CAVANARO CONSULTING

• Land Use Planning
• Civil Enginee ring
• Construction Permitting

April 13, 2016

Mr. John G. Radcliffe
Chairman
New Bedford Conservation Commission
New Bedford City Hall
133 William Street
New Bedford, MA 02744

RE: **Response to Review Comments Dated 4/1/16**
Northside Farm Subdivision
Acushnet Avenue
New Bedford, MA 02745
DEP No. SE 049-0736

Dear Chairman Radcliffe:

The purpose of this correspondence is to respond to the review comments submitted for the project at Northside Farm by Mr. Scott Turner, P.E. from Nitsch Engineering, Inc. dated 4/1/16.

The following response and brief description of each major comment is offered for your review and consideration:

Comments by Nitsch Engineering, Submitted to New Bedford Conservation Commission, dated 4/1/16

General

1. The Existing Conditions Plan does not appear to accurately reflect the current conditions of the site and surrounding parcels. Specifically, the limit of paved surfaces and the existing tree line should be provided so that the existing cover types within the watershed boundaries (both on and offsite) can be confirmed. Based on the site visit, it appears the parcel is substantially wood in fair condition with some areas of grass in the northern portion of the site near Acushnet Avenue. The existing drainage infrastructure, including the subsurface infiltration system installed for the bank property and other components that the proposed drainage system connect to, should also be provided. Complete topography for the limit of analysis should also be provided.

The existing conditions plan has been updated to show additional detail including the adjacent bank parcel on Acushnet Avenue and soil tests performed in 2005 and 2006.

2. Additional information should be provided for the existing subsurface infiltration system. It is unclear how this system interacts with the proposed development, if at all. As an existing condition, this pond should be included in the existing HydroCAD model. Does this infiltration system have capacity to accept additional stormwater from the proposed project? There appears to be a significant amount of road that is being routed to the infiltration field.

The original approved subdivision in 2006 included the bank property. A modification to the original subdivision was approved by the planning board in 2008 to include the present bank lot (originally approved as residential property) and to revise the subsurface Infiltration System No. 1 (Pond 1 in HydroCAD) to

treat and control runoff from the bank parking lot and from proposed subcatchment areas No. 2 & 3 as shown on the enclosed Proposed Subcatchment Area Plan. The bank property was purchased in 2008 by Southern Mass Credit Union who developed the bank lot and installed Infiltration System No. 1 per the approved specifications. Infiltration System No. 1 has been included in the revised HydroCAD modeling.

3. The NCRS soil survey and onsite soil testing was not provided with the Application. MassDEP requires soil testing in the locations of all proposed stormwater management systems to confirm soil texture and groundwater and ledge conditions. Following the soil testing, the stormwater calculations, including curve number and infiltration rates, should be updated as necessary to reflect the onsite conditions.

Original soil testing for the property was performed in 2005, subsequent soil tests were performed in 2006 at the location of all proposed infiltration systems to determine the type of underlying soil material and estimated groundwater table. No restrictive layers were found at the time of the soil evaluations. NCRS soil map information has also been included in this response.

4. Based on soil elevations of the wetland and the existing field drain, it appears that groundwater is within a couple of feet of the existing grade. Documentation should be provided to demonstrate that a 2-foot separation will be provided between estimated seasonal high groundwater and the bottom of the infiltration systems. Due to the fact that all roof surfaces are routed to subsurface infiltration systems, the Applicant should perform enough test holes on the property to clearly demonstrate groundwater elevations throughout the property.

A test pit (TP-3A) was performed in 2006 at the location of the proposed infiltration pond (Pond #3 in HydroCAD) and groundwater was determined by mottles to be at elevation 90.2. Therefore, a 2' minimum separation is provided from the bottom of the infiltration pond (Pond #3) at 92.6 to the estimated groundwater elevation at elevation 90.2.

5. A flood study was prepared in September 2007 for the perennial stream that runs along the eastern property boundary. We recommend that the Applicant review the study, if possible, to ensure that the site is designed appropriately for the designated flood area. The study was prepared by CDM and is titled The City of New Bedford, Massachusetts Stratford Street and Barnum Street Drainage Design Report.

All flows directed toward the river on the eastern portion of the property have been decreased by approximately 25% during all design storm events.

Section 4 of the drainage design report recommends that the channel downstream of Phillips road be cleaned and vegetation removed to increase capacity of the channel and help reduce the flooding and ponding of water in the Lucy Street area upstream. Per 310 CMR 10.55(4)c, the issuing authority may allow up to 500 Square feet of "finger-like" configured wetlands to be filled without replication. To comply with the requirements of this section of the Regulations the applicant is proposing to reduce the filling of BVW from 685 square feet to 498 square feet in combination with cleaning and trimming out vegetation for approximately 450 linear feet of the river channel within the locus property as mitigation. This would increase the channel capacity as recommended in the study and help reduce the ponding and flooding upstream.

6. On the Existing Subcatchment Areas Plan, it is difficult to distinguish between property lines and watershed divides.

The Subcachment Area Plans have been updated.

7. Based on the topography provided, it does not appear that Design Point 2 is a receiving point for the site that needs to be analyzed. Run-off generated in the southwest corner of the site appears to flow down towards Arnoff Street and Design Point 3.

Both design control points No. 2 & 3 have been eliminated. A design control point at Arnoff Street has been used for modeling as suggested.

8. The Applicant should consider modeling Arnoff Street as an interim design point since it is the downstream boundary for a large portion of the site.

Arnoff street has been modeled as a design control point including the southerly portion of Monson street adjacent to Victoria street.

9. The existing drainage divides should also be evaluated for consistency with the high points outlined by the existing topography.

The existing subcatchment area plan has been updated.

10. The proposed plans appear to be conceptual design plans and are missing certain information that would aid in reviewing the stormwater management system. For example, drainage infrastructure (catch basins, drain manholes, pipes, basins, subsurface systems, etc.) are not labeled in plain view or provided on the proposed conditions watershed map.

An additional Drainage Layout sheet has been provided to label all drainage infrastructure and structures have been added to the proposed subcatchmet area plan.

11. The Proposed Subcatchment Areas Plan should be revised to include and label the proposed subcatchments, ponds, and reaches to be consistent with the HydroCAD model. The ponds should also be labeled on the Grading and Drainage Plan.

The Proposed Subcatchmet Area Plan has been updated to include the proposed subcatchments, ponds and reaches to match the HydroCAD model.

12. The stormwater report indicates that the existing peak flow rate directed towards the wetland (DP-4) is being reduced, while the peak rate is being increased towards Acushnet Avenue. We recommend that the peak flow rate be maintained at all design points to the maximum extent possible to align with Standard 2. If an increase is proposed to the municipal drainage system, we recommend consulting with the Department of Public Infrastructure to confirm there is adequate capacity for the proposed flows.

During the original approval process we had discussions with DPI and they agreed that because of the existing drainage problems with the river area on the Eastern portion of the property, they would allow

additional flow to the existing drainage system in Acushnet Avenue and Ashley Boulevard as long as the flows towards the east were reduced. As can be observed in the enclosed HydroCAD report, while flows directed toward DCP 1 are proposed to be increased, flows directed toward DCP 2 (including flows directed toward the river) will be drastically reduced post construction. Moreover, when adding the flows in all directions (DCP 1 and DCP 2), total pre-construction flows are reduced post construction during all design storm events as follows:

Design Control Point No. 1 (Acushnet Ave.)

Storm	Existing Conditions (1R)	Post-Construction(18R)
2–Year-24Hour (3.20")	0.08 cfs	2.21 cfs
10–Year-24Hour (4.60")	0.34 cfs	6.27 cfs
25–Year-24Hour (5.60")	0.85 cfs	8.81 cfs
100–Year-24Hour (6.80")	1.65 cfs	11.68 cfs

Design Control Point No. 2 (Arnoff Street)

Storm	Existing Conditions (2R)	Post-Construction(19R)
2–Year-24Hour (3.20")	11.45 cfs	8.16 cfs
10–Year-24Hour (4.60")	23.72 cfs	16.80 cfs
25–Year-24Hour (5.60")	33.31 cfs	23.88 cfs
100–Year-24Hour (6.80")	45.31 cfs	34.75 cfs

Total Combined Runoff (DCP 1 and DCP 2)

Storm	Existing Conditions	Post-Construction
2–Year-24Hour (3.20")	11.53 cfs	10.37 cfs
10–Year-24Hour (4.60")	24.06 cfs	23.07 cfs
25–Year-24Hour (5.60")	34.16 cfs	32.69 cfs
100–Year-24Hour (6.80")	46.98 cfs	46.43 cfs

13. The existing and proposed areas of analysis are not consistent. It appears the difference may be the proposed roofs, which are to be directed to their own infiltration systems. If this is the case, additional sizing information and details should be provided for the rooftop systems to confirm they capture and recharge the 100-year storm event.

Alternatively, the Commission may consider stipulating that the lot infiltration systems be sized to accommodate the 100-year storm and that the design plans and calculations be provided if the Applicant files Notices of Intent for the individual house lots or- if the house lots are outside the jurisdictional area - when they file for building permits

The HydroCAD modeling has been revised to include all proposed roof runoff. The total existing watershed area matches the proposed watershed area at14.84 Acres.

14. The Applicant is proposing deep sump and hooded catch basins, a surface basin, and subsurface infiltration basins for water quality treatment.

a. TSS removal spreadsheets should be provided to document that 80% TSS is removed for each proposed treatment train.

TSS removal spreadsheets have been provided for each treatment train. Please note that the two treatment trains flowing toward DCP 1 are represented by the same TSS removal worksheet.

b. Water quality volume calculations should be provided for each treatment BMP - only volume below the outlet can be counted towards the treatment volume.

The total proposed pavement area that will require treatment yields the following Water Quality Volume:

110,744 SF x $(\frac{0.5''}{12})$= 4,614 CF

The proposed infiltration systems have a combined capacity of over 10,000 CF.

c. The design of the proposed surface basin is unclear. Given the nearby wetland elevations, groundwater may be present in the bottom of the basin; however there is an outlet at the bottom of the basin. The Applicant should provide additional information to clarify the intent of the basin and the conformance with MassDEP design standards.

Test Pit 3-A was performed at the infiltration basin location (Pond #3) and a 2 foot minimum separation from the bottom of the system to the groundwater is being maintained. The invert at the bottom of the basin will ensure no standing water is remaining in the basin after a rain event.

d. Sediment forebay sizing calculations should be provided

Forebay sizing for Infiltration Pond No. 3 is as follows:

Total impervious contributing to Pond No. 3 is approximately 79,250SF x 0.1" = 660 CF

A forebay with approximately 700 cubic feet is proposed for Infiltration Pond No. 3 as shown on detail sheet DTI.

15. The Applicant is proposing subsurface infiltration basins for groundwater recharge. The recharge calculations should be revised to include the volume below the system outlets only.

Groundwater Recharge calculations are as follows:

Total Proposed Impervious= 171,400 SF

Required Recharge Volume= 171,400 SF x 0.25" (C soils)= 3,570 CF

The proposed infiltration system for each house lot has 234 CF of storage capacity below the elevation of the outlet invert. Therefore, the total storage capacity for the house infiltration systems alone surpasses the minimum required recharge volume as follows:

Provided Recharge Volume= 234 CF x 35 house lots = 8,190 CF >> 3,570 CF

16. There appears to be a typo in the HydroCAD for Pond 2- the bottom surface elevation is 93 feet and the top elevation is 105 feet. Please review and revise as necessary.

The top elevation for pond 2 has been revised in the HydroCAD model, the pond has also been raised by 1 foot to ensure that a 2 foot separation to the estimated GWT is maintained.

17. Standard 4 requires a Long-Term Pollution Prevention Plan to document procedures for good housekeeping, storing materials and waste products inside or under cover, vehicle washing, spill prevention and response, landscape maintenance, pet waste management, and snow management.

The Long-Term pollution prevention plan has been revised as requested.

18. The Stormwater Checklist indicates a Stormwater Pollution Prevention Plan will be provided prior to construction. There are currently no erosion and sediment controls provided on the plans or detail sheets.

A siltation barrier has been added to the plan and a detail is shown on detail sheet DTIII.

19. The Operation and Maintenance Plan should be updated to include inspection and maintenance activities and frequencies for all proposed stormwater components (including the roof infiltration systems and surface basin) in accordance with the MassDEP Stormwater Handbook.

The operation and Maintenance plan has been updated.

20. The Illicit Discharge Compliance Statement should be signed by the Applicant.

The illicit discharge statement will be signed by the applicant prior to approval.

21. In addition to the wetlands, snow should also not be stored within proposed drainage structures or basins.

A note has been added to the plan and within the operation and maintenance plan stating no snow shall be stored within any drainage basins.

We appreciate Mr. Turner's thoughtful review and look forward to presenting this project to you and the Board at our scheduled hearing on 4/19/16.

Sincerely,

CAVANARO CONSULTING, INC.

Brendan Sullivan, P.E., P.L.S.
Project Manager

Enclosure

Cc: T. Tedeschi
S. Turner
C. Mulford
File 5005

Construction Period Erosion, Sedimentation, and Pollution Prevention Plan (CPP)

Proposed Residential Development
"Northside Farm"
Northside 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 Northside 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.

Construction Sequencing:

The following section provides construction details and highlights the construction sequence and timing of earth moving activities.

1 Installation of Erosion Controls

Erosion and sedimentation controls (silt fence and hay bales) will be installed where needed and inspected at the limits of the work area prior to the commencement of earth moving activities.

2 Clearing

The project area will be cleared of debris and boulders. Materials removed from the site will be transported to an appropriate facility or will be disposed of properly. No large boulders will be buried on the site. All cleared vegetation will be removed from the project site or mulched and stockpiled for future use on the site.

3 Rough Grading

During this phase of construction, rough grades will be established for the project site. If suitable topsoil is found, it will be removed and stockpiled in an upland area outside of the 100-foot buffer zone of identified wetlands. The stockpiled topsoil will be stored until ready for re-use on site.

4 Drainage System Construction

After rough grading is complete, the drainage collection, conveyance and discharge areas will be installed. The drainage system design and structures for the proposed development will follow the Department of Environmental Protection's Best Management Practice standards.

5 Utility Installation

In this phase of construction, underground utilities including water, sewer, gas, power, telecommunications, etc. will be installed.

6 Roadway Paving

During this phase of construction, the entrance and exit roadways for the development will be paved to binder course only. Final paving will be done after most of the home sites are developed at the discretion of the developer.

7 Foundation and Structure Construction

This phase of construction consists of installation of the foundations and construction of the buildings. The home sites will be made available for construction and occupancy in phases. The phasing will be designed primarily to control construction impacts to the site and also consider current market demand for home sales.

8 Installation of Amenities

Amenities such as signage and landscaping will be installed or completed as required for safety and as the homes become occupied.

9 Site Stabilization

The final phase of the project is the restoration and stabilization of all exposed surfaces. Disturbed areas will be landscaped or seeded as necessary with an erosion control seed mix. Much of the disturbed area is to be rough graded with topsoil and allowed to revegetate with indigenous species and kept thereafter in a natural state as habitat. Permanent restoration and revegetation measures serve to provide additional habitat and to control erosion and sedimentation by establishing a vegetative cover. In the event that weather conditions prevent final restoration, temporary erosion and sedimentation measures will be employed until the weather is suitable for final cleanup. A final inspection will ensure that the project site is cleared of all project debris and that erosion and sedimentation controls are functioning properly. Haybales and silt fencing will not be removed until the site is stabilized and the final inspection is complete.

Operation and Maintenance Plan during Construction:

Sediment and Erosion Control

- Siltation barriers shall be inspected at least once a week and after each rainfall event. Make any required repairs immediately. Repair scoured areas on the back side of fence at this time to prevent future problems.

- Should the fabric of the silt fence tear, decompose or otherwise become ineffective, replace it within 24 hours of discovery.

- Remove silt deposits once they reach 15-30 percent of the height of the silt fence to provide adequate storage volume for the next rain event and to reduce pressure on the fence. Care should be taken to avoid undermining the fence during cleanout process.

- Siltation barriers are to be removed upon stabilization of the contributing drainage area. Accumulated sediment may be spread to form a surface for turf or other vegetation establishment, or disposed of elsewhere. The area should be reshaped to permit natural drainage.

- Crushed stone construction entrances shall be inspected and maintained on a daily basis. Any buildup of material within the apron shall be removed offsite and replaced with clean crushed stone as needed.

- Also at the Construction entrances any sediment tracked onto the public road during the construction process shall be removed immediately and any adjustment of the entrance to prevent additional sediment tracking.

Infiltration Systems: Subsurface Infiltration System and Infiltration Basin

All infiltration areas shall be excavated and installed after the construction of the foundation. No heavy equipment shall traverse the proposed infiltration areas after installation.

Per MA DEP Stormwater Guidelines the following work shall be done to stabilize the site prior to installing the infiltration systems:

- Do not allow runoff from any disturbed areas on the site to flow to the proposed location of the infiltration systems.
- Rope off the area where the infiltration systems are to be placed.
- Accomplish any required excavation with equipment placed just outside the area. If the size of the area intended for exfiltration is too large to accommodate this approach, use trucks with low-pressure tires to minimize compaction. Do not allow any other vehicles within the area to be excavated.
- Keep the area above and immediately surrounding the infiltration systems roped off to all construction vehicles until the final top surface is installed.
- At no time shall the area for the infiltration systems be used as a temporary sediment basin. Stockpiles shall be placed away from the infiltration systems and sedimentation fences shall be placed around the perimeter of the infiltration area to prevent the accumulation of sediment within the native soils.

Dust Control: Sprinkle water as necessary to control dust during construction.

Material Stockpiling: Stockpiles of material must be placed outside all wetland resource areas and their buffer zones. If left overnight, material stockpiling must be protected from the weather.

Good housekeeping:

The following good housekeeping BMP's will be implemented in order to prevent pollution during construction:

- Petroleum products will be stored in tightly sealed containers which are clearly labeled.
- Any asphalt substances used onsite will be applied according to the manufacturer's specifications.
- If portable sanitary units are used, sanitary waste will be removed as necessary to avoid overfilling.
- All paint and other hazardous waste materials will be tightly sealed and stored when not in use. Excess material will not be discharged into the public stormwater system, but will be properly disposed of according to the manufacturer's specifications.
- If spray guns are used, they will be cleaned on a removable tarp.

Long Term Stormwater Operation and Maintenance Plan and Illicit Discharge Statement

Proposed Residential Development
"Northside Farm"
Northside 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 Northside 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:

Subsurface Infiltration System:

Inspect inspection ports at least twice a year. Remove any debris or sediment that may be clogging the system.

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

All streets and sidewalks shall be swept at a minimum twice a year and after a major storm event to remove pollutants which can accumulate on road and sidewalks.

Catch Basin Cleaning

All catch basins shall be cleaned and inspected in late winter or early spring after the snow melts. Inspections should include the gutter inlet stone, frame and grate, pipe, structure itself and the trap for damage and or repair.

Infiltration Basin

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.

Snow Management

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 $3,000.00 per year.

INSTRUCTIONS:

Version 1, Automated: Mar. 4, 2008

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.

Location: DCP 1 - Northside Farm, New Bedford, MA

TSS Removal Calculation Worksheet

B BMP[1]	C TSS Removal Rate[1]	D Starting TSS Load*	E Amount Removed (C*D)	F 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**
Infiltration Basin	**0.80**	**0.71**	**0.57**	**0.14**
	0.00	**0.14**	**0.00**	**0.14**
	0.00	**0.14**	**0.00**	**0.14**

Total TSS Removal = **86%**

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

Project: 5005

Prepared By: BPS

Date: 4/12/2016

*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:

Version 1, Automated: Mar. 4, 2008

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.

Location: DCP 2 - Northside Farm, New Bedford, MA

TSS Removal Calculation Worksheet

B BMP[1]	C TSS Removal Rate[1]	D Starting TSS Load*	E Amount Removed (C*D)	F 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**
Infiltration Basin	**0.80**	**0.71**	**0.57**	**0.14**
	0.00	**0.14**	**0.00**	**0.14**
	0.00	**0.14**	**0.00**	**0.14**

Total TSS Removal = **86%**

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

Project: 5005

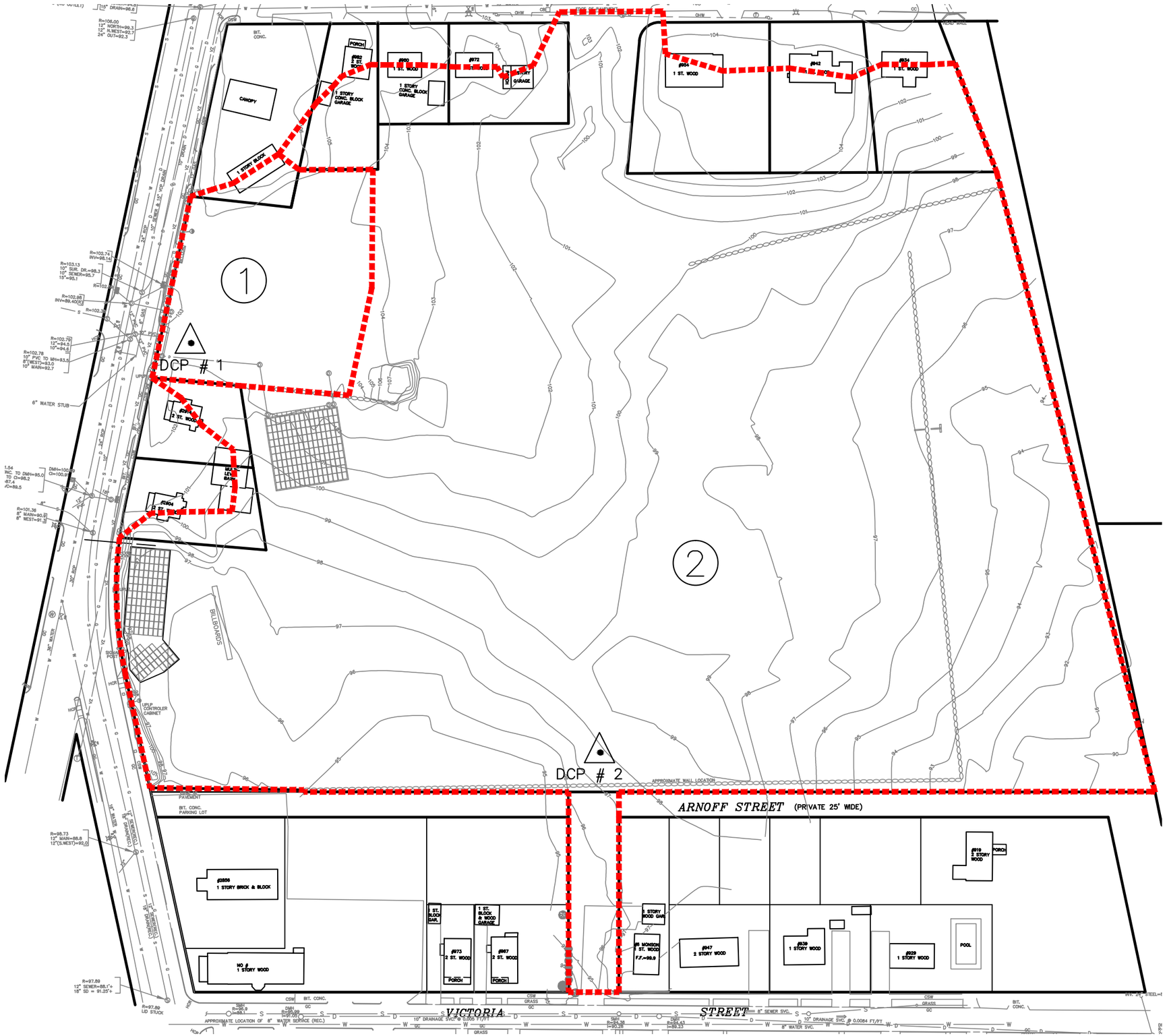
Prepared By: BPS

Date: 4/12/2016

*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



GRAPHIC SCALE

0 50 100 200

(IN FEET)

1 inch = 100 ft.

DRAINAGE CONTROL POINT (TYPICAL)

DCP # 2

3 SUBCATCHMENT AREA (TYPICAL)

EXISTING SUBCATCHMENT AREAS NORTHSIDE FARM NEW BEDFORD, MA

CAVANARO CONSULTING
687 MAIN STREET
NORWELL, MASSACHUSETTS 02061
PHONE: 781.659.8187
FAX: 781.659.8186

ESC DRAWING NO.

SCALE : AS SHOWN	DESIGNED BY : BPS	PROJECT NO. : 5005	
DATE : 5/10/06	DRAWN BY : BPS	FILENAME: 5005/dwg/prelim/SUBCATCH	
SURVEY : GC/JS	CHECKED BY : JCC	SHEET NO. 1 OF 1	

REV. 4/12/16
REV. 9/26/06
REV. 7/14/06

NORTH

GRAPHIC SCALE

0 50 100 200

(IN FEET)

1 inch = 100 ft.

