 cfs 0.026 af**Subcatchment1E: Existing woods/field**Runoff Area=185,628 sf 1.83% Impervious Runoff Depth>1.89"
Flow Length=600' Tc=14.5 min CN=74 Runoff=7.72 cfs 0.671 af**Subcatchment2B: Bank Parking Lot**Runoff Area=36,670 sf 59.99% Impervious Runoff Depth>3.10"
Tc=5.0 min CN=88 Runoff=3.21 cfs 0.218 af**Subcatchment2E: Existing woods/field**Runoff Area=417,719 sf 1.18% Impervious Runoff Depth>1.89"
Flow Length=1,200' Tc=16.7 min CN=74 Runoff=16.42 cfs 1.508 af**Subcatchment3B: landscape**Runoff Area=3,128 sf 0.00% Impervious Runoff Depth>1.90"
Tc=5.0 min CN=74 Runoff=0.17 cfs 0.011 af**Reach 3R: 24" RCP**Avg. Flow Depth=0.59' Max Vel=4.13 fps Inflow=3.21 cfs 0.218 af
24.0" Round Pipe n=0.013 L=35.0' S=0.0057 ' /' Capacity=17.10 cfs Outflow=3.17 cfs 0.218 af**Reach DCP 1: DCP 1 Achushnet Ave**Inflow=0.17 cfs 0.011 af
Outflow=0.17 cfs 0.011 af**Reach DCP 2: DCP 2 Arnoff Street**Inflow=7.72 cfs 0.671 af
Outflow=7.72 cfs 0.671 af**Reach DCP 3: DCP 3 Wetlands**Inflow=16.42 cfs 1.508 af
Outflow=16.42 cfs 1.508 af**Pond 1P: POND #1**Peak Elev=95.72' Storage=1,718 cf Inflow=3.17 cfs 0.218 af
Discarded=1.02 cfs 0.217 af Primary=0.00 cfs 0.000 af Outflow=1.02 cfs 0.217 af**Pond 2P: RC**Peak Elev=91.73' Storage=289 cf Inflow=0.34 cfs 0.026 af
Discarded=0.08 cfs 0.026 af Primary=0.00 cfs 0.000 af Outflow=0.08 cfs 0.026 af

Summary for Subcatchment 1B: Bank Roof

Runoff = 0.34 cfs @ 12.07 hrs, Volume= 0.026 af, Depth> 4.05"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
*	3,300	98	Bank Roof
	3,300		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, DIRECT

Summary for Subcatchment 1E: Existing woods/field

Runoff = 7.72 cfs @ 12.21 hrs, Volume= 0.671 af, Depth> 1.89"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
	130,145	73	Woods, Fair, HSG C
	49,442	76	Woods/grass comb., Fair, HSG C
*	0	74	Lawn adj. Phillips
*	1,290	98	Roofs Achushnet Ave
*	0	98	Roofs Phillips Ave west
*	0	98	Roofs Phillips Ave East
*	2,651	76	grass adj. to Monson St
*	2,100	98	drive adj. to Monson st
	185,628	74	Weighted Average
	182,238		98.17% Pervious Area
	3,390		1.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	50	0.0300	0.08		Sheet Flow, SHEET
					Woods: Light underbrush n= 0.400 P2= 3.20"
4.0	550	0.0200	2.28		Shallow Concentrated Flow, SHALLOW
					Unpaved Kv= 16.1 fps
14.5	600	Total			

Summary for Subcatchment 2B: Bank Parking Lot

Runoff = 3.21 cfs @ 12.07 hrs, Volume= 0.218 af, Depth> 3.10"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

NORTHSIDE FARM ECON - 5-23-16

Type III 24-hr 10 Year Event Rainfall=4.60"

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Area (sf)	CN	Description
22,000	98	Paved parking & roofs
14,670	74	>75% Grass cover, Good, HSG C
36,670	88	Weighted Average
14,670		40.01% Pervious Area
22,000		59.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, direct

Summary for Subcatchment 2E: Existing woods/field

Runoff = 16.42 cfs @ 12.24 hrs, Volume= 1.508 af, Depth> 1.89"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Type III 24-hr 10 Year Event Rainfall=4.60"

Area (sf)	CN	Description
283,267	73	Woods, Fair, HSG C
90,464	76	Woods/grass comb., Fair, HSG C
* 39,058	74	Lawn adj. Phillips
* 0	98	Roofs Achushnet Ave
* 2,059	98	Roofs Phillips Ave west
* 2,871	98	Roofs Phillips Ave East
* 0	76	grass adj. to Monson St
* 0	98	drive adj. to Monson st
417,719	74	Weighted Average
412,789		98.82% Pervious Area
4,930		1.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	50	0.0300	0.08		Sheet Flow, SHEET
					Woods: Light underbrush n= 0.400 P2= 3.20"
5.1	700	0.0200	2.28		Shallow Concentrated Flow, SHALLOW
					Unpaved Kv= 16.1 fps
1.1	450	0.0200	6.67	40.03	Channel Flow, CHANNEL
					Area= 6.0 sf Perim= 8.0' r= 0.75' n= 0.026
16.7	1,200	Total			

Summary for Subcatchment 3B: landscape

Runoff = 0.17 cfs @ 12.08 hrs, Volume= 0.011 af, Depth> 1.90"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Type III 24-hr 10 Year Event Rainfall=4.60"

NORTHSIDE FARM ECON - 5-23-16

Type III 24-hr 10 Year Event Rainfall=4.60"

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Area (sf)	CN	Description
3,128	74	>75% Grass cover, Good, HSG C
3,128		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Direct

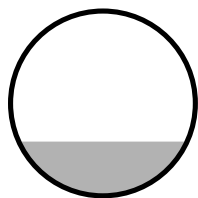
Summary for Reach 3R: 24" RCP

Inflow Area = 0.842 ac, 59.99% Impervious, Inflow Depth > 3.10" for 10 Year Event event
 Inflow = 3.21 cfs @ 12.07 hrs, Volume= 0.218 af
 Outflow = 3.17 cfs @ 12.08 hrs, Volume= 0.218 af, Atten= 1%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Max. Velocity= 4.13 fps, Min. Travel Time= 0.1 min
 Avg. Velocity= 1.47 fps, Avg. Travel Time= 0.4 min

Peak Storage= 27 cf @ 12.08 hrs
 Average Depth at Peak Storage= 0.59'
 Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 17.10 cfs

24.0" Round Pipe
 n= 0.013
 Length= 35.0' Slope= 0.0057 '
 Inlet Invert= 95.65', Outlet Invert= 95.45'

**Summary for Reach DCP 1: DCP 1 Achushnet Ave**

Inflow Area = 0.989 ac, 58.70% Impervious, Inflow Depth > 0.14" for 10 Year Event event
 Inflow = 0.17 cfs @ 12.08 hrs, Volume= 0.011 af
 Outflow = 0.17 cfs @ 12.08 hrs, Volume= 0.011 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach DCP 2: DCP 2 Arnoff Street

Inflow Area = 4.261 ac, 1.83% Impervious, Inflow Depth > 1.89" for 10 Year Event event
 Inflow = 7.72 cfs @ 12.21 hrs, Volume= 0.671 af
 Outflow = 7.72 cfs @ 12.21 hrs, Volume= 0.671 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach DCP 3: DCP 3 Wetlands

Inflow Area = 9.590 ac, 1.18% Impervious, Inflow Depth > 1.89" for 10 Year Event event
 Inflow = 16.42 cfs @ 12.24 hrs, Volume= 1.508 af
 Outflow = 16.42 cfs @ 12.24 hrs, Volume= 1.508 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond 1P: POND #1

Inflow Area = 0.842 ac, 59.99% Impervious, Inflow Depth > 3.10" for 10 Year Event event
 Inflow = 3.17 cfs @ 12.08 hrs, Volume= 0.218 af
 Outflow = 1.02 cfs @ 11.90 hrs, Volume= 0.217 af, Atten= 68%, Lag= 0.0 min
 Discarded = 1.02 cfs @ 11.90 hrs, Volume= 0.217 af
 Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 95.72' @ 12.38 hrs Surf.Area= 5,325 sf Storage= 1,718 cf

Plug-Flow detention time= 10.0 min calculated for 0.217 af (100% of inflow)
 Center-of-Mass det. time= 9.6 min (778.6 - 769.0)

Volume	Invert	Avail.Storage	Storage Description
#1	95.40'	11,746 cf	Custom Stage Data (Irregular) Listed below 18,638 cf Overall - 6,891 cf Embedded = 11,746 cf
#2	95.90'	6,891 cf	StormTech SC-740 x 150 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		18,638 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
95.40	5,325	292.0	0	0	5,325
98.90	5,325	292.0	18,638	18,638	6,347

Device	Routing	Invert	Outlet Devices
#1	Primary	95.90'	8.0" Vert. Orifice/Grate C= 0.600
#2	Primary	96.30'	11.0" Vert. Orifice/Grate C= 0.600
#3	Discarded	95.40'	8.270 in/hr Exfiltration over Surface area

Discarded OutFlow Max=1.02 cfs @ 11.90 hrs HW=95.44' (Free Discharge)
 ↳ **3=Exfiltration** (Exfiltration Controls 1.02 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=95.40' (Free Discharge)
 ↳ **1=Orifice/Grate** (Controls 0.00 cfs)
 ↳ **2=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 2P: RC

Inflow Area = 0.076 ac, 100.00% Impervious, Inflow Depth > 4.05" for 10 Year Event event
 Inflow = 0.34 cfs @ 12.07 hrs, Volume= 0.026 af
 Outflow = 0.08 cfs @ 11.95 hrs, Volume= 0.026 af, Atten= 77%, Lag= 0.0 min
 Discarded = 0.08 cfs @ 11.95 hrs, Volume= 0.026 af
 Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 91.73' @ 12.47 hrs Surf.Area= 392 sf Storage= 289 cf

Plug-Flow detention time= 23.1 min calculated for 0.026 af (100% of inflow)
 Center-of-Mass det. time= 22.8 min (757.6 - 734.9)

Volume	Invert	Avail.Storage	Storage Description
#1	90.00'	320 cf	Custom Stage Data (Irregular) Listed below 800 cf Overall x 40.0% Voids
#2	91.00'	368 cf	StormTech SC-740 x 8 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		688 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
90.00	200	60.0	0	0	200
94.00	200	60.0	800	800	440

Device	Routing	Invert	Outlet Devices
#1	Primary	93.50'	6.0" Vert. Orifice/Grate C= 0.600
#2	Discarded	90.00'	8.270 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.08 cfs @ 11.95 hrs HW=91.01' (Free Discharge)
 ↑**2=Exfiltration** (Exfiltration Controls 0.08 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=90.00' (Free Discharge)
 ↑**1=Orifice/Grate** (Controls 0.00 cfs)

NORTHSIDE FARM ECON - 5-23-16

Type III 24-hr 25 Year Event Rainfall=5.60"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1B: Bank Roof

Runoff Area=3,300 sf 100.00% Impervious Runoff Depth>4.97"

Tc=5.0 min CN=98 Runoff=0.42 cfs 0.031 af

Subcatchment1E: Existing woods/field

Runoff Area=185,628 sf 1.83% Impervious Runoff Depth>2.64"

Flow Length=600' Tc=14.5 min CN=74 Runoff=10.84 cfs 0.938 af

Subcatchment2B: Bank Parking Lot

Runoff Area=36,670 sf 59.99% Impervious Runoff Depth>4.01"

Tc=5.0 min CN=88 Runoff=4.09 cfs 0.281 af

Subcatchment2E: Existing woods/field

Runoff Area=417,719 sf 1.18% Impervious Runoff Depth>2.64"

Flow Length=1,200' Tc=16.7 min CN=74 Runoff=23.06 cfs 2.110 af

Subcatchment3B: landscape

Runoff Area=3,128 sf 0.00% Impervious Runoff Depth>2.65"

Tc=5.0 min CN=74 Runoff=0.24 cfs 0.016 af

Reach 3R: 24" RCP

Avg. Flow Depth=0.66' Max Vel=4.42 fps Inflow=4.09 cfs 0.281 af

24.0" Round Pipe n=0.013 L=35.0' S=0.0057 ' Capacity=17.10 cfs Outflow=4.04 cfs 0.281 af

Reach DCP 1: DCP 1 Achushnet Ave

Inflow=0.24 cfs 0.016 af

Outflow=0.24 cfs 0.016 af

Reach DCP 2: DCP 2 Arnoff Street

Inflow=10.84 cfs 0.938 af

Outflow=10.84 cfs 0.938 af

Reach DCP 3: DCP 3 Wetlands

Inflow=23.06 cfs 2.110 af

Outflow=23.06 cfs 2.110 af

Pond 1P: POND #1

Peak Elev=95.92' Storage=2,764 cf Inflow=4.04 cfs 0.281 af

Discarded=1.02 cfs 0.281 af Primary=0.00 cfs 0.000 af Outflow=1.02 cfs 0.281 af

Pond 2P: RC

Peak Elev=92.16' Storage=400 cf Inflow=0.42 cfs 0.031 af

Discarded=0.08 cfs 0.031 af Primary=0.00 cfs 0.000 af Outflow=0.08 cfs 0.031 af

Summary for Subcatchment 1B: Bank Roof

Runoff = 0.42 cfs @ 12.07 hrs, Volume= 0.031 af, Depth> 4.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	3,300	98	Bank Roof
	3,300		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, DIRECT

Summary for Subcatchment 1E: Existing woods/field

Runoff = 10.84 cfs @ 12.21 hrs, Volume= 0.938 af, Depth> 2.64"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
	130,145	73	Woods, Fair, HSG C
	49,442	76	Woods/grass comb., Fair, HSG C
*	0	74	Lawn adj. Phillips
*	1,290	98	Roofs Achushnet Ave
*	0	98	Roofs Phillips Ave west
*	0	98	Roofs Phillips Ave East
*	2,651	76	grass adj. to Monson St
*	2,100	98	drive adj. to Monson st
	185,628	74	Weighted Average
	182,238		98.17% Pervious Area
	3,390		1.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	50	0.0300	0.08		Sheet Flow, SHEET
					Woods: Light underbrush n= 0.400 P2= 3.20"
4.0	550	0.0200	2.28		Shallow Concentrated Flow, SHALLOW
					Unpaved Kv= 16.1 fps
14.5	600	Total			

Summary for Subcatchment 2B: Bank Parking Lot

Runoff = 4.09 cfs @ 12.07 hrs, Volume= 0.281 af, Depth> 4.01"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

NORTHSIDE FARM ECON - 5-23-16

Type III 24-hr 25 Year Event Rainfall=5.60"

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Area (sf)	CN	Description
22,000	98	Paved parking & roofs
14,670	74	>75% Grass cover, Good, HSG C
36,670	88	Weighted Average
14,670		40.01% Pervious Area
22,000		59.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, direct

Summary for Subcatchment 2E: Existing woods/field

Runoff = 23.06 cfs @ 12.24 hrs, Volume= 2.110 af, Depth> 2.64"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Type III 24-hr 25 Year Event Rainfall=5.60"

Area (sf)	CN	Description
283,267	73	Woods, Fair, HSG C
90,464	76	Woods/grass comb., Fair, HSG C
* 39,058	74	Lawn adj. Phillips
* 0	98	Roofs Achushnet Ave
* 2,059	98	Roofs Phillips Ave west
* 2,871	98	Roofs Phillips Ave East
* 0	76	grass adj. to Monson St
* 0	98	drive adj. to Monson st
417,719	74	Weighted Average
412,789		98.82% Pervious Area
4,930		1.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	50	0.0300	0.08		Sheet Flow, SHEET
					Woods: Light underbrush n= 0.400 P2= 3.20"
5.1	700	0.0200	2.28		Shallow Concentrated Flow, SHALLOW
					Unpaved Kv= 16.1 fps
1.1	450	0.0200	6.67	40.03	Channel Flow, CHANNEL
					Area= 6.0 sf Perim= 8.0' r= 0.75' n= 0.026
16.7	1,200	Total			

Summary for Subcatchment 3B: landscape

Runoff = 0.24 cfs @ 12.08 hrs, Volume= 0.016 af, Depth> 2.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Type III 24-hr 25 Year Event Rainfall=5.60"

NORTHSIDE FARM ECON - 5-23-16

Type III 24-hr 25 Year Event Rainfall=5.60"

Prepared by Microsoft

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Area (sf)	CN	Description
3,128	74	>75% Grass cover, Good, HSG C
3,128		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Direct

Summary for Reach 3R: 24" RCP

Inflow Area = 0.842 ac, 59.99% Impervious, Inflow Depth > 4.01" for 25 Year Event event
 Inflow = 4.09 cfs @ 12.07 hrs, Volume= 0.281 af
 Outflow = 4.04 cfs @ 12.08 hrs, Volume= 0.281 af, Atten= 1%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Max. Velocity= 4.42 fps, Min. Travel Time= 0.1 min

Avg. Velocity= 1.59 fps, Avg. Travel Time= 0.4 min

Peak Storage= 32 cf @ 12.08 hrs

Average Depth at Peak Storage= 0.66'

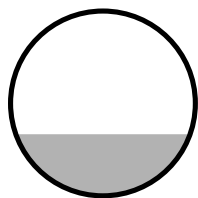
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 17.10 cfs

24.0" Round Pipe

n= 0.013

Length= 35.0' Slope= 0.0057 '/'

Inlet Invert= 95.65', Outlet Invert= 95.45'

**Summary for Reach DCP 1: DCP 1 Achushnet Ave**

Inflow Area = 0.989 ac, 58.70% Impervious, Inflow Depth > 0.19" for 25 Year Event event
 Inflow = 0.24 cfs @ 12.08 hrs, Volume= 0.016 af
 Outflow = 0.24 cfs @ 12.08 hrs, Volume= 0.016 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach DCP 2: DCP 2 Arnoff Street

Inflow Area = 4.261 ac, 1.83% Impervious, Inflow Depth > 2.64" for 25 Year Event event
 Inflow = 10.84 cfs @ 12.21 hrs, Volume= 0.938 af
 Outflow = 10.84 cfs @ 12.21 hrs, Volume= 0.938 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach DCP 3: DCP 3 Wetlands

Inflow Area = 9.590 ac, 1.18% Impervious, Inflow Depth > 2.64" for 25 Year Event event
 Inflow = 23.06 cfs @ 12.24 hrs, Volume= 2.110 af
 Outflow = 23.06 cfs @ 12.24 hrs, Volume= 2.110 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond 1P: POND #1

Inflow Area = 0.842 ac, 59.99% Impervious, Inflow Depth > 4.01" for 25 Year Event event
 Inflow = 4.04 cfs @ 12.08 hrs, Volume= 0.281 af
 Outflow = 1.02 cfs @ 12.45 hrs, Volume= 0.281 af, Atten= 75%, Lag= 22.5 min
 Discarded = 1.02 cfs @ 11.85 hrs, Volume= 0.281 af
 Primary = 0.00 cfs @ 12.45 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 95.92' @ 12.45 hrs Surf.Area= 5,325 sf Storage= 2,764 cf

Plug-Flow detention time= 15.9 min calculated for 0.281 af (100% of inflow)
 Center-of-Mass det. time= 15.5 min (778.4 - 762.9)

Volume	Invert	Avail.Storage	Storage Description
#1	95.40'	11,746 cf	Custom Stage Data (Irregular) Listed below 18,638 cf Overall - 6,891 cf Embedded = 11,746 cf
#2	95.90'	6,891 cf	StormTech SC-740 x 150 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		18,638 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
95.40	5,325	292.0	0	0	5,325
98.90	5,325	292.0	18,638	18,638	6,347

Device	Routing	Invert	Outlet Devices
#1	Primary	95.90'	8.0" Vert. Orifice/Grate C= 0.600
#2	Primary	96.30'	11.0" Vert. Orifice/Grate C= 0.600
#3	Discarded	95.40'	8.270 in/hr Exfiltration over Surface area

Discarded OutFlow Max=1.02 cfs @ 11.85 hrs HW=95.44' (Free Discharge)
 ↳ **3=Exfiltration** (Exfiltration Controls 1.02 cfs)

Primary OutFlow Max=0.00 cfs @ 12.45 hrs HW=95.92' (Free Discharge)
 ↳ **1=Orifice/Grate** (Orifice Controls 0.00 cfs @ 0.47 fps)
 ↳ **2=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 2P: RC

Inflow Area = 0.076 ac, 100.00% Impervious, Inflow Depth > 4.97" for 25 Year Event event
 Inflow = 0.42 cfs @ 12.07 hrs, Volume= 0.031 af
 Outflow = 0.08 cfs @ 14.45 hrs, Volume= 0.031 af, Atten= 81%, Lag= 142.8 min
 Discarded = 0.08 cfs @ 14.45 hrs, Volume= 0.031 af
 Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 92.16' @ 12.53 hrs Surf.Area= 371 sf Storage= 400 cf

Plug-Flow detention time= 33.7 min calculated for 0.031 af (100% of inflow)
 Center-of-Mass det. time= 33.4 min (767.2 - 733.8)

Volume	Invert	Avail.Storage	Storage Description
#1	90.00'	320 cf	Custom Stage Data (Irregular) Listed below 800 cf Overall x 40.0% Voids
#2	91.00'	368 cf	StormTech SC-740 x 8 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		688 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
90.00	200	60.0	0	0	200
94.00	200	60.0	800	800	440

Device	Routing	Invert	Outlet Devices
#1	Primary	93.50'	6.0" Vert. Orifice/Grate C= 0.600
#2	Discarded	90.00'	8.270 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.08 cfs @ 14.45 hrs HW=91.02' (Free Discharge)
 ↑**2=Exfiltration** (Exfiltration Controls 0.08 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=90.00' (Free Discharge)
 ↑**1=Orifice/Grate** (Controls 0.00 cfs)

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1B: Bank RoofRunoff Area=3,300 sf 100.00% Impervious Runoff Depth>6.06"
Tc=5.0 min CN=98 Runoff=0.51 cfs 0.038 af**Subcatchment1E: Existing woods/field**Runoff Area=185,628 sf 1.83% Impervious Runoff Depth>3.60"
Flow Length=600' Tc=14.5 min CN=74 Runoff=14.74 cfs 1.279 af**Subcatchment2B: Bank Parking Lot**Runoff Area=36,670 sf 59.99% Impervious Runoff Depth>5.10"
Tc=5.0 min CN=88 Runoff=5.14 cfs 0.358 af**Subcatchment2E: Existing woods/field**Runoff Area=417,719 sf 1.18% Impervious Runoff Depth>3.60"
Flow Length=1,200' Tc=16.7 min CN=74 Runoff=31.37 cfs 2.875 af**Subcatchment3B: landscape**Runoff Area=3,128 sf 0.00% Impervious Runoff Depth>3.61"
Tc=5.0 min CN=74 Runoff=0.33 cfs 0.022 af**Reach 3R: 24" RCP**Avg. Flow Depth=0.75' Max Vel=4.71 fps Inflow=5.14 cfs 0.358 af
24.0" Round Pipe n=0.013 L=35.0' S=0.0057 ' Capacity=17.10 cfs Outflow=5.07 cfs 0.358 af**Reach DCP 1: DCP 1 Achushnet Ave**Inflow=0.32 cfs 0.030 af
Outflow=0.32 cfs 0.030 af**Reach DCP 2: DCP 2 Arnoff Street**Inflow=14.74 cfs 1.279 af
Outflow=14.74 cfs 1.279 af**Reach DCP 3: DCP 3 Wetlands**Inflow=31.37 cfs 2.875 af
Outflow=31.37 cfs 2.875 af**Pond 1P: POND #1**Peak Elev=96.15' Storage=3,989 cf Inflow=5.07 cfs 0.358 af
Discarded=1.02 cfs 0.349 af Primary=0.20 cfs 0.008 af Outflow=1.22 cfs 0.358 af**Pond 2P: RC**Peak Elev=92.78' Storage=543 cf Inflow=0.51 cfs 0.038 af
Discarded=0.08 cfs 0.038 af Primary=0.00 cfs 0.000 af Outflow=0.08 cfs 0.038 af

Summary for Subcatchment 1B: Bank Roof

Runoff = 0.51 cfs @ 12.07 hrs, Volume= 0.038 af, Depth> 6.06"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	3,300	98	Bank Roof
	3,300		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, DIRECT

Summary for Subcatchment 1E: Existing woods/field

Runoff = 14.74 cfs @ 12.20 hrs, Volume= 1.279 af, Depth> 3.60"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
	130,145	73	Woods, Fair, HSG C
	49,442	76	Woods/grass comb., Fair, HSG C
*	0	74	Lawn adj. Phillips
*	1,290	98	Roofs Achushnet Ave
*	0	98	Roofs Phillips Ave west
*	0	98	Roofs Phillips Ave East
*	2,651	76	grass adj. to Monson St
*	2,100	98	drive adj. to Monson st
	185,628	74	Weighted Average
	182,238		98.17% Pervious Area
	3,390		1.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	50	0.0300	0.08		Sheet Flow, SHEET
					Woods: Light underbrush n= 0.400 P2= 3.20"
4.0	550	0.0200	2.28		Shallow Concentrated Flow, SHALLOW
					Unpaved Kv= 16.1 fps
14.5	600	Total			

Summary for Subcatchment 2B: Bank Parking Lot

Runoff = 5.14 cfs @ 12.07 hrs, Volume= 0.358 af, Depth> 5.10"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

NORTHSIDE FARM ECON - 5-23-16

Type III 24-hr 100 Year Event Rainfall=6.80"

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Area (sf)	CN	Description
22,000	98	Paved parking & roofs
14,670	74	>75% Grass cover, Good, HSG C
36,670	88	Weighted Average
14,670		40.01% Pervious Area
22,000		59.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, direct

Summary for Subcatchment 2E: Existing woods/field

Runoff = 31.37 cfs @ 12.23 hrs, Volume= 2.875 af, Depth> 3.60"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Type III 24-hr 100 Year Event Rainfall=6.80"

Area (sf)	CN	Description
283,267	73	Woods, Fair, HSG C
90,464	76	Woods/grass comb., Fair, HSG C
* 39,058	74	Lawn adj. Phillips
* 0	98	Roofs Achushnet Ave
* 2,059	98	Roofs Phillips Ave west
* 2,871	98	Roofs Phillips Ave East
* 0	76	grass adj. to Monson St
* 0	98	drive adj. to Monson st
417,719	74	Weighted Average
412,789		98.82% Pervious Area
4,930		1.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	50	0.0300	0.08		Sheet Flow, SHEET
					Woods: Light underbrush n= 0.400 P2= 3.20"
5.1	700	0.0200	2.28		Shallow Concentrated Flow, SHALLOW
					Unpaved Kv= 16.1 fps
1.1	450	0.0200	6.67	40.03	Channel Flow, CHANNEL
					Area= 6.0 sf Perim= 8.0' r= 0.75' n= 0.026
16.7	1,200	Total			

Summary for Subcatchment 3B: landscape

Runoff = 0.33 cfs @ 12.08 hrs, Volume= 0.022 af, Depth> 3.61"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Type III 24-hr 100 Year Event Rainfall=6.80"

NORTHSIDE FARM ECON - 5-23-16

Type III 24-hr 100 Year Event Rainfall=6.80"

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Area (sf)	CN	Description
3,128	74	>75% Grass cover, Good, HSG C
3,128		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Direct

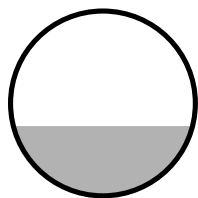
Summary for Reach 3R: 24" RCP

Inflow Area = 0.842 ac, 59.99% Impervious, Inflow Depth > 5.10" for 100 Year Event event
 Inflow = 5.14 cfs @ 12.07 hrs, Volume= 0.358 af
 Outflow = 5.07 cfs @ 12.08 hrs, Volume= 0.358 af, Atten= 1%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Max. Velocity= 4.71 fps, Min. Travel Time= 0.1 min
 Avg. Velocity= 1.73 fps, Avg. Travel Time= 0.3 min

Peak Storage= 38 cf @ 12.07 hrs
 Average Depth at Peak Storage= 0.75'
 Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 17.10 cfs

24.0" Round Pipe
 n= 0.013
 Length= 35.0' Slope= 0.0057 '
 Inlet Invert= 95.65', Outlet Invert= 95.45'

**Summary for Reach DCP 1: DCP 1 Achushnet Ave**

Inflow Area = 0.989 ac, 58.70% Impervious, Inflow Depth > 0.36" for 100 Year Event event
 Inflow = 0.32 cfs @ 12.08 hrs, Volume= 0.030 af
 Outflow = 0.32 cfs @ 12.08 hrs, Volume= 0.030 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach DCP 2: DCP 2 Arnoff Street

