BELANGER ENGINEERING
CONSULTING ENGINEERS

Stormwater Report

Park Drive Residences
80 Unit
Residential Development Project
Topsham, Maine

January 16, 2023

80 unit residential apartment development project
100 Park Drive, Topsham, Maine
Town of Topsham Tax Map R5 Lots 21D-18 and 21D-19

BY: **Belanger Engineering**
63 Second Avenue
Augusta, Maine 04330
207-622-1462

FOR: **Dan Catlin, Commercial Properties**
Park Drive, Lot 12, LLC
P.O. Box 66749
Falmouth, Maine 04105

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Stormwater Narrative – Park Drive Residences
80 Unit Residential Apartment Project
Park Drive, Topsham, Maine

Belanger Engineering is preparing a Stormwater report for the proposed Park Drive Residences project located Merryman Way and Park Drives in Topsham. The project parcel is approximately 5.10 acres in size. The site is located on the east side of Park Drive and is located adjacent to the Goodwill Retail Store along Park Drive. The property is owned by Dan Catlin under the entity Park Drive Lot 12 LLC. and is shown on Town Tax Map R5 Lots 21D-18 and 21D-19. The developer proposes to create 80 residential apartment units together with utilities to support them. The two parcels Lot 11 and Lot 12 are part of the Topsham Fair Mall Subdivision Project. Maine DEP approved the original expansion in 2006. (See Order #L-7554-23-AQ-C). A couple of minor revisions also occurred at this site.

The parcels are located behind the existing residential lots along Forest Glen Way and adjacent to existing commercial development along Park Drive. The parcels have frontage on Park Drive and Merryman Way. The parcels are currently substantially developed with buildings and pavement that support an existing Goodwill retail store as well as a 25,000 s.f. future retail building that was never constructed. All the utilities and parking associated for this building has been constructed. The existing conditions site currently supports 2.38 acres of Impervious Area and 3.61 acres of developed area.

The proposed re-development project is located over existing previously approved impervious and developed areas. The developer proposes to construct four (4) - 60'X75', 4 story, 20 unit, apartment buildings. The project will utilize existing pavement and parking limits constructed for the previous building to the extent feasible. Catch basins, storm drains, and outlets will be used to support drainage for the new project. The storm drains currently outlet to an existing filter pond located along Park Drive. The project existing and proposed paved areas will continue to drain to this pond for treatment.

EXISTING IMPERVIOUS AREA: PRE DEVELOPMENT

EXISTING IMPERVIOUS AREA:	68,787 S.F. = 1.58 ACRES
EXISTING BUILDING (GOODWILL) TO REMAIN:	13,812 S.F. = 0.32 ACRES
APPROVED FUTURE BUILDING:	21,073 S.F. = 0.57 ACRES
TOTAL IMPERVIOUS:	103,672 S.F. = 2.38 ACRES
EXISTING DEVELOPED AREA:	157,252 S.F. = 3.61 ACRES

PROPOSED IMPERVIOUS AREA: POST DEVELOPMENT

EXISTING IMPERVIOUS AREA TO REMAIN:	24,079 S.F. =	0.55 ACRES
EXISTING BUILDING (GOODWILL) TO REMAIN:	13,812 S.F. =	0.32 ACRES
PROPOSED PAVED AREAS:	62,742 S.F. =	1.44 ACRES
PROPOSED BUILDINGS (4 - 60'X75') =	18,000 S.F. =	0.41 ACRES
TOTAL IMPERVIOUS AREA:	118,633 S.F. = 2.72 ACRES	
PROPOSED DEVELOPED AREA:	179,467 S.F. = 4.12 ACRES	

NET CHANGE IN IMPERVIOUS AREA: 118,633 S.F. – 103,672 S.F. = 14,961 S.F. = +0.34 ACRES.

Based on discussion with staff, we have added upper watershed development areas and included them in the enclosed Hyrdocad calculations to measure quantity results for the watersheds culvert crossing Park Drive and Topsham Fair Mall Road. The watershed drains to an existing 24" culvert crossing Topsham Fair Mall Road. The hydrocad model includes these areas for quantity control calculations and measures the results. See Flooding Standard below.

The Town of Topsham has delegated review authority over stormwater projects. This project may trigger a stormwater review by Maine DEP with the addition of 0.34 acres of additional impervious area and 0.14 acres of developed area. We will confirm and submit the appropriate minor revision application as required. To provide quality treatment for the site we anticipate using the existing filter pond that was sized to treat the development. In addition, we will install roof driplines along the new apartment buildings to supplement existing pond treatment.

DEP Jurisdiction: The proposed project includes the re-development of an approved plan. The new project replaces a previously approved 25,000 s.f. building. The new project creates 0.14 acres of developed area and the creation of 0.34 acres of impervious area. The original project created 2.38 acres of impervious area and 3.61 acres of developed area. After development the sites will support 2.72 acres of impervious area and 4.12 acres of development on Lots 11 and 12. The project does trigger the Site Law due to the Topsham Fair Mall subdivision expansion. The project is not located within the urban impaired stream watershed. The urban impaired stream standards are not required for this project. The project is not located within a lake or severely blooming lake watershed. As a result, the Basic Standards, General Standards, and Flooding standards apply to this project as it applies to DEP thresholds.

Basic Standards
1. Erosion and sedimentation control plan – See Appendix A of Chapter 500 Rules
2. Inspection and Maintenance Plan – See Appendix A and B of Chapter 500 Rules
3. Housekeeping – See Appendix C of the Chapter 500 Rules

General Standards
1. Narrative
2. Drainage Plans
3. Calculations
4. Details, designs, and specifications for Underdrained grass filters and Wet Ponds.

Flooding Standards
1. Stormwater Management System must detain, retain, or result in infiltration of stormwater for the 2, 10, 25 storms such that the peak flows do not exceed "pre-development" conditions.

Existing Conditions

The existing lot is 5.10 acres in size and is currently fully developed. The site currently supports the Goodwill Retail Store and a future pad site located on Lot 12. All the utilities, infrastructure and parking has been installed to support the 25,000 s.f. building. This area is being redeveloped with the proposed apartment project. The site drains in a generally westerly direction across the property to the existing filter pond built to serve the development. This property drains toward the Topsham Fair Mall Road and an existing 24" culvert draining the wetland and stream below Park Drive (off site). The property drains toward off site small streams via existing storm drains adjacent to Park Drive.

Proposed Conditions

The developer proposes to create 80 residential units, in 4 buildings, together with parking and utilities to support them. The project will be constructed in Phases. The developer's plan is to build the two buildings adjacent to Merryman Way first (Buildings 2 and 3). The parking and utilities will be completed and improvements along Merry Way will be completed. The existing entrance and parking around Goodwill will remain the same for this phase. Once the developer is ready, the last two building will be built in the later phases. At this point the existing Park Drive entrance will be shifted and re-aligned to provide truck circulation as well as parking for Goodwill and the Apartments project. The proposed project includes the development of 0.14 acres of new developed area and the creation of 0.34 acres of road impervious area.

Project Location: The project is located off Merryman Way and Park Drives, in Topsham, Maine.
Surface water on or abutting the site: No wetlands exist within the development area. Stormwater from the site flows into an existing filter pond constructed to support the development. Stormwater drains toward Park Drive and Topsham Fair Mall Road. Eventually Stormwater discharges into the Androscoggin River.
Alterations to Land Cover: The drainage study is conducted on the watersheds 46.91 acres. The existing ground cover, prior to November 2005 is 0% impervious, 0% Lawn, 100% woods and meadow. The existing ground cover will result in approximately: 48% impervious, 24% lawn, and 28% woods.
Downstream ponds and Lakes: Stormwater from the site flows into the street which discharges to a small stream downstream, and then flows to the Androscoggin River. Enclosed is a U.S.G.S. Map showing the site location.
Historic Flooding: The site are not located in the Flood Zone.
Alterations to natural drainage ways: Natural drainage ways will not be altered as a result of the proposed development. Culverts will be installed to maintain current drainage flow patterns.

General Standard Calculations:

The project is required to treat the site impervious and developed area. Two BMP's are being utilized to treat impervious and developed areas as far as practical. An existing filter pond is located on site and will provide treatment for the project. In addition, roof driplines will be created around each new building to provide roof treatment and storage. Certain areas cannot practically receive treatment.

The treatment area summary and general standard calculations are attached and are shown on the stormwater post plans. As described in the attached calculations, the existing project captures 94% of the projects impervious area and 93% of the projects developed areas. The proposed project provides treatment for 94% of the site impervious area and 85% of the site developed area. As stated the front entrance drains directly onto Park Drive and is not captured and treated by the pond. In addition, the Goodwill building loading dock, drains outback and does not go to the pond for treatment. Approximately 0.15 acres cannot be practically captured. We request the DEP continue to allow the 94% capture standard which matches the original submittal results submitted to DEP previously.
The project as developed meets or exceeds the General Standards as outlined in the Chapter 500 stormwater rules.

Proposed BMP's: Silt fence is shown at the bottom of all slopes, hay bale barriers at the top of slopes and in ditches are provided. Other BMP's proposed for this project are described below.

Under drained Filter Pond – Pond 6P

One (1) filter has been constructed on site to support the project. The filter ponds have been sized to store 1.05" X the watersheds impervious area and 0.42"X the watersheds "disturbed" area to utilize the 94% capture thresholds. An emergency outlet control structure has been installed in the pond to provide emergency overflow. A earth emergency spillway is installed for an overflow to Park Drive when breached. The filter drain outlets into a catch basin in Park Drive.

Flooding Standard

Modeling assumptions: The flooding standard is required with this development because the Town of Topsham requires the project meet the pre-developed peak flows for the 2, 10, & 25 year storms and the project is part of a DEP site law permit. We have modeled the pond area to demonstrate that the outlets have the required storage volume capacity and that they will pass the 25 year storm event without flooding the pond embankments. The "HydroCad" computer program was used to determine the peak storm water runoff for the pre- and post-development conditions. HydroCad is a storm water modeling system, which utilizes the TR-20 method developed by the Soil Conservation Service (SCS).

The design assumptions used for this project are:

Design storm: 24 hour, Type III rainfall distribution.

Rainfall: 24 hour precipitation values from U.S. Weather Bureau Technical Release No. 40:
2 year storm = 3.2 inches
10 year storm = 4.6 inches
25 year storm = 5.7 inches
100 year storm = 7.8 inches

Site specific parameters for the project are listed below:

Soils: Soils information to determine the hydrologic soil group for the site, are derived from the Soil Survey of Sagadahoc County by the United States Department of Agriculture Soil Conservation Service. The soils and hydrologic group are listed below:

Soil Classification	Hydrologic Group
Adams – AaC, AaB	"A"
Buxton – BuC2	"C"
Hollis - HrC	"C/D"
Elmwood - EmB	"C"
Walpole - Wa	"C"
Ninigret – NgB	"B"

Ground Cover:

Pre-& Post Development: The watershed ground cover is modeled as woods, grass, and impervious.

Cover Description	Curve Number:
Impervious	98
Woods	30-70
Lawn	74

PRE- & POST-DEVELOPMENT HYDROLOGIC RESULTS

FLOODING STANDARD RESULTS Pond 6P			
Storm	PRE	POST	DIFFERENCE
	C.F.S.	C.F.S.	
2 YEAR	2.49	2.27	-0.22
10 YEAR	7.31	7.15	-0.16
25 YEAR	9.78	9.5	-0.28
50 YEAR	12.89	12.88	-0.01
100 YEAR	16.35	16.57	0.22

Pre Pond 6P Summary	
Storm	Flood Elevation (ft.)
2 YEAR	115.62
10 YEAR	115.88
25 YEAR	116.16
100 YEAR	116.45

Post Pond 6P Summary	
Storm	Flood Elevation (ft.)
2 YEAR	115.57
10 YEAR	115.85
25 YEAR	116.14
100 YEAR	116.46

Pond 6P is the existing filter pond located adjacent to Park Drive. The site improvements drain to the this pond for treatment and storage. The pond outlets to the street which is the point where the site crosses the property line. As shown above, this outlet meets the pre development peak flows for the 2, 10, and 25 year storms as required. This outlet crosses Merryman Way and Outlets to Pond 1P shown below.

FLOODING STANDARD RESULTS Pond 1P			
Storm	PRE	POST	DIFFERENCE
	C.F.S.	C.F.S.	
2 YEAR	6.04	5.91	-0.13
10 YEAR	13.82	13.83	0.01
25 YEAR	19.3	19.28	-0.02
50 YEAR	23.17	23.17	0.00
100 YEAR	27.48	27.37	-0.11

Pre Pond 1P Summary	
Storm	Flood Elevation (ft.)
2 YEAR	95.33
10 YEAR	96.44
25 YEAR	97.71
100 YEAR	100.39

Post Pond 1P Summary	
Storm	Flood Elevation (ft.)
2 YEAR	95.31
10 YEAR	96.44
25 YEAR	97.71
100 YEAR	100.35

Pond 1P is the existing 24" culvert that crosses Park Drive. As shown above, this outlet meets the pre development peak flows for the 2, 10, and 25 year storms as required. This outlet crosses Park Drive and Outlets to Pond 100P shown below.

FLOODING STANDARD RESULTS Pond 100P			
Storm	PRE	POST	DIFFERENCE
	C.F.S.	C.F.S.	
2 YEAR	21.38	21.35	-0.03
10 YEAR	29.93	29.87	-0.06
25 YEAR	36.02	35.92	-0.10
50 YEAR	40.5	40.42	-0.08
100 YEAR	43.66	43.57	-0.09

Pre Pond 100P Summary	
Storm	Flood Elevation (ft.)
2 YEAR	75.1
10 YEAR	77.02
25 YEAR	78.77
100 YEAR	81.43

Post Pond 100P Summary	
Storm	Flood Elevation (ft.)
2 YEAR	75.09
10 YEAR	77
25 YEAR	78.74
100 YEAR	81.4

Pond 100P is located off site downstream of Park Drive. Pond 100P is an existing 24" culvert passing under Topsham Fair Mall Road. As shown above, this outlet meets the pre development peak flows for the 2, 10, and 25 year storms as required. The pre and post development plans show the 100 year flooding area. This project has minimal impact on flooding behind the existing culvert at Topsham Fair Mall Road. Peak flooding during the 100 year event is contained within the adjacent ravine areas. The culvert temporarily may back flood but we expect it to drain within 24 hours. This project meets the pre development peak flows as required by the Town and DEP standards.

Conclusions and Recommendations:

Basic Standards

The Basic Standards will be met with the proposed erosion control plans and stabilization details provided. Site development will follow best management practices. The site is currently substantially developed. Silt fence or erosion control mix will be installed downslope of developed areas as required. The existing will be maintained and is stable. We submit that the Basic Standards are being met for this development.

Flooding Standards

The above analysis points are located where the project crosses the property line and points of interest where flows converge downstream. Peak flows have been reduced through the development of One (1) treatment pond which serve both water quality and quantity control. The 2, 10, 25 year storms meet the pre-development flow as required. The existing wetlands and ravine areas are not significantly impacted by the minor increases in the 100 year storm. The calculations indicate that flooding increased by 0.12" (.01') within the existing pond area. We consider this negligible and more than likely not even measureable in the field. The proposed structures have the capacity to control flow from the 100 year storm which exceeds the Flooding

Standard and Town of Topsham control requirements. As a result, the project does not significantly impact downstream structures or properties. We submit that the Flooding Standard has been met or exceeded with this development.

General Standards

The project is being constructed in Phases and has been designed to capture a minimum of 95% impervious area and 80% developed area as required in the Chapter 500 rules once the project is complete. Chapter 500 rules allow a 94% impervious area and 80% developed area capture requirement when areas cannot be practically captured. The General Standard calculations are included at the end of this report.

The project will capture 94% of the project impervious area and 85% of the developed area to meet the General Standards after development is complete. Some areas as noted cannot be practically be treated but have captured enough to meet the minimum standards. Portions of the Existing Park Drive Entrance cannot be practically captured within the storm drain system and delivered to a pond for treatment. The Goodwill loading dock also drains to the back without treatment. Only 0.15 acres of impervious area does not get treated. The pond and roof driplines captures and treats 2.57 acres of imperious area

We believe the project exceeds the minimum General Standard requirements.

We submit that the project meets the Basic, General, and Flooding standards as required by Maine DEP and the Flooding standard as required by the Town of Topsham Zoning. No further treatment is required for this development.

The treatment pond has been constructed and is working properly. This pond provides the necessary treatment required.

Maintenance:

PART 1: RESPONSIBILITY FOR MAINTENANCE

Park Drive, Lot 12, LLC (Dan Catlin - Developer) will be responsible for maintenance of the stormwater system. An agreement for maintenance has been completed with Goodwill Retail Facility on Lot 11.

PART 2: INSPECTIONS – During Construction and Post Construction

- Detention Facilities: Under drained grass filters (1 pond)
  Embankment inspection and maintenance
  Spillway maintenance
  Sediment removal and disposal

- Ditches, Swales, or other open stormwater channels
  Embankment inspection and maintenance
  Channel inspection
  Sediment removal and disposal

- Culverts, catch basins, stormwater control structures
  Embankment inspection and maintenance
  Inlet and Outlet inspection
  Debris removal and disposal

- Buffers (Not part of this project – N/A)
  Road Embankment inspection and maintenance
  Inlet and Outlet inspection
  Debris removal and disposal
  Appropriate Deed restrictions have been completed and recorded (Appendix G of stormwater application).

The owners' representative will inspect the filter/detention/wet ponds, swales, channels, stormwater structures to determine if the soil blockage or impaired capacity to pass flow exists. Inspections will be performed on a monthly basis from March to November and quarterly during the remainder of the year. A record of inspections and maintenance or corrective measures shall be kept by the owner (see part 4). Note the road system drainage is maintained by the Town. Maintenance by the developer will be limited to Pond Maintenance and filter restoration and site stabilization. The ponds will not be maintained by the Town.

PART 3: MAINTENANCE AND CLEANING

The owner will regularly inspect for sediment accumulation, obstructions, debris, and other potential causes for operational difficulty in the conveyance and detention system as described in Part 2. Immediate action shall be taken to remedy detrimental obstructions. This may include pond sediment removal and filter replacement to allow filtration to resume.

Cleaning out of catch basins, culvert cleaning, and other means necessary to ensure the stormwater system is maintained. Maintenance tasks completed shall be recorded on the Log sheet and presented to DEP when requested.

- Under drained filter Maintenance (One (1) Pond proposed for Goodwill and Apartment Development):
  - Soil Filter Inspection
  - Soil Filter replacement
  - Sediment removal and disposal
  - Mowing
  - Harvesting and Weeding

The owner will regularly inspect the soil filter after every major storm event in the first few months to ensure proper function. There after the filter should be inspected bi-annually to ensure that it is draining within 24 hours. The top several inches of the filter shall be replaced with fresh material when water ponds on the surface of the bed for more than 72 hours. Sediment shall be removed from the filter bed annually. The bed shall be hand raked and re-seeded as necessary. The removed sediment shall be hauled off site and disposed of in a stabilized area. Mowing of the filter area shall be limited to 2 times per year to maintain grass heights to less than 12". Weeding and pruning of growth within the filter zone will be completed as necessary.

- Detention Facilities: (One (1) pond is proposed to serve quantity treatment)

A mandatory scheduled maintenance will be performed every four weeks for a period of One hundred and twenty (120) days and will begin after satisfactory completion and acceptance of landscape construction. Ongoing maintenance will be required as necessary.

- Road Areas:

No roads are being developed with this project.

PART 4: RECORD KEEPING

The owner will maintain inspection records, with recordings of condition of basins, and pipes and annotation of substantial precipitation events or mitigating circumstances in the intervening time for trending to develop the anticipated preventive maintenance schedule.

PART 5: MAINTENANCE CONTRACT

Should proprietary devices be utilized, a maintenance contract will be established with the manufacturer for regular maintenance and cleaning of the device. None are being proposed for the Goodwill and Apartment development.

PART 6: RE-CERTIFICATION

The owner shall submit a certification to Maine DEP within three months of the expiration of each five year interval from the date of issuance of the permit. The owner shall submit the maintenance log which identifies inspections completed, erosion problems found, when corrective action was taken, and who completed the work. The certification will include a statement indicating that the stormwater system is working and is being maintained in working condition in accordance with the permit requirements.

Maintenance Log Sheet
Park Drive Residences Residential Development

Name	Maintenance Task Completed	Date

Housekeeping: Reference Appendix C of Chapter 500 Rules – Updated 2023

1. **Spill prevention.** Controls must be used to prevent pollutants from construction and waste materials stored on site to enter stormwater, which includes storage practices to minimize exposure of the materials to stormwater. The site contractor or operator must develop, and implement as necessary, appropriate spill prevention, containment, and response planning measures.

   NOTE: Any spill or release of toxic or hazardous substances must be reported to the Department. For oil spills, call 1-800-482-0777 which is available 24 hours a day. For spills of toxic or hazardous material, call 1-800-452-4664 which is available 24 hours a day. For more information, visit the Department's website at : http://www.maine.gov/dep/spills/emergspillresp/

2. **Groundwater protection.** During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored or handled in areas of the site draining to an infiltration area. An "infiltration area" is any area of the site that by design or as a result of soils, topography and other relevant factors accumulates runoff that infiltrates into the soil. Dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater may be used to isolate portions of the site for the purposes of storage and handling of these materials. Any project proposing infiltration of stormwater must provide adequate pre-treatment of stormwater prior to discharge of stormwater to the infiltration area, or provide for treatment within the infiltration area, in order to prevent the accumulation of fines, reduction in infiltration rate, and consequent flooding and destabilization.

   See Appendix D for license by rule standards for infiltration of stormwater.

   NOTE: Lack of appropriate pollutant removal best management practices (BMPs) may result in violations of the groundwater quality standard established by 38 M.R.S.A. §465-C(1).

3. **Fugitive sediment and dust.** Actions must be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil may not be used for dust control, but other water additives may be considered as needed. A stabilized construction entrance (SCE) should be included to minimize tracking of mud and sediment. If off-site tracking occurs, public roads should be swept immediately and no less than once a week and prior to significant storm events. Operations during dry months, that experience fugitive dust problems, should wet down unpaved access roads once a week or more frequently as needed with a water additive to suppress fugitive sediment and dust.

   NOTE: Dewatering a stream without a permit from the Department may violate state water quality standards and the *Natural Resources Protection Act*.

4. **Debris and other materials.** Minimize the exposure of construction debris, building and landscaping materials, trash, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials to precipitation and stormwater runoff. These materials must be prevented from becoming a pollutant source.

   NOTE: To prevent these materials from becoming a source of pollutants, construction and post-construction activities related to a project may be required to comply with applicable provision of rules related to solid, universal, and hazardous waste, including, but not limited to, the Maine solid waste and hazardous waste management rules; Maine hazardous waste management rules; Maine oil conveyance and storage rules; and Maine pesticide requirements.

5. **Excavation de-watering.** Excavation de-watering is the removal of water from trenches, foundations, coffer dams, ponds, and other areas within the construction area that retain water after excavation. In most cases the collected water is heavily silted and hinders correct and safe construction practices. The collected water removed from the ponded area, either through gravity or pumping, must be spread through natural wooded buffers or removed to areas that are specifically designed to collect the maximum amount of sediment possible, like a cofferdam sedimentation basin. Avoid allowing the water to flow over disturbed areas of the site. Equivalent measures may be taken if approved by the Department.

   NOTE: Dewatering controls are discussed in the "Maine Erosion and Sediment Control BMPs, Maine Department of Environmental Protection."

6. **Authorized Non-stormwater discharges.** Identify and prevent contamination by non-stormwater discharges. Where allowed non-stormwater discharges exist, they must be identified and steps should be taken to ensure the implementation of appropriate pollution prevention measures for the non-stormwater component(s) of the discharge. Authorized non-stormwater discharges are:

   (a) Discharges from firefighting activity;

   (b) Fire hydrant flushings;

   (c) Vehicle washwater if detergents are not used and washing is limited to the exterior of vehicles (engine, undercarriage and transmission washing is prohibited);

   (d) Dust control runoff in accordance with permit conditions and Appendix (C)(3);

   (e) Routine external building washdown, not including surface paint removal, that does not involve detergents;

   (f) Pavement washwater (where spills/leaks of toxic or hazardous materials have not occurred, unless all spilled material had been removed) if detergents are not used;

   (g) Uncontaminated air conditioning or compressor condensate;

   (h) Uncontaminated groundwater or spring water;

   (i) Foundation or footer drain-water where flows are not contaminated;

   (j) Uncontaminated excavation dewatering (see requirements in Appendix C(5));

   (k) Potable water sources including waterline flushings; and

   (l) Landscape irrigation.

7. **Unauthorized non-stormwater discharges .** The Department's approval under this Chapter does not authorize a discharge that is mixed with a source of non-stormwater, other than those discharges in compliance with Appendix C (6). Specifically, the Department's approval does not authorize discharges of the following:

   (a) Wastewater from the washout or cleanout of concrete, stucco, paint, form release oils, curing compounds or other construction materials;

   (b) Fuels, oils or other pollutants used in vehicle and equipment operation and maintenance;

   (c) Soaps, solvents, or detergents used in vehicle and equipment washing; and

   (d) Toxic or hazardous substances from a spill or other release.

(8) Additional requirements. Additional requirements may be applied on a site-specific basis. Stormwater pollution shall be prevented.

Park Drive Residences Project

Post Construction Inspection form for Detention / Retention Pond / Filter Pond

Pond Name / Number or Description: Pond 6P

General Information

Site Name: Park Drive Residences Date:

Owner: Park Drive, Lot 12, LLC Inspected By:

Retained 3PI: To be Determined Last Rain Date: Amount:

Reason for Inspection	Rain Event	Monthly	Quarterly	Bi-Annual

Basin Existing Condition and Basin Description

Photos

Inspection Details	**Yes / No**	**Comments:**
Is the pond free from trash, debris, or waste?		
Is the pond banks stable with vegetation established?		
Any erosion found on the pond banks?		
Have repaired been made? List Date and By whom.		
Is sediment built up within the pond bottom > 25% of volume?		
Are the outlet structure inlets free from debris and working?		
Has the outlet structure been cleaned and maintained? When?		
Is the emergency spillway stable, working, and free of debris?		
Is the pond outlet stable and functioning?		
Level spreader functioning propertly or filled with sediment?		
Is erosion occuring downslope of the pond outlet?		
Is the pond functioning as intended?		

Additional Comments:

Inlets and Outlets: The inlet and outlet of the pond should be checked periodically to ensure that flow structures are not blocked by debris. All ditches or pipes connecting ponds in series should be checked for debris that may obstruct flow.

Embankments: Wet ponds should be inspected annually for erosion, side slopes destabilization, embankment settline or other signs of structural failure. Corrective actions should be taken immediately upon identification of a problem.

Park Drive Residences Project
Post Construction Inspection form for Roof Dripline BMP

Building Number / Address

General Information

Site Name: Park Drive Residences Project Date:

Owner: Park Drive, Lot 12, LLC Inspected By:

Retained 3PI: To be Determined Last Rain Date: Amount:

Reason for Inspection

Rain Event	Monthly	Quarterly	Bi-Annual

Basin Condition

Photos

Inspection Details	**Yes / No**	**Comments:**
Is the dripline free from trash, debris, or waste?		
Is the dripline draining within 24 hours?		
Does the filter require replacment?		
Is the pond functioning as intended?		

