



- Land Use Planning
- Civil Engineering
- Construction Permitting

April 26, 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 4/19/16**
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 4/19/16.

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 4/19/16

1. *The existing and proposed design points were revised from the previous submittal. While we agree that the previous Design Point #2 (located near the southwest corner of the site) should have been removed, it is unclear why the wetland design point (previously indicated as Design Point #4) was also removed. Based on the topography, it appears that there should be three Design Points: Acushnet Avenue, Victoria Street, and the wetland system in the eastern portion of the site. In our opinion, it is important for the Commission to understand whether there is an increase in run-off towards the wetlands.*

A design control point has been added to include the runoff towards the wetlands, therefore there will be three in total. The runoff towards Victoria and Arnoff Street to the south ends up in the drainage system within Victoria Street which discharges into the same drainage system that captures runoff from the eastern portion of the property including the wetlands and river. There is a reduction in post construction flows towards the wetlands during all design storm events, see summary below under No. 9.

2. *The revised Existing Conditions Plan does not include the existing topography and drainage infrastructure for the bank property. Based on the Existing Subcatchment Areas Plan, it appears the entire bank property is collected and discharged to the existing Underground Infiltration System No. 1. It is unclear where the Pond "RC" is located although it is modeled as a part of the bank development in the existing and proposed HydroCAD model. Since the bank property and Underground Infiltration System #1 are effectively part of the proposed project because the infiltration system is collecting stormwater generated by both properties, we recommend that the plans and HydroCAD be made consistent to accurately document the existing condition.*

Cavanaro Consulting, Inc.

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Existing conditions for bank property has been revised to include additional information. Pond "RC" is an existing infiltration basin to capture the roof runoff from the bank.

3. *The location of Test Pit 1A should be included on the plans.*

Test pit 1A has been added to the existing conditions plan.

4. *The soil test pits performed on the site by the Applicant indicate approximately a foot of loam underlain by sandy loam, loamy sand, and coarse sand materials. It appears that the bottom of the proposed infiltration systems will be located within the loamy sand or sandy soil horizons. Since onsite permeability testing wasn't performed, the Applicant should model the infiltration systems using the Rawl's rate for the appropriate soil texture. In the HydroCAD model, the proposed infiltration rate ranges between 1.02 and 2.16 inches per hour, while the Rawl's rate for sandy loam and sand are 2.41 to 8.27 inches per hour, respectively. We recommend that the construction of the underground infiltration systems include removing the topsoil and subsoil and installing Title V sand between the system and the top of the C-layer. The infiltration rate of the C-layer should be used.*

A note has been added to the detail sheet for all infiltration fields to have the top and subsoil removed and replaced with Title 5 sand between the bottom of the system and the top of the existing sand layer. The Rawls rate for infiltration has been revised to 8.27 in/hr. for all infiltration onsite.

5. *In areas where infiltration is proposed within highly permeable soils (loamy sand or sand), MassDEP requires additional pretreatment of non-roof areas to provide 44% TSS removal before discharge into infiltration areas. The Infiltration Pond meets the 44% pretreatment requirement through deep sump and hooded catch basins and a sediment forebay (25% TSS removal each). However, additional pretreatment is needed for the Underground Infiltration Systems. The TSS removal spreadsheets should be revised to include the pretreatment separately to document 44% TSS removal for each treatment train. We also note that infiltration systems achieve an overall TSS removal of 80% with pretreatment, rather than the 86% indicated on the submitted spreadsheets.*

A oil/grit separator has been added to the treatment train prior to discharge into both underground infiltration fields to achieve the 44% TSS removal prior to infiltration. TSS sheets have also been updated to reflect the changes and separate sheets have been provided to illustrate 44% TSS removal prior to discharge into the infiltration systems.

6. *The Applicant indicates that the water quality volume (WQV) for the proposed pavement is 4,614 CF and that the infiltration systems have a capacity of over 10,000 CF. However, credit for the WQV can only be taken below the outlet, which is less than 1,000 CF in each system. The Applicant should demonstrate how the WQV requirement is being met for the proposed development. It is also unclear how much of the WQV provided in Underground Infiltration System No. 1 is needed for the bank development. As noted in Comment #5, additional pretreatment measures may be required, which should also be designed for the appropriate WQV.*

Water quality Volume calculations have been revised as shown below. The infiltration rate of 8.27 in./hr has been used, therefore the water quality volume is based on 1.0' of proposed impervious coverage. The total square footage of pavement and sidewalk for the exiting bank (22,000 s.f.) has been provided in the calculations.

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Total proposed impervious (sidewalks/roadway/driveways) for design control point No 1, which includes 22,000 s.f. of pavement for the existing bank property.

$$22,000 \text{ s.f.} \times \left(\frac{1.0''}{12}\right) = 1,833 \text{ CF}$$

Infiltration pond no. 1 outlet will have to be revised as shown on the plans to provide 4,166 CF of storage below the outlet (96.6) of the infiltration pond as shown on the HydroCAD report.

Total proposed impervious (sidewalks/roadway/driveways) for design control point No 2

$$22,621 \text{ s.f.} \times \left(\frac{1.0''}{12}\right) = 1,885 \text{ CF}$$

Infiltration pond no. 2 provides 2,246 CF of storage below the outlet (94.8) of the infiltration pond as shown on the HydroCAD report.

Total proposed impervious (sidewalks/roadway/driveways) for design control point No 3

$$68,963 \text{ s.f.} \times \left(\frac{1.0''}{12}\right) = 5,747 \text{ CF}$$

Infiltration pond no. 3 provides 5,743 CF of storage below the outlet (94.8) of the infiltration pond as shown on the HydroCAD report.

7. *In the eastern portion of the site, there are several proposed house recharge systems located near the wetland. Given that there are no soil test pits located near these systems, we recommend that the Commission include a Condition and, if approved, that the Applicant confirm the estimated seasonal high groundwater elevation during construction. We assume that, prior to the construction of these homes, additional Notice of Intent filings will need to be made to the Commission that will include design information, including the design of the subsurface soil systems. However, all of the proposed homes, including the homes that are located outside of the buffer zone, have recharge systems that accept stormwater from the rooftops. Therefore, it is important that the construction of all of the recharge systems associated with the house lots be constructed consistently with the design calculations*

The infiltration systems for 10 of the proposed houses along the eastern portion of the property have been removed. Roof leaders will daylight at the rear of the proposed dwellings. The required Groundwater recharge is still met with the infiltration systems on the remaining houses.

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 25 house lots = 5,850 CF > 3,570 CF

8. *The proposed rooftop infiltration systems overflow to the surface via area drains in the 10- and 100- year design storms. During final grading of the individual lots, positive drainage should be provided to direct the run-off away from adjacent homes.*

The change in Rawls rate for infiltration has reduced the 100 year storm event from the house infiltration systems runoff to zero. Although an outlet is proposed a note has been added to the plan set to provide positive drainage away from the proposed dwellings and not towards adjacent dwellings.

9. *The stormwater report indicates that the existing peak flow rate is being increased towards Acushnet Avenue by 6 to 10 cfs in the 10- and 100-year storms, respectively. The Applicant indicates that the Department of Public Infrastructure was consulted in the previous permitting process (2006-2008) to confirm the Acushnet Avenue drainage system could handle the increased flow. Since several years have passed, we recommend that DPI confirm the approach is still acceptable.*

Design control points have been revised to include the wetlands to the East, see revised peak flows below. There is still an increase in post development flows towards Design Control Point No. 1 in all storms except during the more frequent 2 year event. DPI will be contacted to ensure this is acceptable.

Design Control Point No. 1 (Acushnet Avenue)

Storm	Existing Conditions (DCP 1)	Post-Construction (DCP 1)
2–Year-24Hour (3.20")	0.08 cfs	0.08 cfs
10–Year-24Hour (4.60")	0.17 cfs	3.23 cfs
25–Year-24Hour (5.60")	0.54 cfs	5.74 cfs
100–Year-24Hour (6.80")	1.16 cfs	9.35 cfs

Design Control Point No. 2 (Arnoff Street)

Storm	Existing Conditions (DCP 2)	Post-Construction (DCP 2)
2–Year-24Hour (3.20")	3.72 cfs	1.77 cfs
10–Year-24Hour (4.60")	7.72 cfs	3.28 cfs
25–Year-24Hour (5.60")	10.84 cfs	4.43 cfs
100–Year-24Hour (6.80")	14.74 cfs	5.86 cfs

Design Control Point No. 3 (Eastern portion -Wetlands)

Storm	Existing Conditions (DCP 3)	Post-Construction (DCP 3)
2–Year-24Hour (3.20’’)	7.93cfs	4.36 cfs
10–Year-24Hour (4.60’’)	16.42 cfs	14.82 cfs
25–Year-24Hour (5.60’’)	23.06 cfs	22.04 cfs
100–Year-24Hour (6.80’’)	31.37 cfs	27.15 cfs

Total Combined Runoff (DCP 1, DCP 2 and DCP3)

Storm	Existing Conditions	Post-Construction
2–Year-24Hour (3.20’’)	11.73 cfs	6.21 cfs
10–Year-24Hour (4.60’’)	24.31 cfs	21.33 cfs
25–Year-24Hour (5.60’’)	34.44 cfs	32.21 cfs
100–Year-24Hour (6.80’’)	47.27 cfs	42.36 cfs

10. *On the Drainage Layout Plan, the closed drainage system discharging to Infiltration System 2 indicates pipes flowing with negative slopes.*

The drainage layout plan has been revised and reach numbers have been added to reference the HydroCAD.

11. *Some pipe sizing is provided in the HydroCAD model. However, it is difficult to review since the naming convention and labels are not consistent between the Drainage Plans, Profile Plans, Subcatchment Plans, and HydroCAD model. We recommend that the pipe sizes be labeled on the Grading and Drainage Plan and the Drainage Layout Plan. In the HydroCAD model is to be used for pipe sizing, each segment of the drainage trunk lines should be included as a reach, and all reaches should be consistently labeled on the Proposed Subcatchment Map and in the model. The plans and HydroCAD model should also be reviewed for consistency.*

The Drainage layout plan has been revised to reflect the HydroCAD model, subcatchment plans and Profile plans.

12. *The portion of proposed Subcatchment 11 along Acushnet Avenue appears to flow towards Underground Infiltration System No. 2 and should be included in Subcatchment 10.*

Within subcatchment area no. 11 between the rear of the proposed dwellings and infiltration field no. 2 a low area is proposed and runoff is directed towards the south to the rear of lot 21 and eventually off property towards DCP no. 3.

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13. The area within proposed Subcatchment 4 that surrounds the Infiltration Pond should be included in the drainage area that contributes to the Pond, rather than going straight to the Design Point.

Subcatchment area no. 4 has been revised to include the infiltration pond and rear yard of lot 13.

14. The flow path/calculation for the time of concentration for proposed Subcatchment 7 should be provided.

The flow path/calculation has been provided for subcatchment area No. 7.

15. 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 Applicant provided some of this information for the construction period, but, similar to the Operation and Maintenance Plan, they should also be provided for the on-going operation of the development.

The Long Term Pollution Prevention Plan has been updated to include additional information.

16. The Applicant provided a Construction Period Erosion, Sedimentation, and Pollution Prevention Plan that includes recommendations for dust control, material stockpiles, stabilized construction entrance and silt fence, and hay bale around the project perimeter. Consistent with MassDEP and NPDES SWPPP requirements, we recommend that the Applicant also include inlet protection and slope protection, as well as the inspection and maintenance requirements for these measures. Additionally, all proposed sedimentation and erosion controls should be provided in the plans and details.

The construction pollution prevention plan has been updated. A construction entrance detail and a straw bale erosion check has been added to the detail sheets.

17. The Operation and Maintenance Plan indicates that the Owner of Northside Farm will be responsible for maintenance of the stormwater management system. Typically, DPI is responsible for maintaining drainage systems that are constructed as part of subdivision projects. Will there be a homeowners association that is responsible for maintaining the systems after the house lots are sold. Also, since part of the subdivision drainage system is shared with the adjacent bank property, there should be some agreement between the subdivision and the bank regarding who will maintain the subsurface system. The Applicant should confirm if the Owners will be responsible for all maintenance or if it will be shared with DPI and/or individual homeowners.

As required under the original subdivision approval, DPI will be responsible for the maintenance of all the proposed infiltration basins.

18. We recommend that the Commission consider adding a Condition to the project, if approved, to require the submittal of the inspection and maintenance forms for the stormwater BMPs to the Commission.

Upon approval of the project, inspection and maintenance forms will be submitted.

19. We previously requested that a signed Illicit Discharge Compliance Statement be provided with the Stormwater Report. The Applicant indicated that the Illicit Discharge Compliance Statement will be provided prior to the Approval.

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The signed illicit discharge statement has been provided.

20. *The detail for the Infiltration Pond indicates 2:1 side slopes. To improve accessibility for maintenance and reduce potential for erosion, we recommend reducing the slopes to 3:1.*

Infiltration pond no. 3 has been revised to provide a portion of the side slope to 3:1. This will provide adequate accessibility for maintenance. The side slopes with a greater than a 3:1 slope will be provided with rip rap to reduce the potential for erosion.

21. *In the Infiltration Pond and Rip Rap End detail, the stone should be labeled as Stone for Pipe Ends, MassDOT Specification M2.02.3.*

A note has been added to the rip rap detail sheet DTII to include the Massdot specification.

22. *The project involves the filling of just under 500 square feet of wetlands. No compensatory wetlands are proposed as part of the project.*

As discussed during the meeting on April 19th and as stated in the Wetlands Protection Act, under section 310 CMR 10.55.4c, if the wetland filling is less than 500 square feet no compensatory replication is required.

23. *The Applicant is proposing to clean and trim vegetation for 450 linear feet in the river channel to help alleviate a past flooding condition in the Lucy Street neighborhood. From discussions with Sarah Porter, Conservation Agent, we understand that DPI replaced a culvert that has improved the flooding condition, and therefore clearing of vegetation is not needed at this time.*

As discussed during the meeting on April 19th, the original intent to clear the channel was to comply with the recommendations in a previous report prepared by CDM. This was further discussed with the commission and subsequently dismissed as a viable option. No further action is anticipated.

We appreciate Mr. Turner's thoughtful review and look forward to presenting this project to you and the Board at our scheduled hearing on 5/3/16.

Sincerely,

CAVANARO CONSULTING, INC.



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

Cc: T. Tedeschi
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5005

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Construction Period Erosion, Sedimentation, and Pollution Prevention Plan

*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 overflowing.
- 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.

Temporary Sediment Traps & Basins

- Sediment traps and/or basins shall be constructed as shown on the approved plans and as necessitated by field conditions. Sediment traps/basins should be readily accessible for maintenance and sediment removal, and should remain in operation and be properly maintained until the site area is permanently stabilized by vegetation and/or when permanent structures are in place. Remove basin after drainage area has been permanently stabilized, inspected, and approved. Before removing dam, drain water and remove sediment; place waste material in designated disposal areas. Smooth site to blend with surrounding area and stabilize.

Track out controls at Construction Entrance

A stabilized stone apron construction entrance shall be at all construction entrances to help prevent vehicle tracking of sediments. All vehicles shall enter and exit the site via the stabilized construction entrance. The contractor shall inspect the construction entrance daily and after heavy use. If mud and soil clogs the voids in the crushed stone reducing the effectiveness, the pad shall be top dressed with new, clean stone. If the pad becomes completely clogged, replacement of the entire pad may be necessary. Dump trucks hauling material from the construction site will be covered with a tarpaulin.

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:

Good housekeeping:

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

Spill prevention and response:

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

Landscape Maintenance:

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

Pipes:

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

Street Sweeping:

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

Catch Basin Cleaning:

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

Culverts, pipes, and manholes:

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

Riprap Drain Outfalls:

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

Infiltration Basins:

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

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

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

Pet Waste Management

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

Snow Management

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

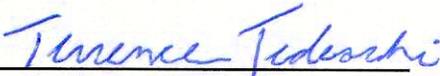
At no time shall the stormwater infiltration basins or wetlands be used for the stockpiling of snow.

Estimated Operation and Maintenance Budget:

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

Illicit Discharges:

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



Applicant (Signature)

Terrence Tedeschi

Applicant (Print)

INSTRUCTIONS:

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

Version 1, Automated: Mar. 4, 2008

Location:

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
Oil Grit Separator	0.25	0.71	0.18	0.53
	0.00	0.53	0.00	0.53
	0.00	0.53	0.00	0.53

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

47%

Total TSS Removal =

Project:
 Prepared By:
 Date:

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

Non-automated TSS Calculation Sheet
 must be used if Proprietary BMP Proposed
 1. From MassDEP Stormwater Handbook Vol. 1

INSTRUCTIONS:

1. 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 - Total - Infiltration Field No. 1

B	C	D	E	F
BMP ¹	TSS Removal Rate ¹	Starting TSS Load*	Amount Removed (C*D)	Remaining Load (D-E)
Subsurface Infiltration Structure	0.80	1.00	0.80	0.20
	0.00	0.20	0.00	0.20
	0.00	0.20	0.00	0.20
	0.00	0.20	0.00	0.20
	0.00	0.20	0.00	0.20

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

80%

Total TSS Removal =

Project:	5005
Prepared By:	BPS
Date:	4/25/2016

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

INSTRUCTIONS:

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

Version 1, Automated: Mar. 4, 2008

Location: DCP 1 - Total - Infiltration Field No. 2

B BMP ¹	C TSS Removal Rate ¹	D Starting TSS Load*	E Amount Removed (C*D)	F Remaining Load (D-E)
Subsurface Infiltration Structure	0.80	1.00	0.80	0.20
	0.00	0.20	0.00	0.20
	0.00	0.20	0.00	0.20
	0.00	0.20	0.00	0.20
	0.00	0.20	0.00	0.20

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

80%

Total TSS Removal =

Project:	5005
Prepared By:	BPS
Date:	4/25/2016

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

Location:

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

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

Total TSS Removal =

Project:	5005
Prepared By:	BPS
Date:	4/25/16

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

TSS Removal Calculation Worksheet

INSTRUCTIONS:

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

Version 1, Automated: Mar. 4, 2008

Location: DCP 3 - Total - Towards Wetlands

B BMP ¹	C TSS Removal Rate ¹	D Starting TSS Load*	E Amount Removed (C*D)	F Remaining Load (D-E)
Infiltration Basin	0.80	1.00	0.80	0.20
	0.00	0.20	0.00	0.20
	0.00	0.20	0.00	0.20
	0.00	0.20	0.00	0.20
	0.00	0.20	0.00	0.20

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

80%

Total TSS Removal =

Project:	5005
Prepared By:	BPS
Date:	4/25/2016

*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:

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

Version 1, Automated: Mar. 4, 2008

Location:

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
Oil Grit Separator	0.25	0.71	0.18	0.53
	0.00	0.53	0.00	0.53
	0.00	0.53	0.00	0.53

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

Total TSS Removal =

Project:

Prepared By:

Date:

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

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

1. From MassDEP Stormwater Handbook Vol. 1

INSTRUCTIONS:

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

Version 1, Automated: Mar. 4, 2008

Location: DCP 3 - Prior to Pond No. 3

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
Sediment Forebay	0.25	0.71	0.18	0.53
	0.00	0.53	0.00	0.53
	0.00	0.53	0.00	0.53

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

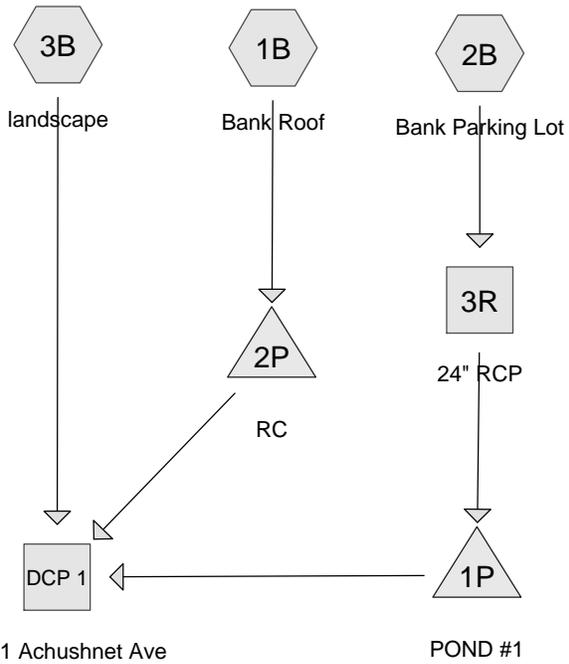
47%

Total TSS Removal =

Project: 5005
 Prepared By: BPS
 Date: 4/25/2016

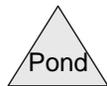
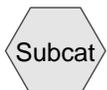
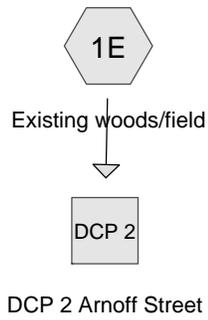
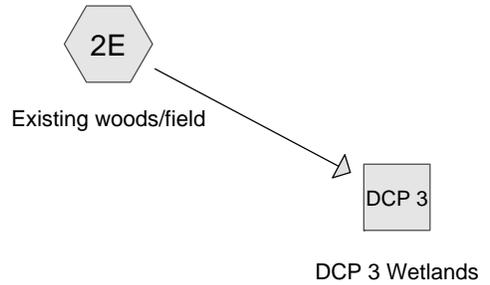
*Equals remaining load from previous BMP (E)
which enters the BMP

Non-automated TSS Calculation Sheet
 must be used if Proprietary BMP Proposed
 1. From MassDEP Stormwater Handbook Vol. 1



DCP 1 Achushnet Ave

POND #1



Routing Diagram for NORTHSIDE FARM ECON - 4-25-16
 Prepared by Microsoft, Printed 4/26/2016
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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

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=185,628 sf 1.83% Impervious Runoff Depth>0.94"
Flow Length=600' Tc=14.5 min CN=74 Runoff=3.72 cfs 0.335 af