DRAINAGE CONTROL POINT (TYPICAL)

DCP # 2

SUBCATCHMENT AREA (TYPICAL)

DCP # 1

DCP # 2

VICTORIA STREET

PROPOSED SUBCATCHMENT AREAS NORTHSIDE FARM NEW BEDFORD, MA

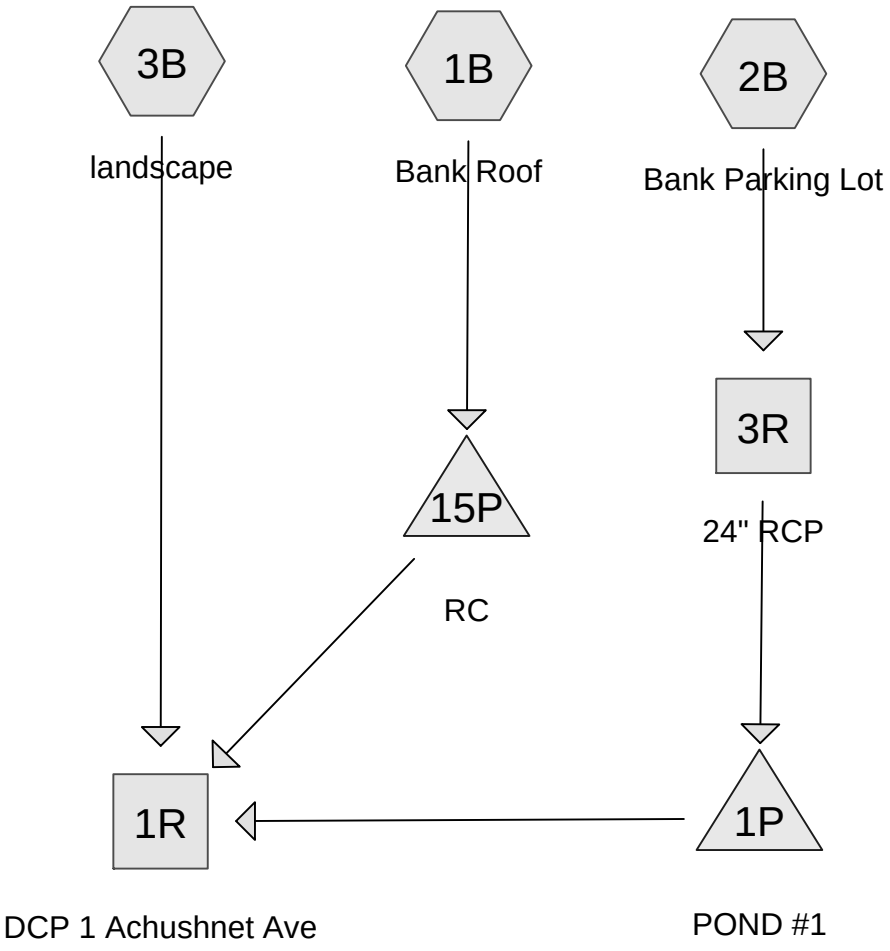
CAVANARO CONSULTING
687 MAIN STREET
NORWELL, MASSACHUSETTS 02061
PHONE: 781.659.8187
FAX: 781.659.8186

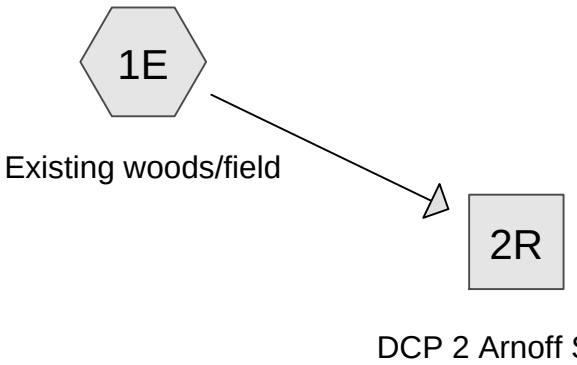
PSC

DRAWING NO.

SCALE : AS SHOWN	DESIGNED BY : BPS	PROJECT NO. : 5005	
DATE : 5/10/06	DRAWN BY : BPS	FILENAME: 5005/dwg/prelim/SUBCATCH	
SURVEY : GC/JS	CHECKED BY : JCC	SHEET NO. 1 OF 1	

REV. 4/12/16
REV. 7/25/08
REV. 7/14/06





Subcat Reach Pond Link

Routing Diagram for NORTHSIDE FARM ECON - 4-10-16
Prepared by Microsoft, Printed 4/12/2016

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

Subcatchment 1B: Bank Roof Runoff Area=3,300 sf 100.00% Impervious Runoff Depth>2.77"
Tc=5.0 min CN=98 Runoff=0.24 cfs 0.018 af

Subcatchment 1E: Existing woods/field Runoff Area=603,348 sf 1.38% Impervious Runoff Depth>0.94"
Flow Length=1,200' Tc=16.7 min CN=74 Runoff=11.45 cfs 1.087 af

Subcatchment 2B: 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

Subcatchment 3B: 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 1R: DCP 1 Achushnet Ave Inflow=0.08 cfs 0.006 af
Outflow=0.08 cfs 0.006 af

Reach 2R: DCP 2 Arnoff Street Inflow=11.45 cfs 1.087 af
Outflow=11.45 cfs 1.087 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

Pond 1P: POND #1 Peak Elev=95.93' Storage=2,823 cf Inflow=1.95 cfs 0.131 af
Discarded=0.13 cfs 0.099 af Primary=0.00 cfs 0.000 af Outflow=0.13 cfs 0.100 af

Pond 15P: RC Peak Elev=91.91' Storage=336 cf Inflow=0.24 cfs 0.018 af
Discarded=0.02 cfs 0.016 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.016 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 = 11.45 cfs @ 12.25 hrs, Volume= 1.087 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
	413,413	73	Woods, Fair, HSG C
	139,906	76	Woods/grass comb., Fair, HSG C
*	39,058	74	Lawn adj. Phillips
*	1,290	98	Roofs Achushnet Ave
*	2,059	98	Roofs Phillips Ave west
*	2,871	98	Roofs Phillips Ave East
*	2,651	76	grass adj. to Monson St
*	2,100	98	drive adj. to Monson st
	603,348	74	Weighted Average
	595,028		98.62% Pervious Area
	8,320		1.38% 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 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"

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: 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"

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 1R: 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 2R: DCP 2 Arnoff Street

Inflow Area = 13.851 ac, 1.38% Impervious, Inflow Depth > 0.94" for 2 Year Event event
Inflow = 11.45 cfs @ 12.25 hrs, Volume= 1.087 af
Outflow = 11.45 cfs @ 12.25 hrs, Volume= 1.087 af, Atten= 0%, Lag= 0.0 min

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

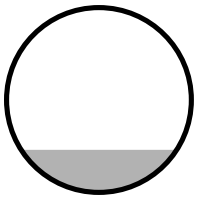
Summary for Reach 3R: 24" RCP

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 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 = 0.13 cfs @ 13.81 hrs, Volume= 0.100 af, Atten= 93%, Lag= 103.9 min
Discarded = 0.13 cfs @ 11.60 hrs, Volume= 0.099 af
Primary = 0.00 cfs @ 13.81 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 95.93' @ 13.81 hrs Surf.Area= 5,325 sf Storage= 2,823 cf

Plug-Flow detention time= 188.5 min calculated for 0.100 af (76% of inflow)
Center-of-Mass det. time= 129.4 min (910.4 - 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'	**1.020 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.13 cfs @ 11.60 hrs HW=95.44' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.13 cfs)

Primary OutFlow Max=0.00 cfs @ 13.81 hrs HW=95.93' (Free Discharge)
├**1=Orifice/Grate** (Orifice Controls 0.00 cfs @ 0.59 fps)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 15P: 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 = 0.02 cfs @ 18.95 hrs, Volume= 0.016 af, Atten= 91%, Lag= 412.8 min
Discarded = 0.02 cfs @ 18.95 hrs, Volume= 0.016 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= 91.91' @ 13.01 hrs Surf.Area= 384 sf Storage= 336 cf

Plug-Flow detention time= 146.7 min calculated for 0.016 af (93% of inflow)
Center-of-Mass det. time= 120.3 min (858.1 - 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'	**2.160 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.02 cfs @ 18.95 hrs HW=91.01' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 0.02 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

Subcatchment 1B: Bank Roof Runoff Area=3,300 sf 100.00% Impervious Runoff Depth>4.05"
Tc=5.0 min CN=98 Runoff=0.34 cfs 0.026 af

Subcatchment 1E: Existing woods/field Runoff Area=603,348 sf 1.38% Impervious Runoff Depth>1.89"
Flow Length=1,200' Tc=16.7 min CN=74 Runoff=23.72 cfs 2.178 af

Subcatchment 2B: 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

Subcatchment 3B: 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 1R: DCP 1 Achushnet Ave Inflow=0.34 cfs 0.065 af
Outflow=0.34 cfs 0.065 af

Reach 2R: DCP 2 Arnoff Street Inflow=23.72 cfs 2.178 af
Outflow=23.72 cfs 2.178 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

Pond 1P: POND #1 Peak Elev=96.22' Storage=4,349 cf Inflow=3.17 cfs 0.218 af
Discarded=0.13 cfs 0.112 af Primary=0.31 cfs 0.054 af Outflow=0.44 cfs 0.166 af

Pond 15P: RC Peak Elev=93.02' Storage=588 cf Inflow=0.34 cfs 0.026 af
Discarded=0.02 cfs 0.016 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.016 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 = 23.72 cfs @ 12.24 hrs, Volume= 2.178 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
	413,413	73	Woods, Fair, HSG C
	139,906	76	Woods/grass comb., Fair, HSG C
*	39,058	74	Lawn adj. Phillips
*	1,290	98	Roofs Achushnet Ave
*	2,059	98	Roofs Phillips Ave west
*	2,871	98	Roofs Phillips Ave East
*	2,651	76	grass adj. to Monson St
*	2,100	98	drive adj. to Monson st
	603,348	74	Weighted Average
	595,028		98.62% Pervious Area
	8,320		1.38% 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 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"

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: 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"

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 1R: DCP 1 Achushnet Ave

Inflow Area = 0.989 ac, 58.70% Impervious, Inflow Depth > 0.79" for 10 Year Event event
Inflow = 0.34 cfs @ 12.54 hrs, Volume= 0.065 af
Outflow = 0.34 cfs @ 12.54 hrs, Volume= 0.065 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 2R: DCP 2 Arnoff Street

Inflow Area = 13.851 ac, 1.38% Impervious, Inflow Depth > 1.89" for 10 Year Event event
Inflow = 23.72 cfs @ 12.24 hrs, Volume= 2.178 af
Outflow = 23.72 cfs @ 12.24 hrs, Volume= 2.178 af, Atten= 0%, Lag= 0.0 min

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

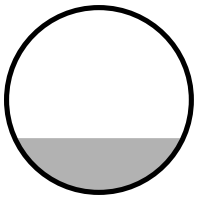
Summary for Reach 3R: 24" RCP

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 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 = 0.44 cfs @ 12.61 hrs, Volume= 0.166 af, Atten= 86%, Lag= 31.9 min
Discarded = 0.13 cfs @ 10.85 hrs, Volume= 0.112 af
Primary = 0.31 cfs @ 12.61 hrs, Volume= 0.054 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 96.22' @ 12.61 hrs Surf.Area= 5,325 sf Storage= 4,349 cf

Plug-Flow detention time= 147.2 min calculated for 0.165 af (76% of inflow)
Center-of-Mass det. time= 89.1 min (858.1 - 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'	**1.020 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.13 cfs @ 10.85 hrs HW=95.44' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.13 cfs)

Primary OutFlow Max=0.31 cfs @ 12.61 hrs HW=96.22' (Free Discharge)
├**1=Orifice/Grate** (Orifice Controls 0.31 cfs @ 1.92 fps)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 15P: 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 = 0.02 cfs @ 11.40 hrs, Volume= 0.016 af, Atten= 94%, Lag= 0.0 min
Discarded = 0.02 cfs @ 11.40 hrs, Volume= 0.016 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= 93.02' @ 14.69 hrs Surf.Area= 294 sf Storage= 588 cf

Plug-Flow detention time= 177.4 min calculated for 0.016 af (62% of inflow)
Center-of-Mass det. time= 99.1 min (834.0 - 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'	**2.160 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.02 cfs @ 11.40 hrs HW=91.01' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 0.02 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

Subcatchment 1B: 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

Subcatchment 1E: Existing woods/field Runoff Area=603,348 sf 1.38% Impervious Runoff Depth>2.64"
Flow Length=1,200' Tc=16.7 min CN=74 Runoff=33.31 cfs 3.047 af

Subcatchment 2B: 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

Subcatchment 3B: 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 1R: DCP 1 Achushnet Ave Inflow=0.85 cfs 0.123 af
Outflow=0.85 cfs 0.123 af

Reach 2R: DCP 2 Arnoff Street Inflow=33.31 cfs 3.047 af
Outflow=33.31 cfs 3.047 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

Pond 1P: POND #1 Peak Elev=96.40' Storage=5,351 cf Inflow=4.04 cfs 0.281 af
Discarded=0.13 cfs 0.119 af Primary=0.73 cfs 0.104 af Outflow=0.86 cfs 0.223 af

Pond 15P: RC Peak Elev=93.65' Storage=659 cf Inflow=0.42 cfs 0.031 af
Discarded=0.02 cfs 0.014 af Primary=0.06 cfs 0.003 af Outflow=0.07 cfs 0.018 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 = 33.31 cfs @ 12.24 hrs, Volume= 3.047 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
	413,413	73	Woods, Fair, HSG C
	139,906	76	Woods/grass comb., Fair, HSG C
*	39,058	74	Lawn adj. Phillips
*	1,290	98	Roofs Achushnet Ave
*	2,059	98	Roofs Phillips Ave west
*	2,871	98	Roofs Phillips Ave East
*	2,651	76	grass adj. to Monson St
*	2,100	98	drive adj. to Monson st
	603,348	74	Weighted Average
	595,028		98.62% Pervious Area
	8,320		1.38% 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 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"

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: 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"

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 1R: DCP 1 Achushnet Ave

Inflow Area = 0.989 ac, 58.70% Impervious, Inflow Depth > 1.50" for 25 Year Event event
Inflow = 0.85 cfs @ 12.51 hrs, Volume= 0.123 af
Outflow = 0.85 cfs @ 12.51 hrs, Volume= 0.123 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 2R: DCP 2 Arnoff Street

Inflow Area = 13.851 ac, 1.38% Impervious, Inflow Depth > 2.64" for 25 Year Event event
Inflow = 33.31 cfs @ 12.24 hrs, Volume= 3.047 af
Outflow = 33.31 cfs @ 12.24 hrs, Volume= 3.047 af, Atten= 0%, Lag= 0.0 min

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

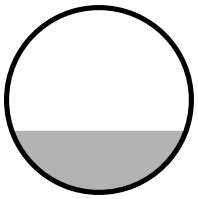
Summary for Reach 3R: 24" RCP

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 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 = 0.86 cfs @ 12.50 hrs, Volume= 0.223 af, Atten= 79%, Lag= 25.1 min
Discarded = 0.13 cfs @ 10.25 hrs, Volume= 0.119 af
Primary = 0.73 cfs @ 12.50 hrs, Volume= 0.104 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 96.40' @ 12.50 hrs Surf.Area= 5,325 sf Storage= 5,351 cf

Plug-Flow detention time= 126.2 min calculated for 0.223 af (79% of inflow)
Center-of-Mass det. time= 72.9 min (835.8 - 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'	**1.020 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.13 cfs @ 10.25 hrs HW=95.44' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.13 cfs)

Primary OutFlow Max=0.73 cfs @ 12.50 hrs HW=96.40' (Free Discharge)
├**1=Orifice/Grate** (Orifice Controls 0.69 cfs @ 2.42 fps)
└**2=Orifice/Grate** (Orifice Controls 0.05 cfs @ 1.10 fps)

Summary for Pond 15P: 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 = 0.07 cfs @ 12.54 hrs, Volume= 0.018 af, Atten= 83%, Lag= 28.0 min
Discarded = 0.02 cfs @ 10.85 hrs, Volume= 0.014 af
Primary = 0.06 cfs @ 12.54 hrs, Volume= 0.003 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 93.65' @ 12.54 hrs Surf.Area= 200 sf Storage= 659 cf

Plug-Flow detention time= 139.6 min calculated for 0.018 af (56% of inflow)
Center-of-Mass det. time= 54.4 min (788.1 - 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'	**2.160 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.02 cfs @ 10.85 hrs HW=91.00' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.06 cfs @ 12.54 hrs HW=93.64' (Free Discharge)
↑—**1=Orifice/Grate** (Orifice Controls 0.06 cfs @ 1.29 fps)

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

Subcatchment 1B: Bank Roof Runoff Area=3,300 sf 100.00% Impervious Runoff Depth>6.06"
Tc=5.0 min CN=98 Runoff=0.51 cfs 0.038 af

Subcatchment 1E: Existing woods/field Runoff Area=603,348 sf 1.38% Impervious Runoff Depth>3.60"
Flow Length=1,200' Tc=16.7 min CN=74 Runoff=45.31 cfs 4.153 af

Subcatchment 2B: 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

Subcatchment 3B: 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 1R: DCP 1 Achushnet Ave Inflow=1.65 cfs 0.200 af
Outflow=1.65 cfs 0.200 af

Reach 2R: DCP 2 Arnoff Street Inflow=45.31 cfs 4.153 af
Outflow=45.31 cfs 4.153 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

Pond 1P: POND #1 Peak Elev=96.60' Storage=6,402 cf Inflow=5.07 cfs 0.358 af
Discarded=0.13 cfs 0.127 af Primary=1.38 cfs 0.169 af Outflow=1.50 cfs 0.295 af

Pond 15P: RC Peak Elev=93.81' Storage=673 cf Inflow=0.51 cfs 0.038 af
Discarded=0.02 cfs 0.015 af Primary=0.25 cfs 0.009 af Outflow=0.26 cfs 0.024 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 = 45.31 cfs @ 12.23 hrs, Volume= 4.153 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
	413,413	73	Woods, Fair, HSG C
	139,906	76	Woods/grass comb., Fair, HSG C
*	39,058	74	Lawn adj. Phillips
*	1,290	98	Roofs Achushnet Ave
*	2,059	98	Roofs Phillips Ave west
*	2,871	98	Roofs Phillips Ave East
*	2,651	76	grass adj. to Monson St
*	2,100	98	drive adj. to Monson st
	603,348	74	Weighted Average
	595,028		98.62% Pervious Area
	8,320		1.38% 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 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"

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: 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"

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 1R: DCP 1 Achushnet Ave

Inflow Area = 0.989 ac, 58.70% Impervious, Inflow Depth > 2.42" for 100 Year Event event
Inflow = 1.65 cfs @ 12.34 hrs, Volume= 0.200 af
Outflow = 1.65 cfs @ 12.34 hrs, Volume= 0.200 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 2R: DCP 2 Arnoff Street

Inflow Area = 13.851 ac, 1.38% Impervious, Inflow Depth > 3.60" for 100 Year Event event
Inflow = 45.31 cfs @ 12.23 hrs, Volume= 4.153 af
Outflow = 45.31 cfs @ 12.23 hrs, Volume= 4.153 af, Atten= 0%, Lag= 0.0 min

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

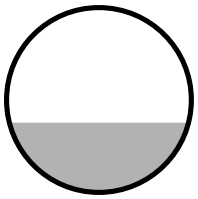
Summary for Reach 3R: 24" RCP

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 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 = 1.50 cfs @ 12.40 hrs, Volume= 0.295 af, Atten= 70%, Lag= 19.6 min
Discarded = 0.13 cfs @ 9.55 hrs, Volume= 0.127 af
Primary = 1.38 cfs @ 12.40 hrs, Volume= 0.169 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 96.60' @ 12.40 hrs Surf.Area= 5,325 sf Storage= 6,402 cf

Plug-Flow detention time= 110.2 min calculated for 0.294 af (82% of inflow)
Center-of-Mass det. time= 61.7 min (819.4 - 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'	**1.020 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.13 cfs @ 9.55 hrs HW=95.44' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.13 cfs)

Primary OutFlow Max=1.38 cfs @ 12.40 hrs HW=96.60' (Free Discharge)
├**1=Orifice/Grate** (Orifice Controls 1.02 cfs @ 2.92 fps)
└**2=Orifice/Grate** (Orifice Controls 0.35 cfs @ 1.87 fps)

Summary for Pond 15P: 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 = 0.26 cfs @ 12.26 hrs, Volume= 0.024 af, Atten= 49%, Lag= 11.4 min
Discarded = 0.02 cfs @ 10.25 hrs, Volume= 0.015 af
Primary = 0.25 cfs @ 12.26 hrs, Volume= 0.009 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 93.81' @ 12.26 hrs Surf.Area= 200 sf Storage= 673 cf

Plug-Flow detention time= 116.3 min calculated for 0.024 af (63% of inflow)
Center-of-Mass det. time= 38.2 min (771.1 - 732.9)

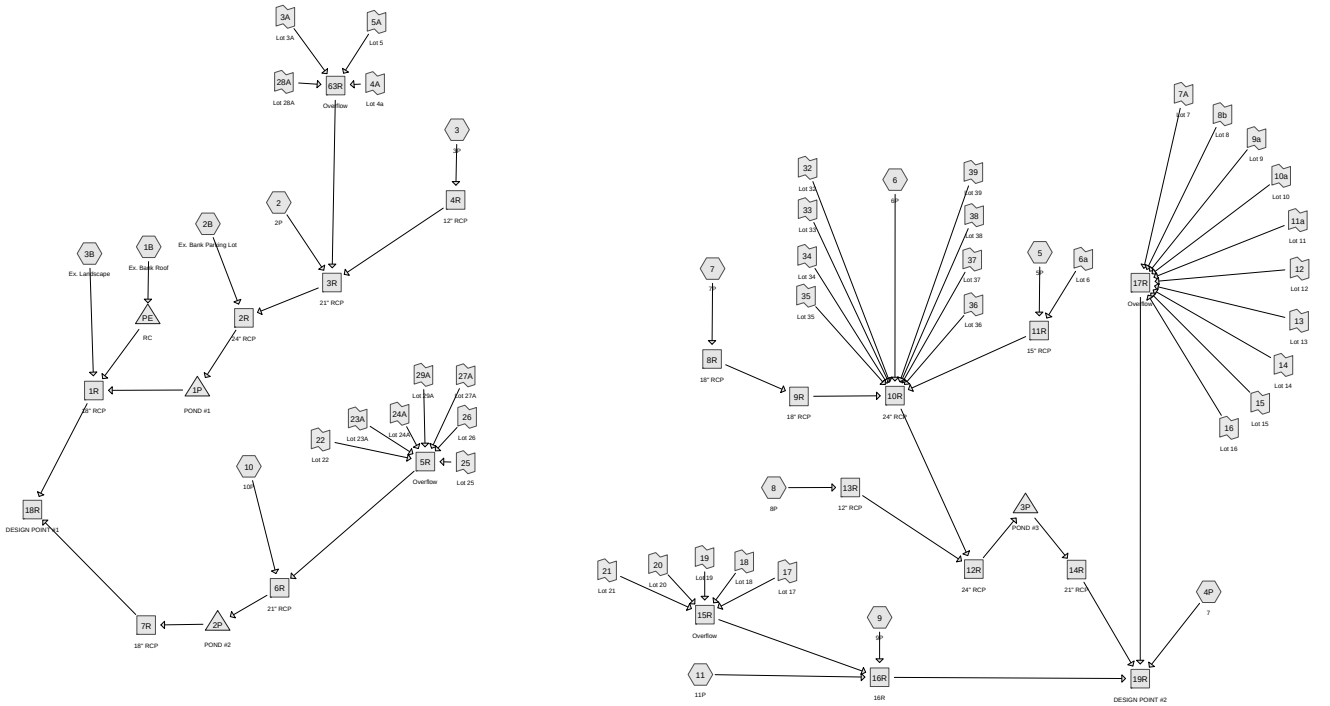
Volume	Invert	Avail.Storage	Storage Description
#1	90.00'	320 cf	**Custom Stage Data (Irregular)**Listed below 800 cf Overall x 40.0% Voids
#2	91.00'	368 cf	**StormTech SC-740** x 8 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap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

Discarded OutFlow Max=0.02 cfs @ 10.25 hrs HW=91.00' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.23 cfs @ 12.26 hrs HW=93.80' (Free Discharge)
↑—**1=Orifice/Grate** (Orifice Controls 0.23 cfs @ 1.87 fps)



Subcat Reach Pond Link

Routing Diagram for NORTHSIDE FARM PROP Rev 4-12-16
Prepared by Microsoft, Printed 4/13/2016

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

Subcatchment 1B: 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

Subcatchment 2: 2P Runoff Area=76,913 sf 26.66% Impervious Runoff Depth>1.40"
Tc=5.0 min CN=80 Runoff=2.88 cfs 8,978 cf

Subcatchment 2B: 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 6,099 cf

Subcatchment 3: 3P Runoff Area=7,177 sf 84.14% Impervious Runoff Depth>2.54"
Tc=5.0 min CN=94 Runoff=0.47 cfs 1,521 cf

Subcatchment 3B: 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

Subcatchment 4P: 7 Runoff Area=156,341 sf 1.84% Impervious Runoff Depth>1.04"
Tc=10.0 min CN=74 Runoff=3.57 cfs 13,487 cf

Subcatchment 5: 5P Runoff Area=34,508 sf 45.54% Impervious Runoff Depth>1.76"
Tc=5.0 min CN=85 Runoff=1.63 cfs 5,051 cf

Subcatchment 6: 6P Runoff Area=83,702 sf 29.13% Impervious Runoff Depth>1.47"
Tc=5.0 min CN=81 Runoff=3.30 cfs 10,239 cf

Subcatchment 7: 7P Runoff Area=38,003 sf 53.71% Impervious Runoff Depth>1.91"
Tc=5.0 min CN=87 Runoff=1.96 cfs 6,060 cf

Subcatchment 8: 8P Runoff Area=6,519 sf 80.29% Impervious Runoff Depth>2.44"
Tc=5.0 min CN=93 Runoff=0.42 cfs 1,328 cf

Subcatchment 9: 9P Runoff Area=9,494 sf 87.37% Impervious Runoff Depth>2.64"
Tc=5.0 min CN=95 Runoff=0.64 cfs 2,091 cf

Subcatchment 10: 10P Runoff Area=95,555 sf 24.86% Impervious Runoff Depth>1.40"
Tc=5.0 min CN=80 Runoff=3.58 cfs 11,155 cf

Subcatchment 11: 11P Runoff Area=42,628 sf 0.36% Impervious Runoff Depth>1.04"
Tc=5.0 min CN=74 Runoff=1.14 cfs 3,682 cf

Reach 1R: 18" RCP Avg. Flow Depth=0.31' Max Vel=4.80 fps Inflow=1.26 cfs 8,139 cf
18.0" Round Pipe n=0.013 L=60.0' S=0.0167 '/' Capacity=13.56 cfs Outflow=1.26 cfs 8,139 cf

Reach 2R: 24" RCP Avg. Flow Depth=0.73' Max Vel=4.69 fps Inflow=4.88 cfs 16,579 cf
24.0" Round Pipe n=0.013 L=35.0' S=0.0057 '/' Capacity=17.10 cfs Outflow=4.86 cfs 16,577 cf

Reach 3R: 21" RCP Avg. Flow Depth=0.64' Max Vel=4.03 fps Inflow=3.28 cfs 10,497 cf
21.0" Round Pipe n=0.013 L=340.0' S=0.0050 '/' Capacity=11.20 cfs Outflow=3.08 cfs 10,480 cf

Reach 4R: 12" RCP Avg. Flow Depth=0.31' Max Vel=2.25 fps Inflow=0.47 cfs 1,521 cf
12.0" Round Pipe n=0.013 L=240.0' S=0.0040 '/' Capacity=2.25 cfs Outflow=0.44 cfs 1,518 cf

Reach 5R: Overflow Inflow=0.00 cfs 0 cf
Outflow=0.00 cfs 0 cf

Reach 6R: 21" RCP Avg. Flow Depth=0.53' Max Vel=5.75 fps Inflow=3.58 cfs 11,155 cf
21.0" Round Pipe n=0.013 L=80.0' S=0.0125 '/' Capacity=17.72 cfs Outflow=3.56 cfs 11,152 cf