Additional Comments:

Pre Development Watershed Areas and General Standard Calculation for Park Drive Residences Project 2023											
Subarea	Total Area	Total Area	**Off Site** Existing Impervious	**Off Site** Existing Lawn	**On site** Existing Impervious	**On site** Existing Impervious Area Treated	**On Site** Existing Lawn Area	**On Site** Existing Developed Area	Developed Area Treated acres	Existing Woods/Field Undeveloped	Notes
	sf	acres	acres	acres	acres	acres	acres	acres	acres	acres	
6	118193	2.71	0.00	0.07	2.23	2.23	0.41	2.64	3.01	0.00	Goodwill Site Filter Pond
8	51774	1.19	0.00	0.55	0.00	0.00	0.18	0.18	0.18	0.46	Offsite See Subarea 58S=0.15
10	120675	2.77	0.77	1.44	0.00		0.00	0.00		0.56	Off Site Areas
11	92217	2.12	0.42	0.37	0.00		0.00	0.00		1.33	Off Site Areas
14	46877	1.08	0.65	0.43	0.00		0.00	0.00		0.00	Off Site Areas
15	49929	1.15	0.12	0.44	0.00		0.00	0.00		0.59	Off Site Areas
20	153039	3.51	0.57	1.67	0.00		0.00	0.00		1.27	Offsite See Subarea 59S=0.20
21	61990	1.42	0.00	0.36	0.00		0.00	0.00		1.06	Offsite See Subarea 60S=0.25
22	15134	0.35	0.21	0.14	0.00		0.00	0.00		0.00	Off Site Areas
23	47900	1.10	0.47	0.63	0.00		0.00	0.00		0.00	Off Site Areas
41	67185	1.54	0.15	0.89	0.00		0.00	0.00		0.50	Office See Subarea 61S=0.20
50	54846	1.26	0.00	0.44	0.00	0.00	0.18	0.18	0.18	0.64	Offsite See Subarea 57S=0.15
56	4356	0.10	0.10					0.00		0.00	Off Site From Subarea 70
57	6534	0.15	0.15					0.00		0.00	Off Site From Subarea 50
58	6534	0.15	0.15					0.00		0.00	Off Site From Subarea 8
59	8712	0.20	0.20					0.00		0.00	Off Site From Subarea 20
60	10890	0.25	0.25					0.00		0.00	Off Site From Subarea 21
61	8712	0.20	0.20					0.00		0.00	Off Site From Subarea 41
70	14459	0.33	0.00	0.12	0.00		0.00	0.00		0.21	Offsite See Subarea 56S=0.1
100	482188	11.07	2.17	2.17	0.00		0.00	0.00		6.73	Off Site Areas
200	285182	6.55	2.60	2.60	0.00		0.00	0.00		1.35	Off Site Areas
700	336191	7.72	1.40	1.40	0.15	0.00	0.46	0.61	0.00	4.31	Off Site Areas
Totals	2043517	46.91	10.58	13.72	2.38	2.23	1.23	3.61	3.37	19.00	
		✓	✓	✓	✓	94%	✓	>80%	93%	✓	

POST Development Watershed Areas and General Standard Calculation for Park Drive Residences Project 2023											
Subarea	Total Area sf	Total Area acres	**Off Site** Existing Impervious acres	**Off Site** Existing Lawn acres	**On site** Existing Impervious acres	**On site** Existing Impervious Area Treated acres	**On Site** Existing Lawn Area acres	**On Site** Existing Developed Area acres	Developed Area Treated acres acres	Existing Woods/Field Undeveloped acres	Notes
6	140080	3.22	0.00	0.07	2.57	2.57	0.58	3.15	3.15	0.00	Goodwill Site Filter Pond
8	44101	1.01	0.00	0.55	0.00	0.00	0.18	0.18	0.18	0.28	Offsite See Subarea 58S=0.15
10	120675	2.77	0.77	1.44	0.00		0.00	0.00		0.56	Off Site Areas
11	92217	2.12	0.42	0.37	0.00		0.00	0.00		1.33	Off Site Areas
14	46877	1.08	0.65	0.43	0.00		0.00	0.00		0.00	Off Site Areas
15	49929	1.15	0.12	0.44	0.00		0.00	0.00		0.59	Off Site Areas
20	153039	3.51	0.57	1.67	0.00		0.00	0.00		1.27	Offsite See Subarea 59S=0.20
21	61990	1.42	0.00	0.36	0.00		0.00	0.00		1.06	Offsite See Subarea 60S=0.25
22	15134	0.35	0.21	0.14	0.00		0.00	0.00		0.00	Off Site Areas
23	47900	1.10	0.47	0.63	0.00		0.00	0.00		0.00	Off Site Areas
41	67185	1.54	0.15	0.89	0.00		0.00	0.00		0.50	Office See Subarea 61S=0.20
50	54390	1.25	0.00	0.44	0.00	0.00	0.18	0.18	0.18	0.63	Offsite See Subarea 57S=0.15
56	4356	0.10	0.10					0.00		0.00	Off Site From Subarea 70
57	6534	0.15	0.15					0.00		0.00	Off Site From Subarea 50
58	6534	0.15	0.15					0.00		0.00	Off Site From Subarea 8
59	8712	0.20	0.20					0.00		0.00	Off Site From Subarea 20
60	10890	0.25	0.25					0.00		0.00	Off Site From Subarea 21
61	8712	0.20	0.20					0.00		0.00	Off Site From Subarea 41
70	14459	0.33	0.00	0.12	0.00		0.00	0.00		0.21	Offsite See Subarea 56S=0.1
100	482188	11.07	2.17	2.17	0.00		0.00	0.00		6.73	Off Site Areas
200	285182	6.55	2.60	2.60	0.00		0.00	0.00		1.35	Off Site Areas
700	322425	7.40	1.40	1.40	0.15	0.00	0.46	0.61	0.00	3.99	Off Site Areas
Totals	2043509	46.91	10.58	13.72	2.72	2.57	1.40	4.12	3.51	18.49	
		✓	✓	✓	>90%	94%	✓	>80%	85%	✓	

January 16, 2023

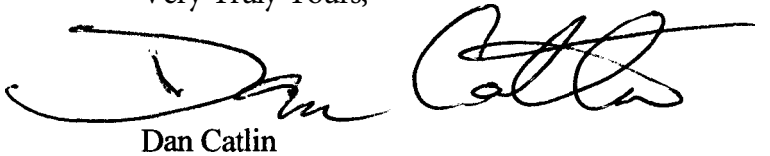
Christopher Belanger, P.E.
Belanger Engineering
63 Second Avenue
Augusta, ME 04330

RE: Town and State Permitting
Park Drive Residences
Project, 100 Park Drive,
Topsham, Maine

Dear Chris,

This letter will serve as authorization for Belanger Engineering to act as agent for Dan Catlin and Park Drive, Lot 12, LLC with regard to various land use permitting requirements for the Park Drive Residences Project located on Park Drive in Topsham. This will include any submissions to the DEP, DOT, EPA, ACOE and the Town.

Very Truly Yours,



Dan Catlin

MAINE
Department of the Secretary of State
Bureau of Corporations, Elections and Commissions

Corporate Name Search

Information Summary

Subscriber activity report

This record contains information from the CEC database and is accurate as of: Mon Jan 16 2023 19:44:33. Please print or save for your records.

Legal Name	Charter Number	Filing Type	Status
PARK DRIVE, LOT 12, LLC	20061885DC	LIMITED LIABILITY COMPANY (DOMESTIC)	GOOD STANDING

Filing Date	Expiration Date	Jurisdiction
12/29/2005	N/A	MAINE

Other Names **(A=Assumed ; F=Former)**

NONE

Clerk/Registered Agent

DANIEL M CATLIN
91 CLARK SHORE ROAD
HARPSWELL, ME 04079

Back to previous screen | New Search

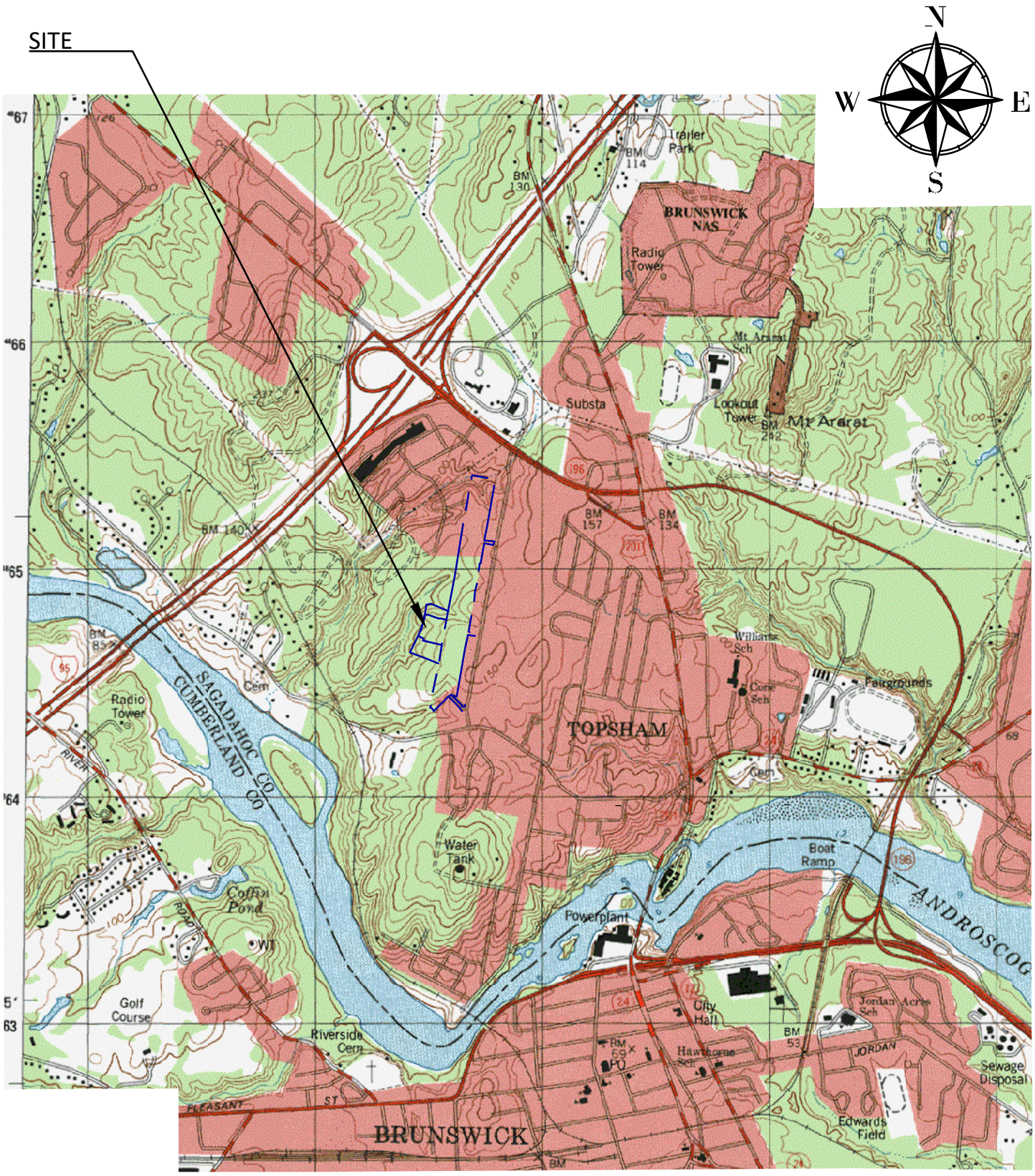
Click on a link to obtain additional information.

List of Filings	View list of filings	
Obtain additional information:		
Certificate of Existence (more info)	Short Form without amendments ($30.00)	Long Form with amendments ($30.00)

You will need Adobe Acrobat version 3.0 or higher in order to view PDF files.
If you encounter problems, visit the troubleshooting page.

Get Acrobat Reader

If you encounter technical difficulties while using these services, please contact the Webmaster. If you are unable to find the information you need through the resources provided on this web site, please contact the Bureau's Reporting and Information Section at 207-624-7752 or e-mail or visit



BELANGER ENGINEERING
CONSULTING ENGINEERS

0 1000 2000

1 inch = 2000ft.

Prepared For:
Park Drive Residences
100 Park Drive
Topsham, Maine 04011

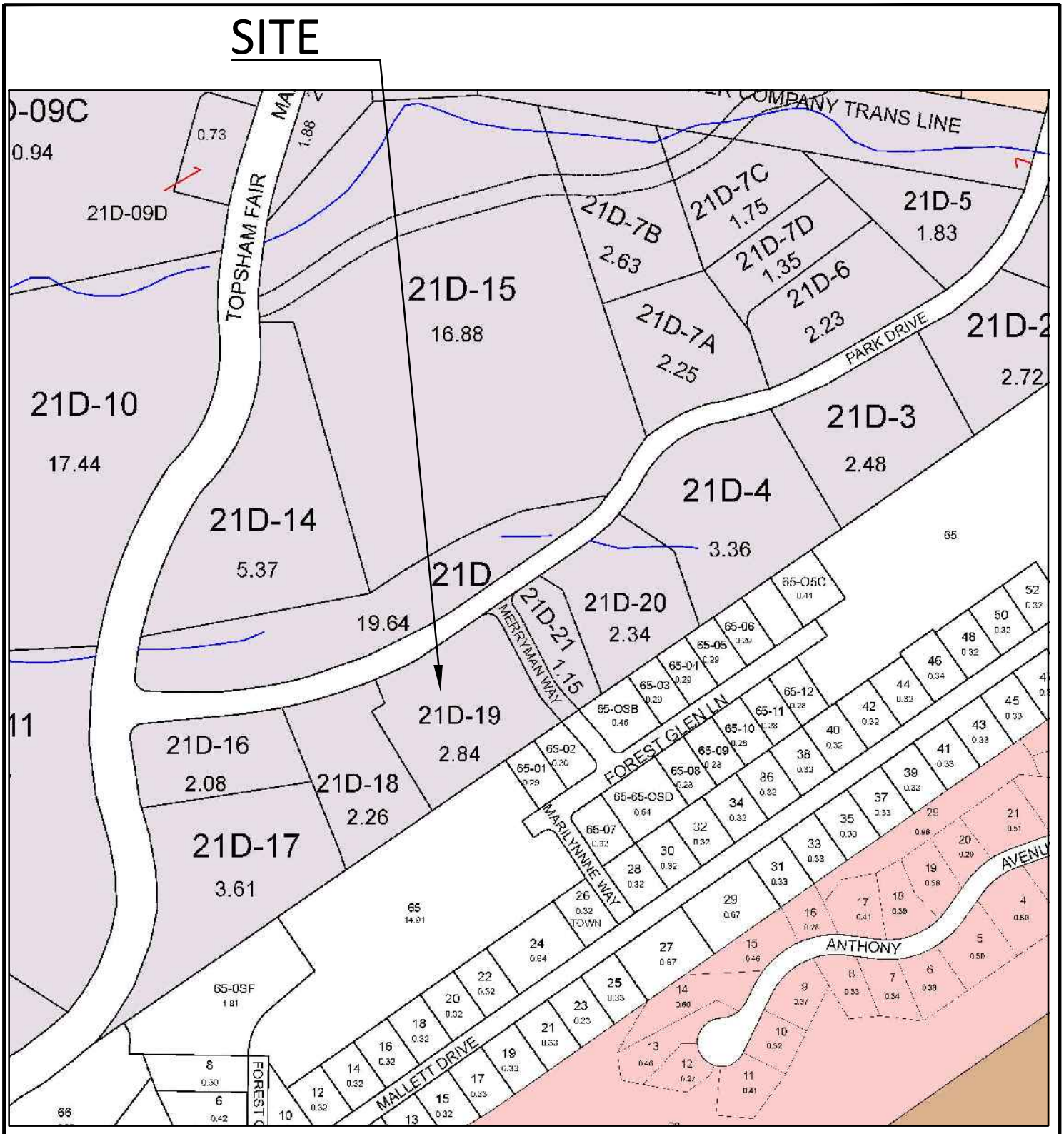
Title:
USGS Map Overlay

Scale: 1"= 2000'

Date: January 16, 2023

Project #: 192

Figure #:
1



BELANGER ENGINEERING
CONSULTING ENGINEERS

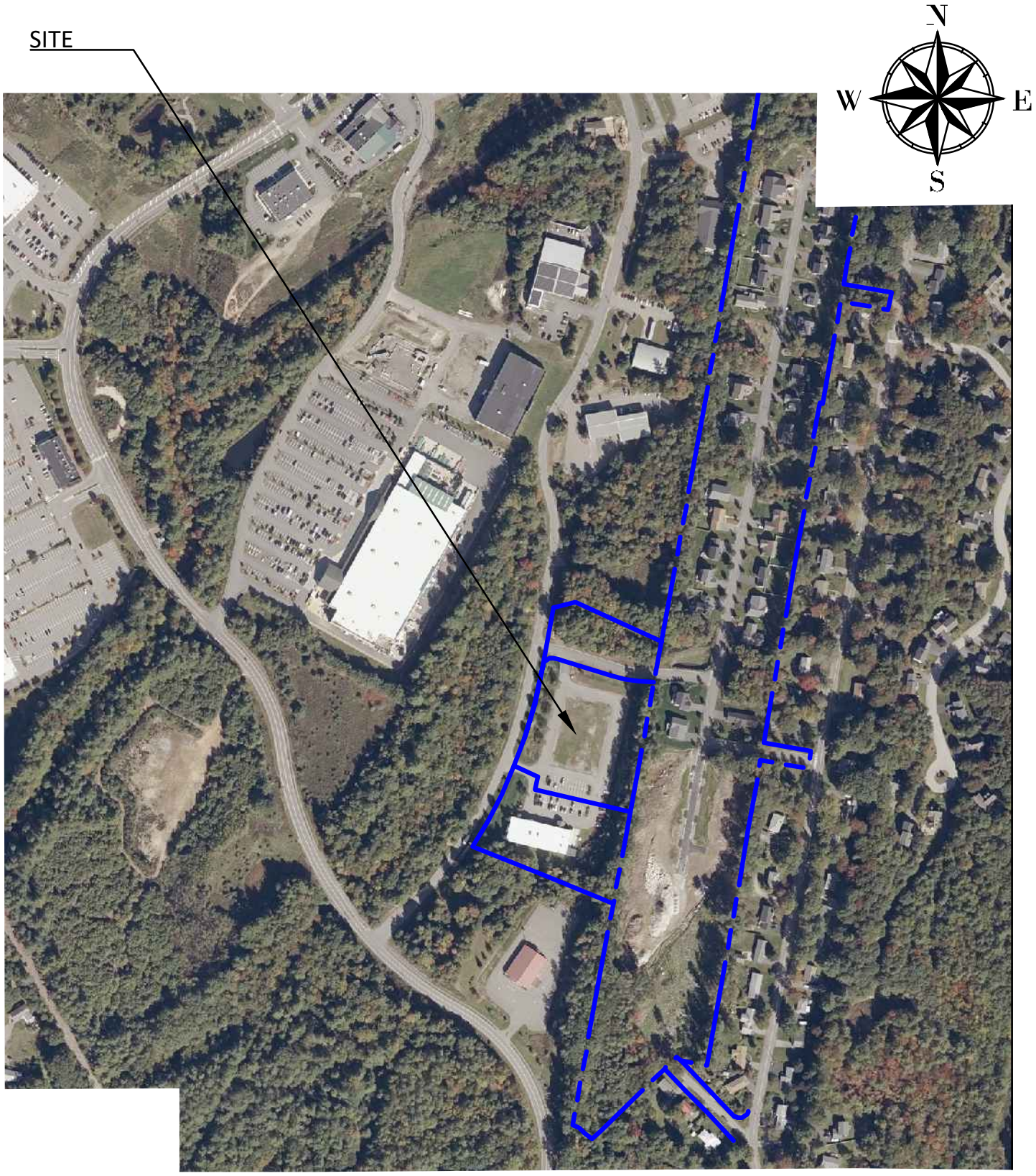
0 200 400
1 inch = 400 ft.

Prepared For:
Park Drive Residences
100 Park Drive
Topsham, Maine 04011

Title:
Tax Map Map Overlay

Scale: Not to Scale
Date: January 16, 2023
Project #: 192

Figure #:
3



BELANGER ENGINEERING
CONSULTING ENGINEERS

0 200 400
1 inch = 400 ft.

Prepared For:
Park Drive Residences
100 Park Drive
Topsham, Maine 04011

Title:
AERIAL Map Overlay

Scale: 1"= 400'

Date: January 16, 2023

Project #: 192

Figure #:
2


69° 58' 53" W
69° 58' 22" W
421300
421400
421500
421600
421700
421800
421900
43° 56' 10" N
43° 55' 40" N
4865200
4865100
4865000
4864900
4864800
4864700
4864600
4864500
4864400
Park Dr
AaD
AaC
AaC
HrC
NgB
HrB
HrC
AaB
Wa
EmB
NgB
AaB
Soil Map may not be valid at this scale.
Map Scale: 1:4,520 if printed on A portrait (8.5" x 11") sheet.
N
Meters
0 50 100 200 300
Feet
0 200 400 800 1200
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Androscoggin and Sagadahoc Counties, Maine
Survey Area Data: Version 23, Aug 30, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 19, 2020—Sep 20, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

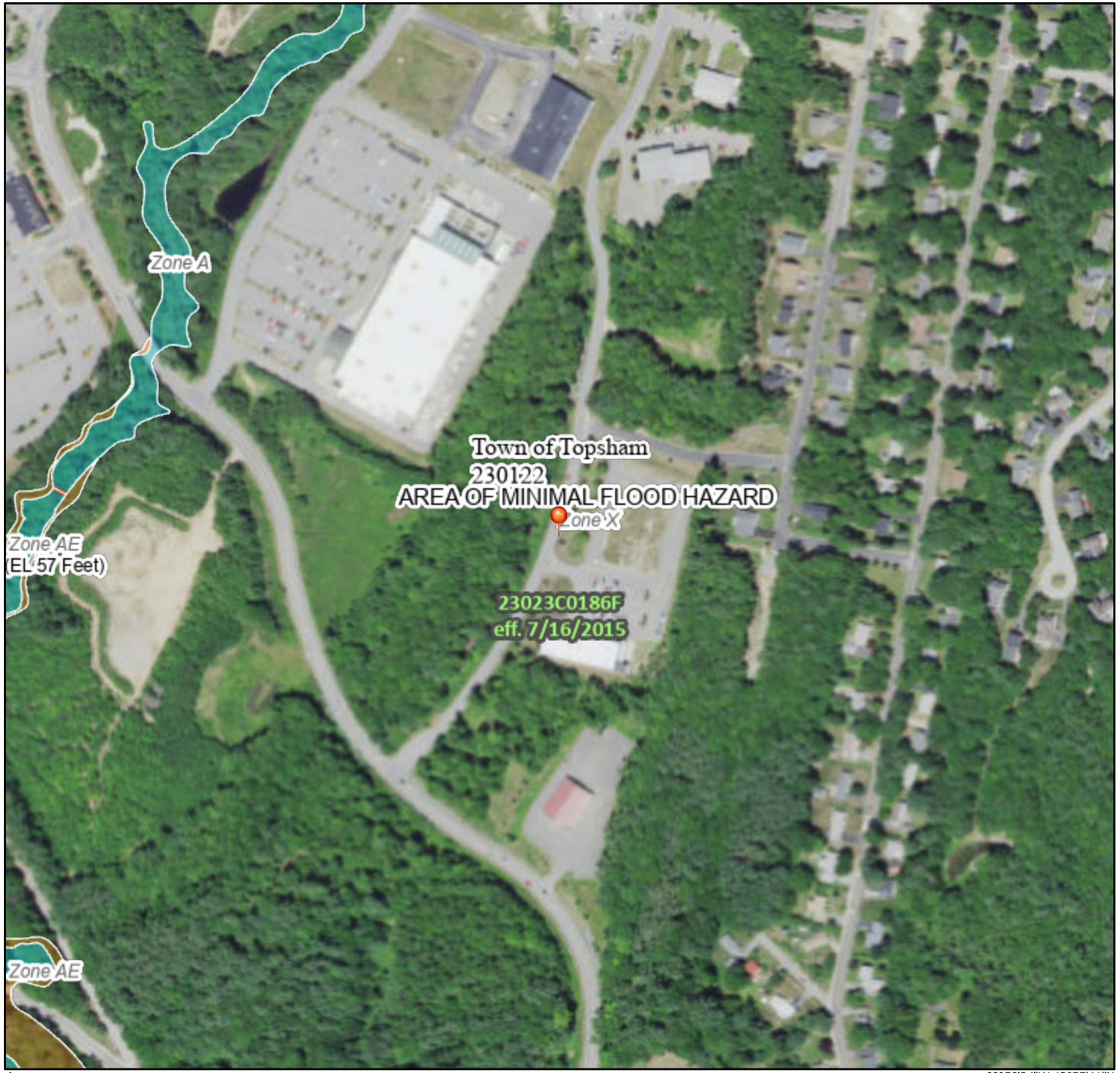
Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AaB	Adams loamy sand, 0 to 8 percent slopes	9.6	11.1%
AaC	Adams loamy sand, 8 to 15 percent slopes	8.2	9.5%
AaD	Adams loamy sand, 15 to 30 percent slopes	0.1	0.1%
EmB	Elmwood fine sandy loam, 2 to 8 percent slopes	4.5	5.1%
HrB	Lyman-Tunbridge complex, 0 to 8 percent slopes, rocky	14.2	16.4%
HrC	Lyman-Tunbridge complex, 8 to 15 percent slopes, rocky	26.7	30.7%
NgB	Ninigret fine sandy loam, 0 to 8 percent slopes	16.0	18.4%
Wa	Walpole fine sandy loam	7.6	8.8%
Totals for Area of Interest		**87.0**	**100.0%**

National Flood Hazard Layer FIRMette

FEMA

69°59'1"W 43°56'7"N



69°58'24"W 43°55'41"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

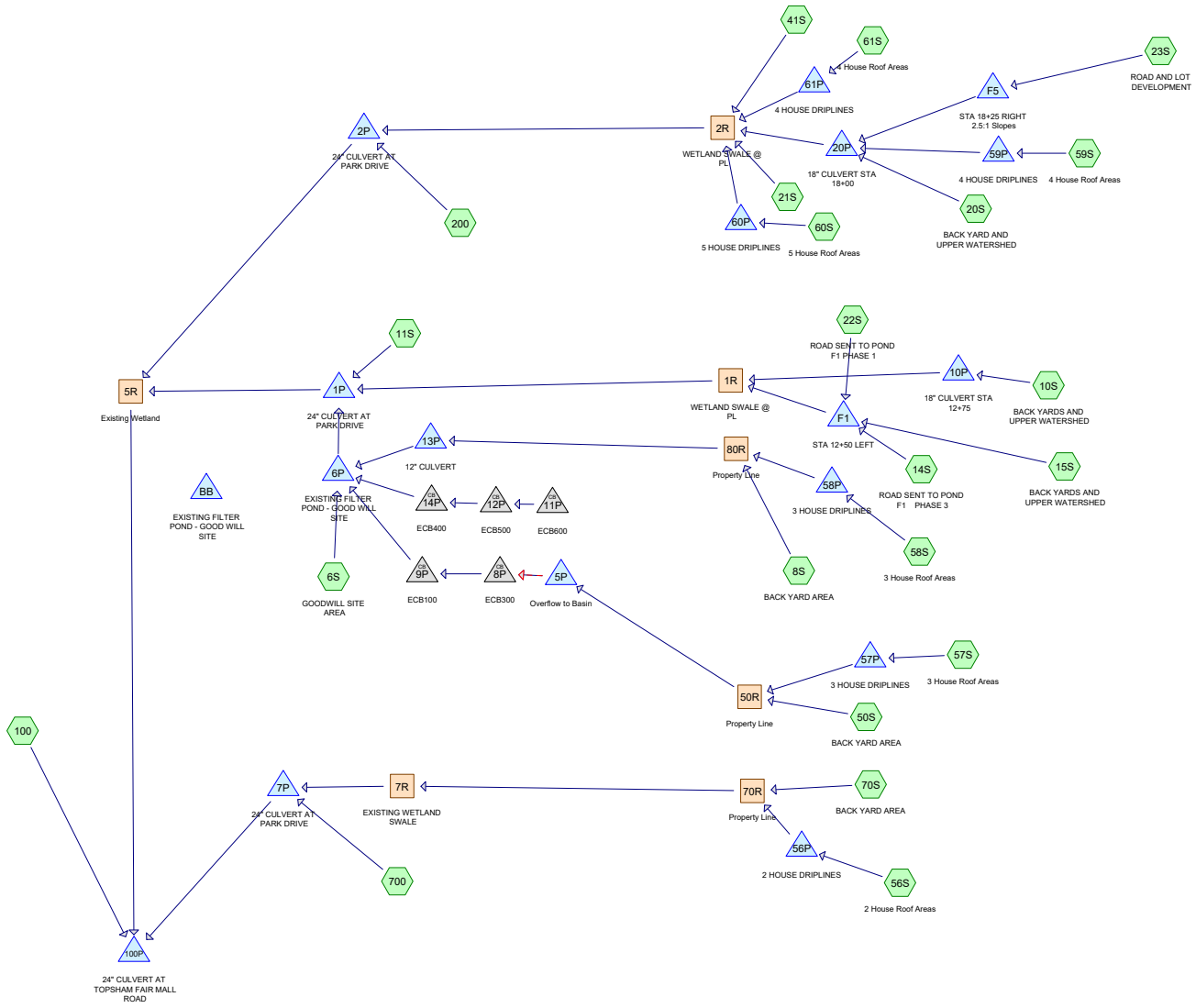
N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 1/16/2023 at 7:36 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



Subcat Reach Pond Link

Routing Diagram for 192-PRE-REV1-16-2022
Prepared by Belanger Engineering, Printed 1/16/2023
HydroCAD® 10.00-26 s/n 02780 © 2020 HydroCAD Software Solutions LLC

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.100	98	2 House Roofs (56S)
0.300	98	3 House Roofs (57S, 58S)
0.400	98	4 House Roofs (59S, 61S)
0.250	98	5 House Roofs (60S)
0.770	98	OFF SITE EXISTING IMPERVIOUS (10S)
1.440	74	OFF SITE EXISTING LAWNS (10S)
8.040	98	OFF SITE IMPERVIOUS (11S, 14S, 15S, 22S, 23S, 100, 200, 700)
0.570	98	OFF SITE IMPERVIOUS (see 59S 0.2) (20S)
0.150	98	OFF SITE IMPERVIOUS (see 61s 0.20) (41S)
10.240	74	OFF SITE LAWN (6S, 8S, 11S, 14S, 15S, 21S, 22S, 23S, 41S, 50S, 70S, 100, 200, 700)
1.670	74	OFF SITE LAWNS (20S)
2.380	98	ON SITE IMPERVIOUS (6S, 700)
1.600	74	ON SITE LAWN (6S, 8S, 50S, 700)
14.700	70	Woods, Good, HSG C (8S, 10S, 11S, 15S, 20S, 21S, 41S, 50S, 70S, 100, 200)
4.300	77	Woods, Good, HSG D (700)
46.910	**80**	**TOTAL AREA**

Summary for Subcatchment 6S: GOODWILL SITE AREA

Runoff = 8.74 cfs @ 12.01 hrs, Volume= 0.544 af, Depth> 2.41"