Inflow Area = 4.261 ac, 1.83% Impervious, Inflow Depth > 3.60" for 100 Year Event event
 Inflow = 14.74 cfs @ 12.20 hrs, Volume= 1.279 af
 Outflow = 14.74 cfs @ 12.20 hrs, Volume= 1.279 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach DCP 3: DCP 3 Wetlands

Inflow Area = 9.590 ac, 1.18% Impervious, Inflow Depth > 3.60" for 100 Year Event event
 Inflow = 31.37 cfs @ 12.23 hrs, Volume= 2.875 af
 Outflow = 31.37 cfs @ 12.23 hrs, Volume= 2.875 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond 1P: POND #1

Inflow Area = 0.842 ac, 59.99% Impervious, Inflow Depth > 5.10" for 100 Year Event event
 Inflow = 5.07 cfs @ 12.08 hrs, Volume= 0.358 af
 Outflow = 1.22 cfs @ 12.46 hrs, Volume= 0.358 af, Atten= 76%, Lag= 23.1 min
 Discarded = 1.02 cfs @ 11.75 hrs, Volume= 0.349 af
 Primary = 0.20 cfs @ 12.46 hrs, Volume= 0.008 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 96.15' @ 12.46 hrs Surf.Area= 5,325 sf Storage= 3,989 cf

Plug-Flow detention time= 22.2 min calculated for 0.358 af (100% of inflow)
 Center-of-Mass det. time= 21.8 min (779.4 - 757.6)

Volume	Invert	Avail.Storage	Storage Description
#1	95.40'	11,746 cf	Custom Stage Data (Irregular) Listed below 18,638 cf Overall - 6,891 cf Embedded = 11,746 cf
#2	95.90'	6,891 cf	StormTech SC-740 x 150 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		18,638 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
95.40	5,325	292.0	0	0	5,325
98.90	5,325	292.0	18,638	18,638	6,347

Device	Routing	Invert	Outlet Devices
#1	Primary	95.90'	8.0" Vert. Orifice/Grate C= 0.600
#2	Primary	96.30'	11.0" Vert. Orifice/Grate C= 0.600
#3	Discarded	95.40'	8.270 in/hr Exfiltration over Surface area

Discarded OutFlow Max=1.02 cfs @ 11.75 hrs HW=95.44' (Free Discharge)
 ↳ **3=Exfiltration** (Exfiltration Controls 1.02 cfs)

Primary OutFlow Max=0.20 cfs @ 12.46 hrs HW=96.15' (Free Discharge)
 ↳ **1=Orifice/Grate** (Orifice Controls 0.20 cfs @ 1.70 fps)
 ↳ **2=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 2P: RC

Inflow Area = 0.076 ac, 100.00% Impervious, Inflow Depth > 6.06" for 100 Year Event event
 Inflow = 0.51 cfs @ 12.07 hrs, Volume= 0.038 af
 Outflow = 0.08 cfs @ 11.80 hrs, Volume= 0.038 af, Atten= 84%, Lag= 0.0 min
 Discarded = 0.08 cfs @ 11.80 hrs, Volume= 0.038 af
 Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 92.78' @ 12.62 hrs Surf.Area= 323 sf Storage= 543 cf

Plug-Flow detention time= 52.5 min calculated for 0.038 af (100% of inflow)
 Center-of-Mass det. time= 52.0 min (784.9 - 732.9)

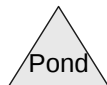
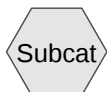
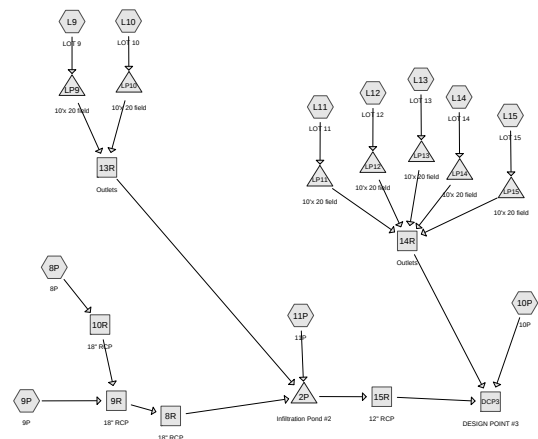
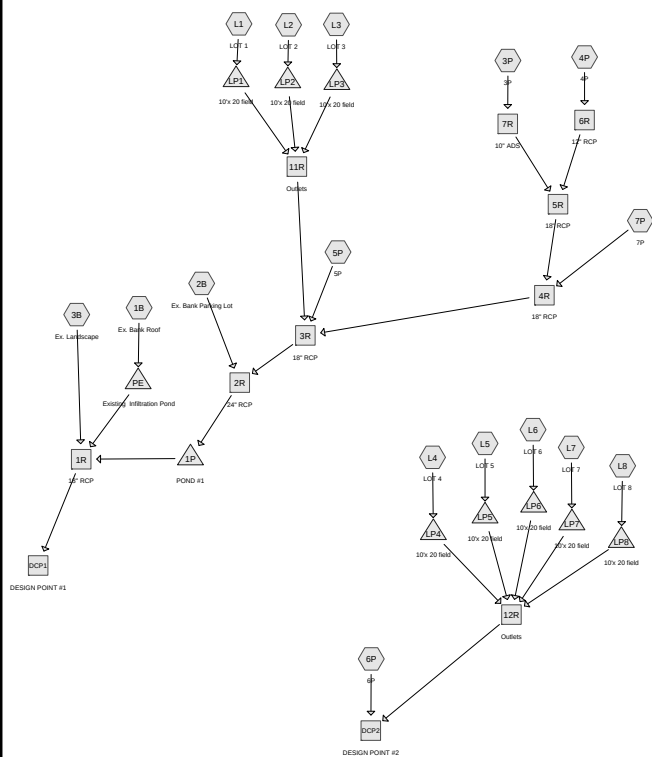
Volume	Invert	Avail.Storage	Storage Description
#1	90.00'	320 cf	Custom Stage Data (Irregular) Listed below 800 cf Overall x 40.0% Voids
#2	91.00'	368 cf	StormTech SC-740 x 8 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		688 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
90.00	200	60.0	0	0	200
94.00	200	60.0	800	800	440

Device	Routing	Invert	Outlet Devices
#1	Primary	93.50'	6.0" Vert. Orifice/Grate C= 0.600
#2	Discarded	90.00'	8.270 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.08 cfs @ 11.80 hrs HW=91.00' (Free Discharge)
 ↑**2=Exfiltration** (Exfiltration Controls 0.08 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=90.00' (Free Discharge)
 ↑**1=Orifice/Grate** (Controls 0.00 cfs)



Routing Diagram for NORTHSIDE FARM 2-10-2017
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Time span=0.00-26.00 hrs, dt=0.05 hrs, 521 points

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1B: Ex. Bank Roof	Runoff Area=3,300 sf 100.00% Impervious Runoff Depth=2.97" Tc=5.0 min CN=98 Runoff=0.24 cfs 816 cf
Subcatchment2B: Ex. Bank Parking Lot	Runoff Area=36,670 sf 59.99% Impervious Runoff Depth=2.00" Tc=5.0 min CN=88 Runoff=1.96 cfs 6,102 cf
Subcatchment3B: Ex. Landscape	Runoff Area=3,128 sf 0.00% Impervious Runoff Depth=1.04" Tc=5.0 min CN=74 Runoff=0.08 cfs 270 cf
Subcatchment3P: 3P	Runoff Area=28,778 sf 7.13% Impervious Runoff Depth=1.15" Tc=5.0 min CN=76 Runoff=0.87 cfs 2,763 cf
Subcatchment4P: 4P	Runoff Area=12,451 sf 47.31% Impervious Runoff Depth=1.76" Tc=5.0 min CN=85 Runoff=0.59 cfs 1,824 cf
Subcatchment5P: 5P	Runoff Area=24,485 sf 0.00% Impervious Runoff Depth=1.04" Flow Length=200' Slope=0.0100 '/' Tc=14.4 min CN=74 Runoff=0.49 cfs 2,117 cf
Subcatchment6P: 6P	Runoff Area=170,220 sf 0.76% Impervious Runoff Depth=1.04" Flow Length=440' Slope=0.0200 '/' Tc=15.2 min CN=74 Runoff=3.33 cfs 14,718 cf
Subcatchment7P: 7P	Runoff Area=20,619 sf 52.80% Impervious Runoff Depth=1.91" Tc=5.0 min CN=87 Runoff=1.06 cfs 3,290 cf
Subcatchment8P: 8P	Runoff Area=23,809 sf 45.16% Impervious Runoff Depth=1.76" Tc=5.0 min CN=85 Runoff=1.13 cfs 3,487 cf
Subcatchment9P: 9P	Runoff Area=25,030 sf 54.05% Impervious Runoff Depth=1.91" Tc=5.0 min CN=87 Runoff=1.29 cfs 3,994 cf
Subcatchment10P: 10P	Runoff Area=226,733 sf 0.90% Impervious Runoff Depth=1.04" Flow Length=850' Tc=19.0 min CN=74 Runoff=4.08 cfs 19,604 cf
Subcatchment11P: 11P	Runoff Area=48,707 sf 0.00% Impervious Runoff Depth=1.04" Flow Length=300' Slope=0.0200 '/' Tc=9.8 min CN=74 Runoff=1.12 cfs 4,211 cf
SubcatchmentL1: LOT 1	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=2.97" Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf
SubcatchmentL10: LOT 10	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=2.97" Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf
SubcatchmentL11: LOT 11	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=2.97" Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf
SubcatchmentL12: LOT 12	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=2.97" Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf

SubcatchmentL13: LOT 13	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=2.97" Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf
SubcatchmentL14: LOT 14	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=2.97" Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf
SubcatchmentL15: LOT 15	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=2.97" Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf
SubcatchmentL2: LOT 2	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=2.97" Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf
SubcatchmentL3: LOT 3	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=2.97" Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf
SubcatchmentL4: LOT 4	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=2.97" Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf
SubcatchmentL5: LOT 5	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=2.97" Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf
SubcatchmentL6: LOT 6	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=2.97" Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf
SubcatchmentL7: LOT 7	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=2.97" Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf
SubcatchmentL8: LOT 8	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=2.97" Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf
SubcatchmentL9: LOT 9	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=2.97" Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf
Reach 1R: 18" RCP	Avg. Flow Depth=0.08' Max Vel=2.13 fps Inflow=0.08 cfs 270 cf 18.0" Round Pipe n=0.013 L=60.0' S=0.0167 '/' Capacity=13.56 cfs Outflow=0.08 cfs 270 cf
Reach 2R: 24" RCP	Avg. Flow Depth=0.66' Max Vel=4.80 fps Inflow=4.34 cfs 16,096 cf 24.0" Round Pipe n=0.013 L=30.0' S=0.0067 '/' Capacity=18.47 cfs Outflow=4.32 cfs 16,096 cf
Reach 3R: 18" RCP	Avg. Flow Depth=0.58' Max Vel=4.15 fps Inflow=2.64 cfs 9,994 cf 18.0" Round Pipe n=0.013 L=65.0' S=0.0062 '/' Capacity=8.24 cfs Outflow=2.63 cfs 9,994 cf
Reach 4R: 18" RCP	Avg. Flow Depth=0.57' Max Vel=3.70 fps Inflow=2.32 cfs 7,877 cf 18.0" Round Pipe n=0.013 L=180.0' S=0.0050 '/' Capacity=7.43 cfs Outflow=2.23 cfs 7,877 cf
Reach 5R: 18" RCP	Avg. Flow Depth=0.53' Max Vel=2.49 fps Inflow=1.40 cfs 4,586 cf 18.0" Round Pipe n=0.013 L=130.0' S=0.0025 '/' Capacity=5.21 cfs Outflow=1.33 cfs 4,586 cf
Reach 6R: 12" RCP	Avg. Flow Depth=0.37' Max Vel=2.17 fps Inflow=0.59 cfs 1,824 cf 12.0" Round Pipe n=0.013 L=190.0' S=0.0030 '/' Capacity=1.95 cfs Outflow=0.55 cfs 1,824 cf
Reach 7R: 10" ADS	Avg. Flow Depth=0.23' Max Vel=7.06 fps Inflow=0.87 cfs 2,763 cf 10.0" Round Pipe n=0.010 L=95.0' S=0.0334 '/' Capacity=5.20 cfs Outflow=0.86 cfs 2,763 cf

Reach 8R: 18" RCP Avg. Flow Depth=0.53' Max Vel=4.08 fps Inflow=2.27 cfs 7,481 cf
18.0" Round Pipe n=0.013 L=30.0' S=0.0067 ' /' Capacity=8.58 cfs Outflow=2.26 cfs 7,481 cf

Reach 9R: 18" RCP Avg. Flow Depth=0.58' Max Vel=3.74 fps Inflow=2.40 cfs 7,481 cf
18.0" Round Pipe n=0.013 L=280.0' S=0.0050 ' /' Capacity=7.43 cfs Outflow=2.27 cfs 7,481 cf

Reach 10R: 18" RCP Avg. Flow Depth=0.37' Max Vel=3.35 fps Inflow=1.13 cfs 3,487 cf
18.0" Round Pipe n=0.013 L=60.0' S=0.0067 ' /' Capacity=8.58 cfs Outflow=1.12 cfs 3,487 cf

Reach 11R: Outlets Inflow=0.00 cfs 0 cf
Outflow=0.00 cfs 0 cf

Reach 12R: Outlets Inflow=0.00 cfs 0 cf
Outflow=0.00 cfs 0 cf

Reach 13R: Outlets Inflow=0.00 cfs 0 cf
Outflow=0.00 cfs 0 cf

Reach 14R: Outlets Inflow=0.00 cfs 0 cf
Outflow=0.00 cfs 0 cf

Reach 15R: 12" RCP Avg. Flow Depth=0.24' Max Vel=4.88 fps Inflow=0.70 cfs 2,737 cf
12.0" Round Pipe n=0.013 L=20.0' S=0.0250 ' /' Capacity=5.63 cfs Outflow=0.70 cfs 2,737 cf

Reach DCP1: DESIGN POINT #1 Inflow=0.08 cfs 270 cf
Outflow=0.08 cfs 270 cf

Reach DCP2: DESIGN POINT #2 Inflow=3.33 cfs 14,718 cf
Outflow=3.33 cfs 14,718 cf

Reach DCP3: DESIGN POINT #3 Inflow=4.75 cfs 22,341 cf
Outflow=4.75 cfs 22,341 cf

Pond 1P: POND #1 Peak Elev=96.55' Storage=3,930 cf Inflow=4.32 cfs 16,096 cf
Discarded=1.02 cfs 16,096 cf Primary=0.00 cfs 0 cf Outflow=1.02 cfs 16,096 cf

Pond 2P: Infiltration Pond #2 Peak Elev=93.29' Storage=2,338 cf Inflow=3.34 cfs 11,693 cf
Discarded=0.66 cfs 8,956 cf Primary=0.70 cfs 2,737 cf Outflow=1.35 cfs 11,693 cf

Pond LP1: 10'x 20 field Peak Elev=80.51' Storage=42 cf Inflow=0.11 cfs 371 cf
Discarded=0.04 cfs 371 cf Primary=0.00 cfs 0 cf Outflow=0.04 cfs 371 cf

Pond LP10: 10'x 20 field Peak Elev=80.51' Storage=42 cf Inflow=0.11 cfs 371 cf
Discarded=0.04 cfs 371 cf Primary=0.00 cfs 0 cf Outflow=0.04 cfs 371 cf

Pond LP11: 10'x 20 field Peak Elev=80.51' Storage=42 cf Inflow=0.11 cfs 371 cf
Discarded=0.04 cfs 371 cf Primary=0.00 cfs 0 cf Outflow=0.04 cfs 371 cf

Pond LP12: 10'x 20 field Peak Elev=80.51' Storage=42 cf Inflow=0.11 cfs 371 cf
Discarded=0.04 cfs 371 cf Primary=0.00 cfs 0 cf Outflow=0.04 cfs 371 cf

Pond LP13: 10'x 20 field

Peak Elev=80.51' Storage=42 cf Inflow=0.11 cfs 371 cf
Discarded=0.04 cfs 371 cf Primary=0.00 cfs 0 cf Outflow=0.04 cfs 371 cf

Pond LP14: 10'x 20 field

Peak Elev=80.51' Storage=42 cf Inflow=0.11 cfs 371 cf
Discarded=0.04 cfs 371 cf Primary=0.00 cfs 0 cf Outflow=0.04 cfs 371 cf

Pond LP15: 10'x 20 field

Peak Elev=80.51' Storage=42 cf Inflow=0.11 cfs 371 cf
Discarded=0.04 cfs 371 cf Primary=0.00 cfs 0 cf Outflow=0.04 cfs 371 cf

Pond LP2: 10'x 20 field

Peak Elev=80.51' Storage=42 cf Inflow=0.11 cfs 371 cf
Discarded=0.04 cfs 371 cf Primary=0.00 cfs 0 cf Outflow=0.04 cfs 371 cf

Pond LP3: 10'x 20 field

Peak Elev=80.51' Storage=42 cf Inflow=0.11 cfs 371 cf
Discarded=0.04 cfs 371 cf Primary=0.00 cfs 0 cf Outflow=0.04 cfs 371 cf

Pond LP4: 10'x 20 field

Peak Elev=80.51' Storage=42 cf Inflow=0.11 cfs 371 cf
Discarded=0.04 cfs 371 cf Primary=0.00 cfs 0 cf Outflow=0.04 cfs 371 cf

Pond LP5: 10'x 20 field

Peak Elev=80.51' Storage=42 cf Inflow=0.11 cfs 371 cf
Discarded=0.04 cfs 371 cf Primary=0.00 cfs 0 cf Outflow=0.04 cfs 371 cf

Pond LP6: 10'x 20 field

Peak Elev=80.51' Storage=42 cf Inflow=0.11 cfs 371 cf
Discarded=0.04 cfs 371 cf Primary=0.00 cfs 0 cf Outflow=0.04 cfs 371 cf

Pond LP7: 10'x 20 field

Peak Elev=80.51' Storage=42 cf Inflow=0.11 cfs 371 cf
Discarded=0.04 cfs 371 cf Primary=0.00 cfs 0 cf Outflow=0.04 cfs 371 cf

Pond LP8: 10'x 20 field

Peak Elev=80.51' Storage=42 cf Inflow=0.11 cfs 371 cf
Discarded=0.04 cfs 371 cf Primary=0.00 cfs 0 cf Outflow=0.04 cfs 371 cf

Pond LP9: 10'x 20 field

Peak Elev=80.51' Storage=42 cf Inflow=0.11 cfs 371 cf
Discarded=0.04 cfs 371 cf Primary=0.00 cfs 0 cf Outflow=0.04 cfs 371 cf

Pond PE: Existing Infiltration Pond

Peak Elev=91.26' Storage=156 cf Inflow=0.24 cfs 816 cf
Discarded=0.08 cfs 816 cf Primary=0.00 cfs 0 cf Outflow=0.08 cfs 816 cf

Summary for Subcatchment 1B: Ex. Bank Roof

Runoff = 0.24 cfs @ 12.07 hrs, Volume= 816 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2 Year Event Rainfall=3.20"

Area (sf)	CN	Description
* 3,300	98	Bank Roof
3,300		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, DIRECT

Summary for Subcatchment 2B: Ex. Bank Parking Lot

Runoff = 1.96 cfs @ 12.08 hrs, Volume= 6,102 cf, Depth= 2.00"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2 Year Event Rainfall=3.20"

Area (sf)	CN	Description
22,000	98	Paved parking & roofs
14,670	74	>75% Grass cover, Good, HSG C
36,670	88	Weighted Average
14,670		40.01% Pervious Area
22,000		59.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, direct

Summary for Subcatchment 3B: Ex. Landscape

Runoff = 0.08 cfs @ 12.09 hrs, Volume= 270 cf, Depth= 1.04"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2 Year Event Rainfall=3.20"

Area (sf)	CN	Description
3,128	74	>75% Grass cover, Good, HSG C
3,128		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Direct

Summary for Subcatchment 3P: 3P

Runoff = 0.87 cfs @ 12.08 hrs, Volume= 2,763 cf, Depth= 1.15"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	2,051	98	Exisitng houses
	26,727	74	>75% Grass cover, Good, HSG C
*	0	98	Roadway
*	0	98	Sidewalks
	28,778	76	Weighted Average
	26,727		92.87% Pervious Area
	2,051		7.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Direct

Summary for Subcatchment 4P: 4P

Runoff = 0.59 cfs @ 12.08 hrs, Volume= 1,824 cf, Depth= 1.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
	6,560	74	>75% Grass cover, Good, HSG C
*	5,891	98	Roadway & Sidewalks
	12,451	85	Weighted Average
	6,560		52.69% Pervious Area
	5,891		47.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Direct

Summary for Subcatchment 5P: 5P

Runoff = 0.49 cfs @ 12.22 hrs, Volume= 2,117 cf, Depth= 1.04"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
	24,485	74	>75% Grass cover, Good, HSG C
	24,485		100.00% Pervious Area

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Type III 24-hr 2 Year Event Rainfall=3.20"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	50	0.0100	0.08		Sheet Flow, sheet flow Grass: Dense n= 0.240 P2= 3.20"
3.6	150	0.0100	0.70		Shallow Concentrated Flow, Channel flow Short Grass Pasture Kv= 7.0 fps
14.4	200	Total			

Summary for Subcatchment 6P: 6P

Runoff = 3.33 cfs @ 12.23 hrs, Volume= 14,718 cf, Depth= 1.04"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

Area (sf)	CN	Description
* 1,290	98	Exisitng houses
87,260	74	>75% Grass cover, Good, HSG C
81,670	73	Woods, Fair, HSG C
170,220	74	Weighted Average
168,930		99.24% Pervious Area
1,290		0.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	50	0.0200	0.07		Sheet Flow, sheet flow Woods: Light underbrush n= 0.400 P2= 3.20"
2.9	390	0.0200	2.28		Shallow Concentrated Flow, shallow Unpaved Kv= 16.1 fps
15.2	440	Total			

Summary for Subcatchment 7P: 7P

Runoff = 1.06 cfs @ 12.08 hrs, Volume= 3,290 cf, Depth= 1.91"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

Area (sf)	CN	Description
* 0	98	Exisitng houses
9,732	74	>75% Grass cover, Good, HSG C
* 5,787	98	Roadway
* 5,100	98	Sidewalks & Drives
20,619	87	Weighted Average
9,732		47.20% Pervious Area
10,887		52.80% Impervious Area

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Type III 24-hr 2 Year Event Rainfall=3.20"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Direct

Summary for Subcatchment 8P: 8P

Runoff = 1.13 cfs @ 12.08 hrs, Volume= 3,487 cf, Depth= 1.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

Area (sf)	CN	Description
13,057	74	>75% Grass cover, Good, HSG C
* 5,722	98	Roadway
* 3,790	98	Drives
* 1,240	98	Sidewalks
23,809	85	Weighted Average
13,057		54.84% Pervious Area
10,752		45.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Direct

Summary for Subcatchment 9P: 9P

Runoff = 1.29 cfs @ 12.08 hrs, Volume= 3,994 cf, Depth= 1.91"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

Area (sf)	CN	Description
11,501	74	>75% Grass cover, Good, HSG C
* 8,588	98	Roadway
* 3,970	98	Drives
* 971	98	Sidewalks
25,030	87	Weighted Average
11,501		45.95% Pervious Area
13,529		54.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Direct

Summary for Subcatchment 10P: 10P

Runoff = 4.08 cfs @ 12.29 hrs, Volume= 19,604 cf, Depth= 1.04"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

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Type III 24-hr 2 Year Event Rainfall=3.20"

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	Area (sf)	CN	Description
*	2,032	98	Exisitng houses
	83,173	74	>75% Grass cover, Good, HSG C
	141,528	73	Woods, Fair, HSG C
	226,733	74	Weighted Average
	224,701		99.10% Pervious Area
	2,032		0.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	50	0.0100	0.11		Sheet Flow, Sheet Grass: Short n= 0.150 P2= 3.20"
10.1	430	0.0200	0.71		Shallow Concentrated Flow, Shallow Woodland Kv= 5.0 fps
1.5	370	0.0100	4.09	24.53	Channel Flow, River Flow Area= 6.0 sf Perim= 8.0' r= 0.75' n= 0.030 Earth, grassed & winding
19.0	850	Total			

Summary for Subcatchment 11P: 11P

Runoff = 1.12 cfs @ 12.15 hrs, Volume= 4,211 cf, Depth= 1.04"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	48,707	74	grass
	48,707		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		Sheet Flow, Sheet Grass: Short n= 0.150 P2= 3.20"
4.2	250	0.0200	0.99		Shallow Concentrated Flow, shallow Short Grass Pasture Kv= 7.0 fps
9.8	300	Total			

Summary for Subcatchment L1: LOT 1

Runoff = 0.11 cfs @ 12.07 hrs, Volume= 371 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

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Type III 24-hr 2 Year Event Rainfall=3.20"

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	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L10: LOT 10

Runoff = 0.11 cfs @ 12.07 hrs, Volume= 371 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L11: LOT 11

Runoff = 0.11 cfs @ 12.07 hrs, Volume= 371 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L12: LOT 12

Runoff = 0.11 cfs @ 12.07 hrs, Volume= 371 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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Type III 24-hr 2 Year Event Rainfall=3.20"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L13: LOT 13

Runoff = 0.11 cfs @ 12.07 hrs, Volume= 371 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

Area (sf)	CN	Description
* 1,500	98	
1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L14: LOT 14

Runoff = 0.11 cfs @ 12.07 hrs, Volume= 371 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

Area (sf)	CN	Description
* 1,500	98	
1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L15: LOT 15

Runoff = 0.11 cfs @ 12.07 hrs, Volume= 371 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

Area (sf)	CN	Description
* 1,500	98	
1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L2: LOT 2

Runoff = 0.11 cfs @ 12.07 hrs, Volume= 371 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L3: LOT 3

Runoff = 0.11 cfs @ 12.07 hrs, Volume= 371 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L4: LOT 4

Runoff = 0.11 cfs @ 12.07 hrs, Volume= 371 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L5: LOT 5

Runoff = 0.11 cfs @ 12.07 hrs, Volume= 371 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L6: LOT 6

Runoff = 0.11 cfs @ 12.07 hrs, Volume= 371 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L7: LOT 7

Runoff = 0.11 cfs @ 12.07 hrs, Volume= 371 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

NORTHSIDE FARM 2-10-2017

Type III 24-hr 2 Year Event Rainfall=3.20"

Prepared by Microsoft

Printed 2/9/2017

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Summary for Subcatchment L8: LOT 8

Runoff = 0.11 cfs @ 12.07 hrs, Volume= 371 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L9: LOT 9

Runoff = 0.11 cfs @ 12.07 hrs, Volume= 371 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Reach 1R: 18" RCP

Inflow Area = 133,931 sf, 36.31% Impervious, Inflow Depth = 0.02" for 2 Year Event event

Inflow = 0.08 cfs @ 12.09 hrs, Volume= 270 cf

Outflow = 0.08 cfs @ 12.10 hrs, Volume= 270 cf, Atten= 2%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Max. Velocity= 2.13 fps, Min. Travel Time= 0.5 min

Avg. Velocity = 0.85 fps, Avg. Travel Time= 1.2 min

Peak Storage= 2 cf @ 12.09 hrs

Average Depth at Peak Storage= 0.08'

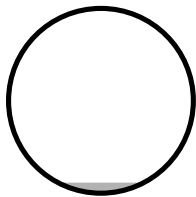
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 13.56 cfs

18.0" Round Pipe

n= 0.013

Length= 60.0' Slope= 0.0167 '/'

Inlet Invert= 94.00', Outlet Invert= 93.00'

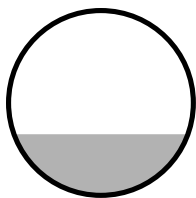
**Summary for Reach 2R: 24" RCP**

Inflow Area = 127,503 sf, 35.55% Impervious, Inflow Depth = 1.51" for 2 Year Event event
Inflow = 4.34 cfs @ 12.11 hrs, Volume= 16,096 cf
Outflow = 4.32 cfs @ 12.11 hrs, Volume= 16,096 cf, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.80 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.67 fps, Avg. Travel Time= 0.3 min

Peak Storage= 27 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.66'
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 18.47 cfs