Reach 7R: 18" RCP Avg. Flow Depth=0.23' Max Vel=5.66 fps Inflow=0.96 cfs 5,280 cf
18.0" Round Pipe n=0.013 L=60.0' S=0.0333 '/' Capacity=19.18 cfs Outflow=0.96 cfs 5,280 cf

Reach 8R: 18" RCP Avg. Flow Depth=0.52' Max Vel=3.58 fps Inflow=1.96 cfs 6,060 cf
18.0" Round Pipe n=0.013 L=204.0' S=0.0051 '/' Capacity=7.54 cfs Outflow=1.89 cfs 6,054 cf

Reach 9R: 18" RCP Avg. Flow Depth=0.43' Max Vel=4.50 fps Inflow=1.89 cfs 6,054 cf
18.0" Round Pipe n=0.013 L=30.0' S=0.0100 '/' Capacity=10.50 cfs Outflow=1.88 cfs 6,054 cf

Reach 10R: 24" RCP Avg. Flow Depth=0.78' Max Vel=5.92 fps Inflow=6.67 cfs 21,338 cf
24.0" Round Pipe n=0.013 L=95.0' S=0.0085 '/' Capacity=20.89 cfs Outflow=6.61 cfs 21,332 cf

Reach 11R: 15" RCP Avg. Flow Depth=0.46' Max Vel=3.95 fps Inflow=1.63 cfs 5,051 cf
15.0" Round Pipe n=0.013 L=240.0' S=0.0075 '/' Capacity=5.59 cfs Outflow=1.57 cfs 5,045 cf

Reach 12R: 24" RCP Avg. Flow Depth=0.76' Max Vel=6.34 fps Inflow=6.95 cfs 22,657 cf
24.0" Round Pipe n=0.013 L=20.0' S=0.0100 '/' Capacity=22.62 cfs Outflow=6.94 cfs 22,656 cf

Reach 13R: 12" RCP Avg. Flow Depth=0.26' Max Vel=2.50 fps Inflow=0.42 cfs 1,328 cf
12.0" Round Pipe n=0.013 L=365.0' S=0.0060 '/' Capacity=2.77 cfs Outflow=0.39 cfs 1,325 cf

Reach 14R: 21" RCP Avg. Flow Depth=0.66' Max Vel=4.69 fps Inflow=3.87 cfs 19,964 cf
21.0" Round Pipe n=0.013 L=30.0' S=0.0067 '/' Capacity=12.94 cfs Outflow=3.86 cfs 19,963 cf

Reach 15R: Overflow Inflow=0.00 cfs 0 cf
Outflow=0.00 cfs 0 cf

Reach 16R: 16R Inflow=1.77 cfs 5,774 cf
Outflow=1.77 cfs 5,774 cf

Reach 17R: Overflow Inflow=0.00 cfs 0 cf
Outflow=0.00 cfs 0 cf

Reach 18R: DESIGN POINT #1 Inflow=2.21 cfs 13,419 cf
Outflow=2.21 cfs 13,419 cf

Reach 19R: DESIGN POINT #2 Inflow=8.16 cfs 39,223 cf
Outflow=8.16 cfs 39,223 cf

Reach 63R: Overflow Inflow=0.00 cfs 0 cf
Outflow=0.00 cfs 0 cf

Pond 1P: POND #1 Peak Elev=96.56' Storage=6,184 cf Inflow=4.86 cfs 16,577 cf
Discarded=0.13 cfs 6,443 cf Primary=1.23 cfs 7,869 cf Outflow=1.36 cfs 14,312 cf

Pond 2P: POND #2 Peak Elev=95.12' Storage=3,524 cf Inflow=3.56 cfs 11,152 cf
Discarded=0.12 cfs 5,828 cf Primary=0.96 cfs 5,280 cf Outflow=1.08 cfs 11,108 cf

Pond 3P: POND #3 Peak Elev=94.40' Storage=4,068 cf Inflow=6.94 cfs 22,656 cf
Discarded=0.06 cfs 2,485 cf Primary=3.87 cfs 19,964 cf Outflow=3.93 cfs 22,449 cf

Pond PE: RC Peak Elev=91.91' Storage=336 cf Inflow=0.24 cfs 816 cf
Discarded=0.02 cfs 815 cf Primary=0.00 cfs 0 cf Outflow=0.02 cfs 815 cf

Link 2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.00 cfs 0 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.00 cfs 0 cf

Link 2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.00 cfs 0 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.00 cfs 0 cf

Link 2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.00 cfs 0 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.00 cfs 0 cf

Link 2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.00 cfs 0 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.00 cfs 0 cf

Link 2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.00 cfs 0 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.00 cfs 0 cf

Link 2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.00 cfs 0 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.00 cfs 0 cf

Link 2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.00 cfs 0 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.00 cfs 0 cf

Link 2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.00 cfs 0 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.00 cfs 0 cf

Link 2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.00 cfs 0 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.00 cfs 0 cf

Link 2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.00 cfs 0 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.00 cfs 0 cf

Link 2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.00 cfs 0 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.00 cfs 0 cf

Link 2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.00 cfs 0 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.00 cfs 0 cf

Link 2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.00 cfs 0 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.00 cfs 0 cf

Link 2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.00 cfs 0 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.00 cfs 0 cf

2 Year Event **Link** Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.00 cfs 0 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.00 cfs 0 cf

2 Year Event **Link** Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.00 cfs 0 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.00 cfs 0 cf

2 Year Event **Link** Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.00 cfs 0 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.00 cfs 0 cf

2 Year Event **Link** Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.00 cfs 0 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.00 cfs 0 cf

2 Year Event **Link** Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.00 cfs 0 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.00 cfs 0 cf

2 Year Event **Link** Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.00 cfs 0 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.00 cfs 0 cf

2 Year Event **Link** Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.00 cfs 0 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.00 cfs 0 cf

2 Year Event **Link** Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.00 cfs 0 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.00 cfs 0 cf

2 Year Event **Link** Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.00 cfs 0 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.00 cfs 0 cf

2 Year Event **Link** Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.00 cfs 0 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.00 cfs 0 cf

2 Year Event **Link** Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.00 cfs 0 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.00 cfs 0 cf

2 Year Event **Link** Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.00 cfs 0 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.00 cfs 0 cf

2 Year Event **Link** Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.00 cfs 0 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.00 cfs 0 cf

2 Year Event **Link** Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.00 cfs 0 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.00 cfs 0 cf

2 Year Event **Link** Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.00 cfs 0 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.00 cfs 0 cf

2 Year Event **Link** Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.00 cfs 0 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.00 cfs 0 cf

2 Year Event **Link** Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.00 cfs 0 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.00 cfs 0 cf

2 Year Event **Link** Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.00 cfs 0 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.00 cfs 0 cf

Link 2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.00 cfs 0 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.00 cfs 0 cf

Link 2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.00 cfs 0 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.00 cfs 0 cf

Link 2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.00 cfs 0 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.00 cfs 0 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= 0.00-24.00 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 2: 2P

Runoff = 2.88 cfs @ 12.08 hrs, Volume= 8,978 cf, Depth> 1.40"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	1,675	98	Exisitng houses
	56,411	74	>75% Grass cover, Good, HSG C
*	17,914	98	Roadway
*	913	98	Sidewalks
	76,913	80	Weighted Average
	56,411		73.34% Pervious Area
	20,502		26.66% 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= 6,099 cf, Depth> 2.00"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 3: 3P

Runoff = 0.47 cfs @ 12.07 hrs, Volume= 1,521 cf, Depth> 2.54"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	1,158	98	sidewalks
*	4,881	98	Roadway
*	1,138	74	Lawn
	7,177	94	Weighted Average
	1,138		15.86% Pervious Area
	6,039		84.14% Impervious Area

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

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= 0.00-24.00 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 4P: 7

Runoff = 3.57 cfs @ 12.15 hrs, Volume= 13,487 cf, Depth> 1.04"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	2,871	98	exisitng houses
	89,300	74	>75% Grass cover, Good, HSG C
	64,170	73	Woods, Fair, HSG C
	156,341	74	Weighted Average
	153,470		98.16% Pervious Area
	2,871		1.84% Impervious Area

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

Summary for Subcatchment 5: 5P

Runoff = 1.63 cfs @ 12.08 hrs, Volume= 5,051 cf, Depth> 1.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	13,584	98	roadway
*	2,131	98	sidewalk
*	18,793	74	lawn
	34,508	85	Weighted Average
	18,793		54.46% Pervious Area
	15,715		45.54% Impervious Area

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

Summary for Subcatchment 6: 6P

Runoff = 3.30 cfs @ 12.08 hrs, Volume= 10,239 cf, Depth> 1.47"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	24,384	98	Roadway
*	3,217	74	Sidewalk
*	56,101	74	Lawn
	83,702	81	Weighted Average
	59,318		70.87% Pervious Area
	24,384		29.13% Impervious Area

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

Summary for Subcatchment 7: 7P

Runoff = 1.96 cfs @ 12.08 hrs, Volume= 6,060 cf, Depth> 1.91"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	18,289	98	Roadway
*	2,124	98	Sidewalks
*	17,590	74	lawn
	38,003	87	Weighted Average
	17,590		46.29% Pervious Area
	20,413		53.71% Impervious Area

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

Summary for Subcatchment 8: 8P

Runoff = 0.42 cfs @ 12.07 hrs, Volume= 1,328 cf, Depth> 2.44"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	4,366	98	roadway
*	868	98	sidewalks
*	1,285	74	Lawn
	6,519	93	Weighted Average
	1,285		19.71% Pervious Area
	5,234		80.29% Impervious Area

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

Summary for Subcatchment 9: 9P

Runoff = 0.64 cfs @ 12.07 hrs, Volume= 2,091 cf, Depth> 2.64"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	7,082	98	rdwy
*	1,213	98	sidewalks
*	1,199	74	grass
	9,494	95	Weighted Average
	1,199		12.63% Pervious Area
	8,295		87.37% Impervious Area

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

Summary for Subcatchment 10: 10P

Runoff = 3.58 cfs @ 12.08 hrs, Volume= 11,155 cf, Depth> 1.40"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	1,136	98	existing houses
*	2,378	98	sidewalks
*	20,243	98	Roadway
*	71,798	74	Lawn
	95,555	80	Weighted Average
	71,798		75.14% Pervious Area
	23,757		24.86% Impervious Area

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

Summary for Subcatchment 11: 11P

Runoff = 1.14 cfs @ 12.09 hrs, Volume= 3,682 cf, Depth> 1.04"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	42,474	74	Lawn
*	154	98	Exist House
	42,628	74	Weighted Average
	42,474		99.64% Pervious Area
	154		0.36% Impervious Area

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

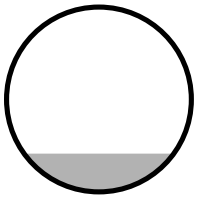
Summary for Reach 1R: 18" RCP

Inflow Area = 133,188 sf, 43.43% Impervious, Inflow Depth > 0.73" for 2 Year Event event
Inflow = 1.26 cfs @ 12.50 hrs, Volume= 8,139 cf
Outflow = 1.26 cfs @ 12.51 hrs, Volume= 8,139 cf, Atten= 0%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.80 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.95 fps, Avg. Travel Time= 0.5 min

Peak Storage= 16 cf @ 12.51 hrs
Average Depth at Peak Storage= 0.31'
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'



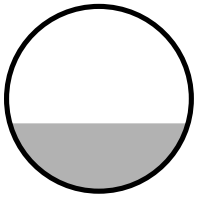
Summary for Reach 2R: 24" RCP

Inflow Area = 126,760 sf, 43.03% Impervious, Inflow Depth > 1.57" for 2 Year Event event
Inflow = 4.88 cfs @ 12.11 hrs, Volume= 16,579 cf
Outflow = 4.86 cfs @ 12.11 hrs, Volume= 16,577 cf, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.69 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.51 fps, Avg. Travel Time= 0.4 min

Peak Storage= 36 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.73'
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'



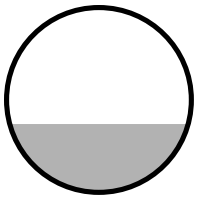
Summary for Reach 3R: 21" RCP

Inflow Area = 90,090 sf, 36.12% Impervious, Inflow Depth > 1.40" for 2 Year Event event
Inflow = 3.28 cfs @ 12.09 hrs, Volume= 10,497 cf
Outflow = 3.08 cfs @ 12.13 hrs, Volume= 10,480 cf, Atten= 6%, Lag= 2.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.03 fps, Min. Travel Time= 1.4 min
Avg. Velocity = 1.27 fps, Avg. Travel Time= 4.5 min

Peak Storage= 273 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.64'
Bank-Full Depth= 1.75' Flow Area= 2.4 sf, Capacity= 11.20 cfs

21.0" Round Pipe
n= 0.013
Length= 340.0' Slope= 0.0050 '/'
Inlet Invert= 97.05', Outlet Invert= 95.35'



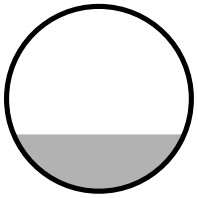
Summary for Reach 4R: 12" RCP

Inflow Area = 7,177 sf, 84.14% Impervious, Inflow Depth > 2.54" for 2 Year Event event
Inflow = 0.47 cfs @ 12.07 hrs, Volume= 1,521 cf
Outflow = 0.44 cfs @ 12.13 hrs, Volume= 1,518 cf, Atten= 8%, Lag= 3.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.25 fps, Min. Travel Time= 1.8 min
Avg. Velocity = 0.75 fps, Avg. Travel Time= 5.3 min

Peak Storage= 49 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.31'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 2.25 cfs

12.0" Round Pipe
n= 0.013
Length= 240.0' Slope= 0.0040 '/'
Inlet Invert= 98.01', Outlet Invert= 97.05'



Summary for Reach 5R: Overflow

Inflow Area = 10,500 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= 0.00-24.00 hrs, dt= 0.05 hrs

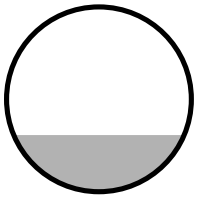
Summary for Reach 6R: 21" RCP

Inflow Area = 106,055 sf, 32.30% Impervious, Inflow Depth > 1.26" for 2 Year Event event
Inflow = 3.58 cfs @ 12.08 hrs, Volume= 11,155 cf
Outflow = 3.56 cfs @ 12.09 hrs, Volume= 11,152 cf, Atten= 1%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.75 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 2.14 fps, Avg. Travel Time= 0.6 min

Peak Storage= 50 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.53'
Bank-Full Depth= 1.75' Flow Area= 2.4 sf, Capacity= 17.72 cfs

21.0" Round Pipe
n= 0.013
Length= 80.0' Slope= 0.0125 '/'
Inlet Invert= 95.00', Outlet Invert= 94.00'



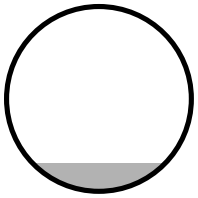
Summary for Reach 7R: 18" RCP

Inflow Area = 106,055 sf, 32.30% Impervious, Inflow Depth = 0.60" for 2 Year Event event
Inflow = 0.96 cfs @ 12.45 hrs, Volume= 5,280 cf
Outflow = 0.96 cfs @ 12.45 hrs, Volume= 5,280 cf, Atten= 0%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.66 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 2.90 fps, Avg. Travel Time= 0.3 min

Peak Storage= 10 cf @ 12.45 hrs
Average Depth at Peak Storage= 0.23'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 19.18 cfs

18.0" Round Pipe
n= 0.013
Length= 60.0' Slope= 0.0333 '/'
Inlet Invert= 92.00', Outlet Invert= 90.00'



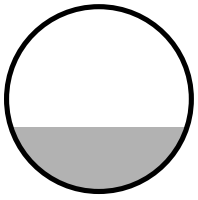
Summary for Reach 8R: 18" RCP

Inflow Area = 38,003 sf, 53.71% Impervious, Inflow Depth > 1.91" for 2 Year Event event
Inflow = 1.96 cfs @ 12.08 hrs, Volume= 6,060 cf
Outflow = 1.89 cfs @ 12.11 hrs, Volume= 6,054 cf, Atten= 4%, Lag= 1.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.58 fps, Min. Travel Time= 0.9 min
Avg. Velocity = 1.25 fps, Avg. Travel Time= 2.7 min

Peak Storage= 111 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.52'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 7.54 cfs

18.0" Round Pipe
n= 0.013
Length= 204.0' Slope= 0.0051 '/'
Inlet Invert= 95.35', Outlet Invert= 94.30'



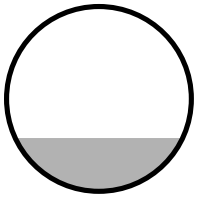
Summary for Reach 9R: 18" RCP

Inflow Area = 38,003 sf, 53.71% Impervious, Inflow Depth > 1.91" for 2 Year Event event
Inflow = 1.89 cfs @ 12.11 hrs, Volume= 6,054 cf
Outflow = 1.88 cfs @ 12.11 hrs, Volume= 6,054 cf, Atten= 1%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.50 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.59 fps, Avg. Travel Time= 0.3 min

Peak Storage= 13 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.43'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 10.50 cfs

18.0" Round Pipe
n= 0.013
Length= 30.0' Slope= 0.0100 '/'
Inlet Invert= 94.20', Outlet Invert= 93.90'



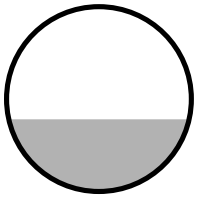
Summary for Reach 10R: 24" RCP

Inflow Area = 169,713 sf, 43.61% Impervious, Inflow Depth > 1.51" for 2 Year Event event
Inflow = 6.67 cfs @ 12.10 hrs, Volume= 21,338 cf
Outflow = 6.61 cfs @ 12.10 hrs, Volume= 21,332 cf, Atten= 1%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.92 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 2.08 fps, Avg. Travel Time= 0.8 min

Peak Storage= 107 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.78'
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 20.89 cfs

24.0" Round Pipe
n= 0.013
Length= 95.0' Slope= 0.0085 '/'
Inlet Invert= 93.61', Outlet Invert= 92.80'



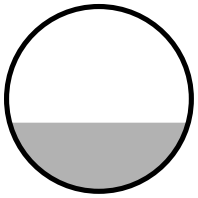
Summary for Reach 11R: 15" RCP

Inflow Area = 36,008 sf, 47.81% Impervious, Inflow Depth > 1.68" for 2 Year Event event
Inflow = 1.63 cfs @ 12.08 hrs, Volume= 5,051 cf
Outflow = 1.57 cfs @ 12.11 hrs, Volume= 5,045 cf, Atten= 4%, Lag= 1.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.95 fps, Min. Travel Time= 1.0 min
Avg. Velocity = 1.42 fps, Avg. Travel Time= 2.8 min

Peak Storage= 99 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.46'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 5.59 cfs

15.0" Round Pipe
n= 0.013
Length= 240.0' Slope= 0.0075 '/'
Inlet Invert= 96.16', Outlet Invert= 94.36'



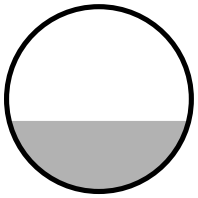
Summary for Reach 12R: 24" RCP

Inflow Area = 176,232 sf, 44.97% Impervious, Inflow Depth > 1.54" for 2 Year Event event
Inflow = 6.95 cfs @ 12.10 hrs, Volume= 22,657 cf
Outflow = 6.94 cfs @ 12.11 hrs, Volume= 22,656 cf, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.34 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.03 fps, Avg. Travel Time= 0.2 min

Peak Storage= 22 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.76'
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 22.62 cfs

24.0" Round Pipe
n= 0.013
Length= 20.0' Slope= 0.0100 '/'
Inlet Invert= 92.80', Outlet Invert= 92.60'



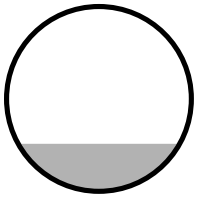
Summary for Reach 13R: 12" RCP

Inflow Area = 6,519 sf, 80.29% Impervious, Inflow Depth > 2.44" for 2 Year Event event
Inflow = 0.42 cfs @ 12.07 hrs, Volume= 1,328 cf
Outflow = 0.39 cfs @ 12.15 hrs, Volume= 1,325 cf, Atten= 7%, Lag= 4.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.50 fps, Min. Travel Time= 2.4 min
Avg. Velocity = 0.84 fps, Avg. Travel Time= 7.2 min

Peak Storage= 58 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.26'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 2.77 cfs

12.0" Round Pipe
n= 0.013
Length= 365.0' Slope= 0.0060 '/'
Inlet Invert= 95.00', Outlet Invert= 92.80'



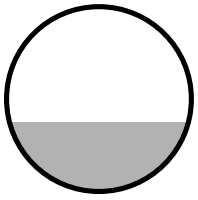
Summary for Reach 14R: 21" RCP

Inflow Area = 176,232 sf, 44.97% Impervious, Inflow Depth > 1.36" for 2 Year Event event
Inflow = 3.87 cfs @ 12.26 hrs, Volume= 19,964 cf
Outflow = 3.86 cfs @ 12.26 hrs, Volume= 19,963 cf, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.69 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.67 fps, Avg. Travel Time= 0.3 min

Peak Storage= 25 cf @ 12.26 hrs
Average Depth at Peak Storage= 0.66'
Bank-Full Depth= 1.75' Flow Area= 2.4 sf, Capacity= 12.94 cfs

21.0" Round Pipe
n= 0.013
Length= 30.0' Slope= 0.0067 '/'
Inlet Invert= 92.20', Outlet Invert= 92.00'



Summary for Reach 15R: Overflow

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= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Reach 16R: 16R

Inflow Area = 59,622 sf, 26.75% Impervious, Inflow Depth > 1.16" for 2 Year Event event
Inflow = 1.77 cfs @ 12.08 hrs, Volume= 5,774 cf
Outflow = 1.77 cfs @ 12.08 hrs, Volume= 5,774 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Reach 17R: Overflow

Inflow Area = 15,000 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= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Reach 18R: DESIGN POINT #1

Inflow Area = 239,243 sf, 38.50% Impervious, Inflow Depth > 0.67" for 2 Year Event event
Inflow = 2.21 cfs @ 12.49 hrs, Volume= 13,419 cf
Outflow = 2.21 cfs @ 12.49 hrs, Volume= 13,419 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Reach 19R: DESIGN POINT #2

Inflow Area = 407,195 sf, 27.77% Impervious, Inflow Depth > 1.16" for 2 Year Event event
Inflow = 8.16 cfs @ 12.17 hrs, Volume= 39,223 cf
Outflow = 8.16 cfs @ 12.17 hrs, Volume= 39,223 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Reach 63R: Overflow

Inflow Area = 6,000 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= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Pond 1P: POND #1

Inflow Area = 126,760 sf, 43.03% Impervious, Inflow Depth > 1.57" for 2 Year Event event
Inflow = 4.86 cfs @ 12.11 hrs, Volume= 16,577 cf
Outflow = 1.36 cfs @ 12.51 hrs, Volume= 14,312 cf, Atten= 72%, Lag= 24.1 min
Discarded = 0.13 cfs @ 10.90 hrs, Volume= 6,443 cf
Primary = 1.23 cfs @ 12.51 hrs, Volume= 7,869 cf

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

Peak Elev= 96.56' @ 12.51 hrs Surf.Area= 5,325 sf Storage= 6,184 cf

Plug-Flow detention time= 146.1 min calculated for 14,282 cf (86% of inflow)
Center-of-Mass det. time= 85.6 min (914.5 - 828.8)

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'	**1.020 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.13 cfs @ 10.90 hrs HW=95.44' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.13 cfs)

Primary OutFlow Max=1.23 cfs @ 12.51 hrs HW=96.56' (Free Discharge)
├**1=Orifice/Grate** (Orifice Controls 0.96 cfs @ 2.77 fps)
└**2=Orifice/Grate** (Orifice Controls 0.27 cfs @ 1.74 fps)

Summary for Pond 2P: POND #2

Inflow Area = 106,055 sf, 32.30% Impervious, Inflow Depth > 1.26" for 2 Year Event event
Inflow = 3.56 cfs @ 12.09 hrs, Volume= 11,152 cf
Outflow = 1.08 cfs @ 12.45 hrs, Volume= 11,108 cf, Atten= 70%, Lag= 21.6 min
Discarded = 0.12 cfs @ 11.35 hrs, Volume= 5,828 cf
Primary = 0.96 cfs @ 12.45 hrs, Volume= 5,280 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 95.12' @ 12.45 hrs Surf.Area= 5,143 sf Storage= 3,524 cf

Plug-Flow detention time= 90.3 min calculated for 11,108 cf (100% of inflow)
Center-of-Mass det. time= 87.9 min (929.8 - 841.9)

Volume	Invert	Avail.Storage	Storage Description
#1	94.00'	4,866 cf	**Custom Stage Data (Irregular)**Listed below 18,001 cf Overall - 5,834 cf Embedded = 12,166 cf x 40.0% Voids
#2	94.50'	5,834 cf	**StormTech SC-740** x 127 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
		10,701 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
94.00	5,143	340.0	0	0	5,143
97.50	5,143	340.0	18,001	18,001	6,333

Device	Routing	Invert	Outlet Devices
#1	Primary	94.50'	**8.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	95.00'	**8.0" Vert. Orifice/Grate** C= 0.600
#3	Discarded	94.00'	**1.020 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.12 cfs @ 11.35 hrs HW=94.04' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.12 cfs)

Primary OutFlow Max=0.96 cfs @ 12.45 hrs HW=95.12' (Free Discharge)
├**1=Orifice/Grate** (Orifice Controls 0.91 cfs @ 2.68 fps)
└**2=Orifice/Grate** (Orifice Controls 0.05 cfs @ 1.19 fps)

Summary for Pond 3P: POND #3

Inflow Area = 176,232 sf, 44.97% Impervious, Inflow Depth > 1.54" for 2 Year Event event
Inflow = 6.94 cfs @ 12.11 hrs, Volume= 22,656 cf
Outflow = 3.93 cfs @ 12.26 hrs, Volume= 22,449 cf, Atten= 43%, Lag= 9.1 min
Discarded = 0.06 cfs @ 12.26 hrs, Volume= 2,485 cf
Primary = 3.87 cfs @ 12.26 hrs, Volume= 19,964 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 94.40' @ 12.26 hrs Surf.Area= 2,662 sf Storage= 4,068 cf

Plug-Flow detention time= 22.3 min calculated for 22,449 cf (99% of inflow)
Center-of-Mass det. time= 16.9 min (846.0 - 829.2)