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

	Area (ac)	CN	Description
*	2.230	98	ON SITE IMPERVIOUS
*	0.410	74	ON SITE LAWN
*	0.070	74	OFF SITE LAWN
	2.710	94	Weighted Average
	0.480		17.71% Pervious Area
	2.230		82.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	46	0.0200	1.18		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 8S: BACK YARD AREA

Runoff = 0.77 cfs @ 12.34 hrs, Volume= 0.083 af, Depth> 0.84"

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

	Area (ac)	CN	Description
	0.460	70	Woods, Good, HSG C
*	0.000	98	OFF SITE IMPERVIOUS (See 58S 0.1)
*	0.180	74	OFF SITE LAWN
*	0.550	74	ON SITE LAWN
	1.190	72	Weighted Average
	1.190		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	50	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
0.5	250	0.0150	8.80	105.56	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.022 Earth, clean & straight
22.0	300	Total			

Summary for Subcatchment 10S: BACK YARDS AND UPPER WATERSHED

Runoff = 2.24 cfs @ 12.56 hrs, Volume= 0.295 af, Depth> 1.28"

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

	Area (ac)	CN	Description
	0.560	70	Woods, Good, HSG C
*	0.770	98	OFF SITE EXISTING IMPERVIOUS
*	1.440	74	OFF SITE EXISTING LAWNS
	2.770	80	Weighted Average
	2.000		72.20% Pervious Area
	0.770		27.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
37.4	100	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
1.5	50	0.0500	0.56		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
38.9	150	Total			

Summary for Subcatchment 11S:

Runoff = 1.84 cfs @ 12.30 hrs, Volume= 0.185 af, Depth> 1.05"

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

	Area (ac)	CN	Description
	1.330	70	Woods, Good, HSG C
*	0.420	98	OFF SITE IMPERVIOUS
*	0.370	74	OFF SITE LAWN
	2.120	76	Weighted Average
	1.700		80.19% Pervious Area
	0.420		19.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.6	89	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
0.7	60	0.3000	1.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
20.3	149	Total			

Summary for Subcatchment 14S: ROAD SENT TO POND F1 PHASE 3

Runoff = 2.48 cfs @ 12.09 hrs, Volume= 0.168 af, Depth> 1.87"

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

	Area (ac)	CN	Description
*	0.650	98	OFF SITE IMPERVIOUS
*	0.430	74	OFF SITE LAWN
	1.080	88	Weighted Average
	0.430		39.81% Pervious Area
	0.650		60.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	37	0.0200	0.14		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.5	100	0.0230	3.08		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	240	0.0050	4.84	5.94	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
5.7	377	Total			

Summary for Subcatchment 15S: BACK YARDS AND UPPER WATERSHED

Runoff = 0.74 cfs @ 12.46 hrs, Volume= 0.090 af, Depth> 0.94"

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

	Area (ac)	CN	Description
	0.590	70	Woods, Good, HSG C
*	0.120	98	OFF SITE IMPERVIOUS
*	0.440	74	OFF SITE LAWN
	1.150	74	Weighted Average
	1.030		89.57% Pervious Area
	0.120		10.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.3	100	0.0400	0.06		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
1.5	50	0.0500	0.56		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
0.2	129	0.0500	11.00	32.99	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.00' Z= 1.0 '/' Top.W=4.00' n= 0.022 Earth, clean & straight
0.2	600	0.5000	48.39	59.38	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
30.2	879	Total			

Summary for Subcatchment 20S: BACK YARD AND UPPER WATERSHED

Runoff = 2.08 cfs @ 12.67 hrs, Volume= 0.303 af, Depth> 1.04"

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

Area (ac)	CN	Description
1.270	70	Woods, Good, HSG C
* 0.570	98	OFF SITE IMPERVIOUS (see 59S 0.2)
* 1.670	74	OFF SITE LAWNS
3.510	76	Weighted Average
2.940		83.76% Pervious Area
0.570		16.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
37.4	100	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
8.6	257	0.0400	0.50		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
46.0	357	Total			

Summary for Subcatchment 21S:

Runoff = 0.73 cfs @ 12.50 hrs, Volume= 0.093 af, Depth> 0.78"

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

Area (ac)	CN	Description
1.060	70	Woods, Good, HSG C
* 0.000	98	OFF SITE IMPERVIOUS (see 60s .25)
* 0.360	74	OFF SITE LAWN
1.420	71	Weighted Average
1.420		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.3	100	0.0400	0.06		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
3.7	112	0.0400	0.50		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
32.0	212	Total			

Summary for Subcatchment 22S: ROAD SENT TO POND F1 PHASE 1

Runoff = 0.78 cfs @ 12.10 hrs, Volume= 0.055 af, Depth> 1.87"

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

	Area (ac)	CN	Description
*	0.210	98	OFF SITE IMPERVIOUS
*	0.140	74	OFF SITE LAWN
	0.350	88	Weighted Average
	0.140		40.00% Pervious Area
	0.210		60.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	60	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.5	92	0.0230	3.08		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.1	115	0.2000	30.60	37.56	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
7.1	267	Total			

Summary for Subcatchment 23S: ROAD AND LOT DEVELOPMENT

Runoff = 2.01 cfs @ 12.11 hrs, Volume= 0.143 af, Depth> 1.56"

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

	Area (ac)	CN	Description
*	0.470	98	OFF SITE IMPERVIOUS
*	0.630	74	OFF SITE LAWN
	1.100	84	Weighted Average
	0.630		57.27% Pervious Area
	0.470		42.73% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	60	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.9	172	0.0230	3.08		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.4	110	0.0050	4.84	5.94	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
7.8	342	Total			

Summary for Subcatchment 41S:

Runoff = 0.80 cfs @ 12.77 hrs, Volume= 0.126 af, Depth> 0.98"

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

	Area (ac)	CN	Description
	0.500	70	Woods, Good, HSG C
*	0.150	98	OFF SITE IMPERVIOUS (see 61s 0.20)
*	0.890	74	OFF SITE LAWN
	1.540	75	Weighted Average
	1.390		90.26% Pervious Area
	0.150		9.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
49.3	100	0.0100	0.03		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
2.2	50	0.0220	0.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
1.2	312	0.0050	4.40	5.40	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.011 Concrete pipe, straight & clean
52.7	462	Total			

Summary for Subcatchment 50S: BACK YARD AREA

Runoff = 0.76 cfs @ 12.40 hrs, Volume= 0.088 af, Depth> 0.84"

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

	Area (ac)	CN	Description
	0.640	70	Woods, Good, HSG C
*	0.000	98	OFF SITE IMPERVIOUS (see 57s 0.15)
*	0.180	74	ON SITE LAWN
*	0.440	74	OFF SITE LAWN
	1.260	72	Weighted Average
	1.260		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	100	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
4.4	187	0.0800	0.71		**Shallow Concentrated Flow, BC** Forest w/Heavy Litter Kv= 2.5 fps
25.9	287	Total			

Summary for Subcatchment 56S: 2 House Roof Areas

Runoff = 0.36 cfs @ 12.00 hrs, Volume= 0.023 af, Depth> 2.77"

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

	Area (ac)	CN	Description
*	0.100	98	2 House Roofs
	0.100		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 57S: 3 House Roof Areas

Runoff = 0.53 cfs @ 12.00 hrs, Volume= 0.035 af, Depth> 2.77"

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

	Area (ac)	CN	Description
*	0.150	98	3 House Roofs
	0.150		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 58S: 3 House Roof Areas

Runoff = 0.53 cfs @ 12.00 hrs, Volume= 0.035 af, Depth> 2.77"

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

	Area (ac)	CN	Description
*	0.150	98	3 House Roofs
	0.150		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 59S: 4 House Roof Areas

Runoff = 0.71 cfs @ 12.00 hrs, Volume= 0.046 af, Depth> 2.77"

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

	Area (ac)	CN	Description
*	0.200	98	4 House Roofs
	0.200		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 60S: 5 House Roof Areas

Runoff = 0.89 cfs @ 12.00 hrs, Volume= 0.058 af, Depth> 2.77"

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

	Area (ac)	CN	Description
*	0.250	98	5 House Roofs
	0.250		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 61S: 4 House Roof Areas

Runoff = 0.71 cfs @ 12.00 hrs, Volume= 0.046 af, Depth> 2.77"

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

	Area (ac)	CN	Description
*	0.200	98	4 House Roofs
	0.200		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 70S: BACK YARD AREA

Runoff = 0.24 cfs @ 12.21 hrs, Volume= 0.022 af, Depth> 0.79"

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

	Area (ac)	CN	Description
	0.210	70	Woods, Good, HSG C
*	0.000	98	OFF SITE IMPERVIOUS
*	0.120	74	OFF SITE LAWN
	0.330	71	Weighted Average
	0.330		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	57	0.0800	0.07		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"

Summary for Subcatchment 100:

Runoff = 9.59 cfs @ 12.30 hrs, Volume= 0.968 af, Depth> 1.05"

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

	Area (ac)	CN	Description
	6.730	70	Woods, Good, HSG C
*	2.170	98	OFF SITE IMPERVIOUS
*	2.170	74	OFF SITE LAWN
	11.070	76	Weighted Average
	8.900		80.40% Pervious Area
	2.170		19.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.6	89	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
0.7	60	0.3000	1.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
20.3	149	Total			

Summary for Subcatchment 200:

Runoff = 7.79 cfs @ 12.33 hrs, Volume= 0.811 af, Depth> 1.49"

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

	Area (ac)	CN	Description
	1.350	70	Woods, Good, HSG C
*	2.600	98	OFF SITE IMPERVIOUS
*	2.600	74	OFF SITE LAWN
	6.550	83	Weighted Average
	3.950		60.31% Pervious Area
	2.600		39.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	100	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
1.6	131	0.3000	1.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
23.1	231	Total			

Summary for Subcatchment 700:

Runoff = 8.05 cfs @ 12.32 hrs, Volume= 0.827 af, Depth> 1.29"

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

	Area (ac)	CN	Description
	4.300	77	Woods, Good, HSG D
*	1.400	98	OFF SITE IMPERVIOUS
*	1.400	74	OFF SITE LAWN
*	0.150	98	ON SITE IMPERVIOUS
*	0.460	74	ON SITE LAWN
	7.710	80	Weighted Average
	6.160		79.90% Pervious Area
	1.550		20.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	100	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
0.7	60	0.3000	1.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
22.2	160	Total			

Summary for Reach 1R: WETLAND SWALE @ PL

Inflow Area = 5.350 ac, 32.71% Impervious, Inflow Depth > 1.08" for 2 YEAR event
Inflow = 2.97 cfs @ 12.60 hrs, Volume= 0.483 af
Outflow = 2.92 cfs @ 12.75 hrs, Volume= 0.477 af, Atten= 2%, Lag= 9.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.23 fps, Min. Travel Time= 5.4 min
Avg. Velocity = 1.07 fps, Avg. Travel Time= 11.2 min

Peak Storage= 942 cf @ 12.66 hrs
Average Depth at Peak Storage= 0.13'
Bank-Full Depth= 2.00' Flow Area= 24.0 sf, Capacity= 282.47 cfs

10.00' x 2.00' deep channel, n= 0.030
Side Slope Z-value= 1.0 '/' Top Width= 14.00'
Length= 720.0' Slope= 0.0319 '/'
Inlet Invert= 121.00', Outlet Invert= 98.00'

Summary for Reach 2R: WETLAND SWALE @ PL

Inflow Area = 8.220 ac, 22.38% Impervious, Inflow Depth > 0.94" for 2 YEAR event
Inflow = 3.71 cfs @ 12.66 hrs, Volume= 0.645 af
Outflow = 3.70 cfs @ 12.75 hrs, Volume= 0.641 af, Atten= 0%, Lag= 5.3 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.12 fps, Min. Travel Time= 3.2 min
Avg. Velocity = 1.45 fps, Avg. Travel Time= 6.8 min

Peak Storage= 707 cf @ 12.70 hrs
Average Depth at Peak Storage= 0.23'
Bank-Full Depth= 2.00' Flow Area= 14.0 sf, Capacity= 148.39 cfs

5.00' x 2.00' deep channel, n= 0.030
Side Slope Z-value= 1.0 '/' Top Width= 9.00'
Length= 597.0' Slope= 0.0318 '/'
Inlet Invert= 117.00', Outlet Invert= 98.00'

Summary for Reach 5R: Existing Wetland

Inflow Area = 27.700 ac, 33.00% Impervious, Inflow Depth > 1.09" for 2 YEAR event
Inflow = 14.99 cfs @ 12.52 hrs, Volume= 2.513 af
Outflow = 14.95 cfs @ 12.57 hrs, Volume= 2.502 af, Atten= 0%, Lag= 3.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.52 fps, Min. Travel Time= 1.8 min
Avg. Velocity = 2.19 fps, Avg. Travel Time= 3.8 min

Peak Storage= 1,654 cf @ 12.54 hrs
Average Depth at Peak Storage= 0.32'
Bank-Full Depth= 4.00' Flow Area= 56.0 sf, Capacity= 1,068.27 cfs

10.00' x 4.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 1.0 '/' Top Width= 18.00'
Length= 500.0' Slope= 0.0220 '/'
Inlet Invert= 92.00', Outlet Invert= 81.00'

Summary for Reach 7R: EXISTING WETLAND SWALE

Inflow Area = 0.430 ac, 23.26% Impervious, Inflow Depth > 0.61" for 2 YEAR event
Inflow = 0.23 cfs @ 12.24 hrs, Volume= 0.022 af
Outflow = 0.23 cfs @ 12.32 hrs, Volume= 0.022 af, Atten= 2%, Lag= 4.8 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.80 fps, Min. Travel Time= 2.8 min
Avg. Velocity = 0.81 fps, Avg. Travel Time= 6.1 min

Peak Storage= 38 cf @ 12.27 hrs
Average Depth at Peak Storage= 0.04'
Bank-Full Depth= 1.00' Flow Area= 4.0 sf, Capacity= 47.10 cfs

3.00' x 1.00' deep channel, n= 0.030 Stream, clean & straight
Side Slope Z-value= 1.0 '/' Top Width= 5.00'
Length= 300.0' Slope= 0.0933 '/'
Inlet Invert= 118.00', Outlet Invert= 90.00'

Summary for Reach 50R: Property Line

Inflow Area = 1.410 ac, 10.64% Impervious, Inflow Depth > 0.75" for 2 YEAR event
Inflow = 0.76 cfs @ 12.40 hrs, Volume= 0.088 af
Outflow = 0.76 cfs @ 12.42 hrs, Volume= 0.088 af, Atten= 0%, Lag= 1.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.53 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 0.66 fps, Avg. Travel Time= 1.5 min

Peak Storage= 30 cf @ 12.41 hrs
Average Depth at Peak Storage= 0.17'
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 11.58 cfs

3.00' x 1.00' deep channel, n= 0.150 Sheet flow over Short Grass
Length= 60.0' Slope= 0.3000 '/'
Inlet Invert= 138.00', Outlet Invert= 120.00'

Summary for Reach 70R: Property Line

Inflow Area = 0.430 ac, 23.26% Impervious, Inflow Depth > 0.61" for 2 YEAR event
Inflow = 0.24 cfs @ 12.21 hrs, Volume= 0.022 af
Outflow = 0.23 cfs @ 12.24 hrs, Volume= 0.022 af, Atten= 2%, Lag= 1.8 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.57 fps, Min. Travel Time= 0.9 min
Avg. Velocity = 2.18 fps, Avg. Travel Time= 1.5 min

Peak Storage= 13 cf @ 12.22 hrs
Average Depth at Peak Storage= 0.02'
Bank-Full Depth= 1.00' Flow Area= 6.0 sf, Capacity= 204.82 cfs

3.00' x 1.00' deep channel, n= 0.010 PVC, smooth interior
Side Slope Z-value= 3.0 '/' Top Width= 9.00'
Length= 200.0' Slope= 0.0950 '/'
Inlet Invert= 137.00', Outlet Invert= 118.00'

‡

Summary for Reach 80R: Property Line

Inflow Area = 1.340 ac, 11.19% Impervious, Inflow Depth > 0.74" for 2 YEAR event
Inflow = 0.77 cfs @ 12.34 hrs, Volume= 0.083 af
Outflow = 0.77 cfs @ 12.36 hrs, Volume= 0.083 af, Atten= 0%, Lag= 1.2 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.42 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 0.60 fps, Avg. Travel Time= 1.7 min

Peak Storage= 33 cf @ 12.35 hrs
Average Depth at Peak Storage= 0.18'
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 10.21 cfs

3.00' x 1.00' deep channel, n= 0.150 Sheet flow over Short Grass
Length= 60.0' Slope= 0.2333 '/'
Inlet Invert= 134.00', Outlet Invert= 120.00'

Summary for Pond 1P: 24" CULVERT AT PARK DRIVE

Inflow Area = 12.930 ac, 36.35% Impervious, Inflow Depth > 1.00" for 2 YEAR event
Inflow = 6.05 cfs @ 12.61 hrs, Volume= 1.080 af
Outflow = 6.04 cfs @ 12.63 hrs, Volume= 1.074 af, Atten= 0%, Lag= 1.2 min
Primary = 6.04 cfs @ 12.63 hrs, Volume= 1.074 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 95.33' @ 12.63 hrs Surf.Area= 638 sf Storage= 803 cf

Plug-Flow detention time= 4.2 min calculated for 1.074 af (99% of inflow)
Center-of-Mass det. time= 2.4 min (864.9 - 862.6)

Volume	Invert	Avail.Storage	Storage Description
#1	94.00'	105,871 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
94.00	500	0	0
96.00	708	1,208	1,208
98.00	1,037	1,745	2,953
100.00	3,501	4,538	7,491
105.00	9,197	31,745	39,236
110.00	17,457	66,635	105,871

Device	Routing	Invert	Outlet Devices
#1	Primary	94.10'	**24.0" Round Culvert** L= 70.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 94.10' / 92.70' S= 0.0200 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=6.03 cfs @ 12.63 hrs HW=95.33' (Free Discharge)
1=Culvert (Inlet Controls 6.03 cfs @ 2.98 fps)

Summary for Pond 2P: 24" CULVERT AT PARK DRIVE

Inflow Area = 14.770 ac, 30.06% Impervious, Inflow Depth > 1.18" for 2 YEAR event
Inflow = 9.52 cfs @ 12.38 hrs, Volume= 1.452 af
Outflow = 9.42 cfs @ 12.43 hrs, Volume= 1.439 af, Atten= 1%, Lag= 3.2 min
Primary = 9.42 cfs @ 12.43 hrs, Volume= 1.439 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 99.73' @ 12.43 hrs Surf.Area= 2,046 sf Storage= 2,229 cf

Plug-Flow detention time= 7.9 min calculated for 1.439 af (99% of inflow)
Center-of-Mass det. time= 4.8 min (839.7 - 834.9)

Volume	Invert	Avail.Storage	Storage Description
#1	98.00'	175,248 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
98.00	250	0	0
100.00	2,323	2,573	2,573
105.00	14,820	42,858	45,431
110.00	37,107	129,818	175,248

Device	Routing	Invert	Outlet Devices
#1	Primary	98.10'	**24.0" Round Culvert** L= 70.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 98.10' / 96.70' S= 0.0200 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=9.41 cfs @ 12.43 hrs HW=99.73' (Free Discharge)
1=Culvert (Inlet Controls 9.41 cfs @ 3.43 fps)

Summary for Pond 5P: Overflow to Basin

Inflow Area = 1.410 ac, 10.64% Impervious, Inflow Depth > 0.75" for 2 YEAR event
Inflow = 0.76 cfs @ 12.42 hrs, Volume= 0.088 af
Outflow = 0.75 cfs @ 12.46 hrs, Volume= 0.080 af, Atten= 1%, Lag= 2.6 min
Discarded = 0.05 cfs @ 12.46 hrs, Volume= 0.026 af
Primary = 0.70 cfs @ 12.46 hrs, Volume= 0.053 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 121.09' @ 12.46 hrs Surf.Area= 916 sf Storage= 483 cf

Plug-Flow detention time= 44.2 min calculated for 0.080 af (91% of inflow)
Center-of-Mass det. time= 15.5 min (855.0 - 839.5)

Volume	Invert	Avail.Storage	Storage Description
#1	120.00'	1,028 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
120.00	50	0	0
121.00	670	360	360
121.50	2,000	668	1,028

Device	Routing	Invert	Outlet Devices
#1	Primary	121.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#2	Discarded	120.00'	**2.410 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.05 cfs @ 12.46 hrs HW=121.09' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.70 cfs @ 12.46 hrs HW=121.09' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 0.70 cfs @ 0.76 fps)

Summary for Pond 6P: EXISTING FILTER POND - GOOD WILL SITE

Inflow Area = 5.460 ac, 46.34% Impervious, Inflow Depth > 1.49" for 2 YEAR event
Inflow = 8.86 cfs @ 12.01 hrs, Volume= 0.679 af
Outflow = 2.49 cfs @ 12.51 hrs, Volume= 0.417 af, Atten= 72%, Lag= 29.8 min
Primary = 2.49 cfs @ 12.51 hrs, Volume= 0.417 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 115.62' @ 12.51 hrs Surf.Area= 9,050 sf Storage= 15,185 cf

Plug-Flow detention time= 189.3 min calculated for 0.417 af (61% of inflow)
Center-of-Mass det. time= 112.4 min (880.7 - 768.2)

Volume	Invert	Avail.Storage	Storage Description
#1	112.00'	30,350 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
112.00	533	0	0
113.00	1,387	960	960
114.00	4,783	3,085	4,045
115.00	7,372	6,078	10,123
116.00	10,094	8,733	18,856
117.00	12,894	11,494	30,350

Device	Routing	Invert	Outlet Devices
#1	Primary	110.98'	**12.0" Round Culvert** L= 126.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 110.98' / 105.85' S= 0.0407 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf
#2	Device 1	114.50'	**4.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	115.40'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	116.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir**

Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=2.47 cfs @ 12.51 hrs HW=115.62' (Free Discharge)
- **1=Culvert** (Passes 2.47 cfs of 7.69 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.41 cfs @ 4.69 fps)
  - **3=Orifice/Grate** (Weir Controls 2.07 cfs @ 1.52 fps)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 7P: 24" CULVERT AT PARK DRIVE

Inflow Area = 8.140 ac, 20.27% Impervious, Inflow Depth > 1.25" for 2 YEAR event
Inflow = 8.28 cfs @ 12.32 hrs, Volume= 0.848 af
Outflow = 8.02 cfs @ 12.38 hrs, Volume= 0.845 af, Atten= 3%, Lag= 3.3 min
Primary = 8.02 cfs @ 12.38 hrs, Volume= 0.845 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 95.56' @ 12.38 hrs Surf.Area= 766 sf Storage= 1,295 cf

Plug-Flow detention time= 3.7 min calculated for 0.843 af (99% of inflow)
Center-of-Mass det. time= 2.4 min (819.2 - 816.8)

Volume	Invert	Avail.Storage	Storage Description
#1	94.00'	11,328 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
94.00	275	0	0
95.00	527	401	401
100.00	2,643	7,925	8,326
101.00	3,360	3,002	11,328

Device	Routing	Invert	Outlet Devices
#1	Primary	94.10'	**24.0" Round Culvert** L= 70.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 94.10' / 92.70' S= 0.0200 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=7.98 cfs @ 12.38 hrs HW=95.56' (Free Discharge)
- **1=Culvert** (Inlet Controls 7.98 cfs @ 3.25 fps)

Summary for Pond 8P: ECB300

Inflow Area = 1.410 ac, 10.64% Impervious, Inflow Depth = 0.45" for 2 YEAR event
Inflow = 0.70 cfs @ 12.46 hrs, Volume= 0.053 af
Outflow = 0.70 cfs @ 12.46 hrs, Volume= 0.053 af, Atten= 0%, Lag= 0.0 min
Primary = 0.70 cfs @ 12.46 hrs, Volume= 0.053 af

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

Peak Elev= 116.82' @ 12.46 hrs
Flood Elev= 120.34'

Device	Routing	Invert	Outlet Devices
#1	Primary	116.40'	**12.0" Round Culvert** L= 164.8' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 116.40' / 115.48' S= 0.0056 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.70 cfs @ 12.46 hrs HW=116.82' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 0.70 cfs @ 3.24 fps)

Summary for Pond 9P: ECB100

Inflow Area = 1.410 ac, 10.64% Impervious, Inflow Depth = 0.45" for 2 YEAR event
Inflow = 0.70 cfs @ 12.46 hrs, Volume= 0.053 af
Outflow = 0.70 cfs @ 12.46 hrs, Volume= 0.053 af, Atten= 0%, Lag= 0.0 min
Primary = 0.70 cfs @ 12.46 hrs, Volume= 0.053 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 115.83' @ 12.46 hrs
Flood Elev= 119.51'

Device	Routing	Invert	Outlet Devices
#1	Primary	115.38'	**12.0" Round Culvert** L= 96.1' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 115.38' / 114.90' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.70 cfs @ 12.46 hrs HW=115.83' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 0.70 cfs @ 3.03 fps)

Summary for Pond 10P: 18" CULVERT STA 12+75

Inflow Area = 2.770 ac, 27.80% Impervious, Inflow Depth > 1.28" for 2 YEAR event
Inflow = 2.24 cfs @ 12.56 hrs, Volume= 0.295 af
Outflow = 2.24 cfs @ 12.56 hrs, Volume= 0.295 af, Atten= 0%, Lag= 0.0 min
Primary = 2.24 cfs @ 12.56 hrs, Volume= 0.295 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 130.02' @ 12.56 hrs Surf.Area= 84 sf Storage= 7 cf

Plug-Flow detention time= 0.1 min calculated for 0.295 af (100% of inflow)
Center-of-Mass det. time= 0.0 min (829.2 - 829.1)

Volume	Invert	Avail.Storage	Storage Description
#1	130.00'	6,127 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
130.00	73	0	0
131.00	672	373	373
132.00	2,609	1,641	2,013
133.00	5,618	4,114	6,127

Device	Routing	Invert	Outlet Devices
#1	Primary	129.00'	**18.0" Round Culvert** L= 70.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 129.00' / 128.30' S= 0.0100 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=3.47 cfs @ 12.56 hrs HW=130.02' (Free Discharge)
1=Culvert (Inlet Controls 3.47 cfs @ 2.71 fps)

Summary for Pond 11P: ECB600

Device	Routing	Invert	Outlet Devices
#1	Primary	116.40'	**12.0" Round Culvert** L= 82.4' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 116.40' / 115.99' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=0.00' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

Summary for Pond 12P: ECB500

Inflow	=	0.00 cfs @	5.00 hrs, Volume=	0.000 af
Outflow	=	0.00 cfs @	5.00 hrs, Volume=	0.000 af, Atten= 0%, Lag= 0.0 min
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= 115.89' @ 5.00 hrs
Flood Elev= 119.93'

Device	Routing	Invert	Outlet Devices
#1	Primary	115.89'	**12.0" Round Culvert** L= 82.4' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 115.89' / 115.48' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=115.89' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

Summary for Pond 13P: 12" CULVERT

Inflow Area = 1.340 ac, 11.19% Impervious, Inflow Depth > 0.74" for 2 YEAR event
Inflow = 0.77 cfs @ 12.36 hrs, Volume= 0.083 af
Outflow = 0.75 cfs @ 12.39 hrs, Volume= 0.083 af, Atten= 2%, Lag= 1.8 min
Primary = 0.75 cfs @ 12.39 hrs, Volume= 0.083 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 119.00' @ 12.39 hrs Surf.Area= 298 sf Storage= 89 cf

Plug-Flow detention time= 4.0 min calculated for 0.083 af (100% of inflow)
Center-of-Mass det. time= 2.4 min (839.1 - 836.7)

Volume	Invert	Avail.Storage	Storage Description
#1	118.50'	1,046 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
118.50	50	0	0
119.00	294	86	86
120.00	1,625	960	1,046

Device	Routing	Invert	Outlet Devices
#1	Primary	118.50'	**12.0" Round Culvert** L= 55.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 118.50' / 117.00' S= 0.0273 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.75 cfs @ 12.39 hrs HW=119.00' (Free Discharge)
1=Culvert (Inlet Controls 0.75 cfs @ 1.91 fps)

Summary for Pond 14P: ECB400

Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
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= 115.38' @ 5.00 hrs
Flood Elev= 119.42'

Device	Routing	Invert	Outlet Devices
#1	Primary	115.38'	**12.0" Round Culvert** L= 39.5' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 115.38' / 115.18' S= 0.0051 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=115.38' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

Summary for Pond 20P: 18" CULVERT STA 18+00

Inflow Area = 4.810 ac, 25.78% Impervious, Inflow Depth > 1.07" for 2 YEAR event
Inflow = 2.31 cfs @ 12.67 hrs, Volume= 0.427 af
Outflow = 2.31 cfs @ 12.68 hrs, Volume= 0.427 af, Atten= 0%, Lag= 0.7 min
Primary = 2.31 cfs @ 12.68 hrs, Volume= 0.427 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 120.30' @ 12.68 hrs Surf.Area= 183 sf Storage= 108 cf

Plug-Flow detention time= 1.0 min calculated for 0.425 af (100% of inflow)
Center-of-Mass det. time= 0.6 min (867.9 - 867.3)

Volume	Invert	Avail.Storage	Storage Description
#1	119.50'	1,365 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
119.50	36	0	0
120.00	140	44	44
121.00	284	212	256
122.00	576	430	686
123.00	781	679	1,365