24.0" Round Pipe
n= 0.013
Length= 30.0' Slope= 0.0067 '
Inlet Invert= 95.65', Outlet Invert= 95.45'

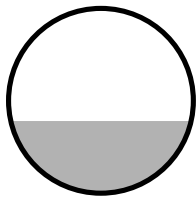
**Summary for Reach 3R: 18" RCP**

Inflow Area = 90,833 sf, 25.68% Impervious, Inflow Depth = 1.32" for 2 Year Event event
Inflow = 2.64 cfs @ 12.14 hrs, Volume= 9,994 cf
Outflow = 2.63 cfs @ 12.15 hrs, Volume= 9,994 cf, Atten= 0%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.15 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 1.47 fps, Avg. Travel Time= 0.7 min

Peak Storage= 41 cf @ 12.14 hrs
Average Depth at Peak Storage= 0.58'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 8.24 cfs

18.0" Round Pipe
n= 0.013
Length= 65.0' Slope= 0.0062 '
Inlet Invert= 96.10', Outlet Invert= 95.70'

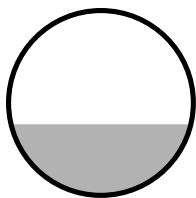
**Summary for Reach 4R: 18" RCP**

Inflow Area = 61,848 sf, 30.44% Impervious, Inflow Depth = 1.53" for 2 Year Event event
Inflow = 2.32 cfs @ 12.10 hrs, Volume= 7,877 cf
Outflow = 2.23 cfs @ 12.13 hrs, Volume= 7,877 cf, Atten= 4%, Lag= 1.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.70 fps, Min. Travel Time= 0.8 min
Avg. Velocity = 1.27 fps, Avg. Travel Time= 2.4 min

Peak Storage= 112 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.57'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 7.43 cfs

18.0" Round Pipe
n= 0.013
Length= 180.0' Slope= 0.0050 '/'
Inlet Invert= 97.00', Outlet Invert= 96.10'

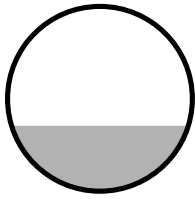
**Summary for Reach 5R: 18" RCP**

Inflow Area = 41,229 sf, 19.26% Impervious, Inflow Depth = 1.33" for 2 Year Event event
Inflow = 1.40 cfs @ 12.10 hrs, Volume= 4,586 cf
Outflow = 1.33 cfs @ 12.13 hrs, Volume= 4,586 cf, Atten= 5%, Lag= 1.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.49 fps, Min. Travel Time= 0.9 min
Avg. Velocity = 0.86 fps, Avg. Travel Time= 2.5 min

Peak Storage= 72 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.53'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 5.21 cfs

18.0" Round Pipe
n= 0.013
Length= 130.0' Slope= 0.0025 '/'
Inlet Invert= 97.32', Outlet Invert= 97.00'

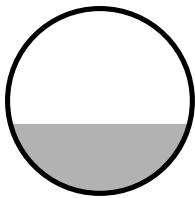
**Summary for Reach 6R: 12" RCP**

Inflow Area = 12,451 sf, 47.31% Impervious, Inflow Depth = 1.76" for 2 Year Event event
Inflow = 0.59 cfs @ 12.08 hrs, Volume= 1,824 cf
Outflow = 0.55 cfs @ 12.12 hrs, Volume= 1,824 cf, Atten= 6%, Lag= 2.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.17 fps, Min. Travel Time= 1.5 min
Avg. Velocity = 0.75 fps, Avg. Travel Time= 4.2 min

Peak Storage= 51 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.37'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 1.95 cfs

12.0" Round Pipe
n= 0.013
Length= 190.0' Slope= 0.0030 '/
Inlet Invert= 97.90', Outlet Invert= 97.33'

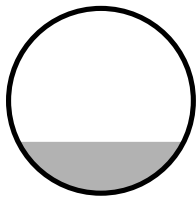
**Summary for Reach 7R: 10" ADS**

Inflow Area = 28,778 sf, 7.13% Impervious, Inflow Depth = 1.15" for 2 Year Event event
Inflow = 0.87 cfs @ 12.08 hrs, Volume= 2,763 cf
Outflow = 0.86 cfs @ 12.09 hrs, Volume= 2,763 cf, Atten= 1%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.06 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 2.69 fps, Avg. Travel Time= 0.6 min

Peak Storage= 12 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.23'
Bank-Full Depth= 0.83' Flow Area= 0.5 sf, Capacity= 5.20 cfs

10.0" Round Pipe
n= 0.010 PVC, smooth interior
Length= 95.0' Slope= 0.0334 '/
Inlet Invert= 100.50', Outlet Invert= 97.33'

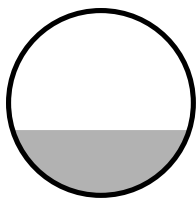
**Summary for Reach 8R: 18" RCP**

Inflow Area = 48,839 sf, 49.72% Impervious, Inflow Depth = 1.84" for 2 Year Event event
Inflow = 2.27 cfs @ 12.12 hrs, Volume= 7,481 cf
Outflow = 2.26 cfs @ 12.12 hrs, Volume= 7,481 cf, Atten= 1%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.08 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.40 fps, Avg. Travel Time= 0.4 min

Peak Storage= 17 cf @ 12.12 hrs
Average Depth at Peak Storage= 0.53'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 8.58 cfs

18.0" Round Pipe
n= 0.013
Length= 30.0' Slope= 0.0067 '/
Inlet Invert= 92.90', Outlet Invert= 92.70'

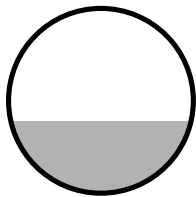
**Summary for Reach 9R: 18" RCP**

Inflow Area = 48,839 sf, 49.72% Impervious, Inflow Depth = 1.84" for 2 Year Event event
Inflow = 2.40 cfs @ 12.08 hrs, Volume= 7,481 cf
Outflow = 2.27 cfs @ 12.12 hrs, Volume= 7,481 cf, Atten= 5%, Lag= 2.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.74 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 1.27 fps, Avg. Travel Time= 3.7 min

Peak Storage= 178 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.58'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 7.43 cfs

18.0" Round Pipe
n= 0.013
Length= 280.0' Slope= 0.0050 '/
Inlet Invert= 94.30', Outlet Invert= 92.90'

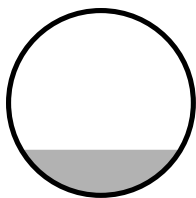
**Summary for Reach 10R: 18" RCP**

Inflow Area = 23,809 sf, 45.16% Impervious, Inflow Depth = 1.76" for 2 Year Event event
Inflow = 1.13 cfs @ 12.08 hrs, Volume= 3,487 cf
Outflow = 1.12 cfs @ 12.09 hrs, Volume= 3,487 cf, Atten= 1%, Lag= 0.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.35 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 1.18 fps, Avg. Travel Time= 0.9 min

Peak Storage= 20 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.37'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 8.58 cfs

18.0" Round Pipe
n= 0.013
Length= 60.0' Slope= 0.0067 '
Inlet Invert= 94.70', Outlet Invert= 94.30'

**Summary for Reach 11R: Outlets**

Inflow Area = 4,500 sf, 100.00% Impervious, Inflow Depth = 0.00" for 2 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach 12R: Outlets

Inflow Area = 7,500 sf, 100.00% Impervious, Inflow Depth = 0.00" for 2 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach 13R: Outlets

Inflow Area = 3,000 sf, 100.00% Impervious, Inflow Depth = 0.00" for 2 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach 14R: Outlets

Inflow Area = 7,500 sf, 100.00% Impervious, Inflow Depth = 0.00" for 2 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach 15R: 12" RCP

Inflow Area = 100,546 sf, 27.13% Impervious, Inflow Depth = 0.33" for 2 Year Event event
Inflow = 0.70 cfs @ 12.43 hrs, Volume= 2,737 cf
Outflow = 0.70 cfs @ 12.44 hrs, Volume= 2,737 cf, Atten= 0%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Max. Velocity= 4.88 fps, Min. Travel Time= 0.1 min

Avg. Velocity= 1.09 fps, Avg. Travel Time= 0.3 min

Peak Storage= 3 cf @ 12.44 hrs

Average Depth at Peak Storage= 0.24'

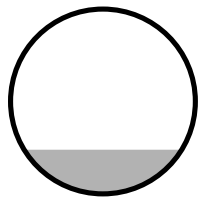
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 5.63 cfs

12.0" Round Pipe

n= 0.013

Length= 20.0' Slope= 0.0250 '/'

Inlet Invert= 92.50', Outlet Invert= 92.00'

**Summary for Reach DCP1: DESIGN POINT #1**

Inflow Area = 133,931 sf, 36.31% Impervious, Inflow Depth = 0.02" for 2 Year Event event
Inflow = 0.08 cfs @ 12.10 hrs, Volume= 270 cf
Outflow = 0.08 cfs @ 12.10 hrs, Volume= 270 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach DCP2: DESIGN POINT #2

Inflow Area = 177,720 sf, 4.95% Impervious, Inflow Depth = 0.99" for 2 Year Event event
 Inflow = 3.33 cfs @ 12.23 hrs, Volume= 14,718 cf
 Outflow = 3.33 cfs @ 12.23 hrs, Volume= 14,718 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach DCP3: DESIGN POINT #3

Inflow Area = 334,779 sf, 11.00% Impervious, Inflow Depth = 0.80" for 2 Year Event event
 Inflow = 4.75 cfs @ 12.29 hrs, Volume= 22,341 cf
 Outflow = 4.75 cfs @ 12.29 hrs, Volume= 22,341 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Pond 1P: POND #1

Inflow Area = 127,503 sf, 35.55% Impervious, Inflow Depth = 1.51" for 2 Year Event event
 Inflow = 4.32 cfs @ 12.11 hrs, Volume= 16,096 cf
 Outflow = 1.02 cfs @ 11.85 hrs, Volume= 16,096 cf, Atten= 76%, Lag= 0.0 min
 Discarded = 1.02 cfs @ 11.85 hrs, Volume= 16,096 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 96.55' @ 12.61 hrs Surf.Area= 5,325 sf Storage= 3,930 cf

Plug-Flow detention time= 23.1 min calculated for 16,096 cf (100% of inflow)
 Center-of-Mass det. time= 23.1 min (856.8 - 833.7)

Volume	Invert	Avail.Storage	Storage Description
#1	95.40'	4,699 cf	Custom Stage Data (Irregular) Listed below 18,638 cf Overall - 6,891 cf Embedded = 11,746 cf x 40.0% Voids
#2	95.90'	6,891 cf	StormTech SC-740 x 150 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		11,590 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
95.40	5,325	292.0	0	0	5,325
98.90	5,325	292.0	18,638	18,638	6,347

Device	Routing	Invert	Outlet Devices
#1	Discarded	95.40'	8.270 in/hr Exfiltration over Surface area
#2	Primary	96.60'	1.3' long Sharp-Crested Rectangular Weir 2 End Contraction(s) 5.0' Crest Height

Discarded OutFlow Max=1.02 cfs @ 11.85 hrs HW=95.44' (Free Discharge)

↑**1=Exfiltration** (Exfiltration Controls 1.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=95.40' (Free Discharge)

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

Summary for Pond 2P: Infiltration Pond #2

Inflow Area = 100,546 sf, 27.13% Impervious, Inflow Depth = 1.40" for 2 Year Event event
 Inflow = 3.34 cfs @ 12.13 hrs, Volume= 11,693 cf
 Outflow = 1.35 cfs @ 12.43 hrs, Volume= 11,693 cf, Atten= 59%, Lag= 18.1 min
 Discarded = 0.66 cfs @ 12.43 hrs, Volume= 8,956 cf
 Primary = 0.70 cfs @ 12.43 hrs, Volume= 2,737 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 93.29' @ 12.43 hrs Surf.Area= 3,401 sf Storage= 2,338 cf

Plug-Flow detention time= 13.8 min calculated for 11,670 cf (100% of inflow)
 Center-of-Mass det. time= 13.8 min (854.0 - 840.1)

Volume	Invert	Avail.Storage	Storage Description		
#1	92.50'	19,107 cf	Custom Stage Data (Irregular) Listed below		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
92.50	2,105	235.0	0	0	2,105
93.00	2,850	255.0	1,234	1,234	2,894
94.00	4,720	306.0	3,746	4,980	5,188
95.00	7,025	360.0	5,834	10,814	8,070
96.00	9,629	412.0	8,293	19,107	11,287
Device	Routing	Invert	Outlet Devices		
#1	Primary	94.80'	2.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s) 3.0' Crest Height		
#2	Primary	92.50'	6.0" Vert. Orifice/Grate C= 0.600		
#3	Discarded	92.50'	8.270 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 0.00'		

Discarded OutFlow Max=0.66 cfs @ 12.43 hrs HW=93.29' (Free Discharge)

↑**3=Exfiltration** (Controls 0.66 cfs)

Primary OutFlow Max=0.70 cfs @ 12.43 hrs HW=93.29' (Free Discharge)

↑**1=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

↑**2=Orifice/Grate** (Orifice Controls 0.70 cfs @ 3.55 fps)

Summary for Pond LP1: 10'x 20' field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 2.97" for 2 Year Event event
 Inflow = 0.11 cfs @ 12.07 hrs, Volume= 371 cf
 Outflow = 0.04 cfs @ 12.27 hrs, Volume= 371 cf, Atten= 59%, Lag= 11.8 min
 Discarded = 0.04 cfs @ 12.27 hrs, Volume= 371 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 80.51' @ 12.27 hrs Surf.Area= 200 sf Storage= 42 cf

Plug-Flow detention time= 4.2 min calculated for 370 cf (100% of inflow)
 Center-of-Mass det. time= 4.2 min (759.7 - 755.5)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.04 cfs @ 12.27 hrs HW=80.51' (Free Discharge)
 ↑**2=Exfiltration** (Exfiltration Controls 0.04 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑**1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP10: 10'x 20' field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 2.97" for 2 Year Event event
 Inflow = 0.11 cfs @ 12.07 hrs, Volume= 371 cf
 Outflow = 0.04 cfs @ 12.27 hrs, Volume= 371 cf, Atten= 59%, Lag= 11.8 min
 Discarded = 0.04 cfs @ 12.27 hrs, Volume= 371 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 80.51' @ 12.27 hrs Surf.Area= 200 sf Storage= 42 cf

Plug-Flow detention time= 4.2 min calculated for 370 cf (100% of inflow)
 Center-of-Mass det. time= 4.2 min (759.7 - 755.5)

NORTHSIDE FARM 2-10-2017

Type III 24-hr 2 Year Event Rainfall=3.20"

Prepared by Microsoft

Printed 2/9/2017

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Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.04 cfs @ 12.27 hrs HW=80.51' (Free Discharge)↑**2=Exfiltration** (Exfiltration Controls 0.04 cfs)**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)↑**1=Orifice/Grate** (Controls 0.00 cfs)**Summary for Pond LP11: 10'x 20 field**

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 2.97" for 2 Year Event event
 Inflow = 0.11 cfs @ 12.07 hrs, Volume= 371 cf
 Outflow = 0.04 cfs @ 12.27 hrs, Volume= 371 cf, Atten= 59%, Lag= 11.8 min
 Discarded = 0.04 cfs @ 12.27 hrs, Volume= 371 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Peak Elev= 80.51' @ 12.27 hrs Surf.Area= 200 sf Storage= 42 cf

Plug-Flow detention time= 4.2 min calculated for 370 cf (100% of inflow)

Center-of-Mass det. time= 4.2 min (759.7 - 755.5)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.04 cfs @ 12.27 hrs HW=80.51' (Free Discharge)
 ↑ **2=Exfiltration** (Exfiltration Controls 0.04 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑ **1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP12: 10'x 20 field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 2.97" for 2 Year Event event
 Inflow = 0.11 cfs @ 12.07 hrs, Volume= 371 cf
 Outflow = 0.04 cfs @ 12.27 hrs, Volume= 371 cf, Atten= 59%, Lag= 11.8 min
 Discarded = 0.04 cfs @ 12.27 hrs, Volume= 371 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 80.51' @ 12.27 hrs Surf.Area= 200 sf Storage= 42 cf

Plug-Flow detention time= 4.2 min calculated for 370 cf (100% of inflow)
 Center-of-Mass det. time= 4.2 min (759.7 - 755.5)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.04 cfs @ 12.27 hrs HW=80.51' (Free Discharge)
 ↑ **2=Exfiltration** (Exfiltration Controls 0.04 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑ **1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP13: 10'x 20 field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 2.97" for 2 Year Event event
 Inflow = 0.11 cfs @ 12.07 hrs, Volume= 371 cf
 Outflow = 0.04 cfs @ 12.27 hrs, Volume= 371 cf, Atten= 59%, Lag= 11.8 min
 Discarded = 0.04 cfs @ 12.27 hrs, Volume= 371 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 80.51' @ 12.27 hrs Surf.Area= 200 sf Storage= 42 cf

Plug-Flow detention time= 4.2 min calculated for 370 cf (100% of inflow)
 Center-of-Mass det. time= 4.2 min (759.7 - 755.5)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.04 cfs @ 12.27 hrs HW=80.51' (Free Discharge)
 ↑**2=Exfiltration** (Exfiltration Controls 0.04 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑**1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP14: 10'x 20 field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 2.97" for 2 Year Event event
 Inflow = 0.11 cfs @ 12.07 hrs, Volume= 371 cf
 Outflow = 0.04 cfs @ 12.27 hrs, Volume= 371 cf, Atten= 59%, Lag= 11.8 min
 Discarded = 0.04 cfs @ 12.27 hrs, Volume= 371 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 80.51' @ 12.27 hrs Surf.Area= 200 sf Storage= 42 cf

Plug-Flow detention time= 4.2 min calculated for 370 cf (100% of inflow)
 Center-of-Mass det. time= 4.2 min (759.7 - 755.5)

NORTHSIDE FARM 2-10-2017

Type III 24-hr 2 Year Event Rainfall=3.20"

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Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.04 cfs @ 12.27 hrs HW=80.51' (Free Discharge)↑**2=Exfiltration** (Exfiltration Controls 0.04 cfs)**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)↑**1=Orifice/Grate** (Controls 0.00 cfs)**Summary for Pond LP15: 10'x 20 field**

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 2.97" for 2 Year Event event
 Inflow = 0.11 cfs @ 12.07 hrs, Volume= 371 cf
 Outflow = 0.04 cfs @ 12.27 hrs, Volume= 371 cf, Atten= 59%, Lag= 11.8 min
 Discarded = 0.04 cfs @ 12.27 hrs, Volume= 371 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Peak Elev= 80.51' @ 12.27 hrs Surf.Area= 200 sf Storage= 42 cf

Plug-Flow detention time= 4.2 min calculated for 370 cf (100% of inflow)

Center-of-Mass det. time= 4.2 min (759.7 - 755.5)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.04 cfs @ 12.27 hrs HW=80.51' (Free Discharge)
 ↑ **2=Exfiltration** (Exfiltration Controls 0.04 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑ **1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP2: 10'x 20' field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 2.97" for 2 Year Event event
 Inflow = 0.11 cfs @ 12.07 hrs, Volume= 371 cf
 Outflow = 0.04 cfs @ 12.27 hrs, Volume= 371 cf, Atten= 59%, Lag= 11.8 min
 Discarded = 0.04 cfs @ 12.27 hrs, Volume= 371 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 80.51' @ 12.27 hrs Surf.Area= 200 sf Storage= 42 cf

Plug-Flow detention time= 4.2 min calculated for 370 cf (100% of inflow)
 Center-of-Mass det. time= 4.2 min (759.7 - 755.5)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.04 cfs @ 12.27 hrs HW=80.51' (Free Discharge)
 ↑ **2=Exfiltration** (Exfiltration Controls 0.04 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑ **1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP3: 10'x 20' field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 2.97" for 2 Year Event event
 Inflow = 0.11 cfs @ 12.07 hrs, Volume= 371 cf
 Outflow = 0.04 cfs @ 12.27 hrs, Volume= 371 cf, Atten= 59%, Lag= 11.8 min
 Discarded = 0.04 cfs @ 12.27 hrs, Volume= 371 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 80.51' @ 12.27 hrs Surf.Area= 200 sf Storage= 42 cf

Plug-Flow detention time= 4.2 min calculated for 370 cf (100% of inflow)
 Center-of-Mass det. time= 4.2 min (759.7 - 755.5)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.04 cfs @ 12.27 hrs HW=80.51' (Free Discharge)
 ↑**2=Exfiltration** (Exfiltration Controls 0.04 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑**1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP4: 10'x 20' field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 2.97" for 2 Year Event event
 Inflow = 0.11 cfs @ 12.07 hrs, Volume= 371 cf
 Outflow = 0.04 cfs @ 12.27 hrs, Volume= 371 cf, Atten= 59%, Lag= 11.8 min
 Discarded = 0.04 cfs @ 12.27 hrs, Volume= 371 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 80.51' @ 12.27 hrs Surf.Area= 200 sf Storage= 42 cf

Plug-Flow detention time= 4.2 min calculated for 370 cf (100% of inflow)
 Center-of-Mass det. time= 4.2 min (759.7 - 755.5)

NORTHSIDE FARM 2-10-2017

Type III 24-hr 2 Year Event Rainfall=3.20"

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Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.04 cfs @ 12.27 hrs HW=80.51' (Free Discharge)↑**2=Exfiltration** (Exfiltration Controls 0.04 cfs)**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)↑**1=Orifice/Grate** (Controls 0.00 cfs)**Summary for Pond LP5: 10'x 20 field**

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 2.97" for 2 Year Event event
 Inflow = 0.11 cfs @ 12.07 hrs, Volume= 371 cf
 Outflow = 0.04 cfs @ 12.27 hrs, Volume= 371 cf, Atten= 59%, Lag= 11.8 min
 Discarded = 0.04 cfs @ 12.27 hrs, Volume= 371 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Peak Elev= 80.51' @ 12.27 hrs Surf.Area= 200 sf Storage= 42 cf

Plug-Flow detention time= 4.2 min calculated for 370 cf (100% of inflow)

Center-of-Mass det. time= 4.2 min (759.7 - 755.5)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.04 cfs @ 12.27 hrs HW=80.51' (Free Discharge)
 ↑**2=Exfiltration** (Exfiltration Controls 0.04 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑**1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP6: 10'x 20 field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 2.97" for 2 Year Event event
 Inflow = 0.11 cfs @ 12.07 hrs, Volume= 371 cf
 Outflow = 0.04 cfs @ 12.27 hrs, Volume= 371 cf, Atten= 59%, Lag= 11.8 min
 Discarded = 0.04 cfs @ 12.27 hrs, Volume= 371 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 80.51' @ 12.27 hrs Surf.Area= 200 sf Storage= 42 cf

Plug-Flow detention time= 4.2 min calculated for 370 cf (100% of inflow)
 Center-of-Mass det. time= 4.2 min (759.7 - 755.5)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.04 cfs @ 12.27 hrs HW=80.51' (Free Discharge)
 ↑**2=Exfiltration** (Exfiltration Controls 0.04 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑**1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP7: 10'x 20' field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 2.97" for 2 Year Event event
 Inflow = 0.11 cfs @ 12.07 hrs, Volume= 371 cf
 Outflow = 0.04 cfs @ 12.27 hrs, Volume= 371 cf, Atten= 59%, Lag= 11.8 min
 Discarded = 0.04 cfs @ 12.27 hrs, Volume= 371 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 80.51' @ 12.27 hrs Surf.Area= 200 sf Storage= 42 cf

Plug-Flow detention time= 4.2 min calculated for 370 cf (100% of inflow)
 Center-of-Mass det. time= 4.2 min (759.7 - 755.5)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.04 cfs @ 12.27 hrs HW=80.51' (Free Discharge)
 ↑**2=Exfiltration** (Exfiltration Controls 0.04 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑**1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP8: 10'x 20' field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 2.97" for 2 Year Event event
 Inflow = 0.11 cfs @ 12.07 hrs, Volume= 371 cf
 Outflow = 0.04 cfs @ 12.27 hrs, Volume= 371 cf, Atten= 59%, Lag= 11.8 min
 Discarded = 0.04 cfs @ 12.27 hrs, Volume= 371 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 80.51' @ 12.27 hrs Surf.Area= 200 sf Storage= 42 cf

Plug-Flow detention time= 4.2 min calculated for 370 cf (100% of inflow)
 Center-of-Mass det. time= 4.2 min (759.7 - 755.5)

NORTHSIDE FARM 2-10-2017

Type III 24-hr 2 Year Event Rainfall=3.20"

Prepared by Microsoft

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Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.04 cfs @ 12.27 hrs HW=80.51' (Free Discharge)↑**2=Exfiltration** (Exfiltration Controls 0.04 cfs)**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)↑**1=Orifice/Grate** (Controls 0.00 cfs)**Summary for Pond LP9: 10'x 20 field**

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 2.97" for 2 Year Event event
 Inflow = 0.11 cfs @ 12.07 hrs, Volume= 371 cf
 Outflow = 0.04 cfs @ 12.27 hrs, Volume= 371 cf, Atten= 59%, Lag= 11.8 min
 Discarded = 0.04 cfs @ 12.27 hrs, Volume= 371 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Peak Elev= 80.51' @ 12.27 hrs Surf.Area= 200 sf Storage= 42 cf

Plug-Flow detention time= 4.2 min calculated for 370 cf (100% of inflow)

Center-of-Mass det. time= 4.2 min (759.7 - 755.5)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.04 cfs @ 12.27 hrs HW=80.51' (Free Discharge)
 ↑ **2=Exfiltration** (Exfiltration Controls 0.04 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑ **1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond PE: Existing Infiltration Pond

Inflow Area = 3,300 sf, 100.00% Impervious, Inflow Depth = 2.97" for 2 Year Event event
 Inflow = 0.24 cfs @ 12.07 hrs, Volume= 816 cf
 Outflow = 0.08 cfs @ 12.85 hrs, Volume= 816 cf, Atten= 67%, Lag= 46.8 min
 Discarded = 0.08 cfs @ 12.85 hrs, Volume= 816 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 91.26' @ 12.35 hrs Surf.Area= 408 sf Storage= 156 cf

Plug-Flow detention time= 12.4 min calculated for 814 cf (100% of inflow)
 Center-of-Mass det. time= 12.4 min (767.9 - 755.5)

Volume	Invert	Avail.Storage	Storage Description
#1	90.00'	320 cf	Custom Stage Data (Irregular) Listed below 800 cf Overall x 40.0% Voids
#2	91.00'	368 cf	StormTech SC-740 x 8 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		688 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
90.00	200	60.0	0	0	200
94.00	200	60.0	800	800	440

Device	Routing	Invert	Outlet Devices
#1	Primary	93.50'	6.0" Vert. Orifice/Grate C= 0.600
#2	Discarded	90.00'	8.270 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.08 cfs @ 12.85 hrs HW=91.01' (Free Discharge)
 ↑ **2=Exfiltration** (Exfiltration Controls 0.08 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=90.00' (Free Discharge)
 ↑ **1=Orifice/Grate** (Controls 0.00 cfs)

Time span=0.00-26.00 hrs, dt=0.05 hrs, 521 points

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1B: Ex. Bank Roof	Runoff Area=3,300 sf 100.00% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=0.34 cfs 1,200 cf
Subcatchment2B: Ex. Bank Parking Lot	Runoff Area=36,670 sf 59.99% Impervious Runoff Depth=3.29" Tc=5.0 min CN=88 Runoff=3.21 cfs 10,055 cf
Subcatchment3B: Ex. Landscape	Runoff Area=3,128 sf 0.00% Impervious Runoff Depth=2.05" Tc=5.0 min CN=74 Runoff=0.17 cfs 534 cf
Subcatchment3P: 3P	Runoff Area=28,778 sf 7.13% Impervious Runoff Depth=2.21" Tc=5.0 min CN=76 Runoff=1.71 cfs 5,300 cf
Subcatchment4P: 4P	Runoff Area=12,451 sf 47.31% Impervious Runoff Depth=3.00" Tc=5.0 min CN=85 Runoff=1.00 cfs 3,113 cf
Subcatchment5P: 5P	Runoff Area=24,485 sf 0.00% Impervious Runoff Depth=2.05" Flow Length=200' Slope=0.0100 '/' Tc=14.4 min CN=74 Runoff=1.02 cfs 4,182 cf
Subcatchment6P: 6P	Runoff Area=170,220 sf 0.76% Impervious Runoff Depth=2.05" Flow Length=440' Slope=0.0200 '/' Tc=15.2 min CN=74 Runoff=6.96 cfs 29,073 cf
Subcatchment7P: 7P	Runoff Area=20,619 sf 52.80% Impervious Runoff Depth=3.19" Tc=5.0 min CN=87 Runoff=1.76 cfs 5,485 cf
Subcatchment8P: 8P	Runoff Area=23,809 sf 45.16% Impervious Runoff Depth=3.00" Tc=5.0 min CN=85 Runoff=1.92 cfs 5,953 cf
Subcatchment9P: 9P	Runoff Area=25,030 sf 54.05% Impervious Runoff Depth=3.19" Tc=5.0 min CN=87 Runoff=2.13 cfs 6,658 cf
Subcatchment10P: 10P	Runoff Area=226,733 sf 0.90% Impervious Runoff Depth=2.05" Flow Length=850' Tc=19.0 min CN=74 Runoff=8.49 cfs 38,725 cf
Subcatchment11P: 11P	Runoff Area=48,707 sf 0.00% Impervious Runoff Depth=2.05" Flow Length=300' Slope=0.0200 '/' Tc=9.8 min CN=74 Runoff=2.31 cfs 8,319 cf
SubcatchmentL1: LOT 1	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf
SubcatchmentL10: LOT 10	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf
SubcatchmentL11: LOT 11	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf
SubcatchmentL12: LOT 12	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf