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 2E: Existing woods/field Runoff Area=417,719 sf 1.18% Impervious Runoff Depth>0.94"
Flow Length=1,200' Tc=16.7 min CN=74 Runoff=7.93 cfs 0.753 af

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 3R: 24" RCP Avg. Flow Depth=0.46' Max Vel=3.60 fps Inflow=1.96 cfs 0.131 af
24.0" Round Pipe n=0.013 L=35.0' S=0.0057 '/' Capacity=17.10 cfs Outflow=1.95 cfs 0.131 af

Reach DCP 1: DCP 1 Achushnet Ave Inflow=0.08 cfs 0.006 af
Outflow=0.08 cfs 0.006 af

Reach DCP 2: DCP 2 Arnoff Street Inflow=3.72 cfs 0.335 af
Outflow=3.72 cfs 0.335 af

Reach DCP 3: DCP 3 Wetlands Inflow=7.93 cfs 0.753 af
Outflow=7.93 cfs 0.753 af

Pond 1P: POND #1 Peak Elev=95.77' Storage=1,957 cf Inflow=1.95 cfs 0.131 af
Discarded=0.30 cfs 0.131 af Primary=0.00 cfs 0.000 af Outflow=0.30 cfs 0.131 af

Pond 2P: 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 = 3.72 cfs @ 12.22 hrs, Volume= 0.335 af, Depth> 0.94"

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

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

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

Summary for Subcatchment 2B: Bank Parking Lot

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

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

NORTHSIDE FARM ECON - 4-25-16

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

Prepared by Microsoft

Printed 4/26/2016

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Page 4

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

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

Summary for Subcatchment 2E: Existing woods/field

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

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

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

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

Summary for Subcatchment 3B: landscape

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

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

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

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

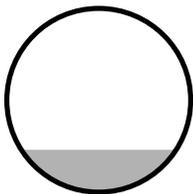
Summary for Reach 3R: 24" RCP

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

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

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

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



Summary for Reach DCP 1: DCP 1 Achushnet Ave

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

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

Summary for Reach DCP 2: DCP 2 Arnoff Street

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

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

Summary for Reach DCP 3: DCP 3 Wetlands

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

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

Summary for Pond 1P: POND #1

Inflow Area = 0.842 ac, 59.99% Impervious, Inflow Depth > 1.87" for 2 Year Event event
 Inflow = 1.95 cfs @ 12.08 hrs, Volume= 0.131 af
 Outflow = 0.30 cfs @ 11.80 hrs, Volume= 0.131 af, Atten= 85%, Lag= 0.0 min
 Discarded = 0.30 cfs @ 11.80 hrs, Volume= 0.131 af
 Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 95.77' @ 12.59 hrs Surf.Area= 5,325 sf Storage= 1,957 cf

Plug-Flow detention time= 51.2 min calculated for 0.131 af (100% of inflow)
 Center-of-Mass det. time= 49.7 min (830.7 - 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'	2.410 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.30 cfs @ 11.80 hrs HW=95.44' (Free Discharge)
 ↳ **3=Exfiltration** (Exfiltration Controls 0.30 cfs)

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

Summary for Pond 2P: RC

Inflow Area = 0.076 ac, 100.00% Impervious, Inflow Depth > 2.77" for 2 Year Event event
 Inflow = 0.24 cfs @ 12.07 hrs, Volume= 0.018 af
 Outflow = 0.02 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=185,628 sf 1.83% Impervious Runoff Depth>1.89"
Flow Length=600' Tc=14.5 min CN=74 Runoff=7.72 cfs 0.671 af

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 2E: Existing woods/field Runoff Area=417,719 sf 1.18% Impervious Runoff Depth>1.89"
Flow Length=1,200' Tc=16.7 min CN=74 Runoff=16.42 cfs 1.508 af

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 3R: 24" RCP Avg. Flow Depth=0.59' Max Vel=4.13 fps Inflow=3.21 cfs 0.218 af
24.0" Round Pipe n=0.013 L=35.0' S=0.0057 '/' Capacity=17.10 cfs Outflow=3.17 cfs 0.218 af

Reach DCP 1: DCP 1 Achushnet Ave Inflow=0.17 cfs 0.023 af
Outflow=0.17 cfs 0.023 af

Reach DCP 2: DCP 2 Arnoff Street Inflow=7.72 cfs 0.671 af
Outflow=7.72 cfs 0.671 af

Reach DCP 3: DCP 3 Wetlands Inflow=16.42 cfs 1.508 af
Outflow=16.42 cfs 1.508 af

Pond 1P: POND #1 Peak Elev=96.09' Storage=3,684 cf Inflow=3.17 cfs 0.218 af
Discarded=0.30 cfs 0.205 af Primary=0.12 cfs 0.012 af Outflow=0.42 cfs 0.217 af

Pond 2P: 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 = 7.72 cfs @ 12.21 hrs, Volume= 0.671 af, Depth> 1.89"

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

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

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

Summary for Subcatchment 2B: Bank Parking Lot

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

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

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

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

Summary for Subcatchment 2E: Existing woods/field

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

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

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

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

Summary for Subcatchment 3B: landscape

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

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

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

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

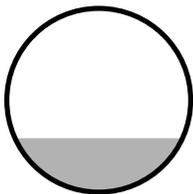
Summary for Reach 3R: 24" RCP

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

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

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

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



Summary for Reach DCP 1: DCP 1 Achushnet Ave

Inflow Area = 0.989 ac, 58.70% Impervious, Inflow Depth > 0.28" for 10 Year Event event
 Inflow = 0.17 cfs @ 12.08 hrs, Volume= 0.023 af
 Outflow = 0.17 cfs @ 12.08 hrs, Volume= 0.023 af, Atten= 0%, Lag= 0.0 min

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

Summary for Reach DCP 2: DCP 2 Arnoff Street

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

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

Summary for Reach DCP 3: DCP 3 Wetlands

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

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

Summary for Pond 1P: POND #1

Inflow Area = 0.842 ac, 59.99% Impervious, Inflow Depth > 3.10" for 10 Year Event event
 Inflow = 3.17 cfs @ 12.08 hrs, Volume= 0.218 af
 Outflow = 0.42 cfs @ 12.62 hrs, Volume= 0.217 af, Atten= 87%, Lag= 32.8 min
 Discarded = 0.30 cfs @ 11.65 hrs, Volume= 0.205 af
 Primary = 0.12 cfs @ 12.62 hrs, Volume= 0.012 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 96.09' @ 12.62 hrs Surf.Area= 5,325 sf Storage= 3,684 cf

Plug-Flow detention time= 93.1 min calculated for 0.217 af (100% of inflow)
 Center-of-Mass det. time= 91.7 min (860.7 - 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'	2.410 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.30 cfs @ 11.65 hrs HW=95.44' (Free Discharge)
 ↑ **3=Exfiltration** (Exfiltration Controls 0.30 cfs)

Primary OutFlow Max=0.12 cfs @ 12.62 hrs HW=96.09' (Free Discharge)
 ↑ **1=Orifice/Grate** (Orifice Controls 0.12 cfs @ 1.49 fps)
 ↓ **2=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 2P: RC

Inflow Area = 0.076 ac, 100.00% Impervious, Inflow Depth > 4.05" for 10 Year Event event
 Inflow = 0.34 cfs @ 12.07 hrs, Volume= 0.026 af
 Outflow = 0.02 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=185,628 sf 1.83% Impervious Runoff Depth>2.64"
Flow Length=600' Tc=14.5 min CN=74 Runoff=10.84 cfs 0.938 af

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 2E: Existing woods/field Runoff Area=417,719 sf 1.18% Impervious Runoff Depth>2.64"
Flow Length=1,200' Tc=16.7 min CN=74 Runoff=23.06 cfs 2.110 af

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 3R: 24" RCP Avg. Flow Depth=0.66' Max Vel=4.42 fps Inflow=4.09 cfs 0.281 af
24.0" Round Pipe n=0.013 L=35.0' S=0.0057 '/' Capacity=17.10 cfs Outflow=4.04 cfs 0.281 af

Reach DCP 1: DCP 1 Achushnet Ave Inflow=0.54 cfs 0.064 af
Outflow=0.54 cfs 0.064 af

Reach DCP 2: DCP 2 Arnoff Street Inflow=10.84 cfs 0.938 af
Outflow=10.84 cfs 0.938 af

Reach DCP 3: DCP 3 Wetlands Inflow=23.06 cfs 2.110 af
Outflow=23.06 cfs 2.110 af

Pond 1P: POND #1 Peak Elev=96.28' Storage=4,671 cf Inflow=4.04 cfs 0.281 af
Discarded=0.30 cfs 0.235 af Primary=0.43 cfs 0.045 af Outflow=0.72 cfs 0.280 af

Pond 2P: 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 = 10.84 cfs @ 12.21 hrs, Volume= 0.938 af, Depth> 2.64"

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

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

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

Summary for Subcatchment 2B: Bank Parking Lot

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

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

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

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

Summary for Subcatchment 2E: Existing woods/field

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

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

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

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

Summary for Subcatchment 3B: landscape

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

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

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

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

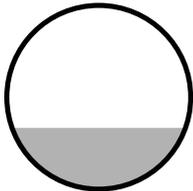
Summary for Reach 3R: 24" RCP

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

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Max. Velocity= 4.42 fps, Min. Travel Time= 0.1 min
 Avg. Velocity= 1.59 fps, Avg. Travel Time= 0.4 min

Peak Storage= 32 cf @ 12.08 hrs
 Average Depth at Peak Storage= 0.66'
 Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 17.10 cfs

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



Summary for Reach DCP 1: DCP 1 Achushnet Ave

Inflow Area = 0.989 ac, 58.70% Impervious, Inflow Depth > 0.78" for 25 Year Event event
 Inflow = 0.54 cfs @ 12.52 hrs, Volume= 0.064 af
 Outflow = 0.54 cfs @ 12.52 hrs, Volume= 0.064 af, Atten= 0%, Lag= 0.0 min

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

Summary for Reach DCP 2: DCP 2 Arnoff Street

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

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

Summary for Reach DCP 3: DCP 3 Wetlands

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

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

Summary for Pond 1P: POND #1

Inflow Area = 0.842 ac, 59.99% Impervious, Inflow Depth > 4.01" for 25 Year Event event
 Inflow = 4.04 cfs @ 12.08 hrs, Volume= 0.281 af
 Outflow = 0.72 cfs @ 12.53 hrs, Volume= 0.280 af, Atten= 82%, Lag= 27.4 min
 Discarded = 0.30 cfs @ 11.40 hrs, Volume= 0.235 af
 Primary = 0.43 cfs @ 12.53 hrs, Volume= 0.045 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 96.28' @ 12.53 hrs Surf.Area= 5,325 sf Storage= 4,671 cf

Plug-Flow detention time= 93.7 min calculated for 0.280 af (100% of inflow)
 Center-of-Mass det. time= 92.4 min (855.3 - 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'	2.410 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.30 cfs @ 11.40 hrs HW=95.44' (Free Discharge)
 ↳ **3=Exfiltration** (Exfiltration Controls 0.30 cfs)

Primary OutFlow Max=0.42 cfs @ 12.53 hrs HW=96.28' (Free Discharge)
 ↳ **1=Orifice/Grate** (Orifice Controls 0.42 cfs @ 2.09 fps)
 ↳ **2=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 2P: RC

Inflow Area = 0.076 ac, 100.00% Impervious, Inflow Depth > 4.97" for 25 Year Event event
 Inflow = 0.42 cfs @ 12.07 hrs, Volume= 0.031 af
 Outflow = 0.07 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=185,628 sf 1.83% Impervious Runoff Depth>3.60"
Flow Length=600' Tc=14.5 min CN=74 Runoff=14.74 cfs 1.279 af

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 2E: Existing woods/field Runoff Area=417,719 sf 1.18% Impervious Runoff Depth>3.60"
Flow Length=1,200' Tc=16.7 min CN=74 Runoff=31.37 cfs 2.875 af

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 3R: 24" RCP Avg. Flow Depth=0.75' Max Vel=4.71 fps Inflow=5.14 cfs 0.358 af
24.0" Round Pipe n=0.013 L=35.0' S=0.0057 '/' Capacity=17.10 cfs Outflow=5.07 cfs 0.358 af

Reach DCP 1: DCP 1 Achushnet Ave Inflow=1.16 cfs 0.123 af
Outflow=1.16 cfs 0.123 af

Reach DCP 2: DCP 2 Arnoff Street Inflow=14.74 cfs 1.279 af
Outflow=14.74 cfs 1.279 af

Reach DCP 3: DCP 3 Wetlands Inflow=31.37 cfs 2.875 af
Outflow=31.37 cfs 2.875 af

Pond 1P: POND #1 Peak Elev=96.47' Storage=5,701 cf Inflow=5.07 cfs 0.358 af
Discarded=0.30 cfs 0.264 af Primary=0.94 cfs 0.093 af Outflow=1.23 cfs 0.356 af

Pond 2P: 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 = 14.74 cfs @ 12.20 hrs, Volume= 1.279 af, Depth> 3.60"

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

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

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

Summary for Subcatchment 2B: Bank Parking Lot

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

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

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

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

Summary for Subcatchment 2E: Existing woods/field

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

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

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

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

Summary for Subcatchment 3B: landscape

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

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

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

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

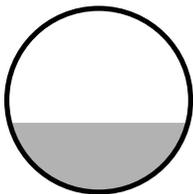
Summary for Reach 3R: 24" RCP

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

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

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

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



Summary for Reach DCP 1: DCP 1 Achushnet Ave

Inflow Area = 0.989 ac, 58.70% Impervious, Inflow Depth > 1.50" for 100 Year Event event
 Inflow = 1.16 cfs @ 12.39 hrs, Volume= 0.123 af
 Outflow = 1.16 cfs @ 12.39 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 DCP 2: DCP 2 Arnoff Street

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

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

Summary for Reach DCP 3: DCP 3 Wetlands

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

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

Summary for Pond 1P: POND #1

Inflow Area = 0.842 ac, 59.99% Impervious, Inflow Depth > 5.10" for 100 Year Event event
 Inflow = 5.07 cfs @ 12.08 hrs, Volume= 0.358 af
 Outflow = 1.23 cfs @ 12.46 hrs, Volume= 0.356 af, Atten= 76%, Lag= 23.0 min
 Discarded = 0.30 cfs @ 11.10 hrs, Volume= 0.264 af
 Primary = 0.94 cfs @ 12.46 hrs, Volume= 0.093 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 96.47' @ 12.46 hrs Surf.Area= 5,325 sf Storage= 5,701 cf

Plug-Flow detention time= 89.7 min calculated for 0.355 af (99% of inflow)
 Center-of-Mass det. time= 87.3 min (844.9 - 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'	2.410 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.30 cfs @ 11.10 hrs HW=95.44' (Free Discharge)
 ↳ **3=Exfiltration** (Exfiltration Controls 0.30 cfs)

Primary OutFlow Max=0.94 cfs @ 12.46 hrs HW=96.47' (Free Discharge)
 ↳ **1=Orifice/Grate** (Orifice Controls 0.82 cfs @ 2.57 fps)
 ↳ **2=Orifice/Grate** (Orifice Controls 0.12 cfs @ 1.40 fps)

Summary for Pond 2P: RC

Inflow Area = 0.076 ac, 100.00% Impervious, Inflow Depth > 6.06" for 100 Year Event event
 Inflow = 0.51 cfs @ 12.07 hrs, Volume= 0.038 af
 Outflow = 0.26 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)

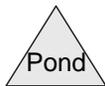
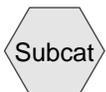
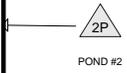
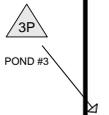
Volume	Invert	Avail.Storage	Storage Description
#1	90.00'	320 cf	Custom Stage Data (Irregular) Listed below 800 cf Overall x 40.0% Voids
#2	91.00'	368 cf	StormTech SC-740 x 8 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		688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



Routing Diagram for NORTHSIDE FARM PROP Rev 4-25-16
Prepared by Microsoft, Printed 4/25/2016
HydroCAD® 10.00 s/n 01769 © 2011 HydroCAD Software Solutions LLC

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

Pond 1P: POND #1

Peak Elev=98.38' Storage=10,476 cf Inflow=14.93 cfs 48,999 cf
Discarded=1.02 cfs 32,692 cf Primary=7.64 cfs 16,296 cf Outflow=8.66 cfs 48,988 cf

Pond 2P: POND #2

Peak Elev=97.31' Storage=10,303 cf Inflow=11.43 cfs 35,886 cf
Discarded=0.98 cfs 25,996 cf Primary=1.92 cfs 9,881 cf Outflow=2.90 cfs 35,877 cf

Pond 3P: POND #3

Peak Elev=96.72' Storage=13,057 cf Inflow=21.88 cfs 71,606 cf
Discarded=0.87 cfs 32,614 cf Primary=16.10 cfs 38,181 cf Outflow=16.97 cfs 70,795 cf

Summary for Pond 1P: POND #1

Inflow Area = 128,260 sf, 43.69% Impervious, Inflow Depth > 4.58" for 100 Year Event event
 Inflow = 14.93 cfs @ 12.09 hrs, Volume= 48,999 cf
 Outflow = 8.66 cfs @ 12.22 hrs, Volume= 48,988 cf, Atten= 42%, Lag= 7.8 min
 Discarded = 1.02 cfs @ 11.25 hrs, Volume= 32,692 cf
 Primary = 7.64 cfs @ 12.22 hrs, Volume= 16,296 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 98.38' @ 12.22 hrs Surf.Area= 5,325 sf Storage= 10,476 cf

Plug-Flow detention time= 27.6 min calculated for 48,988 cf (100% of inflow)
 Center-of-Mass det. time= 27.5 min (825.9 - 798.4)

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

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

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

Discarded OutFlow Max=1.02 cfs @ 11.25 hrs HW=95.44' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 1.02 cfs)

Primary OutFlow Max=7.52 cfs @ 12.22 hrs HW=98.35' (Free Discharge)
 ↑2=Sharp-Crested Rectangular Weir (Weir Controls 7.52 cfs @ 4.52 fps)

Stage-Area-Storage for Pond 1P: POND #1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
95.40	5,325	0	98.05	5,325	9,664
95.45	5,325	106	98.10	5,325	9,807
95.50	5,325	213	98.15	5,325	9,942
95.55	5,325	320	98.20	5,325	10,069
95.60	5,325	426	98.25	5,325	10,189
95.65	5,325	533	98.30	5,325	10,304
95.70	5,325	639	98.35	5,325	10,416
95.75	5,325	745	98.40	5,325	10,525
95.80	5,325	852	98.45	5,325	10,631
95.85	5,325	959	98.50	5,325	10,738
95.90	5,325	1,065	98.55	5,325	10,844
95.95	5,325	1,291	98.60	5,325	10,951
96.00	5,325	1,516	98.65	5,325	11,057
96.05	5,325	1,741	98.70	5,325	11,164
96.10	5,325	1,966	98.75	5,325	11,270
96.15	5,325	2,190	98.80	5,325	11,377
96.20	5,325	2,413	98.85	5,325	11,483
96.25	5,325	2,635	98.90	5,325	11,590
96.30	5,325	2,857			
96.35	5,325	3,078			
96.40	5,325	3,297			
96.45	5,325	3,516			
96.50	5,325	3,734			
96.55	5,325	3,951			
96.60	5,325	4,166			
96.65	5,325	4,381			
96.70	5,325	4,594			
96.75	5,325	4,807			
96.80	5,325	5,018			
96.85	5,325	5,227			
96.90	5,325	5,436			
96.95	5,325	5,643			
97.00	5,325	5,848			
97.05	5,325	6,052			
97.10	5,325	6,254			
97.15	5,325	6,455			
97.20	5,325	6,654			
97.25	5,325	6,851			
97.30	5,325	7,046			
97.35	5,325	7,239			
97.40	5,325	7,431			
97.45	5,325	7,620			
97.50	5,325	7,807			
97.55	5,325	7,992			
97.60	5,325	8,173			
97.65	5,325	8,352			
97.70	5,325	8,528			
97.75	5,325	8,701			
97.80	5,325	8,871			
97.85	5,325	9,038			
97.90	5,325	9,201			
97.95	5,325	9,360			
98.00	5,325	9,515			

Summary for Pond 2P: POND #2

Inflow Area = 106,055 sf, 32.30% Impervious, Inflow Depth > 4.06" for 100 Year Event event
 Inflow = 11.43 cfs @ 12.08 hrs, Volume= 35,886 cf
 Outflow = 2.90 cfs @ 12.46 hrs, Volume= 35,877 cf, Atten= 75%, Lag= 22.9 min
 Discarded = 0.98 cfs @ 11.50 hrs, Volume= 25,996 cf
 Primary = 1.92 cfs @ 12.46 hrs, Volume= 9,881 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 97.31' @ 12.46 hrs Surf.Area= 5,143 sf Storage= 10,303 cf

Plug-Flow detention time= 32.6 min calculated for 35,877 cf (100% of inflow)
 Center-of-Mass det. time= 32.4 min (840.6 - 808.2)

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	94.80'	7.0" Vert. Orifice/Grate C= 0.600
#2	Discarded	94.00'	8.270 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.98 cfs @ 11.50 hrs HW=94.04' (Free Discharge)
 ↳2=Exfiltration (Exfiltration Controls 0.98 cfs)

Primary OutFlow Max=1.91 cfs @ 12.46 hrs HW=97.30' (Free Discharge)
 ↳1=Orifice/Grate (Orifice Controls 1.91 cfs @ 7.16 fps)