Volume	Invert	Avail.Storage	Storage Description
#1	92.60'	12,626 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)
92.60	1,778	214.0	0	0	1,778
93.00	1,995	220.0	754	754	2,003
94.00	2,466	237.0	2,226	2,981	2,662
95.00	2,953	250.0	2,706	5,686	3,221
96.00	3,467	263.0	3,207	8,893	3,811
97.00	4,005	275.0	3,733	12,626	4,391

Device	Routing	Invert	Outlet Devices
#1	Primary	92.60'	**10.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	94.00'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 4.0' Crest Height
#3	Discarded	92.60'	**1.020 in/hr Exfiltration over Horizontal area** Conductivity to Groundwater Elevation = 0.00'

Discarded OutFlow Max=0.06 cfs @ 12.26 hrs HW=94.40' (Free Discharge)
└**3=Exfiltration** (Controls 0.06 cfs)

Primary OutFlow Max=3.85 cfs @ 12.26 hrs HW=94.40' (Free Discharge)
├**1=Orifice/Grate** (Orifice Controls 3.09 cfs @ 5.66 fps)
└**2=Sharp-Crested Rectangular Weir** (Weir Controls 0.77 cfs @ 2.09 fps)

Summary for Pond PE: RC

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 = 0.02 cfs @ 18.95 hrs, Volume= 815 cf, Atten= 91%, Lag= 412.8 min
Discarded = 0.02 cfs @ 18.95 hrs, Volume= 815 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 91.91' @ 13.01 hrs Surf.Area= 384 sf Storage= 336 cf

Plug-Flow detention time= 139.8 min calculated for 815 cf (100% of inflow)
Center-of-Mass det. time= 139.2 min (894.4 - 755.1)

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'	**2.160 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.02 cfs @ 18.95 hrs HW=91.01' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 0.02 cfs)

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

Summary for Link 3A: Lot 3A

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.00" for 2 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 4A: Lot 4a

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.00" for 2 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 5A: Lot 5

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.00" for 2 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 6a: Lot 6

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.00" for 2 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 7A: Lot 7

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.00" for 2 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 8b: Lot 8

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.00" for 2 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 9a: Lot 9

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.00" for 2 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 10a: Lot 10

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.00" for 2 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 11a: Lot 11

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.00" for 2 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 12: Lot 12

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.00" for 2 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 13: Lot 13

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.00" for 2 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 14: Lot 14

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.00" for 2 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 15: Lot 15

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.00" for 2 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 16: Lot 16

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.00" for 2 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 17: Lot 17

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.00" for 2 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 18: Lot 18

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.00" for 2 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 19: Lot 19

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.00" for 2 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 20: Lot 20

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.00" for 2 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 21: Lot 21

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.00" for 2 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 22: Lot 22

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.00" for 2 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 23A: Lot 23A

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.00" for 2 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 24A: Lot 24A

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.00" for 2 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 25: Lot 25

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.00" for 2 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 26: Lot 26

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.00" for 2 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 27A: Lot 27A

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.00" for 2 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 28A: Lot 28A

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.00" for 2 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 29A: Lot 29A

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.00" for 2 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 32: Lot 32

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.00" for 2 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 33: Lot 33

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.00" for 2 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 34: Lot 34

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.00" for 2 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 35: Lot 35

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.00" for 2 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 36: Lot 36

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.00" for 2 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 37: Lot 37

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.00" for 2 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 38: Lot 38

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.00" for 2 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 39: Lot 39

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.00" for 2 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

2 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

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

Subcatchment 1B: 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 1,199 cf

Subcatchment 2: 2P Runoff Area=76,913 sf 26.66% Impervious Runoff Depth>2.55"
Tc=5.0 min CN=80 Runoff=5.28 cfs 16,313 cf

Subcatchment 2B: 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 10,049 cf

Subcatchment 3: 3P Runoff Area=7,177 sf 84.14% Impervious Runoff Depth>3.91"
Tc=5.0 min CN=94 Runoff=0.71 cfs 2,340 cf

Subcatchment 3B: 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

Subcatchment 4P: 7 Runoff Area=156,341 sf 1.84% Impervious Runoff Depth>2.05"
Tc=10.0 min CN=74 Runoff=7.37 cfs 26,651 cf

Subcatchment 5: 5P Runoff Area=34,508 sf 45.54% Impervious Runoff Depth>3.00"
Tc=5.0 min CN=85 Runoff=2.78 cfs 8,623 cf

Subcatchment 6: 6P Runoff Area=83,702 sf 29.13% Impervious Runoff Depth>2.63"
Tc=5.0 min CN=81 Runoff=5.94 cfs 18,365 cf

Subcatchment 7: 7P Runoff Area=38,003 sf 53.71% Impervious Runoff Depth>3.19"
Tc=5.0 min CN=87 Runoff=3.24 cfs 10,103 cf

Subcatchment 8: 8P Runoff Area=6,519 sf 80.29% Impervious Runoff Depth>3.80"
Tc=5.0 min CN=93 Runoff=0.64 cfs 2,066 cf

Subcatchment 9: 9P Runoff Area=9,494 sf 87.37% Impervious Runoff Depth>4.02"
Tc=5.0 min CN=95 Runoff=0.96 cfs 3,182 cf

Subcatchment 10: 10P Runoff Area=95,555 sf 24.86% Impervious Runoff Depth>2.55"
Tc=5.0 min CN=80 Runoff=6.56 cfs 20,267 cf

Subcatchment 11: 11P Runoff Area=42,628 sf 0.36% Impervious Runoff Depth>2.05"
Tc=5.0 min CN=74 Runoff=2.34 cfs 7,275 cf

Reach 1R: 18" RCP Avg. Flow Depth=0.53' Max Vel=6.52 fps Inflow=3.66 cfs 19,404 cf
18.0" Round Pipe n=0.013 L=60.0' S=0.0167 '/' Capacity=13.56 cfs Outflow=3.66 cfs 19,404 cf

Reach 2R: 24" RCP Avg. Flow Depth=1.00' Max Vel=5.45 fps Inflow=8.58 cfs 28,841 cf
24.0" Round Pipe n=0.013 L=35.0' S=0.0057 '/' Capacity=17.10 cfs Outflow=8.55 cfs 28,839 cf

Reach 3R: 21" RCP Avg. Flow Depth=0.90' Max Vel=4.71 fps Inflow=5.89 cfs 18,815 cf
21.0" Round Pipe n=0.013 L=340.0' S=0.0050 '/' Capacity=11.20 cfs Outflow=5.60 cfs 18,793 cf

Reach 4R: 12" RCP Avg. Flow Depth=0.38' Max Vel=2.52 fps Inflow=0.71 cfs 2,340 cf
12.0" Round Pipe n=0.013 L=240.0' S=0.0040 '/' Capacity=2.25 cfs Outflow=0.66 cfs 2,336 cf

Reach 5R: Overflow Inflow=0.31 cfs 289 cf
Outflow=0.31 cfs 289 cf

Reach 6R: 21" RCP Avg. Flow Depth=0.74' Max Vel=6.78 fps Inflow=6.56 cfs 20,557 cf
21.0" Round Pipe n=0.013 L=80.0' S=0.0125 '/' Capacity=17.72 cfs Outflow=6.52 cfs 20,553 cf

Reach 7R: 18" RCP Avg. Flow Depth=0.37' Max Vel=7.59 fps Inflow=2.61 cfs 13,292 cf
18.0" Round Pipe n=0.013 L=60.0' S=0.0333 '/' Capacity=19.18 cfs Outflow=2.61 cfs 13,292 cf

Reach 8R: 18" RCP Avg. Flow Depth=0.68' Max Vel=4.09 fps Inflow=3.24 cfs 10,103 cf
18.0" Round Pipe n=0.013 L=204.0' S=0.0051 '/' Capacity=7.54 cfs Outflow=3.12 cfs 10,095 cf

Reach 9R: 18" RCP Avg. Flow Depth=0.56' Max Vel=5.18 fps Inflow=3.12 cfs 10,095 cf
18.0" Round Pipe n=0.013 L=30.0' S=0.0100 '/' Capacity=10.50 cfs Outflow=3.11 cfs 10,094 cf

Reach 10R: 24" RCP Avg. Flow Depth=1.07' Max Vel=6.83 fps Inflow=11.61 cfs 37,447 cf
24.0" Round Pipe n=0.013 L=95.0' S=0.0085 '/' Capacity=20.89 cfs Outflow=11.53 cfs 37,439 cf

Reach 11R: 15" RCP Avg. Flow Depth=0.62' Max Vel=4.54 fps Inflow=2.78 cfs 8,664 cf
15.0" Round Pipe n=0.013 L=240.0' S=0.0075 '/' Capacity=5.59 cfs Outflow=2.68 cfs 8,657 cf

Reach 12R: 24" RCP Avg. Flow Depth=1.04' Max Vel=7.32 fps Inflow=12.07 cfs 39,501 cf
24.0" Round Pipe n=0.013 L=20.0' S=0.0100 '/' Capacity=22.62 cfs Outflow=12.05 cfs 39,500 cf

Reach 13R: 12" RCP Avg. Flow Depth=0.32' Max Vel=2.82 fps Inflow=0.64 cfs 2,066 cf
12.0" Round Pipe n=0.013 L=365.0' S=0.0060 '/' Capacity=2.77 cfs Outflow=0.59 cfs 2,063 cf

Reach 14R: 21" RCP Avg. Flow Depth=0.96' Max Vel=5.58 fps Inflow=7.53 cfs 36,401 cf
21.0" Round Pipe n=0.013 L=30.0' S=0.0067 '/' Capacity=12.94 cfs Outflow=7.53 cfs 36,399 cf

Reach 15R: Overflow Inflow=0.22 cfs 207 cf
Outflow=0.22 cfs 207 cf

Reach 16R: 16R Inflow=3.28 cfs 10,664 cf
Outflow=3.28 cfs 10,664 cf

Reach 17R: Overflow Inflow=0.44 cfs 413 cf
Outflow=0.44 cfs 413 cf

Reach 18R: DESIGN POINT #1 Inflow=6.27 cfs 32,695 cf
Outflow=6.27 cfs 32,695 cf

Reach 19R: DESIGN POINT #2 Inflow=16.80 cfs 74,126 cf
Outflow=16.80 cfs 74,126 cf

Reach 63R: Overflow Inflow=0.18 cfs 165 cf
Outflow=0.18 cfs 165 cf

Pond 1P: POND #1 Peak Elev=97.14' Storage=9,291 cf Inflow=8.55 cfs 28,839 cf
Discarded=0.13 cfs 7,065 cf Primary=3.59 cfs 18,870 cf Outflow=3.72 cfs 25,935 cf

Pond 2P: POND #2 Peak Elev=95.71' Storage=5,774 cf Inflow=6.52 cfs 20,553 cf
Discarded=0.12 cfs 6,403 cf Primary=2.61 cfs 13,292 cf Outflow=2.73 cfs 19,695 cf

Pond 3P: POND #3 Peak Elev=95.26' Storage=6,525 cf Inflow=12.05 cfs 39,500 cf
Discarded=0.07 cfs 2,803 cf Primary=7.53 cfs 36,401 cf Outflow=7.61 cfs 39,204 cf

Pond PE: RC Peak Elev=93.02' Storage=588 cf Inflow=0.34 cfs 1,199 cf
Discarded=0.02 cfs 1,000 cf Primary=0.00 cfs 0 cf Outflow=0.02 cfs 1,000 cf

Link 10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.04 cfs 41 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.04 cfs 41 cf

Link 10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.04 cfs 41 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.04 cfs 41 cf

Link 10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.04 cfs 41 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.04 cfs 41 cf

Link 10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.04 cfs 41 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.04 cfs 41 cf

Link 10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.04 cfs 41 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.04 cfs 41 cf

Link 10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.04 cfs 41 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.04 cfs 41 cf

Link 10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.04 cfs 41 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.04 cfs 41 cf

Link 10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.04 cfs 41 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.04 cfs 41 cf

Link 10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.04 cfs 41 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.04 cfs 41 cf

Link 10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.04 cfs 41 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.04 cfs 41 cf

Link 10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.04 cfs 41 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.04 cfs 41 cf

Link 10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.04 cfs 41 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.04 cfs 41 cf

Link 10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.04 cfs 41 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.04 cfs 41 cf

Link 10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.04 cfs 41 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.04 cfs 41 cf

10 Year Event **Link** Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.04 cfs 41 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.04 cfs 41 cf

10 Year Event **Link** Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.04 cfs 41 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.04 cfs 41 cf

10 Year Event **Link** Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.04 cfs 41 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.04 cfs 41 cf

10 Year Event **Link** Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.04 cfs 41 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.04 cfs 41 cf

10 Year Event **Link** Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.04 cfs 41 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.04 cfs 41 cf

10 Year Event **Link** Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.04 cfs 41 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.04 cfs 41 cf

10 Year Event **Link** Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.04 cfs 41 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.04 cfs 41 cf

10 Year Event **Link** Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.04 cfs 41 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.04 cfs 41 cf

10 Year Event **Link** Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.04 cfs 41 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.04 cfs 41 cf

10 Year Event **Link** Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.04 cfs 41 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.04 cfs 41 cf

10 Year Event **Link** Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.04 cfs 41 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.04 cfs 41 cf

10 Year Event **Link** Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.04 cfs 41 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.04 cfs 41 cf

10 Year Event **Link** Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.04 cfs 41 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.04 cfs 41 cf

10 Year Event **Link** Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.04 cfs 41 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.04 cfs 41 cf

10 Year Event **Link** Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.04 cfs 41 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.04 cfs 41 cf

10 Year Event **Link** Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.04 cfs 41 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.04 cfs 41 cf

10 Year Event **Link** Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.04 cfs 41 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.04 cfs 41 cf

10 Year Event **Link** Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.04 cfs 41 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.04 cfs 41 cf

Link 10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.04 cfs 41 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.04 cfs 41 cf

Link 10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.04 cfs 41 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.04 cfs 41 cf

Link 10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.04 cfs 41 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.04 cfs 41 cf

Summary for Subcatchment 1B: Ex. Bank Roof

Runoff = 0.34 cfs @ 12.07 hrs, Volume= 1,199 cf, Depth> 4.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 2: 2P

Runoff = 5.28 cfs @ 12.08 hrs, Volume= 16,313 cf, Depth> 2.55"

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

	Area (sf)	CN	Description
*	1,675	98	Exisitng houses
	56,411	74	>75% Grass cover, Good, HSG C
*	17,914	98	Roadway
*	913	98	Sidewalks
	76,913	80	Weighted Average
	56,411		73.34% Pervious Area
	20,502		26.66% 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= 10,049 cf, Depth> 3.29"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 3: 3P

Runoff = 0.71 cfs @ 12.07 hrs, Volume= 2,340 cf, Depth> 3.91"

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

	Area (sf)	CN	Description
*	1,158	98	sidewalks
*	4,881	98	Roadway
*	1,138	74	Lawn
	7,177	94	Weighted Average
	1,138		15.86% Pervious Area
	6,039		84.14% Impervious Area

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

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= 0.00-24.00 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 4P: 7

Runoff = 7.37 cfs @ 12.15 hrs, Volume= 26,651 cf, Depth> 2.05"

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

	Area (sf)	CN	Description
*	2,871	98	exisitng houses
	89,300	74	>75% Grass cover, Good, HSG C
	64,170	73	Woods, Fair, HSG C
	156,341	74	Weighted Average
	153,470		98.16% Pervious Area
	2,871		1.84% Impervious Area

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

Summary for Subcatchment 5: 5P

Runoff = 2.78 cfs @ 12.07 hrs, Volume= 8,623 cf, Depth> 3.00"

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

	Area (sf)	CN	Description
*	13,584	98	roadway
*	2,131	98	sidewalk
*	18,793	74	lawn
	34,508	85	Weighted Average
	18,793		54.46% Pervious Area
	15,715		45.54% Impervious Area

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

Summary for Subcatchment 6: 6P

Runoff = 5.94 cfs @ 12.08 hrs, Volume= 18,365 cf, Depth> 2.63"

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

	Area (sf)	CN	Description
*	24,384	98	Roadway
*	3,217	74	Sidewalk
*	56,101	74	Lawn
	83,702	81	Weighted Average
	59,318		70.87% Pervious Area
	24,384		29.13% Impervious Area

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

Summary for Subcatchment 7: 7P

Runoff = 3.24 cfs @ 12.07 hrs, Volume= 10,103 cf, Depth> 3.19"

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

	Area (sf)	CN	Description
*	18,289	98	Roadway
*	2,124	98	Sidewalks
*	17,590	74	lawn
	38,003	87	Weighted Average
	17,590		46.29% Pervious Area
	20,413		53.71% Impervious Area

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

Summary for Subcatchment 8: 8P

Runoff = 0.64 cfs @ 12.07 hrs, Volume= 2,066 cf, Depth> 3.80"

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

	Area (sf)	CN	Description
*	4,366	98	roadway
*	868	98	sidewalks
*	1,285	74	Lawn
	6,519	93	Weighted Average
	1,285		19.71% Pervious Area
	5,234		80.29% Impervious Area

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

Summary for Subcatchment 9: 9P

Runoff = 0.96 cfs @ 12.07 hrs, Volume= 3,182 cf, Depth> 4.02"

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

	Area (sf)	CN	Description
*	7,082	98	rdwy
*	1,213	98	sidewalks
*	1,199	74	grass
	9,494	95	Weighted Average
	1,199		12.63% Pervious Area
	8,295		87.37% Impervious Area

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

Summary for Subcatchment 10: 10P

Runoff = 6.56 cfs @ 12.08 hrs, Volume= 20,267 cf, Depth> 2.55"

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

	Area (sf)	CN	Description
*	1,136	98	existing houses
*	2,378	98	sidewalks
*	20,243	98	Roadway
*	71,798	74	Lawn
	95,555	80	Weighted Average
	71,798		75.14% Pervious Area
	23,757		24.86% Impervious Area

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

Summary for Subcatchment 11: 11P

Runoff = 2.34 cfs @ 12.08 hrs, Volume= 7,275 cf, Depth> 2.05"

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

	Area (sf)	CN	Description
*	42,474	74	Lawn
*	154	98	Exist House
	42,628	74	Weighted Average
	42,474		99.64% Pervious Area
	154		0.36% Impervious Area

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

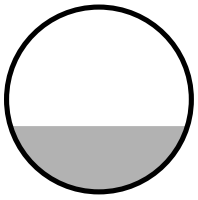
Summary for Reach 1R: 18" RCP

Inflow Area = 133,188 sf, 43.43% Impervious, Inflow Depth > 1.75" for 10 Year Event event
Inflow = 3.66 cfs @ 12.33 hrs, Volume= 19,404 cf
Outflow = 3.66 cfs @ 12.34 hrs, Volume= 19,404 cf, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.52 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 2.47 fps, Avg. Travel Time= 0.4 min

Peak Storage= 34 cf @ 12.33 hrs
Average Depth at Peak Storage= 0.53'
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'



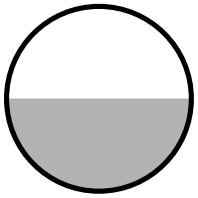
Summary for Reach 2R: 24" RCP

Inflow Area = 126,760 sf, 43.03% Impervious, Inflow Depth > 2.73" for 10 Year Event event
Inflow = 8.58 cfs @ 12.10 hrs, Volume= 28,841 cf
Outflow = 8.55 cfs @ 12.10 hrs, Volume= 28,839 cf, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.45 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.74 fps, Avg. Travel Time= 0.3 min

Peak Storage= 55 cf @ 12.10 hrs
Average Depth at Peak Storage= 1.00'
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'



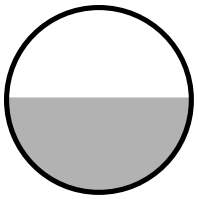
Summary for Reach 3R: 21" RCP

Inflow Area = 90,090 sf, 36.12% Impervious, Inflow Depth > 2.51" for 10 Year Event event
Inflow = 5.89 cfs @ 12.08 hrs, Volume= 18,815 cf
Outflow = 5.60 cfs @ 12.12 hrs, Volume= 18,793 cf, Atten= 5%, Lag= 2.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.71 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 1.47 fps, Avg. Travel Time= 3.8 min

Peak Storage= 422 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.90'
Bank-Full Depth= 1.75' Flow Area= 2.4 sf, Capacity= 11.20 cfs

21.0" Round Pipe
n= 0.013
Length= 340.0' Slope= 0.0050 '/'
Inlet Invert= 97.05', Outlet Invert= 95.35'



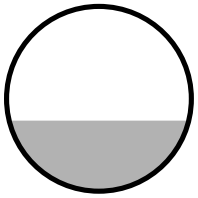
Summary for Reach 4R: 12" RCP

Inflow Area = 7,177 sf, 84.14% Impervious, Inflow Depth > 3.91" for 10 Year Event event
Inflow = 0.71 cfs @ 12.07 hrs, Volume= 2,340 cf
Outflow = 0.66 cfs @ 12.12 hrs, Volume= 2,336 cf, Atten= 7%, Lag= 3.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.52 fps, Min. Travel Time= 1.6 min
Avg. Velocity = 0.84 fps, Avg. Travel Time= 4.8 min

Peak Storage= 66 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.38'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 2.25 cfs

12.0" Round Pipe
n= 0.013
Length= 240.0' Slope= 0.0040 '/'
Inlet Invert= 98.01', Outlet Invert= 97.05'



Summary for Reach 5R: Overflow

Inflow Area = 10,500 sf,100.00% Impervious, Inflow Depth = 0.33" for 10 Year Event event
Inflow = 0.31 cfs @ 12.41 hrs, Volume= 289 cf
Outflow = 0.31 cfs @ 12.41 hrs, Volume= 289 cf, Atten= 0%, Lag= 0.0 min

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

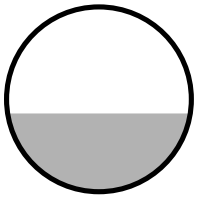
Summary for Reach 6R: 21" RCP

Inflow Area = 106,055 sf, 32.30% Impervious, Inflow Depth > 2.33" for 10 Year Event event
Inflow = 6.56 cfs @ 12.08 hrs, Volume= 20,557 cf
Outflow = 6.52 cfs @ 12.08 hrs, Volume= 20,553 cf, Atten= 1%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.78 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 2.46 fps, Avg. Travel Time= 0.5 min

Peak Storage= 77 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.74'
Bank-Full Depth= 1.75' Flow Area= 2.4 sf, Capacity= 17.72 cfs

21.0" Round Pipe
n= 0.013
Length= 80.0' Slope= 0.0125 '/'
Inlet Invert= 95.00', Outlet Invert= 94.00'



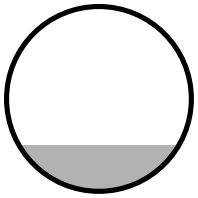
Summary for Reach 7R: 18" RCP

Inflow Area = 106,055 sf, 32.30% Impervious, Inflow Depth = 1.50" for 10 Year Event event
Inflow = 2.61 cfs @ 12.31 hrs, Volume= 13,292 cf
Outflow = 2.61 cfs @ 12.32 hrs, Volume= 13,292 cf, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.59 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 3.12 fps, Avg. Travel Time= 0.3 min

Peak Storage= 21 cf @ 12.31 hrs
Average Depth at Peak Storage= 0.37'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 19.18 cfs

18.0" Round Pipe
n= 0.013
Length= 60.0' Slope= 0.0333 '/'
Inlet Invert= 92.00', Outlet Invert= 90.00'



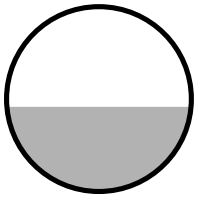
Summary for Reach 8R: 18" RCP

Inflow Area = 38,003 sf, 53.71% Impervious, Inflow Depth > 3.19" for 10 Year Event event
Inflow = 3.24 cfs @ 12.07 hrs, Volume= 10,103 cf
Outflow = 3.12 cfs @ 12.10 hrs, Volume= 10,095 cf, Atten= 4%, Lag= 1.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.09 fps, Min. Travel Time= 0.8 min
Avg. Velocity = 1.41 fps, Avg. Travel Time= 2.4 min

Peak Storage= 160 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.68'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 7.54 cfs

18.0" Round Pipe
n= 0.013
Length= 204.0' Slope= 0.0051 '/'
Inlet Invert= 95.35', Outlet Invert= 94.30'



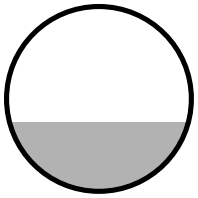
Summary for Reach 9R: 18" RCP

Inflow Area = 38,003 sf, 53.71% Impervious, Inflow Depth > 3.19" for 10 Year Event event
Inflow = 3.12 cfs @ 12.10 hrs, Volume= 10,095 cf
Outflow = 3.11 cfs @ 12.10 hrs, Volume= 10,094 cf, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.18 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.78 fps, Avg. Travel Time= 0.3 min

Peak Storage= 18 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.56'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 10.50 cfs

18.0" Round Pipe
n= 0.013
Length= 30.0' Slope= 0.0100 '/'
Inlet Invert= 94.20', Outlet Invert= 93.90'



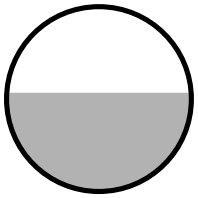
Summary for Reach 10R: 24" RCP

Inflow Area = 169,713 sf, 43.61% Impervious, Inflow Depth > 2.65" for 10 Year Event event
Inflow = 11.61 cfs @ 12.09 hrs, Volume= 37,447 cf
Outflow = 11.53 cfs @ 12.10 hrs, Volume= 37,439 cf, Atten= 1%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.83 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 2.36 fps, Avg. Travel Time= 0.7 min

Peak Storage= 162 cf @ 12.09 hrs
Average Depth at Peak Storage= 1.07'
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 20.89 cfs

24.0" Round Pipe
n= 0.013
Length= 95.0' Slope= 0.0085 '/'
Inlet Invert= 93.61', Outlet Invert= 92.80'



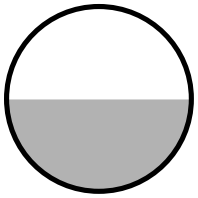
Summary for Reach 11R: 15" RCP

Inflow Area = 36,008 sf, 47.81% Impervious, Inflow Depth > 2.89" for 10 Year Event event
Inflow = 2.78 cfs @ 12.07 hrs, Volume= 8,664 cf
Outflow = 2.68 cfs @ 12.10 hrs, Volume= 8,657 cf, Atten= 4%, Lag= 1.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.54 fps, Min. Travel Time= 0.9 min
Avg. Velocity = 1.60 fps, Avg. Travel Time= 2.5 min

Peak Storage= 146 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.62'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 5.59 cfs