SubcatchmentL13: LOT 13	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf
SubcatchmentL14: LOT 14	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf
SubcatchmentL15: LOT 15	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf
SubcatchmentL2: LOT 2	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf
SubcatchmentL3: LOT 3	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf
SubcatchmentL4: LOT 4	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf
SubcatchmentL5: LOT 5	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf
SubcatchmentL6: LOT 6	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf
SubcatchmentL7: LOT 7	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf
SubcatchmentL8: LOT 8	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf
SubcatchmentL9: LOT 9	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf
Reach 1R: 18" RCP	Avg. Flow Depth=0.41' Max Vel=5.63 fps Inflow=2.19 cfs 5,246 cf 18.0" Round Pipe n=0.013 L=60.0' S=0.0167 ' Capacity=13.56 cfs Outflow=2.19 cfs 5,246 cf
Reach 2R: 24" RCP	Avg. Flow Depth=0.90' Max Vel=5.61 fps Inflow=7.70 cfs 28,135 cf 24.0" Round Pipe n=0.013 L=30.0' S=0.0067 ' Capacity=18.47 cfs Outflow=7.68 cfs 28,135 cf
Reach 3R: 18" RCP	Avg. Flow Depth=0.83' Max Vel=4.85 fps Inflow=4.87 cfs 18,080 cf 18.0" Round Pipe n=0.013 L=65.0' S=0.0062 ' Capacity=8.24 cfs Outflow=4.85 cfs 18,080 cf
Reach 4R: 18" RCP	Avg. Flow Depth=0.80' Max Vel=4.32 fps Inflow=4.18 cfs 13,898 cf 18.0" Round Pipe n=0.013 L=180.0' S=0.0050 ' Capacity=7.43 cfs Outflow=4.06 cfs 13,898 cf
Reach 5R: 18" RCP	Avg. Flow Depth=0.75' Max Vel=2.95 fps Inflow=2.62 cfs 8,413 cf 18.0" Round Pipe n=0.013 L=130.0' S=0.0025 ' Capacity=5.21 cfs Outflow=2.53 cfs 8,413 cf
Reach 6R: 12" RCP	Avg. Flow Depth=0.50' Max Vel=2.49 fps Inflow=1.00 cfs 3,113 cf 12.0" Round Pipe n=0.013 L=190.0' S=0.0030 ' Capacity=1.95 cfs Outflow=0.95 cfs 3,113 cf
Reach 7R: 10" ADS	Avg. Flow Depth=0.33' Max Vel=8.52 fps Inflow=1.71 cfs 5,300 cf 10.0" Round Pipe n=0.010 L=95.0' S=0.0334 ' Capacity=5.20 cfs Outflow=1.70 cfs 5,300 cf

Reach 8R: 18" RCP Avg. Flow Depth=0.70' Max Vel=4.70 fps Inflow=3.83 cfs 12,611 cf
18.0" Round Pipe n=0.013 L=30.0' S=0.0067 '/ Capacity=8.58 cfs Outflow=3.81 cfs 12,611 cf

Reach 9R: 18" RCP Avg. Flow Depth=0.78' Max Vel=4.28 fps Inflow=4.00 cfs 12,611 cf
18.0" Round Pipe n=0.013 L=280.0' S=0.0050 '/ Capacity=7.43 cfs Outflow=3.83 cfs 12,611 cf

Reach 10R: 18" RCP Avg. Flow Depth=0.48' Max Vel=3.88 fps Inflow=1.92 cfs 5,953 cf
18.0" Round Pipe n=0.013 L=60.0' S=0.0067 '/ Capacity=8.58 cfs Outflow=1.89 cfs 5,953 cf

Reach 11R: Outlets Inflow=0.00 cfs 0 cf
Outflow=0.00 cfs 0 cf

Reach 12R: Outlets Inflow=0.00 cfs 0 cf
Outflow=0.00 cfs 0 cf

Reach 13R: Outlets Inflow=0.00 cfs 0 cf
Outflow=0.00 cfs 0 cf

Reach 14R: Outlets Inflow=0.00 cfs 0 cf
Outflow=0.00 cfs 0 cf

Reach 15R: 12" RCP Avg. Flow Depth=0.30' Max Vel=5.52 fps Inflow=1.07 cfs 6,534 cf
12.0" Round Pipe n=0.013 L=20.0' S=0.0250 '/ Capacity=5.63 cfs Outflow=1.07 cfs 6,534 cf

Reach DCP1: DESIGN POINT #1 Inflow=2.19 cfs 5,246 cf
Outflow=2.19 cfs 5,246 cf

Reach DCP2: DESIGN POINT #2 Inflow=6.96 cfs 29,073 cf
Outflow=6.96 cfs 29,073 cf

Reach DCP3: DESIGN POINT #3 Inflow=9.50 cfs 45,260 cf
Outflow=9.50 cfs 45,260 cf

Pond 1P: POND #1 Peak Elev=97.27' Storage=6,939 cf Inflow=7.68 cfs 28,135 cf
Discarded=1.02 cfs 23,423 cf Primary=2.14 cfs 4,711 cf Outflow=3.16 cfs 28,135 cf

Pond 2P: Infiltration Pond #2 Peak Elev=94.04' Storage=5,186 cf Inflow=6.05 cfs 20,930 cf
Discarded=0.93 cfs 14,396 cf Primary=1.07 cfs 6,534 cf Outflow=2.00 cfs 20,930 cf

Pond LP1: 10'x 20 field Peak Elev=80.90' Storage=90 cf Inflow=0.16 cfs 545 cf
Discarded=0.05 cfs 545 cf Primary=0.00 cfs 0 cf Outflow=0.05 cfs 545 cf

Pond LP10: 10'x 20 field Peak Elev=80.90' Storage=90 cf Inflow=0.16 cfs 545 cf
Discarded=0.05 cfs 545 cf Primary=0.00 cfs 0 cf Outflow=0.05 cfs 545 cf

Pond LP11: 10'x 20 field Peak Elev=80.90' Storage=90 cf Inflow=0.16 cfs 545 cf
Discarded=0.05 cfs 545 cf Primary=0.00 cfs 0 cf Outflow=0.05 cfs 545 cf

Pond LP12: 10'x 20 field Peak Elev=80.90' Storage=90 cf Inflow=0.16 cfs 545 cf
Discarded=0.05 cfs 545 cf Primary=0.00 cfs 0 cf Outflow=0.05 cfs 545 cf

Pond LP13: 10'x 20 field

Peak Elev=80.90' Storage=90 cf Inflow=0.16 cfs 545 cf
Discarded=0.05 cfs 545 cf Primary=0.00 cfs 0 cf Outflow=0.05 cfs 545 cf

Pond LP14: 10'x 20 field

Peak Elev=80.90' Storage=90 cf Inflow=0.16 cfs 545 cf
Discarded=0.05 cfs 545 cf Primary=0.00 cfs 0 cf Outflow=0.05 cfs 545 cf

Pond LP15: 10'x 20 field

Peak Elev=80.90' Storage=90 cf Inflow=0.16 cfs 545 cf
Discarded=0.05 cfs 545 cf Primary=0.00 cfs 0 cf Outflow=0.05 cfs 545 cf

Pond LP2: 10'x 20 field

Peak Elev=80.90' Storage=90 cf Inflow=0.16 cfs 545 cf
Discarded=0.05 cfs 545 cf Primary=0.00 cfs 0 cf Outflow=0.05 cfs 545 cf

Pond LP3: 10'x 20 field

Peak Elev=80.90' Storage=90 cf Inflow=0.16 cfs 545 cf
Discarded=0.05 cfs 545 cf Primary=0.00 cfs 0 cf Outflow=0.05 cfs 545 cf

Pond LP4: 10'x 20 field

Peak Elev=80.90' Storage=90 cf Inflow=0.16 cfs 545 cf
Discarded=0.05 cfs 545 cf Primary=0.00 cfs 0 cf Outflow=0.05 cfs 545 cf

Pond LP5: 10'x 20 field

Peak Elev=80.90' Storage=90 cf Inflow=0.16 cfs 545 cf
Discarded=0.05 cfs 545 cf Primary=0.00 cfs 0 cf Outflow=0.05 cfs 545 cf

Pond LP6: 10'x 20 field

Peak Elev=80.90' Storage=90 cf Inflow=0.16 cfs 545 cf
Discarded=0.05 cfs 545 cf Primary=0.00 cfs 0 cf Outflow=0.05 cfs 545 cf

Pond LP7: 10'x 20 field

Peak Elev=80.90' Storage=90 cf Inflow=0.16 cfs 545 cf
Discarded=0.05 cfs 545 cf Primary=0.00 cfs 0 cf Outflow=0.05 cfs 545 cf

Pond LP8: 10'x 20 field

Peak Elev=80.90' Storage=90 cf Inflow=0.16 cfs 545 cf
Discarded=0.05 cfs 545 cf Primary=0.00 cfs 0 cf Outflow=0.05 cfs 545 cf

Pond LP9: 10'x 20 field

Peak Elev=80.90' Storage=90 cf Inflow=0.16 cfs 545 cf
Discarded=0.05 cfs 545 cf Primary=0.00 cfs 0 cf Outflow=0.05 cfs 545 cf

Pond PE: Existing Infiltration Pond

Peak Elev=91.73' Storage=289 cf Inflow=0.34 cfs 1,200 cf
Discarded=0.08 cfs 1,200 cf Primary=0.00 cfs 0 cf Outflow=0.08 cfs 1,200 cf

Summary for Subcatchment 1B: Ex. Bank Roof

Runoff = 0.34 cfs @ 12.07 hrs, Volume= 1,200 cf, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

Area (sf)	CN	Description
* 3,300	98	Bank Roof
3,300		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, DIRECT

Summary for Subcatchment 2B: Ex. Bank Parking Lot

Runoff = 3.21 cfs @ 12.07 hrs, Volume= 10,055 cf, Depth= 3.29"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

Area (sf)	CN	Description
22,000	98	Paved parking & roofs
14,670	74	>75% Grass cover, Good, HSG C
36,670	88	Weighted Average
14,670		40.01% Pervious Area
22,000		59.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, direct

Summary for Subcatchment 3B: Ex. Landscape

Runoff = 0.17 cfs @ 12.08 hrs, Volume= 534 cf, Depth= 2.05"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

Area (sf)	CN	Description
3,128	74	>75% Grass cover, Good, HSG C
3,128		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Direct

Summary for Subcatchment 3P: 3P

Runoff = 1.71 cfs @ 12.08 hrs, Volume= 5,300 cf, Depth= 2.21"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
*	2,051	98	Exisitng houses
	26,727	74	>75% Grass cover, Good, HSG C
*	0	98	Roadway
*	0	98	Sidewalks
	28,778	76	Weighted Average
	26,727		92.87% Pervious Area
	2,051		7.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Direct

Summary for Subcatchment 4P: 4P

Runoff = 1.00 cfs @ 12.07 hrs, Volume= 3,113 cf, Depth= 3.00"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
	6,560	74	>75% Grass cover, Good, HSG C
*	5,891	98	Roadway & Sidewalks
	12,451	85	Weighted Average
	6,560		52.69% Pervious Area
	5,891		47.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Direct

Summary for Subcatchment 5P: 5P

Runoff = 1.02 cfs @ 12.21 hrs, Volume= 4,182 cf, Depth= 2.05"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
	24,485	74	>75% Grass cover, Good, HSG C
	24,485		100.00% Pervious Area

NORTHSIDE FARM 2-10-2017

Type III 24-hr 10 Year Event Rainfall=4.60"

Prepared by Microsoft

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	50	0.0100	0.08		Sheet Flow, sheet flow Grass: Dense n= 0.240 P2= 3.20"
3.6	150	0.0100	0.70		Shallow Concentrated Flow, Channel flow Short Grass Pasture Kv= 7.0 fps
14.4	200	Total			

Summary for Subcatchment 6P: 6P

Runoff = 6.96 cfs @ 12.22 hrs, Volume= 29,073 cf, Depth= 2.05"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

Area (sf)	CN	Description
* 1,290	98	Exisitng houses
87,260	74	>75% Grass cover, Good, HSG C
81,670	73	Woods, Fair, HSG C
170,220	74	Weighted Average
168,930		99.24% Pervious Area
1,290		0.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	50	0.0200	0.07		Sheet Flow, sheet flow Woods: Light underbrush n= 0.400 P2= 3.20"
2.9	390	0.0200	2.28		Shallow Concentrated Flow, shallow Unpaved Kv= 16.1 fps
15.2	440	Total			

Summary for Subcatchment 7P: 7P

Runoff = 1.76 cfs @ 12.07 hrs, Volume= 5,485 cf, Depth= 3.19"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

Area (sf)	CN	Description
* 0	98	Exisitng houses
9,732	74	>75% Grass cover, Good, HSG C
* 5,787	98	Roadway
* 5,100	98	Sidewalks & Drives
20,619	87	Weighted Average
9,732		47.20% Pervious Area
10,887		52.80% Impervious Area

NORTHSIDE FARM 2-10-2017

Type III 24-hr 10 Year Event Rainfall=4.60"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Direct

Summary for Subcatchment 8P: 8P

Runoff = 1.92 cfs @ 12.07 hrs, Volume= 5,953 cf, Depth= 3.00"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

Area (sf)	CN	Description
13,057	74	>75% Grass cover, Good, HSG C
* 5,722	98	Roadway
* 3,790	98	Drives
* 1,240	98	Sidewalks
23,809	85	Weighted Average
13,057		54.84% Pervious Area
10,752		45.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Direct

Summary for Subcatchment 9P: 9P

Runoff = 2.13 cfs @ 12.07 hrs, Volume= 6,658 cf, Depth= 3.19"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

Area (sf)	CN	Description
11,501	74	>75% Grass cover, Good, HSG C
* 8,588	98	Roadway
* 3,970	98	Drives
* 971	98	Sidewalks
25,030	87	Weighted Average
11,501		45.95% Pervious Area
13,529		54.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Direct

Summary for Subcatchment 10P: 10P

Runoff = 8.49 cfs @ 12.27 hrs, Volume= 38,725 cf, Depth= 2.05"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

NORTHSIDE FARM 2-10-2017

Type III 24-hr 10 Year Event Rainfall=4.60"

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Area (sf)	CN	Description
* 2,032	98	Exisitng houses
83,173	74	>75% Grass cover, Good, HSG C
141,528	73	Woods, Fair, HSG C
226,733	74	Weighted Average
224,701		99.10% Pervious Area
2,032		0.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	50	0.0100	0.11		Sheet Flow, Sheet Grass: Short n= 0.150 P2= 3.20"
10.1	430	0.0200	0.71		Shallow Concentrated Flow, Shallow Woodland Kv= 5.0 fps
1.5	370	0.0100	4.09	24.53	Channel Flow, River Flow Area= 6.0 sf Perim= 8.0' r= 0.75' n= 0.030 Earth, grassed & winding
19.0	850	Total			

Summary for Subcatchment 11P: 11P

Runoff = 2.31 cfs @ 12.15 hrs, Volume= 8,319 cf, Depth= 2.05"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

Area (sf)	CN	Description
* 48,707	74	grass
48,707		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		Sheet Flow, Sheet Grass: Short n= 0.150 P2= 3.20"
4.2	250	0.0200	0.99		Shallow Concentrated Flow, shallow Short Grass Pasture Kv= 7.0 fps
9.8	300	Total			

Summary for Subcatchment L1: LOT 1

Runoff = 0.16 cfs @ 12.07 hrs, Volume= 545 cf, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

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Type III 24-hr 10 Year Event Rainfall=4.60"

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	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L10: LOT 10

Runoff = 0.16 cfs @ 12.07 hrs, Volume= 545 cf, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L11: LOT 11

Runoff = 0.16 cfs @ 12.07 hrs, Volume= 545 cf, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L12: LOT 12

Runoff = 0.16 cfs @ 12.07 hrs, Volume= 545 cf, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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Type III 24-hr 10 Year Event Rainfall=4.60"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L13: LOT 13

Runoff = 0.16 cfs @ 12.07 hrs, Volume= 545 cf, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

Area (sf)	CN	Description
* 1,500	98	
1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L14: LOT 14

Runoff = 0.16 cfs @ 12.07 hrs, Volume= 545 cf, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

Area (sf)	CN	Description
* 1,500	98	
1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L15: LOT 15

Runoff = 0.16 cfs @ 12.07 hrs, Volume= 545 cf, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

Area (sf)	CN	Description
* 1,500	98	
1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L2: LOT 2

Runoff = 0.16 cfs @ 12.07 hrs, Volume= 545 cf, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L3: LOT 3

Runoff = 0.16 cfs @ 12.07 hrs, Volume= 545 cf, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L4: LOT 4

Runoff = 0.16 cfs @ 12.07 hrs, Volume= 545 cf, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L5: LOT 5

Runoff = 0.16 cfs @ 12.07 hrs, Volume= 545 cf, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L6: LOT 6

Runoff = 0.16 cfs @ 12.07 hrs, Volume= 545 cf, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L7: LOT 7

Runoff = 0.16 cfs @ 12.07 hrs, Volume= 545 cf, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

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Type III 24-hr 10 Year Event Rainfall=4.60"

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Summary for Subcatchment L8: LOT 8

Runoff = 0.16 cfs @ 12.07 hrs, Volume= 545 cf, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L9: LOT 9

Runoff = 0.16 cfs @ 12.07 hrs, Volume= 545 cf, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Reach 1R: 18" RCP

Inflow Area = 133,931 sf, 36.31% Impervious, Inflow Depth = 0.47" for 10 Year Event event

Inflow = 2.19 cfs @ 12.42 hrs, Volume= 5,246 cf

Outflow = 2.19 cfs @ 12.43 hrs, Volume= 5,246 cf, Atten= 0%, Lag= 0.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Max. Velocity= 5.63 fps, Min. Travel Time= 0.2 min

Avg. Velocity = 1.23 fps, Avg. Travel Time= 0.8 min

Peak Storage= 23 cf @ 12.42 hrs

Average Depth at Peak Storage= 0.41'

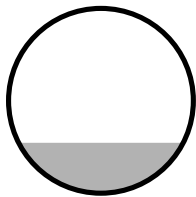
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 13.56 cfs

18.0" Round Pipe

n= 0.013

Length= 60.0' Slope= 0.0167 '/'

Inlet Invert= 94.00', Outlet Invert= 93.00'

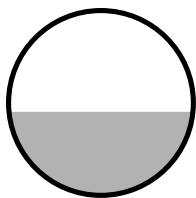
**Summary for Reach 2R: 24" RCP**

Inflow Area = 127,503 sf, 35.55% Impervious, Inflow Depth = 2.65" for 10 Year Event event
Inflow = 7.70 cfs @ 12.11 hrs, Volume= 28,135 cf
Outflow = 7.68 cfs @ 12.11 hrs, Volume= 28,135 cf, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.61 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.89 fps, Avg. Travel Time= 0.3 min

Peak Storage= 41 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.90'
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 18.47 cfs

24.0" Round Pipe
n= 0.013
Length= 30.0' Slope= 0.0067 '
Inlet Invert= 95.65', Outlet Invert= 95.45'

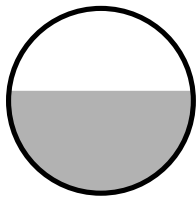
**Summary for Reach 3R: 18" RCP**

Inflow Area = 90,833 sf, 25.68% Impervious, Inflow Depth = 2.39" for 10 Year Event event
Inflow = 4.87 cfs @ 12.13 hrs, Volume= 18,080 cf
Outflow = 4.85 cfs @ 12.14 hrs, Volume= 18,080 cf, Atten= 0%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.85 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.67 fps, Avg. Travel Time= 0.6 min

Peak Storage= 65 cf @ 12.13 hrs
Average Depth at Peak Storage= 0.83'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 8.24 cfs

18.0" Round Pipe
n= 0.013
Length= 65.0' Slope= 0.0062 '
Inlet Invert= 96.10', Outlet Invert= 95.70'

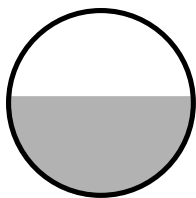
**Summary for Reach 4R: 18" RCP**

Inflow Area = 61,848 sf, 30.44% Impervious, Inflow Depth = 2.70" for 10 Year Event event
Inflow = 4.18 cfs @ 12.10 hrs, Volume= 13,898 cf
Outflow = 4.06 cfs @ 12.12 hrs, Volume= 13,898 cf, Atten= 3%, Lag= 1.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.32 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 1.44 fps, Avg. Travel Time= 2.1 min

Peak Storage= 174 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.80'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 7.43 cfs

18.0" Round Pipe
n= 0.013
Length= 180.0' Slope= 0.0050 '/'
Inlet Invert= 97.00', Outlet Invert= 96.10'

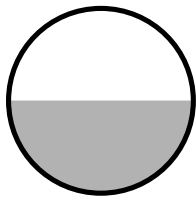
**Summary for Reach 5R: 18" RCP**

Inflow Area = 41,229 sf, 19.26% Impervious, Inflow Depth = 2.45" for 10 Year Event event
Inflow = 2.62 cfs @ 12.10 hrs, Volume= 8,413 cf
Outflow = 2.53 cfs @ 12.12 hrs, Volume= 8,413 cf, Atten= 3%, Lag= 1.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.95 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 0.99 fps, Avg. Travel Time= 2.2 min

Peak Storage= 115 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.75'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 5.21 cfs

18.0" Round Pipe
n= 0.013
Length= 130.0' Slope= 0.0025 '/'
Inlet Invert= 97.32', Outlet Invert= 97.00'

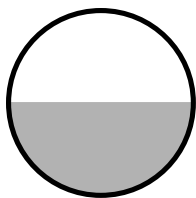
**Summary for Reach 6R: 12" RCP**

Inflow Area = 12,451 sf, 47.31% Impervious, Inflow Depth = 3.00" for 10 Year Event event
Inflow = 1.00 cfs @ 12.07 hrs, Volume= 3,113 cf
Outflow = 0.95 cfs @ 12.11 hrs, Volume= 3,113 cf, Atten= 6%, Lag= 2.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.49 fps, Min. Travel Time= 1.3 min
Avg. Velocity = 0.85 fps, Avg. Travel Time= 3.7 min

Peak Storage= 75 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.50'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 1.95 cfs

12.0" Round Pipe
n= 0.013
Length= 190.0' Slope= 0.0030 '/
Inlet Invert= 97.90', Outlet Invert= 97.33'

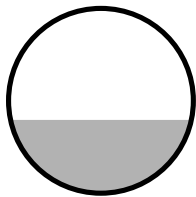
**Summary for Reach 7R: 10" ADS**

Inflow Area = 28,778 sf, 7.13% Impervious, Inflow Depth = 2.21" for 10 Year Event event
Inflow = 1.71 cfs @ 12.08 hrs, Volume= 5,300 cf
Outflow = 1.70 cfs @ 12.09 hrs, Volume= 5,300 cf, Atten= 1%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.52 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 3.12 fps, Avg. Travel Time= 0.5 min

Peak Storage= 19 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.33'
Bank-Full Depth= 0.83' Flow Area= 0.5 sf, Capacity= 5.20 cfs

10.0" Round Pipe
n= 0.010 PVC, smooth interior
Length= 95.0' Slope= 0.0334 '/
Inlet Invert= 100.50', Outlet Invert= 97.33'

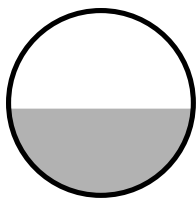
**Summary for Reach 8R: 18" RCP**

Inflow Area = 48,839 sf, 49.72% Impervious, Inflow Depth = 3.10" for 10 Year Event event
Inflow = 3.83 cfs @ 12.11 hrs, Volume= 12,611 cf
Outflow = 3.81 cfs @ 12.11 hrs, Volume= 12,611 cf, Atten= 1%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.70 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.58 fps, Avg. Travel Time= 0.3 min

Peak Storage= 24 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.70'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 8.58 cfs

18.0" Round Pipe
n= 0.013
Length= 30.0' Slope= 0.0067 '/'
Inlet Invert= 92.90', Outlet Invert= 92.70'

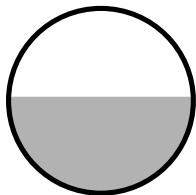
**Summary for Reach 9R: 18" RCP**

Inflow Area = 48,839 sf, 49.72% Impervious, Inflow Depth = 3.10" for 10 Year Event event
Inflow = 4.00 cfs @ 12.08 hrs, Volume= 12,611 cf
Outflow = 3.83 cfs @ 12.11 hrs, Volume= 12,611 cf, Atten= 4%, Lag= 2.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.28 fps, Min. Travel Time= 1.1 min
Avg. Velocity = 1.42 fps, Avg. Travel Time= 3.3 min

Peak Storage= 261 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.78'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 7.43 cfs

18.0" Round Pipe
n= 0.013
Length= 280.0' Slope= 0.0050 '/'
Inlet Invert= 94.30', Outlet Invert= 92.90'

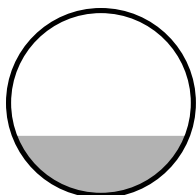
**Summary for Reach 10R: 18" RCP**

Inflow Area = 23,809 sf, 45.16% Impervious, Inflow Depth = 3.00" for 10 Year Event event
Inflow = 1.92 cfs @ 12.07 hrs, Volume= 5,953 cf
Outflow = 1.89 cfs @ 12.08 hrs, Volume= 5,953 cf, Atten= 1%, Lag= 0.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.88 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 1.33 fps, Avg. Travel Time= 0.8 min

Peak Storage= 29 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.48'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 8.58 cfs

18.0" Round Pipe
n= 0.013
Length= 60.0' Slope= 0.0067 '
Inlet Invert= 94.70', Outlet Invert= 94.30'

**Summary for Reach 11R: Outlets**

Inflow Area = 4,500 sf, 100.00% Impervious, Inflow Depth = 0.00" for 10 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach 12R: Outlets

Inflow Area = 7,500 sf, 100.00% Impervious, Inflow Depth = 0.00" for 10 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach 13R: Outlets

Inflow Area = 3,000 sf, 100.00% Impervious, Inflow Depth = 0.00" for 10 Year Event event
 Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach 14R: Outlets

Inflow Area = 7,500 sf, 100.00% Impervious, Inflow Depth = 0.00" for 10 Year Event event
 Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach 15R: 12" RCP

Inflow Area = 100,546 sf, 27.13% Impervious, Inflow Depth = 0.78" for 10 Year Event event
 Inflow = 1.07 cfs @ 12.48 hrs, Volume= 6,534 cf
 Outflow = 1.07 cfs @ 12.48 hrs, Volume= 6,534 cf, Atten= 0%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Max. Velocity= 5.52 fps, Min. Travel Time= 0.1 min

Avg. Velocity= 1.40 fps, Avg. Travel Time= 0.2 min

Peak Storage= 4 cf @ 12.48 hrs

Average Depth at Peak Storage= 0.30'

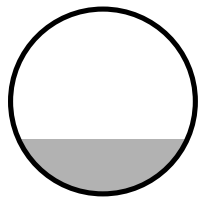
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 5.63 cfs

12.0" Round Pipe

n= 0.013

Length= 20.0' Slope= 0.0250 '/'