Stage-Area-Storage for Pond 2P: POND #2

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
94.00	5,143	0	96.65	5,143	8,855
94.05	5,143	103	96.70	5,143	8,989
94.10	5,143	206	96.75	5,143	9,115
94.15	5,143	309	96.80	5,143	9,236
94.20	5,143	411	96.85	5,143	9,350
94.25	5,143	514	96.90	5,143	9,460
94.30	5,143	617	96.95	5,143	9,568
94.35	5,143	720	97.00	5,143	9,672
94.40	5,143	823	97.05	5,143	9,775
94.45	5,143	926	97.10	5,143	9,878
94.50	5,143	1,029	97.15	5,143	9,981
94.55	5,143	1,232	97.20	5,143	10,084
94.60	5,143	1,436	97.25	5,143	10,187
94.65	5,143	1,639	97.30	5,143	10,289
94.70	5,143	1,842	97.35	5,143	10,392
94.75	5,143	2,044	97.40	5,143	10,495
94.80	5,143	2,246	97.45	5,143	10,598
94.85	5,143	2,447	97.50	5,143	10,701
94.90	5,143	2,647			
94.95	5,143	2,847			
95.00	5,143	3,046			
95.05	5,143	3,244			
95.10	5,143	3,441			
95.15	5,143	3,637			
95.20	5,143	3,832			
95.25	5,143	4,026			
95.30	5,143	4,220			
95.35	5,143	4,412			
95.40	5,143	4,604			
95.45	5,143	4,794			
95.50	5,143	4,983			
95.55	5,143	5,171			
95.60	5,143	5,358			
95.65	5,143	5,543			
95.70	5,143	5,727			
95.75	5,143	5,909			
95.80	5,143	6,090			
95.85	5,143	6,270			
95.90	5,143	6,448			
95.95	5,143	6,624			
96.00	5,143	6,799			
96.05	5,143	6,972			
96.10	5,143	7,143			
96.15	5,143	7,312			
96.20	5,143	7,479			
96.25	5,143	7,643			
96.30	5,143	7,804			
96.35	5,143	7,963			
96.40	5,143	8,120			
96.45	5,143	8,274			
96.50	5,143	8,425			
96.55	5,143	8,572			
96.60	5,143	8,716			

Summary for Pond 3P: POND #3

Inflow Area = 190,732 sf, 42.33% Impervious, Inflow Depth > 4.51" for 100 Year Event event
 Inflow = 21.88 cfs @ 12.10 hrs, Volume= 71,606 cf
 Outflow = 16.97 cfs @ 12.17 hrs, Volume= 70,795 cf, Atten= 22%, Lag= 4.4 min
 Discarded = 0.87 cfs @ 12.17 hrs, Volume= 32,614 cf
 Primary = 16.10 cfs @ 12.17 hrs, Volume= 38,181 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 96.72' @ 12.17 hrs Surf.Area= 4,391 sf Storage= 13,057 cf

Plug-Flow detention time= 54.9 min calculated for 70,795 cf (99% of inflow)
 Center-of-Mass det. time= 47.9 min (848.1 - 800.2)

Volume	Invert	Avail.Storage	Storage Description			
#1	92.60'	14,247 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	1,856	237.0	0	0	1,856	
93.00	2,224	253.0	815	815	2,488	
94.00	2,765	268.0	2,490	3,304	3,162	
95.00	3,340	284.0	3,048	6,352	3,917	
96.00	3,951	302.0	3,641	9,994	4,806	
97.00	4,562	311.0	4,253	14,247	5,341	

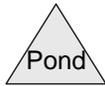
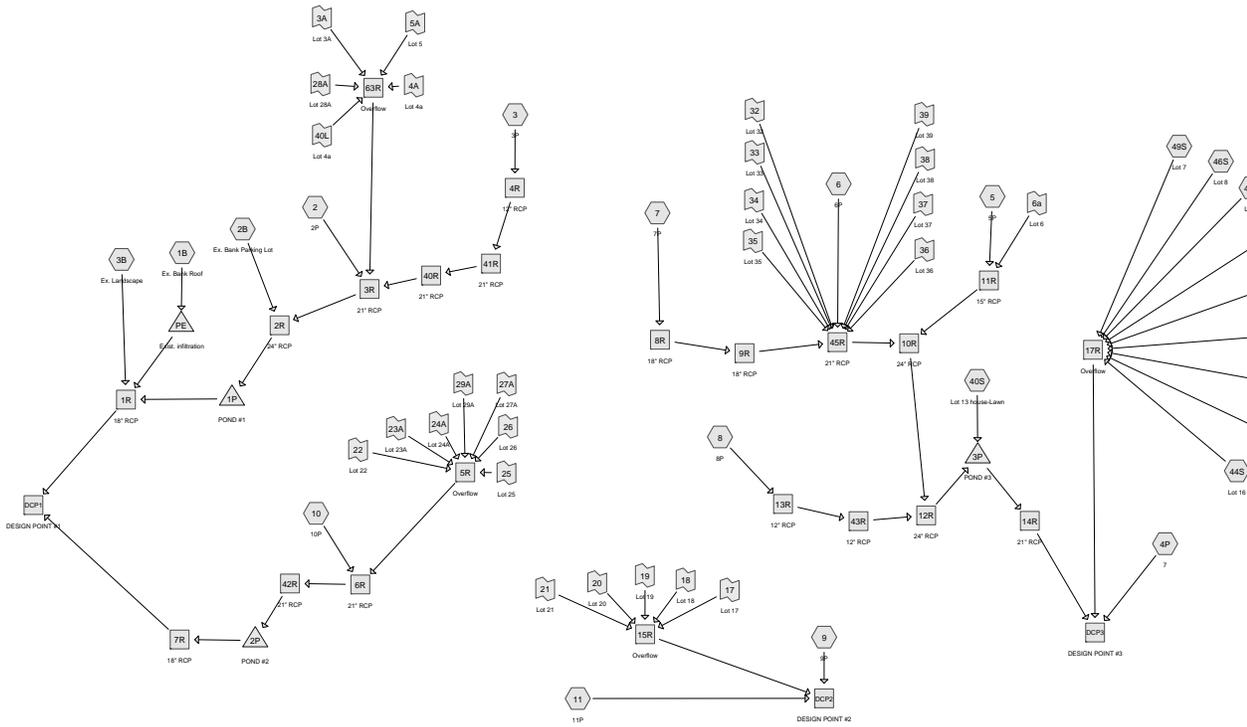
Device	Routing	Invert	Outlet Devices	
#1	Primary	94.80'	2.1' long Sharp-Crested Rectangular Weir 2 End Contraction(s) 3.0' Crest Height	
#2	Discarded	92.60'	8.270 in/hr Exfiltration over Horizontal area Conductivity to Groundwater Elevation = 0.00'	

Discarded OutFlow Max=0.86 cfs @ 12.17 hrs HW=96.70' (Free Discharge)
 ↳ **2=Exfiltration** (Controls 0.86 cfs)

Primary OutFlow Max=15.82 cfs @ 12.17 hrs HW=96.70' (Free Discharge)
 ↳ **1=Sharp-Crested Rectangular Weir** (Weir Controls 15.82 cfs @ 4.85 fps)

Stage-Area-Storage for Pond 3P: POND #3

Elevation (feet)	Surface (sq-ft)	Horizontal (sq-ft)	Storage (cubic-feet)
92.60	1,856	1,856	0
92.70	1,948	1,948	204
92.80	2,040	2,040	407
92.90	2,132	2,132	611
93.00	2,224	2,224	815
93.10	2,278	2,278	1,064
93.20	2,332	2,332	1,313
93.30	2,386	2,386	1,562
93.40	2,440	2,440	1,811
93.50	2,495	2,495	2,060
93.60	2,549	2,549	2,309
93.70	2,603	2,603	2,558
93.80	2,657	2,657	2,807
93.90	2,711	2,711	3,056
94.00	2,765	2,765	3,304
94.10	2,822	2,822	3,609
94.20	2,880	2,880	3,914
94.30	2,937	2,937	4,219
94.40	2,995	2,995	4,524
94.50	3,053	3,053	4,828
94.60	3,110	3,110	5,133
94.70	3,167	3,167	5,438
94.80	3,225	3,225	5,743
94.90	3,282	3,282	6,048
95.00	3,340	3,340	6,352
95.10	3,401	3,401	6,717
95.20	3,462	3,462	7,081
95.30	3,523	3,523	7,445
95.40	3,584	3,584	7,809
95.50	3,646	3,646	8,173
95.60	3,707	3,707	8,537
95.70	3,768	3,768	8,901
95.80	3,829	3,829	9,265
95.90	3,890	3,890	9,630
96.00	3,951	3,951	9,994
96.10	4,012	4,012	10,419
96.20	4,073	4,073	10,844
96.30	4,134	4,134	11,270
96.40	4,195	4,195	11,695
96.50	4,257	4,257	12,120
96.60	4,318	4,318	12,545
96.70	4,379	4,379	12,971
96.80	4,440	4,440	13,396
96.90	4,501	4,501	13,821
97.00	4,562	4,562	14,247



Routing Diagram for NORTHSIDE FARM PROP Rev 4-25-16
 Prepared by Microsoft, Printed 4/25/2016
 HydroCAD® 10.00 s/n 01769 © 2011 HydroCAD Software Solutions LLC

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=143,341 sf 2.00% Impervious Runoff Depth>1.03" Flow Length=850' Tc=10.8 min CN=74 Runoff=3.19 cfs 12,363 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
Subcatchment 24S: Lot 15	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>2.97" Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf
Subcatchment 40S: Lot 13 house-Lawn	Runoff Area=14,500 sf 10.34% Impervious Runoff Depth>1.15" Tc=5.0 min CN=76 Runoff=0.44 cfs 1,391 cf
Subcatchment 41S: Lot 12	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>2.97" Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf

Subcatchment 42S: Lot 11	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>2.97" Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf
Subcatchment 43S: Lot 14	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>2.97" Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf
Subcatchment 44S: Lot 16	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>2.97" Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf
Subcatchment 45S: Lot 10	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>2.97" Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf
Subcatchment 46S: Lot 8	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>2.97" Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf
Subcatchment 47S: Lot 9	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>2.97" Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf
Subcatchment 49S: Lot 7	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>2.97" Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf
Reach 1R: 18" RCP	Avg. Flow Depth=0.08' Max Vel=2.13 fps Inflow=0.08 cfs 280 cf 18.0" Round Pipe n=0.013 L=60.0' S=0.0167 '/' Capacity=13.56 cfs Outflow=0.08 cfs 280 cf
Reach 2R: 24" RCP	Avg. Flow Depth=0.72' Max Vel=5.02 fps Inflow=5.07 cfs 16,588 cf 24.0" Round Pipe n=0.013 L=30.0' S=0.0067 '/' Capacity=18.47 cfs Outflow=5.06 cfs 16,586 cf
Reach 3R: 21" RCP	Avg. Flow Depth=0.65' Max Vel=3.97 fps Inflow=3.20 cfs 10,495 cf 21.0" Round Pipe n=0.013 L=120.0' S=0.0048 '/' Capacity=11.02 cfs Outflow=3.15 cfs 10,489 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=0.57' Max Vel=5.30 fps Inflow=3.58 cfs 11,155 cf 21.0" Round Pipe n=0.013 L=25.0' S=0.0100 '/' Capacity=15.85 cfs Outflow=3.57 cfs 11,154 cf
Reach 7R: 18" RCP	Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0 cf 18.0" Round Pipe n=0.013 L=60.0' S=0.0333 '/' Capacity=19.18 cfs Outflow=0.00 cfs 0 cf
Reach 8R: 18" RCP	Avg. Flow Depth=0.49' Max Vel=3.95 fps Inflow=1.96 cfs 6,060 cf 18.0" Round Pipe n=0.013 L=170.0' S=0.0068 '/' Capacity=8.64 cfs Outflow=1.91 cfs 6,056 cf
Reach 9R: 18" RCP	Avg. Flow Depth=0.49' Max Vel=3.81 fps Inflow=1.91 cfs 6,056 cf 18.0" Round Pipe n=0.013 L=45.0' S=0.0062 '/' Capacity=8.29 cfs Outflow=1.89 cfs 6,055 cf
Reach 10R: 24" RCP	Avg. Flow Depth=0.79' Max Vel=5.81 fps Inflow=6.70 cfs 21,337 cf 24.0" Round Pipe n=0.013 L=100.0' S=0.0081 '/' Capacity=20.36 cfs Outflow=6.62 cfs 21,330 cf
Reach 11R: 15" RCP	Avg. Flow Depth=0.43' Max Vel=4.42 fps Inflow=1.63 cfs 5,051 cf 15.0" Round Pipe n=0.013 L=250.0' S=0.0102 '/' Capacity=6.52 cfs Outflow=1.58 cfs 5,046 cf

Reach 12R: 24" RCP Avg. Flow Depth=0.76' Max Vel=6.34 fps Inflow=6.97 cfs 22,655 cf
 24.0" Round Pipe n=0.013 L=20.0' S=0.0100 '/ Capacity=22.62 cfs Outflow=6.95 cfs 22,654 cf

Reach 13R: 12" RCP Avg. Flow Depth=0.26' Max Vel=2.57 fps Inflow=0.42 cfs 1,328 cf
 12.0" Round Pipe n=0.013 L=260.0' S=0.0063 '/ Capacity=2.84 cfs Outflow=0.39 cfs 1,326 cf

Reach 14R: 21" RCP Avg. Flow Depth=0.47' Max Vel=3.94 fps Inflow=2.08 cfs 4,159 cf
 21.0" Round Pipe n=0.013 L=30.0' S=0.0067 '/ Capacity=12.94 cfs Outflow=2.07 cfs 4,159 cf

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

Reach 17R: Overflow Inflow=0.97 cfs 3,337 cf
 Outflow=0.97 cfs 3,337 cf

Reach 40R: 21" RCP Avg. Flow Depth=0.23' Max Vel=2.27 fps Inflow=0.43 cfs 1,518 cf
 21.0" Round Pipe n=0.013 L=135.0' S=0.0051 '/ Capacity=11.33 cfs Outflow=0.42 cfs 1,517 cf

Reach 41R: 21" RCP Avg. Flow Depth=0.23' Max Vel=2.29 fps Inflow=0.44 cfs 1,518 cf
 21.0" Round Pipe n=0.013 L=40.0' S=0.0052 '/ Capacity=11.48 cfs Outflow=0.43 cfs 1,518 cf

Reach 42R: 21" RCP Avg. Flow Depth=0.57' Max Vel=5.31 fps Inflow=3.57 cfs 11,154 cf
 21.0" Round Pipe n=0.013 L=55.0' S=0.0100 '/ Capacity=15.85 cfs Outflow=3.55 cfs 11,151 cf

Reach 43R: 12" RCP Avg. Flow Depth=0.26' Max Vel=2.44 fps Inflow=0.39 cfs 1,326 cf
 12.0" Round Pipe n=0.013 L=95.0' S=0.0058 '/ Capacity=2.71 cfs Outflow=0.38 cfs 1,325 cf

Reach 45R: 21" RCP Avg. Flow Depth=0.66' Max Vel=6.21 fps Inflow=5.15 cfs 16,294 cf
 21.0" Round Pipe n=0.013 L=50.0' S=0.0116 '/ Capacity=17.07 cfs Outflow=5.13 cfs 16,291 cf

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

Reach DCP1: DESIGN POINT #1 Inflow=0.08 cfs 280 cf
 Outflow=0.08 cfs 280 cf

Reach DCP2: DESIGN POINT #2 Inflow=1.77 cfs 5,774 cf
 Outflow=1.77 cfs 5,774 cf

Reach DCP3: DESIGN POINT #3 Inflow=4.36 cfs 19,859 cf
 Outflow=4.36 cfs 19,859 cf

Pond 1P: POND #1 Peak Elev=96.62' Storage=4,274 cf Inflow=5.06 cfs 16,586 cf
 Discarded=1.02 cfs 16,572 cf Primary=0.02 cfs 10 cf Outflow=1.04 cfs 16,581 cf

Pond 2P: POND #2 Peak Elev=94.78' Storage=2,167 cf Inflow=3.55 cfs 11,151 cf
 Discarded=0.98 cfs 11,148 cf Primary=0.00 cfs 0 cf Outflow=0.98 cfs 11,148 cf

Pond 3P: POND #3 Peak Elev=95.26' Storage=7,292 cf Inflow=7.38 cfs 24,045 cf
 Discarded=0.68 cfs 19,863 cf Primary=2.08 cfs 4,159 cf Outflow=2.76 cfs 24,022 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 = 3.19 cfs @ 12.16 hrs, Volume= 12,363 cf, Depth> 1.03"

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	existing houses
76,300	74	>75% Grass cover, Good, HSG C
64,170	73	Woods, Fair, HSG C
143,341	74	Weighted Average
140,470		98.00% Pervious Area
2,871		2.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	50	0.0100	0.11		Sheet Flow, Sheet flow Grass: Short n= 0.150 P2= 3.20"
3.3	450	0.0200	2.28		Shallow Concentrated Flow, Shallow Unpaved Kv= 16.1 fps
0.1	350	1.0000	47.18	283.08	Channel Flow, River Flow Area= 6.0 sf Perim= 8.0' r= 0.75' n= 0.026 Earth, clean & winding
10.8	850	Total			

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 Subcatchment 24S: Lot 15

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

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 Subcatchment 40S: Lot 13 house-Lawn

Runoff = 0.44 cfs @ 12.08 hrs, Volume= 1,391 cf, Depth> 1.15"

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	House
*	13,000	74	Lawn
	14,500	76	Weighted Average
	13,000		89.66% Pervious Area
	1,500		10.34% Impervious Area

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

Summary for Subcatchment 41S: Lot 12

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

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 Subcatchment 42S: Lot 11

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

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 Subcatchment 43S: Lot 14

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

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 Subcatchment 44S: Lot 16

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 Subcatchment 45S: Lot 10

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

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 Subcatchment 46S: Lot 8

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

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 Subcatchment 47S: Lot 9

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

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 Subcatchment 49S: Lot 7

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

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 Reach 1R: 18" RCP

Inflow Area = 134,688 sf, 44.06% Impervious, Inflow Depth > 0.02" for 2 Year Event event

Inflow = 0.08 cfs @ 12.09 hrs, Volume= 280 cf

Outflow = 0.08 cfs @ 12.10 hrs, Volume= 280 cf, Atten= 2%, Lag= 0.8 min

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

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

Avg. Velocity = 0.86 fps, Avg. Travel Time= 1.2 min

Peak Storage= 2 cf @ 12.09 hrs

Average Depth at Peak Storage= 0.08'

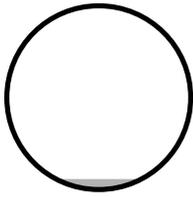
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 13.56 cfs

18.0" Round Pipe

n= 0.013

Length= 60.0' Slope= 0.0167 '/'

Inlet Invert= 94.00', Outlet Invert= 93.00'



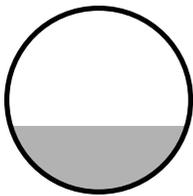
Summary for Reach 2R: 24" RCP

Inflow Area = 128,260 sf, 43.69% Impervious, Inflow Depth > 1.55" for 2 Year Event event
Inflow = 5.07 cfs @ 12.09 hrs, Volume= 16,588 cf
Outflow = 5.06 cfs @ 12.10 hrs, Volume= 16,586 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= 5.02 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.60 fps, Avg. Travel Time= 0.3 min

Peak Storage= 30 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.72'
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 18.47 cfs

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



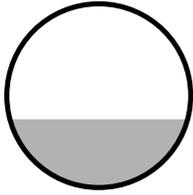
Summary for Reach 3R: 21" RCP

Inflow Area = 91,590 sf, 37.17% Impervious, Inflow Depth > 1.38" for 2 Year Event event
Inflow = 3.20 cfs @ 12.09 hrs, Volume= 10,495 cf
Outflow = 3.15 cfs @ 12.10 hrs, Volume= 10,489 cf, Atten= 1%, Lag= 0.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.97 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 1.26 fps, Avg. Travel Time= 1.6 min

Peak Storage= 97 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.65'
Bank-Full Depth= 1.75' Flow Area= 2.4 sf, Capacity= 11.02 cfs

21.0" Round Pipe
n= 0.013
Length= 120.0' Slope= 0.0048 '/
Inlet Invert= 96.23', Outlet Invert= 95.65'



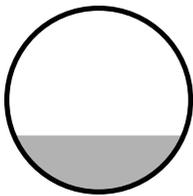
Summary for Reach 4R: 12" RCP

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

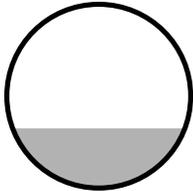
Summary for Reach 6R: 21" RCP

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 = 3.57 cfs @ 12.08 hrs, Volume= 11,154 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= 5.30 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.98 fps, Avg. Travel Time= 0.2 min

Peak Storage= 17 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.57'
Bank-Full Depth= 1.75' Flow Area= 2.4 sf, Capacity= 15.85 cfs

21.0" Round Pipe
n= 0.013
Length= 25.0' Slope= 0.0100 '/'
Inlet Invert= 95.00', Outlet Invert= 94.75'



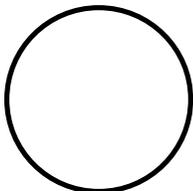
Summary for Reach 7R: 18" RCP

Inflow Area = 106,055 sf, 32.30% 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
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
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'



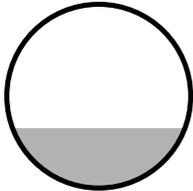
Summary for Reach 8R: 18" RCP

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 = 1.91 cfs @ 12.10 hrs, Volume= 6,056 cf, Atten= 2%, Lag= 1.4 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= 0.7 min
Avg. Velocity = 1.38 fps, Avg. Travel Time= 2.1 min

Peak Storage= 84 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.49'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 8.64 cfs

18.0" Round Pipe
n= 0.013
Length= 170.0' Slope= 0.0068 '/'
Inlet Invert= 95.62', Outlet Invert= 94.47'



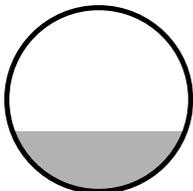
Summary for Reach 9R: 18" RCP

Inflow Area = 38,003 sf, 53.71% Impervious, Inflow Depth > 1.91" for 2 Year Event event
Inflow = 1.91 cfs @ 12.10 hrs, Volume= 6,056 cf
Outflow = 1.89 cfs @ 12.10 hrs, Volume= 6,055 cf, Atten= 1%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.81 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.34 fps, Avg. Travel Time= 0.6 min

Peak Storage= 23 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.49'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 8.29 cfs