15.0" Round Pipe
n= 0.013
Length= 240.0' Slope= 0.0075 '/'
Inlet Invert= 96.16', Outlet Invert= 94.36'



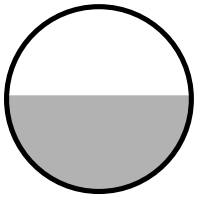
Summary for Reach 12R: 24" RCP

Inflow Area = 176,232 sf, 44.97% Impervious, Inflow Depth > 2.69" for 10 Year Event event
Inflow = 12.07 cfs @ 12.10 hrs, Volume= 39,501 cf
Outflow = 12.05 cfs @ 12.10 hrs, Volume= 39,500 cf, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.32 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.34 fps, Avg. Travel Time= 0.1 min

Peak Storage= 33 cf @ 12.10 hrs
Average Depth at Peak Storage= 1.04'
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 22.62 cfs

24.0" Round Pipe
n= 0.013
Length= 20.0' Slope= 0.0100 '/'
Inlet Invert= 92.80', Outlet Invert= 92.60'



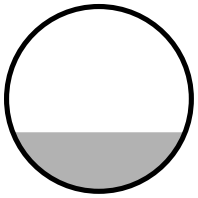
Summary for Reach 13R: 12" RCP

Inflow Area = 6,519 sf, 80.29% Impervious, Inflow Depth > 3.80" for 10 Year Event event
Inflow = 0.64 cfs @ 12.07 hrs, Volume= 2,066 cf
Outflow = 0.59 cfs @ 12.14 hrs, Volume= 2,063 cf, Atten= 7%, Lag= 4.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.82 fps, Min. Travel Time= 2.2 min
Avg. Velocity = 0.94 fps, Avg. Travel Time= 6.5 min

Peak Storage= 79 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.32'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 2.77 cfs

12.0" Round Pipe
n= 0.013
Length= 365.0' Slope= 0.0060 '/'
Inlet Invert= 95.00', Outlet Invert= 92.80'



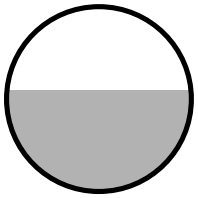
Summary for Reach 14R: 21" RCP

Inflow Area = 176,232 sf, 44.97% Impervious, Inflow Depth > 2.48" for 10 Year Event event
Inflow = 7.53 cfs @ 12.22 hrs, Volume= 36,401 cf
Outflow = 7.53 cfs @ 12.22 hrs, Volume= 36,399 cf, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.58 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.95 fps, Avg. Travel Time= 0.3 min

Peak Storage= 40 cf @ 12.22 hrs
Average Depth at Peak Storage= 0.96'
Bank-Full Depth= 1.75' Flow Area= 2.4 sf, Capacity= 12.94 cfs

21.0" Round Pipe
n= 0.013
Length= 30.0' Slope= 0.0067 '/'
Inlet Invert= 92.20', Outlet Invert= 92.00'



Summary for Reach 15R: Overflow

Inflow Area = 7,500 sf,100.00% Impervious, Inflow Depth = 0.33" for 10 Year Event event
Inflow = 0.22 cfs @ 12.41 hrs, Volume= 207 cf
Outflow = 0.22 cfs @ 12.41 hrs, Volume= 207 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Reach 16R: 16R

Inflow Area = 59,622 sf, 26.75% Impervious, Inflow Depth > 2.15" for 10 Year Event event
Inflow = 3.28 cfs @ 12.08 hrs, Volume= 10,664 cf
Outflow = 3.28 cfs @ 12.08 hrs, Volume= 10,664 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Reach 17R: Overflow

Inflow Area = 15,000 sf,100.00% Impervious, Inflow Depth = 0.33" for 10 Year Event event
Inflow = 0.44 cfs @ 12.41 hrs, Volume= 413 cf
Outflow = 0.44 cfs @ 12.41 hrs, Volume= 413 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Reach 18R: DESIGN POINT #1

Inflow Area = 239,243 sf, 38.50% Impervious, Inflow Depth > 1.64" for 10 Year Event event
Inflow = 6.27 cfs @ 12.33 hrs, Volume= 32,695 cf
Outflow = 6.27 cfs @ 12.33 hrs, Volume= 32,695 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Reach 19R: DESIGN POINT #2

Inflow Area = 407,195 sf, 27.77% Impervious, Inflow Depth > 2.18" for 10 Year Event event
Inflow = 16.80 cfs @ 12.15 hrs, Volume= 74,126 cf
Outflow = 16.80 cfs @ 12.15 hrs, Volume= 74,126 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Reach 63R: Overflow

Inflow Area = 6,000 sf,100.00% Impervious, Inflow Depth = 0.33" for 10 Year Event event
Inflow = 0.18 cfs @ 12.41 hrs, Volume= 165 cf
Outflow = 0.18 cfs @ 12.41 hrs, Volume= 165 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Pond 1P: POND #1

Inflow Area = 126,760 sf, 43.03% Impervious, Inflow Depth > 2.73" for 10 Year Event event
Inflow = 8.55 cfs @ 12.10 hrs, Volume= 28,839 cf
Outflow = 3.72 cfs @ 12.34 hrs, Volume= 25,935 cf, Atten= 56%, Lag= 14.2 min
Discarded = 0.13 cfs @ 9.65 hrs, Volume= 7,065 cf
Primary = 3.59 cfs @ 12.34 hrs, Volume= 18,870 cf

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

Peak Elev= 97.14' @ 12.34 hrs Surf.Area= 5,325 sf Storage= 9,291 cf

Plug-Flow detention time= 101.9 min calculated for 25,881 cf (90% of inflow)
Center-of-Mass det. time= 53.8 min (867.4 - 813.6)

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'	**1.020 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.13 cfs @ 9.65 hrs HW=95.44' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.13 cfs)

Primary OutFlow Max=3.59 cfs @ 12.34 hrs HW=97.14' (Free Discharge)
├**1=Orifice/Grate** (Orifice Controls 1.60 cfs @ 4.59 fps)
└**2=Orifice/Grate** (Orifice Controls 1.99 cfs @ 3.13 fps)

Summary for Pond 2P: POND #2

Inflow Area = 106,055 sf, 32.30% Impervious, Inflow Depth > 2.33" for 10 Year Event event
Inflow = 6.52 cfs @ 12.08 hrs, Volume= 20,553 cf
Outflow = 2.73 cfs @ 12.31 hrs, Volume= 19,695 cf, Atten= 58%, Lag= 13.6 min
Discarded = 0.12 cfs @ 10.25 hrs, Volume= 6,403 cf
Primary = 2.61 cfs @ 12.31 hrs, Volume= 13,292 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 95.71' @ 12.31 hrs Surf.Area= 5,143 sf Storage= 5,774 cf

Plug-Flow detention time= 71.4 min calculated for 19,695 cf (96% of inflow)
Center-of-Mass det. time= 48.2 min (871.9 - 823.7)

Volume	Invert	Avail.Storage	Storage Description
#1	94.00'	4,866 cf	**Custom Stage Data (Irregular)**Listed below 18,001 cf Overall - 5,834 cf Embedded = 12,166 cf x 40.0% Voids
#2	94.50'	5,834 cf	**StormTech SC-740** x 127 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
		10,701 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
94.00	5,143	340.0	0	0	5,143
97.50	5,143	340.0	18,001	18,001	6,333

Device	Routing	Invert	Outlet Devices
#1	Primary	94.50'	**8.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	95.00'	**8.0" Vert. Orifice/Grate** C= 0.600
#3	Discarded	94.00'	**1.020 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.12 cfs @ 10.25 hrs HW=94.04' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.12 cfs)

Primary OutFlow Max=2.61 cfs @ 12.31 hrs HW=95.71' (Free Discharge)
├**1=Orifice/Grate** (Orifice Controls 1.57 cfs @ 4.51 fps)
└**2=Orifice/Grate** (Orifice Controls 1.03 cfs @ 2.96 fps)

Summary for Pond 3P: POND #3

Inflow Area = 176,232 sf, 44.97% Impervious, Inflow Depth > 2.69" for 10 Year Event event
Inflow = 12.05 cfs @ 12.10 hrs, Volume= 39,500 cf
Outflow = 7.61 cfs @ 12.22 hrs, Volume= 39,204 cf, Atten= 37%, Lag= 7.0 min
Discarded = 0.07 cfs @ 12.22 hrs, Volume= 2,803 cf
Primary = 7.53 cfs @ 12.22 hrs, Volume= 36,401 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 95.26' @ 12.22 hrs Surf.Area= 3,087 sf Storage= 6,525 cf

Plug-Flow detention time= 19.6 min calculated for 39,204 cf (99% of inflow)
Center-of-Mass det. time= 15.1 min (828.3 - 813.2)

Volume	Invert	Avail.Storage	Storage Description
#1	92.60'	12,626 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)
92.60	1,778	214.0	0	0	1,778
93.00	1,995	220.0	754	754	2,003
94.00	2,466	237.0	2,226	2,981	2,662
95.00	2,953	250.0	2,706	5,686	3,221
96.00	3,467	263.0	3,207	8,893	3,811
97.00	4,005	275.0	3,733	12,626	4,391

Device	Routing	Invert	Outlet Devices
#1	Primary	92.60'	**10.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	94.00'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 4.0' Crest Height
#3	Discarded	92.60'	**1.020 in/hr Exfiltration over Horizontal area** Conductivity to Groundwater Elevation = 0.00'

Discarded OutFlow Max=0.07 cfs @ 12.22 hrs HW=95.25' (Free Discharge)
└**3=Exfiltration** (Controls 0.07 cfs)

Primary OutFlow Max=7.48 cfs @ 12.22 hrs HW=95.25' (Free Discharge)
├**1=Orifice/Grate** (Orifice Controls 3.92 cfs @ 7.19 fps)
└**2=Sharp-Crested Rectangular Weir** (Weir Controls 3.55 cfs @ 3.79 fps)

Summary for Pond PE: RC

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= 1,199 cf
Outflow = 0.02 cfs @ 11.40 hrs, Volume= 1,000 cf, Atten= 94%, Lag= 0.0 min
Discarded = 0.02 cfs @ 11.40 hrs, Volume= 1,000 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 93.02' @ 14.69 hrs Surf.Area= 294 sf Storage= 588 cf

Plug-Flow detention time= 271.9 min calculated for 998 cf (83% of inflow)
Center-of-Mass det. time= 203.5 min (951.7 - 748.2)

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'	**2.160 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.02 cfs @ 11.40 hrs HW=91.01' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 0.02 cfs)

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

Summary for Link 3A: Lot 3A

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.33" for 10 Year Event event
Inflow = 0.04 cfs @ 12.41 hrs, Volume= 41 cf
Primary = 0.04 cfs @ 12.41 hrs, Volume= 41 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 4A: Lot 4a

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.33" for 10 Year Event event
Inflow = 0.04 cfs @ 12.41 hrs, Volume= 41 cf
Primary = 0.04 cfs @ 12.41 hrs, Volume= 41 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 5A: Lot 5

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.33" for 10 Year Event event
Inflow = 0.04 cfs @ 12.41 hrs, Volume= 41 cf
Primary = 0.04 cfs @ 12.41 hrs, Volume= 41 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 6a: Lot 6

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.33" for 10 Year Event event
Inflow = 0.04 cfs @ 12.41 hrs, Volume= 41 cf
Primary = 0.04 cfs @ 12.41 hrs, Volume= 41 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 7A: Lot 7

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.33" for 10 Year Event event
Inflow = 0.04 cfs @ 12.41 hrs, Volume= 41 cf
Primary = 0.04 cfs @ 12.41 hrs, Volume= 41 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 8b: Lot 8

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.33" for 10 Year Event event
Inflow = 0.04 cfs @ 12.41 hrs, Volume= 41 cf
Primary = 0.04 cfs @ 12.41 hrs, Volume= 41 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 9a: Lot 9

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.33" for 10 Year Event event
Inflow = 0.04 cfs @ 12.41 hrs, Volume= 41 cf
Primary = 0.04 cfs @ 12.41 hrs, Volume= 41 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 10a: Lot 10

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.33" for 10 Year Event event
Inflow = 0.04 cfs @ 12.41 hrs, Volume= 41 cf
Primary = 0.04 cfs @ 12.41 hrs, Volume= 41 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 11a: Lot 11

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.33" for 10 Year Event event
Inflow = 0.04 cfs @ 12.41 hrs, Volume= 41 cf
Primary = 0.04 cfs @ 12.41 hrs, Volume= 41 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 12: Lot 12

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.33" for 10 Year Event event
Inflow = 0.04 cfs @ 12.41 hrs, Volume= 41 cf
Primary = 0.04 cfs @ 12.41 hrs, Volume= 41 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 13: Lot 13

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.33" for 10 Year Event event
Inflow = 0.04 cfs @ 12.41 hrs, Volume= 41 cf
Primary = 0.04 cfs @ 12.41 hrs, Volume= 41 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 14: Lot 14

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.33" for 10 Year Event event
Inflow = 0.04 cfs @ 12.41 hrs, Volume= 41 cf
Primary = 0.04 cfs @ 12.41 hrs, Volume= 41 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 15: Lot 15

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.33" for 10 Year Event event
Inflow = 0.04 cfs @ 12.41 hrs, Volume= 41 cf
Primary = 0.04 cfs @ 12.41 hrs, Volume= 41 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 16: Lot 16

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.33" for 10 Year Event event
Inflow = 0.04 cfs @ 12.41 hrs, Volume= 41 cf
Primary = 0.04 cfs @ 12.41 hrs, Volume= 41 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 17: Lot 17

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.33" for 10 Year Event event
Inflow = 0.04 cfs @ 12.41 hrs, Volume= 41 cf
Primary = 0.04 cfs @ 12.41 hrs, Volume= 41 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 18: Lot 18

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.33" for 10 Year Event event
Inflow = 0.04 cfs @ 12.41 hrs, Volume= 41 cf
Primary = 0.04 cfs @ 12.41 hrs, Volume= 41 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 19: Lot 19

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.33" for 10 Year Event event
Inflow = 0.04 cfs @ 12.41 hrs, Volume= 41 cf
Primary = 0.04 cfs @ 12.41 hrs, Volume= 41 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 20: Lot 20

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.33" for 10 Year Event event
Inflow = 0.04 cfs @ 12.41 hrs, Volume= 41 cf
Primary = 0.04 cfs @ 12.41 hrs, Volume= 41 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 21: Lot 21

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.33" for 10 Year Event event
Inflow = 0.04 cfs @ 12.41 hrs, Volume= 41 cf
Primary = 0.04 cfs @ 12.41 hrs, Volume= 41 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 22: Lot 22

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.33" for 10 Year Event event
Inflow = 0.04 cfs @ 12.41 hrs, Volume= 41 cf
Primary = 0.04 cfs @ 12.41 hrs, Volume= 41 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 23A: Lot 23A

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.33" for 10 Year Event event
Inflow = 0.04 cfs @ 12.41 hrs, Volume= 41 cf
Primary = 0.04 cfs @ 12.41 hrs, Volume= 41 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 24A: Lot 24A

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.33" for 10 Year Event event
Inflow = 0.04 cfs @ 12.41 hrs, Volume= 41 cf
Primary = 0.04 cfs @ 12.41 hrs, Volume= 41 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 25: Lot 25

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.33" for 10 Year Event event
Inflow = 0.04 cfs @ 12.41 hrs, Volume= 41 cf
Primary = 0.04 cfs @ 12.41 hrs, Volume= 41 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 26: Lot 26

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.33" for 10 Year Event event
Inflow = 0.04 cfs @ 12.41 hrs, Volume= 41 cf
Primary = 0.04 cfs @ 12.41 hrs, Volume= 41 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 27A: Lot 27A

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.33" for 10 Year Event event
Inflow = 0.04 cfs @ 12.41 hrs, Volume= 41 cf
Primary = 0.04 cfs @ 12.41 hrs, Volume= 41 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 28A: Lot 28A

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.33" for 10 Year Event event
Inflow = 0.04 cfs @ 12.41 hrs, Volume= 41 cf
Primary = 0.04 cfs @ 12.41 hrs, Volume= 41 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 29A: Lot 29A

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.33" for 10 Year Event event
Inflow = 0.04 cfs @ 12.41 hrs, Volume= 41 cf
Primary = 0.04 cfs @ 12.41 hrs, Volume= 41 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 32: Lot 32

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.33" for 10 Year Event event
Inflow = 0.04 cfs @ 12.41 hrs, Volume= 41 cf
Primary = 0.04 cfs @ 12.41 hrs, Volume= 41 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 33: Lot 33

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.33" for 10 Year Event event
Inflow = 0.04 cfs @ 12.41 hrs, Volume= 41 cf
Primary = 0.04 cfs @ 12.41 hrs, Volume= 41 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 34: Lot 34

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.33" for 10 Year Event event
Inflow = 0.04 cfs @ 12.41 hrs, Volume= 41 cf
Primary = 0.04 cfs @ 12.41 hrs, Volume= 41 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 35: Lot 35

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.33" for 10 Year Event event
Inflow = 0.04 cfs @ 12.41 hrs, Volume= 41 cf
Primary = 0.04 cfs @ 12.41 hrs, Volume= 41 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 36: Lot 36

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.33" for 10 Year Event event
Inflow = 0.04 cfs @ 12.41 hrs, Volume= 41 cf
Primary = 0.04 cfs @ 12.41 hrs, Volume= 41 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 37: Lot 37

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.33" for 10 Year Event event
Inflow = 0.04 cfs @ 12.41 hrs, Volume= 41 cf
Primary = 0.04 cfs @ 12.41 hrs, Volume= 41 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 38: Lot 38

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.33" for 10 Year Event event
Inflow = 0.04 cfs @ 12.41 hrs, Volume= 41 cf
Primary = 0.04 cfs @ 12.41 hrs, Volume= 41 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 39: Lot 39

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 0.33" for 10 Year Event event
Inflow = 0.04 cfs @ 12.41 hrs, Volume= 41 cf
Primary = 0.04 cfs @ 12.41 hrs, Volume= 41 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

10 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

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

Subcatchment 1B: 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 1,474 cf

Subcatchment 2: 2P Runoff Area=76,913 sf 26.66% Impervious Runoff Depth>3.42"
Tc=5.0 min CN=80 Runoff=7.07 cfs 21,921 cf

Subcatchment 2B: 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 12,954 cf

Subcatchment 3: 3P Runoff Area=7,177 sf 84.14% Impervious Runoff Depth>4.90"
Tc=5.0 min CN=94 Runoff=0.88 cfs 2,930 cf

Subcatchment 3B: 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

Subcatchment 4P: 7 Runoff Area=156,341 sf 1.84% Impervious Runoff Depth>2.85"
Tc=10.0 min CN=74 Runoff=10.34 cfs 37,084 cf

Subcatchment 5: 5P Runoff Area=34,508 sf 45.54% Impervious Runoff Depth>3.92"
Tc=5.0 min CN=85 Runoff=3.61 cfs 11,285 cf

Subcatchment 6: 6P Runoff Area=83,702 sf 29.13% Impervious Runoff Depth>3.52"
Tc=5.0 min CN=81 Runoff=7.90 cfs 24,545 cf

Subcatchment 7: 7P Runoff Area=38,003 sf 53.71% Impervious Runoff Depth>4.13"
Tc=5.0 min CN=87 Runoff=4.15 cfs 13,089 cf

Subcatchment 8: 8P Runoff Area=6,519 sf 80.29% Impervious Runoff Depth>4.79"
Tc=5.0 min CN=93 Runoff=0.79 cfs 2,600 cf

Subcatchment 9: 9P Runoff Area=9,494 sf 87.37% Impervious Runoff Depth>5.01"
Tc=5.0 min CN=95 Runoff=1.18 cfs 3,965 cf

Subcatchment 10: 10P Runoff Area=95,555 sf 24.86% Impervious Runoff Depth>3.42"
Tc=5.0 min CN=80 Runoff=8.78 cfs 27,234 cf

Subcatchment 11: 11P Runoff Area=42,628 sf 0.36% Impervious Runoff Depth>2.85"
Tc=5.0 min CN=74 Runoff=3.27 cfs 10,122 cf

Reach 1R: 18" RCP Avg. Flow Depth=0.64' Max Vel=7.12 fps Inflow=5.07 cfs 28,614 cf
18.0" Round Pipe n=0.013 L=60.0' S=0.0167 '/' Capacity=13.56 cfs Outflow=5.07 cfs 28,612 cf

Reach 2R: 24" RCP Avg. Flow Depth=1.19' Max Vel=5.82 fps Inflow=11.30 cfs 38,283 cf
24.0" Round Pipe n=0.013 L=35.0' S=0.0057 '/' Capacity=17.10 cfs Outflow=11.26 cfs 38,279 cf

Reach 3R: 21" RCP Avg. Flow Depth=1.07' Max Vel=5.03 fps Inflow=7.80 cfs 25,355 cf
21.0" Round Pipe n=0.013 L=340.0' S=0.0050 '/' Capacity=11.20 cfs Outflow=7.49 cfs 25,329 cf

Reach 4R: 12" RCP Avg. Flow Depth=0.43' Max Vel=2.67 fps Inflow=0.88 cfs 2,930 cf
12.0" Round Pipe n=0.013 L=240.0' S=0.0040 '/' Capacity=2.25 cfs Outflow=0.82 cfs 2,926 cf

Reach 5R: Overflow Inflow=0.88 cfs 889 cf
Outflow=0.88 cfs 889 cf

Reach 6R: 21" RCP Avg. Flow Depth=0.87' Max Vel=7.31 fps Inflow=8.73 cfs 28,124 cf
21.0" Round Pipe n=0.013 L=80.0' S=0.0125 '/' Capacity=17.72 cfs Outflow=8.70 cfs 28,119 cf

Reach 7R: 18" RCP Avg. Flow Depth=0.45' Max Vel=8.41 fps Inflow=3.74 cfs 20,238 cf
18.0" Round Pipe n=0.013 L=60.0' S=0.0333 '/' Capacity=19.18 cfs Outflow=3.74 cfs 20,238 cf

Reach 8R: 18" RCP Avg. Flow Depth=0.79' Max Vel=4.35 fps Inflow=4.15 cfs 13,089 cf
18.0" Round Pipe n=0.013 L=204.0' S=0.0051 '/' Capacity=7.54 cfs Outflow=4.01 cfs 13,080 cf

Reach 9R: 18" RCP Avg. Flow Depth=0.64' Max Vel=5.54 fps Inflow=4.01 cfs 13,080 cf
18.0" Round Pipe n=0.013 L=30.0' S=0.0100 '/' Capacity=10.50 cfs Outflow=3.99 cfs 13,079 cf

Reach 10R: 24" RCP Avg. Flow Depth=1.27' Max Vel=7.25 fps Inflow=15.20 cfs 50,043 cf
24.0" Round Pipe n=0.013 L=95.0' S=0.0085 '/' Capacity=20.89 cfs Outflow=15.12 cfs 50,033 cf

Reach 11R: 15" RCP Avg. Flow Depth=0.73' Max Vel=4.83 fps Inflow=3.61 cfs 11,412 cf
15.0" Round Pipe n=0.013 L=240.0' S=0.0075 '/' Capacity=5.59 cfs Outflow=3.48 cfs 11,403 cf

Reach 12R: 24" RCP Avg. Flow Depth=1.23' Max Vel=7.79 fps Inflow=15.80 cfs 52,629 cf
24.0" Round Pipe n=0.013 L=20.0' S=0.0100 '/' Capacity=22.62 cfs Outflow=15.78 cfs 52,627 cf

Reach 13R: 12" RCP Avg. Flow Depth=0.36' Max Vel=3.00 fps Inflow=0.79 cfs 2,600 cf
12.0" Round Pipe n=0.013 L=365.0' S=0.0060 '/' Capacity=2.77 cfs Outflow=0.73 cfs 2,595 cf

Reach 14R: 21" RCP Avg. Flow Depth=1.16' Max Vel=5.94 fps Inflow=10.04 cfs 49,283 cf
21.0" Round Pipe n=0.013 L=30.0' S=0.0067 '/' Capacity=12.94 cfs Outflow=10.04 cfs 49,280 cf

Reach 15R: Overflow Inflow=0.63 cfs 635 cf
Outflow=0.63 cfs 635 cf

Reach 16R: 16R Inflow=4.40 cfs 14,723 cf
Outflow=4.40 cfs 14,723 cf

Reach 17R: Overflow Inflow=1.25 cfs 1,270 cf
Outflow=1.25 cfs 1,270 cf

Reach 18R: DESIGN POINT #1 Inflow=8.81 cfs 48,850 cf
Outflow=8.81 cfs 48,850 cf

Reach 19R: DESIGN POINT #2 Inflow=23.88 cfs 102,357 cf
Outflow=23.88 cfs 102,357 cf

Reach 63R: Overflow Inflow=0.50 cfs 508 cf
Outflow=0.50 cfs 508 cf

Pond 1P: POND #1 Peak Elev=97.64' Storage=11,919 cf Inflow=11.26 cfs 38,279 cf
Discarded=0.13 cfs 7,418 cf Primary=4.97 cfs 27,724 cf Outflow=5.10 cfs 35,141 cf

Pond 2P: POND #2 Peak Elev=96.33' Storage=7,909 cf Inflow=8.70 cfs 28,119 cf
Discarded=0.12 cfs 6,733 cf Primary=3.74 cfs 20,238 cf Outflow=3.86 cfs 26,971 cf

Pond 3P: POND #3 Peak Elev=95.89' Storage=8,539 cf Inflow=15.78 cfs 52,627 cf
Discarded=0.08 cfs 2,997 cf Primary=10.04 cfs 49,283 cf Outflow=10.13 cfs 52,280 cf

Pond PE: RC Peak Elev=93.65' Storage=659 cf Inflow=0.42 cfs 1,474 cf
Discarded=0.02 cfs 904 cf Primary=0.06 cfs 147 cf Outflow=0.07 cfs 1,052 cf

Link 25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.13 cfs 127 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.13 cfs 127 cf

Link 25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.13 cfs 127 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.13 cfs 127 cf

Link 25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.13 cfs 127 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.13 cfs 127 cf

Link 25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.13 cfs 127 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.13 cfs 127 cf

Link 25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.13 cfs 127 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.13 cfs 127 cf

Link 25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.13 cfs 127 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.13 cfs 127 cf

Link 25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.13 cfs 127 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.13 cfs 127 cf

Link 25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.13 cfs 127 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.13 cfs 127 cf

Link 25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.13 cfs 127 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.13 cfs 127 cf

Link 25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.13 cfs 127 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.13 cfs 127 cf

Link 25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.13 cfs 127 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.13 cfs 127 cf

Link 25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.13 cfs 127 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.13 cfs 127 cf