Device	Routing	Invert	Outlet Devices
#1	Primary	119.50'	**18.0" Round Culvert** L= 81.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 119.50' / 116.50' S= 0.0370 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=2.30 cfs @ 12.68 hrs HW=120.30' (Free Discharge)
1=Culvert (Inlet Controls 2.30 cfs @ 2.40 fps)

Summary for Pond 56P: 2 HOUSE DRIPLINES

Inflow Area = 0.100 ac,100.00% Impervious, Inflow Depth > 2.77" for 2 YEAR event
Inflow = 0.36 cfs @ 12.00 hrs, Volume= 0.023 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 141.90' @ 20.00 hrs Surf.Area= 1,260 sf Storage= 1,007 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	140.00'	1,244 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 2 3,150 cf Overall - 41 cf Embedded = 3,109 cf x 40.0% Voids
#2	140.00'	41 cf	**6.0" Round Pipe Storage** x 2 Inside #1 L= 105.0' S= 0.0050 '/'
		1,285 cf	x 2.00 = 2,569 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	144.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 2.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=140.00' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 57P: 3 HOUSE DRIPLINES

Inflow Area = 0.150 ac,100.00% Impervious, Inflow Depth > 2.77" for 2 YEAR event
Inflow = 0.53 cfs @ 12.00 hrs, Volume= 0.035 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 139.73' @ 20.00 hrs Surf.Area= 2,835 sf Storage= 1,510 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	138.50'	1,865 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 3 4,725 cf Overall - 62 cf Embedded = 4,663 cf x 40.0% Voids
#2	138.50'	62 cf	**6.0" Round Pipe Storage** x 3 Inside #1 L= 105.0' S= 0.0050 '/'
		1,927 cf	x 3.00 = 5,781 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	142.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 3.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=138.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 58P: 3 HOUSE DRIPLINES

Inflow Area = 0.150 ac,100.00% Impervious, Inflow Depth > 2.77" for 2 YEAR event
Inflow = 0.53 cfs @ 12.00 hrs, Volume= 0.035 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 135.73' @ 20.00 hrs Surf.Area= 2,835 sf Storage= 1,510 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	134.50'	1,865 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 3 4,725 cf Overall - 62 cf Embedded = 4,663 cf x 40.0% Voids
#2	134.50'	62 cf	**6.0" Round Pipe Storage** x 3 Inside #1 L= 105.0' S= 0.0050 '/'
		1,927 cf	x 3.00 = 5,781 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	138.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 3.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=134.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 59P: 4 HOUSE DRIPLINES

Inflow Area = 0.200 ac,100.00% Impervious, Inflow Depth > 2.77" for 2 YEAR event
Inflow = 0.71 cfs @ 12.00 hrs, Volume= 0.046 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 121.40' @ 20.00 hrs Surf.Area= 5,040 sf Storage= 2,014 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	120.50'	2,487 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 4 6,300 cf Overall - 82 cf Embedded = 6,218 cf x 40.0% Voids
#2	120.50'	82 cf	**6.0" Round Pipe Storage** x 4 Inside #1 L= 105.0' S= 0.0050 '/'
		2,569 cf	x 4.00 = 10,278 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	124.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 4.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=120.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 60P: 5 HOUSE DRIPLINES

Inflow Area = 0.250 ac,100.00% Impervious, Inflow Depth > 2.77" for 2 YEAR event
Inflow = 0.89 cfs @ 12.00 hrs, Volume= 0.058 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 121.22' @ 20.00 hrs Surf.Area= 7,875 sf Storage= 2,518 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	120.50'	3,109 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 5 7,875 cf Overall - 103 cf Embedded = 7,772 cf x 40.0% Voids
#2	120.50'	103 cf	**6.0" Round Pipe Storage** x 5 Inside #1 L= 105.0' S= 0.0050 '/'
		3,212 cf	x 5.00 = 16,059 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	124.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 5.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=120.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 61P: 4 HOUSE DRIPLINES

Inflow Area = 0.200 ac,100.00% Impervious, Inflow Depth > 2.77" for 2 YEAR event
Inflow = 0.71 cfs @ 12.00 hrs, Volume= 0.046 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 121.40' @ 20.00 hrs Surf.Area= 5,040 sf Storage= 2,014 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	120.50'	2,487 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 4 6,300 cf Overall - 82 cf Embedded = 6,218 cf x 40.0% Voids
#2	120.50'	82 cf	**6.0" Round Pipe Storage** x 4 Inside #1 L= 105.0' S= 0.0050 '/'
		2,569 cf	x 4.00 = 10,278 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	124.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 4.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60

Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=120.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 100P: 24" CULVERT AT TOPSHAM FAIR MALL ROAD

Inflow Area = 46.910 ac, 27.63% Impervious, Inflow Depth > 1.10" for 2 YEAR event
Inflow = 30.01 cfs @ 12.42 hrs, Volume= 4.315 af
Outflow = 21.38 cfs @ 12.77 hrs, Volume= 4.179 af, Atten= 29%, Lag= 20.9 min
Primary = 21.38 cfs @ 12.77 hrs, Volume= 4.179 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 75.10' @ 12.77 hrs Surf.Area= 15,502 sf Storage= 30,315 cf

Plug-Flow detention time= 29.0 min calculated for 4.165 af (97% of inflow)
Center-of-Mass det. time= 18.4 min (858.9 - 840.5)

Volume	Invert	Avail.Storage	Storage Description
#1	72.00'	885,614 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
72.00	3,381	0	0
75.00	15,000	27,572	27,572
80.00	40,318	138,295	165,867
85.00	69,683	275,003	440,869
90.00	108,215	444,745	885,614

Device	Routing	Invert	Outlet Devices
#1	Primary	72.10'	**24.0" Round Culvert** L= 70.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 72.10' / 70.00' S= 0.0300 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=21.38 cfs @ 12.77 hrs HW=75.10' (Free Discharge)
1=Culvert (Inlet Controls 21.38 cfs @ 6.81 fps)

Summary for Pond BB: EXISTING FILTER POND - GOOD WILL SITE

Volume	Invert	Avail.Storage	Storage Description
#1	112.00'	30,350 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
112.00	533	0	0
113.00	1,387	960	960
114.00	4,783	3,085	4,045
115.00	7,372	6,078	10,123
116.00	10,094	8,733	18,856
117.00	12,894	11,494	30,350

Device	Routing	Invert	Outlet Devices
#1	Primary	110.98'	**12.0" Round Culvert** L= 126.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 110.98' / 105.85' S= 0.0407 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf
#2	Device 1	114.50'	**4.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	115.40'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	116.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=0.00' (Free Discharge)
- **1=Culvert** (Controls 0.00 cfs)
  - **2=Orifice/Grate** (Controls 0.00 cfs)
  - **3=Orifice/Grate** (Controls 0.00 cfs)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond F1: STA 12+50 LEFT

Inflow Area = 2.580 ac, 37.98% Impervious, Inflow Depth > 1.45" for 2 YEAR event
Inflow = 3.48 cfs @ 12.09 hrs, Volume= 0.313 af
Outflow = 0.82 cfs @ 12.82 hrs, Volume= 0.188 af, Atten= 76%, Lag= 43.8 min
Primary = 0.82 cfs @ 12.82 hrs, Volume= 0.188 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 126.07' @ 12.82 hrs Surf.Area= 3,697 sf Storage= 6,917 cf

Plug-Flow detention time= 167.4 min calculated for 0.188 af (60% of inflow)
Center-of-Mass det. time= 89.1 min (886.3 - 797.3)

Volume	Invert	Avail.Storage	Storage Description
#1	124.00'	24,339 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
124.00	2,986	0	0
125.00	3,322	3,154	3,154
126.00	3,671	3,497	6,651
127.00	4,035	3,853	10,504
128.00	4,412	4,224	14,727
129.00	4,802	4,607	19,334
130.00	5,207	5,005	24,339

Device	Routing	Invert	Outlet Devices
#1	Primary	120.50'	**18.0" Round Culvert** L= 36.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 120.50' / 120.00' S= 0.0139 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf
#2	Device 1	125.50'	**8.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	128.70'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.82 cfs @ 12.82 hrs HW=126.07' (Free Discharge)
└**1=Culvert** (Passes 0.82 cfs of 18.68 cfs potential flow)
  └**2=Orifice/Grate** (Orifice Controls 0.82 cfs @ 2.58 fps)
  └**3=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond F5: STA 18+25 RIGHT 2.5:1 Slopes

Inflow Area = 1.100 ac, 42.73% Impervious, Inflow Depth > 1.56" for 2 YEAR event
Inflow = 2.01 cfs @ 12.11 hrs, Volume= 0.143 af
Outflow = 0.23 cfs @ 12.99 hrs, Volume= 0.124 af, Atten= 89%, Lag= 52.8 min
Primary = 0.23 cfs @ 12.99 hrs, Volume= 0.124 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 124.00' Surf.Area= 2,612 sf Storage= 3,412 cf
Peak Elev= 125.06' @ 12.99 hrs Surf.Area= 3,250 sf Storage= 6,518 cf (3,107 cf above start)

Plug-Flow detention time= 377.3 min calculated for 0.046 af (32% of inflow)
Center-of-Mass det. time= 129.8 min (924.5 - 794.7)

Volume	Invert	Avail.Storage	Storage Description
#1	122.50'	18,871 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
122.50	1,937	0	0
124.00	2,612	3,412	3,412
126.00	3,815	6,427	9,839
128.00	5,217	9,032	18,871

Device	Routing	Invert	Outlet Devices
#1	Primary	119.00'	**18.0" Round Culvert** L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 119.00' / 116.50' S= 0.0625 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf
#2	Device 1	126.50'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	124.00'	**3.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=0.23 cfs @ 12.99 hrs HW=125.06' (Free Discharge)
└**1=Culvert** (Passes 0.23 cfs of 19.61 cfs potential flow)
  └**2=Orifice/Grate** (Controls 0.00 cfs)
  └**3=Orifice/Grate** (Orifice Controls 0.23 cfs @ 4.66 fps)

Summary for Subcatchment 6S: GOODWILL SITE AREA

Runoff = 13.12 cfs @ 12.01 hrs, Volume= 0.835 af, Depth> 3.70"

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

	Area (ac)	CN	Description
*	2.230	98	ON SITE IMPERVIOUS
*	0.410	74	ON SITE LAWN
*	0.070	74	OFF SITE LAWN
	2.710	94	Weighted Average
	0.480		17.71% Pervious Area
	2.230		82.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	46	0.0200	1.18		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 8S: BACK YARD AREA

Runoff = 1.67 cfs @ 12.32 hrs, Volume= 0.172 af, Depth> 1.73"

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

	Area (ac)	CN	Description
	0.460	70	Woods, Good, HSG C
*	0.000	98	OFF SITE IMPERVIOUS (See 58S 0.1)
*	0.180	74	OFF SITE LAWN
*	0.550	74	ON SITE LAWN
	1.190	72	Weighted Average
	1.190		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	50	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
0.5	250	0.0150	8.80	105.56	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.022 Earth, clean & straight
22.0	300	Total			

Summary for Subcatchment 10S: BACK YARDS AND UPPER WATERSHED

Runoff = 4.12 cfs @ 12.54 hrs, Volume= 0.542 af, Depth> 2.35"

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

	Area (ac)	CN	Description
	0.560	70	Woods, Good, HSG C
*	0.770	98	OFF SITE EXISTING IMPERVIOUS
*	1.440	74	OFF SITE EXISTING LAWNS
	2.770	80	Weighted Average
	2.000		72.20% Pervious Area
	0.770		27.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
37.4	100	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
1.5	50	0.0500	0.56		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
38.9	150	Total			

Summary for Subcatchment 11S:

Runoff = 3.64 cfs @ 12.29 hrs, Volume= 0.360 af, Depth> 2.04"

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

	Area (ac)	CN	Description
	1.330	70	Woods, Good, HSG C
*	0.420	98	OFF SITE IMPERVIOUS
*	0.370	74	OFF SITE LAWN
	2.120	76	Weighted Average
	1.700		80.19% Pervious Area
	0.420		19.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.6	89	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
0.7	60	0.3000	1.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
20.3	149	Total			

Summary for Subcatchment 14S: ROAD SENT TO POND F1 PHASE 3

Runoff = 4.02 cfs @ 12.09 hrs, Volume= 0.279 af, Depth> 3.10"

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

	Area (ac)	CN	Description
*	0.650	98	OFF SITE IMPERVIOUS
*	0.430	74	OFF SITE LAWN
	1.080	88	Weighted Average
	0.430		39.81% Pervious Area
	0.650		60.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	37	0.0200	0.14		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.5	100	0.0230	3.08		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	240	0.0050	4.84	5.94	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
5.7	377	Total			

Summary for Subcatchment 15S: BACK YARDS AND UPPER WATERSHED

Runoff = 1.54 cfs @ 12.44 hrs, Volume= 0.180 af, Depth> 1.88"

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

	Area (ac)	CN	Description
	0.590	70	Woods, Good, HSG C
*	0.120	98	OFF SITE IMPERVIOUS
*	0.440	74	OFF SITE LAWN
	1.150	74	Weighted Average
	1.030		89.57% Pervious Area
	0.120		10.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.3	100	0.0400	0.06		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
1.5	50	0.0500	0.56		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
0.2	129	0.0500	11.00	32.99	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.00' Z= 1.0 '/' Top.W=4.00' n= 0.022 Earth, clean & straight
0.2	600	0.5000	48.39	59.38	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
30.2	879	Total			

Summary for Subcatchment 20S: BACK YARD AND UPPER WATERSHED

Runoff = 4.13 cfs @ 12.65 hrs, Volume= 0.590 af, Depth> 2.02"

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

	Area (ac)	CN	Description
	1.270	70	Woods, Good, HSG C
*	0.570	98	OFF SITE IMPERVIOUS (see 59S 0.2)
*	1.670	74	OFF SITE LAWNS
	3.510	76	Weighted Average
	2.940		83.76% Pervious Area
	0.570		16.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
37.4	100	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
8.6	257	0.0400	0.50		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
46.0	357	Total			

Summary for Subcatchment 21S:

Runoff = 1.62 cfs @ 12.47 hrs, Volume= 0.196 af, Depth> 1.66"

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

	Area (ac)	CN	Description
	1.060	70	Woods, Good, HSG C
*	0.000	98	OFF SITE IMPERVIOUS (see 60s .25)
*	0.360	74	OFF SITE LAWN
	1.420	71	Weighted Average
	1.420		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.3	100	0.0400	0.06		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
3.7	112	0.0400	0.50		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
32.0	212	Total			

Summary for Subcatchment 22S: ROAD SENT TO POND F1 PHASE 1

Runoff = 1.26 cfs @ 12.10 hrs, Volume= 0.090 af, Depth> 3.10"

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

	Area (ac)	CN	Description
*	0.210	98	OFF SITE IMPERVIOUS
*	0.140	74	OFF SITE LAWN
	0.350	88	Weighted Average
	0.140		40.00% Pervious Area
	0.210		60.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	60	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.5	92	0.0230	3.08		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.1	115	0.2000	30.60	37.56	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
7.1	267	Total			

Summary for Subcatchment 23S: ROAD AND LOT DEVELOPMENT

Runoff = 3.47 cfs @ 12.11 hrs, Volume= 0.250 af, Depth> 2.72"

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

	Area (ac)	CN	Description
*	0.470	98	OFF SITE IMPERVIOUS
*	0.630	74	OFF SITE LAWN
	1.100	84	Weighted Average
	0.630		57.27% Pervious Area
	0.470		42.73% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	60	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.9	172	0.0230	3.08		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.4	110	0.0050	4.84	5.94	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
7.8	342	Total			

Summary for Subcatchment 41S:

Runoff = 1.61 cfs @ 12.73 hrs, Volume= 0.248 af, Depth> 1.94"

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

	Area (ac)	CN	Description
	0.500	70	Woods, Good, HSG C
*	0.150	98	OFF SITE IMPERVIOUS (see 61s 0.20)
*	0.890	74	OFF SITE LAWN
	1.540	75	Weighted Average
	1.390		90.26% Pervious Area
	0.150		9.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
49.3	100	0.0100	0.03		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
2.2	50	0.0220	0.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
1.2	312	0.0050	4.40	5.40	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.011 Concrete pipe, straight & clean
52.7	462	Total			

Summary for Subcatchment 50S: BACK YARD AREA

Runoff = 1.65 cfs @ 12.38 hrs, Volume= 0.182 af, Depth> 1.73"

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

	Area (ac)	CN	Description
	0.640	70	Woods, Good, HSG C
*	0.000	98	OFF SITE IMPERVIOUS (see 57s 0.15)
*	0.180	74	ON SITE LAWN
*	0.440	74	OFF SITE LAWN
	1.260	72	Weighted Average
	1.260		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	100	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
4.4	187	0.0800	0.71		**Shallow Concentrated Flow, BC** Forest w/Heavy Litter Kv= 2.5 fps
25.9	287	Total			

Summary for Subcatchment 56S: 2 House Roof Areas

Runoff = 0.51 cfs @ 12.00 hrs, Volume= 0.034 af, Depth> 4.05"

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

	Area (ac)	CN	Description
*	0.100	98	2 House Roofs
	0.100		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 57S: 3 House Roof Areas

Runoff = 0.77 cfs @ 12.00 hrs, Volume= 0.051 af, Depth> 4.05"

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

	Area (ac)	CN	Description
*	0.150	98	3 House Roofs
	0.150		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 58S: 3 House Roof Areas

Runoff = 0.77 cfs @ 12.00 hrs, Volume= 0.051 af, Depth> 4.05"

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

	Area (ac)	CN	Description
*	0.150	98	3 House Roofs
	0.150		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 59S: 4 House Roof Areas

Runoff = 1.03 cfs @ 12.00 hrs, Volume= 0.068 af, Depth> 4.05"

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

	Area (ac)	CN	Description
*	0.200	98	4 House Roofs
	0.200		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 60S: 5 House Roof Areas

Runoff = 1.29 cfs @ 12.00 hrs, Volume= 0.084 af, Depth> 4.05"

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

	Area (ac)	CN	Description
*	0.250	98	5 House Roofs
	0.250		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 61S: 4 House Roof Areas

Runoff = 1.03 cfs @ 12.00 hrs, Volume= 0.068 af, Depth> 4.05"

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

	Area (ac)	CN	Description
*	0.200	98	4 House Roofs
	0.200		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 70S: BACK YARD AREA

Runoff = 0.53 cfs @ 12.20 hrs, Volume= 0.046 af, Depth> 1.67"

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

	Area (ac)	CN	Description
	0.210	70	Woods, Good, HSG C
*	0.000	98	OFF SITE IMPERVIOUS
*	0.120	74	OFF SITE LAWN
	0.330	71	Weighted Average
	0.330		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	57	0.0800	0.07		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"

Summary for Subcatchment 100:

Runoff = 19.03 cfs @ 12.29 hrs, Volume= 1.880 af, Depth> 2.04"

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

	Area (ac)	CN	Description
	6.730	70	Woods, Good, HSG C
*	2.170	98	OFF SITE IMPERVIOUS
*	2.170	74	OFF SITE LAWN
	11.070	76	Weighted Average
	8.900		80.40% Pervious Area
	2.170		19.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.6	89	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
0.7	60	0.3000	1.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
20.3	149	Total			

Summary for Subcatchment 200:

Runoff = 13.68 cfs @ 12.32 hrs, Volume= 1.431 af, Depth> 2.62"

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

	Area (ac)	CN	Description
	1.350	70	Woods, Good, HSG C
*	2.600	98	OFF SITE IMPERVIOUS
*	2.600	74	OFF SITE LAWN
	6.550	83	Weighted Average
	3.950		60.31% Pervious Area
	2.600		39.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	100	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
1.6	131	0.3000	1.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
23.1	231	Total			

Summary for Subcatchment 700:

Runoff = 14.83 cfs @ 12.31 hrs, Volume= 1.518 af, Depth> 2.36"

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

	Area (ac)	CN	Description
	4.300	77	Woods, Good, HSG D
*	1.400	98	OFF SITE IMPERVIOUS
*	1.400	74	OFF SITE LAWN
*	0.150	98	ON SITE IMPERVIOUS
*	0.460	74	ON SITE LAWN
	7.710	80	Weighted Average
	6.160		79.90% Pervious Area
	1.550		20.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	100	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
0.7	60	0.3000	1.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
22.2	160	Total			

Summary for Reach 1R: WETLAND SWALE @ PL

Inflow Area = 5.350 ac, 32.71% Impervious, Inflow Depth > 2.16" for 10 YEAR event
Inflow = 5.93 cfs @ 12.57 hrs, Volume= 0.963 af
Outflow = 5.88 cfs @ 12.68 hrs, Volume= 0.956 af, Atten= 1%, Lag= 6.8 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.93 fps, Min. Travel Time= 4.1 min
Avg. Velocity = 1.25 fps, Avg. Travel Time= 9.6 min

Peak Storage= 1,448 cf @ 12.61 hrs
Average Depth at Peak Storage= 0.20'
Bank-Full Depth= 2.00' Flow Area= 24.0 sf, Capacity= 282.47 cfs

10.00' x 2.00' deep channel, n= 0.030
Side Slope Z-value= 1.0 '/' Top Width= 14.00'
Length= 720.0' Slope= 0.0319 '/'
Inlet Invert= 121.00', Outlet Invert= 98.00'

Summary for Reach 2R: WETLAND SWALE @ PL

Inflow Area = 8.220 ac, 22.38% Impervious, Inflow Depth > 1.79" for 10 YEAR event
Inflow = 7.39 cfs @ 12.63 hrs, Volume= 1.227 af
Outflow = 7.37 cfs @ 12.70 hrs, Volume= 1.221 af, Atten= 0%, Lag= 4.2 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.02 fps, Min. Travel Time= 2.5 min
Avg. Velocity = 1.70 fps, Avg. Travel Time= 5.9 min

Peak Storage= 1,095 cf @ 12.66 hrs
Average Depth at Peak Storage= 0.34'
Bank-Full Depth= 2.00' Flow Area= 14.0 sf, Capacity= 148.39 cfs

5.00' x 2.00' deep channel, n= 0.030
Side Slope Z-value= 1.0 '/' Top Width= 9.00'
Length= 597.0' Slope= 0.0318 '/'
Inlet Invert= 117.00', Outlet Invert= 98.00'

Summary for Reach 5R: Existing Wetland

Inflow Area = 27.700 ac, 33.00% Impervious, Inflow Depth > 2.08" for 10 YEAR event
Inflow = 27.96 cfs @ 12.52 hrs, Volume= 4.803 af
Outflow = 27.92 cfs @ 12.56 hrs, Volume= 4.789 af, Atten= 0%, Lag= 2.6 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.72 fps, Min. Travel Time= 1.5 min
Avg. Velocity = 2.54 fps, Avg. Travel Time= 3.3 min

Peak Storage= 2,441 cf @ 12.54 hrs
Average Depth at Peak Storage= 0.47'
Bank-Full Depth= 4.00' Flow Area= 56.0 sf, Capacity= 1,068.27 cfs

10.00' x 4.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 1.0 '/' Top Width= 18.00'
Length= 500.0' Slope= 0.0220 '/'
Inlet Invert= 92.00', Outlet Invert= 81.00'

Summary for Reach 7R: EXISTING WETLAND SWALE

Inflow Area = 0.430 ac, 23.26% Impervious, Inflow Depth > 1.28" for 10 YEAR event
Inflow = 0.53 cfs @ 12.22 hrs, Volume= 0.046 af
Outflow = 0.51 cfs @ 12.28 hrs, Volume= 0.046 af, Atten= 3%, Lag= 3.7 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.47 fps, Min. Travel Time= 2.0 min
Avg. Velocity = 0.94 fps, Avg. Travel Time= 5.3 min

Peak Storage= 63 cf @ 12.25 hrs
Average Depth at Peak Storage= 0.07'
Bank-Full Depth= 1.00' Flow Area= 4.0 sf, Capacity= 47.10 cfs

3.00' x 1.00' deep channel, n= 0.030 Stream, clean & straight
Side Slope Z-value= 1.0 '/' Top Width= 5.00'
Length= 300.0' Slope= 0.0933 '/'
Inlet Invert= 118.00', Outlet Invert= 90.00'

Summary for Reach 50R: Property Line

Inflow Area = 1.410 ac, 10.64% Impervious, Inflow Depth > 1.55" for 10 YEAR event
Inflow = 1.65 cfs @ 12.38 hrs, Volume= 0.182 af
Outflow = 1.65 cfs @ 12.39 hrs, Volume= 0.182 af, Atten= 0%, Lag= 0.9 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.03 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 0.80 fps, Avg. Travel Time= 1.2 min

Peak Storage= 49 cf @ 12.38 hrs
Average Depth at Peak Storage= 0.27'
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 11.58 cfs

3.00' x 1.00' deep channel, n= 0.150 Sheet flow over Short Grass
Length= 60.0' Slope= 0.3000 '/'
Inlet Invert= 138.00', Outlet Invert= 120.00'

Summary for Reach 70R: Property Line

Inflow Area = 0.430 ac, 23.26% Impervious, Inflow Depth > 1.28" for 10 YEAR event
Inflow = 0.53 cfs @ 12.20 hrs, Volume= 0.046 af
Outflow = 0.53 cfs @ 12.22 hrs, Volume= 0.046 af, Atten= 1%, Lag= 1.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.86 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 2.28 fps, Avg. Travel Time= 1.5 min

Peak Storage= 22 cf @ 12.21 hrs
Average Depth at Peak Storage= 0.04'
Bank-Full Depth= 1.00' Flow Area= 6.0 sf, Capacity= 204.82 cfs

3.00' x 1.00' deep channel, n= 0.010 PVC, smooth interior
Side Slope Z-value= 3.0 '/' Top Width= 9.00'
Length= 200.0' Slope= 0.0950 '/'
Inlet Invert= 137.00', Outlet Invert= 118.00'

‡

Summary for Reach 80R: Property Line

Inflow Area = 1.340 ac, 11.19% Impervious, Inflow Depth > 1.54" for 10 YEAR event
Inflow = 1.67 cfs @ 12.32 hrs, Volume= 0.172 af
Outflow = 1.66 cfs @ 12.34 hrs, Volume= 0.172 af, Atten= 1%, Lag= 1.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.88 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 0.72 fps, Avg. Travel Time= 1.4 min

Peak Storage= 53 cf @ 12.32 hrs
Average Depth at Peak Storage= 0.30'
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 10.21 cfs

3.00' x 1.00' deep channel, n= 0.150 Sheet flow over Short Grass
Length= 60.0' Slope= 0.2333 '/'
Inlet Invert= 134.00', Outlet Invert= 120.00'

Summary for Pond 1P: 24" CULVERT AT PARK DRIVE

Inflow Area = 12.930 ac, 36.35% Impervious, Inflow Depth > 2.02" for 10 YEAR event
Inflow = 13.90 cfs @ 12.40 hrs, Volume= 2.174 af
Outflow = 13.82 cfs @ 12.45 hrs, Volume= 2.167 af, Atten= 1%, Lag= 2.8 min
Primary = 13.82 cfs @ 12.45 hrs, Volume= 2.167 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 96.44' @ 12.45 hrs Surf.Area= 780 sf Storage= 1,592 cf

Plug-Flow detention time= 3.0 min calculated for 2.167 af (100% of inflow)
Center-of-Mass det. time= 1.9 min (833.4 - 831.5)

Volume	Invert	Avail.Storage	Storage Description
#1	94.00'	105,871 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
94.00	500	0	0
96.00	708	1,208	1,208
98.00	1,037	1,745	2,953
100.00	3,501	4,538	7,491
105.00	9,197	31,745	39,236
110.00	17,457	66,635	105,871

Device	Routing	Invert	Outlet Devices
#1	Primary	94.10'	**24.0" Round Culvert** L= 70.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 94.10' / 92.70' S= 0.0200 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=13.82 cfs @ 12.45 hrs HW=96.44' (Free Discharge)
1=Culvert (Inlet Controls 13.82 cfs @ 4.40 fps)

Summary for Pond 2P: 24" CULVERT AT PARK DRIVE

Inflow Area = 14.770 ac, 30.06% Impervious, Inflow Depth > 2.15" for 10 YEAR event
Inflow = 17.85 cfs @ 12.38 hrs, Volume= 2.651 af
Outflow = 14.67 cfs @ 12.66 hrs, Volume= 2.635 af, Atten= 18%, Lag= 16.7 min
Primary = 14.67 cfs @ 12.66 hrs, Volume= 2.635 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 100.61' @ 12.66 hrs Surf.Area= 3,845 sf Storage= 7,794 cf

Plug-Flow detention time= 7.6 min calculated for 2.627 af (99% of inflow)
Center-of-Mass det. time= 5.5 min (827.2 - 821.7)

Volume	Invert	Avail.Storage	Storage Description
#1	98.00'	175,248 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
98.00	250	0	0
100.00	2,323	2,573	2,573
105.00	14,820	42,858	45,431
110.00	37,107	129,818	175,248

Device	Routing	Invert	Outlet Devices
#1	Primary	98.10'	**24.0" Round Culvert** L= 70.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 98.10' / 96.70' S= 0.0200 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=14.66 cfs @ 12.66 hrs HW=100.61' (Free Discharge)
1=Culvert (Inlet Controls 14.66 cfs @ 4.67 fps)