18.0" Round Pipe
n= 0.013
Length= 45.0' Slope= 0.0062 '/'
Inlet Invert= 94.47', Outlet Invert= 94.19'



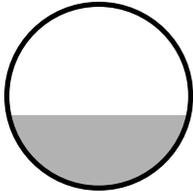
Summary for Reach 10R: 24" RCP

Inflow Area = 169,713 sf, 43.61% Impervious, Inflow Depth > 1.51" for 2 Year Event event
Inflow = 6.70 cfs @ 12.10 hrs, Volume= 21,337 cf
Outflow = 6.62 cfs @ 12.10 hrs, Volume= 21,330 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= 5.81 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 2.04 fps, Avg. Travel Time= 0.8 min

Peak Storage= 115 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.79'
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 20.36 cfs

24.0" Round Pipe
n= 0.013
Length= 100.0' Slope= 0.0081 '/'
Inlet Invert= 93.61', Outlet Invert= 92.80'



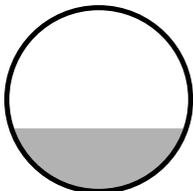
Summary for Reach 11R: 15" RCP

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 = 1.58 cfs @ 12.11 hrs, Volume= 5,046 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= 4.42 fps, Min. Travel Time= 0.9 min
Avg. Velocity = 1.58 fps, Avg. Travel Time= 2.6 min

Peak Storage= 92 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.43'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 6.52 cfs

15.0" Round Pipe
n= 0.013
Length= 250.0' Slope= 0.0102 '/'
Inlet Invert= 96.16', Outlet Invert= 93.61'



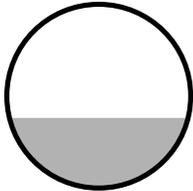
Summary for Reach 12R: 24" RCP

Inflow Area = 176,232 sf, 44.97% Impervious, Inflow Depth > 1.54" for 2 Year Event event
Inflow = 6.97 cfs @ 12.11 hrs, Volume= 22,655 cf
Outflow = 6.95 cfs @ 12.11 hrs, Volume= 22,654 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 = 2.04 fps, Avg. Travel Time= 0.2 min

Peak Storage= 22 cf @ 12.11 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'



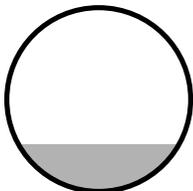
Summary for Reach 13R: 12" RCP

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 @ 12.13 hrs, Volume= 1,326 cf, Atten= 7%, Lag= 3.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.57 fps, Min. Travel Time= 1.7 min
Avg. Velocity = 0.85 fps, Avg. Travel Time= 5.1 min

Peak Storage= 41 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.26'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 2.84 cfs

12.0" Round Pipe
n= 0.013
Length= 260.0' Slope= 0.0063 '/'
Inlet Invert= 95.00', Outlet Invert= 93.35'



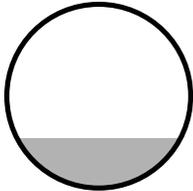
Summary for Reach 14R: 21" RCP

Inflow Area = 190,732 sf, 42.33% Impervious, Inflow Depth = 0.26" for 2 Year Event event
Inflow = 2.08 cfs @ 12.41 hrs, Volume= 4,159 cf
Outflow = 2.07 cfs @ 12.41 hrs, Volume= 4,159 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= 3.94 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.34 fps, Avg. Travel Time= 0.2 min

Peak Storage= 16 cf @ 12.41 hrs
Average Depth at Peak Storage= 0.47'
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 17R: Overflow

Inflow Area = 13,500 sf, 100.00% Impervious, Inflow Depth > 2.97" for 2 Year Event event
Inflow = 0.97 cfs @ 12.07 hrs, Volume= 3,337 cf
Outflow = 0.97 cfs @ 12.07 hrs, Volume= 3,337 cf, Atten= 0%, Lag= 0.0 min

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

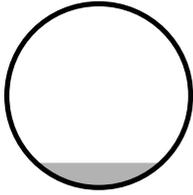
Summary for Reach 40R: 21" RCP

Inflow Area = 7,177 sf, 84.14% Impervious, Inflow Depth > 2.54" for 2 Year Event event
Inflow = 0.43 cfs @ 12.14 hrs, Volume= 1,518 cf
Outflow = 0.42 cfs @ 12.17 hrs, Volume= 1,517 cf, Atten= 3%, Lag= 1.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.27 fps, Min. Travel Time= 1.0 min
Avg. Velocity = 0.77 fps, Avg. Travel Time= 2.9 min

Peak Storage= 26 cf @ 12.15 hrs
Average Depth at Peak Storage= 0.23'
Bank-Full Depth= 1.75' Flow Area= 2.4 sf, Capacity= 11.33 cfs

21.0" Round Pipe
n= 0.013
Length= 135.0' Slope= 0.0051 '/'
Inlet Invert= 96.92', Outlet Invert= 96.23'



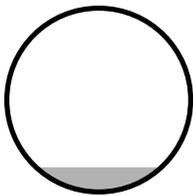
Summary for Reach 41R: 21" RCP

Inflow Area = 7,177 sf, 84.14% Impervious, Inflow Depth > 2.54" for 2 Year Event event
Inflow = 0.44 cfs @ 12.13 hrs, Volume= 1,518 cf
Outflow = 0.43 cfs @ 12.14 hrs, Volume= 1,518 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= 2.29 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 0.78 fps, Avg. Travel Time= 0.9 min

Peak Storage= 8 cf @ 12.13 hrs
Average Depth at Peak Storage= 0.23'
Bank-Full Depth= 1.75' Flow Area= 2.4 sf, Capacity= 11.48 cfs

21.0" Round Pipe
n= 0.013
Length= 40.0' Slope= 0.0052 '/
Inlet Invert= 97.13', Outlet Invert= 96.92'



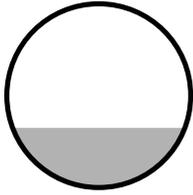
Summary for Reach 42R: 21" RCP

Inflow Area = 106,055 sf, 32.30% Impervious, Inflow Depth > 1.26" for 2 Year Event event
Inflow = 3.57 cfs @ 12.08 hrs, Volume= 11,154 cf
Outflow = 3.55 cfs @ 12.09 hrs, Volume= 11,151 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= 5.31 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.98 fps, Avg. Travel Time= 0.5 min

Peak Storage= 37 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.57'
Bank-Full Depth= 1.75' Flow Area= 2.4 sf, Capacity= 15.85 cfs

21.0" Round Pipe
n= 0.013
Length= 55.0' Slope= 0.0100 '/
Inlet Invert= 94.65', Outlet Invert= 94.10'



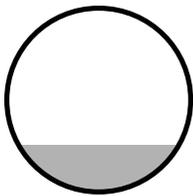
Summary for Reach 43R: 12" RCP

Inflow Area = 6,519 sf, 80.29% Impervious, Inflow Depth > 2.44" for 2 Year Event event
Inflow = 0.39 cfs @ 12.13 hrs, Volume= 1,326 cf
Outflow = 0.38 cfs @ 12.15 hrs, Volume= 1,325 cf, Atten= 2%, Lag= 1.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.44 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 0.83 fps, Avg. Travel Time= 1.9 min

Peak Storage= 15 cf @ 12.14 hrs
Average Depth at Peak Storage= 0.26'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 2.71 cfs

12.0" Round Pipe
n= 0.013
Length= 95.0' Slope= 0.0058 '/
Inlet Invert= 93.35', Outlet Invert= 92.80'



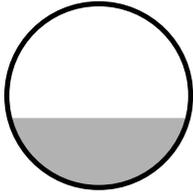
Summary for Reach 45R: 21" RCP

Inflow Area = 133,705 sf, 42.48% Impervious, Inflow Depth > 1.46" for 2 Year Event event
Inflow = 5.15 cfs @ 12.09 hrs, Volume= 16,294 cf
Outflow = 5.13 cfs @ 12.09 hrs, Volume= 16,291 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= 6.21 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.18 fps, Avg. Travel Time= 0.4 min

Peak Storage= 42 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.66'
Bank-Full Depth= 1.75' Flow Area= 2.4 sf, Capacity= 17.07 cfs

21.0" Round Pipe
n= 0.013
Length= 50.0' Slope= 0.0116 '/
Inlet Invert= 94.19', Outlet Invert= 93.61'



Summary for Reach 63R: 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 DCP1: DESIGN POINT #1

Inflow Area = 240,743 sf, 38.88% Impervious, Inflow Depth > 0.01" for 2 Year Event event
 Inflow = 0.08 cfs @ 12.10 hrs, Volume= 280 cf
 Outflow = 0.08 cfs @ 12.10 hrs, Volume= 280 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 DCP2: DESIGN POINT #2

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 DCP3: DESIGN POINT #3

Inflow Area = 347,573 sf, 27.94% Impervious, Inflow Depth > 0.69" for 2 Year Event event
 Inflow = 4.36 cfs @ 12.32 hrs, Volume= 19,859 cf
 Outflow = 4.36 cfs @ 12.32 hrs, Volume= 19,859 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 = 128,260 sf, 43.69% Impervious, Inflow Depth > 1.55" for 2 Year Event event
 Inflow = 5.06 cfs @ 12.10 hrs, Volume= 16,586 cf
 Outflow = 1.04 cfs @ 12.56 hrs, Volume= 16,581 cf, Atten= 80%, Lag= 27.9 min
 Discarded = 1.02 cfs @ 11.80 hrs, Volume= 16,572 cf
 Primary = 0.02 cfs @ 12.56 hrs, Volume= 10 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 96.62' @ 12.56 hrs Surf.Area= 5,325 sf Storage= 4,274 cf

Plug-Flow detention time= 25.4 min calculated for 16,581 cf (100% of inflow)

Center-of-Mass det. time= 25.3 min (853.1 - 827.8)

Volume	Invert	Avail.Storage	Storage Description
#1	95.40'	4,699 cf	Custom Stage Data (Irregular) Listed below 18,638 cf Overall - 6,891 cf Embedded = 11,746 cf x 40.0% Voids
#2	95.90'	6,891 cf	
		11,590 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
			Total Available Storage

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

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

Discarded OutFlow Max=1.02 cfs @ 11.80 hrs HW=95.44' (Free Discharge)
 ↳ **1=Exfiltration** (Exfiltration Controls 1.02 cfs)

Primary OutFlow Max=0.02 cfs @ 12.56 hrs HW=96.62' (Free Discharge)
 ↳ **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.02 cfs @ 0.51 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 = 3.55 cfs @ 12.09 hrs, Volume= 11,151 cf
 Outflow = 0.98 cfs @ 11.90 hrs, Volume= 11,148 cf, Atten= 72%, Lag= 0.0 min
 Discarded = 0.98 cfs @ 11.90 hrs, Volume= 11,148 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= 94.78' @ 12.47 hrs Surf.Area= 5,143 sf Storage= 2,167 cf

Plug-Flow detention time= 11.9 min calculated for 11,148 cf (100% of inflow)
 Center-of-Mass det. time= 11.7 min (853.6 - 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	
		10,701 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
			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	94.80'	7.0" Vert. Orifice/Grate C= 0.600
#2	Discarded	94.00'	8.270 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.98 cfs @ 11.90 hrs HW=94.04' (Free Discharge)
 ↑**2=Exfiltration** (Exfiltration Controls 0.98 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=94.00' (Free Discharge)
 ↑**1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 3P: POND #3

Inflow Area = 190,732 sf, 42.33% Impervious, Inflow Depth > 1.51" for 2 Year Event event
 Inflow = 7.38 cfs @ 12.11 hrs, Volume= 24,045 cf
 Outflow = 2.76 cfs @ 12.41 hrs, Volume= 24,022 cf, Atten= 63%, Lag= 18.1 min
 Discarded = 0.68 cfs @ 12.41 hrs, Volume= 19,863 cf
 Primary = 2.08 cfs @ 12.41 hrs, Volume= 4,159 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 95.26' @ 12.41 hrs Surf.Area= 3,498 sf Storage= 7,292 cf

Plug-Flow detention time= 78.5 min calculated for 23,972 cf (100% of inflow)
 Center-of-Mass det. time= 77.8 min (908.5 - 830.7)

Volume	Invert	Avail.Storage	Storage Description
#1	92.60'	14,247 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	1,856	237.0	0	0	1,856
93.00	2,224	253.0	815	815	2,488
94.00	2,765	268.0	2,490	3,304	3,162
95.00	3,340	284.0	3,048	6,352	3,917
96.00	3,951	302.0	3,641	9,994	4,806
97.00	4,562	311.0	4,253	14,247	5,341

Device	Routing	Invert	Outlet Devices
#1	Primary	94.80'	2.1' long Sharp-Crested Rectangular Weir 2 End Contraction(s) 3.0' Crest Height
#2	Discarded	92.60'	8.270 in/hr Exfiltration over Horizontal area Conductivity to Groundwater Elevation = 0.00'

Discarded OutFlow Max=0.68 cfs @ 12.41 hrs HW=95.26' (Free Discharge)
 ↑**2=Exfiltration** (Controls 0.68 cfs)

Primary OutFlow Max=2.07 cfs @ 12.41 hrs HW=95.26' (Free Discharge)
 ↑**1=Sharp-Crested Rectangular Weir** (Weir Controls 2.07 cfs @ 2.25 fps)

Summary for Pond PE: Exist. infiltration

Inflow Area = 3,300 sf, 100.00% Impervious, Inflow Depth > 2.97" for 2 Year Event event
 Inflow = 0.24 cfs @ 12.07 hrs, Volume= 816 cf
 Outflow = 0.08 cfs @ 12.85 hrs, Volume= 815 cf, Atten= 67%, Lag= 46.8 min
 Discarded = 0.08 cfs @ 12.85 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= 91.26' @ 12.35 hrs Surf.Area= 408 sf Storage= 156 cf

Plug-Flow detention time= 12.4 min calculated for 814 cf (100% of inflow)
 Center-of-Mass det. time= 12.3 min (767.4 - 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'	8.270 in/hr Exfiltration over Surface area

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

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

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 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

Summary for Link 40L: 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

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=143,341 sf 2.00% Impervious Runoff Depth>2.05" Flow Length=850' Tc=10.8 min CN=74 Runoff=6.61 cfs 24,430 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
Subcatchment 24S: Lot 15	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>4.36" Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf
Subcatchment 40S: Lot 13 house-Lawn	Runoff Area=14,500 sf 10.34% Impervious Runoff Depth>2.21" Tc=5.0 min CN=76 Runoff=0.86 cfs 2,668 cf
Subcatchment 41S: Lot 12	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>4.36" Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf

Subcatchment 42S: Lot 11	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>4.36" Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf
Subcatchment 43S: Lot 14	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>4.36" Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf
Subcatchment 44S: Lot 16	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>4.36" Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf
Subcatchment 45S: Lot 10	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>4.36" Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf
Subcatchment 46S: Lot 8	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>4.36" Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf
Subcatchment 47S: Lot 9	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>4.36" Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf
Subcatchment 49S: Lot 7	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>4.36" Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf
Reach 1R: 18" RCP	Avg. Flow Depth=0.43' Max Vel=5.78 fps Inflow=2.40 cfs 5,616 cf 18.0" Round Pipe n=0.013 L=60.0' S=0.0167 '/ Capacity=13.56 cfs Outflow=2.40 cfs 5,616 cf
Reach 2R: 24" RCP	Avg. Flow Depth=0.98' Max Vel=5.81 fps Inflow=8.84 cfs 28,688 cf 24.0" Round Pipe n=0.013 L=30.0' S=0.0067 '/ Capacity=18.47 cfs Outflow=8.82 cfs 28,686 cf
Reach 3R: 21" RCP	Avg. Flow Depth=0.90' Max Vel=4.63 fps Inflow=5.78 cfs 18,648 cf 21.0" Round Pipe n=0.013 L=120.0' S=0.0048 '/ Capacity=11.02 cfs Outflow=5.71 cfs 18,639 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=0.00 cfs 0 cf Outflow=0.00 cfs 0 cf
Reach 6R: 21" RCP	Avg. Flow Depth=0.79' Max Vel=6.24 fps Inflow=6.56 cfs 20,267 cf 21.0" Round Pipe n=0.013 L=25.0' S=0.0100 '/ Capacity=15.85 cfs Outflow=6.54 cfs 20,266 cf
Reach 7R: 18" RCP	Avg. Flow Depth=0.21' Max Vel=5.45 fps Inflow=0.85 cfs 2,443 cf 18.0" Round Pipe n=0.013 L=60.0' S=0.0333 '/ Capacity=19.18 cfs Outflow=0.85 cfs 2,443 cf
Reach 8R: 18" RCP	Avg. Flow Depth=0.64' Max Vel=4.52 fps Inflow=3.24 cfs 10,103 cf 18.0" Round Pipe n=0.013 L=170.0' S=0.0068 '/ Capacity=8.64 cfs Outflow=3.15 cfs 10,097 cf
Reach 9R: 18" RCP	Avg. Flow Depth=0.64' Max Vel=4.37 fps Inflow=3.15 cfs 10,097 cf 18.0" Round Pipe n=0.013 L=45.0' S=0.0062 '/ Capacity=8.29 cfs Outflow=3.13 cfs 10,096 cf
Reach 10R: 24" RCP	Avg. Flow Depth=1.09' Max Vel=6.70 fps Inflow=11.65 cfs 37,074 cf 24.0" Round Pipe n=0.013 L=100.0' S=0.0081 '/ Capacity=20.36 cfs Outflow=11.55 cfs 37,065 cf
Reach 11R: 15" RCP	Avg. Flow Depth=0.57' Max Vel=5.09 fps Inflow=2.78 cfs 8,623 cf 15.0" Round Pipe n=0.013 L=250.0' S=0.0102 '/ Capacity=6.52 cfs Outflow=2.69 cfs 8,616 cf

Reach 12R: 24" RCP Avg. Flow Depth=1.04' Max Vel=7.32 fps Inflow=12.09 cfs 39,127 cf
 24.0" Round Pipe n=0.013 L=20.0' S=0.0100 '/ Capacity=22.62 cfs Outflow=12.07 cfs 39,126 cf

Reach 13R: 12" RCP Avg. Flow Depth=0.32' Max Vel=2.89 fps Inflow=0.64 cfs 2,066 cf
 12.0" Round Pipe n=0.013 L=260.0' S=0.0063 '/ Capacity=2.84 cfs Outflow=0.59 cfs 2,064 cf

Reach 14R: 21" RCP Avg. Flow Depth=0.99' Max Vel=5.64 fps Inflow=7.83 cfs 15,741 cf
 21.0" Round Pipe n=0.013 L=30.0' S=0.0067 '/ Capacity=12.94 cfs Outflow=7.86 cfs 15,741 cf

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

Reach 17R: Overflow Inflow=1.40 cfs 4,907 cf
 Outflow=1.40 cfs 4,907 cf

Reach 40R: 21" RCP Avg. Flow Depth=0.28' Max Vel=2.56 fps Inflow=0.65 cfs 2,336 cf
 21.0" Round Pipe n=0.013 L=135.0' S=0.0051 '/ Capacity=11.33 cfs Outflow=0.64 cfs 2,334 cf

Reach 41R: 21" RCP Avg. Flow Depth=0.29' Max Vel=2.57 fps Inflow=0.66 cfs 2,336 cf
 21.0" Round Pipe n=0.013 L=40.0' S=0.0052 '/ Capacity=11.48 cfs Outflow=0.65 cfs 2,336 cf

Reach 42R: 21" RCP Avg. Flow Depth=0.79' Max Vel=6.25 fps Inflow=6.54 cfs 20,266 cf
 21.0" Round Pipe n=0.013 L=55.0' S=0.0100 '/ Capacity=15.85 cfs Outflow=6.52 cfs 20,263 cf

Reach 43R: 12" RCP Avg. Flow Depth=0.32' Max Vel=2.74 fps Inflow=0.59 cfs 2,064 cf
 12.0" Round Pipe n=0.013 L=95.0' S=0.0058 '/ Capacity=2.71 cfs Outflow=0.58 cfs 2,063 cf

Reach 45R: 21" RCP Avg. Flow Depth=0.90' Max Vel=7.18 fps Inflow=9.01 cfs 28,461 cf
 21.0" Round Pipe n=0.013 L=50.0' S=0.0116 '/ Capacity=17.07 cfs Outflow=8.98 cfs 28,458 cf

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

Reach DCP1: DESIGN POINT #1 Inflow=3.23 cfs 8,059 cf
 Outflow=3.23 cfs 8,059 cf

Reach DCP2: DESIGN POINT #2 Inflow=3.28 cfs 10,457 cf
 Outflow=3.28 cfs 10,457 cf

Reach DCP3: DESIGN POINT #3 Inflow=14.82 cfs 45,078 cf
 Outflow=14.82 cfs 45,078 cf

Pond 1P: POND #1 Peak Elev=97.32' Storage=7,114 cf Inflow=8.82 cfs 28,686 cf
 Discarded=1.02 cfs 23,597 cf Primary=2.34 cfs 5,082 cf Outflow=3.36 cfs 28,679 cf

Pond 2P: POND #2 Peak Elev=95.53' Storage=5,081 cf Inflow=6.52 cfs 20,263 cf
 Discarded=0.98 cfs 17,814 cf Primary=0.85 cfs 2,443 cf Outflow=1.83 cfs 20,257 cf

Pond 3P: POND #3 Peak Elev=95.94' Storage=9,789 cf Inflow=12.91 cfs 41,794 cf
 Discarded=0.77 cfs 26,017 cf Primary=7.83 cfs 15,741 cf Outflow=8.60 cfs 41,758 cf