Link 25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.13 cfs 127 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.13 cfs 127 cf

Link 25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.13 cfs 127 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.13 cfs 127 cf

Link 25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.13 cfs 127 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.13 cfs 127 cf

Link 25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.13 cfs 127 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.13 cfs 127 cf

Link 25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.13 cfs 127 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.13 cfs 127 cf

Link 25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.13 cfs 127 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.13 cfs 127 cf

Link 25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.13 cfs 127 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.13 cfs 127 cf

Link 25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.13 cfs 127 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.13 cfs 127 cf

Link 25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.13 cfs 127 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.13 cfs 127 cf

Link 25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.13 cfs 127 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.13 cfs 127 cf

Link 25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.13 cfs 127 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.13 cfs 127 cf

Link 25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.13 cfs 127 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.13 cfs 127 cf

Link 25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.13 cfs 127 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.13 cfs 127 cf

Link 25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.13 cfs 127 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.13 cfs 127 cf

Link 25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.13 cfs 127 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.13 cfs 127 cf

Link 25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.13 cfs 127 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.13 cfs 127 cf

Link 25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.13 cfs 127 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.13 cfs 127 cf

Link 25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.13 cfs 127 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.13 cfs 127 cf

Link 25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.13 cfs 127 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.13 cfs 127 cf

Link 25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.13 cfs 127 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.13 cfs 127 cf

Link 25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.13 cfs 127 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.13 cfs 127 cf

Link 25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.13 cfs 127 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.13 cfs 127 cf

Link 25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.13 cfs 127 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.13 cfs 127 cf

Summary for Subcatchment 1B: Ex. Bank Roof

Runoff = 0.42 cfs @ 12.07 hrs, Volume= 1,474 cf, Depth> 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 2: 2P

Runoff = 7.07 cfs @ 12.08 hrs, Volume= 21,921 cf, Depth> 3.42"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	1,675	98	Exisitng houses
	56,411	74	>75% Grass cover, Good, HSG C
*	17,914	98	Roadway
*	913	98	Sidewalks
	76,913	80	Weighted Average
	56,411		73.34% Pervious Area
	20,502		26.66% 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= 12,954 cf, Depth> 4.24"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 3: 3P

Runoff = 0.88 cfs @ 12.07 hrs, Volume= 2,930 cf, Depth> 4.90"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	1,158	98	sidewalks
*	4,881	98	Roadway
*	1,138	74	Lawn
	7,177	94	Weighted Average
	1,138		15.86% Pervious Area
	6,039		84.14% Impervious Area

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

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= 0.00-24.00 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 4P: 7

Runoff = 10.34 cfs @ 12.15 hrs, Volume= 37,084 cf, Depth> 2.85"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	2,871	98	exisitng houses
	89,300	74	>75% Grass cover, Good, HSG C
	64,170	73	Woods, Fair, HSG C
	156,341	74	Weighted Average
	153,470		98.16% Pervious Area
	2,871		1.84% Impervious Area

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

Summary for Subcatchment 5: 5P

Runoff = 3.61 cfs @ 12.07 hrs, Volume= 11,285 cf, Depth> 3.92"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	13,584	98	roadway
*	2,131	98	sidewalk
*	18,793	74	lawn
	34,508	85	Weighted Average
	18,793		54.46% Pervious Area
	15,715		45.54% Impervious Area

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

Summary for Subcatchment 6: 6P

Runoff = 7.90 cfs @ 12.08 hrs, Volume= 24,545 cf, Depth> 3.52"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	24,384	98	Roadway
*	3,217	74	Sidewalk
*	56,101	74	Lawn
	83,702	81	Weighted Average
	59,318		70.87% Pervious Area
	24,384		29.13% Impervious Area

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

Summary for Subcatchment 7: 7P

Runoff = 4.15 cfs @ 12.07 hrs, Volume= 13,089 cf, Depth> 4.13"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	18,289	98	Roadway
*	2,124	98	Sidewalks
*	17,590	74	lawn
	38,003	87	Weighted Average
	17,590		46.29% Pervious Area
	20,413		53.71% Impervious Area

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

Summary for Subcatchment 8: 8P

Runoff = 0.79 cfs @ 12.07 hrs, Volume= 2,600 cf, Depth> 4.79"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	4,366	98	roadway
*	868	98	sidewalks
*	1,285	74	Lawn
	6,519	93	Weighted Average
	1,285		19.71% Pervious Area
	5,234		80.29% Impervious Area

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

Summary for Subcatchment 9: 9P

Runoff = 1.18 cfs @ 12.07 hrs, Volume= 3,965 cf, Depth> 5.01"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	7,082	98	rdwy
*	1,213	98	sidewalks
*	1,199	74	grass
	9,494	95	Weighted Average
	1,199		12.63% Pervious Area
	8,295		87.37% Impervious Area

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

Summary for Subcatchment 10: 10P

Runoff = 8.78 cfs @ 12.08 hrs, Volume= 27,234 cf, Depth> 3.42"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	1,136	98	existing houses
*	2,378	98	sidewalks
*	20,243	98	Roadway
*	71,798	74	Lawn
	95,555	80	Weighted Average
	71,798		75.14% Pervious Area
	23,757		24.86% Impervious Area

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

Summary for Subcatchment 11: 11P

Runoff = 3.27 cfs @ 12.08 hrs, Volume= 10,122 cf, Depth> 2.85"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	42,474	74	Lawn
*	154	98	Exist House
	42,628	74	Weighted Average
	42,474		99.64% Pervious Area
	154		0.36% Impervious Area

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

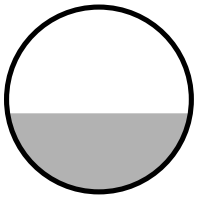
Summary for Reach 1R: 18" RCP

Inflow Area = 133,188 sf, 43.43% Impervious, Inflow Depth > 2.58" for 25 Year Event event
Inflow = 5.07 cfs @ 12.32 hrs, Volume= 28,614 cf
Outflow = 5.07 cfs @ 12.33 hrs, Volume= 28,612 cf, Atten= 0%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.12 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.73 fps, Avg. Travel Time= 0.4 min

Peak Storage= 43 cf @ 12.33 hrs
Average Depth at Peak Storage= 0.64'
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'



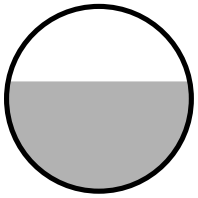
Summary for Reach 2R: 24" RCP

Inflow Area = 126,760 sf, 43.03% Impervious, Inflow Depth > 3.62" for 25 Year Event event
Inflow = 11.30 cfs @ 12.10 hrs, Volume= 38,283 cf
Outflow = 11.26 cfs @ 12.10 hrs, Volume= 38,279 cf, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.82 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.89 fps, Avg. Travel Time= 0.3 min

Peak Storage= 68 cf @ 12.10 hrs
Average Depth at Peak Storage= 1.19'
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'



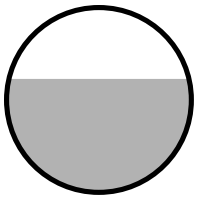
Summary for Reach 3R: 21" RCP

Inflow Area = 90,090 sf, 36.12% Impervious, Inflow Depth > 3.38" for 25 Year Event event
Inflow = 7.80 cfs @ 12.08 hrs, Volume= 25,355 cf
Outflow = 7.49 cfs @ 12.12 hrs, Volume= 25,329 cf, Atten= 4%, Lag= 2.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.03 fps, Min. Travel Time= 1.1 min
Avg. Velocity = 1.60 fps, Avg. Travel Time= 3.5 min

Peak Storage= 526 cf @ 12.10 hrs
Average Depth at Peak Storage= 1.07'
Bank-Full Depth= 1.75' Flow Area= 2.4 sf, Capacity= 11.20 cfs

21.0" Round Pipe
n= 0.013
Length= 340.0' Slope= 0.0050 '/'
Inlet Invert= 97.05', Outlet Invert= 95.35'



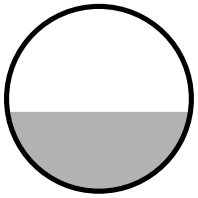
Summary for Reach 4R: 12" RCP

Inflow Area = 7,177 sf, 84.14% Impervious, Inflow Depth > 4.90" for 25 Year Event event
Inflow = 0.88 cfs @ 12.07 hrs, Volume= 2,930 cf
Outflow = 0.82 cfs @ 12.12 hrs, Volume= 2,926 cf, Atten= 7%, Lag= 2.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.67 fps, Min. Travel Time= 1.5 min
Avg. Velocity = 0.89 fps, Avg. Travel Time= 4.5 min

Peak Storage= 77 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.43'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 2.25 cfs

12.0" Round Pipe
n= 0.013
Length= 240.0' Slope= 0.0040 '/'
Inlet Invert= 98.01', Outlet Invert= 97.05'



Summary for Reach 5R: Overflow

Inflow Area = 10,500 sf,100.00% Impervious, Inflow Depth = 1.02" for 25 Year Event event
Inflow = 0.88 cfs @ 12.20 hrs, Volume= 889 cf
Outflow = 0.88 cfs @ 12.20 hrs, Volume= 889 cf, Atten= 0%, Lag= 0.0 min

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

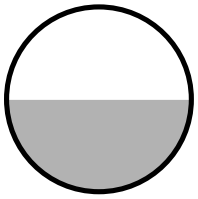
Summary for Reach 6R: 21" RCP

Inflow Area = 106,055 sf, 32.30% Impervious, Inflow Depth > 3.18" for 25 Year Event event
Inflow = 8.73 cfs @ 12.08 hrs, Volume= 28,124 cf
Outflow = 8.70 cfs @ 12.08 hrs, Volume= 28,119 cf, Atten= 0%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.31 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 2.62 fps, Avg. Travel Time= 0.5 min

Peak Storage= 95 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.87'
Bank-Full Depth= 1.75' Flow Area= 2.4 sf, Capacity= 17.72 cfs

21.0" Round Pipe
n= 0.013
Length= 80.0' Slope= 0.0125 '/'
Inlet Invert= 95.00', Outlet Invert= 94.00'



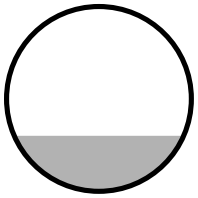
Summary for Reach 7R: 18" RCP

Inflow Area = 106,055 sf, 32.30% Impervious, Inflow Depth > 2.29" for 25 Year Event event
Inflow = 3.74 cfs @ 12.33 hrs, Volume= 20,238 cf
Outflow = 3.74 cfs @ 12.33 hrs, Volume= 20,238 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.41 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 3.42 fps, Avg. Travel Time= 0.3 min

Peak Storage= 27 cf @ 12.32 hrs
Average Depth at Peak Storage= 0.45'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 19.18 cfs

18.0" Round Pipe
n= 0.013
Length= 60.0' Slope= 0.0333 '/'
Inlet Invert= 92.00', Outlet Invert= 90.00'



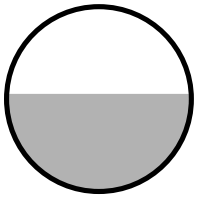
Summary for Reach 8R: 18" RCP

Inflow Area = 38,003 sf, 53.71% Impervious, Inflow Depth > 4.13" for 25 Year Event event
Inflow = 4.15 cfs @ 12.07 hrs, Volume= 13,089 cf
Outflow = 4.01 cfs @ 12.10 hrs, Volume= 13,080 cf, Atten= 3%, Lag= 1.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.35 fps, Min. Travel Time= 0.8 min
Avg. Velocity = 1.50 fps, Avg. Travel Time= 2.3 min

Peak Storage= 193 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.79'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 7.54 cfs

18.0" Round Pipe
n= 0.013
Length= 204.0' Slope= 0.0051 '/'
Inlet Invert= 95.35', Outlet Invert= 94.30'



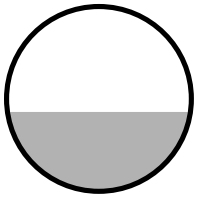
Summary for Reach 9R: 18" RCP

Inflow Area = 38,003 sf, 53.71% Impervious, Inflow Depth > 4.13" for 25 Year Event event
Inflow = 4.01 cfs @ 12.10 hrs, Volume= 13,080 cf
Outflow = 3.99 cfs @ 12.10 hrs, Volume= 13,079 cf, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.54 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.89 fps, Avg. Travel Time= 0.3 min

Peak Storage= 22 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.64'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 10.50 cfs

18.0" Round Pipe
n= 0.013
Length= 30.0' Slope= 0.0100 '/'
Inlet Invert= 94.20', Outlet Invert= 93.90'



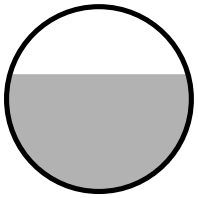
Summary for Reach 10R: 24" RCP

Inflow Area = 169,713 sf, 43.61% Impervious, Inflow Depth > 3.54" for 25 Year Event event
Inflow = 15.20 cfs @ 12.09 hrs, Volume= 50,043 cf
Outflow = 15.12 cfs @ 12.10 hrs, Volume= 50,033 cf, Atten= 1%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.25 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 2.52 fps, Avg. Travel Time= 0.6 min

Peak Storage= 200 cf @ 12.09 hrs
Average Depth at Peak Storage= 1.27'
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 20.89 cfs

24.0" Round Pipe
n= 0.013
Length= 95.0' Slope= 0.0085 '/'
Inlet Invert= 93.61', Outlet Invert= 92.80'



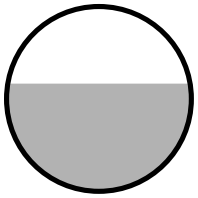
Summary for Reach 11R: 15" RCP

Inflow Area = 36,008 sf, 47.81% Impervious, Inflow Depth > 3.80" for 25 Year Event event
Inflow = 3.61 cfs @ 12.07 hrs, Volume= 11,412 cf
Outflow = 3.48 cfs @ 12.10 hrs, Volume= 11,403 cf, Atten= 4%, Lag= 1.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.83 fps, Min. Travel Time= 0.8 min
Avg. Velocity = 1.70 fps, Avg. Travel Time= 2.4 min

Peak Storage= 178 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.73'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 5.59 cfs

15.0" Round Pipe
n= 0.013
Length= 240.0' Slope= 0.0075 '/'
Inlet Invert= 96.16', Outlet Invert= 94.36'



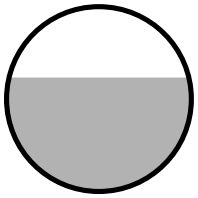
Summary for Reach 12R: 24" RCP

Inflow Area = 176,232 sf, 44.97% Impervious, Inflow Depth > 3.58" for 25 Year Event event
Inflow = 15.80 cfs @ 12.10 hrs, Volume= 52,629 cf
Outflow = 15.78 cfs @ 12.10 hrs, Volume= 52,627 cf, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.79 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.52 fps, Avg. Travel Time= 0.1 min

Peak Storage= 41 cf @ 12.10 hrs
Average Depth at Peak Storage= 1.23'
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 22.62 cfs

24.0" Round Pipe
n= 0.013
Length= 20.0' Slope= 0.0100 '/'
Inlet Invert= 92.80', Outlet Invert= 92.60'



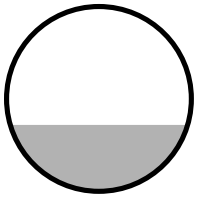
Summary for Reach 13R: 12" RCP

Inflow Area = 6,519 sf, 80.29% Impervious, Inflow Depth > 4.79" for 25 Year Event event
Inflow = 0.79 cfs @ 12.07 hrs, Volume= 2,600 cf
Outflow = 0.73 cfs @ 12.14 hrs, Volume= 2,595 cf, Atten= 8%, Lag= 3.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.00 fps, Min. Travel Time= 2.0 min
Avg. Velocity = 1.00 fps, Avg. Travel Time= 6.1 min

Peak Storage= 92 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.36'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 2.77 cfs

12.0" Round Pipe
n= 0.013
Length= 365.0' Slope= 0.0060 '/'
Inlet Invert= 95.00', Outlet Invert= 92.80'



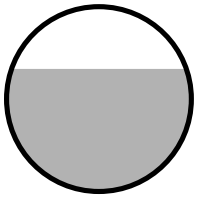
Summary for Reach 14R: 21" RCP

Inflow Area = 176,232 sf, 44.97% Impervious, Inflow Depth > 3.36" for 25 Year Event event
Inflow = 10.04 cfs @ 12.22 hrs, Volume= 49,283 cf
Outflow = 10.04 cfs @ 12.22 hrs, Volume= 49,280 cf, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.94 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.12 fps, Avg. Travel Time= 0.2 min

Peak Storage= 51 cf @ 12.22 hrs
Average Depth at Peak Storage= 1.16'
Bank-Full Depth= 1.75' Flow Area= 2.4 sf, Capacity= 12.94 cfs

21.0" Round Pipe
n= 0.013
Length= 30.0' Slope= 0.0067 '/'
Inlet Invert= 92.20', Outlet Invert= 92.00'



Summary for Reach 15R: Overflow

Inflow Area = 7,500 sf,100.00% Impervious, Inflow Depth = 1.02" for 25 Year Event event
Inflow = 0.63 cfs @ 12.20 hrs, Volume= 635 cf
Outflow = 0.63 cfs @ 12.20 hrs, Volume= 635 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Reach 16R: 16R

Inflow Area = 59,622 sf, 26.75% Impervious, Inflow Depth > 2.96" for 25 Year Event event
Inflow = 4.40 cfs @ 12.08 hrs, Volume= 14,723 cf
Outflow = 4.40 cfs @ 12.08 hrs, Volume= 14,723 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Reach 17R: Overflow

Inflow Area = 15,000 sf,100.00% Impervious, Inflow Depth = 1.02" for 25 Year Event event
Inflow = 1.25 cfs @ 12.20 hrs, Volume= 1,270 cf
Outflow = 1.25 cfs @ 12.20 hrs, Volume= 1,270 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Reach 18R: DESIGN POINT #1

Inflow Area = 239,243 sf, 38.50% Impervious, Inflow Depth > 2.45" for 25 Year Event event
Inflow = 8.81 cfs @ 12.33 hrs, Volume= 48,850 cf
Outflow = 8.81 cfs @ 12.33 hrs, Volume= 48,850 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Reach 19R: DESIGN POINT #2

Inflow Area = 407,195 sf, 27.77% Impervious, Inflow Depth > 3.02" for 25 Year Event event
Inflow = 23.88 cfs @ 12.17 hrs, Volume= 102,357 cf
Outflow = 23.88 cfs @ 12.17 hrs, Volume= 102,357 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Reach 63R: Overflow

Inflow Area = 6,000 sf,100.00% Impervious, Inflow Depth = 1.02" for 25 Year Event event
Inflow = 0.50 cfs @ 12.20 hrs, Volume= 508 cf
Outflow = 0.50 cfs @ 12.20 hrs, Volume= 508 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Pond 1P: POND #1

Inflow Area = 126,760 sf, 43.03% Impervious, Inflow Depth > 3.62" for 25 Year Event event
Inflow = 11.26 cfs @ 12.10 hrs, Volume= 38,279 cf
Outflow = 5.10 cfs @ 12.33 hrs, Volume= 35,141 cf, Atten= 55%, Lag= 13.8 min
Discarded = 0.13 cfs @ 8.90 hrs, Volume= 7,418 cf
Primary = 4.97 cfs @ 12.33 hrs, Volume= 27,724 cf

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

Peak Elev= 97.64' @ 12.33 hrs Surf.Area= 5,325 sf Storage= 11,919 cf

Plug-Flow detention time= 88.1 min calculated for 35,068 cf (92% of inflow)
Center-of-Mass det. time= 47.1 min (852.8 - 805.7)

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'	**1.020 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.13 cfs @ 8.90 hrs HW=95.44' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.13 cfs)

Primary OutFlow Max=4.97 cfs @ 12.33 hrs HW=97.64' (Free Discharge)
├**1=Orifice/Grate** (Orifice Controls 1.99 cfs @ 5.70 fps)
└**2=Orifice/Grate** (Orifice Controls 2.98 cfs @ 4.51 fps)

Summary for Pond 2P: POND #2

Inflow Area = 106,055 sf, 32.30% Impervious, Inflow Depth > 3.18" for 25 Year Event event
Inflow = 8.70 cfs @ 12.08 hrs, Volume= 28,119 cf
Outflow = 3.86 cfs @ 12.33 hrs, Volume= 26,971 cf, Atten= 56%, Lag= 14.6 min
Discarded = 0.12 cfs @ 9.55 hrs, Volume= 6,733 cf
Primary = 3.74 cfs @ 12.33 hrs, Volume= 20,238 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 96.33' @ 12.33 hrs Surf.Area= 5,143 sf Storage= 7,909 cf

Plug-Flow detention time= 62.6 min calculated for 26,971 cf (96% of inflow)
Center-of-Mass det. time= 39.8 min (853.8 - 814.1)

Volume	Invert	Avail.Storage	Storage Description
#1	94.00'	4,866 cf	**Custom Stage Data (Irregular)**Listed below 18,001 cf Overall - 5,834 cf Embedded = 12,166 cf x 40.0% Voids
#2	94.50'	5,834 cf	**StormTech SC-740** x 127 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
		10,701 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
94.00	5,143	340.0	0	0	5,143
97.50	5,143	340.0	18,001	18,001	6,333

Device	Routing	Invert	Outlet Devices
#1	Primary	94.50'	**8.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	95.00'	**8.0" Vert. Orifice/Grate** C= 0.600
#3	Discarded	94.00'	**1.020 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.12 cfs @ 9.55 hrs HW=94.04' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.12 cfs)

Primary OutFlow Max=3.73 cfs @ 12.33 hrs HW=96.33' (Free Discharge)
├**1=Orifice/Grate** (Orifice Controls 2.06 cfs @ 5.89 fps)
└**2=Orifice/Grate** (Orifice Controls 1.68 cfs @ 4.81 fps)

Summary for Pond 3P: POND #3

Inflow Area = 176,232 sf, 44.97% Impervious, Inflow Depth > 3.58" for 25 Year Event event
Inflow = 15.78 cfs @ 12.10 hrs, Volume= 52,627 cf
Outflow = 10.13 cfs @ 12.22 hrs, Volume= 52,280 cf, Atten= 36%, Lag= 7.4 min
Discarded = 0.08 cfs @ 12.22 hrs, Volume= 2,997 cf
Primary = 10.04 cfs @ 12.22 hrs, Volume= 49,283 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 95.89' @ 12.22 hrs Surf.Area= 3,410 sf Storage= 8,539 cf

Plug-Flow detention time= 18.5 min calculated for 52,171 cf (99% of inflow)
Center-of-Mass det. time= 14.4 min (819.3 - 804.9)

Volume	Invert	Avail.Storage	Storage Description
#1	92.60'	12,626 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)
92.60	1,778	214.0	0	0	1,778
93.00	1,995	220.0	754	754	2,003
94.00	2,466	237.0	2,226	2,981	2,662
95.00	2,953	250.0	2,706	5,686	3,221
96.00	3,467	263.0	3,207	8,893	3,811
97.00	4,005	275.0	3,733	12,626	4,391

Device	Routing	Invert	Outlet Devices
#1	Primary	92.60'	**10.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	94.00'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 4.0' Crest Height
#3	Discarded	92.60'	**1.020 in/hr Exfiltration over Horizontal area** Conductivity to Groundwater Elevation = 0.00'

Discarded OutFlow Max=0.08 cfs @ 12.22 hrs HW=95.87' (Free Discharge)
└**3=Exfiltration** (Controls 0.08 cfs)

Primary OutFlow Max=9.97 cfs @ 12.22 hrs HW=95.87' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 4.44 cfs @ 8.13 fps)
└**2=Sharp-Crested Rectangular Weir** (Weir Controls 5.54 cfs @ 4.73 fps)

Summary for Pond PE: RC

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= 1,474 cf
Outflow = 0.07 cfs @ 12.54 hrs, Volume= 1,052 cf, Atten= 83%, Lag= 28.0 min
Discarded = 0.02 cfs @ 10.85 hrs, Volume= 904 cf
Primary = 0.06 cfs @ 12.54 hrs, Volume= 147 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 93.65' @ 12.54 hrs Surf.Area= 200 sf Storage= 659 cf

Plug-Flow detention time= 234.9 min calculated for 1,050 cf (71% of inflow)
Center-of-Mass det. time= 142.6 min (887.5 - 744.9)

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'	**2.160 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.02 cfs @ 10.85 hrs HW=91.00' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.06 cfs @ 12.54 hrs HW=93.64' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.06 cfs @ 1.29 fps)

Summary for Link 3A: Lot 3A

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.02" for 25 Year Event event
Inflow = 0.13 cfs @ 12.20 hrs, Volume= 127 cf
Primary = 0.13 cfs @ 12.20 hrs, Volume= 127 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 4A: Lot 4a

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.02" for 25 Year Event event
Inflow = 0.13 cfs @ 12.20 hrs, Volume= 127 cf
Primary = 0.13 cfs @ 12.20 hrs, Volume= 127 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 5A: Lot 5

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.02" for 25 Year Event event
Inflow = 0.13 cfs @ 12.20 hrs, Volume= 127 cf
Primary = 0.13 cfs @ 12.20 hrs, Volume= 127 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 6a: Lot 6

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.02" for 25 Year Event event
Inflow = 0.13 cfs @ 12.20 hrs, Volume= 127 cf
Primary = 0.13 cfs @ 12.20 hrs, Volume= 127 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 7A: Lot 7

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.02" for 25 Year Event event
Inflow = 0.13 cfs @ 12.20 hrs, Volume= 127 cf
Primary = 0.13 cfs @ 12.20 hrs, Volume= 127 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 8b: Lot 8

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.02" for 25 Year Event event
Inflow = 0.13 cfs @ 12.20 hrs, Volume= 127 cf
Primary = 0.13 cfs @ 12.20 hrs, Volume= 127 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 9a: Lot 9

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.02" for 25 Year Event event
Inflow = 0.13 cfs @ 12.20 hrs, Volume= 127 cf
Primary = 0.13 cfs @ 12.20 hrs, Volume= 127 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 10a: Lot 10

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.02" for 25 Year Event event
Inflow = 0.13 cfs @ 12.20 hrs, Volume= 127 cf
Primary = 0.13 cfs @ 12.20 hrs, Volume= 127 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 11a: Lot 11

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.02" for 25 Year Event event
Inflow = 0.13 cfs @ 12.20 hrs, Volume= 127 cf
Primary = 0.13 cfs @ 12.20 hrs, Volume= 127 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 12: Lot 12