Summary for Pond 5P: Overflow to Basin

Inflow Area = 1.410 ac, 10.64% Impervious, Inflow Depth > 1.55" for 10 YEAR event
Inflow = 1.65 cfs @ 12.39 hrs, Volume= 0.182 af
Outflow = 1.64 cfs @ 12.42 hrs, Volume= 0.173 af, Atten= 0%, Lag= 1.5 min
Discarded = 0.06 cfs @ 12.42 hrs, Volume= 0.030 af
Primary = 1.58 cfs @ 12.42 hrs, Volume= 0.143 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 121.16' @ 12.42 hrs Surf.Area= 1,093 sf Storage= 572 cf

Plug-Flow detention time= 24.7 min calculated for 0.173 af (95% of inflow)
Center-of-Mass det. time= 8.8 min (832.1 - 823.3)

Volume	Invert	Avail.Storage	Storage Description
#1	120.00'	1,028 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
120.00	50	0	0
121.00	670	360	360
121.50	2,000	668	1,028

Device	Routing	Invert	Outlet Devices
#1	Primary	121.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#2	Discarded	120.00'	**2.410 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.06 cfs @ 12.42 hrs HW=121.16' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 0.06 cfs)

Primary OutFlow Max=1.57 cfs @ 12.42 hrs HW=121.16' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 1.57 cfs @ 0.99 fps)

Summary for Pond 6P: EXISTING FILTER POND - GOOD WILL SITE

Inflow Area = 5.460 ac, 46.34% Impervious, Inflow Depth > 2.53" for 10 YEAR event
Inflow = 13.76 cfs @ 12.01 hrs, Volume= 1.149 af
Outflow = 7.31 cfs @ 12.13 hrs, Volume= 0.859 af, Atten= 47%, Lag= 7.4 min
Primary = 7.31 cfs @ 12.13 hrs, Volume= 0.859 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 115.88' @ 12.13 hrs Surf.Area= 9,768 sf Storage= 17,667 cf

Plug-Flow detention time= 124.7 min calculated for 0.856 af (74% of inflow)
Center-of-Mass det. time= 64.1 min (829.4 - 765.4)

Volume	Invert	Avail.Storage	Storage Description
#1	112.00'	30,350 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
112.00	533	0	0
113.00	1,387	960	960
114.00	4,783	3,085	4,045
115.00	7,372	6,078	10,123
116.00	10,094	8,733	18,856
117.00	12,894	11,494	30,350

Device	Routing	Invert	Outlet Devices
#1	Primary	110.98'	**12.0" Round Culvert** L= 126.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 110.98' / 105.85' S= 0.0407 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf
#2	Device 1	114.50'	**4.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	115.40'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	116.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir**

Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=7.28 cfs @ 12.13 hrs HW=115.88' (Free Discharge)
- **1=Culvert** (Passes 7.28 cfs of 7.93 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.46 cfs @ 5.30 fps)
  - **3=Orifice/Grate** (Weir Controls 6.81 cfs @ 2.26 fps)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 7P: 24" CULVERT AT PARK DRIVE

Inflow Area = 8.140 ac, 20.27% Impervious, Inflow Depth > 2.30" for 10 YEAR event
Inflow = 15.34 cfs @ 12.31 hrs, Volume= 1.563 af
Outflow = 14.44 cfs @ 12.39 hrs, Volume= 1.560 af, Atten= 6%, Lag= 4.6 min
Primary = 14.44 cfs @ 12.39 hrs, Volume= 1.560 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 96.56' @ 12.39 hrs Surf.Area= 1,188 sf Storage= 2,877 cf

Plug-Flow detention time= 3.3 min calculated for 1.554 af (99% of inflow)
Center-of-Mass det. time= 2.4 min (805.7 - 803.3)

Volume	Invert	Avail.Storage	Storage Description
#1	94.00'	11,328 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
94.00	275	0	0
95.00	527	401	401
100.00	2,643	7,925	8,326
101.00	3,360	3,002	11,328

Device	Routing	Invert	Outlet Devices
#1	Primary	94.10'	**24.0" Round Culvert** L= 70.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 94.10' / 92.70' S= 0.0200 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=14.39 cfs @ 12.39 hrs HW=96.55' (Free Discharge)
- **1=Culvert** (Inlet Controls 14.39 cfs @ 4.58 fps)

Summary for Pond 8P: ECB300

Inflow Area = 1.410 ac, 10.64% Impervious, Inflow Depth > 1.22" for 10 YEAR event
Inflow = 1.58 cfs @ 12.42 hrs, Volume= 0.143 af
Outflow = 1.58 cfs @ 12.42 hrs, Volume= 0.143 af, Atten= 0%, Lag= 0.0 min
Primary = 1.58 cfs @ 12.42 hrs, Volume= 0.143 af

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

Peak Elev= 117.08' @ 12.42 hrs
Flood Elev= 120.34'

Device	Routing	Invert	Outlet Devices
#1	Primary	116.40'	**12.0" Round Culvert** L= 164.8' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 116.40' / 115.48' S= 0.0056 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.57 cfs @ 12.42 hrs HW=117.08' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 1.57 cfs @ 3.94 fps)

Summary for Pond 9P: ECB100

Inflow Area = 1.410 ac, 10.64% Impervious, Inflow Depth > 1.22" for 10 YEAR event
Inflow = 1.58 cfs @ 12.42 hrs, Volume= 0.143 af
Outflow = 1.58 cfs @ 12.42 hrs, Volume= 0.143 af, Atten= 0%, Lag= 0.0 min
Primary = 1.58 cfs @ 12.42 hrs, Volume= 0.143 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 116.10' @ 12.42 hrs
Flood Elev= 119.51'

Device	Routing	Invert	Outlet Devices
#1	Primary	115.38'	**12.0" Round Culvert** L= 96.1' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 115.38' / 114.90' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.57 cfs @ 12.42 hrs HW=116.10' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 1.57 cfs @ 3.65 fps)

Summary for Pond 10P: 18" CULVERT STA 12+75

Inflow Area = 2.770 ac, 27.80% Impervious, Inflow Depth > 2.35" for 10 YEAR event
Inflow = 4.12 cfs @ 12.54 hrs, Volume= 0.542 af
Outflow = 4.12 cfs @ 12.56 hrs, Volume= 0.542 af, Atten= 0%, Lag= 1.2 min
Primary = 4.12 cfs @ 12.56 hrs, Volume= 0.542 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 130.14' @ 12.56 hrs Surf.Area= 155 sf Storage= 51 cf

Plug-Flow detention time= 0.1 min calculated for 0.542 af (100% of inflow)
Center-of-Mass det. time= 0.1 min (816.0 - 815.9)

Volume	Invert	Avail.Storage	Storage Description
#1	130.00'	6,127 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
130.00	73	0	0
131.00	672	373	373
132.00	2,609	1,641	2,013
133.00	5,618	4,114	6,127

Device	Routing	Invert	Outlet Devices
#1	Primary	129.00'	**18.0" Round Culvert** L= 70.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 129.00' / 128.30' S= 0.0100 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=4.11 cfs @ 12.56 hrs HW=130.14' (Free Discharge)
1=Culvert (Inlet Controls 4.11 cfs @ 2.86 fps)

Summary for Pond 11P: ECB600

Device	Routing	Invert	Outlet Devices
#1	Primary	116.40'	**12.0" Round Culvert** L= 82.4' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 116.40' / 115.99' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=0.00' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

Summary for Pond 12P: ECB500

Inflow	=	0.00 cfs @	5.00 hrs, Volume=	0.000 af
Outflow	=	0.00 cfs @	5.00 hrs, Volume=	0.000 af, Atten= 0%, Lag= 0.0 min
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= 115.89' @ 5.00 hrs
Flood Elev= 119.93'

Device	Routing	Invert	Outlet Devices
#1	Primary	115.89'	**12.0" Round Culvert** L= 82.4' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 115.89' / 115.48' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=115.89' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

Summary for Pond 13P: 12" CULVERT

Inflow Area = 1.340 ac, 11.19% Impervious, Inflow Depth > 1.54" for 10 YEAR event
Inflow = 1.66 cfs @ 12.34 hrs, Volume= 0.172 af
Outflow = 1.55 cfs @ 12.42 hrs, Volume= 0.171 af, Atten= 7%, Lag= 5.3 min
Primary = 1.55 cfs @ 12.42 hrs, Volume= 0.171 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 119.28' @ 12.42 hrs Surf.Area= 663 sf Storage= 352 cf

Plug-Flow detention time= 3.7 min calculated for 0.171 af (100% of inflow)
Center-of-Mass det. time= 2.6 min (823.0 - 820.3)

Volume	Invert	Avail.Storage	Storage Description
#1	118.50'	1,046 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
118.50	50	0	0
119.00	294	86	86
120.00	1,625	960	1,046

Device	Routing	Invert	Outlet Devices
#1	Primary	118.50'	**12.0" Round Culvert** L= 55.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 118.50' / 117.00' S= 0.0273 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.54 cfs @ 12.42 hrs HW=119.27' (Free Discharge)
1=Culvert (Inlet Controls 1.54 cfs @ 2.36 fps)

Summary for Pond 14P: ECB400

Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
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= 115.38' @ 5.00 hrs
Flood Elev= 119.42'

Device	Routing	Invert	Outlet Devices
#1	Primary	115.38'	**12.0" Round Culvert** L= 39.5' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 115.38' / 115.18' S= 0.0051 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=115.38' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

Summary for Pond 20P: 18" CULVERT STA 18+00

Inflow Area = 4.810 ac, 25.78% Impervious, Inflow Depth > 1.95" for 10 YEAR event
Inflow = 4.44 cfs @ 12.65 hrs, Volume= 0.784 af
Outflow = 4.44 cfs @ 12.66 hrs, Volume= 0.783 af, Atten= 0%, Lag= 0.7 min
Primary = 4.44 cfs @ 12.66 hrs, Volume= 0.783 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 120.70' @ 12.66 hrs Surf.Area= 240 sf Storage= 191 cf

Plug-Flow detention time= 0.8 min calculated for 0.780 af (100% of inflow)
Center-of-Mass det. time= 0.6 min (854.2 - 853.6)

Volume	Invert	Avail.Storage	Storage Description
#1	119.50'	1,365 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
119.50	36	0	0
120.00	140	44	44
121.00	284	212	256
122.00	576	430	686
123.00	781	679	1,365

Device	Routing	Invert	Outlet Devices
#1	Primary	119.50'	**18.0" Round Culvert** L= 81.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 119.50' / 116.50' S= 0.0370 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=4.43 cfs @ 12.66 hrs HW=120.69' (Free Discharge)
1=Culvert (Inlet Controls 4.43 cfs @ 2.94 fps)

Summary for Pond 56P: 2 HOUSE DRIPLINES

Inflow Area = 0.100 ac,100.00% Impervious, Inflow Depth > 4.05" for 10 YEAR event
Inflow = 0.51 cfs @ 12.00 hrs, Volume= 0.034 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 142.82' @ 20.00 hrs Surf.Area= 1,260 sf Storage= 1,471 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	140.00'	1,244 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 2 3,150 cf Overall - 41 cf Embedded = 3,109 cf x 40.0% Voids
#2	140.00'	41 cf	**6.0" Round Pipe Storage** x 2 Inside #1 L= 105.0' S= 0.0050 '/'
		1,285 cf	x 2.00 = 2,569 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	144.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 2.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=140.00' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 57P: 3 HOUSE DRIPLINES

Inflow Area = 0.150 ac,100.00% Impervious, Inflow Depth > 4.05" for 10 YEAR event
Inflow = 0.77 cfs @ 12.00 hrs, Volume= 0.051 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 140.35' @ 20.00 hrs Surf.Area= 2,835 sf Storage= 2,207 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	138.50'	1,865 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 3 4,725 cf Overall - 62 cf Embedded = 4,663 cf x 40.0% Voids
#2	138.50'	62 cf	**6.0" Round Pipe Storage** x 3 Inside #1 L= 105.0' S= 0.0050 '/'
		1,927 cf	x 3.00 = 5,781 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	142.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 3.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=138.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 58P: 3 HOUSE DRIPLINES

Inflow Area = 0.150 ac,100.00% Impervious, Inflow Depth > 4.05" for 10 YEAR event
Inflow = 0.77 cfs @ 12.00 hrs, Volume= 0.051 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 136.35' @ 20.00 hrs Surf.Area= 2,835 sf Storage= 2,207 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	134.50'	1,865 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 3 4,725 cf Overall - 62 cf Embedded = 4,663 cf x 40.0% Voids
#2	134.50'	62 cf	**6.0" Round Pipe Storage** x 3 Inside #1 L= 105.0' S= 0.0050 '/'
		1,927 cf	x 3.00 = 5,781 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	138.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 3.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=134.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 59P: 4 HOUSE DRIPLINES

Inflow Area = 0.200 ac,100.00% Impervious, Inflow Depth > 4.05" for 10 YEAR event
Inflow = 1.03 cfs @ 12.00 hrs, Volume= 0.068 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 121.86' @ 20.00 hrs Surf.Area= 5,040 sf Storage= 2,943 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	120.50'	2,487 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 4 6,300 cf Overall - 82 cf Embedded = 6,218 cf x 40.0% Voids
#2	120.50'	82 cf	**6.0" Round Pipe Storage** x 4 Inside #1 L= 105.0' S= 0.0050 '/'
		2,569 cf	x 4.00 = 10,278 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	124.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 4.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=120.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 60P: 5 HOUSE DRIPLINES

Inflow Area = 0.250 ac,100.00% Impervious, Inflow Depth > 4.05" for 10 YEAR event
Inflow = 1.29 cfs @ 12.00 hrs, Volume= 0.084 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 121.57' @ 20.00 hrs Surf.Area= 7,875 sf Storage= 3,678 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	120.50'	3,109 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 5 7,875 cf Overall - 103 cf Embedded = 7,772 cf x 40.0% Voids
#2	120.50'	103 cf	**6.0" Round Pipe Storage** x 5 Inside #1 L= 105.0' S= 0.0050 '/'
		3,212 cf	x 5.00 = 16,059 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	124.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 5.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=120.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 61P: 4 HOUSE DRIPLINES

Inflow Area = 0.200 ac,100.00% Impervious, Inflow Depth > 4.05" for 10 YEAR event
Inflow = 1.03 cfs @ 12.00 hrs, Volume= 0.068 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 121.86' @ 20.00 hrs Surf.Area= 5,040 sf Storage= 2,943 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	120.50'	2,487 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 4 6,300 cf Overall - 82 cf Embedded = 6,218 cf x 40.0% Voids
#2	120.50'	82 cf	**6.0" Round Pipe Storage** x 4 Inside #1 L= 105.0' S= 0.0050 '/'
		2,569 cf	x 4.00 = 10,278 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	124.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 4.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60

Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=120.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 100P: 24" CULVERT AT TOPSHAM FAIR MALL ROAD

Inflow Area = 46.910 ac, 27.63% Impervious, Inflow Depth > 2.11" for 10 YEAR event
Inflow = 58.02 cfs @ 12.36 hrs, Volume= 8.229 af
Outflow = 29.93 cfs @ 13.00 hrs, Volume= 8.063 af, Atten= 48%, Lag= 38.3 min
Primary = 29.93 cfs @ 13.00 hrs, Volume= 8.063 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 77.02' @ 13.00 hrs Surf.Area= 25,208 sf Storage= 83,331 cf

Plug-Flow detention time= 35.0 min calculated for 8.036 af (98% of inflow)
Center-of-Mass det. time= 27.8 min (850.2 - 822.4)

Volume	Invert	Avail.Storage	Storage Description
#1	72.00'	885,614 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
72.00	3,381	0	0
75.00	15,000	27,572	27,572
80.00	40,318	138,295	165,867
85.00	69,683	275,003	440,869
90.00	108,215	444,745	885,614

Device	Routing	Invert	Outlet Devices
#1	Primary	72.10'	**24.0" Round Culvert** L= 70.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 72.10' / 70.00' S= 0.0300 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=29.93 cfs @ 13.00 hrs HW=77.02' (Free Discharge)
1=Culvert (Inlet Controls 29.93 cfs @ 9.53 fps)

Summary for Pond BB: EXISTING FILTER POND - GOOD WILL SITE

Volume	Invert	Avail.Storage	Storage Description
#1	112.00'	30,350 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
112.00	533	0	0
113.00	1,387	960	960
114.00	4,783	3,085	4,045
115.00	7,372	6,078	10,123
116.00	10,094	8,733	18,856
117.00	12,894	11,494	30,350

Device	Routing	Invert	Outlet Devices
#1	Primary	110.98'	**12.0" Round Culvert** L= 126.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 110.98' / 105.85' S= 0.0407 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf
#2	Device 1	114.50'	**4.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	115.40'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	116.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=0.00' (Free Discharge)
- **1=Culvert** (Controls 0.00 cfs)
  - **2=Orifice/Grate** (Controls 0.00 cfs)
  - **3=Orifice/Grate** (Controls 0.00 cfs)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond F1: STA 12+50 LEFT

Inflow Area = 2.580 ac, 37.98% Impervious, Inflow Depth > 2.55" for 10 YEAR event
Inflow = 5.84 cfs @ 12.09 hrs, Volume= 0.549 af
Outflow = 1.83 cfs @ 12.68 hrs, Volume= 0.421 af, Atten= 69%, Lag= 35.0 min
Primary = 1.83 cfs @ 12.68 hrs, Volume= 0.421 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 127.02' @ 12.68 hrs Surf.Area= 4,042 sf Storage= 10,583 cf

Plug-Flow detention time= 127.4 min calculated for 0.421 af (77% of inflow)
Center-of-Mass det. time= 69.2 min (855.7 - 786.5)

Volume	Invert	Avail.Storage	Storage Description
#1	124.00'	24,339 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
124.00	2,986	0	0
125.00	3,322	3,154	3,154
126.00	3,671	3,497	6,651
127.00	4,035	3,853	10,504
128.00	4,412	4,224	14,727
129.00	4,802	4,607	19,334
130.00	5,207	5,005	24,339

Device	Routing	Invert	Outlet Devices
#1	Primary	120.50'	**18.0" Round Culvert** L= 36.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 120.50' / 120.00' S= 0.0139 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf
#2	Device 1	125.50'	**8.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	128.70'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.83 cfs @ 12.68 hrs HW=127.02' (Free Discharge)
└**1=Culvert** (Passes 1.83 cfs of 20.44 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 1.83 cfs @ 5.24 fps)
  └**3=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond F5: STA 18+25 RIGHT 2.5:1 Slopes

Inflow Area = 1.100 ac, 42.73% Impervious, Inflow Depth > 2.72" for 10 YEAR event
Inflow = 3.47 cfs @ 12.11 hrs, Volume= 0.250 af
Outflow = 0.31 cfs @ 13.22 hrs, Volume= 0.193 af, Atten= 91%, Lag= 66.7 min
Primary = 0.31 cfs @ 13.22 hrs, Volume= 0.193 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 124.00' Surf.Area= 2,612 sf Storage= 3,412 cf
Peak Elev= 125.83' @ 13.22 hrs Surf.Area= 3,714 sf Storage= 9,208 cf (5,796 cf above start)

Plug-Flow detention time= 332.2 min calculated for 0.115 af (46% of inflow)
Center-of-Mass det. time= 144.3 min (926.2 - 781.9)

Volume	Invert	Avail.Storage	Storage Description
#1	122.50'	18,871 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
122.50	1,937	0	0
124.00	2,612	3,412	3,412
126.00	3,815	6,427	9,839
128.00	5,217	9,032	18,871

Device	Routing	Invert	Outlet Devices
#1	Primary	119.00'	**18.0" Round Culvert** L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 119.00' / 116.50' S= 0.0625 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf
#2	Device 1	126.50'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	124.00'	**3.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=0.31 cfs @ 13.22 hrs HW=125.83' (Free Discharge)
└**1=Culvert** (Passes 0.31 cfs of 20.98 cfs potential flow)
  ├**2=Orifice/Grate** (Controls 0.00 cfs)
  └**3=Orifice/Grate** (Orifice Controls 0.31 cfs @ 6.29 fps)

Summary for Subcatchment 6S: GOODWILL SITE AREA

Runoff = 16.53 cfs @ 12.01 hrs, Volume= 1.064 af, Depth> 4.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
*	2.230	98	ON SITE IMPERVIOUS
*	0.410	74	ON SITE LAWN
*	0.070	74	OFF SITE LAWN
	2.710	94	Weighted Average
	0.480		17.71% Pervious Area
	2.230		82.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	46	0.0200	1.18		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 8S: BACK YARD AREA

Runoff = 2.47 cfs @ 12.31 hrs, Volume= 0.251 af, Depth> 2.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
	0.460	70	Woods, Good, HSG C
*	0.000	98	OFF SITE IMPERVIOUS (See 58S 0.1)
*	0.180	74	OFF SITE LAWN
*	0.550	74	ON SITE LAWN
	1.190	72	Weighted Average
	1.190		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	50	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
0.5	250	0.0150	8.80	105.56	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.022 Earth, clean & straight
22.0	300	Total			

Summary for Subcatchment 10S: BACK YARDS AND UPPER WATERSHED

Runoff = 5.68 cfs @ 12.53 hrs, Volume= 0.751 af, Depth> 3.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
	0.560	70	Woods, Good, HSG C
*	0.770	98	OFF SITE EXISTING IMPERVIOUS
*	1.440	74	OFF SITE EXISTING LAWNS
	2.770	80	Weighted Average
	2.000		72.20% Pervious Area
	0.770		27.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
37.4	100	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
1.5	50	0.0500	0.56		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
38.9	150	Total			

Summary for Subcatchment 11S:

Runoff = 5.18 cfs @ 12.28 hrs, Volume= 0.512 af, Depth> 2.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
	1.330	70	Woods, Good, HSG C
*	0.420	98	OFF SITE IMPERVIOUS
*	0.370	74	OFF SITE LAWN
	2.120	76	Weighted Average
	1.700		80.19% Pervious Area
	0.420		19.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.6	89	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
0.7	60	0.3000	1.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
20.3	149	Total			

Summary for Subcatchment 14S: ROAD SENT TO POND F1 PHASE 3

Runoff = 5.24 cfs @ 12.08 hrs, Volume= 0.369 af, Depth> 4.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
*	0.650	98	OFF SITE IMPERVIOUS
*	0.430	74	OFF SITE LAWN
	1.080	88	Weighted Average
	0.430		39.81% Pervious Area
	0.650		60.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	37	0.0200	0.14		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.5	100	0.0230	3.08		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	240	0.0050	4.84	5.94	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
5.7	377	Total			

Summary for Subcatchment 15S: BACK YARDS AND UPPER WATERSHED

Runoff = 2.22 cfs @ 12.43 hrs, Volume= 0.259 af, Depth> 2.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
	0.590	70	Woods, Good, HSG C
*	0.120	98	OFF SITE IMPERVIOUS
*	0.440	74	OFF SITE LAWN
	1.150	74	Weighted Average
	1.030		89.57% Pervious Area
	0.120		10.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.3	100	0.0400	0.06		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
1.5	50	0.0500	0.56		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
0.2	129	0.0500	11.00	32.99	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.00' Z= 1.0 '/' Top.W=4.00' n= 0.022 Earth, clean & straight
0.2	600	0.5000	48.39	59.38	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
30.2	879	Total			

Summary for Subcatchment 20S: BACK YARD AND UPPER WATERSHED

Runoff = 5.88 cfs @ 12.64 hrs, Volume= 0.839 af, Depth> 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

Area (ac)	CN	Description
1.270	70	Woods, Good, HSG C
* 0.570	98	OFF SITE IMPERVIOUS (see 59S 0.2)
* 1.670	74	OFF SITE LAWNS
3.510	76	Weighted Average
2.940		83.76% Pervious Area
0.570		16.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
37.4	100	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
8.6	257	0.0400	0.50		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
46.0	357	Total			

Summary for Subcatchment 21S:

Runoff = 2.41 cfs @ 12.46 hrs, Volume= 0.289 af, Depth> 2.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

Area (ac)	CN	Description
1.060	70	Woods, Good, HSG C
* 0.000	98	OFF SITE IMPERVIOUS (see 60s .25)
* 0.360	74	OFF SITE LAWN
1.420	71	Weighted Average
1.420		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.3	100	0.0400	0.06		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
3.7	112	0.0400	0.50		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
32.0	212	Total			

Summary for Subcatchment 22S: ROAD SENT TO POND F1 PHASE 1

Runoff = 1.64 cfs @ 12.10 hrs, Volume= 0.119 af, Depth> 4.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
*	0.210	98	OFF SITE IMPERVIOUS
*	0.140	74	OFF SITE LAWN
	0.350	88	Weighted Average
	0.140		40.00% Pervious Area
	0.210		60.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	60	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.5	92	0.0230	3.08		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.1	115	0.2000	30.60	37.56	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
7.1	267	Total			

Summary for Subcatchment 23S: ROAD AND LOT DEVELOPMENT

Runoff = 4.63 cfs @ 12.11 hrs, Volume= 0.338 af, Depth> 3.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
*	0.470	98	OFF SITE IMPERVIOUS
*	0.630	74	OFF SITE LAWN
	1.100	84	Weighted Average
	0.630		57.27% Pervious Area
	0.470		42.73% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	60	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.9	172	0.0230	3.08		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.4	110	0.0050	4.84	5.94	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
7.8	342	Total			

Summary for Subcatchment 41S:

Runoff = 2.32 cfs @ 12.72 hrs, Volume= 0.356 af, Depth> 2.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
	0.500	70	Woods, Good, HSG C
*	0.150	98	OFF SITE IMPERVIOUS (see 61s 0.20)
*	0.890	74	OFF SITE LAWN
	1.540	75	Weighted Average
	1.390		90.26% Pervious Area
	0.150		9.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
49.3	100	0.0100	0.03		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
2.2	50	0.0220	0.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
1.2	312	0.0050	4.40	5.40	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.011 Concrete pipe, straight & clean
52.7	462	Total			

Summary for Subcatchment 50S: BACK YARD AREA

Runoff = 2.44 cfs @ 12.37 hrs, Volume= 0.266 af, Depth> 2.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
	0.640	70	Woods, Good, HSG C
*	0.000	98	OFF SITE IMPERVIOUS (see 57s 0.15)
*	0.180	74	ON SITE LAWN
*	0.440	74	OFF SITE LAWN
	1.260	72	Weighted Average
	1.260		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	100	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
4.4	187	0.0800	0.71		**Shallow Concentrated Flow, BC** Forest w/Heavy Litter Kv= 2.5 fps
25.9	287	Total			

Summary for Subcatchment 56S: 2 House Roof Areas

Runoff = 0.64 cfs @ 12.00 hrs, Volume= 0.042 af, Depth> 5.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
*	0.100	98	2 House Roofs
	0.100		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 57S: 3 House Roof Areas

Runoff = 0.96 cfs @ 12.00 hrs, Volume= 0.063 af, Depth> 5.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
*	0.150	98	3 House Roofs
	0.150		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 58S: 3 House Roof Areas

Runoff = 0.96 cfs @ 12.00 hrs, Volume= 0.063 af, Depth> 5.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
*	0.150	98	3 House Roofs
	0.150		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 59S: 4 House Roof Areas

Runoff = 1.28 cfs @ 12.00 hrs, Volume= 0.084 af, Depth> 5.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
*	0.200	98	4 House Roofs
	0.200		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 60S: 5 House Roof Areas

Runoff = 1.60 cfs @ 12.00 hrs, Volume= 0.105 af, Depth> 5.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
*	0.250	98	5 House Roofs
	0.250		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 61S: 4 House Roof Areas

Runoff = 1.28 cfs @ 12.00 hrs, Volume= 0.084 af, Depth> 5.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
*	0.200	98	4 House Roofs
	0.200		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 70S: BACK YARD AREA

Runoff = 0.79 cfs @ 12.20 hrs, Volume= 0.068 af, Depth> 2.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
	0.210	70	Woods, Good, HSG C
*	0.000	98	OFF SITE IMPERVIOUS
*	0.120	74	OFF SITE LAWN
	0.330	71	Weighted Average
	0.330		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	57	0.0800	0.07		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"

Summary for Subcatchment 100:

Runoff = 27.05 cfs @ 12.28 hrs, Volume= 2.672 af, Depth> 2.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
	6.730	70	Woods, Good, HSG C
*	2.170	98	OFF SITE IMPERVIOUS
*	2.170	74	OFF SITE LAWN
	11.070	76	Weighted Average
	8.900		80.40% Pervious Area
	2.170		19.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.6	89	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
0.7	60	0.3000	1.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
20.3	149	Total			

Summary for Subcatchment 200:

Runoff = 18.44 cfs @ 12.31 hrs, Volume= 1.946 af, Depth> 3.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
	1.350	70	Woods, Good, HSG C
*	2.600	98	OFF SITE IMPERVIOUS
*	2.600	74	OFF SITE LAWN
	6.550	83	Weighted Average
	3.950		60.31% Pervious Area
	2.600		39.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	100	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
1.6	131	0.3000	1.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
23.1	231	Total			

Summary for Subcatchment 700:

Runoff = 20.42 cfs @ 12.31 hrs, Volume= 2.102 af, Depth> 3.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
	4.300	77	Woods, Good, HSG D
*	1.400	98	OFF SITE IMPERVIOUS
*	1.400	74	OFF SITE LAWN
*	0.150	98	ON SITE IMPERVIOUS
*	0.460	74	ON SITE LAWN
	7.710	80	Weighted Average
	6.160		79.90% Pervious Area
	1.550		20.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	100	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
0.7	60	0.3000	1.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
22.2	160	Total			