Pond PE: Exist. infiltration

Peak Elev=91.73' Storage=289 cf Inflow=0.34 cfs 1,199 cf

Discarded=0.08 cfs 1,199 cf Primary=0.00 cfs 0 cf Outflow=0.08 cfs 1,199 cf

10 Year [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

10 Year [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

10 Year [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

10 Year [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

10 Year [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

10 Year [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

10 Year [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

10 Year [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

10 Year [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

10 Year [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

10 Year [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

10 Year [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

10 Year [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

10 Year [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

10 Year [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

10 Year [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

10 Year [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

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 = 6.61 cfs @ 12.16 hrs, Volume= 24,430 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	existing houses
76,300	74	>75% Grass cover, Good, HSG C
64,170	73	Woods, Fair, HSG C
143,341	74	Weighted Average
140,470		98.00% Pervious Area
2,871		2.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	50	0.0100	0.11		Sheet Flow, Sheet flow Grass: Short n= 0.150 P2= 3.20"
3.3	450	0.0200	2.28		Shallow Concentrated Flow, Shallow Unpaved Kv= 16.1 fps
0.1	350	1.0000	47.18	283.08	Channel Flow, River Flow Area= 6.0 sf Perim= 8.0' r= 0.75' n= 0.026 Earth, clean & winding
10.8	850	Total			

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 Subcatchment 24S: Lot 15

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

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 Subcatchment 40S: Lot 13 house-Lawn

Runoff = 0.86 cfs @ 12.08 hrs, Volume= 2,668 cf, Depth> 2.21"

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	House
*	13,000	74	Lawn
	14,500	76	Weighted Average
	13,000		89.66% Pervious Area
	1,500		10.34% Impervious Area

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

Summary for Subcatchment 41S: Lot 12

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

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 Subcatchment 42S: Lot 11

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

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 Subcatchment 43S: Lot 14

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

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 Subcatchment 44S: Lot 16

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 Subcatchment 45S: Lot 10

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

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 Subcatchment 46S: Lot 8

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

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 Subcatchment 47S: Lot 9

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

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 Subcatchment 49S: Lot 7

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

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

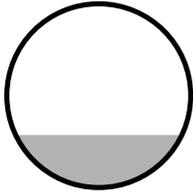
Summary for Reach 1R: 18" RCP

Inflow Area = 134,688 sf, 44.06% Impervious, Inflow Depth > 0.50" for 10 Year Event event
Inflow = 2.40 cfs @ 12.36 hrs, Volume= 5,616 cf
Outflow = 2.40 cfs @ 12.38 hrs, Volume= 5,616 cf, Atten= 0%, Lag= 0.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.78 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.24 fps, Avg. Travel Time= 0.8 min

Peak Storage= 25 cf @ 12.38 hrs
Average Depth at Peak Storage= 0.43'
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'



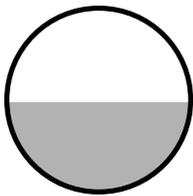
Summary for Reach 2R: 24" RCP

Inflow Area = 128,260 sf, 43.69% Impervious, Inflow Depth > 2.68" for 10 Year Event event
Inflow = 8.84 cfs @ 12.09 hrs, Volume= 28,688 cf
Outflow = 8.82 cfs @ 12.09 hrs, Volume= 28,686 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= 5.81 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.84 fps, Avg. Travel Time= 0.3 min

Peak Storage= 46 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.98'
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 18.47 cfs

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



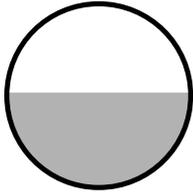
Summary for Reach 3R: 21" RCP

Inflow Area = 91,590 sf, 37.17% Impervious, Inflow Depth > 2.44" for 10 Year Event event
Inflow = 5.78 cfs @ 12.08 hrs, Volume= 18,648 cf
Outflow = 5.71 cfs @ 12.10 hrs, Volume= 18,639 cf, Atten= 1%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.63 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 1.46 fps, Avg. Travel Time= 1.4 min

Peak Storage= 150 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.90'
Bank-Full Depth= 1.75' Flow Area= 2.4 sf, Capacity= 11.02 cfs

21.0" Round Pipe
n= 0.013
Length= 120.0' Slope= 0.0048 '/
Inlet Invert= 96.23', Outlet Invert= 95.65'



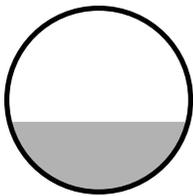
Summary for Reach 4R: 12" RCP

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 = 0.00" for 10 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

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

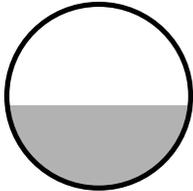
Summary for Reach 6R: 21" RCP

Inflow Area = 106,055 sf, 32.30% Impervious, Inflow Depth > 2.29" for 10 Year Event event
Inflow = 6.56 cfs @ 12.08 hrs, Volume= 20,267 cf
Outflow = 6.54 cfs @ 12.08 hrs, Volume= 20,266 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= 6.24 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.26 fps, Avg. Travel Time= 0.2 min

Peak Storage= 26 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.79'
Bank-Full Depth= 1.75' Flow Area= 2.4 sf, Capacity= 15.85 cfs

21.0" Round Pipe
n= 0.013
Length= 25.0' Slope= 0.0100 '/'
Inlet Invert= 95.00', Outlet Invert= 94.75'



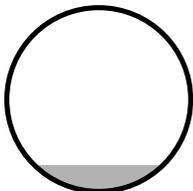
Summary for Reach 7R: 18" RCP

Inflow Area = 106,055 sf, 32.30% Impervious, Inflow Depth = 0.28" for 10 Year Event event
Inflow = 0.85 cfs @ 12.45 hrs, Volume= 2,443 cf
Outflow = 0.85 cfs @ 12.46 hrs, Volume= 2,443 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= 5.45 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 3.85 fps, Avg. Travel Time= 0.3 min

Peak Storage= 9 cf @ 12.45 hrs
Average Depth at Peak Storage= 0.21'
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'



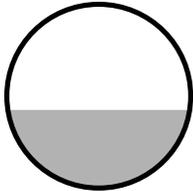
Summary for Reach 8R: 18" RCP

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 = 3.15 cfs @ 12.10 hrs, Volume= 10,097 cf, Atten= 3%, Lag= 1.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.52 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 1.55 fps, Avg. Travel Time= 1.8 min

Peak Storage= 121 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.64'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 8.64 cfs

18.0" Round Pipe
n= 0.013
Length= 170.0' Slope= 0.0068 '/'
Inlet Invert= 95.62', Outlet Invert= 94.47'



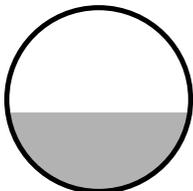
Summary for Reach 9R: 18" RCP

Inflow Area = 38,003 sf, 53.71% Impervious, Inflow Depth > 3.19" for 10 Year Event event
Inflow = 3.15 cfs @ 12.10 hrs, Volume= 10,097 cf
Outflow = 3.13 cfs @ 12.10 hrs, Volume= 10,096 cf, Atten= 1%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.37 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.51 fps, Avg. Travel Time= 0.5 min

Peak Storage= 32 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.64'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 8.29 cfs

18.0" Round Pipe
n= 0.013
Length= 45.0' Slope= 0.0062 '/'
Inlet Invert= 94.47', Outlet Invert= 94.19'



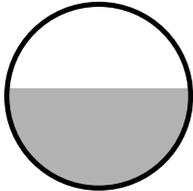
Summary for Reach 10R: 24" RCP

Inflow Area = 169,713 sf, 43.61% Impervious, Inflow Depth > 2.62" for 10 Year Event event
Inflow = 11.65 cfs @ 12.09 hrs, Volume= 37,074 cf
Outflow = 11.55 cfs @ 12.10 hrs, Volume= 37,065 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= 6.70 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 2.31 fps, Avg. Travel Time= 0.7 min

Peak Storage= 174 cf @ 12.10 hrs
Average Depth at Peak Storage= 1.09'
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 20.36 cfs

24.0" Round Pipe
n= 0.013
Length= 100.0' Slope= 0.0081 '/'
Inlet Invert= 93.61', Outlet Invert= 92.80'



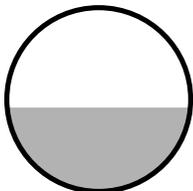
Summary for Reach 11R: 15" RCP

Inflow Area = 36,008 sf, 47.81% Impervious, Inflow Depth > 2.87" for 10 Year Event event
Inflow = 2.78 cfs @ 12.07 hrs, Volume= 8,623 cf
Outflow = 2.69 cfs @ 12.10 hrs, Volume= 8,616 cf, Atten= 3%, Lag= 1.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.09 fps, Min. Travel Time= 0.8 min
Avg. Velocity = 1.78 fps, Avg. Travel Time= 2.3 min

Peak Storage= 136 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.57'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 6.52 cfs

15.0" Round Pipe
n= 0.013
Length= 250.0' Slope= 0.0102 '/'
Inlet Invert= 96.16', Outlet Invert= 93.61'



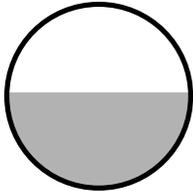
Summary for Reach 12R: 24" RCP

Inflow Area = 176,232 sf, 44.97% Impervious, Inflow Depth > 2.66" for 10 Year Event event
Inflow = 12.09 cfs @ 12.10 hrs, Volume= 39,127 cf
Outflow = 12.07 cfs @ 12.10 hrs, Volume= 39,126 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'



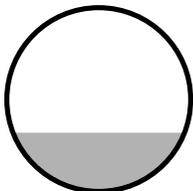
Summary for Reach 13R: 12" RCP

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 @ 12.12 hrs, Volume= 2,064 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= 2.89 fps, Min. Travel Time= 1.5 min
Avg. Velocity = 0.96 fps, Avg. Travel Time= 4.5 min

Peak Storage= 56 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.32'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 2.84 cfs

12.0" Round Pipe
n= 0.013
Length= 260.0' Slope= 0.0063 '/'
Inlet Invert= 95.00', Outlet Invert= 93.35'



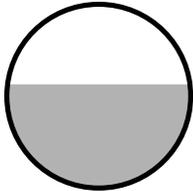
Summary for Reach 14R: 21" RCP

Inflow Area = 190,732 sf, 42.33% Impervious, Inflow Depth = 0.99" for 10 Year Event event
Inflow = 7.83 cfs @ 12.21 hrs, Volume= 15,741 cf
Outflow = 7.86 cfs @ 12.21 hrs, Volume= 15,741 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= 5.64 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.64 fps, Avg. Travel Time= 0.2 min

Peak Storage= 42 cf @ 12.21 hrs
Average Depth at Peak Storage= 0.99'
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 10 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Reach 17R: Overflow

Inflow Area = 13,500 sf, 100.00% Impervious, Inflow Depth > 4.36" for 10 Year Event event
Inflow = 1.40 cfs @ 12.07 hrs, Volume= 4,907 cf
Outflow = 1.40 cfs @ 12.07 hrs, Volume= 4,907 cf, Atten= 0%, Lag= 0.0 min

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

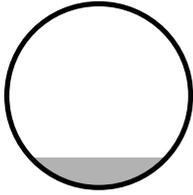
Summary for Reach 40R: 21" RCP

Inflow Area = 7,177 sf, 84.14% Impervious, Inflow Depth > 3.91" for 10 Year Event event
Inflow = 0.65 cfs @ 12.13 hrs, Volume= 2,336 cf
Outflow = 0.64 cfs @ 12.15 hrs, Volume= 2,334 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= 2.56 fps, Min. Travel Time= 0.9 min
Avg. Velocity = 0.86 fps, Avg. Travel Time= 2.6 min

Peak Storage= 34 cf @ 12.14 hrs
Average Depth at Peak Storage= 0.28'
Bank-Full Depth= 1.75' Flow Area= 2.4 sf, Capacity= 11.33 cfs

21.0" Round Pipe
n= 0.013
Length= 135.0' Slope= 0.0051 '/'
Inlet Invert= 96.92', Outlet Invert= 96.23'



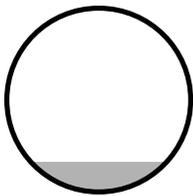
Summary for Reach 41R: 21" RCP

Inflow Area = 7,177 sf, 84.14% Impervious, Inflow Depth > 3.91" for 10 Year Event event
Inflow = 0.66 cfs @ 12.12 hrs, Volume= 2,336 cf
Outflow = 0.65 cfs @ 12.13 hrs, Volume= 2,336 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= 2.57 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 0.87 fps, Avg. Travel Time= 0.8 min

Peak Storage= 10 cf @ 12.12 hrs
Average Depth at Peak Storage= 0.29'
Bank-Full Depth= 1.75' Flow Area= 2.4 sf, Capacity= 11.48 cfs

21.0" Round Pipe
n= 0.013
Length= 40.0' Slope= 0.0052 '/
Inlet Invert= 97.13', Outlet Invert= 96.92'



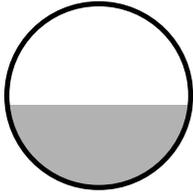
Summary for Reach 42R: 21" RCP

Inflow Area = 106,055 sf, 32.30% Impervious, Inflow Depth > 2.29" for 10 Year Event event
Inflow = 6.54 cfs @ 12.08 hrs, Volume= 20,266 cf
Outflow = 6.52 cfs @ 12.09 hrs, Volume= 20,263 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= 6.25 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.27 fps, Avg. Travel Time= 0.4 min

Peak Storage= 57 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.79'
Bank-Full Depth= 1.75' Flow Area= 2.4 sf, Capacity= 15.85 cfs

21.0" Round Pipe
n= 0.013
Length= 55.0' Slope= 0.0100 '/
Inlet Invert= 94.65', Outlet Invert= 94.10'



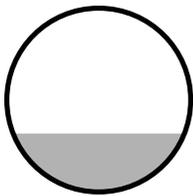
Summary for Reach 43R: 12" RCP

Inflow Area = 6,519 sf, 80.29% Impervious, Inflow Depth > 3.80" for 10 Year Event event
Inflow = 0.59 cfs @ 12.12 hrs, Volume= 2,064 cf
Outflow = 0.58 cfs @ 12.14 hrs, Volume= 2,063 cf, Atten= 2%, Lag= 1.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.74 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 0.93 fps, Avg. Travel Time= 1.7 min

Peak Storage= 20 cf @ 12.13 hrs
Average Depth at Peak Storage= 0.32'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 2.71 cfs

12.0" Round Pipe
n= 0.013
Length= 95.0' Slope= 0.0058 '/
Inlet Invert= 93.35', Outlet Invert= 92.80'



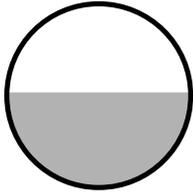
Summary for Reach 45R: 21" RCP

Inflow Area = 133,705 sf, 42.48% Impervious, Inflow Depth > 2.55" for 10 Year Event event
Inflow = 9.01 cfs @ 12.09 hrs, Volume= 28,461 cf
Outflow = 8.98 cfs @ 12.09 hrs, Volume= 28,458 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= 7.18 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.46 fps, Avg. Travel Time= 0.3 min

Peak Storage= 63 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.90'
Bank-Full Depth= 1.75' Flow Area= 2.4 sf, Capacity= 17.07 cfs

21.0" Round Pipe
n= 0.013
Length= 50.0' Slope= 0.0116 '/
Inlet Invert= 94.19', Outlet Invert= 93.61'



Summary for Reach 63R: Overflow

Inflow Area = 7,500 sf, 100.00% Impervious, Inflow Depth = 0.00" for 10 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Reach DCP1: DESIGN POINT #1

Inflow Area = 240,743 sf, 38.88% Impervious, Inflow Depth > 0.40" for 10 Year Event event
Inflow = 3.23 cfs @ 12.39 hrs, Volume= 8,059 cf
Outflow = 3.23 cfs @ 12.39 hrs, Volume= 8,059 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 DCP2: DESIGN POINT #2

Inflow Area = 59,622 sf, 26.75% Impervious, Inflow Depth > 2.10" for 10 Year Event event
Inflow = 3.28 cfs @ 12.08 hrs, Volume= 10,457 cf
Outflow = 3.28 cfs @ 12.08 hrs, Volume= 10,457 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 DCP3: DESIGN POINT #3

Inflow Area = 347,573 sf, 27.94% Impervious, Inflow Depth > 1.56" for 10 Year Event event
Inflow = 14.82 cfs @ 12.18 hrs, Volume= 45,078 cf
Outflow = 14.82 cfs @ 12.18 hrs, Volume= 45,078 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 = 128,260 sf, 43.69% Impervious, Inflow Depth > 2.68" for 10 Year Event event
Inflow = 8.82 cfs @ 12.09 hrs, Volume= 28,686 cf
Outflow = 3.36 cfs @ 12.37 hrs, Volume= 28,679 cf, Atten= 62%, Lag= 16.5 min
Discarded = 1.02 cfs @ 11.65 hrs, Volume= 23,597 cf
Primary = 2.34 cfs @ 12.37 hrs, Volume= 5,082 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 97.32' @ 12.37 hrs Surf.Area= 5,325 sf Storage= 7,114 cf

Plug-Flow detention time= 29.6 min calculated for 28,619 cf (100% of inflow)

Center-of-Mass det. time= 29.4 min (842.3 - 812.9)

Volume	Invert	Avail.Storage	Storage Description
#1	95.40'	4,699 cf	Custom Stage Data (Irregular) Listed below 18,638 cf Overall - 6,891 cf Embedded = 11,746 cf x 40.0% Voids
#2	95.90'	6,891 cf	
		11,590 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
			Total Available Storage

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

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

Discarded OutFlow Max=1.02 cfs @ 11.65 hrs HW=95.44' (Free Discharge)
 ↳ **1=Exfiltration** (Exfiltration Controls 1.02 cfs)

Primary OutFlow Max=2.33 cfs @ 12.37 hrs HW=97.32' (Free Discharge)
 ↳ **2=Sharp-Crested Rectangular Weir** (Weir Controls 2.33 cfs @ 2.81 fps)

Summary for Pond 2P: POND #2

Inflow Area = 106,055 sf, 32.30% Impervious, Inflow Depth > 2.29" for 10 Year Event event
 Inflow = 6.52 cfs @ 12.09 hrs, Volume= 20,263 cf
 Outflow = 1.83 cfs @ 12.45 hrs, Volume= 20,257 cf, Atten= 72%, Lag= 21.9 min
 Discarded = 0.98 cfs @ 11.75 hrs, Volume= 17,814 cf
 Primary = 0.85 cfs @ 12.45 hrs, Volume= 2,443 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 95.53' @ 12.45 hrs Surf.Area= 5,143 sf Storage= 5,081 cf

Plug-Flow detention time= 23.3 min calculated for 20,257 cf (100% of inflow)
 Center-of-Mass det. time= 23.1 min (847.7 - 824.6)

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	
		10,701 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
			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	94.80'	7.0" Vert. Orifice/Grate C= 0.600
#2	Discarded	94.00'	8.270 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.98 cfs @ 11.75 hrs HW=94.05' (Free Discharge)
 ↑**2=Exfiltration** (Exfiltration Controls 0.98 cfs)

Primary OutFlow Max=0.85 cfs @ 12.45 hrs HW=95.53' (Free Discharge)
 ↑**1=Orifice/Grate** (Orifice Controls 0.85 cfs @ 3.17 fps)

Summary for Pond 3P: POND #3

Inflow Area = 190,732 sf, 42.33% Impervious, Inflow Depth > 2.63" for 10 Year Event event
 Inflow = 12.91 cfs @ 12.10 hrs, Volume= 41,794 cf
 Outflow = 8.60 cfs @ 12.21 hrs, Volume= 41,758 cf, Atten= 33%, Lag= 6.5 min
 Discarded = 0.77 cfs @ 12.21 hrs, Volume= 26,017 cf
 Primary = 7.83 cfs @ 12.21 hrs, Volume= 15,741 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 95.94' @ 12.21 hrs Surf.Area= 3,917 sf Storage= 9,789 cf

Plug-Flow detention time= 64.8 min calculated for 41,671 cf (100% of inflow)
 Center-of-Mass det. time= 64.1 min (879.3 - 815.2)

Volume	Invert	Avail.Storage	Storage Description
#1	92.60'	14,247 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	1,856	237.0	0	0	1,856
93.00	2,224	253.0	815	815	2,488
94.00	2,765	268.0	2,490	3,304	3,162
95.00	3,340	284.0	3,048	6,352	3,917
96.00	3,951	302.0	3,641	9,994	4,806
97.00	4,562	311.0	4,253	14,247	5,341

Device	Routing	Invert	Outlet Devices
#1	Primary	94.80'	2.1' long Sharp-Crested Rectangular Weir 2 End Contraction(s) 3.0' Crest Height
#2	Discarded	92.60'	8.270 in/hr Exfiltration over Horizontal area Conductivity to Groundwater Elevation = 0.00'

Discarded OutFlow Max=0.77 cfs @ 12.21 hrs HW=95.94' (Free Discharge)
 ↑**2=Exfiltration** (Controls 0.77 cfs)

Primary OutFlow Max=7.75 cfs @ 12.21 hrs HW=95.94' (Free Discharge)
 ↑**1=Sharp-Crested Rectangular Weir** (Weir Controls 7.75 cfs @ 3.65 fps)

Summary for Pond PE: Exist. infiltration

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 = 0.08 cfs @ 11.95 hrs, Volume= 1,199 cf, Atten= 77%, Lag= 0.0 min
 Discarded = 0.08 cfs @ 11.95 hrs, Volume= 1,199 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= 91.73' @ 12.47 hrs Surf.Area= 392 sf Storage= 289 cf

Plug-Flow detention time= 21.4 min calculated for 1,199 cf (100% of inflow)
 Center-of-Mass det. time= 21.3 min (769.4 - 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'	8.270 in/hr Exfiltration over Surface area

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

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

Summary for Link 3A: Lot 3A

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 0.00" for 10 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

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 = 0.00" for 10 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

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 = 0.00" for 10 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

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 = 0.00" for 10 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

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 = 0.00" for 10 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

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 = 0.00" for 10 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

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 = 0.00" for 10 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

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 = 0.00" for 10 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

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 = 0.00" for 10 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

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 = 0.00" for 10 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

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 = 0.00" for 10 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

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 = 0.00" for 10 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

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 = 0.00" for 10 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

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 = 0.00" for 10 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

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 = 0.00" for 10 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

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 = 0.00" for 10 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

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 = 0.00" for 10 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