Inlet Invert= 92.50', Outlet Invert= 92.00'



Summary for Reach DCP1: DESIGN POINT #1

Inflow Area = 133,931 sf, 36.31% Impervious, Inflow Depth = 0.47" for 10 Year Event event
 Inflow = 2.19 cfs @ 12.43 hrs, Volume= 5,246 cf
 Outflow = 2.19 cfs @ 12.43 hrs, Volume= 5,246 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach DCP2: DESIGN POINT #2

Inflow Area = 177,720 sf, 4.95% Impervious, Inflow Depth = 1.96" for 10 Year Event event
 Inflow = 6.96 cfs @ 12.22 hrs, Volume= 29,073 cf
 Outflow = 6.96 cfs @ 12.22 hrs, Volume= 29,073 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach DCP3: DESIGN POINT #3

Inflow Area = 334,779 sf, 11.00% Impervious, Inflow Depth = 1.62" for 10 Year Event event
 Inflow = 9.50 cfs @ 12.27 hrs, Volume= 45,260 cf
 Outflow = 9.50 cfs @ 12.27 hrs, Volume= 45,260 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Pond 1P: POND #1

Inflow Area = 127,503 sf, 35.55% Impervious, Inflow Depth = 2.65" for 10 Year Event event
 Inflow = 7.68 cfs @ 12.11 hrs, Volume= 28,135 cf
 Outflow = 3.16 cfs @ 12.42 hrs, Volume= 28,135 cf, Atten= 59%, Lag= 18.7 min
 Discarded = 1.02 cfs @ 11.70 hrs, Volume= 23,423 cf
 Primary = 2.14 cfs @ 12.42 hrs, Volume= 4,711 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 97.27' @ 12.42 hrs Surf.Area= 5,325 sf Storage= 6,939 cf

Plug-Flow detention time= 29.8 min calculated for 28,135 cf (100% of inflow)
 Center-of-Mass det. time= 29.9 min (848.5 - 818.6)

Volume	Invert	Avail.Storage	Storage Description
#1	95.40'	4,699 cf	Custom Stage Data (Irregular) Listed below 18,638 cf Overall - 6,891 cf Embedded = 11,746 cf x 40.0% Voids
#2	95.90'	6,891 cf	StormTech SC-740 x 150 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		11,590 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
95.40	5,325	292.0	0	0	5,325
98.90	5,325	292.0	18,638	18,638	6,347

Device	Routing	Invert	Outlet Devices
#1	Discarded	95.40'	8.270 in/hr Exfiltration over Surface area
#2	Primary	96.60'	1.3' long Sharp-Crested Rectangular Weir 2 End Contraction(s) 5.0' Crest Height

Discarded OutFlow Max=1.02 cfs @ 11.70 hrs HW=95.45' (Free Discharge)

↑ **1=Exfiltration** (Exfiltration Controls 1.02 cfs)

Primary OutFlow Max=2.12 cfs @ 12.42 hrs HW=97.27' (Free Discharge)

↑ **2=Sharp-Crested Rectangular Weir** (Weir Controls 2.12 cfs @ 2.72 fps)

Summary for Pond 2P: Infiltration Pond #2

Inflow Area = 100,546 sf, 27.13% Impervious, Inflow Depth = 2.50" for 10 Year Event event
 Inflow = 6.05 cfs @ 12.12 hrs, Volume= 20,930 cf
 Outflow = 2.00 cfs @ 12.48 hrs, Volume= 20,930 cf, Atten= 67%, Lag= 21.3 min
 Discarded = 0.93 cfs @ 12.48 hrs, Volume= 14,396 cf
 Primary = 1.07 cfs @ 12.48 hrs, Volume= 6,534 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 94.04' @ 12.48 hrs Surf.Area= 4,801 sf Storage= 5,186 cf

Plug-Flow detention time= 21.5 min calculated for 20,930 cf (100% of inflow)
 Center-of-Mass det. time= 21.5 min (845.7 - 824.2)

Volume	Invert	Avail.Storage	Storage Description		
#1	92.50'	19,107 cf	Custom Stage Data (Irregular) Listed below		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
92.50	2,105	235.0	0	0	2,105
93.00	2,850	255.0	1,234	1,234	2,894
94.00	4,720	306.0	3,746	4,980	5,188
95.00	7,025	360.0	5,834	10,814	8,070
96.00	9,629	412.0	8,293	19,107	11,287
Device	Routing	Invert	Outlet Devices		
#1	Primary	94.80'	2.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s) 3.0' Crest Height		
#2	Primary	92.50'	6.0" Vert. Orifice/Grate C= 0.600		
#3	Discarded	92.50'	8.270 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 0.00'		

Discarded OutFlow Max=0.93 cfs @ 12.48 hrs HW=94.03' (Free Discharge)

↑ **3=Exfiltration** (Controls 0.93 cfs)

Primary OutFlow Max=1.07 cfs @ 12.48 hrs HW=94.03' (Free Discharge)

↑ **1=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

↑ **2=Orifice/Grate** (Orifice Controls 1.07 cfs @ 5.46 fps)

Summary for Pond LP1: 10'x 20' field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 4.36" for 10 Year Event event
 Inflow = 0.16 cfs @ 12.07 hrs, Volume= 545 cf
 Outflow = 0.05 cfs @ 12.37 hrs, Volume= 545 cf, Atten= 69%, Lag= 17.7 min
 Discarded = 0.05 cfs @ 12.37 hrs, Volume= 545 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 80.90' @ 12.37 hrs Surf.Area= 200 sf Storage= 90 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 8.8 min (757.3 - 748.5)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.05 cfs @ 12.37 hrs HW=80.90' (Free Discharge)
 ↑**2=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑**1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP10: 10'x 20' field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 4.36" for 10 Year Event event
 Inflow = 0.16 cfs @ 12.07 hrs, Volume= 545 cf
 Outflow = 0.05 cfs @ 12.37 hrs, Volume= 545 cf, Atten= 69%, Lag= 17.7 min
 Discarded = 0.05 cfs @ 12.37 hrs, Volume= 545 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 80.90' @ 12.37 hrs Surf.Area= 200 sf Storage= 90 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 8.8 min (757.3 - 748.5)

NORTHSIDE FARM 2-10-2017

Type III 24-hr 10 Year Event Rainfall=4.60"

Prepared by Microsoft

Printed 2/9/2017

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Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.05 cfs @ 12.37 hrs HW=80.90' (Free Discharge)↑**2=Exfiltration** (Exfiltration Controls 0.05 cfs)**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)↑**1=Orifice/Grate** (Controls 0.00 cfs)**Summary for Pond LP11: 10'x 20 field**

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 4.36" for 10 Year Event event
 Inflow = 0.16 cfs @ 12.07 hrs, Volume= 545 cf
 Outflow = 0.05 cfs @ 12.37 hrs, Volume= 545 cf, Atten= 69%, Lag= 17.7 min
 Discarded = 0.05 cfs @ 12.37 hrs, Volume= 545 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Peak Elev= 80.90' @ 12.37 hrs Surf.Area= 200 sf Storage= 90 cf

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

Center-of-Mass det. time= 8.8 min (757.3 - 748.5)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.05 cfs @ 12.37 hrs HW=80.90' (Free Discharge)
 ↑**2=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑**1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP12: 10'x 20 field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 4.36" for 10 Year Event event
 Inflow = 0.16 cfs @ 12.07 hrs, Volume= 545 cf
 Outflow = 0.05 cfs @ 12.37 hrs, Volume= 545 cf, Atten= 69%, Lag= 17.7 min
 Discarded = 0.05 cfs @ 12.37 hrs, Volume= 545 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 80.90' @ 12.37 hrs Surf.Area= 200 sf Storage= 90 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 8.8 min (757.3 - 748.5)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.05 cfs @ 12.37 hrs HW=80.90' (Free Discharge)
 ↑**2=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑**1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP13: 10'x 20 field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 4.36" for 10 Year Event event
 Inflow = 0.16 cfs @ 12.07 hrs, Volume= 545 cf
 Outflow = 0.05 cfs @ 12.37 hrs, Volume= 545 cf, Atten= 69%, Lag= 17.7 min
 Discarded = 0.05 cfs @ 12.37 hrs, Volume= 545 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 80.90' @ 12.37 hrs Surf.Area= 200 sf Storage= 90 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 8.8 min (757.3 - 748.5)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.05 cfs @ 12.37 hrs HW=80.90' (Free Discharge)
 ↑ **2=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑ **1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP14: 10'x 20 field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 4.36" for 10 Year Event event
 Inflow = 0.16 cfs @ 12.07 hrs, Volume= 545 cf
 Outflow = 0.05 cfs @ 12.37 hrs, Volume= 545 cf, Atten= 69%, Lag= 17.7 min
 Discarded = 0.05 cfs @ 12.37 hrs, Volume= 545 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 80.90' @ 12.37 hrs Surf.Area= 200 sf Storage= 90 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 8.8 min (757.3 - 748.5)

NORTHSIDE FARM 2-10-2017

Type III 24-hr 10 Year Event Rainfall=4.60"

Prepared by Microsoft

Printed 2/9/2017

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Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.05 cfs @ 12.37 hrs HW=80.90' (Free Discharge)↑**2=Exfiltration** (Exfiltration Controls 0.05 cfs)**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)↑**1=Orifice/Grate** (Controls 0.00 cfs)**Summary for Pond LP15: 10'x 20 field**

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 4.36" for 10 Year Event event
 Inflow = 0.16 cfs @ 12.07 hrs, Volume= 545 cf
 Outflow = 0.05 cfs @ 12.37 hrs, Volume= 545 cf, Atten= 69%, Lag= 17.7 min
 Discarded = 0.05 cfs @ 12.37 hrs, Volume= 545 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Peak Elev= 80.90' @ 12.37 hrs Surf.Area= 200 sf Storage= 90 cf

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

Center-of-Mass det. time= 8.8 min (757.3 - 748.5)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.05 cfs @ 12.37 hrs HW=80.90' (Free Discharge)
 ↑ **2=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑ **1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP2: 10'x 20' field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 4.36" for 10 Year Event event
 Inflow = 0.16 cfs @ 12.07 hrs, Volume= 545 cf
 Outflow = 0.05 cfs @ 12.37 hrs, Volume= 545 cf, Atten= 69%, Lag= 17.7 min
 Discarded = 0.05 cfs @ 12.37 hrs, Volume= 545 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 80.90' @ 12.37 hrs Surf.Area= 200 sf Storage= 90 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 8.8 min (757.3 - 748.5)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.05 cfs @ 12.37 hrs HW=80.90' (Free Discharge)
 ↑ **2=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑ **1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP3: 10'x 20' field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 4.36" for 10 Year Event event
 Inflow = 0.16 cfs @ 12.07 hrs, Volume= 545 cf
 Outflow = 0.05 cfs @ 12.37 hrs, Volume= 545 cf, Atten= 69%, Lag= 17.7 min
 Discarded = 0.05 cfs @ 12.37 hrs, Volume= 545 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 80.90' @ 12.37 hrs Surf.Area= 200 sf Storage= 90 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 8.8 min (757.3 - 748.5)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.05 cfs @ 12.37 hrs HW=80.90' (Free Discharge)
 ↑**2=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑**1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP4: 10'x 20' field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 4.36" for 10 Year Event event
 Inflow = 0.16 cfs @ 12.07 hrs, Volume= 545 cf
 Outflow = 0.05 cfs @ 12.37 hrs, Volume= 545 cf, Atten= 69%, Lag= 17.7 min
 Discarded = 0.05 cfs @ 12.37 hrs, Volume= 545 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 80.90' @ 12.37 hrs Surf.Area= 200 sf Storage= 90 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 8.8 min (757.3 - 748.5)

NORTHSIDE FARM 2-10-2017

Type III 24-hr 10 Year Event Rainfall=4.60"

Prepared by Microsoft

Printed 2/9/2017

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Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.05 cfs @ 12.37 hrs HW=80.90' (Free Discharge)↑**2=Exfiltration** (Exfiltration Controls 0.05 cfs)**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)↑**1=Orifice/Grate** (Controls 0.00 cfs)**Summary for Pond LP5: 10'x 20 field**

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 4.36" for 10 Year Event event
 Inflow = 0.16 cfs @ 12.07 hrs, Volume= 545 cf
 Outflow = 0.05 cfs @ 12.37 hrs, Volume= 545 cf, Atten= 69%, Lag= 17.7 min
 Discarded = 0.05 cfs @ 12.37 hrs, Volume= 545 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Peak Elev= 80.90' @ 12.37 hrs Surf.Area= 200 sf Storage= 90 cf

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

Center-of-Mass det. time= 8.8 min (757.3 - 748.5)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.05 cfs @ 12.37 hrs HW=80.90' (Free Discharge)
 ↑ **2=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑ **1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP6: 10'x 20' field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 4.36" for 10 Year Event event
 Inflow = 0.16 cfs @ 12.07 hrs, Volume= 545 cf
 Outflow = 0.05 cfs @ 12.37 hrs, Volume= 545 cf, Atten= 69%, Lag= 17.7 min
 Discarded = 0.05 cfs @ 12.37 hrs, Volume= 545 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 80.90' @ 12.37 hrs Surf.Area= 200 sf Storage= 90 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 8.8 min (757.3 - 748.5)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.05 cfs @ 12.37 hrs HW=80.90' (Free Discharge)
 ↑ **2=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑ **1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP7: 10'x 20' field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 4.36" for 10 Year Event event
 Inflow = 0.16 cfs @ 12.07 hrs, Volume= 545 cf
 Outflow = 0.05 cfs @ 12.37 hrs, Volume= 545 cf, Atten= 69%, Lag= 17.7 min
 Discarded = 0.05 cfs @ 12.37 hrs, Volume= 545 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 80.90' @ 12.37 hrs Surf.Area= 200 sf Storage= 90 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 8.8 min (757.3 - 748.5)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.05 cfs @ 12.37 hrs HW=80.90' (Free Discharge)
 ↑ **2=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑ **1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP8: 10'x 20' field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 4.36" for 10 Year Event event
 Inflow = 0.16 cfs @ 12.07 hrs, Volume= 545 cf
 Outflow = 0.05 cfs @ 12.37 hrs, Volume= 545 cf, Atten= 69%, Lag= 17.7 min
 Discarded = 0.05 cfs @ 12.37 hrs, Volume= 545 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 80.90' @ 12.37 hrs Surf.Area= 200 sf Storage= 90 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 8.8 min (757.3 - 748.5)

NORTHSIDE FARM 2-10-2017

Type III 24-hr 10 Year Event Rainfall=4.60"

Prepared by Microsoft

Printed 2/9/2017

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Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.05 cfs @ 12.37 hrs HW=80.90' (Free Discharge)↑**2=Exfiltration** (Exfiltration Controls 0.05 cfs)**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)↑**1=Orifice/Grate** (Controls 0.00 cfs)**Summary for Pond LP9: 10'x 20 field**

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 4.36" for 10 Year Event event
 Inflow = 0.16 cfs @ 12.07 hrs, Volume= 545 cf
 Outflow = 0.05 cfs @ 12.37 hrs, Volume= 545 cf, Atten= 69%, Lag= 17.7 min
 Discarded = 0.05 cfs @ 12.37 hrs, Volume= 545 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Peak Elev= 80.90' @ 12.37 hrs Surf.Area= 200 sf Storage= 90 cf

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

Center-of-Mass det. time= 8.8 min (757.3 - 748.5)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.05 cfs @ 12.37 hrs HW=80.90' (Free Discharge)
 ↳ **2=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↳ **1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond PE: Existing Infiltration Pond

Inflow Area = 3,300 sf, 100.00% Impervious, Inflow Depth = 4.36" for 10 Year Event event
 Inflow = 0.34 cfs @ 12.07 hrs, Volume= 1,200 cf
 Outflow = 0.08 cfs @ 11.95 hrs, Volume= 1,200 cf, Atten= 77%, Lag= 0.0 min
 Discarded = 0.08 cfs @ 11.95 hrs, Volume= 1,200 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 91.73' @ 12.47 hrs Surf.Area= 392 sf Storage= 289 cf

Plug-Flow detention time= 21.4 min calculated for 1,198 cf (100% of inflow)
 Center-of-Mass det. time= 21.4 min (769.9 - 748.5)

Volume	Invert	Avail.Storage	Storage Description
#1	90.00'	320 cf	Custom Stage Data (Irregular) Listed below 800 cf Overall x 40.0% Voids
#2	91.00'	368 cf	StormTech SC-740 x 8 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		688 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
90.00	200	60.0	0	0	200
94.00	200	60.0	800	800	440

Device	Routing	Invert	Outlet Devices
#1	Primary	93.50'	6.0" Vert. Orifice/Grate C= 0.600
#2	Discarded	90.00'	8.270 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.08 cfs @ 11.95 hrs HW=91.01' (Free Discharge)
 ↳ **2=Exfiltration** (Exfiltration Controls 0.08 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=90.00' (Free Discharge)
 ↳ **1=Orifice/Grate** (Controls 0.00 cfs)

Time span=0.00-26.00 hrs, dt=0.05 hrs, 521 points

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1B: Ex. Bank Roof	Runoff Area=3,300 sf 100.00% Impervious Runoff Depth=5.36" Tc=5.0 min CN=98 Runoff=0.42 cfs 1,475 cf
Subcatchment2B: Ex. Bank Parking Lot	Runoff Area=36,670 sf 59.99% Impervious Runoff Depth=4.24" Tc=5.0 min CN=88 Runoff=4.09 cfs 12,961 cf
Subcatchment3B: Ex. Landscape	Runoff Area=3,128 sf 0.00% Impervious Runoff Depth=2.85" Tc=5.0 min CN=74 Runoff=0.24 cfs 743 cf
Subcatchment3P: 3P	Runoff Area=28,778 sf 7.13% Impervious Runoff Depth=3.04" Tc=5.0 min CN=76 Runoff=2.36 cfs 7,285 cf
Subcatchment4P: 4P	Runoff Area=12,451 sf 47.31% Impervious Runoff Depth=3.93" Tc=5.0 min CN=85 Runoff=1.30 cfs 4,074 cf
Subcatchment5P: 5P	Runoff Area=24,485 sf 0.00% Impervious Runoff Depth=2.85" Flow Length=200' Slope=0.0100 '/' Tc=14.4 min CN=74 Runoff=1.43 cfs 5,818 cf
Subcatchment6P: 6P	Runoff Area=170,220 sf 0.76% Impervious Runoff Depth=2.85" Flow Length=440' Slope=0.0200 '/' Tc=15.2 min CN=74 Runoff=9.78 cfs 40,449 cf
Subcatchment7P: 7P	Runoff Area=20,619 sf 52.80% Impervious Runoff Depth=4.14" Tc=5.0 min CN=87 Runoff=2.25 cfs 7,106 cf
Subcatchment8P: 8P	Runoff Area=23,809 sf 45.16% Impervious Runoff Depth=3.93" Tc=5.0 min CN=85 Runoff=2.49 cfs 7,790 cf
Subcatchment9P: 9P	Runoff Area=25,030 sf 54.05% Impervious Runoff Depth=4.14" Tc=5.0 min CN=87 Runoff=2.73 cfs 8,626 cf
Subcatchment10P: 10P	Runoff Area=226,733 sf 0.90% Impervious Runoff Depth=2.85" Flow Length=850' Tc=19.0 min CN=74 Runoff=11.93 cfs 53,878 cf
Subcatchment11P: 11P	Runoff Area=48,707 sf 0.00% Impervious Runoff Depth=2.85" Flow Length=300' Slope=0.0200 '/' Tc=9.8 min CN=74 Runoff=3.24 cfs 11,574 cf
SubcatchmentL1: LOT 1	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=5.36" Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf
SubcatchmentL10: LOT 10	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=5.36" Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf
SubcatchmentL11: LOT 11	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=5.36" Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf
SubcatchmentL12: LOT 12	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=5.36" Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf

SubcatchmentL13: LOT 13	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=5.36" Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf
SubcatchmentL14: LOT 14	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=5.36" Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf
SubcatchmentL15: LOT 15	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=5.36" Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf
SubcatchmentL2: LOT 2	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=5.36" Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf
SubcatchmentL3: LOT 3	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=5.36" Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf
SubcatchmentL4: LOT 4	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=5.36" Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf
SubcatchmentL5: LOT 5	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=5.36" Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf
SubcatchmentL6: LOT 6	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=5.36" Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf
SubcatchmentL7: LOT 7	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=5.36" Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf
SubcatchmentL8: LOT 8	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=5.36" Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf
SubcatchmentL9: LOT 9	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=5.36" Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf
Reach 1R: 18" RCP	Avg. Flow Depth=0.57' Max Vel=6.77 fps Inflow=4.20 cfs 10,256 cf 18.0" Round Pipe n=0.013 L=60.0' S=0.0167 '/' Capacity=13.56 cfs Outflow=4.20 cfs 10,256 cf
Reach 2R: 24" RCP	Avg. Flow Depth=1.06' Max Vel=6.02 fps Inflow=10.18 cfs 37,244 cf 24.0" Round Pipe n=0.013 L=30.0' S=0.0067 '/' Capacity=18.47 cfs Outflow=10.16 cfs 37,244 cf
Reach 3R: 18" RCP	Avg. Flow Depth=1.01' Max Vel=5.16 fps Inflow=6.54 cfs 24,283 cf 18.0" Round Pipe n=0.013 L=65.0' S=0.0062 '/' Capacity=8.24 cfs Outflow=6.51 cfs 24,283 cf
Reach 4R: 18" RCP	Avg. Flow Depth=0.97' Max Vel=4.61 fps Inflow=5.57 cfs 18,465 cf 18.0" Round Pipe n=0.013 L=180.0' S=0.0050 '/' Capacity=7.43 cfs Outflow=5.41 cfs 18,465 cf
Reach 5R: 18" RCP	Avg. Flow Depth=0.91' Max Vel=3.17 fps Inflow=3.54 cfs 11,359 cf 18.0" Round Pipe n=0.013 L=130.0' S=0.0025 '/' Capacity=5.21 cfs Outflow=3.44 cfs 11,359 cf
Reach 6R: 12" RCP	Avg. Flow Depth=0.59' Max Vel=2.65 fps Inflow=1.30 cfs 4,074 cf 12.0" Round Pipe n=0.013 L=190.0' S=0.0030 '/' Capacity=1.95 cfs Outflow=1.23 cfs 4,074 cf
Reach 7R: 10" ADS	Avg. Flow Depth=0.39' Max Vel=9.26 fps Inflow=2.36 cfs 7,285 cf 10.0" Round Pipe n=0.010 L=95.0' S=0.0334 '/' Capacity=5.20 cfs Outflow=2.34 cfs 7,285 cf

Reach 8R: 18" RCP Avg. Flow Depth=0.82' Max Vel=5.02 fps Inflow=4.95 cfs 16,416 cf
18.0" Round Pipe n=0.013 L=30.0' S=0.0067 ' /' Capacity=8.58 cfs Outflow=4.92 cfs 16,416 cf

Reach 9R: 18" RCP Avg. Flow Depth=0.92' Max Vel=4.54 fps Inflow=5.16 cfs 16,416 cf
18.0" Round Pipe n=0.013 L=280.0' S=0.0050 ' /' Capacity=7.43 cfs Outflow=4.95 cfs 16,416 cf

Reach 10R: 18" RCP Avg. Flow Depth=0.55' Max Vel=4.17 fps Inflow=2.49 cfs 7,790 cf
18.0" Round Pipe n=0.013 L=60.0' S=0.0067 ' /' Capacity=8.58 cfs Outflow=2.46 cfs 7,790 cf

Reach 11R: Outlets Inflow=0.00 cfs 0 cf
Outflow=0.00 cfs 0 cf

Reach 12R: Outlets Inflow=0.00 cfs 0 cf
Outflow=0.00 cfs 0 cf

Reach 13R: Outlets Inflow=0.00 cfs 0 cf
Outflow=0.00 cfs 0 cf

Reach 14R: Outlets Inflow=0.00 cfs 0 cf
Outflow=0.00 cfs 0 cf

Reach 15R: 12" RCP Avg. Flow Depth=0.32' Max Vel=5.75 fps Inflow=1.23 cfs 9,597 cf
12.0" Round Pipe n=0.013 L=20.0' S=0.0250 ' /' Capacity=5.63 cfs Outflow=1.24 cfs 9,597 cf

Reach DCP1: DESIGN POINT #1 Inflow=4.20 cfs 10,256 cf
Outflow=4.20 cfs 10,256 cf

Reach DCP2: DESIGN POINT #2 Inflow=9.78 cfs 40,449 cf
Outflow=9.78 cfs 40,449 cf

Reach DCP3: DESIGN POINT #3 Inflow=13.10 cfs 63,475 cf
Outflow=13.10 cfs 63,475 cf

Pond 1P: POND #1 Peak Elev=97.68' Storage=8,471 cf Inflow=10.16 cfs 37,244 cf
Discarded=1.02 cfs 27,731 cf Primary=4.10 cfs 9,513 cf Outflow=5.12 cfs 37,244 cf

Pond 2P: Infiltration Pond #2 Peak Elev=94.46' Storage=7,638 cf Inflow=8.07 cfs 27,990 cf
Discarded=1.12 cfs 18,393 cf Primary=1.23 cfs 9,597 cf Outflow=2.35 cfs 27,990 cf

Pond LP1: 10'x 20 field Peak Elev=81.23' Storage=128 cf Inflow=0.19 cfs 670 cf
Discarded=0.05 cfs 670 cf Primary=0.00 cfs 0 cf Outflow=0.05 cfs 670 cf

Pond LP10: 10'x 20 field Peak Elev=81.23' Storage=128 cf Inflow=0.19 cfs 670 cf
Discarded=0.05 cfs 670 cf Primary=0.00 cfs 0 cf Outflow=0.05 cfs 670 cf

Pond LP11: 10'x 20 field Peak Elev=81.23' Storage=128 cf Inflow=0.19 cfs 670 cf
Discarded=0.05 cfs 670 cf Primary=0.00 cfs 0 cf Outflow=0.05 cfs 670 cf

Pond LP12: 10'x 20 field Peak Elev=81.23' Storage=128 cf Inflow=0.19 cfs 670 cf
Discarded=0.05 cfs 670 cf Primary=0.00 cfs 0 cf Outflow=0.05 cfs 670 cf

Pond LP13: 10'x 20 field

Peak Elev=81.23' Storage=128 cf Inflow=0.19 cfs 670 cf
Discarded=0.05 cfs 670 cf Primary=0.00 cfs 0 cf Outflow=0.05 cfs 670 cf

Pond LP14: 10'x 20 field

Peak Elev=81.23' Storage=128 cf Inflow=0.19 cfs 670 cf
Discarded=0.05 cfs 670 cf Primary=0.00 cfs 0 cf Outflow=0.05 cfs 670 cf

Pond LP15: 10'x 20 field

Peak Elev=81.23' Storage=128 cf Inflow=0.19 cfs 670 cf
Discarded=0.05 cfs 670 cf Primary=0.00 cfs 0 cf Outflow=0.05 cfs 670 cf

Pond LP2: 10'x 20 field

Peak Elev=81.23' Storage=128 cf Inflow=0.19 cfs 670 cf
Discarded=0.05 cfs 670 cf Primary=0.00 cfs 0 cf Outflow=0.05 cfs 670 cf

Pond LP3: 10'x 20 field

Peak Elev=81.23' Storage=128 cf Inflow=0.19 cfs 670 cf
Discarded=0.05 cfs 670 cf Primary=0.00 cfs 0 cf Outflow=0.05 cfs 670 cf

Pond LP4: 10'x 20 field

Peak Elev=81.23' Storage=128 cf Inflow=0.19 cfs 670 cf
Discarded=0.05 cfs 670 cf Primary=0.00 cfs 0 cf Outflow=0.05 cfs 670 cf

Pond LP5: 10'x 20 field

Peak Elev=81.23' Storage=128 cf Inflow=0.19 cfs 670 cf
Discarded=0.05 cfs 670 cf Primary=0.00 cfs 0 cf Outflow=0.05 cfs 670 cf

Pond LP6: 10'x 20 field

Peak Elev=81.23' Storage=128 cf Inflow=0.19 cfs 670 cf
Discarded=0.05 cfs 670 cf Primary=0.00 cfs 0 cf Outflow=0.05 cfs 670 cf

Pond LP7: 10'x 20 field

Peak Elev=81.23' Storage=128 cf Inflow=0.19 cfs 670 cf
Discarded=0.05 cfs 670 cf Primary=0.00 cfs 0 cf Outflow=0.05 cfs 670 cf