Summary for Reach 1R: WETLAND SWALE @ PL

Inflow Area = 5.350 ac, 32.71% Impervious, Inflow Depth > 3.07" for 25 YEAR event
Inflow = 8.04 cfs @ 12.57 hrs, Volume= 1.367 af
Outflow = 7.99 cfs @ 12.67 hrs, Volume= 1.359 af, Atten= 1%, Lag= 6.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.30 fps, Min. Travel Time= 3.6 min
Avg. Velocity = 1.37 fps, Avg. Travel Time= 8.8 min

Peak Storage= 1,747 cf @ 12.61 hrs
Average Depth at Peak Storage= 0.24'
Bank-Full Depth= 2.00' Flow Area= 24.0 sf, Capacity= 282.47 cfs

10.00' x 2.00' deep channel, n= 0.030
Side Slope Z-value= 1.0 '/' Top Width= 14.00'
Length= 720.0' Slope= 0.0319 '/'
Inlet Invert= 121.00', Outlet Invert= 98.00'

Summary for Reach 2R: WETLAND SWALE @ PL

Inflow Area = 8.220 ac, 22.38% Impervious, Inflow Depth > 2.51" for 25 YEAR event
Inflow = 10.48 cfs @ 12.63 hrs, Volume= 1.722 af
Outflow = 10.45 cfs @ 12.69 hrs, Volume= 1.715 af, Atten= 0%, Lag= 3.6 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.56 fps, Min. Travel Time= 2.2 min
Avg. Velocity = 1.84 fps, Avg. Travel Time= 5.4 min

Peak Storage= 1,371 cf @ 12.65 hrs
Average Depth at Peak Storage= 0.42'
Bank-Full Depth= 2.00' Flow Area= 14.0 sf, Capacity= 148.39 cfs

5.00' x 2.00' deep channel, n= 0.030
Side Slope Z-value= 1.0 '/' Top Width= 9.00'
Length= 597.0' Slope= 0.0318 '/'
Inlet Invert= 117.00', Outlet Invert= 98.00'

Summary for Reach 5R: Existing Wetland

Inflow Area = 27.700 ac, 33.00% Impervious, Inflow Depth > 2.92" for 25 YEAR event
Inflow = 37.20 cfs @ 12.61 hrs, Volume= 6.741 af
Outflow = 37.17 cfs @ 12.64 hrs, Volume= 6.726 af, Atten= 0%, Lag= 1.8 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.36 fps, Min. Travel Time= 1.3 min
Avg. Velocity = 2.76 fps, Avg. Travel Time= 3.0 min

Peak Storage= 2,925 cf @ 12.63 hrs
Average Depth at Peak Storage= 0.55'
Bank-Full Depth= 4.00' Flow Area= 56.0 sf, Capacity= 1,068.27 cfs

10.00' x 4.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 1.0 '/' Top Width= 18.00'
Length= 500.0' Slope= 0.0220 '/'
Inlet Invert= 92.00', Outlet Invert= 81.00'

Summary for Reach 7R: EXISTING WETLAND SWALE

Inflow Area = 0.430 ac, 23.26% Impervious, Inflow Depth > 1.88" for 25 YEAR event
Inflow = 0.79 cfs @ 12.21 hrs, Volume= 0.067 af
Outflow = 0.77 cfs @ 12.27 hrs, Volume= 0.067 af, Atten= 2%, Lag= 3.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.88 fps, Min. Travel Time= 1.7 min
Avg. Velocity = 1.03 fps, Avg. Travel Time= 4.9 min

Peak Storage= 81 cf @ 12.23 hrs
Average Depth at Peak Storage= 0.09'
Bank-Full Depth= 1.00' Flow Area= 4.0 sf, Capacity= 47.10 cfs

3.00' x 1.00' deep channel, n= 0.030 Stream, clean & straight
Side Slope Z-value= 1.0 '/' Top Width= 5.00'
Length= 300.0' Slope= 0.0933 '/'
Inlet Invert= 118.00', Outlet Invert= 90.00'

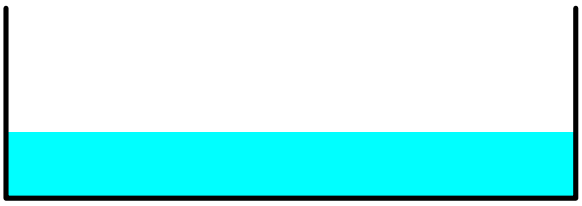
Summary for Reach 50R: Property Line

Inflow Area = 1.410 ac, 10.64% Impervious, Inflow Depth > 2.26" for 25 YEAR event
Inflow = 2.44 cfs @ 12.37 hrs, Volume= 0.266 af
Outflow = 2.43 cfs @ 12.38 hrs, Volume= 0.266 af, Atten= 0%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.33 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 0.89 fps, Avg. Travel Time= 1.1 min

Peak Storage= 63 cf @ 12.37 hrs
Average Depth at Peak Storage= 0.35'
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 11.58 cfs

3.00' x 1.00' deep channel, n= 0.150 Sheet flow over Short Grass
Length= 60.0' Slope= 0.3000 '/'
Inlet Invert= 138.00', Outlet Invert= 120.00'



Summary for Reach 70R: Property Line

Inflow Area = 0.430 ac, 23.26% Impervious, Inflow Depth > 1.88" for 25 YEAR event
Inflow = 0.79 cfs @ 12.20 hrs, Volume= 0.068 af
Outflow = 0.79 cfs @ 12.21 hrs, Volume= 0.067 af, Atten= 1%, Lag= 1.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.65 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 2.37 fps, Avg. Travel Time= 1.4 min

Peak Storage= 28 cf @ 12.20 hrs
Average Depth at Peak Storage= 0.04'
Bank-Full Depth= 1.00' Flow Area= 6.0 sf, Capacity= 204.82 cfs

3.00' x 1.00' deep channel, n= 0.010 PVC, smooth interior
Side Slope Z-value= 3.0 '/' Top Width= 9.00'
Length= 200.0' Slope= 0.0950 '/'
Inlet Invert= 137.00', Outlet Invert= 118.00'

‡

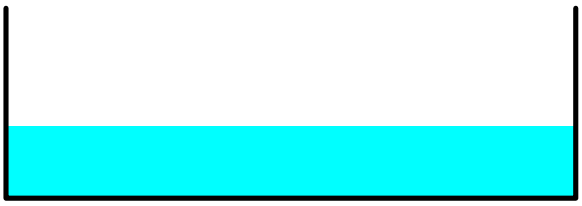
Summary for Reach 80R: Property Line

Inflow Area = 1.340 ac, 11.19% Impervious, Inflow Depth > 2.25" for 25 YEAR event
Inflow = 2.47 cfs @ 12.31 hrs, Volume= 0.251 af
Outflow = 2.45 cfs @ 12.33 hrs, Volume= 0.251 af, Atten= 1%, Lag= 0.7 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.16 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 0.80 fps, Avg. Travel Time= 1.2 min

Peak Storage= 68 cf @ 12.32 hrs
Average Depth at Peak Storage= 0.38'
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 10.21 cfs

3.00' x 1.00' deep channel, n= 0.150 Sheet flow over Short Grass
Length= 60.0' Slope= 0.2333 '/'
Inlet Invert= 134.00', Outlet Invert= 120.00'



Summary for Pond 1P: 24" CULVERT AT PARK DRIVE

Inflow Area = 12.930 ac, 36.35% Impervious, Inflow Depth > 2.88" for 25 YEAR event
Inflow = 19.46 cfs @ 12.37 hrs, Volume= 3.106 af
Outflow = 19.30 cfs @ 12.47 hrs, Volume= 3.098 af, Atten= 1%, Lag= 5.8 min
Primary = 19.30 cfs @ 12.47 hrs, Volume= 3.098 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 97.71' @ 12.47 hrs Surf.Area= 990 sf Storage= 2,702 cf

Plug-Flow detention time= 2.8 min calculated for 3.098 af (100% of inflow)
Center-of-Mass det. time= 2.0 min (824.0 - 822.0)

Volume	Invert	Avail.Storage	Storage Description
#1	94.00'	105,871 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
94.00	500	0	0
96.00	708	1,208	1,208
98.00	1,037	1,745	2,953
100.00	3,501	4,538	7,491
105.00	9,197	31,745	39,236
110.00	17,457	66,635	105,871

Device	Routing	Invert	Outlet Devices
#1	Primary	94.10'	**24.0" Round Culvert** L= 70.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 94.10' / 92.70' S= 0.0200 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=19.29 cfs @ 12.47 hrs HW=97.71' (Free Discharge)
1=Culvert (Inlet Controls 19.29 cfs @ 6.14 fps)

Summary for Pond 2P: 24" CULVERT AT PARK DRIVE

Inflow Area = 14.770 ac, 30.06% Impervious, Inflow Depth > 2.97" for 25 YEAR event
Inflow = 24.79 cfs @ 12.38 hrs, Volume= 3.661 af
Outflow = 18.54 cfs @ 12.72 hrs, Volume= 3.643 af, Atten= 25%, Lag= 20.7 min
Primary = 18.54 cfs @ 12.72 hrs, Volume= 3.643 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 101.51' @ 12.72 hrs Surf.Area= 6,101 sf Storage= 15,529 cf

Plug-Flow detention time= 9.0 min calculated for 3.631 af (99% of inflow)
Center-of-Mass det. time= 7.3 min (821.2 - 814.0)

Volume	Invert	Avail.Storage	Storage Description
#1	98.00'	175,248 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
98.00	250	0	0
100.00	2,323	2,573	2,573
105.00	14,820	42,858	45,431
110.00	37,107	129,818	175,248

Device	Routing	Invert	Outlet Devices
#1	Primary	98.10'	**24.0" Round Culvert** L= 70.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 98.10' / 96.70' S= 0.0200 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=18.53 cfs @ 12.72 hrs HW=101.51' (Free Discharge)
1=Culvert (Inlet Controls 18.53 cfs @ 5.90 fps)

Summary for Pond 5P: Overflow to Basin

Inflow Area = 1.410 ac, 10.64% Impervious, Inflow Depth > 2.26" for 25 YEAR event
Inflow = 2.43 cfs @ 12.38 hrs, Volume= 0.266 af
Outflow = 2.42 cfs @ 12.40 hrs, Volume= 0.257 af, Atten= 0%, Lag= 1.4 min
Discarded = 0.07 cfs @ 12.40 hrs, Volume= 0.034 af
Primary = 2.35 cfs @ 12.40 hrs, Volume= 0.223 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 121.21' @ 12.40 hrs Surf.Area= 1,221 sf Storage= 637 cf

Plug-Flow detention time= 19.0 min calculated for 0.256 af (96% of inflow)
Center-of-Mass det. time= 7.5 min (822.4 - 814.8)

Volume	Invert	Avail.Storage	Storage Description
#1	120.00'	1,028 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
120.00	50	0	0
121.00	670	360	360
121.50	2,000	668	1,028

Device	Routing	Invert	Outlet Devices
#1	Primary	121.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#2	Discarded	120.00'	**2.410 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.07 cfs @ 12.40 hrs HW=121.21' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 0.07 cfs)

Primary OutFlow Max=2.35 cfs @ 12.40 hrs HW=121.21' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 2.35 cfs @ 1.13 fps)

Summary for Pond 6P: EXISTING FILTER POND - GOOD WILL SITE

Inflow Area = 5.460 ac, 46.34% Impervious, Inflow Depth > 3.38" for 25 YEAR event
Inflow = 17.81 cfs @ 12.01 hrs, Volume= 1.538 af
Outflow = 9.78 cfs @ 12.12 hrs, Volume= 1.235 af, Atten= 45%, Lag= 6.8 min
Primary = 9.78 cfs @ 12.12 hrs, Volume= 1.235 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 116.16' @ 12.12 hrs Surf.Area= 10,545 sf Storage= 20,517 cf

Plug-Flow detention time= 104.2 min calculated for 1.231 af (80% of inflow)
Center-of-Mass det. time= 52.1 min (815.6 - 763.5)

Volume	Invert	Avail.Storage	Storage Description
#1	112.00'	30,350 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
112.00	533	0	0
113.00	1,387	960	960
114.00	4,783	3,085	4,045
115.00	7,372	6,078	10,123
116.00	10,094	8,733	18,856
117.00	12,894	11,494	30,350

Device	Routing	Invert	Outlet Devices
#1	Primary	110.98'	**12.0" Round Culvert** L= 126.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 110.98' / 105.85' S= 0.0407 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf
#2	Device 1	114.50'	**4.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	115.40'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	116.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir**

Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=9.67 cfs @ 12.12 hrs HW=116.15' (Free Discharge)
- **1=Culvert** (Inlet Controls 8.18 cfs @ 10.41 fps)
  - **2=Orifice/Grate** (Passes < 0.51 cfs potential flow)
  - **3=Orifice/Grate** (Passes < 13.13 cfs potential flow)
- **4=Broad-Crested Rectangular Weir** (Weir Controls 1.49 cfs @ 0.97 fps)

Summary for Pond 7P: 24" CULVERT AT PARK DRIVE

Inflow Area = 8.140 ac, 20.27% Impervious, Inflow Depth > 3.20" for 25 YEAR event
Inflow = 21.17 cfs @ 12.30 hrs, Volume= 2.169 af
Outflow = 19.38 cfs @ 12.40 hrs, Volume= 2.165 af, Atten= 8%, Lag= 5.7 min
Primary = 19.38 cfs @ 12.40 hrs, Volume= 2.165 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 97.73' @ 12.40 hrs Surf.Area= 1,684 sf Storage= 4,733 cf

Plug-Flow detention time= 3.3 min calculated for 2.165 af (100% of inflow)
Center-of-Mass det. time= 2.6 min (798.4 - 795.8)

Volume	Invert	Avail.Storage	Storage Description
#1	94.00'	11,328 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
94.00	275	0	0
95.00	527	401	401
100.00	2,643	7,925	8,326
101.00	3,360	3,002	11,328

Device	Routing	Invert	Outlet Devices
#1	Primary	94.10'	**24.0" Round Culvert** L= 70.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 94.10' / 92.70' S= 0.0200 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=19.37 cfs @ 12.40 hrs HW=97.73' (Free Discharge)
- **1=Culvert** (Inlet Controls 19.37 cfs @ 6.17 fps)

Summary for Pond 8P: ECB300

Inflow Area = 1.410 ac, 10.64% Impervious, Inflow Depth > 1.90" for 25 YEAR event
Inflow = 2.35 cfs @ 12.40 hrs, Volume= 0.223 af
Outflow = 2.35 cfs @ 12.40 hrs, Volume= 0.223 af, Atten= 0%, Lag= 0.0 min
Primary = 2.35 cfs @ 12.40 hrs, Volume= 0.223 af

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

Peak Elev= 117.28' @ 12.40 hrs
Flood Elev= 120.34'

Device	Routing	Invert	Outlet Devices
#1	Primary	116.40'	**12.0" Round Culvert** L= 164.8' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 116.40' / 115.48' S= 0.0056 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.35 cfs @ 12.40 hrs HW=117.28' (Free Discharge)
↑**1=Culvert** (Inlet Controls 2.35 cfs @ 3.20 fps)

Summary for Pond 9P: ECB100

Inflow Area = 1.410 ac, 10.64% Impervious, Inflow Depth > 1.90" for 25 YEAR event
Inflow = 2.35 cfs @ 12.40 hrs, Volume= 0.223 af
Outflow = 2.35 cfs @ 12.40 hrs, Volume= 0.223 af, Atten= 0%, Lag= 0.0 min
Primary = 2.35 cfs @ 12.40 hrs, Volume= 0.223 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 116.32' @ 12.40 hrs
Flood Elev= 119.51'

Device	Routing	Invert	Outlet Devices
#1	Primary	115.38'	**12.0" Round Culvert** L= 96.1' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 115.38' / 114.90' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.35 cfs @ 12.40 hrs HW=116.32' (Free Discharge)
↑**1=Culvert** (Barrel Controls 2.35 cfs @ 3.97 fps)

Summary for Pond 10P: 18" CULVERT STA 12+75

Inflow Area = 2.770 ac, 27.80% Impervious, Inflow Depth > 3.25" for 25 YEAR event
Inflow = 5.68 cfs @ 12.53 hrs, Volume= 0.751 af
Outflow = 5.66 cfs @ 12.56 hrs, Volume= 0.751 af, Atten= 0%, Lag= 1.7 min
Primary = 5.66 cfs @ 12.56 hrs, Volume= 0.751 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 130.45' @ 12.56 hrs Surf.Area= 343 sf Storage= 168 cf

Plug-Flow detention time= 0.2 min calculated for 0.751 af (100% of inflow)
Center-of-Mass det. time= 0.2 min (808.7 - 808.6)

Volume	Invert	Avail.Storage	Storage Description
#1	130.00'	6,127 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
130.00	73	0	0
131.00	672	373	373
132.00	2,609	1,641	2,013
133.00	5,618	4,114	6,127

Device	Routing	Invert	Outlet Devices
#1	Primary	129.00'	**18.0" Round Culvert** L= 70.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 129.00' / 128.30' S= 0.0100 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=5.66 cfs @ 12.56 hrs HW=130.45' (Free Discharge)
1=Culvert (Inlet Controls 5.66 cfs @ 3.23 fps)

Summary for Pond 11P: ECB600

Device	Routing	Invert	Outlet Devices
#1	Primary	116.40'	**12.0" Round Culvert** L= 82.4' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 116.40' / 115.99' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=0.00' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

Summary for Pond 12P: ECB500

Inflow	=	0.00 cfs @	5.00 hrs, Volume=	0.000 af	
Outflow	=	0.00 cfs @	5.00 hrs, Volume=	0.000 af, Atten= 0%, Lag= 0.0 min	
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= 115.89' @ 5.00 hrs
Flood Elev= 119.93'

Device	Routing	Invert	Outlet Devices
#1	Primary	115.89'	**12.0" Round Culvert** L= 82.4' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 115.89' / 115.48' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=115.89' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

Summary for Pond 13P: 12" CULVERT

Inflow Area = 1.340 ac, 11.19% Impervious, Inflow Depth > 2.25" for 25 YEAR event
Inflow = 2.45 cfs @ 12.33 hrs, Volume= 0.251 af
Outflow = 2.22 cfs @ 12.43 hrs, Volume= 0.251 af, Atten= 10%, Lag= 6.4 min
Primary = 2.22 cfs @ 12.43 hrs, Volume= 0.251 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 119.55' @ 12.43 hrs Surf.Area= 1,029 sf Storage= 616 cf

Plug-Flow detention time= 3.7 min calculated for 0.251 af (100% of inflow)
Center-of-Mass det. time= 2.9 min (814.8 - 811.9)

Volume	Invert	Avail.Storage	Storage Description
#1	118.50'	1,046 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
118.50	50	0	0
119.00	294	86	86
120.00	1,625	960	1,046

Device	Routing	Invert	Outlet Devices
#1	Primary	118.50'	**12.0" Round Culvert** L= 55.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 118.50' / 117.00' S= 0.0273 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.21 cfs @ 12.43 hrs HW=119.55' (Free Discharge)
1=Culvert (Inlet Controls 2.21 cfs @ 2.82 fps)

Summary for Pond 14P: ECB400

Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
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= 115.38' @ 5.00 hrs
Flood Elev= 119.42'

Device	Routing	Invert	Outlet Devices
#1	Primary	115.38'	**12.0" Round Culvert** L= 39.5' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 115.38' / 115.18' S= 0.0051 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=115.38' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

Summary for Pond 20P: 18" CULVERT STA 18+00

Inflow Area = 4.810 ac, 25.78% Impervious, Inflow Depth > 2.69" for 25 YEAR event
Inflow = 6.23 cfs @ 12.64 hrs, Volume= 1.079 af
Outflow = 6.20 cfs @ 12.67 hrs, Volume= 1.078 af, Atten= 0%, Lag= 1.9 min
Primary = 6.20 cfs @ 12.67 hrs, Volume= 1.078 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 121.10' @ 12.67 hrs Surf.Area= 314 sf Storage= 300 cf

Plug-Flow detention time= 0.8 min calculated for 1.075 af (100% of inflow)
Center-of-Mass det. time= 0.6 min (845.1 - 844.5)

Volume	Invert	Avail.Storage	Storage Description
#1	119.50'	1,365 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
119.50	36	0	0
120.00	140	44	44
121.00	284	212	256
122.00	576	430	686
123.00	781	679	1,365

Device	Routing	Invert	Outlet Devices
#1	Primary	119.50'	**18.0" Round Culvert** L= 81.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 119.50' / 116.50' S= 0.0370 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=6.19 cfs @ 12.67 hrs HW=121.10' (Free Discharge)
1=Culvert (Inlet Controls 6.19 cfs @ 3.50 fps)

Summary for Pond 56P: 2 HOUSE DRIPLINES

Inflow Area = 0.100 ac,100.00% Impervious, Inflow Depth > 5.06" for 25 YEAR event
Inflow = 0.64 cfs @ 12.00 hrs, Volume= 0.042 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 143.54' @ 20.00 hrs Surf.Area= 1,260 sf Storage= 1,835 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	140.00'	1,244 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 2 3,150 cf Overall - 41 cf Embedded = 3,109 cf x 40.0% Voids
#2	140.00'	41 cf	**6.0" Round Pipe Storage** x 2 Inside #1 L= 105.0' S= 0.0050 '/'
		1,285 cf	x 2.00 = 2,569 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	144.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 2.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=140.00' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 57P: 3 HOUSE DRIPLINES

Inflow Area = 0.150 ac,100.00% Impervious, Inflow Depth > 5.06" for 25 YEAR event
Inflow = 0.96 cfs @ 12.00 hrs, Volume= 0.063 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 140.83' @ 20.00 hrs Surf.Area= 2,835 sf Storage= 2,752 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	138.50'	1,865 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 3 4,725 cf Overall - 62 cf Embedded = 4,663 cf x 40.0% Voids
#2	138.50'	62 cf	**6.0" Round Pipe Storage** x 3 Inside #1 L= 105.0' S= 0.0050 '/'
		1,927 cf	x 3.00 = 5,781 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	142.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 3.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=138.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 58P: 3 HOUSE DRIPLINES

Inflow Area = 0.150 ac,100.00% Impervious, Inflow Depth > 5.06" for 25 YEAR event
Inflow = 0.96 cfs @ 12.00 hrs, Volume= 0.063 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 136.83' @ 20.00 hrs Surf.Area= 2,835 sf Storage= 2,752 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	134.50'	1,865 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 3 4,725 cf Overall - 62 cf Embedded = 4,663 cf x 40.0% Voids
#2	134.50'	62 cf	**6.0" Round Pipe Storage** x 3 Inside #1 L= 105.0' S= 0.0050 '/'
		1,927 cf	x 3.00 = 5,781 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	138.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 3.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=134.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 59P: 4 HOUSE DRIPLINES

Inflow Area = 0.200 ac,100.00% Impervious, Inflow Depth > 5.06" for 25 YEAR event
Inflow = 1.28 cfs @ 12.00 hrs, Volume= 0.084 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 122.22' @ 20.00 hrs Surf.Area= 5,040 sf Storage= 3,670 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	120.50'	2,487 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 4 6,300 cf Overall - 82 cf Embedded = 6,218 cf x 40.0% Voids
#2	120.50'	82 cf	**6.0" Round Pipe Storage** x 4 Inside #1 L= 105.0' S= 0.0050 '/'
		2,569 cf	x 4.00 = 10,278 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	124.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 4.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=120.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 60P: 5 HOUSE DRIPLINES

Inflow Area = 0.250 ac,100.00% Impervious, Inflow Depth > 5.06" for 25 YEAR event
Inflow = 1.60 cfs @ 12.00 hrs, Volume= 0.105 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 121.86' @ 20.00 hrs Surf.Area= 7,875 sf Storage= 4,587 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	120.50'	3,109 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 5 7,875 cf Overall - 103 cf Embedded = 7,772 cf x 40.0% Voids
#2	120.50'	103 cf	**6.0" Round Pipe Storage** x 5 Inside #1 L= 105.0' S= 0.0050 '/'
		3,212 cf	x 5.00 = 16,059 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	124.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 5.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=120.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 61P: 4 HOUSE DRIPLINES

Inflow Area = 0.200 ac,100.00% Impervious, Inflow Depth > 5.06" for 25 YEAR event
Inflow = 1.28 cfs @ 12.00 hrs, Volume= 0.084 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 122.22' @ 20.00 hrs Surf.Area= 5,040 sf Storage= 3,670 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	120.50'	2,487 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 4 6,300 cf Overall - 82 cf Embedded = 6,218 cf x 40.0% Voids
#2	120.50'	82 cf	**6.0" Round Pipe Storage** x 4 Inside #1 L= 105.0' S= 0.0050 '/'
		2,569 cf	x 4.00 = 10,278 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	124.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 4.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60

Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=120.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 100P: 24" CULVERT AT TOPSHAM FAIR MALL ROAD

Inflow Area = 46.910 ac, 27.63% Impervious, Inflow Depth > 2.96" for 25 YEAR event
Inflow = 77.75 cfs @ 12.36 hrs, Volume= 11.564 af
Outflow = 36.02 cfs @ 13.10 hrs, Volume= 11.377 af, Atten= 54%, Lag= 44.3 min
Primary = 36.02 cfs @ 13.10 hrs, Volume= 11.377 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 78.77' @ 13.10 hrs Surf.Area= 34,096 sf Storage= 131,883 cf

Plug-Flow detention time= 42.4 min calculated for 11.339 af (98% of inflow)
Center-of-Mass det. time= 36.5 min (851.3 - 814.8)

Volume	Invert	Avail.Storage	Storage Description
#1	72.00'	885,614 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
72.00	3,381	0	0
75.00	15,000	27,572	27,572
80.00	40,318	138,295	165,867
85.00	69,683	275,003	440,869
90.00	108,215	444,745	885,614

Device	Routing	Invert	Outlet Devices
#1	Primary	72.10'	**24.0" Round Culvert** L= 70.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 72.10' / 70.00' S= 0.0300 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=36.02 cfs @ 13.10 hrs HW=78.77' (Free Discharge)
1=Culvert (Inlet Controls 36.02 cfs @ 11.47 fps)

Summary for Pond BB: EXISTING FILTER POND - GOOD WILL SITE

Volume	Invert	Avail.Storage	Storage Description
#1	112.00'	30,350 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
112.00	533	0	0
113.00	1,387	960	960
114.00	4,783	3,085	4,045
115.00	7,372	6,078	10,123
116.00	10,094	8,733	18,856
117.00	12,894	11,494	30,350

Device	Routing	Invert	Outlet Devices
#1	Primary	110.98'	**12.0" Round Culvert** L= 126.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 110.98' / 105.85' S= 0.0407 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf
#2	Device 1	114.50'	**4.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	115.40'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	116.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=0.00' (Free Discharge)
- **1=Culvert** (Controls 0.00 cfs)
  - **2=Orifice/Grate** (Controls 0.00 cfs)
  - **3=Orifice/Grate** (Controls 0.00 cfs)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond F1: STA 12+50 LEFT

Inflow Area = 2.580 ac, 37.98% Impervious, Inflow Depth > 3.48" for 25 YEAR event
Inflow = 7.74 cfs @ 12.09 hrs, Volume= 0.747 af
Outflow = 2.40 cfs @ 12.70 hrs, Volume= 0.616 af, Atten= 69%, Lag= 36.4 min
Primary = 2.40 cfs @ 12.70 hrs, Volume= 0.616 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 127.88' @ 12.70 hrs Surf.Area= 4,365 sf Storage= 14,179 cf

Plug-Flow detention time= 120.1 min calculated for 0.616 af (82% of inflow)
Center-of-Mass det. time= 71.2 min (851.6 - 780.5)

Volume	Invert	Avail.Storage	Storage Description
#1	124.00'	24,339 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
124.00	2,986	0	0
125.00	3,322	3,154	3,154
126.00	3,671	3,497	6,651
127.00	4,035	3,853	10,504
128.00	4,412	4,224	14,727
129.00	4,802	4,607	19,334
130.00	5,207	5,005	24,339

Device	Routing	Invert	Outlet Devices
#1	Primary	120.50'	**18.0" Round Culvert** L= 36.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 120.50' / 120.00' S= 0.0139 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf
#2	Device 1	125.50'	**8.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	128.70'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.40 cfs @ 12.70 hrs HW=127.88' (Free Discharge)
└**1=Culvert** (Passes 2.40 cfs of 21.90 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 2.40 cfs @ 6.88 fps)
  └**3=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond F5: STA 18+25 RIGHT 2.5:1 Slopes

Inflow Area = 1.100 ac, 42.73% Impervious, Inflow Depth > 3.68" for 25 YEAR event
Inflow = 4.63 cfs @ 12.11 hrs, Volume= 0.338 af
Outflow = 0.36 cfs @ 13.53 hrs, Volume= 0.239 af, Atten= 92%, Lag= 85.0 min
Primary = 0.36 cfs @ 13.53 hrs, Volume= 0.239 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 124.00' Surf.Area= 2,612 sf Storage= 3,412 cf
Peak Elev= 126.43' @ 13.53 hrs Surf.Area= 4,118 sf Storage= 11,554 cf (8,142 cf above start)

Plug-Flow detention time= 321.0 min calculated for 0.161 af (48% of inflow)
Center-of-Mass det. time= 148.1 min (922.9 - 774.8)