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 = 0.00" for 10 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

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 = 0.00" for 10 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

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 = 0.00" for 10 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

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 = 0.00" for 10 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

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 = 0.00" for 10 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

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 = 0.00" for 10 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

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 = 0.00" for 10 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

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 = 0.00" for 10 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

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

Summary for Link 40L: Lot 4a

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 0.00" for 10 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

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=143,341 sf 2.00% Impervious Runoff Depth>2.85" Flow Length=850' Tc=10.8 min CN=74 Runoff=9.28 cfs 33,994 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
Subcatchment 24S: Lot 15	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>5.36" Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf
Subcatchment 40S: Lot 13 house-Lawn	Runoff Area=14,500 sf 10.34% Impervious Runoff Depth>3.04" Tc=5.0 min CN=76 Runoff=1.19 cfs 3,668 cf
Subcatchment 41S: Lot 12	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>5.36" Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf

Subcatchment 42S: Lot 11	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>5.36" Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf
Subcatchment 43S: Lot 14	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>5.36" Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf
Subcatchment 44S: Lot 16	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>5.36" Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf
Subcatchment 45S: Lot 10	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>5.36" Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf
Subcatchment 46S: Lot 8	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>5.36" Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf
Subcatchment 47S: Lot 9	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>5.36" Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf
Subcatchment 49S: Lot 7	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>5.36" Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf
Reach 1R: 18" RCP	Avg. Flow Depth=0.60' Max Vel=6.90 fps Inflow=4.52 cfs 10,612 cf 18.0" Round Pipe n=0.013 L=60.0' S=0.0167 '/ Capacity=13.56 cfs Outflow=4.51 cfs 10,611 cf
Reach 2R: 24" RCP	Avg. Flow Depth=1.15' Max Vel=6.20 fps Inflow=11.61 cfs 37,789 cf 24.0" Round Pipe n=0.013 L=30.0' S=0.0067 '/ Capacity=18.47 cfs Outflow=11.59 cfs 37,786 cf
Reach 3R: 21" RCP	Avg. Flow Depth=1.08' Max Vel=4.95 fps Inflow=7.71 cfs 24,844 cf 21.0" Round Pipe n=0.013 L=120.0' S=0.0048 '/ Capacity=11.02 cfs Outflow=7.62 cfs 24,835 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=0.00 cfs 0 cf Outflow=0.00 cfs 0 cf
Reach 6R: 21" RCP	Avg. Flow Depth=0.93' Max Vel=6.71 fps Inflow=8.78 cfs 27,234 cf 21.0" Round Pipe n=0.013 L=25.0' S=0.0100 '/ Capacity=15.85 cfs Outflow=8.76 cfs 27,233 cf
Reach 7R: 18" RCP	Avg. Flow Depth=0.27' Max Vel=6.24 fps Inflow=1.33 cfs 5,527 cf 18.0" Round Pipe n=0.013 L=60.0' S=0.0333 '/ Capacity=19.18 cfs Outflow=1.34 cfs 5,527 cf
Reach 8R: 18" RCP	Avg. Flow Depth=0.73' Max Vel=4.82 fps Inflow=4.15 cfs 13,089 cf 18.0" Round Pipe n=0.013 L=170.0' S=0.0068 '/ Capacity=8.64 cfs Outflow=4.04 cfs 13,082 cf
Reach 9R: 18" RCP	Avg. Flow Depth=0.74' Max Vel=4.66 fps Inflow=4.04 cfs 13,082 cf 18.0" Round Pipe n=0.013 L=45.0' S=0.0062 '/ Capacity=8.29 cfs Outflow=4.02 cfs 13,080 cf
Reach 10R: 24" RCP	Avg. Flow Depth=1.29' Max Vel=7.11 fps Inflow=15.28 cfs 48,898 cf 24.0" Round Pipe n=0.013 L=100.0' S=0.0081 '/ Capacity=20.36 cfs Outflow=15.16 cfs 48,887 cf
Reach 11R: 15" RCP	Avg. Flow Depth=0.66' Max Vel=5.43 fps Inflow=3.61 cfs 11,285 cf 15.0" Round Pipe n=0.013 L=250.0' S=0.0102 '/ Capacity=6.52 cfs Outflow=3.49 cfs 11,277 cf

Reach 12R: 24" RCP Avg. Flow Depth=1.23' Max Vel=7.79 fps Inflow=15.84 cfs 51,483 cf
 24.0" Round Pipe n=0.013 L=20.0' S=0.0100 '/ Capacity=22.62 cfs Outflow=15.81 cfs 51,481 cf

Reach 13R: 12" RCP Avg. Flow Depth=0.36' Max Vel=3.07 fps Inflow=0.79 cfs 2,600 cf
 12.0" Round Pipe n=0.013 L=260.0' S=0.0063 '/ Capacity=2.84 cfs Outflow=0.74 cfs 2,597 cf

Reach 14R: 21" RCP Avg. Flow Depth=1.31' Max Vel=6.09 fps Inflow=11.74 cfs 25,507 cf
 21.0" Round Pipe n=0.013 L=30.0' S=0.0067 '/ Capacity=12.94 cfs Outflow=11.72 cfs 25,507 cf

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

Reach 17R: Overflow Inflow=1.71 cfs 6,030 cf
 Outflow=1.71 cfs 6,030 cf

Reach 40R: 21" RCP Avg. Flow Depth=0.32' Max Vel=2.72 fps Inflow=0.81 cfs 2,925 cf
 21.0" Round Pipe n=0.013 L=135.0' S=0.0051 '/ Capacity=11.33 cfs Outflow=0.79 cfs 2,923 cf

Reach 41R: 21" RCP Avg. Flow Depth=0.32' Max Vel=2.75 fps Inflow=0.82 cfs 2,926 cf
 21.0" Round Pipe n=0.013 L=40.0' S=0.0052 '/ Capacity=11.48 cfs Outflow=0.81 cfs 2,925 cf

Reach 42R: 21" RCP Avg. Flow Depth=0.93' Max Vel=6.72 fps Inflow=8.76 cfs 27,233 cf
 21.0" Round Pipe n=0.013 L=55.0' S=0.0100 '/ Capacity=15.85 cfs Outflow=8.73 cfs 27,229 cf

Reach 43R: 12" RCP Avg. Flow Depth=0.36' Max Vel=2.91 fps Inflow=0.74 cfs 2,597 cf
 12.0" Round Pipe n=0.013 L=95.0' S=0.0058 '/ Capacity=2.71 cfs Outflow=0.72 cfs 2,596 cf

Reach 45R: 21" RCP Avg. Flow Depth=1.07' Max Vel=7.65 fps Inflow=11.84 cfs 37,625 cf
 21.0" Round Pipe n=0.013 L=50.0' S=0.0116 '/ Capacity=17.07 cfs Outflow=11.81 cfs 37,621 cf

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

Reach DCP1: DESIGN POINT #1 Inflow=5.74 cfs 16,138 cf
 Outflow=5.74 cfs 16,138 cf

Reach DCP2: DESIGN POINT #2 Inflow=4.43 cfs 14,087 cf
 Outflow=4.43 cfs 14,087 cf

Reach DCP3: DESIGN POINT #3 Inflow=22.04 cfs 65,531 cf
 Outflow=22.04 cfs 65,531 cf

Pond 1P: POND #1 Peak Elev=97.75' Storage=8,684 cf Inflow=11.59 cfs 37,786 cf
 Discarded=1.02 cfs 27,908 cf Primary=4.41 cfs 9,869 cf Outflow=5.43 cfs 37,777 cf

Pond 2P: POND #2 Peak Elev=96.17' Storage=7,365 cf Inflow=8.73 cfs 27,229 cf
 Discarded=0.98 cfs 21,695 cf Primary=1.33 cfs 5,527 cf Outflow=2.32 cfs 27,222 cf

Pond 3P: POND #3 Peak Elev=96.32' Storage=11,374 cf Inflow=16.98 cfs 55,149 cf
 Discarded=0.82 cfs 29,596 cf Primary=11.74 cfs 25,507 cf Outflow=12.55 cfs 55,104 cf

Pond PE: Exist. infiltration

Peak Elev=92.16' Storage=400 cf Inflow=0.42 cfs 1,474 cf
Discarded=0.08 cfs 1,474 cf Primary=0.00 cfs 0 cf Outflow=0.08 cfs 1,474 cf

25 Year [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

25 Year [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

25 Year [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

25 Year [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

25 Year [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

25 Year [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

25 Year [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

25 Year [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

25 Year [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

25 Year [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

25 Year [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

25 Year [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

25 Year [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

25 Year [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

25 Year [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

25 Year [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

25 Year [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

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 = 9.28 cfs @ 12.16 hrs, Volume= 33,994 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	existing houses
76,300	74	>75% Grass cover, Good, HSG C
64,170	73	Woods, Fair, HSG C
143,341	74	Weighted Average
140,470		98.00% Pervious Area
2,871		2.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	50	0.0100	0.11		Sheet Flow, Sheet flow Grass: Short n= 0.150 P2= 3.20"
3.3	450	0.0200	2.28		Shallow Concentrated Flow, Shallow Unpaved Kv= 16.1 fps
0.1	350	1.0000	47.18	283.08	Channel Flow, River Flow Area= 6.0 sf Perim= 8.0' r= 0.75' n= 0.026 Earth, clean & winding
10.8	850	Total			

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 Subcatchment 24S: Lot 15

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 670 cf, Depth> 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 Subcatchment 40S: Lot 13 house-Lawn

Runoff = 1.19 cfs @ 12.08 hrs, Volume= 3,668 cf, Depth> 3.04"

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	House
*	13,000	74	Lawn
	14,500	76	Weighted Average
	13,000		89.66% Pervious Area
	1,500		10.34% Impervious Area

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

Summary for Subcatchment 41S: Lot 12

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 670 cf, Depth> 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 Subcatchment 42S: Lot 11

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 670 cf, Depth> 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 Subcatchment 43S: Lot 14

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 670 cf, Depth> 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 Subcatchment 44S: Lot 16

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 Subcatchment 45S: Lot 10

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 670 cf, Depth> 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 Subcatchment 46S: Lot 8

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 670 cf, Depth> 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 Subcatchment 47S: Lot 9

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 670 cf, Depth> 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 Subcatchment 49S: Lot 7

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 670 cf, Depth> 5.36"

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

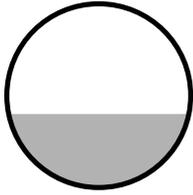
Summary for Reach 1R: 18" RCP

Inflow Area = 134,688 sf, 44.06% Impervious, Inflow Depth > 0.95" for 25 Year Event event
Inflow = 4.52 cfs @ 12.28 hrs, Volume= 10,612 cf
Outflow = 4.51 cfs @ 12.28 hrs, Volume= 10,611 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= 6.90 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.41 fps, Avg. Travel Time= 0.7 min

Peak Storage= 39 cf @ 12.27 hrs
Average Depth at Peak Storage= 0.60'
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'



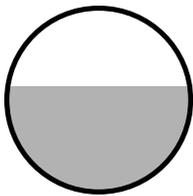
Summary for Reach 2R: 24" RCP

Inflow Area = 128,260 sf, 43.69% Impervious, Inflow Depth > 3.54" for 25 Year Event event
Inflow = 11.61 cfs @ 12.09 hrs, Volume= 37,789 cf
Outflow = 11.59 cfs @ 12.09 hrs, Volume= 37,786 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= 6.20 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.99 fps, Avg. Travel Time= 0.3 min

Peak Storage= 56 cf @ 12.09 hrs
Average Depth at Peak Storage= 1.15'
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 18.47 cfs

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



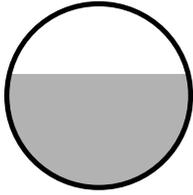
Summary for Reach 3R: 21" RCP

Inflow Area = 91,590 sf, 37.17% Impervious, Inflow Depth > 3.26" for 25 Year Event event
Inflow = 7.71 cfs @ 12.08 hrs, Volume= 24,844 cf
Outflow = 7.62 cfs @ 12.09 hrs, Volume= 24,835 cf, Atten= 1%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.95 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 1.58 fps, Avg. Travel Time= 1.3 min

Peak Storage= 187 cf @ 12.09 hrs
Average Depth at Peak Storage= 1.08'
Bank-Full Depth= 1.75' Flow Area= 2.4 sf, Capacity= 11.02 cfs

21.0" Round Pipe
n= 0.013
Length= 120.0' Slope= 0.0048 '/
Inlet Invert= 96.23', Outlet Invert= 95.65'



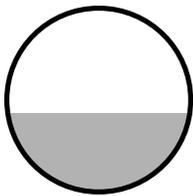
Summary for Reach 4R: 12" RCP

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 = 0.00" for 25 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

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

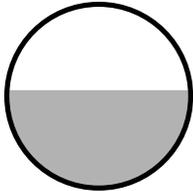
Summary for Reach 6R: 21" RCP

Inflow Area = 106,055 sf, 32.30% Impervious, Inflow Depth > 3.08" for 25 Year Event event
Inflow = 8.78 cfs @ 12.08 hrs, Volume= 27,234 cf
Outflow = 8.76 cfs @ 12.08 hrs, Volume= 27,233 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= 6.71 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.42 fps, Avg. Travel Time= 0.2 min

Peak Storage= 33 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.93'
Bank-Full Depth= 1.75' Flow Area= 2.4 sf, Capacity= 15.85 cfs

21.0" Round Pipe
n= 0.013
Length= 25.0' Slope= 0.0100 '/'
Inlet Invert= 95.00', Outlet Invert= 94.75'



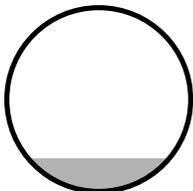
Summary for Reach 7R: 18" RCP

Inflow Area = 106,055 sf, 32.30% Impervious, Inflow Depth = 0.63" for 25 Year Event event
Inflow = 1.33 cfs @ 12.46 hrs, Volume= 5,527 cf
Outflow = 1.34 cfs @ 12.46 hrs, Volume= 5,527 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= 6.24 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 4.55 fps, Avg. Travel Time= 0.2 min

Peak Storage= 13 cf @ 12.46 hrs
Average Depth at Peak Storage= 0.27'
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'



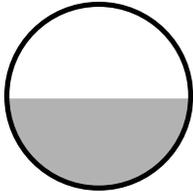
Summary for Reach 8R: 18" RCP

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 = 4.04 cfs @ 12.09 hrs, Volume= 13,082 cf, Atten= 3%, Lag= 1.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.82 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 1.65 fps, Avg. Travel Time= 1.7 min

Peak Storage= 145 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.73'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 8.64 cfs

18.0" Round Pipe
n= 0.013
Length= 170.0' Slope= 0.0068 '/'
Inlet Invert= 95.62', Outlet Invert= 94.47'



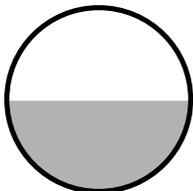
Summary for Reach 9R: 18" RCP

Inflow Area = 38,003 sf, 53.71% Impervious, Inflow Depth > 4.13" for 25 Year Event event
Inflow = 4.04 cfs @ 12.09 hrs, Volume= 13,082 cf
Outflow = 4.02 cfs @ 12.10 hrs, Volume= 13,080 cf, Atten= 1%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.66 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.60 fps, Avg. Travel Time= 0.5 min

Peak Storage= 39 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.74'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 8.29 cfs

18.0" Round Pipe
n= 0.013
Length= 45.0' Slope= 0.0062 '/'
Inlet Invert= 94.47', Outlet Invert= 94.19'



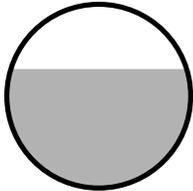
Summary for Reach 10R: 24" RCP

Inflow Area = 169,713 sf, 43.61% Impervious, Inflow Depth > 3.46" for 25 Year Event event
Inflow = 15.28 cfs @ 12.09 hrs, Volume= 48,898 cf
Outflow = 15.16 cfs @ 12.10 hrs, Volume= 48,887 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= 7.11 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 2.47 fps, Avg. Travel Time= 0.7 min

Peak Storage= 215 cf @ 12.09 hrs
Average Depth at Peak Storage= 1.29'
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 20.36 cfs

24.0" Round Pipe
n= 0.013
Length= 100.0' Slope= 0.0081 '/'
Inlet Invert= 93.61', Outlet Invert= 92.80'



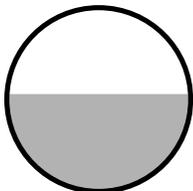
Summary for Reach 11R: 15" RCP

Inflow Area = 36,008 sf, 47.81% Impervious, Inflow Depth > 3.76" for 25 Year Event event
Inflow = 3.61 cfs @ 12.07 hrs, Volume= 11,285 cf
Outflow = 3.49 cfs @ 12.10 hrs, Volume= 11,277 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= 5.43 fps, Min. Travel Time= 0.8 min
Avg. Velocity = 1.89 fps, Avg. Travel Time= 2.2 min

Peak Storage= 165 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.66'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 6.52 cfs

15.0" Round Pipe
n= 0.013
Length= 250.0' Slope= 0.0102 '/'
Inlet Invert= 96.16', Outlet Invert= 93.61'



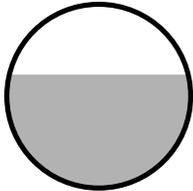
Summary for Reach 12R: 24" RCP

Inflow Area = 176,232 sf, 44.97% Impervious, Inflow Depth > 3.51" for 25 Year Event event
Inflow = 15.84 cfs @ 12.10 hrs, Volume= 51,483 cf
Outflow = 15.81 cfs @ 12.10 hrs, Volume= 51,481 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'



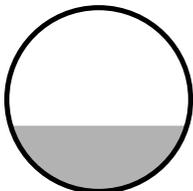
Summary for Reach 13R: 12" RCP

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 = 0.74 cfs @ 12.11 hrs, Volume= 2,597 cf, Atten= 6%, Lag= 2.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.07 fps, Min. Travel Time= 1.4 min
Avg. Velocity = 1.02 fps, Avg. Travel Time= 4.3 min

Peak Storage= 65 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.36'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 2.84 cfs

12.0" Round Pipe
n= 0.013
Length= 260.0' Slope= 0.0063 '/'
Inlet Invert= 95.00', Outlet Invert= 93.35'



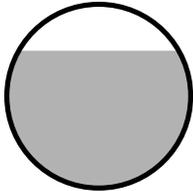
Summary for Reach 14R: 21" RCP

Inflow Area = 190,732 sf, 42.33% Impervious, Inflow Depth = 1.60" for 25 Year Event event
Inflow = 11.74 cfs @ 12.18 hrs, Volume= 25,507 cf
Outflow = 11.72 cfs @ 12.18 hrs, Volume= 25,507 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= 6.09 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.85 fps, Avg. Travel Time= 0.2 min

Peak Storage= 58 cf @ 12.18 hrs
Average Depth at Peak Storage= 1.31'
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 25 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Reach 17R: Overflow

Inflow Area = 13,500 sf, 100.00% Impervious, Inflow Depth > 5.36" for 25 Year Event event
Inflow = 1.71 cfs @ 12.07 hrs, Volume= 6,030 cf
Outflow = 1.71 cfs @ 12.07 hrs, Volume= 6,030 cf, Atten= 0%, Lag= 0.0 min

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

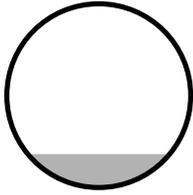
Summary for Reach 40R: 21" RCP

Inflow Area = 7,177 sf, 84.14% Impervious, Inflow Depth > 4.89" for 25 Year Event event
Inflow = 0.81 cfs @ 12.13 hrs, Volume= 2,925 cf
Outflow = 0.79 cfs @ 12.15 hrs, Volume= 2,923 cf, Atten= 2%, Lag= 1.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.72 fps, Min. Travel Time= 0.8 min
Avg. Velocity = 0.91 fps, Avg. Travel Time= 2.5 min

Peak Storage= 40 cf @ 12.14 hrs
Average Depth at Peak Storage= 0.32'
Bank-Full Depth= 1.75' Flow Area= 2.4 sf, Capacity= 11.33 cfs

21.0" Round Pipe
n= 0.013
Length= 135.0' Slope= 0.0051 '/'
Inlet Invert= 96.92', Outlet Invert= 96.23'



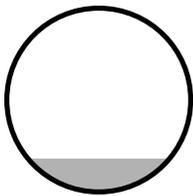
Summary for Reach 41R: 21" RCP

Inflow Area = 7,177 sf, 84.14% Impervious, Inflow Depth > 4.89" for 25 Year Event event
Inflow = 0.82 cfs @ 12.12 hrs, Volume= 2,926 cf
Outflow = 0.81 cfs @ 12.13 hrs, Volume= 2,925 cf, Atten= 2%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.75 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 0.92 fps, Avg. Travel Time= 0.7 min

Peak Storage= 12 cf @ 12.12 hrs
Average Depth at Peak Storage= 0.32'
Bank-Full Depth= 1.75' Flow Area= 2.4 sf, Capacity= 11.48 cfs

21.0" Round Pipe
n= 0.013
Length= 40.0' Slope= 0.0052 '/
Inlet Invert= 97.13', Outlet Invert= 96.92'



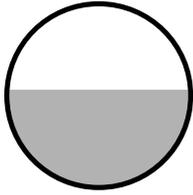
Summary for Reach 42R: 21" RCP

Inflow Area = 106,055 sf, 32.30% Impervious, Inflow Depth > 3.08" for 25 Year Event event
Inflow = 8.76 cfs @ 12.08 hrs, Volume= 27,233 cf
Outflow = 8.73 cfs @ 12.08 hrs, Volume= 27,229 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= 6.72 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.42 fps, Avg. Travel Time= 0.4 min

Peak Storage= 72 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.93'
Bank-Full Depth= 1.75' Flow Area= 2.4 sf, Capacity= 15.85 cfs

21.0" Round Pipe
n= 0.013
Length= 55.0' Slope= 0.0100 '/
Inlet Invert= 94.65', Outlet Invert= 94.10'