Pond LP8: 10'x 20 field

Peak Elev=81.23' Storage=128 cf Inflow=0.19 cfs 670 cf
Discarded=0.05 cfs 670 cf Primary=0.00 cfs 0 cf Outflow=0.05 cfs 670 cf

Pond LP9: 10'x 20 field

Peak Elev=81.23' Storage=128 cf Inflow=0.19 cfs 670 cf
Discarded=0.05 cfs 670 cf Primary=0.00 cfs 0 cf Outflow=0.05 cfs 670 cf

Pond PE: Existing Infiltration Pond

Peak Elev=92.16' Storage=400 cf Inflow=0.42 cfs 1,475 cf
Discarded=0.08 cfs 1,475 cf Primary=0.00 cfs 0 cf Outflow=0.08 cfs 1,475 cf

Summary for Subcatchment 1B: Ex. Bank Roof

Runoff = 0.42 cfs @ 12.07 hrs, Volume= 1,475 cf, Depth= 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

Area (sf)	CN	Description
* 3,300	98	Bank Roof
3,300		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, DIRECT

Summary for Subcatchment 2B: Ex. Bank Parking Lot

Runoff = 4.09 cfs @ 12.07 hrs, Volume= 12,961 cf, Depth= 4.24"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

Area (sf)	CN	Description
22,000	98	Paved parking & roofs
14,670	74	>75% Grass cover, Good, HSG C
36,670	88	Weighted Average
14,670		40.01% Pervious Area
22,000		59.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, direct

Summary for Subcatchment 3B: Ex. Landscape

Runoff = 0.24 cfs @ 12.08 hrs, Volume= 743 cf, Depth= 2.85"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

Area (sf)	CN	Description
3,128	74	>75% Grass cover, Good, HSG C
3,128		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Direct

Summary for Subcatchment 3P: 3P

Runoff = 2.36 cfs @ 12.08 hrs, Volume= 7,285 cf, Depth= 3.04"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	2,051	98	Exisitng houses
	26,727	74	>75% Grass cover, Good, HSG C
*	0	98	Roadway
*	0	98	Sidewalks
	28,778	76	Weighted Average
	26,727		92.87% Pervious Area
	2,051		7.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Direct

Summary for Subcatchment 4P: 4P

Runoff = 1.30 cfs @ 12.07 hrs, Volume= 4,074 cf, Depth= 3.93"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
	6,560	74	>75% Grass cover, Good, HSG C
*	5,891	98	Roadway & Sidewalks
	12,451	85	Weighted Average
	6,560		52.69% Pervious Area
	5,891		47.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Direct

Summary for Subcatchment 5P: 5P

Runoff = 1.43 cfs @ 12.20 hrs, Volume= 5,818 cf, Depth= 2.85"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
	24,485	74	>75% Grass cover, Good, HSG C
	24,485		100.00% Pervious Area

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Type III 24-hr 25 Year Event Rainfall=5.60"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	50	0.0100	0.08		Sheet Flow, sheet flow Grass: Dense n= 0.240 P2= 3.20"
3.6	150	0.0100	0.70		Shallow Concentrated Flow, Channel flow Short Grass Pasture Kv= 7.0 fps
14.4	200	Total			

Summary for Subcatchment 6P: 6P

Runoff = 9.78 cfs @ 12.21 hrs, Volume= 40,449 cf, Depth= 2.85"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

Area (sf)	CN	Description
* 1,290	98	Exisitng houses
87,260	74	>75% Grass cover, Good, HSG C
81,670	73	Woods, Fair, HSG C
170,220	74	Weighted Average
168,930		99.24% Pervious Area
1,290		0.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	50	0.0200	0.07		Sheet Flow, sheet flow Woods: Light underbrush n= 0.400 P2= 3.20"
2.9	390	0.0200	2.28		Shallow Concentrated Flow, shallow Unpaved Kv= 16.1 fps
15.2	440	Total			

Summary for Subcatchment 7P: 7P

Runoff = 2.25 cfs @ 12.07 hrs, Volume= 7,106 cf, Depth= 4.14"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

Area (sf)	CN	Description
* 0	98	Exisitng houses
9,732	74	>75% Grass cover, Good, HSG C
* 5,787	98	Roadway
* 5,100	98	Sidewalks & Drives
20,619	87	Weighted Average
9,732		47.20% Pervious Area
10,887		52.80% Impervious Area

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Type III 24-hr 25 Year Event Rainfall=5.60"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Direct

Summary for Subcatchment 8P: 8P

Runoff = 2.49 cfs @ 12.07 hrs, Volume= 7,790 cf, Depth= 3.93"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

Area (sf)	CN	Description
13,057	74	>75% Grass cover, Good, HSG C
* 5,722	98	Roadway
* 3,790	98	Drives
* 1,240	98	Sidewalks
23,809	85	Weighted Average
13,057		54.84% Pervious Area
10,752		45.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Direct

Summary for Subcatchment 9P: 9P

Runoff = 2.73 cfs @ 12.07 hrs, Volume= 8,626 cf, Depth= 4.14"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

Area (sf)	CN	Description
11,501	74	>75% Grass cover, Good, HSG C
* 8,588	98	Roadway
* 3,970	98	Drives
* 971	98	Sidewalks
25,030	87	Weighted Average
11,501		45.95% Pervious Area
13,529		54.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Direct

Summary for Subcatchment 10P: 10P

Runoff = 11.93 cfs @ 12.27 hrs, Volume= 53,878 cf, Depth= 2.85"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

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Type III 24-hr 25 Year Event Rainfall=5.60"

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	Area (sf)	CN	Description
*	2,032	98	Exisitng houses
	83,173	74	>75% Grass cover, Good, HSG C
	141,528	73	Woods, Fair, HSG C
	226,733	74	Weighted Average
	224,701		99.10% Pervious Area
	2,032		0.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	50	0.0100	0.11		Sheet Flow, Sheet Grass: Short n= 0.150 P2= 3.20"
10.1	430	0.0200	0.71		Shallow Concentrated Flow, Shallow Woodland Kv= 5.0 fps
1.5	370	0.0100	4.09	24.53	Channel Flow, River Flow Area= 6.0 sf Perim= 8.0' r= 0.75' n= 0.030 Earth, grassed & winding
19.0	850	Total			

Summary for Subcatchment 11P: 11P

Runoff = 3.24 cfs @ 12.14 hrs, Volume= 11,574 cf, Depth= 2.85"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	48,707	74	grass
	48,707		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		Sheet Flow, Sheet Grass: Short n= 0.150 P2= 3.20"
4.2	250	0.0200	0.99		Shallow Concentrated Flow, shallow Short Grass Pasture Kv= 7.0 fps
9.8	300	Total			

Summary for Subcatchment L1: LOT 1

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 670 cf, Depth= 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

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Type III 24-hr 25 Year Event Rainfall=5.60"

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	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L10: LOT 10

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 670 cf, Depth= 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L11: LOT 11

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 670 cf, Depth= 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L12: LOT 12

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 670 cf, Depth= 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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Type III 24-hr 25 Year Event Rainfall=5.60"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L13: LOT 13

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 670 cf, Depth= 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

Area (sf)	CN	Description
* 1,500	98	
1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L14: LOT 14

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 670 cf, Depth= 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

Area (sf)	CN	Description
* 1,500	98	
1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L15: LOT 15

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 670 cf, Depth= 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

Area (sf)	CN	Description
* 1,500	98	
1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L2: LOT 2

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 670 cf, Depth= 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L3: LOT 3

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 670 cf, Depth= 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L4: LOT 4

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 670 cf, Depth= 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L5: LOT 5

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 670 cf, Depth= 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L6: LOT 6

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 670 cf, Depth= 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L7: LOT 7

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 670 cf, Depth= 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

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Type III 24-hr 25 Year Event Rainfall=5.60"

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Summary for Subcatchment L8: LOT 8

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 670 cf, Depth= 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L9: LOT 9

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 670 cf, Depth= 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Reach 1R: 18" RCP

Inflow Area = 133,931 sf, 36.31% Impervious, Inflow Depth = 0.92" for 25 Year Event event

Inflow = 4.20 cfs @ 12.34 hrs, Volume= 10,256 cf

Outflow = 4.20 cfs @ 12.34 hrs, Volume= 10,256 cf, Atten= 0%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Max. Velocity= 6.77 fps, Min. Travel Time= 0.1 min

Avg. Velocity = 1.40 fps, Avg. Travel Time= 0.7 min

Peak Storage= 37 cf @ 12.34 hrs

Average Depth at Peak Storage= 0.57'

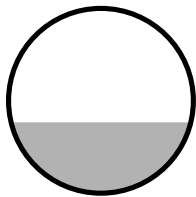
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 13.56 cfs

18.0" Round Pipe

n= 0.013

Length= 60.0' Slope= 0.0167 '/'

Inlet Invert= 94.00', Outlet Invert= 93.00'

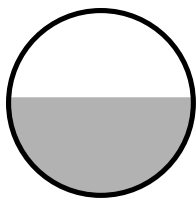
**Summary for Reach 2R: 24" RCP**

Inflow Area = 127,503 sf, 35.55% Impervious, Inflow Depth = 3.51" for 25 Year Event event
Inflow = 10.18 cfs @ 12.11 hrs, Volume= 37,244 cf
Outflow = 10.16 cfs @ 12.11 hrs, Volume= 37,244 cf, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.02 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.02 fps, Avg. Travel Time= 0.2 min

Peak Storage= 51 cf @ 12.11 hrs
Average Depth at Peak Storage= 1.06'
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 18.47 cfs

24.0" Round Pipe
n= 0.013
Length= 30.0' Slope= 0.0067 '
Inlet Invert= 95.65', Outlet Invert= 95.45'

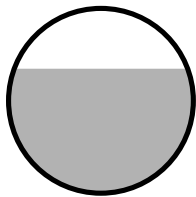
**Summary for Reach 3R: 18" RCP**

Inflow Area = 90,833 sf, 25.68% Impervious, Inflow Depth = 3.21" for 25 Year Event event
Inflow = 6.54 cfs @ 12.13 hrs, Volume= 24,283 cf
Outflow = 6.51 cfs @ 12.13 hrs, Volume= 24,283 cf, Atten= 0%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.16 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.79 fps, Avg. Travel Time= 0.6 min

Peak Storage= 82 cf @ 12.13 hrs
Average Depth at Peak Storage= 1.01'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 8.24 cfs

18.0" Round Pipe
n= 0.013
Length= 65.0' Slope= 0.0062 '
Inlet Invert= 96.10', Outlet Invert= 95.70'

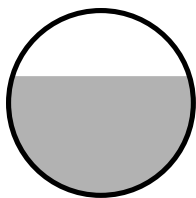
**Summary for Reach 4R: 18" RCP**

Inflow Area = 61,848 sf, 30.44% Impervious, Inflow Depth = 3.58" for 25 Year Event event
Inflow = 5.57 cfs @ 12.10 hrs, Volume= 18,465 cf
Outflow = 5.41 cfs @ 12.12 hrs, Volume= 18,465 cf, Atten= 3%, Lag= 1.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.61 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 1.54 fps, Avg. Travel Time= 1.9 min

Peak Storage= 217 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.97'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 7.43 cfs

18.0" Round Pipe
n= 0.013
Length= 180.0' Slope= 0.0050 '/
Inlet Invert= 97.00', Outlet Invert= 96.10'

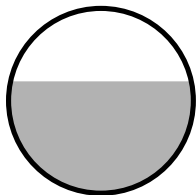
**Summary for Reach 5R: 18" RCP**

Inflow Area = 41,229 sf, 19.26% Impervious, Inflow Depth = 3.31" for 25 Year Event event
Inflow = 3.54 cfs @ 12.09 hrs, Volume= 11,359 cf
Outflow = 3.44 cfs @ 12.11 hrs, Volume= 11,359 cf, Atten= 3%, Lag= 1.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.17 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 1.06 fps, Avg. Travel Time= 2.0 min

Peak Storage= 145 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.91'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 5.21 cfs

18.0" Round Pipe
n= 0.013
Length= 130.0' Slope= 0.0025 '/
Inlet Invert= 97.32', Outlet Invert= 97.00'

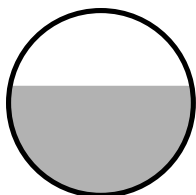
**Summary for Reach 6R: 12" RCP**

Inflow Area = 12,451 sf, 47.31% Impervious, Inflow Depth = 3.93" for 25 Year Event event
Inflow = 1.30 cfs @ 12.07 hrs, Volume= 4,074 cf
Outflow = 1.23 cfs @ 12.11 hrs, Volume= 4,074 cf, Atten= 5%, Lag= 2.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.65 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 0.90 fps, Avg. Travel Time= 3.5 min

Peak Storage= 92 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.59'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 1.95 cfs

12.0" Round Pipe
n= 0.013
Length= 190.0' Slope= 0.0030 '/
Inlet Invert= 97.90', Outlet Invert= 97.33'

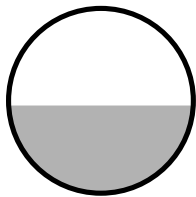
**Summary for Reach 7R: 10" ADS**

Inflow Area = 28,778 sf, 7.13% Impervious, Inflow Depth = 3.04" for 25 Year Event event
Inflow = 2.36 cfs @ 12.08 hrs, Volume= 7,285 cf
Outflow = 2.34 cfs @ 12.08 hrs, Volume= 7,285 cf, Atten= 0%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.26 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 3.36 fps, Avg. Travel Time= 0.5 min

Peak Storage= 24 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.39'
Bank-Full Depth= 0.83' Flow Area= 0.5 sf, Capacity= 5.20 cfs

10.0" Round Pipe
n= 0.010 PVC, smooth interior
Length= 95.0' Slope= 0.0334 '/
Inlet Invert= 100.50', Outlet Invert= 97.33'

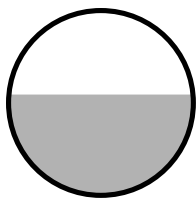
**Summary for Reach 8R: 18" RCP**

Inflow Area = 48,839 sf, 49.72% Impervious, Inflow Depth = 4.03" for 25 Year Event event
Inflow = 4.95 cfs @ 12.11 hrs, Volume= 16,416 cf
Outflow = 4.92 cfs @ 12.11 hrs, Volume= 16,416 cf, Atten= 1%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.02 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.68 fps, Avg. Travel Time= 0.3 min

Peak Storage= 30 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.82'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 8.58 cfs

18.0" Round Pipe
n= 0.013
Length= 30.0' Slope= 0.0067 '/'
Inlet Invert= 92.90', Outlet Invert= 92.70'

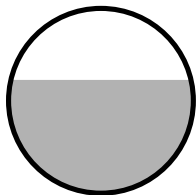
**Summary for Reach 9R: 18" RCP**

Inflow Area = 48,839 sf, 49.72% Impervious, Inflow Depth = 4.03" for 25 Year Event event
Inflow = 5.16 cfs @ 12.08 hrs, Volume= 16,416 cf
Outflow = 4.95 cfs @ 12.11 hrs, Volume= 16,416 cf, Atten= 4%, Lag= 1.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.54 fps, Min. Travel Time= 1.0 min
Avg. Velocity = 1.52 fps, Avg. Travel Time= 3.1 min

Peak Storage= 317 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.92'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 7.43 cfs

18.0" Round Pipe
n= 0.013
Length= 280.0' Slope= 0.0050 '/'
Inlet Invert= 94.30', Outlet Invert= 92.90'



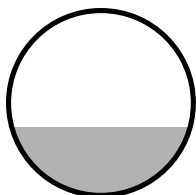
Summary for Reach 10R: 18" RCP

Inflow Area = 23,809 sf, 45.16% Impervious, Inflow Depth = 3.93" for 25 Year Event event
 Inflow = 2.49 cfs @ 12.07 hrs, Volume= 7,790 cf
 Outflow = 2.46 cfs @ 12.08 hrs, Volume= 7,790 cf, Atten= 1%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Max. Velocity= 4.17 fps, Min. Travel Time= 0.2 min
 Avg. Velocity = 1.41 fps, Avg. Travel Time= 0.7 min

Peak Storage= 35 cf @ 12.08 hrs
 Average Depth at Peak Storage= 0.55'
 Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 8.58 cfs

18.0" Round Pipe
 n= 0.013
 Length= 60.0' Slope= 0.0067 '
 Inlet Invert= 94.70', Outlet Invert= 94.30'



Summary for Reach 11R: Outlets

Inflow Area = 4,500 sf, 100.00% Impervious, Inflow Depth = 0.00" for 25 Year Event event
 Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach 12R: Outlets

Inflow Area = 7,500 sf, 100.00% Impervious, Inflow Depth = 0.00" for 25 Year Event event
 Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach 13R: Outlets

Inflow Area = 3,000 sf, 100.00% Impervious, Inflow Depth = 0.00" for 25 Year Event event
 Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach 14R: Outlets

Inflow Area = 7,500 sf, 100.00% Impervious, Inflow Depth = 0.00" for 25 Year Event event
 Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach 15R: 12" RCP

Inflow Area = 100,546 sf, 27.13% Impervious, Inflow Depth = 1.15" for 25 Year Event event
 Inflow = 1.23 cfs @ 12.51 hrs, Volume= 9,597 cf
 Outflow = 1.24 cfs @ 12.51 hrs, Volume= 9,597 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Max. Velocity= 5.75 fps, Min. Travel Time= 0.1 min

Avg. Velocity= 1.61 fps, Avg. Travel Time= 0.2 min

Peak Storage= 4 cf @ 12.51 hrs

Average Depth at Peak Storage= 0.32'

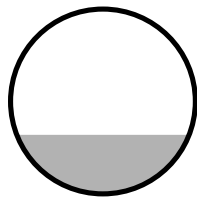
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 5.63 cfs

12.0" Round Pipe

n= 0.013

Length= 20.0' Slope= 0.0250 '/'

Inlet Invert= 92.50', Outlet Invert= 92.00'



Summary for Reach DCP1: DESIGN POINT #1

Inflow Area = 133,931 sf, 36.31% Impervious, Inflow Depth = 0.92" for 25 Year Event event
 Inflow = 4.20 cfs @ 12.34 hrs, Volume= 10,256 cf
 Outflow = 4.20 cfs @ 12.34 hrs, Volume= 10,256 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach DCP2: DESIGN POINT #2

Inflow Area = 177,720 sf, 4.95% Impervious, Inflow Depth = 2.73" for 25 Year Event event
 Inflow = 9.78 cfs @ 12.21 hrs, Volume= 40,449 cf
 Outflow = 9.78 cfs @ 12.21 hrs, Volume= 40,449 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach DCP3: DESIGN POINT #3

Inflow Area = 334,779 sf, 11.00% Impervious, Inflow Depth = 2.28" for 25 Year Event event
 Inflow = 13.10 cfs @ 12.27 hrs, Volume= 63,475 cf
 Outflow = 13.10 cfs @ 12.27 hrs, Volume= 63,475 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Pond 1P: POND #1

Inflow Area = 127,503 sf, 35.55% Impervious, Inflow Depth = 3.51" for 25 Year Event event
 Inflow = 10.16 cfs @ 12.11 hrs, Volume= 37,244 cf
 Outflow = 5.12 cfs @ 12.34 hrs, Volume= 37,244 cf, Atten= 50%, Lag= 13.9 min
 Discarded = 1.02 cfs @ 11.60 hrs, Volume= 27,731 cf
 Primary = 4.10 cfs @ 12.34 hrs, Volume= 9,513 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 97.68' @ 12.34 hrs Surf.Area= 5,325 sf Storage= 8,471 cf

Plug-Flow detention time= 29.0 min calculated for 37,173 cf (100% of inflow)
 Center-of-Mass det. time= 28.9 min (840.0 - 811.1)

Volume	Invert	Avail.Storage	Storage Description
#1	95.40'	4,699 cf	Custom Stage Data (Irregular) Listed below 18,638 cf Overall - 6,891 cf Embedded = 11,746 cf x 40.0% Voids
#2	95.90'	6,891 cf	StormTech SC-740 x 150 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		11,590 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
95.40	5,325	292.0	0	0	5,325
98.90	5,325	292.0	18,638	18,638	6,347

Device	Routing	Invert	Outlet Devices
#1	Discarded	95.40'	8.270 in/hr Exfiltration over Surface area
#2	Primary	96.60'	1.3' long Sharp-Crested Rectangular Weir 2 End Contraction(s) 5.0' Crest Height

Discarded OutFlow Max=1.02 cfs @ 11.60 hrs HW=95.44' (Free Discharge)

↑ **1=Exfiltration** (Exfiltration Controls 1.02 cfs)

Primary OutFlow Max=4.09 cfs @ 12.34 hrs HW=97.68' (Free Discharge)

↑ **2=Sharp-Crested Rectangular Weir** (Weir Controls 4.09 cfs @ 3.49 fps)

Summary for Pond 2P: Infiltration Pond #2

Inflow Area = 100,546 sf, 27.13% Impervious, Inflow Depth = 3.34" for 25 Year Event event
 Inflow = 8.07 cfs @ 12.12 hrs, Volume= 27,990 cf
 Outflow = 2.35 cfs @ 12.51 hrs, Volume= 27,990 cf, Atten= 71%, Lag= 23.1 min
 Discarded = 1.12 cfs @ 12.51 hrs, Volume= 18,393 cf
 Primary = 1.23 cfs @ 12.51 hrs, Volume= 9,597 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 94.46' @ 12.51 hrs Surf.Area= 5,770 sf Storage= 7,638 cf

Plug-Flow detention time= 27.2 min calculated for 27,990 cf (100% of inflow)
 Center-of-Mass det. time= 27.2 min (843.5 - 816.3)

Volume	Invert	Avail.Storage	Storage Description		
#1	92.50'	19,107 cf	Custom Stage Data (Irregular) Listed below		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
92.50	2,105	235.0	0	0	2,105
93.00	2,850	255.0	1,234	1,234	2,894
94.00	4,720	306.0	3,746	4,980	5,188
95.00	7,025	360.0	5,834	10,814	8,070
96.00	9,629	412.0	8,293	19,107	11,287
Device	Routing	Invert	Outlet Devices		
#1	Primary	94.80'	2.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s) 3.0' Crest Height		
#2	Primary	92.50'	6.0" Vert. Orifice/Grate C= 0.600		
#3	Discarded	92.50'	8.270 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 0.00'		

Discarded OutFlow Max=1.12 cfs @ 12.51 hrs HW=94.45' (Free Discharge)

↑ **3=Exfiltration** (Controls 1.12 cfs)

Primary OutFlow Max=1.23 cfs @ 12.51 hrs HW=94.45' (Free Discharge)

↑ **1=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

↑ **2=Orifice/Grate** (Orifice Controls 1.23 cfs @ 6.29 fps)

Summary for Pond LP1: 10'x 20' field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 5.36" for 25 Year Event event
 Inflow = 0.19 cfs @ 12.07 hrs, Volume= 670 cf
 Outflow = 0.05 cfs @ 12.41 hrs, Volume= 670 cf, Atten= 72%, Lag= 20.1 min
 Discarded = 0.05 cfs @ 12.41 hrs, Volume= 670 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 81.23' @ 12.41 hrs Surf.Area= 200 sf Storage= 128 cf

Plug-Flow detention time= 12.3 min calculated for 669 cf (100% of inflow)
 Center-of-Mass det. time= 12.3 min (757.6 - 745.3)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.05 cfs @ 12.41 hrs HW=81.23' (Free Discharge)
 ↑**2=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑**1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP10: 10'x 20' field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 5.36" for 25 Year Event event
 Inflow = 0.19 cfs @ 12.07 hrs, Volume= 670 cf
 Outflow = 0.05 cfs @ 12.41 hrs, Volume= 670 cf, Atten= 72%, Lag= 20.1 min
 Discarded = 0.05 cfs @ 12.41 hrs, Volume= 670 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 81.23' @ 12.41 hrs Surf.Area= 200 sf Storage= 128 cf

Plug-Flow detention time= 12.3 min calculated for 669 cf (100% of inflow)
 Center-of-Mass det. time= 12.3 min (757.6 - 745.3)

NORTHSIDE FARM 2-10-2017

Type III 24-hr 25 Year Event Rainfall=5.60"

Prepared by Microsoft

Printed 2/9/2017

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Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.05 cfs @ 12.41 hrs HW=81.23' (Free Discharge)↑**2=Exfiltration** (Exfiltration Controls 0.05 cfs)**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)↑**1=Orifice/Grate** (Controls 0.00 cfs)**Summary for Pond LP11: 10'x 20 field**

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 5.36" for 25 Year Event event
 Inflow = 0.19 cfs @ 12.07 hrs, Volume= 670 cf
 Outflow = 0.05 cfs @ 12.41 hrs, Volume= 670 cf, Atten= 72%, Lag= 20.1 min
 Discarded = 0.05 cfs @ 12.41 hrs, Volume= 670 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Peak Elev= 81.23' @ 12.41 hrs Surf.Area= 200 sf Storage= 128 cf

Plug-Flow detention time= 12.3 min calculated for 669 cf (100% of inflow)

Center-of-Mass det. time= 12.3 min (757.6 - 745.3)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.05 cfs @ 12.41 hrs HW=81.23' (Free Discharge)
 ↑ **2=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑ **1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP12: 10'x 20 field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 5.36" for 25 Year Event event
 Inflow = 0.19 cfs @ 12.07 hrs, Volume= 670 cf
 Outflow = 0.05 cfs @ 12.41 hrs, Volume= 670 cf, Atten= 72%, Lag= 20.1 min
 Discarded = 0.05 cfs @ 12.41 hrs, Volume= 670 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 81.23' @ 12.41 hrs Surf.Area= 200 sf Storage= 128 cf

Plug-Flow detention time= 12.3 min calculated for 669 cf (100% of inflow)
 Center-of-Mass det. time= 12.3 min (757.6 - 745.3)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.05 cfs @ 12.41 hrs HW=81.23' (Free Discharge)
 ↑ **2=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑ **1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP13: 10'x 20 field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 5.36" for 25 Year Event event
 Inflow = 0.19 cfs @ 12.07 hrs, Volume= 670 cf
 Outflow = 0.05 cfs @ 12.41 hrs, Volume= 670 cf, Atten= 72%, Lag= 20.1 min
 Discarded = 0.05 cfs @ 12.41 hrs, Volume= 670 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 81.23' @ 12.41 hrs Surf.Area= 200 sf Storage= 128 cf

Plug-Flow detention time= 12.3 min calculated for 669 cf (100% of inflow)
 Center-of-Mass det. time= 12.3 min (757.6 - 745.3)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.05 cfs @ 12.41 hrs HW=81.23' (Free Discharge)
 ↑**2=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑**1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP14: 10'x 20 field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 5.36" for 25 Year Event event
 Inflow = 0.19 cfs @ 12.07 hrs, Volume= 670 cf
 Outflow = 0.05 cfs @ 12.41 hrs, Volume= 670 cf, Atten= 72%, Lag= 20.1 min
 Discarded = 0.05 cfs @ 12.41 hrs, Volume= 670 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 81.23' @ 12.41 hrs Surf.Area= 200 sf Storage= 128 cf

Plug-Flow detention time= 12.3 min calculated for 669 cf (100% of inflow)
 Center-of-Mass det. time= 12.3 min (757.6 - 745.3)

NORTHSIDE FARM 2-10-2017

Type III 24-hr 25 Year Event Rainfall=5.60"

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Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.05 cfs @ 12.41 hrs HW=81.23' (Free Discharge)↑**2=Exfiltration** (Exfiltration Controls 0.05 cfs)**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)↑**1=Orifice/Grate** (Controls 0.00 cfs)**Summary for Pond LP15: 10'x 20 field**

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 5.36" for 25 Year Event event
 Inflow = 0.19 cfs @ 12.07 hrs, Volume= 670 cf
 Outflow = 0.05 cfs @ 12.41 hrs, Volume= 670 cf, Atten= 72%, Lag= 20.1 min
 Discarded = 0.05 cfs @ 12.41 hrs, Volume= 670 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Peak Elev= 81.23' @ 12.41 hrs Surf.Area= 200 sf Storage= 128 cf

Plug-Flow detention time= 12.3 min calculated for 669 cf (100% of inflow)

Center-of-Mass det. time= 12.3 min (757.6 - 745.3)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.05 cfs @ 12.41 hrs HW=81.23' (Free Discharge)
 ↑ **2=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑ **1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP2: 10'x 20' field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 5.36" for 25 Year Event event
 Inflow = 0.19 cfs @ 12.07 hrs, Volume= 670 cf
 Outflow = 0.05 cfs @ 12.41 hrs, Volume= 670 cf, Atten= 72%, Lag= 20.1 min
 Discarded = 0.05 cfs @ 12.41 hrs, Volume= 670 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 81.23' @ 12.41 hrs Surf.Area= 200 sf Storage= 128 cf