Volume	Invert	Avail.Storage	Storage Description
#1	122.50'	18,871 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
122.50	1,937	0	0
124.00	2,612	3,412	3,412
126.00	3,815	6,427	9,839
128.00	5,217	9,032	18,871

Device	Routing	Invert	Outlet Devices
#1	Primary	119.00'	**18.0" Round Culvert** L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 119.00' / 116.50' S= 0.0625 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf
#2	Device 1	126.50'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	124.00'	**3.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=0.36 cfs @ 13.53 hrs HW=126.43' (Free Discharge)
└**1=Culvert** (Passes 0.36 cfs of 22.00 cfs potential flow)
  ├**2=Orifice/Grate** (Controls 0.00 cfs)
  └**3=Orifice/Grate** (Orifice Controls 0.36 cfs @ 7.31 fps)

Summary for Subcatchment 6S: GOODWILL SITE AREA

Runoff = 22.98 cfs @ 12.01 hrs, Volume= 1.502 af, Depth> 6.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
*	2.230	98	ON SITE IMPERVIOUS
*	0.410	74	ON SITE LAWN
*	0.070	74	OFF SITE LAWN
	2.710	94	Weighted Average
	0.480		17.71% Pervious Area
	2.230		82.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	46	0.0200	1.18		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 8S: BACK YARD AREA

Runoff = 4.08 cfs @ 12.31 hrs, Volume= 0.416 af, Depth> 4.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
	0.460	70	Woods, Good, HSG C
*	0.000	98	OFF SITE IMPERVIOUS (See 58S 0.1)
*	0.180	74	OFF SITE LAWN
*	0.550	74	ON SITE LAWN
	1.190	72	Weighted Average
	1.190		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	50	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
0.5	250	0.0150	8.80	105.56	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.022 Earth, clean & straight
22.0	300	Total			

Summary for Subcatchment 10S: BACK YARDS AND UPPER WATERSHED

Runoff = 8.73 cfs @ 12.52 hrs, Volume= 1.170 af, Depth> 5.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
	0.560	70	Woods, Good, HSG C
*	0.770	98	OFF SITE EXISTING IMPERVIOUS
*	1.440	74	OFF SITE EXISTING LAWNS
	2.770	80	Weighted Average
	2.000		72.20% Pervious Area
	0.770		27.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
37.4	100	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
1.5	50	0.0500	0.56		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
38.9	150	Total			

Summary for Subcatchment 11S:

Runoff = 8.23 cfs @ 12.28 hrs, Volume= 0.821 af, Depth> 4.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
	1.330	70	Woods, Good, HSG C
*	0.420	98	OFF SITE IMPERVIOUS
*	0.370	74	OFF SITE LAWN
	2.120	76	Weighted Average
	1.700		80.19% Pervious Area
	0.420		19.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.6	89	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
0.7	60	0.3000	1.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
20.3	149	Total			

Summary for Subcatchment 14S: ROAD SENT TO POND F1 PHASE 3

Runoff = 7.53 cfs @ 12.08 hrs, Volume= 0.542 af, Depth> 6.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
*	0.650	98	OFF SITE IMPERVIOUS
*	0.430	74	OFF SITE LAWN
	1.080	88	Weighted Average
	0.430		39.81% Pervious Area
	0.650		60.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	37	0.0200	0.14		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.5	100	0.0230	3.08		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	240	0.0050	4.84	5.94	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
5.7	377	Total			

Summary for Subcatchment 15S: BACK YARDS AND UPPER WATERSHED

Runoff = 3.60 cfs @ 12.42 hrs, Volume= 0.423 af, Depth> 4.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
	0.590	70	Woods, Good, HSG C
*	0.120	98	OFF SITE IMPERVIOUS
*	0.440	74	OFF SITE LAWN
	1.150	74	Weighted Average
	1.030		89.57% Pervious Area
	0.120		10.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.3	100	0.0400	0.06		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
1.5	50	0.0500	0.56		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
0.2	129	0.0500	11.00	32.99	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.00' Z= 1.0 '/' Top.W=4.00' n= 0.022 Earth, clean & straight
0.2	600	0.5000	48.39	59.38	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
30.2	879	Total			

Summary for Subcatchment 20S: BACK YARD AND UPPER WATERSHED

Runoff = 9.35 cfs @ 12.62 hrs, Volume= 1.348 af, Depth> 4.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
	1.270	70	Woods, Good, HSG C
*	0.570	98	OFF SITE IMPERVIOUS (see 59S 0.2)
*	1.670	74	OFF SITE LAWNS
	3.510	76	Weighted Average
	2.940		83.76% Pervious Area
	0.570		16.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
37.4	100	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
8.6	257	0.0400	0.50		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
46.0	357	Total			

Summary for Subcatchment 21S:

Runoff = 4.02 cfs @ 12.45 hrs, Volume= 0.482 af, Depth> 4.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
	1.060	70	Woods, Good, HSG C
*	0.000	98	OFF SITE IMPERVIOUS (see 60s .25)
*	0.360	74	OFF SITE LAWN
	1.420	71	Weighted Average
	1.420		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.3	100	0.0400	0.06		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
3.7	112	0.0400	0.50		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
32.0	212	Total			

Summary for Subcatchment 22S: ROAD SENT TO POND F1 PHASE 1

Runoff = 2.36 cfs @ 12.10 hrs, Volume= 0.176 af, Depth> 6.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
*	0.210	98	OFF SITE IMPERVIOUS
*	0.140	74	OFF SITE LAWN
	0.350	88	Weighted Average
	0.140		40.00% Pervious Area
	0.210		60.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	60	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.5	92	0.0230	3.08		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.1	115	0.2000	30.60	37.56	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
7.1	267	Total			

Summary for Subcatchment 23S: ROAD AND LOT DEVELOPMENT

Runoff = 6.87 cfs @ 12.11 hrs, Volume= 0.511 af, Depth> 5.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
*	0.470	98	OFF SITE IMPERVIOUS
*	0.630	74	OFF SITE LAWN
	1.100	84	Weighted Average
	0.630		57.27% Pervious Area
	0.470		42.73% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	60	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.9	172	0.0230	3.08		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.4	110	0.0050	4.84	5.94	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
7.8	342	Total			

Summary for Subcatchment 41S:

Runoff = 3.73 cfs @ 12.71 hrs, Volume= 0.576 af, Depth> 4.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
	0.500	70	Woods, Good, HSG C
*	0.150	98	OFF SITE IMPERVIOUS (see 61s 0.20)
*	0.890	74	OFF SITE LAWN
	1.540	75	Weighted Average
	1.390		90.26% Pervious Area
	0.150		9.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
49.3	100	0.0100	0.03		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
2.2	50	0.0220	0.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
1.2	312	0.0050	4.40	5.40	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.011 Concrete pipe, straight & clean
52.7	462	Total			

Summary for Subcatchment 50S: BACK YARD AREA

Runoff = 4.03 cfs @ 12.36 hrs, Volume= 0.440 af, Depth> 4.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
	0.640	70	Woods, Good, HSG C
*	0.000	98	OFF SITE IMPERVIOUS (see 57s 0.15)
*	0.180	74	ON SITE LAWN
*	0.440	74	OFF SITE LAWN
	1.260	72	Weighted Average
	1.260		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	100	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
4.4	187	0.0800	0.71		**Shallow Concentrated Flow, BC** Forest w/Heavy Litter Kv= 2.5 fps
25.9	287	Total			

Summary for Subcatchment 56S: 2 House Roof Areas

Runoff = 0.88 cfs @ 12.00 hrs, Volume= 0.058 af, Depth> 6.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
*	0.100	98	2 House Roofs
	0.100		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 57S: 3 House Roof Areas

Runoff = 1.31 cfs @ 12.00 hrs, Volume= 0.087 af, Depth> 6.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
*	0.150	98	3 House Roofs
	0.150		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 58S: 3 House Roof Areas

Runoff = 1.31 cfs @ 12.00 hrs, Volume= 0.087 af, Depth> 6.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
*	0.150	98	3 House Roofs
	0.150		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 59S: 4 House Roof Areas

Runoff = 1.75 cfs @ 12.00 hrs, Volume= 0.116 af, Depth> 6.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
*	0.200	98	4 House Roofs
	0.200		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 60S: 5 House Roof Areas

Runoff = 2.19 cfs @ 12.00 hrs, Volume= 0.145 af, Depth> 6.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
*	0.250	98	5 House Roofs
	0.250		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 61S: 4 House Roof Areas

Runoff = 1.75 cfs @ 12.00 hrs, Volume= 0.116 af, Depth> 6.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
*	0.200	98	4 House Roofs
	0.200		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 70S: BACK YARD AREA

Runoff = 1.33 cfs @ 12.19 hrs, Volume= 0.113 af, Depth> 4.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
	0.210	70	Woods, Good, HSG C
*	0.000	98	OFF SITE IMPERVIOUS
*	0.120	74	OFF SITE LAWN
	0.330	71	Weighted Average
	0.330		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	57	0.0800	0.07		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"

Summary for Subcatchment 100:

Runoff = 42.99 cfs @ 12.28 hrs, Volume= 4.286 af, Depth> 4.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
	6.730	70	Woods, Good, HSG C
*	2.170	98	OFF SITE IMPERVIOUS
*	2.170	74	OFF SITE LAWN
	11.070	76	Weighted Average
	8.900		80.40% Pervious Area
	2.170		19.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.6	89	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
0.7	60	0.3000	1.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
20.3	149	Total			

Summary for Subcatchment 200:

Runoff = 27.59 cfs @ 12.31 hrs, Volume= 2.967 af, Depth> 5.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
	1.350	70	Woods, Good, HSG C
*	2.600	98	OFF SITE IMPERVIOUS
*	2.600	74	OFF SITE LAWN
	6.550	83	Weighted Average
	3.950		60.31% Pervious Area
	2.600		39.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	100	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
1.6	131	0.3000	1.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
23.1	231	Total			

Summary for Subcatchment 700:

Runoff = 31.32 cfs @ 12.30 hrs, Volume= 3.273 af, Depth> 5.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
	4.300	77	Woods, Good, HSG D
*	1.400	98	OFF SITE IMPERVIOUS
*	1.400	74	OFF SITE LAWN
*	0.150	98	ON SITE IMPERVIOUS
*	0.460	74	ON SITE LAWN
	7.710	80	Weighted Average
	6.160		79.90% Pervious Area
	1.550		20.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	100	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
0.7	60	0.3000	1.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
22.2	160	Total			

Summary for Reach 1R: WETLAND SWALE @ PL

Inflow Area = 5.350 ac, 32.71% Impervious, Inflow Depth > 4.88" for 100 YEAR event
Inflow = 13.76 cfs @ 12.52 hrs, Volume= 2.175 af
Outflow = 13.69 cfs @ 12.61 hrs, Volume= 2.165 af, Atten= 1%, Lag= 5.2 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.05 fps, Min. Travel Time= 3.0 min
Avg. Velocity = 1.54 fps, Avg. Travel Time= 7.8 min

Peak Storage= 2,433 cf @ 12.56 hrs
Average Depth at Peak Storage= 0.33'
Bank-Full Depth= 2.00' Flow Area= 24.0 sf, Capacity= 282.47 cfs

10.00' x 2.00' deep channel, n= 0.030
Side Slope Z-value= 1.0 '/' Top Width= 14.00'
Length= 720.0' Slope= 0.0319 '/'
Inlet Invert= 121.00', Outlet Invert= 98.00'

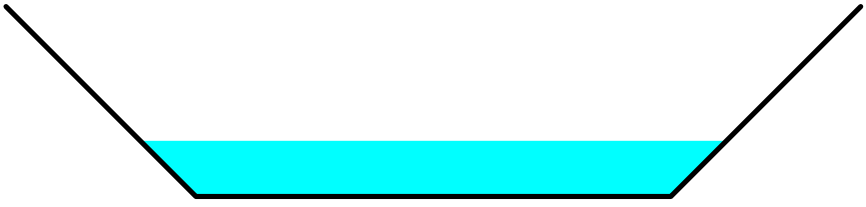
Summary for Reach 2R: WETLAND SWALE @ PL

Inflow Area = 8.220 ac, 22.38% Impervious, Inflow Depth > 4.07" for 100 YEAR event
Inflow = 18.02 cfs @ 12.59 hrs, Volume= 2.791 af
Outflow = 17.97 cfs @ 12.64 hrs, Volume= 2.782 af, Atten= 0%, Lag= 3.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.50 fps, Min. Travel Time= 1.8 min
Avg. Velocity = 2.09 fps, Avg. Travel Time= 4.8 min

Peak Storage= 1,953 cf @ 12.61 hrs
Average Depth at Peak Storage= 0.59'
Bank-Full Depth= 2.00' Flow Area= 14.0 sf, Capacity= 148.39 cfs

5.00' x 2.00' deep channel, n= 0.030
Side Slope Z-value= 1.0 '/' Top Width= 9.00'
Length= 597.0' Slope= 0.0318 '/'
Inlet Invert= 117.00', Outlet Invert= 98.00'



Summary for Reach 5R: Existing Wetland

Inflow Area = 27.700 ac, 33.00% Impervious, Inflow Depth > 4.64" for 100 YEAR event
Inflow = 53.31 cfs @ 12.73 hrs, Volume= 10.703 af
Outflow = 53.28 cfs @ 12.76 hrs, Volume= 10.685 af, Atten= 0%, Lag= 1.9 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.25 fps, Min. Travel Time= 1.1 min
Avg. Velocity = 3.11 fps, Avg. Travel Time= 2.7 min

Peak Storage= 3,676 cf @ 12.74 hrs
Average Depth at Peak Storage= 0.69'
Bank-Full Depth= 4.00' Flow Area= 56.0 sf, Capacity= 1,068.27 cfs

10.00' x 4.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 1.0 '/' Top Width= 18.00'
Length= 500.0' Slope= 0.0220 '/'
Inlet Invert= 92.00', Outlet Invert= 81.00'

Summary for Reach 7R: EXISTING WETLAND SWALE

Inflow Area = 0.430 ac, 23.26% Impervious, Inflow Depth > 3.28" for 100 YEAR event
Inflow = 1.32 cfs @ 12.21 hrs, Volume= 0.117 af
Outflow = 1.29 cfs @ 12.25 hrs, Volume= 0.117 af, Atten= 2%, Lag= 2.6 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.49 fps, Min. Travel Time= 1.4 min
Avg. Velocity = 1.21 fps, Avg. Travel Time= 4.1 min

Peak Storage= 112 cf @ 12.22 hrs
Average Depth at Peak Storage= 0.12'
Bank-Full Depth= 1.00' Flow Area= 4.0 sf, Capacity= 47.10 cfs

3.00' x 1.00' deep channel, n= 0.030 Stream, clean & straight
Side Slope Z-value= 1.0 '/' Top Width= 5.00'
Length= 300.0' Slope= 0.0933 '/'
Inlet Invert= 118.00', Outlet Invert= 90.00'

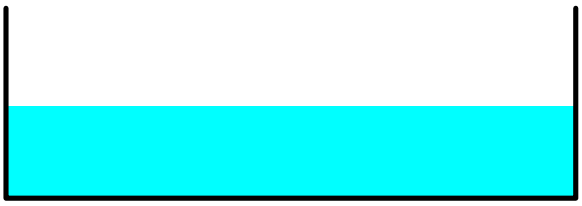
Summary for Reach 50R: Property Line

Inflow Area = 1.410 ac, 10.64% Impervious, Inflow Depth > 3.75" for 100 YEAR event
Inflow = 4.03 cfs @ 12.36 hrs, Volume= 0.440 af
Outflow = 4.02 cfs @ 12.37 hrs, Volume= 0.440 af, Atten= 0%, Lag= 0.6 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.77 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 1.01 fps, Avg. Travel Time= 1.0 min

Peak Storage= 87 cf @ 12.36 hrs
Average Depth at Peak Storage= 0.48'
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 11.58 cfs

3.00' x 1.00' deep channel, n= 0.150 Sheet flow over Short Grass
Length= 60.0' Slope= 0.3000 '/'
Inlet Invert= 138.00', Outlet Invert= 120.00'



Summary for Reach 70R: Property Line

Inflow Area = 0.430 ac, 23.26% Impervious, Inflow Depth > 3.28" for 100 YEAR event
Inflow = 1.33 cfs @ 12.19 hrs, Volume= 0.118 af
Outflow = 1.32 cfs @ 12.21 hrs, Volume= 0.117 af, Atten= 1%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.82 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 2.56 fps, Avg. Travel Time= 1.3 min

Peak Storage= 39 cf @ 12.20 hrs
Average Depth at Peak Storage= 0.06'
Bank-Full Depth= 1.00' Flow Area= 6.0 sf, Capacity= 204.82 cfs

3.00' x 1.00' deep channel, n= 0.010 PVC, smooth interior
Side Slope Z-value= 3.0 '/' Top Width= 9.00'
Length= 200.0' Slope= 0.0950 '/'
Inlet Invert= 137.00', Outlet Invert= 118.00'

‡

Summary for Reach 80R: Property Line

Inflow Area = 1.340 ac, 11.19% Impervious, Inflow Depth > 3.73" for 100 YEAR event
Inflow = 4.08 cfs @ 12.31 hrs, Volume= 0.416 af
Outflow = 4.06 cfs @ 12.32 hrs, Volume= 0.416 af, Atten= 0%, Lag= 0.7 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.56 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 0.91 fps, Avg. Travel Time= 1.1 min

Peak Storage= 95 cf @ 12.31 hrs
Average Depth at Peak Storage= 0.53'
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 10.21 cfs

3.00' x 1.00' deep channel, n= 0.150 Sheet flow over Short Grass
Length= 60.0' Slope= 0.2333 '/'
Inlet Invert= 134.00', Outlet Invert= 120.00'

Summary for Pond 1P: 24" CULVERT AT PARK DRIVE

Inflow Area = 12.930 ac, 36.35% Impervious, Inflow Depth > 4.63" for 100 YEAR event
Inflow = 30.53 cfs @ 12.48 hrs, Volume= 4.984 af
Outflow = 27.48 cfs @ 12.64 hrs, Volume= 4.975 af, Atten= 10%, Lag= 9.6 min
Primary = 27.48 cfs @ 12.64 hrs, Volume= 4.975 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 100.39' @ 12.64 hrs Surf.Area= 3,949 sf Storage= 9,990 cf

Plug-Flow detention time= 3.6 min calculated for 4.975 af (100% of inflow)
Center-of-Mass det. time= 3.0 min (813.9 - 810.9)

Volume	Invert	Avail.Storage	Storage Description
#1	94.00'	105,871 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
94.00	500	0	0
96.00	708	1,208	1,208
98.00	1,037	1,745	2,953
100.00	3,501	4,538	7,491
105.00	9,197	31,745	39,236
110.00	17,457	66,635	105,871

Device	Routing	Invert	Outlet Devices
#1	Primary	94.10'	**24.0" Round Culvert** L= 70.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 94.10' / 92.70' S= 0.0200 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=27.47 cfs @ 12.64 hrs HW=100.39' (Free Discharge)
1=Culvert (Inlet Controls 27.47 cfs @ 8.74 fps)

Summary for Pond 2P: 24" CULVERT AT PARK DRIVE

Inflow Area = 14.770 ac, 30.06% Impervious, Inflow Depth > 4.67" for 100 YEAR event
Inflow = 40.27 cfs @ 12.38 hrs, Volume= 5.748 af
Outflow = 26.14 cfs @ 12.81 hrs, Volume= 5.728 af, Atten= 35%, Lag= 25.5 min
Primary = 26.14 cfs @ 12.81 hrs, Volume= 5.728 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 103.89' @ 12.81 hrs Surf.Area= 12,048 sf Storage= 35,924 cf

Plug-Flow detention time= 12.9 min calculated for 5.728 af (100% of inflow)
Center-of-Mass det. time= 11.4 min (812.3 - 800.8)

Volume	Invert	Avail.Storage	Storage Description
#1	98.00'	175,248 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
98.00	250	0	0
100.00	2,323	2,573	2,573
105.00	14,820	42,858	45,431
110.00	37,107	129,818	175,248

Device	Routing	Invert	Outlet Devices
#1	Primary	98.10'	**24.0" Round Culvert** L= 70.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 98.10' / 96.70' S= 0.0200 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=26.13 cfs @ 12.81 hrs HW=103.89' (Free Discharge)
1=Culvert (Inlet Controls 26.13 cfs @ 8.32 fps)

Summary for Pond 5P: Overflow to Basin

Inflow Area = 1.410 ac, 10.64% Impervious, Inflow Depth > 3.75" for 100 YEAR event
Inflow = 4.02 cfs @ 12.37 hrs, Volume= 0.440 af
Outflow = 4.00 cfs @ 12.39 hrs, Volume= 0.431 af, Atten= 0%, Lag= 1.2 min
Discarded = 0.08 cfs @ 12.39 hrs, Volume= 0.040 af
Primary = 3.92 cfs @ 12.39 hrs, Volume= 0.392 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 121.29' @ 12.39 hrs Surf.Area= 1,440 sf Storage= 746 cf

Plug-Flow detention time= 13.9 min calculated for 0.431 af (98% of inflow)
Center-of-Mass det. time= 6.2 min (809.7 - 803.4)

Volume	Invert	Avail.Storage	Storage Description
#1	120.00'	1,028 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
120.00	50	0	0
121.00	670	360	360
121.50	2,000	668	1,028

Device	Routing	Invert	Outlet Devices
#1	Primary	121.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#2	Discarded	120.00'	**2.410 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.08 cfs @ 12.39 hrs HW=121.29' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 0.08 cfs)

Primary OutFlow Max=3.91 cfs @ 12.39 hrs HW=121.29' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 3.91 cfs @ 1.35 fps)

Summary for Pond 6P: EXISTING FILTER POND - GOOD WILL SITE

Inflow Area = 5.460 ac, 46.34% Impervious, Inflow Depth > 5.07" for 100 YEAR event
Inflow = 25.18 cfs @ 12.01 hrs, Volume= 2.309 af
Outflow = 16.35 cfs @ 12.11 hrs, Volume= 1.998 af, Atten= 35%, Lag= 5.7 min
Primary = 16.35 cfs @ 12.11 hrs, Volume= 1.998 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 116.45' @ 12.11 hrs Surf.Area= 11,362 sf Storage= 23,714 cf

Plug-Flow detention time= 83.8 min calculated for 1.998 af (87% of inflow)
Center-of-Mass det. time= 42.7 min (803.1 - 760.4)

Volume	Invert	Avail.Storage	Storage Description
#1	112.00'	30,350 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
112.00	533	0	0
113.00	1,387	960	960
114.00	4,783	3,085	4,045
115.00	7,372	6,078	10,123
116.00	10,094	8,733	18,856
117.00	12,894	11,494	30,350

Device	Routing	Invert	Outlet Devices
#1	Primary	110.98'	**12.0" Round Culvert**
			L= 126.0' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 110.98' / 105.85' S= 0.0407 '/' Cc= 0.900
			n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf
#2	Device 1	114.50'	**4.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	115.40'	**24.0" Horiz. Orifice/Grate** C= 0.600
			Limited to weir flow at low heads
#4	Primary	116.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir**

Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=16.25 cfs @ 12.11 hrs HW=116.45' (Free Discharge)
- **1=Culvert** (Inlet Controls 8.43 cfs @ 10.73 fps)
  - **2=Orifice/Grate** (Passes < 0.56 cfs potential flow)
  - **3=Orifice/Grate** (Passes < 15.50 cfs potential flow)
- **4=Broad-Crested Rectangular Weir** (Weir Controls 7.82 cfs @ 1.74 fps)

Summary for Pond 7P: 24" CULVERT AT PARK DRIVE

Inflow Area = 8.140 ac, 20.27% Impervious, Inflow Depth > 5.00" for 100 YEAR event
Inflow = 32.54 cfs @ 12.30 hrs, Volume= 3.390 af
Outflow = 27.63 cfs @ 12.43 hrs, Volume= 3.385 af, Atten= 15%, Lag= 8.0 min
Primary = 27.63 cfs @ 12.43 hrs, Volume= 3.385 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 100.45' @ 12.43 hrs Surf.Area= 2,967 sf Storage= 9,683 cf

Plug-Flow detention time= 3.7 min calculated for 3.385 af (100% of inflow)
Center-of-Mass det. time= 3.1 min (788.9 - 785.8)

Volume	Invert	Avail.Storage	Storage Description
#1	94.00'	11,328 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
94.00	275	0	0
95.00	527	401	401
100.00	2,643	7,925	8,326
101.00	3,360	3,002	11,328

Device	Routing	Invert	Outlet Devices
#1	Primary	94.10'	**24.0" Round Culvert** L= 70.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 94.10' / 92.70' S= 0.0200 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=27.58 cfs @ 12.43 hrs HW=100.43' (Free Discharge)
- **1=Culvert** (Inlet Controls 27.58 cfs @ 8.78 fps)

Summary for Pond 8P: ECB300

Inflow Area = 1.410 ac, 10.64% Impervious, Inflow Depth > 3.33" for 100 YEAR event
Inflow = 3.92 cfs @ 12.39 hrs, Volume= 0.392 af
Outflow = 3.92 cfs @ 12.39 hrs, Volume= 0.392 af, Atten= 0%, Lag= 0.0 min
Primary = 3.92 cfs @ 12.39 hrs, Volume= 0.392 af

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

Peak Elev= 118.25' @ 12.39 hrs
Flood Elev= 120.34'

Device	Routing	Invert	Outlet Devices
#1	Primary	116.40'	**12.0" Round Culvert** L= 164.8' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 116.40' / 115.48' S= 0.0056 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.91 cfs @ 12.39 hrs HW=118.24' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 3.91 cfs @ 4.98 fps)

Summary for Pond 9P: ECB100

Inflow Area = 1.410 ac, 10.64% Impervious, Inflow Depth > 3.33" for 100 YEAR event
Inflow = 3.92 cfs @ 12.39 hrs, Volume= 0.392 af
Outflow = 3.92 cfs @ 12.39 hrs, Volume= 0.392 af, Atten= 0%, Lag= 0.0 min
Primary = 3.92 cfs @ 12.39 hrs, Volume= 0.392 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 117.17' @ 12.39 hrs
Flood Elev= 119.51'

Device	Routing	Invert	Outlet Devices
#1	Primary	115.38'	**12.0" Round Culvert** L= 96.1' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 115.38' / 114.90' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.91 cfs @ 12.39 hrs HW=117.16' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 3.91 cfs @ 4.98 fps)

Summary for Pond 10P: 18" CULVERT STA 12+75

Inflow Area = 2.770 ac, 27.80% Impervious, Inflow Depth > 5.07" for 100 YEAR event
Inflow = 8.73 cfs @ 12.52 hrs, Volume= 1.170 af
Outflow = 8.30 cfs @ 12.63 hrs, Volume= 1.170 af, Atten= 5%, Lag= 6.5 min
Primary = 8.30 cfs @ 12.63 hrs, Volume= 1.170 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 131.28' @ 12.63 hrs Surf.Area= 1,210 sf Storage= 828 cf

Plug-Flow detention time= 0.5 min calculated for 1.166 af (100% of inflow)
Center-of-Mass det. time= 0.4 min (798.8 - 798.3)

Volume	Invert	Avail.Storage	Storage Description
#1	130.00'	6,127 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
130.00	73	0	0
131.00	672	373	373
132.00	2,609	1,641	2,013
133.00	5,618	4,114	6,127

Device	Routing	Invert	Outlet Devices
#1	Primary	129.00'	**18.0" Round Culvert** L= 70.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 129.00' / 128.30' S= 0.0100 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=8.29 cfs @ 12.63 hrs HW=131.27' (Free Discharge)
1=Culvert (Inlet Controls 8.29 cfs @ 4.69 fps)

Summary for Pond 11P: ECB600

Device	Routing	Invert	Outlet Devices
#1	Primary	116.40'	**12.0" Round Culvert** L= 82.4' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 116.40' / 115.99' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=0.00' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

Summary for Pond 12P: ECB500

Inflow	=	0.00 cfs @	5.00 hrs, Volume=	0.000 af
Outflow	=	0.00 cfs @	5.00 hrs, Volume=	0.000 af, Atten= 0%, Lag= 0.0 min
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= 115.89' @ 5.00 hrs
Flood Elev= 119.93'

Device	Routing	Invert	Outlet Devices
#1	Primary	115.89'	**12.0" Round Culvert** L= 82.4' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 115.89' / 115.48' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=115.89' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

Summary for Pond 13P: 12" CULVERT

Inflow Area = 1.340 ac, 11.19% Impervious, Inflow Depth > 3.73" for 100 YEAR event
Inflow = 4.06 cfs @ 12.32 hrs, Volume= 0.416 af
Outflow = 4.91 cfs @ 12.35 hrs, Volume= 0.415 af, Atten= 0%, Lag= 2.0 min
Primary = 4.91 cfs @ 12.35 hrs, Volume= 0.415 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 121.71' @ 12.35 hrs Surf.Area= 1,625 sf Storage= 1,046 cf

Plug-Flow detention time= 3.9 min calculated for 0.414 af (99% of inflow)
Center-of-Mass det. time= 3.2 min (803.7 - 800.4)

Volume	Invert	Avail.Storage	Storage Description
#1	118.50'	1,046 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
118.50	50	0	0
119.00	294	86	86
120.00	1,625	960	1,046

Device	Routing	Invert	Outlet Devices
#1	Primary	118.50'	**12.0" Round Culvert** L= 55.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 118.50' / 117.00' S= 0.0273 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=4.88 cfs @ 12.35 hrs HW=121.67' (Free Discharge)
1=Culvert (Inlet Controls 4.88 cfs @ 6.21 fps)