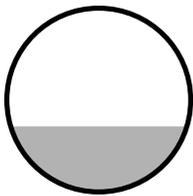
Summary for Reach 43R: 12" RCP

Inflow Area = 6,519 sf, 80.29% Impervious, Inflow Depth > 4.78" for 25 Year Event event
Inflow = 0.74 cfs @ 12.11 hrs, Volume= 2,597 cf
Outflow = 0.72 cfs @ 12.13 hrs, Volume= 2,596 cf, Atten= 3%, Lag= 1.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.91 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 0.99 fps, Avg. Travel Time= 1.6 min

Peak Storage= 24 cf @ 12.12 hrs
Average Depth at Peak Storage= 0.36'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 2.71 cfs

12.0" Round Pipe
n= 0.013
Length= 95.0' Slope= 0.0058 '/
Inlet Invert= 93.35', Outlet Invert= 92.80'



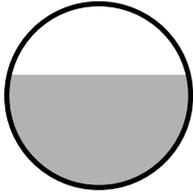
Summary for Reach 45R: 21" RCP

Inflow Area = 133,705 sf, 42.48% Impervious, Inflow Depth > 3.38" for 25 Year Event event
Inflow = 11.84 cfs @ 12.08 hrs, Volume= 37,625 cf
Outflow = 11.81 cfs @ 12.09 hrs, Volume= 37,621 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= 7.65 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.63 fps, Avg. Travel Time= 0.3 min

Peak Storage= 77 cf @ 12.09 hrs
Average Depth at Peak Storage= 1.07'
Bank-Full Depth= 1.75' Flow Area= 2.4 sf, Capacity= 17.07 cfs

21.0" Round Pipe
n= 0.013
Length= 50.0' Slope= 0.0116 '/
Inlet Invert= 94.19', Outlet Invert= 93.61'



Summary for Reach 63R: Overflow

Inflow Area = 7,500 sf, 100.00% Impervious, Inflow Depth = 0.00" for 25 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Reach DCP1: DESIGN POINT #1

Inflow Area = 240,743 sf, 38.88% Impervious, Inflow Depth > 0.80" for 25 Year Event event
Inflow = 5.74 cfs @ 12.29 hrs, Volume= 16,138 cf
Outflow = 5.74 cfs @ 12.29 hrs, Volume= 16,138 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 DCP2: DESIGN POINT #2

Inflow Area = 59,622 sf, 26.75% Impervious, Inflow Depth > 2.84" for 25 Year Event event
Inflow = 4.43 cfs @ 12.08 hrs, Volume= 14,087 cf
Outflow = 4.43 cfs @ 12.08 hrs, Volume= 14,087 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 DCP3: DESIGN POINT #3

Inflow Area = 347,573 sf, 27.94% Impervious, Inflow Depth > 2.26" for 25 Year Event event
Inflow = 22.04 cfs @ 12.16 hrs, Volume= 65,531 cf
Outflow = 22.04 cfs @ 12.16 hrs, Volume= 65,531 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 = 128,260 sf, 43.69% Impervious, Inflow Depth > 3.54" for 25 Year Event event
Inflow = 11.59 cfs @ 12.09 hrs, Volume= 37,786 cf
Outflow = 5.43 cfs @ 12.28 hrs, Volume= 37,777 cf, Atten= 53%, Lag= 11.4 min
Discarded = 1.02 cfs @ 11.50 hrs, Volume= 27,908 cf
Primary = 4.41 cfs @ 12.28 hrs, Volume= 9,869 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 97.75' @ 12.28 hrs Surf.Area= 5,325 sf Storage= 8,684 cf

Plug-Flow detention time= 28.6 min calculated for 37,777 cf (100% of inflow)

Center-of-Mass det. time= 28.4 min (833.9 - 805.4)

Volume	Invert	Avail.Storage	Storage Description
#1	95.40'	4,699 cf	Custom Stage Data (Irregular) Listed below 18,638 cf Overall - 6,891 cf Embedded = 11,746 cf x 40.0% Voids
#2	95.90'	6,891 cf	
		11,590 cf	Total Available Storage

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

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

Discarded OutFlow Max=1.02 cfs @ 11.50 hrs HW=95.44' (Free Discharge)
 ↳ **1=Exfiltration** (Exfiltration Controls 1.02 cfs)

Primary OutFlow Max=4.39 cfs @ 12.28 hrs HW=97.74' (Free Discharge)
 ↳ **2=Sharp-Crested Rectangular Weir** (Weir Controls 4.39 cfs @ 3.59 fps)

Summary for Pond 2P: POND #2

Inflow Area = 106,055 sf, 32.30% Impervious, Inflow Depth > 3.08" for 25 Year Event event
 Inflow = 8.73 cfs @ 12.08 hrs, Volume= 27,229 cf
 Outflow = 2.32 cfs @ 12.46 hrs, Volume= 27,222 cf, Atten= 73%, Lag= 22.5 min
 Discarded = 0.98 cfs @ 11.65 hrs, Volume= 21,695 cf
 Primary = 1.33 cfs @ 12.46 hrs, Volume= 5,527 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 96.17' @ 12.46 hrs Surf.Area= 5,143 sf Storage= 7,365 cf

Plug-Flow detention time= 27.9 min calculated for 27,165 cf (100% of inflow)
 Center-of-Mass det. time= 27.7 min (843.8 - 816.1)

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	
		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	94.80'	7.0" Vert. Orifice/Grate C= 0.600
#2	Discarded	94.00'	8.270 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.98 cfs @ 11.65 hrs HW=94.04' (Free Discharge)
 ↑**2=Exfiltration** (Exfiltration Controls 0.98 cfs)

Primary OutFlow Max=1.33 cfs @ 12.46 hrs HW=96.16' (Free Discharge)
 ↑**1=Orifice/Grate** (Orifice Controls 1.33 cfs @ 4.99 fps)

Summary for Pond 3P: POND #3

Inflow Area = 190,732 sf, 42.33% Impervious, Inflow Depth > 3.47" for 25 Year Event event
 Inflow = 16.98 cfs @ 12.10 hrs, Volume= 55,149 cf
 Outflow = 12.55 cfs @ 12.18 hrs, Volume= 55,104 cf, Atten= 26%, Lag= 4.9 min
 Discarded = 0.82 cfs @ 12.18 hrs, Volume= 29,596 cf
 Primary = 11.74 cfs @ 12.18 hrs, Volume= 25,507 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 96.32' @ 12.18 hrs Surf.Area= 4,149 sf Storage= 11,374 cf

Plug-Flow detention time= 59.0 min calculated for 55,104 cf (100% of inflow)
 Center-of-Mass det. time= 58.5 min (865.9 - 807.4)

Volume	Invert	Avail.Storage	Storage Description
#1	92.60'	14,247 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	1,856	237.0	0	0	1,856
93.00	2,224	253.0	815	815	2,488
94.00	2,765	268.0	2,490	3,304	3,162
95.00	3,340	284.0	3,048	6,352	3,917
96.00	3,951	302.0	3,641	9,994	4,806
97.00	4,562	311.0	4,253	14,247	5,341

Device	Routing	Invert	Outlet Devices
#1	Primary	94.80'	2.1' long Sharp-Crested Rectangular Weir 2 End Contraction(s) 3.0' Crest Height
#2	Discarded	92.60'	8.270 in/hr Exfiltration over Horizontal area Conductivity to Groundwater Elevation = 0.00'

Discarded OutFlow Max=0.82 cfs @ 12.18 hrs HW=96.31' (Free Discharge)
 ↑**2=Exfiltration** (Controls 0.82 cfs)

Primary OutFlow Max=11.61 cfs @ 12.18 hrs HW=96.31' (Free Discharge)
 ↑**1=Sharp-Crested Rectangular Weir** (Weir Controls 11.61 cfs @ 4.27 fps)

Summary for Pond PE: Exist. infiltration

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 = 0.08 cfs @ 14.45 hrs, Volume= 1,474 cf, Atten= 81%, Lag= 142.8 min
 Discarded = 0.08 cfs @ 14.45 hrs, Volume= 1,474 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= 92.16' @ 12.53 hrs Surf.Area= 371 sf Storage= 400 cf

Plug-Flow detention time= 31.2 min calculated for 1,474 cf (100% of inflow)
 Center-of-Mass det. time= 31.1 min (776.0 - 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'	8.270 in/hr Exfiltration over Surface area

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

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

Summary for Link 3A: Lot 3A

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 0.00" for 25 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

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 = 0.00" for 25 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

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 = 0.00" for 25 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

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 = 0.00" for 25 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

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 = 0.00" for 25 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

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 = 0.00" for 25 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

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 = 0.00" for 25 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

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 = 0.00" for 25 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

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 = 0.00" for 25 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

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 = 0.00" for 25 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

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 = 0.00" for 25 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

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 = 0.00" for 25 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

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 = 0.00" for 25 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

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 = 0.00" for 25 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

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 = 0.00" for 25 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

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 = 0.00" for 25 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

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 = 0.00" for 25 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

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 = 0.00" for 25 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

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 = 0.00" for 25 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

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 = 0.00" for 25 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

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 = 0.00" for 25 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

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 = 0.00" for 25 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

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 = 0.00" for 25 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

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 = 0.00" for 25 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

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 = 0.00" for 25 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

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

Summary for Link 40L: Lot 4a

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 0.00" for 25 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

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=143,341 sf 2.00% Impervious Runoff Depth>3.86" Flow Length=850' Tc=10.8 min CN=74 Runoff=12.62 cfs 46,121 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
Subcatchment 24S: Lot 15	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>6.56" Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf
Subcatchment 40S: Lot 13 house-Lawn	Runoff Area=14,500 sf 10.34% Impervious Runoff Depth>4.08" Tc=5.0 min CN=76 Runoff=1.59 cfs 4,926 cf
Subcatchment 41S: Lot 12	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>6.56" Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf

Subcatchment 42S: Lot 11	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>6.56" Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf
Subcatchment 43S: Lot 14	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>6.56" Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf
Subcatchment 44S: Lot 16	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>6.56" Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf
Subcatchment 45S: Lot 10	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>6.56" Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf
Subcatchment 46S: Lot 8	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>6.56" Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf
Subcatchment 47S: Lot 9	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>6.56" Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf
Subcatchment 49S: Lot 7	Runoff Area=1,500 sf 100.00% Impervious Runoff Depth>6.56" Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf
Reach 1R: 18" RCP	Avg. Flow Depth=0.82' Max Vel=7.92 fps Inflow=7.80 cfs 17,303 cf 18.0" Round Pipe n=0.013 L=60.0' S=0.0167 '/' Capacity=13.56 cfs Outflow=7.78 cfs 17,303 cf
Reach 2R: 24" RCP	Avg. Flow Depth=1.37' Max Vel=6.54 fps Inflow=14.96 cfs 49,003 cf 24.0" Round Pipe n=0.013 L=30.0' S=0.0067 '/' Capacity=18.47 cfs Outflow=14.93 cfs 48,999 cf
Reach 3R: 21" RCP	Avg. Flow Depth=1.32' Max Vel=5.19 fps Inflow=10.05 cfs 32,523 cf 21.0" Round Pipe n=0.013 L=120.0' S=0.0048 '/' Capacity=11.02 cfs Outflow=9.94 cfs 32,512 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=0.00 cfs 0 cf Outflow=0.00 cfs 0 cf
Reach 6R: 21" RCP	Avg. Flow Depth=1.11' Max Vel=7.14 fps Inflow=11.56 cfs 35,892 cf 21.0" Round Pipe n=0.013 L=25.0' S=0.0100 '/' Capacity=15.85 cfs Outflow=11.47 cfs 35,890 cf
Reach 7R: 18" RCP	Avg. Flow Depth=0.32' Max Vel=6.94 fps Inflow=1.92 cfs 9,881 cf 18.0" Round Pipe n=0.013 L=60.0' S=0.0333 '/' Capacity=19.18 cfs Outflow=1.91 cfs 9,881 cf
Reach 8R: 18" RCP	Avg. Flow Depth=0.84' Max Vel=5.10 fps Inflow=5.24 cfs 16,732 cf 18.0" Round Pipe n=0.013 L=170.0' S=0.0068 '/' Capacity=8.64 cfs Outflow=5.11 cfs 16,724 cf
Reach 9R: 18" RCP	Avg. Flow Depth=0.85' Max Vel=4.93 fps Inflow=5.11 cfs 16,724 cf 18.0" Round Pipe n=0.013 L=45.0' S=0.0062 '/' Capacity=8.29 cfs Outflow=5.08 cfs 16,721 cf
Reach 10R: 24" RCP	Avg. Flow Depth=1.58' Max Vel=7.38 fps Inflow=19.66 cfs 63,456 cf 24.0" Round Pipe n=0.013 L=100.0' S=0.0081 '/' Capacity=20.36 cfs Outflow=19.50 cfs 63,443 cf
Reach 11R: 15" RCP	Avg. Flow Depth=0.77' Max Vel=5.74 fps Inflow=4.61 cfs 14,547 cf 15.0" Round Pipe n=0.013 L=250.0' S=0.0102 '/' Capacity=6.52 cfs Outflow=4.46 cfs 14,538 cf

Reach 12R: 24" RCP Avg. Flow Depth=1.48' Max Vel=8.15 fps Inflow=20.35 cfs 66,682 cf
 24.0" Round Pipe n=0.013 L=20.0' S=0.0100 '/ Capacity=22.62 cfs Outflow=20.32 cfs 66,680 cf

Reach 13R: 12" RCP Avg. Flow Depth=0.40' Max Vel=3.26 fps Inflow=0.97 cfs 3,243 cf
 12.0" Round Pipe n=0.013 L=260.0' S=0.0063 '/ Capacity=2.84 cfs Outflow=0.91 cfs 3,240 cf

Reach 14R: 21" RCP Avg. Flow Depth=1.75' Max Vel=6.10 fps Inflow=16.10 cfs 38,181 cf
 21.0" Round Pipe n=0.013 L=30.0' S=0.0067 '/ Capacity=12.94 cfs Outflow=13.92 cfs 38,181 cf

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

Reach 17R: Overflow Inflow=2.08 cfs 7,378 cf
 Outflow=2.08 cfs 7,378 cf

Reach 40R: 21" RCP Avg. Flow Depth=0.35' Max Vel=2.89 fps Inflow=1.00 cfs 3,636 cf
 21.0" Round Pipe n=0.013 L=135.0' S=0.0051 '/ Capacity=11.33 cfs Outflow=0.97 cfs 3,633 cf

Reach 41R: 21" RCP Avg. Flow Depth=0.35' Max Vel=2.93 fps Inflow=1.01 cfs 3,636 cf
 21.0" Round Pipe n=0.013 L=40.0' S=0.0052 '/ Capacity=11.48 cfs Outflow=1.00 cfs 3,636 cf

Reach 42R: 21" RCP Avg. Flow Depth=1.10' Max Vel=7.15 fps Inflow=11.47 cfs 35,890 cf
 21.0" Round Pipe n=0.013 L=55.0' S=0.0100 '/ Capacity=15.85 cfs Outflow=11.43 cfs 35,886 cf

Reach 43R: 12" RCP Avg. Flow Depth=0.40' Max Vel=3.09 fps Inflow=0.91 cfs 3,240 cf
 12.0" Round Pipe n=0.013 L=95.0' S=0.0058 '/ Capacity=2.71 cfs Outflow=0.89 cfs 3,239 cf

Reach 45R: 21" RCP Avg. Flow Depth=1.29' Max Vel=8.01 fps Inflow=15.27 cfs 48,922 cf
 21.0" Round Pipe n=0.013 L=50.0' S=0.0116 '/ Capacity=17.07 cfs Outflow=15.23 cfs 48,918 cf

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

Reach DCP1: DESIGN POINT #1 Inflow=9.35 cfs 27,184 cf
 Outflow=9.35 cfs 27,184 cf

Reach DCP2: DESIGN POINT #2 Inflow=5.86 cfs 18,640 cf
 Outflow=5.86 cfs 18,640 cf

Reach DCP3: DESIGN POINT #3 Inflow=27.15 cfs 91,679 cf
 Outflow=27.15 cfs 91,679 cf

Pond 1P: POND #1 Peak Elev=98.38' Storage=10,476 cf Inflow=14.93 cfs 48,999 cf
 Discarded=1.02 cfs 32,692 cf Primary=7.64 cfs 16,296 cf Outflow=8.66 cfs 48,988 cf

Pond 2P: POND #2 Peak Elev=97.31' Storage=10,303 cf Inflow=11.43 cfs 35,886 cf
 Discarded=0.98 cfs 25,996 cf Primary=1.92 cfs 9,881 cf Outflow=2.90 cfs 35,877 cf

Pond 3P: POND #3 Peak Elev=96.72' Storage=13,057 cf Inflow=21.88 cfs 71,606 cf
 Discarded=0.87 cfs 32,614 cf Primary=16.10 cfs 38,181 cf Outflow=16.97 cfs 70,795 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 = 12.62 cfs @ 12.15 hrs, Volume= 46,121 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	existing houses
76,300	74	>75% Grass cover, Good, HSG C
64,170	73	Woods, Fair, HSG C
143,341	74	Weighted Average
140,470		98.00% Pervious Area
2,871		2.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	50	0.0100	0.11		Sheet Flow, Sheet flow Grass: Short n= 0.150 P2= 3.20"
3.3	450	0.0200	2.28		Shallow Concentrated Flow, Shallow Unpaved Kv= 16.1 fps
0.1	350	1.0000	47.18	283.08	Channel Flow, River Flow Area= 6.0 sf Perim= 8.0' r= 0.75' n= 0.026 Earth, clean & winding
10.8	850	Total			

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 Subcatchment 24S: Lot 15

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 820 cf, Depth> 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 Subcatchment 40S: Lot 13 house-Lawn

Runoff = 1.59 cfs @ 12.08 hrs, Volume= 4,926 cf, Depth> 4.08"

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	House
*	13,000	74	Lawn
	14,500	76	Weighted Average
	13,000		89.66% Pervious Area
	1,500		10.34% Impervious Area

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

Summary for Subcatchment 41S: Lot 12

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 820 cf, Depth> 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 Subcatchment 42S: Lot 11

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 820 cf, Depth> 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 Subcatchment 43S: Lot 14

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 820 cf, Depth> 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 Subcatchment 44S: Lot 16

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 Subcatchment 45S: Lot 10

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 820 cf, Depth> 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 Subcatchment 46S: Lot 8

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 820 cf, Depth> 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 Subcatchment 47S: Lot 9

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 820 cf, Depth> 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 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 Subcatchment 49S: Lot 7

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 820 cf, Depth> 6.56"

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

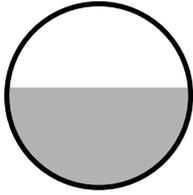
Summary for Reach 1R: 18" RCP

Inflow Area = 134,688 sf, 44.06% Impervious, Inflow Depth > 1.54" for 100 Year Event event
Inflow = 7.80 cfs @ 12.22 hrs, Volume= 17,303 cf
Outflow = 7.78 cfs @ 12.22 hrs, Volume= 17,303 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= 7.92 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.56 fps, Avg. Travel Time= 0.6 min

Peak Storage= 59 cf @ 12.22 hrs
Average Depth at Peak Storage= 0.82'
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'



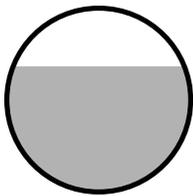
Summary for Reach 2R: 24" RCP

Inflow Area = 128,260 sf, 43.69% Impervious, Inflow Depth > 4.58" for 100 Year Event event
Inflow = 14.96 cfs @ 12.09 hrs, Volume= 49,003 cf
Outflow = 14.93 cfs @ 12.09 hrs, Volume= 48,999 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= 6.54 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.14 fps, Avg. Travel Time= 0.2 min

Peak Storage= 69 cf @ 12.09 hrs
Average Depth at Peak Storage= 1.37'
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 18.47 cfs

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



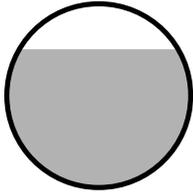
Summary for Reach 3R: 21" RCP

Inflow Area = 91,590 sf, 37.17% Impervious, Inflow Depth > 4.26" for 100 Year Event event
Inflow = 10.05 cfs @ 12.08 hrs, Volume= 32,523 cf
Outflow = 9.94 cfs @ 12.09 hrs, Volume= 32,512 cf, Atten= 1%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.19 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 1.70 fps, Avg. Travel Time= 1.2 min

Peak Storage= 233 cf @ 12.09 hrs
Average Depth at Peak Storage= 1.32'
Bank-Full Depth= 1.75' Flow Area= 2.4 sf, Capacity= 11.02 cfs

21.0" Round Pipe
n= 0.013
Length= 120.0' Slope= 0.0048 '/
Inlet Invert= 96.23', Outlet Invert= 95.65'



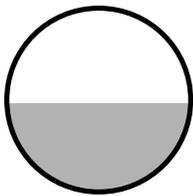
Summary for Reach 4R: 12" RCP

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 = 0.00" for 100 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

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

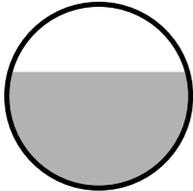
Summary for Reach 6R: 21" RCP

Inflow Area = 106,055 sf, 32.30% Impervious, Inflow Depth > 4.06" for 100 Year Event event
Inflow = 11.56 cfs @ 12.07 hrs, Volume= 35,892 cf
Outflow = 11.47 cfs @ 12.08 hrs, Volume= 35,890 cf, Atten= 1%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.14 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.57 fps, Avg. Travel Time= 0.2 min

Peak Storage= 40 cf @ 12.08 hrs
Average Depth at Peak Storage= 1.11'
Bank-Full Depth= 1.75' Flow Area= 2.4 sf, Capacity= 15.85 cfs

21.0" Round Pipe
n= 0.013
Length= 25.0' Slope= 0.0100 '/'
Inlet Invert= 95.00', Outlet Invert= 94.75'