Plug-Flow detention time= 12.3 min calculated for 669 cf (100% of inflow)
 Center-of-Mass det. time= 12.3 min (757.6 - 745.3)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.05 cfs @ 12.41 hrs HW=81.23' (Free Discharge)
 ↑ **2=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑ **1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP3: 10'x 20' field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 5.36" for 25 Year Event event
 Inflow = 0.19 cfs @ 12.07 hrs, Volume= 670 cf
 Outflow = 0.05 cfs @ 12.41 hrs, Volume= 670 cf, Atten= 72%, Lag= 20.1 min
 Discarded = 0.05 cfs @ 12.41 hrs, Volume= 670 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 81.23' @ 12.41 hrs Surf.Area= 200 sf Storage= 128 cf

Plug-Flow detention time= 12.3 min calculated for 669 cf (100% of inflow)
 Center-of-Mass det. time= 12.3 min (757.6 - 745.3)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.05 cfs @ 12.41 hrs HW=81.23' (Free Discharge)
 ↳ **2=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↳ **1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP4: 10'x 20' field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 5.36" for 25 Year Event event
 Inflow = 0.19 cfs @ 12.07 hrs, Volume= 670 cf
 Outflow = 0.05 cfs @ 12.41 hrs, Volume= 670 cf, Atten= 72%, Lag= 20.1 min
 Discarded = 0.05 cfs @ 12.41 hrs, Volume= 670 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 81.23' @ 12.41 hrs Surf.Area= 200 sf Storage= 128 cf

Plug-Flow detention time= 12.3 min calculated for 669 cf (100% of inflow)
 Center-of-Mass det. time= 12.3 min (757.6 - 745.3)

NORTHSIDE FARM 2-10-2017

Type III 24-hr 25 Year Event Rainfall=5.60"

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Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.05 cfs @ 12.41 hrs HW=81.23' (Free Discharge)↑**2=Exfiltration** (Exfiltration Controls 0.05 cfs)**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)↑**1=Orifice/Grate** (Controls 0.00 cfs)**Summary for Pond LP5: 10'x 20 field**

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 5.36" for 25 Year Event event
 Inflow = 0.19 cfs @ 12.07 hrs, Volume= 670 cf
 Outflow = 0.05 cfs @ 12.41 hrs, Volume= 670 cf, Atten= 72%, Lag= 20.1 min
 Discarded = 0.05 cfs @ 12.41 hrs, Volume= 670 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Peak Elev= 81.23' @ 12.41 hrs Surf.Area= 200 sf Storage= 128 cf

Plug-Flow detention time= 12.3 min calculated for 669 cf (100% of inflow)

Center-of-Mass det. time= 12.3 min (757.6 - 745.3)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

NORTHSIDE FARM 2-10-2017

Type III 24-hr 25 Year Event Rainfall=5.60"

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Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.05 cfs @ 12.41 hrs HW=81.23' (Free Discharge)
 ↑ **2=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑ **1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP6: 10'x 20' field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 5.36" for 25 Year Event event
 Inflow = 0.19 cfs @ 12.07 hrs, Volume= 670 cf
 Outflow = 0.05 cfs @ 12.41 hrs, Volume= 670 cf, Atten= 72%, Lag= 20.1 min
 Discarded = 0.05 cfs @ 12.41 hrs, Volume= 670 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 81.23' @ 12.41 hrs Surf.Area= 200 sf Storage= 128 cf

Plug-Flow detention time= 12.3 min calculated for 669 cf (100% of inflow)
 Center-of-Mass det. time= 12.3 min (757.6 - 745.3)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.05 cfs @ 12.41 hrs HW=81.23' (Free Discharge)
 ↑ **2=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑ **1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP7: 10'x 20' field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 5.36" for 25 Year Event event
 Inflow = 0.19 cfs @ 12.07 hrs, Volume= 670 cf
 Outflow = 0.05 cfs @ 12.41 hrs, Volume= 670 cf, Atten= 72%, Lag= 20.1 min
 Discarded = 0.05 cfs @ 12.41 hrs, Volume= 670 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 81.23' @ 12.41 hrs Surf.Area= 200 sf Storage= 128 cf

Plug-Flow detention time= 12.3 min calculated for 669 cf (100% of inflow)
 Center-of-Mass det. time= 12.3 min (757.6 - 745.3)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.05 cfs @ 12.41 hrs HW=81.23' (Free Discharge)
 ↑**2=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑**1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP8: 10'x 20' field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 5.36" for 25 Year Event event
 Inflow = 0.19 cfs @ 12.07 hrs, Volume= 670 cf
 Outflow = 0.05 cfs @ 12.41 hrs, Volume= 670 cf, Atten= 72%, Lag= 20.1 min
 Discarded = 0.05 cfs @ 12.41 hrs, Volume= 670 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 81.23' @ 12.41 hrs Surf.Area= 200 sf Storage= 128 cf

Plug-Flow detention time= 12.3 min calculated for 669 cf (100% of inflow)
 Center-of-Mass det. time= 12.3 min (757.6 - 745.3)

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Type III 24-hr 25 Year Event Rainfall=5.60"

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Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.05 cfs @ 12.41 hrs HW=81.23' (Free Discharge)↑**2=Exfiltration** (Exfiltration Controls 0.05 cfs)**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)↑**1=Orifice/Grate** (Controls 0.00 cfs)**Summary for Pond LP9: 10'x 20 field**

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 5.36" for 25 Year Event event
 Inflow = 0.19 cfs @ 12.07 hrs, Volume= 670 cf
 Outflow = 0.05 cfs @ 12.41 hrs, Volume= 670 cf, Atten= 72%, Lag= 20.1 min
 Discarded = 0.05 cfs @ 12.41 hrs, Volume= 670 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Peak Elev= 81.23' @ 12.41 hrs Surf.Area= 200 sf Storage= 128 cf

Plug-Flow detention time= 12.3 min calculated for 669 cf (100% of inflow)

Center-of-Mass det. time= 12.3 min (757.6 - 745.3)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.05 cfs @ 12.41 hrs HW=81.23' (Free Discharge)
 ↑ **2=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑ **1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond PE: Existing Infiltration Pond

Inflow Area = 3,300 sf, 100.00% Impervious, Inflow Depth = 5.36" for 25 Year Event event
 Inflow = 0.42 cfs @ 12.07 hrs, Volume= 1,475 cf
 Outflow = 0.08 cfs @ 14.45 hrs, Volume= 1,475 cf, Atten= 81%, Lag= 142.8 min
 Discarded = 0.08 cfs @ 14.45 hrs, Volume= 1,475 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 92.16' @ 12.53 hrs Surf.Area= 371 sf Storage= 400 cf

Plug-Flow detention time= 31.2 min calculated for 1,472 cf (100% of inflow)
 Center-of-Mass det. time= 31.2 min (776.4 - 745.3)

Volume	Invert	Avail.Storage	Storage Description
#1	90.00'	320 cf	Custom Stage Data (Irregular) Listed below 800 cf Overall x 40.0% Voids
#2	91.00'	368 cf	StormTech SC-740 x 8 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		688 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
90.00	200	60.0	0	0	200
94.00	200	60.0	800	800	440

Device	Routing	Invert	Outlet Devices
#1	Primary	93.50'	6.0" Vert. Orifice/Grate C= 0.600
#2	Discarded	90.00'	8.270 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.08 cfs @ 14.45 hrs HW=91.02' (Free Discharge)
 ↑ **2=Exfiltration** (Exfiltration Controls 0.08 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=90.00' (Free Discharge)
 ↑ **1=Orifice/Grate** (Controls 0.00 cfs)

Time span=0.00-26.00 hrs, dt=0.05 hrs, 521 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1B: Ex. Bank Roof	Runoff Area=3,300 sf 100.00% Impervious Runoff Depth=6.56" Tc=5.0 min CN=98 Runoff=0.51 cfs 1,804 cf
Subcatchment2B: Ex. Bank Parking Lot	Runoff Area=36,670 sf 59.99% Impervious Runoff Depth=5.40" Tc=5.0 min CN=88 Runoff=5.14 cfs 16,499 cf
Subcatchment3B: Ex. Landscape	Runoff Area=3,128 sf 0.00% Impervious Runoff Depth=3.87" Tc=5.0 min CN=74 Runoff=0.33 cfs 1,008 cf
Subcatchment3P: 3P	Runoff Area=28,778 sf 7.13% Impervious Runoff Depth=4.08" Tc=5.0 min CN=76 Runoff=3.16 cfs 9,784 cf
Subcatchment4P: 4P	Runoff Area=12,451 sf 47.31% Impervious Runoff Depth=5.06" Tc=5.0 min CN=85 Runoff=1.66 cfs 5,252 cf
Subcatchment5P: 5P	Runoff Area=24,485 sf 0.00% Impervious Runoff Depth=3.87" Flow Length=200' Slope=0.0100 '/' Tc=14.4 min CN=74 Runoff=1.95 cfs 7,893 cf
Subcatchment6P: 6P	Runoff Area=170,220 sf 0.76% Impervious Runoff Depth=3.87" Flow Length=440' Slope=0.0200 '/' Tc=15.2 min CN=74 Runoff=13.30 cfs 54,871 cf
Subcatchment7P: 7P	Runoff Area=20,619 sf 52.80% Impervious Runoff Depth=5.29" Tc=5.0 min CN=87 Runoff=2.84 cfs 9,083 cf
Subcatchment8P: 8P	Runoff Area=23,809 sf 45.16% Impervious Runoff Depth=5.06" Tc=5.0 min CN=85 Runoff=3.18 cfs 10,043 cf
Subcatchment9P: 9P	Runoff Area=25,030 sf 54.05% Impervious Runoff Depth=5.29" Tc=5.0 min CN=87 Runoff=3.45 cfs 11,026 cf
Subcatchment10P: 10P	Runoff Area=226,733 sf 0.90% Impervious Runoff Depth=3.87" Flow Length=850' Tc=19.0 min CN=74 Runoff=16.22 cfs 73,088 cf
Subcatchment11P: 11P	Runoff Area=48,707 sf 0.00% Impervious Runoff Depth=3.87" Flow Length=300' Slope=0.0200 '/' Tc=9.8 min CN=74 Runoff=4.40 cfs 15,701 cf
SubcatchmentL1: LOT 1	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=6.56" Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf
SubcatchmentL10: LOT 10	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=6.56" Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf
SubcatchmentL11: LOT 11	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=6.56" Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf
SubcatchmentL12: LOT 12	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=6.56" Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf

SubcatchmentL13: LOT 13	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=6.56" Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf
SubcatchmentL14: LOT 14	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=6.56" Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf
SubcatchmentL15: LOT 15	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=6.56" Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf
SubcatchmentL2: LOT 2	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=6.56" Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf
SubcatchmentL3: LOT 3	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=6.56" Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf
SubcatchmentL4: LOT 4	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=6.56" Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf
SubcatchmentL5: LOT 5	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=6.56" Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf
SubcatchmentL6: LOT 6	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=6.56" Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf
SubcatchmentL7: LOT 7	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=6.56" Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf
SubcatchmentL8: LOT 8	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=6.56" Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf
SubcatchmentL9: LOT 9	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=6.56" Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf
Reach 1R: 18" RCP	Avg. Flow Depth=0.77' Max Vel=7.74 fps Inflow=7.09 cfs 16,978 cf 18.0" Round Pipe n=0.013 L=60.0' S=0.0167 '/' Capacity=13.56 cfs Outflow=7.04 cfs 16,978 cf
Reach 2R: 24" RCP	Avg. Flow Depth=1.25' Max Vel=6.38 fps Inflow=13.16 cfs 48,511 cf 24.0" Round Pipe n=0.013 L=30.0' S=0.0067 '/' Capacity=18.47 cfs Outflow=13.13 cfs 48,511 cf
Reach 3R: 18" RCP	Avg. Flow Depth=1.29' Max Vel=5.31 fps Inflow=8.60 cfs 32,012 cf 18.0" Round Pipe n=0.013 L=65.0' S=0.0062 '/' Capacity=8.24 cfs Outflow=8.56 cfs 32,012 cf
Reach 4R: 18" RCP	Avg. Flow Depth=1.19' Max Vel=4.79 fps Inflow=7.24 cfs 24,119 cf 18.0" Round Pipe n=0.013 L=180.0' S=0.0050 '/' Capacity=7.43 cfs Outflow=7.03 cfs 24,119 cf
Reach 5R: 18" RCP	Avg. Flow Depth=1.11' Max Vel=3.34 fps Inflow=4.67 cfs 15,036 cf 18.0" Round Pipe n=0.013 L=130.0' S=0.0025 '/' Capacity=5.21 cfs Outflow=4.54 cfs 15,036 cf
Reach 6R: 12" RCP	Avg. Flow Depth=0.70' Max Vel=2.78 fps Inflow=1.66 cfs 5,252 cf 12.0" Round Pipe n=0.013 L=190.0' S=0.0030 '/' Capacity=1.95 cfs Outflow=1.57 cfs 5,252 cf
Reach 7R: 10" ADS	Avg. Flow Depth=0.47' Max Vel=9.95 fps Inflow=3.16 cfs 9,784 cf 10.0" Round Pipe n=0.010 L=95.0' S=0.0334 '/' Capacity=5.20 cfs Outflow=3.14 cfs 9,784 cf

Reach 8R: 18" RCP Avg. Flow Depth=0.95' Max Vel=5.30 fps Inflow=6.29 cfs 21,069 cf
18.0" Round Pipe n=0.013 L=30.0' S=0.0067 ' /' Capacity=8.58 cfs Outflow=6.26 cfs 21,069 cf

Reach 9R: 18" RCP Avg. Flow Depth=1.09' Max Vel=4.74 fps Inflow=6.55 cfs 21,069 cf
18.0" Round Pipe n=0.013 L=280.0' S=0.0050 ' /' Capacity=7.43 cfs Outflow=6.29 cfs 21,069 cf

Reach 10R: 18" RCP Avg. Flow Depth=0.63' Max Vel=4.45 fps Inflow=3.18 cfs 10,043 cf
18.0" Round Pipe n=0.013 L=60.0' S=0.0067 ' /' Capacity=8.58 cfs Outflow=3.13 cfs 10,043 cf

Reach 11R: Outlets Inflow=0.00 cfs 0 cf
Outflow=0.00 cfs 0 cf

Reach 12R: Outlets Inflow=0.00 cfs 0 cf
Outflow=0.00 cfs 0 cf

Reach 13R: Outlets Inflow=0.00 cfs 0 cf
Outflow=0.00 cfs 0 cf

Reach 14R: Outlets Inflow=0.00 cfs 0 cf
Outflow=0.00 cfs 0 cf

Reach 15R: 12" RCP Avg. Flow Depth=0.39' Max Vel=6.42 fps Inflow=1.85 cfs 13,680 cf
12.0" Round Pipe n=0.013 L=20.0' S=0.0250 ' /' Capacity=5.63 cfs Outflow=1.85 cfs 13,680 cf

Reach DCP1: DESIGN POINT #1 Inflow=7.04 cfs 16,978 cf
Outflow=7.04 cfs 16,978 cf

Reach DCP2: DESIGN POINT #2 Inflow=13.30 cfs 54,871 cf
Outflow=13.30 cfs 54,871 cf

Reach DCP3: DESIGN POINT #3 Inflow=17.56 cfs 86,768 cf
Outflow=17.56 cfs 86,768 cf

Pond 1P: POND #1 Peak Elev=98.24' Storage=10,165 cf Inflow=13.13 cfs 48,511 cf
Discarded=1.02 cfs 32,541 cf Primary=6.94 cfs 15,970 cf Outflow=7.96 cfs 48,511 cf

Pond 2P: Infiltration Pond #2 Peak Elev=94.97' Storage=10,617 cf Inflow=10.54 cfs 36,770 cf
Discarded=1.35 cfs 23,090 cf Primary=1.85 cfs 13,680 cf Outflow=3.20 cfs 36,770 cf

Pond LP1: 10'x 20 field Peak Elev=81.77' Storage=175 cf Inflow=0.23 cfs 820 cf
Discarded=0.06 cfs 820 cf Primary=0.00 cfs 0 cf Outflow=0.06 cfs 820 cf

Pond LP10: 10'x 20 field Peak Elev=81.77' Storage=175 cf Inflow=0.23 cfs 820 cf
Discarded=0.06 cfs 820 cf Primary=0.00 cfs 0 cf Outflow=0.06 cfs 820 cf

Pond LP11: 10'x 20 field Peak Elev=81.77' Storage=175 cf Inflow=0.23 cfs 820 cf
Discarded=0.06 cfs 820 cf Primary=0.00 cfs 0 cf Outflow=0.06 cfs 820 cf

Pond LP12: 10'x 20 field Peak Elev=81.77' Storage=175 cf Inflow=0.23 cfs 820 cf
Discarded=0.06 cfs 820 cf Primary=0.00 cfs 0 cf Outflow=0.06 cfs 820 cf

Pond LP13: 10'x 20 field

Peak Elev=81.77' Storage=175 cf Inflow=0.23 cfs 820 cf
Discarded=0.06 cfs 820 cf Primary=0.00 cfs 0 cf Outflow=0.06 cfs 820 cf

Pond LP14: 10'x 20 field

Peak Elev=81.77' Storage=175 cf Inflow=0.23 cfs 820 cf
Discarded=0.06 cfs 820 cf Primary=0.00 cfs 0 cf Outflow=0.06 cfs 820 cf

Pond LP15: 10'x 20 field

Peak Elev=81.77' Storage=175 cf Inflow=0.23 cfs 820 cf
Discarded=0.06 cfs 820 cf Primary=0.00 cfs 0 cf Outflow=0.06 cfs 820 cf

Pond LP2: 10'x 20 field

Peak Elev=81.77' Storage=175 cf Inflow=0.23 cfs 820 cf
Discarded=0.06 cfs 820 cf Primary=0.00 cfs 0 cf Outflow=0.06 cfs 820 cf

Pond LP3: 10'x 20 field

Peak Elev=81.77' Storage=175 cf Inflow=0.23 cfs 820 cf
Discarded=0.06 cfs 820 cf Primary=0.00 cfs 0 cf Outflow=0.06 cfs 820 cf

Pond LP4: 10'x 20 field

Peak Elev=81.77' Storage=175 cf Inflow=0.23 cfs 820 cf
Discarded=0.06 cfs 820 cf Primary=0.00 cfs 0 cf Outflow=0.06 cfs 820 cf

Pond LP5: 10'x 20 field

Peak Elev=81.77' Storage=175 cf Inflow=0.23 cfs 820 cf
Discarded=0.06 cfs 820 cf Primary=0.00 cfs 0 cf Outflow=0.06 cfs 820 cf

Pond LP6: 10'x 20 field

Peak Elev=81.77' Storage=175 cf Inflow=0.23 cfs 820 cf
Discarded=0.06 cfs 820 cf Primary=0.00 cfs 0 cf Outflow=0.06 cfs 820 cf

Pond LP7: 10'x 20 field

Peak Elev=81.77' Storage=175 cf Inflow=0.23 cfs 820 cf
Discarded=0.06 cfs 820 cf Primary=0.00 cfs 0 cf Outflow=0.06 cfs 820 cf

Pond LP8: 10'x 20 field

Peak Elev=81.77' Storage=175 cf Inflow=0.23 cfs 820 cf
Discarded=0.06 cfs 820 cf Primary=0.00 cfs 0 cf Outflow=0.06 cfs 820 cf

Pond LP9: 10'x 20 field

Peak Elev=81.77' Storage=175 cf Inflow=0.23 cfs 820 cf
Discarded=0.06 cfs 820 cf Primary=0.00 cfs 0 cf Outflow=0.06 cfs 820 cf

Pond PE: Existing Infiltration Pond

Peak Elev=92.78' Storage=543 cf Inflow=0.51 cfs 1,804 cf
Discarded=0.08 cfs 1,804 cf Primary=0.00 cfs 0 cf Outflow=0.08 cfs 1,804 cf

Summary for Subcatchment 1B: Ex. Bank Roof

Runoff = 0.51 cfs @ 12.07 hrs, Volume= 1,804 cf, Depth= 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

Area (sf)	CN	Description
* 3,300	98	Bank Roof
3,300		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, DIRECT

Summary for Subcatchment 2B: Ex. Bank Parking Lot

Runoff = 5.14 cfs @ 12.07 hrs, Volume= 16,499 cf, Depth= 5.40"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

Area (sf)	CN	Description
22,000	98	Paved parking & roofs
14,670	74	>75% Grass cover, Good, HSG C
36,670	88	Weighted Average
14,670		40.01% Pervious Area
22,000		59.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, direct

Summary for Subcatchment 3B: Ex. Landscape

Runoff = 0.33 cfs @ 12.08 hrs, Volume= 1,008 cf, Depth= 3.87"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

Area (sf)	CN	Description
3,128	74	>75% Grass cover, Good, HSG C
3,128		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Direct

Summary for Subcatchment 3P: 3P

Runoff = 3.16 cfs @ 12.08 hrs, Volume= 9,784 cf, Depth= 4.08"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	2,051	98	Exisitng houses
	26,727	74	>75% Grass cover, Good, HSG C
*	0	98	Roadway
*	0	98	Sidewalks
	28,778	76	Weighted Average
	26,727		92.87% Pervious Area
	2,051		7.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Direct

Summary for Subcatchment 4P: 4P

Runoff = 1.66 cfs @ 12.07 hrs, Volume= 5,252 cf, Depth= 5.06"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
	6,560	74	>75% Grass cover, Good, HSG C
*	5,891	98	Roadway & Sidewalks
	12,451	85	Weighted Average
	6,560		52.69% Pervious Area
	5,891		47.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Direct

Summary for Subcatchment 5P: 5P

Runoff = 1.95 cfs @ 12.20 hrs, Volume= 7,893 cf, Depth= 3.87"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
	24,485	74	>75% Grass cover, Good, HSG C
	24,485		100.00% Pervious Area

NORTHSIDE FARM 2-10-2017

Type III 24-hr 100 Year Event Rainfall=6.80"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	50	0.0100	0.08		Sheet Flow, sheet flow Grass: Dense n= 0.240 P2= 3.20"
3.6	150	0.0100	0.70		Shallow Concentrated Flow, Channel flow Short Grass Pasture Kv= 7.0 fps
14.4	200	Total			

Summary for Subcatchment 6P: 6P

Runoff = 13.30 cfs @ 12.21 hrs, Volume= 54,871 cf, Depth= 3.87"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

Area (sf)	CN	Description
* 1,290	98	Exisitng houses
87,260	74	>75% Grass cover, Good, HSG C
81,670	73	Woods, Fair, HSG C
170,220	74	Weighted Average
168,930		99.24% Pervious Area
1,290		0.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	50	0.0200	0.07		Sheet Flow, sheet flow Woods: Light underbrush n= 0.400 P2= 3.20"
2.9	390	0.0200	2.28		Shallow Concentrated Flow, shallow Unpaved Kv= 16.1 fps
15.2	440	Total			

Summary for Subcatchment 7P: 7P

Runoff = 2.84 cfs @ 12.07 hrs, Volume= 9,083 cf, Depth= 5.29"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

Area (sf)	CN	Description
* 0	98	Exisitng houses
9,732	74	>75% Grass cover, Good, HSG C
* 5,787	98	Roadway
* 5,100	98	Sidewalks & Drives
20,619	87	Weighted Average
9,732		47.20% Pervious Area
10,887		52.80% Impervious Area

NORTHSIDE FARM 2-10-2017

Type III 24-hr 100 Year Event Rainfall=6.80"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Direct

Summary for Subcatchment 8P: 8P

Runoff = 3.18 cfs @ 12.07 hrs, Volume= 10,043 cf, Depth= 5.06"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

Area (sf)	CN	Description
13,057	74	>75% Grass cover, Good, HSG C
* 5,722	98	Roadway
* 3,790	98	Drives
* 1,240	98	Sidewalks
23,809	85	Weighted Average
13,057		54.84% Pervious Area
10,752		45.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Direct

Summary for Subcatchment 9P: 9P

Runoff = 3.45 cfs @ 12.07 hrs, Volume= 11,026 cf, Depth= 5.29"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

Area (sf)	CN	Description
11,501	74	>75% Grass cover, Good, HSG C
* 8,588	98	Roadway
* 3,970	98	Drives
* 971	98	Sidewalks
25,030	87	Weighted Average
11,501		45.95% Pervious Area
13,529		54.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Direct

Summary for Subcatchment 10P: 10P

Runoff = 16.22 cfs @ 12.26 hrs, Volume= 73,088 cf, Depth= 3.87"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

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Type III 24-hr 100 Year Event Rainfall=6.80"

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Area (sf)	CN	Description
* 2,032	98	Exisitng houses
83,173	74	>75% Grass cover, Good, HSG C
141,528	73	Woods, Fair, HSG C
226,733	74	Weighted Average
224,701		99.10% Pervious Area
2,032		0.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	50	0.0100	0.11		Sheet Flow, Sheet Grass: Short n= 0.150 P2= 3.20"
10.1	430	0.0200	0.71		Shallow Concentrated Flow, Shallow Woodland Kv= 5.0 fps
1.5	370	0.0100	4.09	24.53	Channel Flow, River Flow Area= 6.0 sf Perim= 8.0' r= 0.75' n= 0.030 Earth, grassed & winding
19.0	850	Total			

Summary for Subcatchment 11P: 11P

Runoff = 4.40 cfs @ 12.14 hrs, Volume= 15,701 cf, Depth= 3.87"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

Area (sf)	CN	Description
* 48,707	74	grass
48,707		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		Sheet Flow, Sheet Grass: Short n= 0.150 P2= 3.20"
4.2	250	0.0200	0.99		Shallow Concentrated Flow, shallow Short Grass Pasture Kv= 7.0 fps
9.8	300	Total			

Summary for Subcatchment L1: LOT 1

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 820 cf, Depth= 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

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Type III 24-hr 100 Year Event Rainfall=6.80"

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	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L10: LOT 10

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 820 cf, Depth= 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L11: LOT 11

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 820 cf, Depth= 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L12: LOT 12

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 820 cf, Depth= 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

NORTHSIDE FARM 2-10-2017

Type III 24-hr 100 Year Event Rainfall=6.80"

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Printed 2/9/2017

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L13: LOT 13

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 820 cf, Depth= 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

Area (sf)	CN	Description
* 1,500	98	
1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L14: LOT 14

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 820 cf, Depth= 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

Area (sf)	CN	Description
* 1,500	98	
1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L15: LOT 15

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 820 cf, Depth= 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

Area (sf)	CN	Description
* 1,500	98	
1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L2: LOT 2

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 820 cf, Depth= 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L3: LOT 3

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 820 cf, Depth= 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L4: LOT 4

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 820 cf, Depth= 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L5: LOT 5

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 820 cf, Depth= 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L6: LOT 6

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 820 cf, Depth= 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L7: LOT 7

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 820 cf, Depth= 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

NORTHSIDE FARM 2-10-2017

Type III 24-hr 100 Year Event Rainfall=6.80"

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Summary for Subcatchment L8: LOT 8

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 820 cf, Depth= 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment L9: LOT 9

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 820 cf, Depth= 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

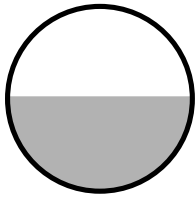
Summary for Reach 1R: 18" RCP

Inflow Area = 133,931 sf, 36.31% Impervious, Inflow Depth = 1.52" for 100 Year Event event
 Inflow = 7.09 cfs @ 12.27 hrs, Volume= 16,978 cf
 Outflow = 7.04 cfs @ 12.28 hrs, Volume= 16,978 cf, Atten= 1%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Max. Velocity= 7.74 fps, Min. Travel Time= 0.1 min
 Avg. Velocity = 1.55 fps, Avg. Travel Time= 0.6 min

Peak Storage= 55 cf @ 12.27 hrs
 Average Depth at Peak Storage= 0.77'
 Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 13.56 cfs

18.0" Round Pipe
 n= 0.013
 Length= 60.0' Slope= 0.0167 '
 Inlet Invert= 94.00', Outlet Invert= 93.00'