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.02" for 25 Year Event event
Inflow = 0.13 cfs @ 12.20 hrs, Volume= 127 cf
Primary = 0.13 cfs @ 12.20 hrs, Volume= 127 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 13: Lot 13

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.02" for 25 Year Event event
Inflow = 0.13 cfs @ 12.20 hrs, Volume= 127 cf
Primary = 0.13 cfs @ 12.20 hrs, Volume= 127 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 14: Lot 14

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.02" for 25 Year Event event
Inflow = 0.13 cfs @ 12.20 hrs, Volume= 127 cf
Primary = 0.13 cfs @ 12.20 hrs, Volume= 127 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 15: Lot 15

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.02" for 25 Year Event event
Inflow = 0.13 cfs @ 12.20 hrs, Volume= 127 cf
Primary = 0.13 cfs @ 12.20 hrs, Volume= 127 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 16: Lot 16

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.02" for 25 Year Event event
Inflow = 0.13 cfs @ 12.20 hrs, Volume= 127 cf
Primary = 0.13 cfs @ 12.20 hrs, Volume= 127 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 17: Lot 17

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.02" for 25 Year Event event
Inflow = 0.13 cfs @ 12.20 hrs, Volume= 127 cf
Primary = 0.13 cfs @ 12.20 hrs, Volume= 127 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 18: Lot 18

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.02" for 25 Year Event event
Inflow = 0.13 cfs @ 12.20 hrs, Volume= 127 cf
Primary = 0.13 cfs @ 12.20 hrs, Volume= 127 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 19: Lot 19

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.02" for 25 Year Event event
Inflow = 0.13 cfs @ 12.20 hrs, Volume= 127 cf
Primary = 0.13 cfs @ 12.20 hrs, Volume= 127 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 20: Lot 20

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.02" for 25 Year Event event
Inflow = 0.13 cfs @ 12.20 hrs, Volume= 127 cf
Primary = 0.13 cfs @ 12.20 hrs, Volume= 127 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 21: Lot 21

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.02" for 25 Year Event event
Inflow = 0.13 cfs @ 12.20 hrs, Volume= 127 cf
Primary = 0.13 cfs @ 12.20 hrs, Volume= 127 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 22: Lot 22

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.02" for 25 Year Event event
Inflow = 0.13 cfs @ 12.20 hrs, Volume= 127 cf
Primary = 0.13 cfs @ 12.20 hrs, Volume= 127 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 23A: Lot 23A

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.02" for 25 Year Event event
Inflow = 0.13 cfs @ 12.20 hrs, Volume= 127 cf
Primary = 0.13 cfs @ 12.20 hrs, Volume= 127 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 24A: Lot 24A

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.02" for 25 Year Event event
Inflow = 0.13 cfs @ 12.20 hrs, Volume= 127 cf
Primary = 0.13 cfs @ 12.20 hrs, Volume= 127 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 25: Lot 25

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.02" for 25 Year Event event
Inflow = 0.13 cfs @ 12.20 hrs, Volume= 127 cf
Primary = 0.13 cfs @ 12.20 hrs, Volume= 127 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 26: Lot 26

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.02" for 25 Year Event event
Inflow = 0.13 cfs @ 12.20 hrs, Volume= 127 cf
Primary = 0.13 cfs @ 12.20 hrs, Volume= 127 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 27A: Lot 27A

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.02" for 25 Year Event event
Inflow = 0.13 cfs @ 12.20 hrs, Volume= 127 cf
Primary = 0.13 cfs @ 12.20 hrs, Volume= 127 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 28A: Lot 28A

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.02" for 25 Year Event event
Inflow = 0.13 cfs @ 12.20 hrs, Volume= 127 cf
Primary = 0.13 cfs @ 12.20 hrs, Volume= 127 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 29A: Lot 29A

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.02" for 25 Year Event event
Inflow = 0.13 cfs @ 12.20 hrs, Volume= 127 cf
Primary = 0.13 cfs @ 12.20 hrs, Volume= 127 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 32: Lot 32

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.02" for 25 Year Event event
Inflow = 0.13 cfs @ 12.20 hrs, Volume= 127 cf
Primary = 0.13 cfs @ 12.20 hrs, Volume= 127 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 33: Lot 33

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.02" for 25 Year Event event
Inflow = 0.13 cfs @ 12.20 hrs, Volume= 127 cf
Primary = 0.13 cfs @ 12.20 hrs, Volume= 127 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 34: Lot 34

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.02" for 25 Year Event event
Inflow = 0.13 cfs @ 12.20 hrs, Volume= 127 cf
Primary = 0.13 cfs @ 12.20 hrs, Volume= 127 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 35: Lot 35

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.02" for 25 Year Event event
Inflow = 0.13 cfs @ 12.20 hrs, Volume= 127 cf
Primary = 0.13 cfs @ 12.20 hrs, Volume= 127 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 36: Lot 36

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.02" for 25 Year Event event
Inflow = 0.13 cfs @ 12.20 hrs, Volume= 127 cf
Primary = 0.13 cfs @ 12.20 hrs, Volume= 127 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 37: Lot 37

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.02" for 25 Year Event event
Inflow = 0.13 cfs @ 12.20 hrs, Volume= 127 cf
Primary = 0.13 cfs @ 12.20 hrs, Volume= 127 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 38: Lot 38

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.02" for 25 Year Event event
Inflow = 0.13 cfs @ 12.20 hrs, Volume= 127 cf
Primary = 0.13 cfs @ 12.20 hrs, Volume= 127 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 39: Lot 39

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.02" for 25 Year Event event
Inflow = 0.13 cfs @ 12.20 hrs, Volume= 127 cf
Primary = 0.13 cfs @ 12.20 hrs, Volume= 127 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

25 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

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

Subcatchment 1B: 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 1,803 cf

Subcatchment 2: 2P Runoff Area=76,913 sf 26.66% Impervious Runoff Depth>4.51"
Tc=5.0 min CN=80 Runoff=9.31 cfs 28,890 cf

Subcatchment 2B: 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 16,490 cf

Subcatchment 3: 3P Runoff Area=7,177 sf 84.14% Impervious Runoff Depth>6.09"
Tc=5.0 min CN=94 Runoff=1.08 cfs 3,640 cf

Subcatchment 3B: 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

Subcatchment 4P: 7 Runoff Area=156,341 sf 1.84% Impervious Runoff Depth>3.86"
Tc=10.0 min CN=74 Runoff=14.05 cfs 50,312 cf

Subcatchment 5: 5P Runoff Area=34,508 sf 45.54% Impervious Runoff Depth>5.06"
Tc=5.0 min CN=85 Runoff=4.61 cfs 14,547 cf

Subcatchment 6: 6P Runoff Area=83,702 sf 29.13% Impervious Runoff Depth>4.62"
Tc=5.0 min CN=81 Runoff=10.35 cfs 32,201 cf

Subcatchment 7: 7P Runoff Area=38,003 sf 53.71% Impervious Runoff Depth>5.28"
Tc=5.0 min CN=87 Runoff=5.24 cfs 16,732 cf

Subcatchment 8: 8P Runoff Area=6,519 sf 80.29% Impervious Runoff Depth>5.97"
Tc=5.0 min CN=93 Runoff=0.97 cfs 3,243 cf

Subcatchment 9: 9P Runoff Area=9,494 sf 87.37% Impervious Runoff Depth>6.20"
Tc=5.0 min CN=95 Runoff=1.44 cfs 4,908 cf

Subcatchment 10: 10P Runoff Area=95,555 sf 24.86% Impervious Runoff Depth>4.51"
Tc=5.0 min CN=80 Runoff=11.56 cfs 35,892 cf

Subcatchment 11: 11P Runoff Area=42,628 sf 0.36% Impervious Runoff Depth>3.87"
Tc=5.0 min CN=74 Runoff=4.44 cfs 13,732 cf

Reach 1R: 18" RCP Avg. Flow Depth=0.74' Max Vel=7.62 fps Inflow=6.58 cfs 40,205 cf
18.0" Round Pipe n=0.013 L=60.0' S=0.0167 '/' Capacity=13.56 cfs Outflow=6.59 cfs 40,203 cf

Reach 2R: 24" RCP Avg. Flow Depth=1.46' Max Vel=6.15 fps Inflow=15.15 cfs 49,933 cf
24.0" Round Pipe n=0.013 L=35.0' S=0.0057 '/' Capacity=17.10 cfs Outflow=15.07 cfs 49,929 cf

Reach 3R: 21" RCP Avg. Flow Depth=1.40' Max Vel=5.31 fps Inflow=11.42 cfs 33,474 cf
21.0" Round Pipe n=0.013 L=340.0' S=0.0050 '/' Capacity=11.20 cfs Outflow=10.42 cfs 33,443 cf

Reach 4R: 12" RCP Avg. Flow Depth=0.48' Max Vel=2.82 fps Inflow=1.08 cfs 3,640 cf
12.0" Round Pipe n=0.013 L=240.0' S=0.0040 '/' Capacity=2.25 cfs Outflow=1.01 cfs 3,636 cf

Reach 5R: Overflow Inflow=2.39 cfs 1,659 cf
Outflow=2.39 cfs 1,659 cf

Reach 6R: 21" RCP Avg. Flow Depth=1.14' Max Vel=8.10 fps Inflow=13.62 cfs 37,551 cf
21.0" Round Pipe n=0.013 L=80.0' S=0.0125 '/' Capacity=17.72 cfs Outflow=13.37 cfs 37,546 cf

Reach 7R: 18" RCP Avg. Flow Depth=0.53' Max Vel=9.18 fps Inflow=5.10 cfs 29,135 cf
18.0" Round Pipe n=0.013 L=60.0' S=0.0333 '/' Capacity=19.18 cfs Outflow=5.10 cfs 29,134 cf

Reach 8R: 18" RCP Avg. Flow Depth=0.92' Max Vel=4.59 fps Inflow=5.24 cfs 16,732 cf
18.0" Round Pipe n=0.013 L=204.0' S=0.0051 '/' Capacity=7.54 cfs Outflow=5.07 cfs 16,721 cf

Reach 9R: 18" RCP Avg. Flow Depth=0.73' Max Vel=5.89 fps Inflow=5.07 cfs 16,721 cf
18.0" Round Pipe n=0.013 L=30.0' S=0.0100 '/' Capacity=10.50 cfs Outflow=5.05 cfs 16,720 cf

Reach 10R: 24" RCP Avg. Flow Depth=1.77' Max Vel=7.51 fps Inflow=22.40 cfs 65,591 cf
24.0" Round Pipe n=0.013 L=95.0' S=0.0085 '/' Capacity=20.89 cfs Outflow=21.83 cfs 65,579 cf

Reach 11R: 15" RCP Avg. Flow Depth=0.89' Max Vel=5.12 fps Inflow=4.85 cfs 14,784 cf
15.0" Round Pipe n=0.013 L=240.0' S=0.0075 '/' Capacity=5.59 cfs Outflow=4.63 cfs 14,774 cf

Reach 12R: 24" RCP Avg. Flow Depth=1.64' Max Vel=8.21 fps Inflow=22.68 cfs 68,818 cf
24.0" Round Pipe n=0.013 L=20.0' S=0.0100 '/' Capacity=22.62 cfs Outflow=22.58 cfs 68,815 cf

Reach 13R: 12" RCP Avg. Flow Depth=0.40' Max Vel=3.18 fps Inflow=0.97 cfs 3,243 cf
12.0" Round Pipe n=0.013 L=365.0' S=0.0060 '/' Capacity=2.77 cfs Outflow=0.90 cfs 3,238 cf

Reach 14R: 21" RCP Avg. Flow Depth=1.41' Max Vel=6.13 fps Inflow=12.80 cfs 65,212 cf
21.0" Round Pipe n=0.013 L=30.0' S=0.0067 '/' Capacity=12.94 cfs Outflow=12.75 cfs 65,208 cf

Reach 15R: Overflow Inflow=1.70 cfs 1,185 cf
Outflow=1.70 cfs 1,185 cf

Reach 16R: 16R Inflow=7.43 cfs 19,825 cf
Outflow=7.43 cfs 19,825 cf

Reach 17R: Overflow Inflow=3.41 cfs 2,370 cf
Outflow=3.41 cfs 2,370 cf

Reach 18R: DESIGN POINT #1 Inflow=11.68 cfs 69,337 cf
Outflow=11.68 cfs 69,337 cf

Reach 19R: DESIGN POINT #2 Inflow=34.75 cfs 137,715 cf
Outflow=34.75 cfs 137,715 cf

Reach 63R: Overflow Inflow=1.36 cfs 948 cf
Outflow=1.36 cfs 948 cf

Pond 1P: POND #1 Peak Elev=98.25' Storage=15,197 cf Inflow=15.07 cfs 49,929 cf
Discarded=0.13 cfs 7,789 cf Primary=6.27 cfs 38,794 cf Outflow=6.40 cfs 46,583 cf

Pond 2P: POND #2 Peak Elev=97.39' Storage=10,473 cf Inflow=13.37 cfs 37,546 cf
Discarded=0.12 cfs 7,066 cf Primary=5.10 cfs 29,135 cf Outflow=5.22 cfs 36,201 cf

Pond 3P: POND #3 Peak Elev=96.68' Storage=11,448 cf Inflow=22.58 cfs 68,815 cf
Discarded=0.09 cfs 3,204 cf Primary=12.80 cfs 65,212 cf Outflow=12.90 cfs 68,415 cf

Pond PE: RC Peak Elev=93.81' Storage=673 cf Inflow=0.51 cfs 1,803 cf
Discarded=0.02 cfs 917 cf Primary=0.25 cfs 403 cf Outflow=0.26 cfs 1,321 cf

Link 100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.34 cfs 237 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.34 cfs 237 cf

Link 100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.34 cfs 237 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.34 cfs 237 cf

Link 100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.34 cfs 237 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.34 cfs 237 cf

Link 100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.34 cfs 237 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.34 cfs 237 cf

Link 100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.34 cfs 237 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.34 cfs 237 cf

Link 100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.34 cfs 237 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.34 cfs 237 cf

Link 100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.34 cfs 237 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.34 cfs 237 cf

Link 100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.34 cfs 237 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.34 cfs 237 cf

Link 100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.34 cfs 237 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.34 cfs 237 cf

Link 100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.34 cfs 237 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.34 cfs 237 cf

Link 100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.34 cfs 237 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.34 cfs 237 cf

Link 100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.34 cfs 237 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.34 cfs 237 cf

Link 100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.34 cfs 237 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.34 cfs 237 cf

Link 100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.34 cfs 237 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.34 cfs 237 cf

100 Year EveLinkrimary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.34 cfs 237 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.34 cfs 237 cf

100 Year EveLinkrimary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.34 cfs 237 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.34 cfs 237 cf

100 Year EveLinkrimary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.34 cfs 237 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.34 cfs 237 cf

100 Year EveLinkrimary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.34 cfs 237 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.34 cfs 237 cf

100 Year EveLinkrimary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.34 cfs 237 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.34 cfs 237 cf

100 Year EveLinkrimary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.34 cfs 237 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.34 cfs 237 cf

100 Year EveLinkrimary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.34 cfs 237 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.34 cfs 237 cf

100 Year EveLinkrimary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.34 cfs 237 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.34 cfs 237 cf

100 Year EveLinkrimary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.34 cfs 237 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.34 cfs 237 cf

100 Year EveLinkrimary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.34 cfs 237 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.34 cfs 237 cf

100 Year EveLinkrimary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.34 cfs 237 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.34 cfs 237 cf

100 Year EveLinkrimary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.34 cfs 237 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.34 cfs 237 cf

100 Year EveLinkrimary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.34 cfs 237 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.34 cfs 237 cf

100 Year EveLinkrimary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.34 cfs 237 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.34 cfs 237 cf

100 Year EveLinkrimary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.34 cfs 237 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.34 cfs 237 cf

100 Year EveLinkrimary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.34 cfs 237 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.34 cfs 237 cf

100 Year EveLinkrimary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.34 cfs 237 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.34 cfs 237 cf

100 Year EveLinkrimary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.34 cfs 237 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.34 cfs 237 cf

Link 100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.34 cfs 237 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.34 cfs 237 cf

Link 100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.34 cfs 237 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.34 cfs 237 cf

Link 100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce Inflow=0.34 cfs 237 cf
Area= 1,500 sf 100.00% Imperv. Primary=0.34 cfs 237 cf

Summary for Subcatchment 1B: Ex. Bank Roof

Runoff = 0.51 cfs @ 12.07 hrs, Volume= 1,803 cf, Depth> 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 2: 2P

Runoff = 9.31 cfs @ 12.07 hrs, Volume= 28,890 cf, Depth> 4.51"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	1,675	98	Exisitng houses
	56,411	74	>75% Grass cover, Good, HSG C
*	17,914	98	Roadway
*	913	98	Sidewalks
	76,913	80	Weighted Average
	56,411		73.34% Pervious Area
	20,502		26.66% 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= 16,490 cf, Depth> 5.40"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 3: 3P

Runoff = 1.08 cfs @ 12.07 hrs, Volume= 3,640 cf, Depth> 6.09"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	1,158	98	sidewalks
*	4,881	98	Roadway
*	1,138	74	Lawn
	7,177	94	Weighted Average
	1,138		15.86% Pervious Area
	6,039		84.14% Impervious Area

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

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= 0.00-24.00 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 4P: 7

Runoff = 14.05 cfs @ 12.14 hrs, Volume= 50,312 cf, Depth> 3.86"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	2,871	98	exisitng houses
	89,300	74	>75% Grass cover, Good, HSG C
	64,170	73	Woods, Fair, HSG C
	156,341	74	Weighted Average
	153,470		98.16% Pervious Area
	2,871		1.84% Impervious Area

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

Summary for Subcatchment 5: 5P

Runoff = 4.61 cfs @ 12.07 hrs, Volume= 14,547 cf, Depth> 5.06"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	13,584	98	roadway
*	2,131	98	sidewalk
*	18,793	74	lawn
	34,508	85	Weighted Average
	18,793		54.46% Pervious Area
	15,715		45.54% Impervious Area

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

Summary for Subcatchment 6: 6P

Runoff = 10.35 cfs @ 12.07 hrs, Volume= 32,201 cf, Depth> 4.62"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	24,384	98	Roadway
*	3,217	74	Sidewalk
*	56,101	74	Lawn
	83,702	81	Weighted Average
	59,318		70.87% Pervious Area
	24,384		29.13% Impervious Area

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

Summary for Subcatchment 7: 7P

Runoff = 5.24 cfs @ 12.07 hrs, Volume= 16,732 cf, Depth> 5.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	18,289	98	Roadway
*	2,124	98	Sidewalks
*	17,590	74	lawn
	38,003	87	Weighted Average
	17,590		46.29% Pervious Area
	20,413		53.71% Impervious Area

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

Summary for Subcatchment 8: 8P

Runoff = 0.97 cfs @ 12.07 hrs, Volume= 3,243 cf, Depth> 5.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	4,366	98	roadway
*	868	98	sidewalks
*	1,285	74	Lawn
	6,519	93	Weighted Average
	1,285		19.71% Pervious Area
	5,234		80.29% Impervious Area

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

Summary for Subcatchment 9: 9P

Runoff = 1.44 cfs @ 12.07 hrs, Volume= 4,908 cf, Depth> 6.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	7,082	98	rdwy
*	1,213	98	sidewalks
*	1,199	74	grass
	9,494	95	Weighted Average
	1,199		12.63% Pervious Area
	8,295		87.37% Impervious Area

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

Summary for Subcatchment 10: 10P

Runoff = 11.56 cfs @ 12.07 hrs, Volume= 35,892 cf, Depth> 4.51"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	1,136	98	existing houses
*	2,378	98	sidewalks
*	20,243	98	Roadway
*	71,798	74	Lawn
	95,555	80	Weighted Average
	71,798		75.14% Pervious Area
	23,757		24.86% Impervious Area

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

Summary for Subcatchment 11: 11P

Runoff = 4.44 cfs @ 12.08 hrs, Volume= 13,732 cf, Depth> 3.87"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	42,474	74	Lawn
*	154	98	Exist House
	42,628	74	Weighted Average
	42,474		99.64% Pervious Area
	154		0.36% Impervious Area

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

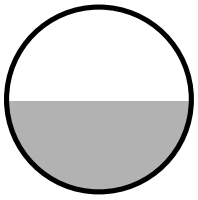
Summary for Reach 1R: 18" RCP

Inflow Area = 133,188 sf, 43.43% Impervious, Inflow Depth > 3.62" for 100 Year Event event
Inflow = 6.58 cfs @ 12.28 hrs, Volume= 40,205 cf
Outflow = 6.59 cfs @ 12.30 hrs, Volume= 40,203 cf, Atten= 0%, Lag= 1.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.62 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.97 fps, Avg. Travel Time= 0.3 min

Peak Storage= 52 cf @ 12.29 hrs
Average Depth at Peak Storage= 0.74'
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'



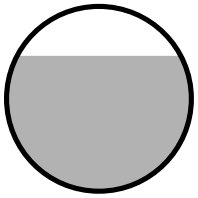
Summary for Reach 2R: 24" RCP

Inflow Area = 126,760 sf, 43.03% Impervious, Inflow Depth > 4.73" for 100 Year Event event
Inflow = 15.15 cfs @ 12.10 hrs, Volume= 49,933 cf
Outflow = 15.07 cfs @ 12.11 hrs, Volume= 49,929 cf, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.15 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.03 fps, Avg. Travel Time= 0.3 min

Peak Storage= 86 cf @ 12.10 hrs
Average Depth at Peak Storage= 1.46'
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'



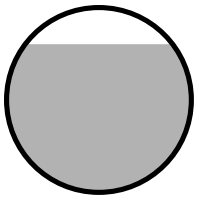
Summary for Reach 3R: 21" RCP

Inflow Area = 90,090 sf, 36.12% Impervious, Inflow Depth > 4.46" for 100 Year Event event
Inflow = 11.42 cfs @ 12.09 hrs, Volume= 33,474 cf
Outflow = 10.42 cfs @ 12.12 hrs, Volume= 33,443 cf, Atten= 9%, Lag= 1.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.31 fps, Min. Travel Time= 1.1 min
Avg. Velocity = 1.72 fps, Avg. Travel Time= 3.3 min

Peak Storage= 702 cf @ 12.10 hrs
Average Depth at Peak Storage= 1.40'
Bank-Full Depth= 1.75' Flow Area= 2.4 sf, Capacity= 11.20 cfs

21.0" Round Pipe
n= 0.013
Length= 340.0' Slope= 0.0050 '/'
Inlet Invert= 97.05', Outlet Invert= 95.35'



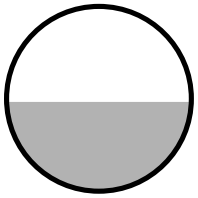
Summary for Reach 4R: 12" RCP

Inflow Area = 7,177 sf, 84.14% Impervious, Inflow Depth > 6.09" for 100 Year Event event
Inflow = 1.08 cfs @ 12.07 hrs, Volume= 3,640 cf
Outflow = 1.01 cfs @ 12.12 hrs, Volume= 3,636 cf, Atten= 6%, Lag= 2.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.82 fps, Min. Travel Time= 1.4 min
Avg. Velocity = 0.95 fps, Avg. Travel Time= 4.2 min

Peak Storage= 90 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.48'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 2.25 cfs

12.0" Round Pipe
n= 0.013
Length= 240.0' Slope= 0.0040 '/'
Inlet Invert= 98.01', Outlet Invert= 97.05'



Summary for Reach 5R: Overflow

Inflow Area = 10,500 sf,100.00% Impervious, Inflow Depth = 1.90" for 100 Year Event event
Inflow = 2.39 cfs @ 12.10 hrs, Volume= 1,659 cf
Outflow = 2.39 cfs @ 12.10 hrs, Volume= 1,659 cf, Atten= 0%, Lag= 0.0 min

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

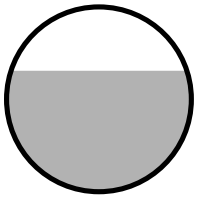
Summary for Reach 6R: 21" RCP

Inflow Area = 106,055 sf, 32.30% Impervious, Inflow Depth > 4.25" for 100 Year Event event
Inflow = 13.62 cfs @ 12.09 hrs, Volume= 37,551 cf
Outflow = 13.37 cfs @ 12.09 hrs, Volume= 37,546 cf, Atten= 2%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.10 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 2.80 fps, Avg. Travel Time= 0.5 min

Peak Storage= 133 cf @ 12.09 hrs
Average Depth at Peak Storage= 1.14'
Bank-Full Depth= 1.75' Flow Area= 2.4 sf, Capacity= 17.72 cfs

21.0" Round Pipe
n= 0.013
Length= 80.0' Slope= 0.0125 '/'
Inlet Invert= 95.00', Outlet Invert= 94.00'



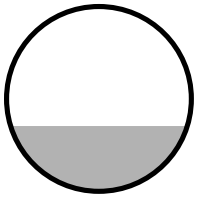
Summary for Reach 7R: 18" RCP

Inflow Area = 106,055 sf, 32.30% Impervious, Inflow Depth > 3.30" for 100 Year Event event
Inflow = 5.10 cfs @ 12.31 hrs, Volume= 29,135 cf
Outflow = 5.10 cfs @ 12.31 hrs, Volume= 29,134 cf, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.18 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 3.87 fps, Avg. Travel Time= 0.3 min

Peak Storage= 33 cf @ 12.31 hrs
Average Depth at Peak Storage= 0.53'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 19.18 cfs

18.0" Round Pipe
n= 0.013
Length= 60.0' Slope= 0.0333 '/'
Inlet Invert= 92.00', Outlet Invert= 90.00'



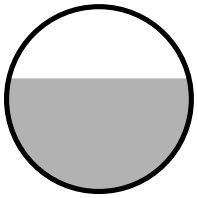
Summary for Reach 8R: 18" RCP

Inflow Area = 38,003 sf, 53.71% Impervious, Inflow Depth > 5.28" for 100 Year Event event
Inflow = 5.24 cfs @ 12.07 hrs, Volume= 16,732 cf
Outflow = 5.07 cfs @ 12.10 hrs, Volume= 16,721 cf, Atten= 3%, Lag= 1.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.59 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 1.59 fps, Avg. Travel Time= 2.1 min

Peak Storage= 231 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.92'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 7.54 cfs

18.0" Round Pipe
n= 0.013
Length= 204.0' Slope= 0.0051 '/'
Inlet Invert= 95.35', Outlet Invert= 94.30'



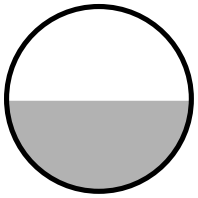
Summary for Reach 9R: 18" RCP

Inflow Area = 38,003 sf, 53.71% Impervious, Inflow Depth > 5.28" for 100 Year Event event
Inflow = 5.07 cfs @ 12.10 hrs, Volume= 16,721 cf
Outflow = 5.05 cfs @ 12.10 hrs, Volume= 16,720 cf, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.89 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.01 fps, Avg. Travel Time= 0.2 min