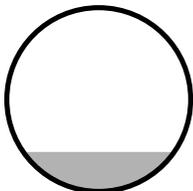
Summary for Reach 7R: 18" RCP

Inflow Area = 106,055 sf, 32.30% Impervious, Inflow Depth = 1.12" for 100 Year Event event
Inflow = 1.92 cfs @ 12.46 hrs, Volume= 9,881 cf
Outflow = 1.91 cfs @ 12.47 hrs, Volume= 9,881 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= 6.94 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 4.99 fps, Avg. Travel Time= 0.2 min

Peak Storage= 17 cf @ 12.47 hrs
Average Depth at Peak Storage= 0.32'
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'



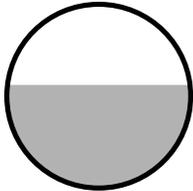
Summary for Reach 8R: 18" RCP

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 = 5.11 cfs @ 12.09 hrs, Volume= 16,724 cf, Atten= 3%, Lag= 1.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.10 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 1.75 fps, Avg. Travel Time= 1.6 min

Peak Storage= 173 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.84'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 8.64 cfs

18.0" Round Pipe
n= 0.013
Length= 170.0' Slope= 0.0068 '/'
Inlet Invert= 95.62', Outlet Invert= 94.47'



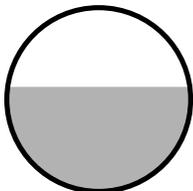
Summary for Reach 9R: 18" RCP

Inflow Area = 38,003 sf, 53.71% Impervious, Inflow Depth > 5.28" for 100 Year Event event
Inflow = 5.11 cfs @ 12.09 hrs, Volume= 16,724 cf
Outflow = 5.08 cfs @ 12.10 hrs, Volume= 16,721 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= 4.93 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.70 fps, Avg. Travel Time= 0.4 min

Peak Storage= 47 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.85'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 8.29 cfs

18.0" Round Pipe
n= 0.013
Length= 45.0' Slope= 0.0062 '/'
Inlet Invert= 94.47', Outlet Invert= 94.19'



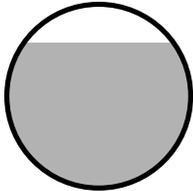
Summary for Reach 10R: 24" RCP

Inflow Area = 169,713 sf, 43.61% Impervious, Inflow Depth > 4.49" for 100 Year Event event
Inflow = 19.66 cfs @ 12.09 hrs, Volume= 63,456 cf
Outflow = 19.50 cfs @ 12.10 hrs, Volume= 63,443 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= 7.38 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 2.63 fps, Avg. Travel Time= 0.6 min

Peak Storage= 267 cf @ 12.09 hrs
Average Depth at Peak Storage= 1.58'
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 20.36 cfs

24.0" Round Pipe
n= 0.013
Length= 100.0' Slope= 0.0081 '/'
Inlet Invert= 93.61', Outlet Invert= 92.80'



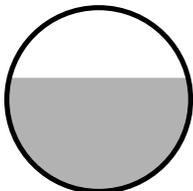
Summary for Reach 11R: 15" RCP

Inflow Area = 36,008 sf, 47.81% Impervious, Inflow Depth > 4.85" for 100 Year Event event
Inflow = 4.61 cfs @ 12.07 hrs, Volume= 14,547 cf
Outflow = 4.46 cfs @ 12.10 hrs, Volume= 14,538 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= 5.74 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 2.01 fps, Avg. Travel Time= 2.1 min

Peak Storage= 199 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.77'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 6.52 cfs

15.0" Round Pipe
n= 0.013
Length= 250.0' Slope= 0.0102 '/'
Inlet Invert= 96.16', Outlet Invert= 93.61'



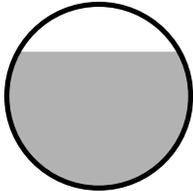
Summary for Reach 12R: 24" RCP

Inflow Area = 176,232 sf, 44.97% Impervious, Inflow Depth > 4.54" for 100 Year Event event
Inflow = 20.35 cfs @ 12.10 hrs, Volume= 66,682 cf
Outflow = 20.32 cfs @ 12.10 hrs, Volume= 66,680 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= 8.15 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.71 fps, Avg. Travel Time= 0.1 min

Peak Storage= 50 cf @ 12.10 hrs
Average Depth at Peak Storage= 1.48'
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'



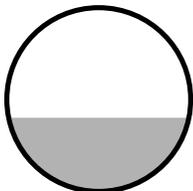
Summary for Reach 13R: 12" RCP

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 = 0.91 cfs @ 12.11 hrs, Volume= 3,240 cf, Atten= 6%, Lag= 2.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.26 fps, Min. Travel Time= 1.3 min
Avg. Velocity = 1.08 fps, Avg. Travel Time= 4.0 min

Peak Storage= 76 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.40'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 2.84 cfs

12.0" Round Pipe
n= 0.013
Length= 260.0' Slope= 0.0063 '/'
Inlet Invert= 95.00', Outlet Invert= 93.35'



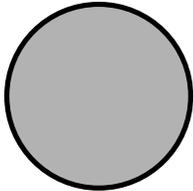
Summary for Reach 14R: 21" RCP

Inflow Area = 190,732 sf, 42.33% Impervious, Inflow Depth = 2.40" for 100 Year Event event
Inflow = 16.10 cfs @ 12.17 hrs, Volume= 38,181 cf
Outflow = 13.92 cfs @ 12.12 hrs, Volume= 38,181 cf, Atten= 14%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.10 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.93 fps, Avg. Travel Time= 0.2 min

Peak Storage= 72 cf @ 12.15 hrs
Average Depth at Peak Storage= 1.75'
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 100 Year Event event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Reach 17R: Overflow

Inflow Area = 13,500 sf, 100.00% Impervious, Inflow Depth > 6.56" for 100 Year Event event
Inflow = 2.08 cfs @ 12.07 hrs, Volume= 7,378 cf
Outflow = 2.08 cfs @ 12.07 hrs, Volume= 7,378 cf, Atten= 0%, Lag= 0.0 min

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

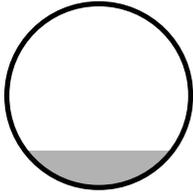
Summary for Reach 40R: 21" RCP

Inflow Area = 7,177 sf, 84.14% Impervious, Inflow Depth > 6.08" for 100 Year Event event
Inflow = 1.00 cfs @ 12.12 hrs, Volume= 3,636 cf
Outflow = 0.97 cfs @ 12.15 hrs, Volume= 3,633 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= 2.89 fps, Min. Travel Time= 0.8 min
Avg. Velocity = 0.97 fps, Avg. Travel Time= 2.3 min

Peak Storage= 46 cf @ 12.13 hrs
Average Depth at Peak Storage= 0.35'
Bank-Full Depth= 1.75' Flow Area= 2.4 sf, Capacity= 11.33 cfs

21.0" Round Pipe
n= 0.013
Length= 135.0' Slope= 0.0051 '/'
Inlet Invert= 96.92', Outlet Invert= 96.23'



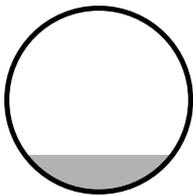
Summary for Reach 41R: 21" RCP

Inflow Area = 7,177 sf, 84.14% Impervious, Inflow Depth > 6.08" for 100 Year Event event
Inflow = 1.01 cfs @ 12.12 hrs, Volume= 3,636 cf
Outflow = 1.00 cfs @ 12.12 hrs, Volume= 3,636 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= 2.93 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 0.98 fps, Avg. Travel Time= 0.7 min

Peak Storage= 14 cf @ 12.12 hrs
Average Depth at Peak Storage= 0.35'
Bank-Full Depth= 1.75' Flow Area= 2.4 sf, Capacity= 11.48 cfs

21.0" Round Pipe
n= 0.013
Length= 40.0' Slope= 0.0052 '/
Inlet Invert= 97.13', Outlet Invert= 96.92'



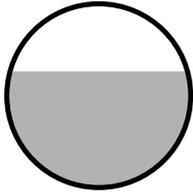
Summary for Reach 42R: 21" RCP

Inflow Area = 106,055 sf, 32.30% Impervious, Inflow Depth > 4.06" for 100 Year Event event
Inflow = 11.47 cfs @ 12.08 hrs, Volume= 35,890 cf
Outflow = 11.43 cfs @ 12.08 hrs, Volume= 35,886 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= 7.15 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.57 fps, Avg. Travel Time= 0.4 min

Peak Storage= 88 cf @ 12.08 hrs
Average Depth at Peak Storage= 1.10'
Bank-Full Depth= 1.75' Flow Area= 2.4 sf, Capacity= 15.85 cfs

21.0" Round Pipe
n= 0.013
Length= 55.0' Slope= 0.0100 '/
Inlet Invert= 94.65', Outlet Invert= 94.10'



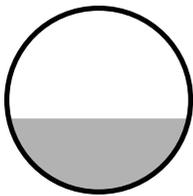
Summary for Reach 43R: 12" RCP

Inflow Area = 6,519 sf, 80.29% Impervious, Inflow Depth > 5.96" for 100 Year Event event
Inflow = 0.91 cfs @ 12.11 hrs, Volume= 3,240 cf
Outflow = 0.89 cfs @ 12.13 hrs, Volume= 3,239 cf, Atten= 3%, Lag= 1.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.09 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 1.05 fps, Avg. Travel Time= 1.5 min

Peak Storage= 28 cf @ 12.12 hrs
Average Depth at Peak Storage= 0.40'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 2.71 cfs

12.0" Round Pipe
n= 0.013
Length= 95.0' Slope= 0.0058 '/
Inlet Invert= 93.35', Outlet Invert= 92.80'



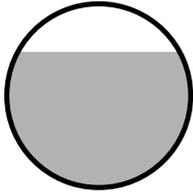
Summary for Reach 45R: 21" RCP

Inflow Area = 133,705 sf, 42.48% Impervious, Inflow Depth > 4.39" for 100 Year Event event
Inflow = 15.27 cfs @ 12.08 hrs, Volume= 48,922 cf
Outflow = 15.23 cfs @ 12.09 hrs, Volume= 48,918 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= 8.01 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.81 fps, Avg. Travel Time= 0.3 min

Peak Storage= 95 cf @ 12.08 hrs
Average Depth at Peak Storage= 1.29'
Bank-Full Depth= 1.75' Flow Area= 2.4 sf, Capacity= 17.07 cfs

21.0" Round Pipe
n= 0.013
Length= 50.0' Slope= 0.0116 '/
Inlet Invert= 94.19', Outlet Invert= 93.61'



Summary for Reach 63R: Overflow

Inflow Area = 7,500 sf, 100.00% Impervious, Inflow Depth = 0.00" for 100 Year Event event
 Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Reach DCP1: DESIGN POINT #1

Inflow Area = 240,743 sf, 38.88% Impervious, Inflow Depth > 1.36" for 100 Year Event event
 Inflow = 9.35 cfs @ 12.23 hrs, Volume= 27,184 cf
 Outflow = 9.35 cfs @ 12.23 hrs, Volume= 27,184 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 DCP2: DESIGN POINT #2

Inflow Area = 59,622 sf, 26.75% Impervious, Inflow Depth > 3.75" for 100 Year Event event
 Inflow = 5.86 cfs @ 12.08 hrs, Volume= 18,640 cf
 Outflow = 5.86 cfs @ 12.08 hrs, Volume= 18,640 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 DCP3: DESIGN POINT #3

Inflow Area = 347,573 sf, 27.94% Impervious, Inflow Depth > 3.17" for 100 Year Event event
 Inflow = 27.15 cfs @ 12.13 hrs, Volume= 91,679 cf
 Outflow = 27.15 cfs @ 12.13 hrs, Volume= 91,679 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 = 128,260 sf, 43.69% Impervious, Inflow Depth > 4.58" for 100 Year Event event
 Inflow = 14.93 cfs @ 12.09 hrs, Volume= 48,999 cf
 Outflow = 8.66 cfs @ 12.22 hrs, Volume= 48,988 cf, Atten= 42%, Lag= 7.8 min
 Discarded = 1.02 cfs @ 11.25 hrs, Volume= 32,692 cf
 Primary = 7.64 cfs @ 12.22 hrs, Volume= 16,296 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 98.38' @ 12.22 hrs Surf.Area= 5,325 sf Storage= 10,476 cf

Plug-Flow detention time= 27.6 min calculated for 48,988 cf (100% of inflow)

Center-of-Mass det. time= 27.5 min (825.9 - 798.4)

Volume	Invert	Avail.Storage	Storage Description
#1	95.40'	4,699 cf	Custom Stage Data (Irregular) Listed below 18,638 cf Overall - 6,891 cf Embedded = 11,746 cf x 40.0% Voids
#2	95.90'	6,891 cf	
		11,590 cf	Total Available Storage

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

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

Discarded OutFlow Max=1.02 cfs @ 11.25 hrs HW=95.44' (Free Discharge)
 ↳ **1=Exfiltration** (Exfiltration Controls 1.02 cfs)

Primary OutFlow Max=7.52 cfs @ 12.22 hrs HW=98.35' (Free Discharge)
 ↳ **2=Sharp-Crested Rectangular Weir** (Weir Controls 7.52 cfs @ 4.52 fps)

Summary for Pond 2P: POND #2

Inflow Area = 106,055 sf, 32.30% Impervious, Inflow Depth > 4.06" for 100 Year Event event
 Inflow = 11.43 cfs @ 12.08 hrs, Volume= 35,886 cf
 Outflow = 2.90 cfs @ 12.46 hrs, Volume= 35,877 cf, Atten= 75%, Lag= 22.9 min
 Discarded = 0.98 cfs @ 11.50 hrs, Volume= 25,996 cf
 Primary = 1.92 cfs @ 12.46 hrs, Volume= 9,881 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 97.31' @ 12.46 hrs Surf.Area= 5,143 sf Storage= 10,303 cf

Plug-Flow detention time= 32.6 min calculated for 35,877 cf (100% of inflow)
 Center-of-Mass det. time= 32.4 min (840.6 - 808.2)

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	
		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	94.80'	7.0" Vert. Orifice/Grate C= 0.600
#2	Discarded	94.00'	8.270 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.98 cfs @ 11.50 hrs HW=94.04' (Free Discharge)
 ↑**2=Exfiltration** (Exfiltration Controls 0.98 cfs)

Primary OutFlow Max=1.91 cfs @ 12.46 hrs HW=97.30' (Free Discharge)
 ↑**1=Orifice/Grate** (Orifice Controls 1.91 cfs @ 7.16 fps)

Summary for Pond 3P: POND #3

Inflow Area = 190,732 sf, 42.33% Impervious, Inflow Depth > 4.51" for 100 Year Event event
 Inflow = 21.88 cfs @ 12.10 hrs, Volume= 71,606 cf
 Outflow = 16.97 cfs @ 12.17 hrs, Volume= 70,795 cf, Atten= 22%, Lag= 4.4 min
 Discarded = 0.87 cfs @ 12.17 hrs, Volume= 32,614 cf
 Primary = 16.10 cfs @ 12.17 hrs, Volume= 38,181 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 96.72' @ 12.17 hrs Surf.Area= 4,391 sf Storage= 13,057 cf

Plug-Flow detention time= 54.9 min calculated for 70,795 cf (99% of inflow)
 Center-of-Mass det. time= 47.9 min (848.1 - 800.2)

Volume	Invert	Avail.Storage	Storage Description
#1	92.60'	14,247 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	1,856	237.0	0	0	1,856
93.00	2,224	253.0	815	815	2,488
94.00	2,765	268.0	2,490	3,304	3,162
95.00	3,340	284.0	3,048	6,352	3,917
96.00	3,951	302.0	3,641	9,994	4,806
97.00	4,562	311.0	4,253	14,247	5,341

Device	Routing	Invert	Outlet Devices
#1	Primary	94.80'	2.1' long Sharp-Crested Rectangular Weir 2 End Contraction(s) 3.0' Crest Height
#2	Discarded	92.60'	8.270 in/hr Exfiltration over Horizontal area Conductivity to Groundwater Elevation = 0.00'

Discarded OutFlow Max=0.86 cfs @ 12.17 hrs HW=96.70' (Free Discharge)
 ↑**2=Exfiltration** (Controls 0.86 cfs)

Primary OutFlow Max=15.82 cfs @ 12.17 hrs HW=96.70' (Free Discharge)
 ↑**1=Sharp-Crested Rectangular Weir** (Weir Controls 15.82 cfs @ 4.85 fps)

Summary for Pond PE: Exist. infiltration

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 = 0.08 cfs @ 11.80 hrs, Volume= 1,803 cf, Atten= 84%, Lag= 0.0 min
 Discarded = 0.08 cfs @ 11.80 hrs, Volume= 1,803 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= 92.78' @ 12.62 hrs Surf.Area= 323 sf Storage= 543 cf

Plug-Flow detention time= 48.3 min calculated for 1,803 cf (100% of inflow)
 Center-of-Mass det. time= 48.1 min (790.2 - 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'	8.270 in/hr Exfiltration over Surface area

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

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

Summary for Link 3A: Lot 3A

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 0.00" for 100 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

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 = 0.00" for 100 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

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 = 0.00" for 100 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

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 = 0.00" for 100 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

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 = 0.00" for 100 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

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 = 0.00" for 100 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

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 = 0.00" for 100 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

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 = 0.00" for 100 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

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 = 0.00" for 100 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

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 = 0.00" for 100 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

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 = 0.00" for 100 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

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 = 0.00" for 100 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

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 = 0.00" for 100 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

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 = 0.00" for 100 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

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 = 0.00" for 100 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

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 = 0.00" for 100 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

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 = 0.00" for 100 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

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 = 0.00" for 100 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

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 = 0.00" for 100 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

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 = 0.00" for 100 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

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 = 0.00" for 100 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

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 = 0.00" for 100 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

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 = 0.00" for 100 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

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 = 0.00" for 100 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

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 = 0.00" for 100 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

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

Summary for Link 40L: Lot 4a

Inflow Area = 1,500 sf, 100.00% Impervious, Inflow Depth = 0.00" for 100 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

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

Brief Stormceptor Sizing Report - Northside Farm

Project Information & Location			
Project Name	Northside Farm	Project Number	5005
City	New Bedford	State/ Province	Massachusetts
Country	United States of America	Date	4/25/2016
Designer Information		EOR Information (optional)	
Name	Brendan Sullivan	Name	
Company	Cavanaro consulting	Company	
Phone #	781-659-8187	Phone #	
Email	bsullivan@cavanaroconsulting.com	Email	

Stormwater Treatment Recommendation

The recommended Stormceptor Model(s) which achieve or exceed the user defined water quality objective for each site within the project are listed in the below Sizing Summary table.

Site Name	Northside Farm
Target TSS Removal (%)	80
TSS Removal (%) Provided	91
Recommended Stormceptor Model	STC 450i

The recommended Stormceptor Model achieves the water quality objectives based on the selected inputs, historical rainfall records and selected practice size distribution.

Stormceptor Sizing Summary	
Stormceptor Model	% TSS Removal Provided
STC 450i	91
STC 900	94
STC 1200	95
STC 1800	95
STC 2400	96
STC 3600	96
STC 4800	97
STC 6000	97
STC 7200	98
STC 11000	99
STC 13000	99
STC 16000	99
Stormceptor MAX	Custom

Sizing Details			
Drainage Area		Water Quality Objective	
Total Area (acres)	0.22	TSS Removal (%)	80.0
Imperviousness %	87.4	Runoff Volume Capture (%)	
Rainfall		Oil Spill Capture Volume (Gal)	
Station Name	BLUE HILL	Peak Conveyed Flow Rate (CFS)	1.44
State/Province	Massachusetts	Water Quality Flow Rate (CFS)	0.60
Station ID #	0736	Up Stream Storage	
Years of Records	58	Storage (ac-ft)	Discharge (cfs)
Latitude	42°12'44"N	0.000	0.000
Longitude	71°6'53"W	Up Stream Flow Diversion	
		Max. Flow to Stormceptor (cfs)	

Particle Size Distribution (PSD) The selected PSD defines TSS removal Fine Distribution		
Particle Diameter (microns)	Distribution %	Specific Gravity
20.0	20.0	1.30
60.0	20.0	1.80
150.0	20.0	2.20
400.0	20.0	2.65
2000.0	20.0	2.65

Notes
<ul style="list-style-type: none"> Stormceptor performance estimates are based on simulations using PCSWMM for Stormceptor, which uses the EPA Rainfall and Runoff modules. Design estimates listed are only representative of specific project requirements based on total suspended solids (TSS) removal defined by the selected PSD, and based on stable site conditions only, after construction is completed. For submerged applications or sites specific to spill control, please contact your local Stormceptor representative for further design assistance.

For Stormceptor Specifications and Drawings Please Visit:
<http://www.imbriumsystems.com/technical-specifications>

EXISTING INFILTRATION POND FOR BANK ROOF
 (PE)

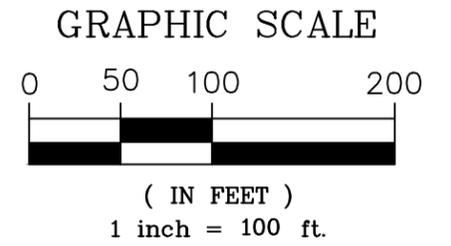
EXISTING INFILTRATION POND
 (1P)

EXISTING INFILTRATION POND
 (2P)

TIME OF CONCENTRATION FLOW PATH
 TOTAL LENGTH
 850 FEET

▲ DRAINAGE CONTROL POINT (TYPICAL)
 DCP # 2

③ SUBCATCHMENT AREA AND ASSOCIATED HYDROCAD NODE NO. TYPICAL
 ③B



**PROPOSED
 SUBCATCHMENT AREAS
 NORTHSIDE FARM
 NEW BEDFORD, MA**

CAVANARO CONSULTING 687 MAIN STREET NORWELL, MASSACHUSETTS 02061 PHONE: 781.659.8187 FAX: 781.659.8186		<p>PSC DRAWING NO.</p>
SCALE : AS SHOWN DATE : 5/10/06 SURVEY : GC/JS	DESIGNED BY : BPS DRAWN BY : BPS CHECKED BY : JCC	

REV. 4/26/16
 REV. 4/12/16
 REV. 7/25/08
 REV. 7/14/08