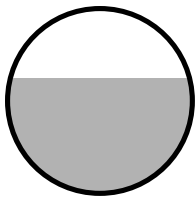
**Summary for Reach 2R: 24" RCP**

Inflow Area = 127,503 sf, 35.55% Impervious, Inflow Depth = 4.57" for 100 Year Event event
Inflow = 13.16 cfs @ 12.11 hrs, Volume= 48,511 cf
Outflow = 13.13 cfs @ 12.11 hrs, Volume= 48,511 cf, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.38 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.16 fps, Avg. Travel Time= 0.2 min

Peak Storage= 62 cf @ 12.11 hrs
Average Depth at Peak Storage= 1.25'
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 18.47 cfs

24.0" Round Pipe
n= 0.013
Length= 30.0' Slope= 0.0067 '
Inlet Invert= 95.65', Outlet Invert= 95.45'

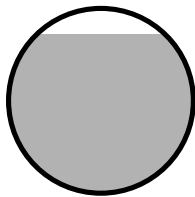
**Summary for Reach 3R: 18" RCP**

Inflow Area = 90,833 sf, 25.68% Impervious, Inflow Depth = 4.23" for 100 Year Event event
Inflow = 8.60 cfs @ 12.13 hrs, Volume= 32,012 cf
Outflow = 8.56 cfs @ 12.13 hrs, Volume= 32,012 cf, Atten= 0%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.31 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.91 fps, Avg. Travel Time= 0.6 min

Peak Storage= 105 cf @ 12.13 hrs
Average Depth at Peak Storage= 1.29'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 8.24 cfs

18.0" Round Pipe
n= 0.013
Length= 65.0' Slope= 0.0062 '
Inlet Invert= 96.10', Outlet Invert= 95.70'

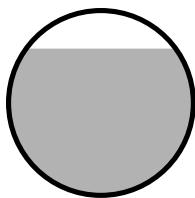
**Summary for Reach 4R: 18" RCP**

Inflow Area = 61,848 sf, 30.44% Impervious, Inflow Depth = 4.68" for 100 Year Event event
Inflow = 7.24 cfs @ 12.10 hrs, Volume= 24,119 cf
Outflow = 7.03 cfs @ 12.11 hrs, Volume= 24,119 cf, Atten= 3%, Lag= 1.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.79 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 1.65 fps, Avg. Travel Time= 1.8 min

Peak Storage= 271 cf @ 12.10 hrs
Average Depth at Peak Storage= 1.19'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 7.43 cfs

18.0" Round Pipe
n= 0.013
Length= 180.0' Slope= 0.0050 '/
Inlet Invert= 97.00', Outlet Invert= 96.10'

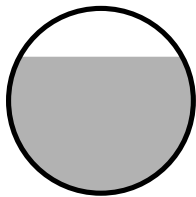
**Summary for Reach 5R: 18" RCP**

Inflow Area = 41,229 sf, 19.26% Impervious, Inflow Depth = 4.38" for 100 Year Event event
Inflow = 4.67 cfs @ 12.09 hrs, Volume= 15,036 cf
Outflow = 4.54 cfs @ 12.11 hrs, Volume= 15,036 cf, Atten= 3%, Lag= 1.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.34 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 1.13 fps, Avg. Travel Time= 1.9 min

Peak Storage= 182 cf @ 12.10 hrs
Average Depth at Peak Storage= 1.11'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 5.21 cfs

18.0" Round Pipe
n= 0.013
Length= 130.0' Slope= 0.0025 '/
Inlet Invert= 97.32', Outlet Invert= 97.00'

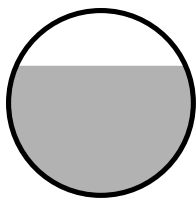
**Summary for Reach 6R: 12" RCP**

Inflow Area = 12,451 sf, 47.31% Impervious, Inflow Depth = 5.06" for 100 Year Event event
Inflow = 1.66 cfs @ 12.07 hrs, Volume= 5,252 cf
Outflow = 1.57 cfs @ 12.11 hrs, Volume= 5,252 cf, Atten= 5%, Lag= 2.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.78 fps, Min. Travel Time= 1.1 min
Avg. Velocity = 0.96 fps, Avg. Travel Time= 3.3 min

Peak Storage= 112 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.70'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 1.95 cfs

12.0" Round Pipe
n= 0.013
Length= 190.0' Slope= 0.0030 '/
Inlet Invert= 97.90', Outlet Invert= 97.33'

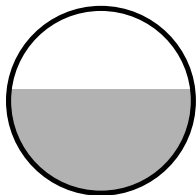
**Summary for Reach 7R: 10" ADS**

Inflow Area = 28,778 sf, 7.13% Impervious, Inflow Depth = 4.08" for 100 Year Event event
Inflow = 3.16 cfs @ 12.08 hrs, Volume= 9,784 cf
Outflow = 3.14 cfs @ 12.08 hrs, Volume= 9,784 cf, Atten= 0%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.95 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 3.58 fps, Avg. Travel Time= 0.4 min

Peak Storage= 30 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.47'
Bank-Full Depth= 0.83' Flow Area= 0.5 sf, Capacity= 5.20 cfs

10.0" Round Pipe
n= 0.010 PVC, smooth interior
Length= 95.0' Slope= 0.0334 '/
Inlet Invert= 100.50', Outlet Invert= 97.33'

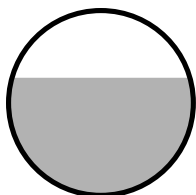
**Summary for Reach 8R: 18" RCP**

Inflow Area = 48,839 sf, 49.72% Impervious, Inflow Depth = 5.18" for 100 Year Event event
Inflow = 6.29 cfs @ 12.11 hrs, Volume= 21,069 cf
Outflow = 6.26 cfs @ 12.11 hrs, Volume= 21,069 cf, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.30 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.79 fps, Avg. Travel Time= 0.3 min

Peak Storage= 36 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.95'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 8.58 cfs

18.0" Round Pipe
n= 0.013
Length= 30.0' Slope= 0.0067 '/'
Inlet Invert= 92.90', Outlet Invert= 92.70'

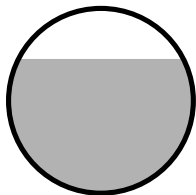
**Summary for Reach 9R: 18" RCP**

Inflow Area = 48,839 sf, 49.72% Impervious, Inflow Depth = 5.18" for 100 Year Event event
Inflow = 6.55 cfs @ 12.08 hrs, Volume= 21,069 cf
Outflow = 6.29 cfs @ 12.11 hrs, Volume= 21,069 cf, Atten= 4%, Lag= 1.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.74 fps, Min. Travel Time= 1.0 min
Avg. Velocity = 1.61 fps, Avg. Travel Time= 2.9 min

Peak Storage= 385 cf @ 12.09 hrs
Average Depth at Peak Storage= 1.09'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 7.43 cfs

18.0" Round Pipe
n= 0.013
Length= 280.0' Slope= 0.0050 '/'
Inlet Invert= 94.30', Outlet Invert= 92.90'

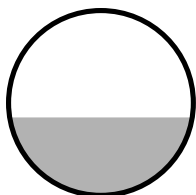
**Summary for Reach 10R: 18" RCP**

Inflow Area = 23,809 sf, 45.16% Impervious, Inflow Depth = 5.06" for 100 Year Event event
Inflow = 3.18 cfs @ 12.07 hrs, Volume= 10,043 cf
Outflow = 3.13 cfs @ 12.08 hrs, Volume= 10,043 cf, Atten= 1%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.45 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.50 fps, Avg. Travel Time= 0.7 min

Peak Storage= 42 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.63'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 8.58 cfs

18.0" Round Pipe
n= 0.013
Length= 60.0' Slope= 0.0067 '
Inlet Invert= 94.70', Outlet Invert= 94.30'

**Summary for Reach 11R: Outlets**

Inflow Area = 4,500 sf, 100.00% Impervious, Inflow Depth = 0.00" for 100 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach 12R: Outlets

Inflow Area = 7,500 sf, 100.00% Impervious, Inflow Depth = 0.00" for 100 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach 13R: Outlets

Inflow Area = 3,000 sf, 100.00% Impervious, Inflow Depth = 0.00" for 100 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach 14R: Outlets

Inflow Area = 7,500 sf, 100.00% Impervious, Inflow Depth = 0.00" for 100 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach 15R: 12" RCP

Inflow Area = 100,546 sf, 27.13% Impervious, Inflow Depth = 1.63" for 100 Year Event event
Inflow = 1.85 cfs @ 12.49 hrs, Volume= 13,680 cf
Outflow = 1.85 cfs @ 12.49 hrs, Volume= 13,680 cf, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Max. Velocity= 6.42 fps, Min. Travel Time= 0.1 min

Avg. Velocity= 1.83 fps, Avg. Travel Time= 0.2 min

Peak Storage= 6 cf @ 12.49 hrs

Average Depth at Peak Storage= 0.39'

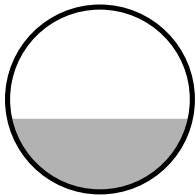
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 5.63 cfs

12.0" Round Pipe

n= 0.013

Length= 20.0' Slope= 0.0250 '/'

Inlet Invert= 92.50', Outlet Invert= 92.00'

**Summary for Reach DCP1: DESIGN POINT #1**

Inflow Area = 133,931 sf, 36.31% Impervious, Inflow Depth = 1.52" for 100 Year Event event
Inflow = 7.04 cfs @ 12.28 hrs, Volume= 16,978 cf
Outflow = 7.04 cfs @ 12.28 hrs, Volume= 16,978 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach DCP2: DESIGN POINT #2

Inflow Area = 177,720 sf, 4.95% Impervious, Inflow Depth = 3.71" for 100 Year Event event
 Inflow = 13.30 cfs @ 12.21 hrs, Volume= 54,871 cf
 Outflow = 13.30 cfs @ 12.21 hrs, Volume= 54,871 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach DCP3: DESIGN POINT #3

Inflow Area = 334,779 sf, 11.00% Impervious, Inflow Depth = 3.11" for 100 Year Event event
 Inflow = 17.56 cfs @ 12.27 hrs, Volume= 86,768 cf
 Outflow = 17.56 cfs @ 12.27 hrs, Volume= 86,768 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Pond 1P: POND #1

Inflow Area = 127,503 sf, 35.55% Impervious, Inflow Depth = 4.57" for 100 Year Event event
 Inflow = 13.13 cfs @ 12.11 hrs, Volume= 48,511 cf
 Outflow = 7.96 cfs @ 12.27 hrs, Volume= 48,511 cf, Atten= 39%, Lag= 9.9 min
 Discarded = 1.02 cfs @ 11.30 hrs, Volume= 32,541 cf
 Primary = 6.94 cfs @ 12.27 hrs, Volume= 15,970 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 98.24' @ 12.27 hrs Surf.Area= 5,325 sf Storage= 10,165 cf

Plug-Flow detention time= 28.0 min calculated for 48,418 cf (100% of inflow)
 Center-of-Mass det. time= 27.9 min (831.9 - 804.0)

Volume	Invert	Avail.Storage	Storage Description
#1	95.40'	4,699 cf	Custom Stage Data (Irregular) Listed below 18,638 cf Overall - 6,891 cf Embedded = 11,746 cf x 40.0% Voids
#2	95.90'	6,891 cf	StormTech SC-740 x 150 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		11,590 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
95.40	5,325	292.0	0	0	5,325
98.90	5,325	292.0	18,638	18,638	6,347

Device	Routing	Invert	Outlet Devices
#1	Discarded	95.40'	8.270 in/hr Exfiltration over Surface area
#2	Primary	96.60'	1.3' long Sharp-Crested Rectangular Weir 2 End Contraction(s) 5.0' Crest Height

Discarded OutFlow Max=1.02 cfs @ 11.30 hrs HW=95.44' (Free Discharge)

↑ **1=Exfiltration** (Exfiltration Controls 1.02 cfs)

Primary OutFlow Max=6.86 cfs @ 12.27 hrs HW=98.22' (Free Discharge)

↑ **2=Sharp-Crested Rectangular Weir** (Weir Controls 6.86 cfs @ 4.33 fps)

Summary for Pond 2P: Infiltration Pond #2

Inflow Area = 100,546 sf, 27.13% Impervious, Inflow Depth = 4.39" for 100 Year Event event
 Inflow = 10.54 cfs @ 12.12 hrs, Volume= 36,770 cf
 Outflow = 3.20 cfs @ 12.49 hrs, Volume= 36,770 cf, Atten= 70%, Lag= 22.2 min
 Discarded = 1.35 cfs @ 12.49 hrs, Volume= 23,090 cf
 Primary = 1.85 cfs @ 12.49 hrs, Volume= 13,680 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 94.97' @ 12.49 hrs Surf.Area= 6,947 sf Storage= 10,617 cf

Plug-Flow detention time= 32.6 min calculated for 36,770 cf (100% of inflow)
 Center-of-Mass det. time= 32.6 min (841.5 - 808.9)

Volume	Invert	Avail.Storage	Storage Description		
#1	92.50'	19,107 cf	Custom Stage Data (Irregular) Listed below		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
92.50	2,105	235.0	0	0	2,105
93.00	2,850	255.0	1,234	1,234	2,894
94.00	4,720	306.0	3,746	4,980	5,188
95.00	7,025	360.0	5,834	10,814	8,070
96.00	9,629	412.0	8,293	19,107	11,287
Device	Routing	Invert	Outlet Devices		
#1	Primary	94.80'	2.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s) 3.0' Crest Height		
#2	Primary	92.50'	6.0" Vert. Orifice/Grate C= 0.600		
#3	Discarded	92.50'	8.270 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 0.00'		

Discarded OutFlow Max=1.35 cfs @ 12.49 hrs HW=94.96' (Free Discharge)

↑ **3=Exfiltration** (Controls 1.35 cfs)

Primary OutFlow Max=1.84 cfs @ 12.49 hrs HW=94.96' (Free Discharge)

↑ **1=Sharp-Crested Rectangular Weir** (Weir Controls 0.43 cfs @ 1.34 fps)

↑ **2=Orifice/Grate** (Orifice Controls 1.41 cfs @ 7.17 fps)

Summary for Pond LP1: 10'x 20' field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 6.56" for 100 Year Event event
 Inflow = 0.23 cfs @ 12.07 hrs, Volume= 820 cf
 Outflow = 0.06 cfs @ 12.43 hrs, Volume= 820 cf, Atten= 75%, Lag= 21.6 min
 Discarded = 0.06 cfs @ 12.43 hrs, Volume= 820 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 81.77' @ 12.43 hrs Surf.Area= 200 sf Storage= 175 cf

Plug-Flow detention time= 16.3 min calculated for 819 cf (100% of inflow)
 Center-of-Mass det. time= 16.3 min (758.7 - 742.4)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.06 cfs @ 12.43 hrs HW=81.76' (Free Discharge)
 ↑**2=Exfiltration** (Exfiltration Controls 0.06 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑**1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP10: 10'x 20' field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 6.56" for 100 Year Event event
 Inflow = 0.23 cfs @ 12.07 hrs, Volume= 820 cf
 Outflow = 0.06 cfs @ 12.43 hrs, Volume= 820 cf, Atten= 75%, Lag= 21.6 min
 Discarded = 0.06 cfs @ 12.43 hrs, Volume= 820 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 81.77' @ 12.43 hrs Surf.Area= 200 sf Storage= 175 cf

Plug-Flow detention time= 16.3 min calculated for 819 cf (100% of inflow)
 Center-of-Mass det. time= 16.3 min (758.7 - 742.4)

NORTHSIDE FARM 2-10-2017

Type III 24-hr 100 Year Event Rainfall=6.80"

Prepared by Microsoft

Printed 2/9/2017

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Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.06 cfs @ 12.43 hrs HW=81.76' (Free Discharge)↑**2=Exfiltration** (Exfiltration Controls 0.06 cfs)**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)↑**1=Orifice/Grate** (Controls 0.00 cfs)**Summary for Pond LP11: 10'x 20 field**

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 6.56" for 100 Year Event event
 Inflow = 0.23 cfs @ 12.07 hrs, Volume= 820 cf
 Outflow = 0.06 cfs @ 12.43 hrs, Volume= 820 cf, Atten= 75%, Lag= 21.6 min
 Discarded = 0.06 cfs @ 12.43 hrs, Volume= 820 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Peak Elev= 81.77' @ 12.43 hrs Surf.Area= 200 sf Storage= 175 cf

Plug-Flow detention time= 16.3 min calculated for 819 cf (100% of inflow)

Center-of-Mass det. time= 16.3 min (758.7 - 742.4)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.06 cfs @ 12.43 hrs HW=81.76' (Free Discharge)
 ↑ **2=Exfiltration** (Exfiltration Controls 0.06 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑ **1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP12: 10'x 20 field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 6.56" for 100 Year Event event
 Inflow = 0.23 cfs @ 12.07 hrs, Volume= 820 cf
 Outflow = 0.06 cfs @ 12.43 hrs, Volume= 820 cf, Atten= 75%, Lag= 21.6 min
 Discarded = 0.06 cfs @ 12.43 hrs, Volume= 820 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 81.77' @ 12.43 hrs Surf.Area= 200 sf Storage= 175 cf

Plug-Flow detention time= 16.3 min calculated for 819 cf (100% of inflow)
 Center-of-Mass det. time= 16.3 min (758.7 - 742.4)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.06 cfs @ 12.43 hrs HW=81.76' (Free Discharge)
 ↑ **2=Exfiltration** (Exfiltration Controls 0.06 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑ **1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP13: 10'x 20 field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 6.56" for 100 Year Event event
 Inflow = 0.23 cfs @ 12.07 hrs, Volume= 820 cf
 Outflow = 0.06 cfs @ 12.43 hrs, Volume= 820 cf, Atten= 75%, Lag= 21.6 min
 Discarded = 0.06 cfs @ 12.43 hrs, Volume= 820 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 81.77' @ 12.43 hrs Surf.Area= 200 sf Storage= 175 cf

Plug-Flow detention time= 16.3 min calculated for 819 cf (100% of inflow)
 Center-of-Mass det. time= 16.3 min (758.7 - 742.4)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.06 cfs @ 12.43 hrs HW=81.76' (Free Discharge)
 ↑**2=Exfiltration** (Exfiltration Controls 0.06 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑**1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP14: 10'x 20 field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 6.56" for 100 Year Event event
 Inflow = 0.23 cfs @ 12.07 hrs, Volume= 820 cf
 Outflow = 0.06 cfs @ 12.43 hrs, Volume= 820 cf, Atten= 75%, Lag= 21.6 min
 Discarded = 0.06 cfs @ 12.43 hrs, Volume= 820 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 81.77' @ 12.43 hrs Surf.Area= 200 sf Storage= 175 cf

Plug-Flow detention time= 16.3 min calculated for 819 cf (100% of inflow)
 Center-of-Mass det. time= 16.3 min (758.7 - 742.4)

NORTHSIDE FARM 2-10-2017

Type III 24-hr 100 Year Event Rainfall=6.80"

Prepared by Microsoft

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Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.06 cfs @ 12.43 hrs HW=81.76' (Free Discharge)↑**2=Exfiltration** (Exfiltration Controls 0.06 cfs)**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)↑**1=Orifice/Grate** (Controls 0.00 cfs)**Summary for Pond LP15: 10'x 20 field**

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 6.56" for 100 Year Event event
 Inflow = 0.23 cfs @ 12.07 hrs, Volume= 820 cf
 Outflow = 0.06 cfs @ 12.43 hrs, Volume= 820 cf, Atten= 75%, Lag= 21.6 min
 Discarded = 0.06 cfs @ 12.43 hrs, Volume= 820 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Peak Elev= 81.77' @ 12.43 hrs Surf.Area= 200 sf Storage= 175 cf

Plug-Flow detention time= 16.3 min calculated for 819 cf (100% of inflow)

Center-of-Mass det. time= 16.3 min (758.7 - 742.4)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.06 cfs @ 12.43 hrs HW=81.76' (Free Discharge)
 ↑**2=Exfiltration** (Exfiltration Controls 0.06 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑**1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP2: 10'x 20 field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 6.56" for 100 Year Event event
 Inflow = 0.23 cfs @ 12.07 hrs, Volume= 820 cf
 Outflow = 0.06 cfs @ 12.43 hrs, Volume= 820 cf, Atten= 75%, Lag= 21.6 min
 Discarded = 0.06 cfs @ 12.43 hrs, Volume= 820 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 81.77' @ 12.43 hrs Surf.Area= 200 sf Storage= 175 cf

Plug-Flow detention time= 16.3 min calculated for 819 cf (100% of inflow)
 Center-of-Mass det. time= 16.3 min (758.7 - 742.4)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.06 cfs @ 12.43 hrs HW=81.76' (Free Discharge)
 ↑**2=Exfiltration** (Exfiltration Controls 0.06 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑**1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP3: 10'x 20' field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 6.56" for 100 Year Event event
 Inflow = 0.23 cfs @ 12.07 hrs, Volume= 820 cf
 Outflow = 0.06 cfs @ 12.43 hrs, Volume= 820 cf, Atten= 75%, Lag= 21.6 min
 Discarded = 0.06 cfs @ 12.43 hrs, Volume= 820 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 81.77' @ 12.43 hrs Surf.Area= 200 sf Storage= 175 cf

Plug-Flow detention time= 16.3 min calculated for 819 cf (100% of inflow)
 Center-of-Mass det. time= 16.3 min (758.7 - 742.4)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.06 cfs @ 12.43 hrs HW=81.76' (Free Discharge)
 ↳ **2=Exfiltration** (Exfiltration Controls 0.06 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↳ **1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP4: 10'x 20' field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 6.56" for 100 Year Event event
 Inflow = 0.23 cfs @ 12.07 hrs, Volume= 820 cf
 Outflow = 0.06 cfs @ 12.43 hrs, Volume= 820 cf, Atten= 75%, Lag= 21.6 min
 Discarded = 0.06 cfs @ 12.43 hrs, Volume= 820 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 81.77' @ 12.43 hrs Surf.Area= 200 sf Storage= 175 cf

Plug-Flow detention time= 16.3 min calculated for 819 cf (100% of inflow)
 Center-of-Mass det. time= 16.3 min (758.7 - 742.4)

NORTHSIDE FARM 2-10-2017

Type III 24-hr 100 Year Event Rainfall=6.80"

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Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.06 cfs @ 12.43 hrs HW=81.76' (Free Discharge)↑**2=Exfiltration** (Exfiltration Controls 0.06 cfs)**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)↑**1=Orifice/Grate** (Controls 0.00 cfs)**Summary for Pond LP5: 10'x 20 field**

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 6.56" for 100 Year Event event
 Inflow = 0.23 cfs @ 12.07 hrs, Volume= 820 cf
 Outflow = 0.06 cfs @ 12.43 hrs, Volume= 820 cf, Atten= 75%, Lag= 21.6 min
 Discarded = 0.06 cfs @ 12.43 hrs, Volume= 820 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Peak Elev= 81.77' @ 12.43 hrs Surf.Area= 200 sf Storage= 175 cf

Plug-Flow detention time= 16.3 min calculated for 819 cf (100% of inflow)

Center-of-Mass det. time= 16.3 min (758.7 - 742.4)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.06 cfs @ 12.43 hrs HW=81.76' (Free Discharge)
 ↑ **2=Exfiltration** (Exfiltration Controls 0.06 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑ **1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP6: 10'x 20 field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 6.56" for 100 Year Event event
 Inflow = 0.23 cfs @ 12.07 hrs, Volume= 820 cf
 Outflow = 0.06 cfs @ 12.43 hrs, Volume= 820 cf, Atten= 75%, Lag= 21.6 min
 Discarded = 0.06 cfs @ 12.43 hrs, Volume= 820 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 81.77' @ 12.43 hrs Surf.Area= 200 sf Storage= 175 cf

Plug-Flow detention time= 16.3 min calculated for 819 cf (100% of inflow)
 Center-of-Mass det. time= 16.3 min (758.7 - 742.4)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.06 cfs @ 12.43 hrs HW=81.76' (Free Discharge)
 ↑ **2=Exfiltration** (Exfiltration Controls 0.06 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑ **1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP7: 10'x 20' field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 6.56" for 100 Year Event event
 Inflow = 0.23 cfs @ 12.07 hrs, Volume= 820 cf
 Outflow = 0.06 cfs @ 12.43 hrs, Volume= 820 cf, Atten= 75%, Lag= 21.6 min
 Discarded = 0.06 cfs @ 12.43 hrs, Volume= 820 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 81.77' @ 12.43 hrs Surf.Area= 200 sf Storage= 175 cf

Plug-Flow detention time= 16.3 min calculated for 819 cf (100% of inflow)
 Center-of-Mass det. time= 16.3 min (758.7 - 742.4)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.06 cfs @ 12.43 hrs HW=81.76' (Free Discharge)
 ↳ **2=Exfiltration** (Exfiltration Controls 0.06 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↳ **1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond LP8: 10'x 20' field

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 6.56" for 100 Year Event event
 Inflow = 0.23 cfs @ 12.07 hrs, Volume= 820 cf
 Outflow = 0.06 cfs @ 12.43 hrs, Volume= 820 cf, Atten= 75%, Lag= 21.6 min
 Discarded = 0.06 cfs @ 12.43 hrs, Volume= 820 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 81.77' @ 12.43 hrs Surf.Area= 200 sf Storage= 175 cf

Plug-Flow detention time= 16.3 min calculated for 819 cf (100% of inflow)
 Center-of-Mass det. time= 16.3 min (758.7 - 742.4)

NORTHSIDE FARM 2-10-2017

Type III 24-hr 100 Year Event Rainfall=6.80"

Prepared by Microsoft

Printed 2/9/2017

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Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.06 cfs @ 12.43 hrs HW=81.76' (Free Discharge)↑**2=Exfiltration** (Exfiltration Controls 0.06 cfs)**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)↑**1=Orifice/Grate** (Controls 0.00 cfs)**Summary for Pond LP9: 10'x 20 field**

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 6.56" for 100 Year Event event
 Inflow = 0.23 cfs @ 12.07 hrs, Volume= 820 cf
 Outflow = 0.06 cfs @ 12.43 hrs, Volume= 820 cf, Atten= 75%, Lag= 21.6 min
 Discarded = 0.06 cfs @ 12.43 hrs, Volume= 820 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Peak Elev= 81.77' @ 12.43 hrs Surf.Area= 200 sf Storage= 175 cf

Plug-Flow detention time= 16.3 min calculated for 819 cf (100% of inflow)

Center-of-Mass det. time= 16.3 min (758.7 - 742.4)

Volume	Invert	Avail.Storage	Storage Description
#1	80.00'	178 cf	Custom Stage Data (Irregular) Listed below (Recalc) 500 cf Overall - 56 cf Embedded = 444 cf x 40.0% Voids
#2	80.50'	56 cf	Cultec C-100 x 4 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap
		234 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
80.00	200	60.0	0	0	200
82.50	200	60.0	500	500	350

Device	Routing	Invert	Outlet Devices
#1	Primary	82.40'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Discarded	80.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.06 cfs @ 12.43 hrs HW=81.76' (Free Discharge)
 ↑ **2=Exfiltration** (Exfiltration Controls 0.06 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 ↑ **1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond PE: Existing Infiltration Pond

Inflow Area = 3,300 sf, 100.00% Impervious, Inflow Depth = 6.56" for 100 Year Event event
 Inflow = 0.51 cfs @ 12.07 hrs, Volume= 1,804 cf
 Outflow = 0.08 cfs @ 11.80 hrs, Volume= 1,804 cf, Atten= 84%, Lag= 0.0 min
 Discarded = 0.08 cfs @ 11.80 hrs, Volume= 1,804 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
 Peak Elev= 92.78' @ 12.62 hrs Surf.Area= 323 sf Storage= 543 cf

Plug-Flow detention time= 48.3 min calculated for 1,801 cf (100% of inflow)
 Center-of-Mass det. time= 48.3 min (790.7 - 742.4)

Volume	Invert	Avail.Storage	Storage Description
#1	90.00'	320 cf	Custom Stage Data (Irregular) Listed below 800 cf Overall x 40.0% Voids
#2	91.00'	368 cf	StormTech SC-740 x 8 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		688 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
90.00	200	60.0	0	0	200
94.00	200	60.0	800	800	440

Device	Routing	Invert	Outlet Devices
#1	Primary	93.50'	6.0" Vert. Orifice/Grate C= 0.600
#2	Discarded	90.00'	8.270 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.08 cfs @ 11.80 hrs HW=91.00' (Free Discharge)
 ↑ **2=Exfiltration** (Exfiltration Controls 0.08 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=90.00' (Free Discharge)
 ↑ **1=Orifice/Grate** (Controls 0.00 cfs)