Peak Storage= 26 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.73'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 10.50 cfs

18.0" Round Pipe
n= 0.013
Length= 30.0' Slope= 0.0100 '/'
Inlet Invert= 94.20', Outlet Invert= 93.90'



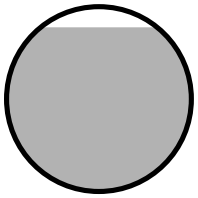
Summary for Reach 10R: 24" RCP

Inflow Area = 169,713 sf, 43.61% Impervious, Inflow Depth > 4.64" for 100 Year Event event
Inflow = 22.40 cfs @ 12.09 hrs, Volume= 65,591 cf
Outflow = 21.83 cfs @ 12.10 hrs, Volume= 65,579 cf, Atten= 3%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.51 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 2.69 fps, Avg. Travel Time= 0.6 min

Peak Storage= 280 cf @ 12.10 hrs
Average Depth at Peak Storage= 1.77'
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 20.89 cfs

24.0" Round Pipe
n= 0.013
Length= 95.0' Slope= 0.0085 '/'
Inlet Invert= 93.61', Outlet Invert= 92.80'



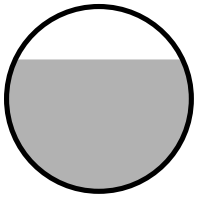
Summary for Reach 11R: 15" RCP

Inflow Area = 36,008 sf, 47.81% Impervious, Inflow Depth > 4.93" for 100 Year Event event
Inflow = 4.85 cfs @ 12.08 hrs, Volume= 14,784 cf
Outflow = 4.63 cfs @ 12.10 hrs, Volume= 14,774 cf, Atten= 4%, Lag= 1.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.12 fps, Min. Travel Time= 0.8 min
Avg. Velocity = 1.80 fps, Avg. Travel Time= 2.2 min

Peak Storage= 225 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.89'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 5.59 cfs

15.0" Round Pipe
n= 0.013
Length= 240.0' Slope= 0.0075 '/'
Inlet Invert= 96.16', Outlet Invert= 94.36'



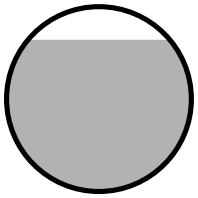
Summary for Reach 12R: 24" RCP

Inflow Area = 176,232 sf, 44.97% Impervious, Inflow Depth > 4.69" for 100 Year Event event
Inflow = 22.68 cfs @ 12.10 hrs, Volume= 68,818 cf
Outflow = 22.58 cfs @ 12.10 hrs, Volume= 68,815 cf, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.21 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.71 fps, Avg. Travel Time= 0.1 min

Peak Storage= 55 cf @ 12.10 hrs
Average Depth at Peak Storage= 1.64'
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 22.62 cfs

24.0" Round Pipe
n= 0.013
Length= 20.0' Slope= 0.0100 '/'
Inlet Invert= 92.80', Outlet Invert= 92.60'



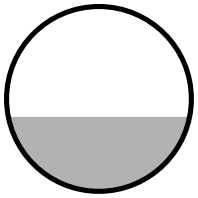
Summary for Reach 13R: 12" RCP

Inflow Area = 6,519 sf, 80.29% Impervious, Inflow Depth > 5.97" for 100 Year Event event
Inflow = 0.97 cfs @ 12.07 hrs, Volume= 3,243 cf
Outflow = 0.90 cfs @ 12.13 hrs, Volume= 3,238 cf, Atten= 8%, Lag= 3.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.18 fps, Min. Travel Time= 1.9 min
Avg. Velocity = 1.06 fps, Avg. Travel Time= 5.7 min

Peak Storage= 108 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.40'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 2.77 cfs

12.0" Round Pipe
n= 0.013
Length= 365.0' Slope= 0.0060 '/'
Inlet Invert= 95.00', Outlet Invert= 92.80'



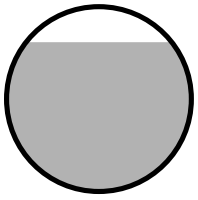
Summary for Reach 14R: 21" RCP

Inflow Area = 176,232 sf, 44.97% Impervious, Inflow Depth > 4.44" for 100 Year Event event
Inflow = 12.80 cfs @ 12.22 hrs, Volume= 65,212 cf
Outflow = 12.75 cfs @ 12.23 hrs, Volume= 65,208 cf, Atten= 0%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.13 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.29 fps, Avg. Travel Time= 0.2 min

Peak Storage= 62 cf @ 12.23 hrs
Average Depth at Peak Storage= 1.41'
Bank-Full Depth= 1.75' Flow Area= 2.4 sf, Capacity= 12.94 cfs

21.0" Round Pipe
n= 0.013
Length= 30.0' Slope= 0.0067 '/'
Inlet Invert= 92.20', Outlet Invert= 92.00'



Summary for Reach 15R: Overflow

Inflow Area = 7,500 sf,100.00% Impervious, Inflow Depth = 1.90" for 100 Year Event event
Inflow = 1.70 cfs @ 12.10 hrs, Volume= 1,185 cf
Outflow = 1.70 cfs @ 12.10 hrs, Volume= 1,185 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Reach 16R: 16R

Inflow Area = 59,622 sf, 26.75% Impervious, Inflow Depth > 3.99" for 100 Year Event event
Inflow = 7.43 cfs @ 12.09 hrs, Volume= 19,825 cf
Outflow = 7.43 cfs @ 12.09 hrs, Volume= 19,825 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Reach 17R: Overflow

Inflow Area = 15,000 sf,100.00% Impervious, Inflow Depth = 1.90" for 100 Year Event event
Inflow = 3.41 cfs @ 12.10 hrs, Volume= 2,370 cf
Outflow = 3.41 cfs @ 12.10 hrs, Volume= 2,370 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Reach 18R: DESIGN POINT #1

Inflow Area = 239,243 sf, 38.50% Impervious, Inflow Depth > 3.48" for 100 Year Event event
Inflow = 11.68 cfs @ 12.30 hrs, Volume= 69,337 cf
Outflow = 11.68 cfs @ 12.30 hrs, Volume= 69,337 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Reach 19R: DESIGN POINT #2

Inflow Area = 407,195 sf, 27.77% Impervious, Inflow Depth > 4.06" for 100 Year Event event
Inflow = 34.75 cfs @ 12.11 hrs, Volume= 137,715 cf
Outflow = 34.75 cfs @ 12.11 hrs, Volume= 137,715 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Reach 63R: Overflow

Inflow Area = 6,000 sf,100.00% Impervious, Inflow Depth = 1.90" for 100 Year Event event
Inflow = 1.36 cfs @ 12.10 hrs, Volume= 948 cf
Outflow = 1.36 cfs @ 12.10 hrs, Volume= 948 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Pond 1P: POND #1

Inflow Area = 126,760 sf, 43.03% Impervious, Inflow Depth > 4.73" for 100 Year Event event
Inflow = 15.07 cfs @ 12.11 hrs, Volume= 49,929 cf
Outflow = 6.40 cfs @ 12.33 hrs, Volume= 46,583 cf, Atten= 58%, Lag= 13.7 min
Discarded = 0.13 cfs @ 8.20 hrs, Volume= 7,789 cf
Primary = 6.27 cfs @ 12.33 hrs, Volume= 38,794 cf

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

Peak Elev= 98.25' @ 12.33 hrs Surf.Area= 5,325 sf Storage= 15,197 cf

Plug-Flow detention time= 78.7 min calculated for 46,486 cf (93% of inflow)
Center-of-Mass det. time= 43.8 min (842.2 - 798.5)

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'	**1.020 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.13 cfs @ 8.20 hrs HW=95.44' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.13 cfs)

Primary OutFlow Max=6.27 cfs @ 12.33 hrs HW=98.25' (Free Discharge)
├**1=Orifice/Grate** (Orifice Controls 2.39 cfs @ 6.84 fps)
└**2=Orifice/Grate** (Orifice Controls 3.88 cfs @ 5.88 fps)

Summary for Pond 2P: POND #2

Inflow Area = 106,055 sf, 32.30% Impervious, Inflow Depth > 4.25" for 100 Year Event event
Inflow = 13.37 cfs @ 12.09 hrs, Volume= 37,546 cf
Outflow = 5.22 cfs @ 12.31 hrs, Volume= 36,201 cf, Atten= 61%, Lag= 12.7 min
Discarded = 0.12 cfs @ 8.85 hrs, Volume= 7,066 cf
Primary = 5.10 cfs @ 12.31 hrs, Volume= 29,135 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 97.39' @ 12.31 hrs Surf.Area= 5,143 sf Storage= 10,473 cf

Plug-Flow detention time= 56.7 min calculated for 36,201 cf (96% of inflow)
Center-of-Mass det. time= 36.2 min (841.8 - 805.6)

Volume	Invert	Avail.Storage	Storage Description
#1	94.00'	4,866 cf	**Custom Stage Data (Irregular)**Listed below 18,001 cf Overall - 5,834 cf Embedded = 12,166 cf x 40.0% Voids
#2	94.50'	5,834 cf	**StormTech SC-740** x 127 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
		10,701 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
94.00	5,143	340.0	0	0	5,143
97.50	5,143	340.0	18,001	18,001	6,333

Device	Routing	Invert	Outlet Devices
#1	Primary	94.50'	**8.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	95.00'	**8.0" Vert. Orifice/Grate** C= 0.600
#3	Discarded	94.00'	**1.020 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.12 cfs @ 8.85 hrs HW=94.04' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.12 cfs)

Primary OutFlow Max=5.09 cfs @ 12.31 hrs HW=97.39' (Free Discharge)
├**1=Orifice/Grate** (Orifice Controls 2.69 cfs @ 7.69 fps)
└**2=Orifice/Grate** (Orifice Controls 2.41 cfs @ 6.90 fps)

Summary for Pond 3P: POND #3

Inflow Area = 176,232 sf, 44.97% Impervious, Inflow Depth > 4.69" for 100 Year Event event
Inflow = 22.58 cfs @ 12.10 hrs, Volume= 68,815 cf
Outflow = 12.90 cfs @ 12.22 hrs, Volume= 68,415 cf, Atten= 43%, Lag= 7.2 min
Discarded = 0.09 cfs @ 12.22 hrs, Volume= 3,204 cf
Primary = 12.80 cfs @ 12.22 hrs, Volume= 65,212 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 96.68' @ 12.22 hrs Surf.Area= 3,835 sf Storage= 11,448 cf

Plug-Flow detention time= 17.8 min calculated for 68,273 cf (99% of inflow)
Center-of-Mass det. time= 14.2 min (811.5 - 797.4)

Volume	Invert	Avail.Storage	Storage Description
#1	92.60'	12,626 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)
92.60	1,778	214.0	0	0	1,778
93.00	1,995	220.0	754	754	2,003
94.00	2,466	237.0	2,226	2,981	2,662
95.00	2,953	250.0	2,706	5,686	3,221
96.00	3,467	263.0	3,207	8,893	3,811
97.00	4,005	275.0	3,733	12,626	4,391

Device	Routing	Invert	Outlet Devices
#1	Primary	92.60'	**10.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	94.00'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 4.0' Crest Height
#3	Discarded	92.60'	**1.020 in/hr Exfiltration over Horizontal area** Conductivity to Groundwater Elevation = 0.00'

Discarded OutFlow Max=0.09 cfs @ 12.22 hrs HW=96.66' (Free Discharge)
└**3=Exfiltration** (Controls 0.09 cfs)

Primary OutFlow Max=12.69 cfs @ 12.22 hrs HW=96.66' (Free Discharge)
├**1=Orifice/Grate** (Orifice Controls 5.01 cfs @ 9.19 fps)
└**2=Sharp-Crested Rectangular Weir** (Weir Controls 7.68 cfs @ 5.77 fps)

Summary for Pond PE: RC

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= 1,803 cf
Outflow = 0.26 cfs @ 12.26 hrs, Volume= 1,321 cf, Atten= 49%, Lag= 11.4 min
Discarded = 0.02 cfs @ 10.25 hrs, Volume= 917 cf
Primary = 0.25 cfs @ 12.26 hrs, Volume= 403 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 93.81' @ 12.26 hrs Surf.Area= 200 sf Storage= 673 cf

Plug-Flow detention time= 187.2 min calculated for 1,318 cf (73% of inflow)
Center-of-Mass det. time= 97.7 min (839.8 - 742.1)

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'	**2.160 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.02 cfs @ 10.25 hrs HW=91.00' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.23 cfs @ 12.26 hrs HW=93.80' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.23 cfs @ 1.87 fps)

Summary for Link 3A: Lot 3A

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.90" for 100 Year Event event
Inflow = 0.34 cfs @ 12.10 hrs, Volume= 237 cf
Primary = 0.34 cfs @ 12.10 hrs, Volume= 237 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 4A: Lot 4a

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.90" for 100 Year Event event
Inflow = 0.34 cfs @ 12.10 hrs, Volume= 237 cf
Primary = 0.34 cfs @ 12.10 hrs, Volume= 237 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 5A: Lot 5

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.90" for 100 Year Event event
Inflow = 0.34 cfs @ 12.10 hrs, Volume= 237 cf
Primary = 0.34 cfs @ 12.10 hrs, Volume= 237 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 6a: Lot 6

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.90" for 100 Year Event event
Inflow = 0.34 cfs @ 12.10 hrs, Volume= 237 cf
Primary = 0.34 cfs @ 12.10 hrs, Volume= 237 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 7A: Lot 7

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.90" for 100 Year Event event
Inflow = 0.34 cfs @ 12.10 hrs, Volume= 237 cf
Primary = 0.34 cfs @ 12.10 hrs, Volume= 237 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 8b: Lot 8

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.90" for 100 Year Event event
Inflow = 0.34 cfs @ 12.10 hrs, Volume= 237 cf
Primary = 0.34 cfs @ 12.10 hrs, Volume= 237 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 9a: Lot 9

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.90" for 100 Year Event event
Inflow = 0.34 cfs @ 12.10 hrs, Volume= 237 cf
Primary = 0.34 cfs @ 12.10 hrs, Volume= 237 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 10a: Lot 10

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.90" for 100 Year Event event
Inflow = 0.34 cfs @ 12.10 hrs, Volume= 237 cf
Primary = 0.34 cfs @ 12.10 hrs, Volume= 237 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 11a: Lot 11

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.90" for 100 Year Event event
Inflow = 0.34 cfs @ 12.10 hrs, Volume= 237 cf
Primary = 0.34 cfs @ 12.10 hrs, Volume= 237 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 12: Lot 12

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.90" for 100 Year Event event
Inflow = 0.34 cfs @ 12.10 hrs, Volume= 237 cf
Primary = 0.34 cfs @ 12.10 hrs, Volume= 237 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 13: Lot 13

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.90" for 100 Year Event event
Inflow = 0.34 cfs @ 12.10 hrs, Volume= 237 cf
Primary = 0.34 cfs @ 12.10 hrs, Volume= 237 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 14: Lot 14

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.90" for 100 Year Event event
Inflow = 0.34 cfs @ 12.10 hrs, Volume= 237 cf
Primary = 0.34 cfs @ 12.10 hrs, Volume= 237 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 15: Lot 15

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.90" for 100 Year Event event
Inflow = 0.34 cfs @ 12.10 hrs, Volume= 237 cf
Primary = 0.34 cfs @ 12.10 hrs, Volume= 237 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 16: Lot 16

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.90" for 100 Year Event event
Inflow = 0.34 cfs @ 12.10 hrs, Volume= 237 cf
Primary = 0.34 cfs @ 12.10 hrs, Volume= 237 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 17: Lot 17

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.90" for 100 Year Event event
Inflow = 0.34 cfs @ 12.10 hrs, Volume= 237 cf
Primary = 0.34 cfs @ 12.10 hrs, Volume= 237 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 18: Lot 18

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.90" for 100 Year Event event
Inflow = 0.34 cfs @ 12.10 hrs, Volume= 237 cf
Primary = 0.34 cfs @ 12.10 hrs, Volume= 237 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 19: Lot 19

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.90" for 100 Year Event event
Inflow = 0.34 cfs @ 12.10 hrs, Volume= 237 cf
Primary = 0.34 cfs @ 12.10 hrs, Volume= 237 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 20: Lot 20

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.90" for 100 Year Event event
Inflow = 0.34 cfs @ 12.10 hrs, Volume= 237 cf
Primary = 0.34 cfs @ 12.10 hrs, Volume= 237 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 21: Lot 21

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.90" for 100 Year Event event
Inflow = 0.34 cfs @ 12.10 hrs, Volume= 237 cf
Primary = 0.34 cfs @ 12.10 hrs, Volume= 237 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 22: Lot 22

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.90" for 100 Year Event event
Inflow = 0.34 cfs @ 12.10 hrs, Volume= 237 cf
Primary = 0.34 cfs @ 12.10 hrs, Volume= 237 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 23A: Lot 23A

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.90" for 100 Year Event event
Inflow = 0.34 cfs @ 12.10 hrs, Volume= 237 cf
Primary = 0.34 cfs @ 12.10 hrs, Volume= 237 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 24A: Lot 24A

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.90" for 100 Year Event event
Inflow = 0.34 cfs @ 12.10 hrs, Volume= 237 cf
Primary = 0.34 cfs @ 12.10 hrs, Volume= 237 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 25: Lot 25

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.90" for 100 Year Event event
Inflow = 0.34 cfs @ 12.10 hrs, Volume= 237 cf
Primary = 0.34 cfs @ 12.10 hrs, Volume= 237 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 26: Lot 26

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.90" for 100 Year Event event
Inflow = 0.34 cfs @ 12.10 hrs, Volume= 237 cf
Primary = 0.34 cfs @ 12.10 hrs, Volume= 237 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 27A: Lot 27A

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.90" for 100 Year Event event
Inflow = 0.34 cfs @ 12.10 hrs, Volume= 237 cf
Primary = 0.34 cfs @ 12.10 hrs, Volume= 237 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 28A: Lot 28A

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.90" for 100 Year Event event
Inflow = 0.34 cfs @ 12.10 hrs, Volume= 237 cf
Primary = 0.34 cfs @ 12.10 hrs, Volume= 237 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 29A: Lot 29A

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.90" for 100 Year Event event
Inflow = 0.34 cfs @ 12.10 hrs, Volume= 237 cf
Primary = 0.34 cfs @ 12.10 hrs, Volume= 237 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 32: Lot 32

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.90" for 100 Year Event event
Inflow = 0.34 cfs @ 12.10 hrs, Volume= 237 cf
Primary = 0.34 cfs @ 12.10 hrs, Volume= 237 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 33: Lot 33

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.90" for 100 Year Event event
Inflow = 0.34 cfs @ 12.10 hrs, Volume= 237 cf
Primary = 0.34 cfs @ 12.10 hrs, Volume= 237 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 34: Lot 34

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.90" for 100 Year Event event
Inflow = 0.34 cfs @ 12.10 hrs, Volume= 237 cf
Primary = 0.34 cfs @ 12.10 hrs, Volume= 237 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 35: Lot 35

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.90" for 100 Year Event event
Inflow = 0.34 cfs @ 12.10 hrs, Volume= 237 cf
Primary = 0.34 cfs @ 12.10 hrs, Volume= 237 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 36: Lot 36

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.90" for 100 Year Event event
Inflow = 0.34 cfs @ 12.10 hrs, Volume= 237 cf
Primary = 0.34 cfs @ 12.10 hrs, Volume= 237 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 37: Lot 37

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.90" for 100 Year Event event
Inflow = 0.34 cfs @ 12.10 hrs, Volume= 237 cf
Primary = 0.34 cfs @ 12.10 hrs, Volume= 237 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 38: Lot 38

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.90" for 100 Year Event event
Inflow = 0.34 cfs @ 12.10 hrs, Volume= 237 cf
Primary = 0.34 cfs @ 12.10 hrs, Volume= 237 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

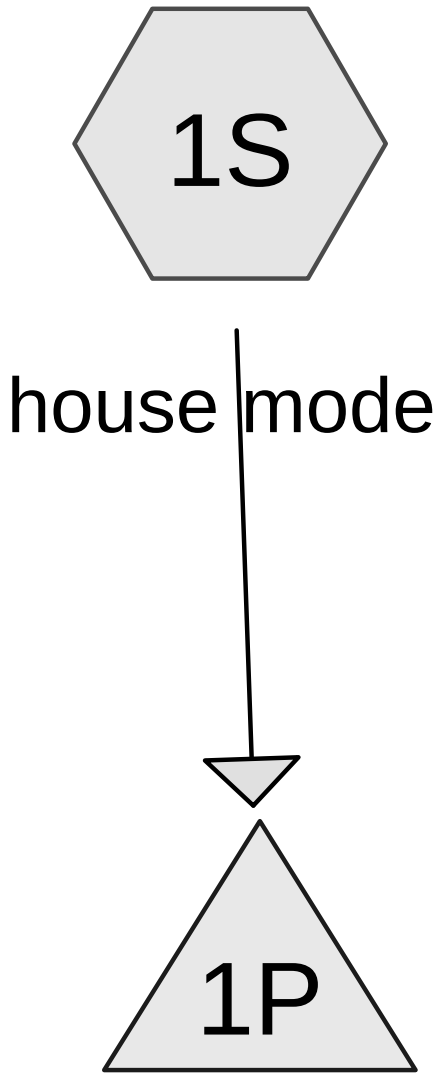
100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce

Summary for Link 39: Lot 39

Inflow Area = 1,500 sf,100.00% Impervious, Inflow Depth = 1.90" for 100 Year Event event
Inflow = 0.34 cfs @ 12.10 hrs, Volume= 237 cf
Primary = 0.34 cfs @ 12.10 hrs, Volume= 237 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

100 Year Event Primary Outflow Imported from NORTHSIDE FARM one house 4-10-16~Pond 25P.hce



10'x 20 field

Subcat Reach Pond Link

Routing Diagram for NORTHSIDE FARM one house 4-10-16
Prepared by Microsoft, Printed 4/12/2016

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

Subcatchment 1S: house model Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>2.97"
Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf

Pond 1P: 10'x 20 field Peak Elev=81.61' Storage=162 cf Inflow=0.11 cfs 371 cf
Discarded=0.01 cfs 352 cf Primary=0.00 cfs 0 cf Outflow=0.01 cfs 352 cf

Summary for Subcatchment 1S: house model

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

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 Pond 1P: 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 = 0.01 cfs @ 13.48 hrs, Volume= 352 cf, Atten= 93%, Lag= 84.4 min
Discarded = 0.01 cfs @ 13.48 hrs, Volume= 352 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 81.61' @ 13.48 hrs Surf.Area= 200 sf Storage= 162 cf

Plug-Flow detention time= 211.6 min calculated for 352 cf (95% of inflow)
Center-of-Mass det. time= 183.2 min (938.3 - 755.1)

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'	**1.020 in/hr Exfiltration over Wetted area**

Discarded OutFlow Max=0.01 cfs @ 13.48 hrs HW=81.61' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 0.01 cfs)

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

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

Subcatchment 1S: house model Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>4.36"
Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf

Pond 1P: 10'x 20 field Peak Elev=82.44' Storage=229 cf Inflow=0.16 cfs 545 cf
Discarded=0.01 cfs 423 cf Primary=0.04 cfs 41 cf Outflow=0.05 cfs 464 cf

Summary for Subcatchment 1S: house model

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

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 Pond 1P: 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 @ 12.41 hrs, Volume= 464 cf, Atten= 66%, Lag= 20.5 min
Discarded = 0.01 cfs @ 12.42 hrs, Volume= 423 cf
Primary = 0.04 cfs @ 12.41 hrs, Volume= 41 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 82.44' @ 12.42 hrs Surf.Area= 200 sf Storage= 229 cf

Plug-Flow detention time= 218.5 min calculated for 463 cf (85% of inflow)
Center-of-Mass det. time= 154.5 min (902.7 - 748.2)

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'	**1.020 in/hr Exfiltration over Wetted area**

Discarded OutFlow Max=0.01 cfs @ 12.42 hrs HW=82.44' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.04 cfs @ 12.41 hrs HW=82.44' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 0.04 cfs @ 0.64 fps)

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

Subcatchment 1S: house model Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>5.36"
Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf

Pond 1P: 10'x 20 field Peak Elev=82.48' Storage=232 cf Inflow=0.19 cfs 670 cf
Discarded=0.01 cfs 446 cf Primary=0.13 cfs 127 cf Outflow=0.13 cfs 573 cf

Summary for Subcatchment 1S: house model

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 670 cf, Depth> 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 Pond 1P: 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 = 0.13 cfs @ 12.20 hrs, Volume= 573 cf, Atten= 30%, Lag= 7.9 min
Discarded = 0.01 cfs @ 12.20 hrs, Volume= 446 cf
Primary = 0.13 cfs @ 12.20 hrs, Volume= 127 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 82.48' @ 12.20 hrs Surf.Area= 200 sf Storage= 232 cf

Plug-Flow detention time= 186.2 min calculated for 573 cf (85% of inflow)
Center-of-Mass det. time= 122.4 min (867.3 - 744.9)

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'	**1.020 in/hr Exfiltration over Wetted area**

Discarded OutFlow Max=0.01 cfs @ 12.20 hrs HW=82.48' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.12 cfs @ 12.20 hrs HW=82.48' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 0.12 cfs @ 0.94 fps)

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

Subcatchment 1S: house model Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>6.56"
Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf

Pond 1P: 10'x 20 field Peak Elev=82.56' Storage=234 cf Inflow=0.23 cfs 820 cf
Discarded=0.01 cfs 469 cf Primary=0.34 cfs 237 cf Outflow=0.35 cfs 706 cf

Summary for Subcatchment 1S: house model

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 820 cf, Depth> 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 Pond 1P: 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 = 0.35 cfs @ 12.10 hrs, Volume= 706 cf, Atten= 0%, Lag= 1.9 min
Discarded = 0.01 cfs @ 12.10 hrs, Volume= 469 cf
Primary = 0.34 cfs @ 12.10 hrs, Volume= 237 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 82.56' @ 12.10 hrs Surf.Area= 200 sf Storage= 234 cf

Plug-Flow detention time= 158.9 min calculated for 706 cf (86% of inflow)
Center-of-Mass det. time= 96.7 min (838.8 - 742.1)

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'	**1.020 in/hr Exfiltration over Wetted area**

Discarded OutFlow Max=0.01 cfs @ 12.10 hrs HW=82.56' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.33 cfs @ 12.10 hrs HW=82.56' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 0.33 cfs @ 1.31 fps)