Summary for Pond 14P: ECB400

Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
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= 115.38' @ 5.00 hrs
Flood Elev= 119.42'

Device	Routing	Invert	Outlet Devices
#1	Primary	115.38'	**12.0" Round Culvert** L= 39.5' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 115.38' / 115.18' S= 0.0051 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=115.38' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

Summary for Pond 20P: 18" CULVERT STA 18+00

Inflow Area = 4.810 ac, 25.78% Impervious, Inflow Depth > 4.33" for 100 YEAR event
Inflow = 11.16 cfs @ 12.54 hrs, Volume= 1.734 af
Outflow = 10.92 cfs @ 12.63 hrs, Volume= 1.733 af, Atten= 2%, Lag= 5.4 min
Primary = 10.92 cfs @ 12.63 hrs, Volume= 1.733 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 122.89' @ 12.63 hrs Surf.Area= 759 sf Storage= 1,292 cf

Plug-Flow detention time= 1.1 min calculated for 1.733 af (100% of inflow)
Center-of-Mass det. time= 0.9 min (823.6 - 822.7)

Volume	Invert	Avail.Storage	Storage Description
#1	119.50'	1,365 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
119.50	36	0	0
120.00	140	44	44
121.00	284	212	256
122.00	576	430	686
123.00	781	679	1,365

Device	Routing	Invert	Outlet Devices
#1	Primary	119.50'	**18.0" Round Culvert** L= 81.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 119.50' / 116.50' S= 0.0370 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=10.90 cfs @ 12.63 hrs HW=122.88' (Free Discharge)
1=Culvert (Inlet Controls 10.90 cfs @ 6.17 fps)

Summary for Pond 56P: 2 HOUSE DRIPLINES

Inflow Area = 0.100 ac,100.00% Impervious, Inflow Depth > 6.96" for 100 YEAR event
Inflow = 0.88 cfs @ 12.00 hrs, Volume= 0.058 af
Outflow = 0.03 cfs @ 15.96 hrs, Volume= 0.005 af, Atten= 97%, Lag= 237.6 min
Primary = 0.03 cfs @ 15.96 hrs, Volume= 0.005 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 144.50' @ 15.96 hrs Surf.Area= 1,260 sf Storage= 2,319 cf

Plug-Flow detention time= 634.6 min calculated for 0.005 af (8% of inflow)
Center-of-Mass det. time= 333.1 min (1,062.0 - 728.9)

Volume	Invert	Avail.Storage	Storage Description
#1	140.00'	1,244 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 2 3,150 cf Overall - 41 cf Embedded = 3,109 cf x 40.0% Voids
#2	140.00'	41 cf	**6.0" Round Pipe Storage** x 2 Inside #1 L= 105.0' S= 0.0050 '/'
		1,285 cf	x 2.00 = 2,569 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	144.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 2.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.01 cfs @ 15.96 hrs HW=144.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 0.01 cfs @ 0.12 fps)

Summary for Pond 57P: 3 HOUSE DRIPLINES

Inflow Area = 0.150 ac,100.00% Impervious, Inflow Depth > 6.96" for 100 YEAR event
Inflow = 1.31 cfs @ 12.00 hrs, Volume= 0.087 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 141.74' @ 20.00 hrs Surf.Area= 2,835 sf Storage= 3,790 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	138.50'	1,865 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 3 4,725 cf Overall - 62 cf Embedded = 4,663 cf x 40.0% Voids
#2	138.50'	62 cf	**6.0" Round Pipe Storage** x 3 Inside #1 L= 105.0' S= 0.0050 '/'
		1,927 cf	x 3.00 = 5,781 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	142.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 3.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=138.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 58P: 3 HOUSE DRIPLINES

Inflow Area = 0.150 ac,100.00% Impervious, Inflow Depth > 6.96" for 100 YEAR event
Inflow = 1.31 cfs @ 12.00 hrs, Volume= 0.087 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 137.74' @ 20.00 hrs Surf.Area= 2,835 sf Storage= 3,790 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	134.50'	1,865 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 3 4,725 cf Overall - 62 cf Embedded = 4,663 cf x 40.0% Voids
#2	134.50'	62 cf	**6.0" Round Pipe Storage** x 3 Inside #1 L= 105.0' S= 0.0050 '/'
		1,927 cf	x 3.00 = 5,781 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	138.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 3.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=134.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 59P: 4 HOUSE DRIPLINES

Inflow Area = 0.200 ac,100.00% Impervious, Inflow Depth > 6.96" for 100 YEAR event
Inflow = 1.75 cfs @ 12.00 hrs, Volume= 0.116 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 122.91' @ 20.00 hrs Surf.Area= 5,040 sf Storage= 5,054 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	120.50'	2,487 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 4 6,300 cf Overall - 82 cf Embedded = 6,218 cf x 40.0% Voids
#2	120.50'	82 cf	**6.0" Round Pipe Storage** x 4 Inside #1 L= 105.0' S= 0.0050 '/'
		2,569 cf	x 4.00 = 10,278 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	124.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 4.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=120.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 60P: 5 HOUSE DRIPLINES

Inflow Area = 0.250 ac,100.00% Impervious, Inflow Depth > 6.96" for 100 YEAR event
Inflow = 2.19 cfs @ 12.00 hrs, Volume= 0.145 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 122.41' @ 20.00 hrs Surf.Area= 7,875 sf Storage= 6,317 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	120.50'	3,109 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 5 7,875 cf Overall - 103 cf Embedded = 7,772 cf x 40.0% Voids
#2	120.50'	103 cf	**6.0" Round Pipe Storage** x 5 Inside #1 L= 105.0' S= 0.0050 '/'
		3,212 cf	x 5.00 = 16,059 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	124.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 5.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=120.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 61P: 4 HOUSE DRIPLINES

Inflow Area = 0.200 ac,100.00% Impervious, Inflow Depth > 6.96" for 100 YEAR event
Inflow = 1.75 cfs @ 12.00 hrs, Volume= 0.116 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 122.91' @ 20.00 hrs Surf.Area= 5,040 sf Storage= 5,054 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	120.50'	2,487 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 4 6,300 cf Overall - 82 cf Embedded = 6,218 cf x 40.0% Voids
#2	120.50'	82 cf	**6.0" Round Pipe Storage** x 4 Inside #1 L= 105.0' S= 0.0050 '/'
		2,569 cf	x 4.00 = 10,278 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	124.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 4.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60

Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=120.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 100P: 24" CULVERT AT TOPSHAM FAIR MALL ROAD

Inflow Area = 46.910 ac, 27.63% Impervious, Inflow Depth > 4.70" for 100 YEAR event
Inflow = 112.01 cfs @ 12.35 hrs, Volume= 18.356 af
Outflow = 43.66 cfs @ 13.33 hrs, Volume= 18.135 af, Atten= 61%, Lag= 58.7 min
Primary = 43.66 cfs @ 13.33 hrs, Volume= 18.135 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 81.43' @ 13.33 hrs Surf.Area= 48,726 sf Storage= 244,605 cf

Plug-Flow detention time= 59.9 min calculated for 18.075 af (98% of inflow)
Center-of-Mass det. time= 55.3 min (860.1 - 804.8)

Volume	Invert	Avail.Storage	Storage Description
#1	72.00'	885,614 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
72.00	3,381	0	0
75.00	15,000	27,572	27,572
80.00	40,318	138,295	165,867
85.00	69,683	275,003	440,869
90.00	108,215	444,745	885,614

Device	Routing	Invert	Outlet Devices
#1	Primary	72.10'	**24.0" Round Culvert** L= 70.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 72.10' / 70.00' S= 0.0300 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=43.66 cfs @ 13.33 hrs HW=81.43' (Free Discharge)
1=Culvert (Inlet Controls 43.66 cfs @ 13.90 fps)

Summary for Pond BB: EXISTING FILTER POND - GOOD WILL SITE

Volume	Invert	Avail.Storage	Storage Description
#1	112.00'	30,350 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
112.00	533	0	0
113.00	1,387	960	960
114.00	4,783	3,085	4,045
115.00	7,372	6,078	10,123
116.00	10,094	8,733	18,856
117.00	12,894	11,494	30,350

Device	Routing	Invert	Outlet Devices
#1	Primary	110.98'	**12.0" Round Culvert** L= 126.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 110.98' / 105.85' S= 0.0407 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf
#2	Device 1	114.50'	**4.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	115.40'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	116.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=0.00' (Free Discharge)
- **1=Culvert** (Controls 0.00 cfs)
  - **2=Orifice/Grate** (Controls 0.00 cfs)
  - **3=Orifice/Grate** (Controls 0.00 cfs)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond F1: STA 12+50 LEFT

Inflow Area = 2.580 ac, 37.98% Impervious, Inflow Depth > 5.30" for 100 YEAR event
Inflow = 11.40 cfs @ 12.09 hrs, Volume= 1.140 af
Outflow = 5.75 cfs @ 12.49 hrs, Volume= 1.005 af, Atten= 50%, Lag= 24.0 min
Primary = 5.75 cfs @ 12.49 hrs, Volume= 1.005 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 128.96' @ 12.49 hrs Surf.Area= 4,787 sf Storage= 19,154 cf

Plug-Flow detention time= 108.0 min calculated for 1.005 af (88% of inflow)
Center-of-Mass det. time= 70.7 min (843.2 - 772.5)

Volume	Invert	Avail.Storage	Storage Description
#1	124.00'	24,339 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
124.00	2,986	0	0
125.00	3,322	3,154	3,154
126.00	3,671	3,497	6,651
127.00	4,035	3,853	10,504
128.00	4,412	4,224	14,727
129.00	4,802	4,607	19,334
130.00	5,207	5,005	24,339

Device	Routing	Invert	Outlet Devices
#1	Primary	120.50'	**18.0" Round Culvert** L= 36.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 120.50' / 120.00' S= 0.0139 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf
#2	Device 1	125.50'	**8.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	128.70'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=5.72 cfs @ 12.49 hrs HW=128.96' (Free Discharge)
└**1=Culvert** (Passes 5.72 cfs of 23.63 cfs potential flow)
└**2=Orifice/Grate** (Orifice Controls 2.97 cfs @ 8.52 fps)
└**3=Orifice/Grate** (Weir Controls 2.75 cfs @ 1.67 fps)

Summary for Pond F5: STA 18+25 RIGHT 2.5:1 Slopes

Inflow Area = 1.100 ac, 42.73% Impervious, Inflow Depth > 5.57" for 100 YEAR event
Inflow = 6.87 cfs @ 12.11 hrs, Volume= 0.511 af
Outflow = 3.05 cfs @ 12.34 hrs, Volume= 0.386 af, Atten= 56%, Lag= 13.8 min
Primary = 3.05 cfs @ 12.34 hrs, Volume= 0.386 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 124.00' Surf.Area= 2,612 sf Storage= 3,412 cf
Peak Elev= 126.76' @ 12.34 hrs Surf.Area= 4,345 sf Storage= 12,921 cf (9,509 cf above start)

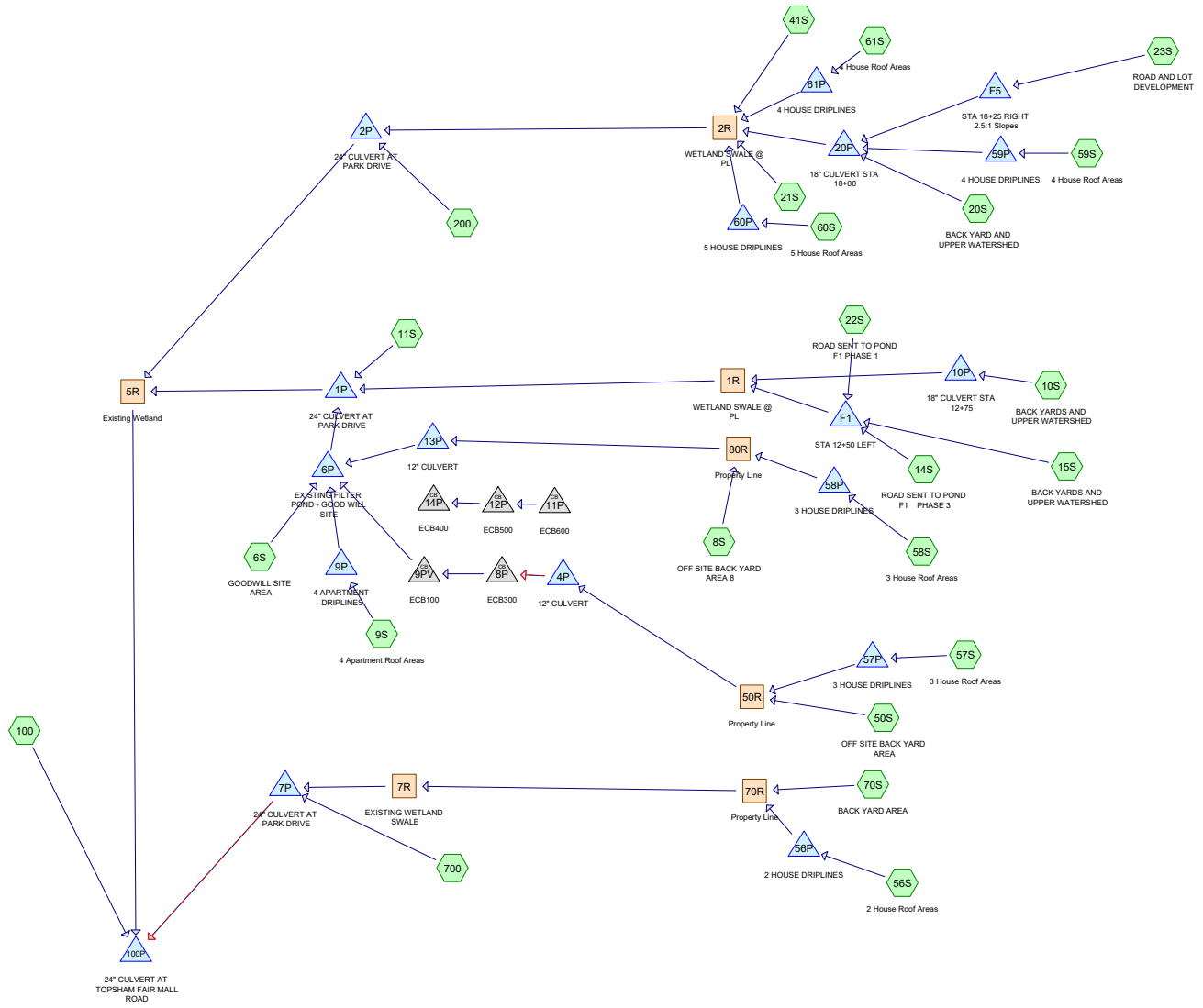
Plug-Flow detention time= 218.6 min calculated for 0.308 af (60% of inflow)
Center-of-Mass det. time= 96.9 min (861.8 - 764.9)

Volume	Invert	Avail.Storage	Storage Description
#1	122.50'	18,871 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
122.50	1,937	0	0
124.00	2,612	3,412	3,412
126.00	3,815	6,427	9,839
128.00	5,217	9,032	18,871

Device	Routing	Invert	Outlet Devices
#1	Primary	119.00'	**18.0" Round Culvert** L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 119.00' / 116.50' S= 0.0625 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf
#2	Device 1	126.50'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	124.00'	**3.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=3.02 cfs @ 12.34 hrs HW=126.75' (Free Discharge)
└**1=Culvert** (Passes 3.02 cfs of 22.52 cfs potential flow)
└**2=Orifice/Grate** (Weir Controls 2.63 cfs @ 1.65 fps)
└**3=Orifice/Grate** (Orifice Controls 0.38 cfs @ 7.81 fps)



Routing Diagram for 192-POST-REV1-16-2022
Prepared by Belanger Engineering, Printed 1/16/2023
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Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.100	98	2 House Roofs (56S)
0.300	98	3 House Roofs (57S, 58S)
0.410	98	4 Apartment Roofs (75'x60') (9S)
0.400	98	4 House Roofs (59S, 61S)
0.250	98	5 House Roofs (60S)
0.180	74	EXISTING ON SITE LAWN (50S)
0.060	74	NEW ON SITE LAWN (50S)
0.770	98	OFF SITE EXISTING IMPERVIOUS (10S)
1.440	74	OFF SITE EXISTING LAWNS (10S)
8.040	98	OFF SITE IMPERVIOUS (11S, 14S, 15S, 22S, 23S, 100, 200, 700)
0.570	98	OFF SITE IMPERVIOUS (see 59S 0.2) (20S)
0.150	98	OFF SITE IMPERVIOUS (see 61s 0.20) (41S)
10.610	74	OFF SITE LAWN (6S, 8S, 11S, 14S, 15S, 21S, 22S, 23S, 41S, 50S, 70S, 100, 200, 700)
1.670	74	OFF SITE LAWNS (20S)
2.310	98	ON SITE IMPERVIOUS (6S, 700)
1.220	74	ON SITE LAWN (6S, 8S, 700)
14.450	70	Woods, Good, HSG C (8S, 10S, 11S, 15S, 20S, 21S, 41S, 50S, 70S, 100, 200)
3.980	77	Woods, Good, HSG D (700)
46.910	**80**	**TOTAL AREA**

Summary for Subcatchment 6S: GOODWILL SITE AREA

Runoff = 8.54 cfs @ 12.01 hrs, Volume= 0.520 af, Depth> 2.22"

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

	Area (ac)	CN	Description
*	2.160	98	ON SITE IMPERVIOUS
*	0.580	74	ON SITE LAWN
*	0.070	74	OFF SITE LAWN
*	0.000	98	ON SITE IMPERVIOUS (SEE 9s) 0.41 AC
	2.810	92	Weighted Average
	0.650		23.13% Pervious Area
	2.160		76.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	46	0.0200	1.18		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 8S: OFF SITE BACK YARD AREA 8

Runoff = 0.70 cfs @ 12.34 hrs, Volume= 0.075 af, Depth> 0.89"

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

	Area (ac)	CN	Description
	0.280	70	Woods, Good, HSG C
*	0.000	98	OFF SITE IMPERVIOUS (See 58S 0.1)
*	0.180	74	ON SITE LAWN
*	0.550	74	OFF SITE LAWN
	1.010	73	Weighted Average
	1.010		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	50	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
0.5	250	0.0150	8.80	105.56	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.022 Earth, clean & straight
22.0	300	Total			

Summary for Subcatchment 9S: 4 Apartment Roof Areas

Runoff = 1.46 cfs @ 12.00 hrs, Volume= 0.095 af, Depth> 2.77"

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

	Area (ac)	CN	Description
*	0.410	98	4 Apartment Roofs (75'x60')
	0.410		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 10S: BACK YARDS AND UPPER WATERSHED

Runoff = 2.24 cfs @ 12.56 hrs, Volume= 0.295 af, Depth> 1.28"

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

	Area (ac)	CN	Description
	0.560	70	Woods, Good, HSG C
*	0.770	98	OFF SITE EXISTING IMPERVIOUS
*	1.440	74	OFF SITE EXISTING LAWNS
	2.770	80	Weighted Average
	2.000		72.20% Pervious Area
	0.770		27.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
37.4	100	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
1.5	50	0.0500	0.56		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
38.9	150	Total			

Summary for Subcatchment 11S:

Runoff = 1.84 cfs @ 12.30 hrs, Volume= 0.185 af, Depth> 1.05"

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

	Area (ac)	CN	Description
	1.330	70	Woods, Good, HSG C
*	0.420	98	OFF SITE IMPERVIOUS
*	0.370	74	OFF SITE LAWN
	2.120	76	Weighted Average
	1.700		80.19% Pervious Area
	0.420		19.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.6	89	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
0.7	60	0.3000	1.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
20.3	149	Total			

Summary for Subcatchment 14S: ROAD SENT TO POND F1 PHASE 3

Runoff = 2.48 cfs @ 12.09 hrs, Volume= 0.168 af, Depth> 1.87"

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

	Area (ac)	CN	Description
*	0.650	98	OFF SITE IMPERVIOUS
*	0.430	74	OFF SITE LAWN
	1.080	88	Weighted Average
	0.430		39.81% Pervious Area
	0.650		60.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	37	0.0200	0.14		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.5	100	0.0230	3.08		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	240	0.0050	4.84	5.94	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
5.7	377	Total			

Summary for Subcatchment 15S: BACK YARDS AND UPPER WATERSHED

Runoff = 0.74 cfs @ 12.46 hrs, Volume= 0.090 af, Depth> 0.94"

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

	Area (ac)	CN	Description
	0.590	70	Woods, Good, HSG C
*	0.120	98	OFF SITE IMPERVIOUS
*	0.440	74	OFF SITE LAWN
	1.150	74	Weighted Average
	1.030		89.57% Pervious Area
	0.120		10.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.3	100	0.0400	0.06		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
1.5	50	0.0500	0.56		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
0.2	129	0.0500	11.00	32.99	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.00' Z= 1.0 '/' Top.W=4.00' n= 0.022 Earth, clean & straight
0.2	600	0.5000	48.39	59.38	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
30.2	879	Total			

Summary for Subcatchment 20S: BACK YARD AND UPPER WATERSHED

Runoff = 2.08 cfs @ 12.67 hrs, Volume= 0.303 af, Depth> 1.04"

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

	Area (ac)	CN	Description
	1.270	70	Woods, Good, HSG C
*	0.570	98	OFF SITE IMPERVIOUS (see 59S 0.2)
*	1.670	74	OFF SITE LAWNS
	3.510	76	Weighted Average
	2.940		83.76% Pervious Area
	0.570		16.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
37.4	100	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
8.6	257	0.0400	0.50		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
46.0	357	Total			

Summary for Subcatchment 21S:

Runoff = 0.73 cfs @ 12.50 hrs, Volume= 0.093 af, Depth> 0.78"

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

	Area (ac)	CN	Description
	1.060	70	Woods, Good, HSG C
*	0.000	98	OFF SITE IMPERVIOUS (see 60s .25)
*	0.360	74	OFF SITE LAWN
	1.420	71	Weighted Average
	1.420		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.3	100	0.0400	0.06		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
3.7	112	0.0400	0.50		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
32.0	212	Total			

Summary for Subcatchment 22S: ROAD SENT TO POND F1 PHASE 1

Runoff = 0.78 cfs @ 12.10 hrs, Volume= 0.055 af, Depth> 1.87"

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

	Area (ac)	CN	Description
*	0.210	98	OFF SITE IMPERVIOUS
*	0.140	74	OFF SITE LAWN
	0.350	88	Weighted Average
	0.140		40.00% Pervious Area
	0.210		60.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	60	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.5	92	0.0230	3.08		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.1	115	0.2000	30.60	37.56	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
7.1	267	Total			

Summary for Subcatchment 23S: ROAD AND LOT DEVELOPMENT

Runoff = 2.01 cfs @ 12.11 hrs, Volume= 0.143 af, Depth> 1.56"

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

	Area (ac)	CN	Description
*	0.470	98	OFF SITE IMPERVIOUS
*	0.630	74	OFF SITE LAWN
	1.100	84	Weighted Average
	0.630		57.27% Pervious Area
	0.470		42.73% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	60	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.9	172	0.0230	3.08		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.4	110	0.0050	4.84	5.94	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
7.8	342	Total			

Summary for Subcatchment 41S:

Runoff = 0.80 cfs @ 12.77 hrs, Volume= 0.126 af, Depth> 0.98"

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

	Area (ac)	CN	Description
	0.500	70	Woods, Good, HSG C
*	0.150	98	OFF SITE IMPERVIOUS (see 61s 0.20)
*	0.890	74	OFF SITE LAWN
	1.540	75	Weighted Average
	1.390		90.26% Pervious Area
	0.150		9.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
49.3	100	0.0100	0.03		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
2.2	50	0.0220	0.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
1.2	312	0.0050	4.40	5.40	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.011 Concrete pipe, straight & clean
52.7	462	Total			

Summary for Subcatchment 50S: OFF SITE BACK YARD AREA

Runoff = 0.76 cfs @ 12.40 hrs, Volume= 0.087 af, Depth> 0.84"

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

	Area (ac)	CN	Description
	0.570	70	Woods, Good, HSG C
*	0.000	98	OFF SITE IMPERVIOUS (see 57s 0.15)
*	0.180	74	EXISTING ON SITE LAWN
*	0.440	74	OFF SITE LAWN
*	0.060	74	NEW ON SITE LAWN
	1.250	72	Weighted Average
	1.250		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	100	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
4.4	187	0.0800	0.71		**Shallow Concentrated Flow, BC** Forest w/Heavy Litter Kv= 2.5 fps
25.9	287	Total			

Summary for Subcatchment 56S: 2 House Roof Areas

Runoff = 0.36 cfs @ 12.00 hrs, Volume= 0.023 af, Depth> 2.77"

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

	Area (ac)	CN	Description
*	0.100	98	2 House Roofs
	0.100		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 57S: 3 House Roof Areas

Runoff = 0.53 cfs @ 12.00 hrs, Volume= 0.035 af, Depth> 2.77"

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

	Area (ac)	CN	Description
*	0.150	98	3 House Roofs
	0.150		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 58S: 3 House Roof Areas

Runoff = 0.53 cfs @ 12.00 hrs, Volume= 0.035 af, Depth> 2.77"

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

	Area (ac)	CN	Description
*	0.150	98	3 House Roofs
	0.150		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 59S: 4 House Roof Areas

Runoff = 0.71 cfs @ 12.00 hrs, Volume= 0.046 af, Depth> 2.77"

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

	Area (ac)	CN	Description
*	0.200	98	4 House Roofs
	0.200		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 60S: 5 House Roof Areas

Runoff = 0.89 cfs @ 12.00 hrs, Volume= 0.058 af, Depth> 2.77"

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

	Area (ac)	CN	Description
*	0.250	98	5 House Roofs
	0.250		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 61S: 4 House Roof Areas

Runoff = 0.71 cfs @ 12.00 hrs, Volume= 0.046 af, Depth> 2.77"

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

	Area (ac)	CN	Description
*	0.200	98	4 House Roofs
	0.200		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 70S: BACK YARD AREA

Runoff = 0.24 cfs @ 12.21 hrs, Volume= 0.022 af, Depth> 0.79"

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

	Area (ac)	CN	Description
	0.210	70	Woods, Good, HSG C
*	0.000	98	OFF SITE IMPERVIOUS
*	0.120	74	OFF SITE LAWN
	0.330	71	Weighted Average
	0.330		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	57	0.0800	0.07		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"

Summary for Subcatchment 100:

Runoff = 9.59 cfs @ 12.30 hrs, Volume= 0.968 af, Depth> 1.05"

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

	Area (ac)	CN	Description
	6.730	70	Woods, Good, HSG C
*	2.170	98	OFF SITE IMPERVIOUS
*	2.170	74	OFF SITE LAWN
	11.070	76	Weighted Average
	8.900		80.40% Pervious Area
	2.170		19.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.6	89	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
0.7	60	0.3000	1.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
20.3	149	Total			

Summary for Subcatchment 200:

Runoff = 7.79 cfs @ 12.33 hrs, Volume= 0.811 af, Depth> 1.49"

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

	Area (ac)	CN	Description
	1.350	70	Woods, Good, HSG C
*	2.600	98	OFF SITE IMPERVIOUS
*	2.600	74	OFF SITE LAWN
	6.550	83	Weighted Average
	3.950		60.31% Pervious Area
	2.600		39.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	100	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
1.6	131	0.3000	1.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
23.1	231	Total			

Summary for Subcatchment 700:

Runoff = 8.12 cfs @ 12.32 hrs, Volume= 0.832 af, Depth> 1.35"

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

	Area (ac)	CN	Description
	3.980	77	Woods, Good, HSG D
*	1.400	98	OFF SITE IMPERVIOUS
*	1.400	74	OFF SITE LAWN
*	0.150	98	ON SITE IMPERVIOUS
*	0.460	74	ON SITE LAWN
	7.390	81	Weighted Average
	5.840		79.03% Pervious Area
	1.550		20.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	100	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
0.7	60	0.3000	1.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
22.2	160	Total			

Summary for Reach 1R: WETLAND SWALE @ PL

Inflow Area = 5.350 ac, 32.71% Impervious, Inflow Depth > 1.08" for 2 YEAR event
Inflow = 2.97 cfs @ 12.60 hrs, Volume= 0.483 af
Outflow = 2.92 cfs @ 12.75 hrs, Volume= 0.477 af, Atten= 2%, Lag= 9.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.23 fps, Min. Travel Time= 5.4 min
Avg. Velocity = 1.07 fps, Avg. Travel Time= 11.2 min

Peak Storage= 942 cf @ 12.66 hrs
Average Depth at Peak Storage= 0.13'
Bank-Full Depth= 2.00' Flow Area= 24.0 sf, Capacity= 282.47 cfs

10.00' x 2.00' deep channel, n= 0.030
Side Slope Z-value= 1.0 '/' Top Width= 14.00'
Length= 720.0' Slope= 0.0319 '/'
Inlet Invert= 121.00', Outlet Invert= 98.00'

Summary for Reach 2R: WETLAND SWALE @ PL

Inflow Area = 8.220 ac, 22.38% Impervious, Inflow Depth > 0.94" for 2 YEAR event
Inflow = 3.71 cfs @ 12.66 hrs, Volume= 0.645 af
Outflow = 3.70 cfs @ 12.75 hrs, Volume= 0.641 af, Atten= 0%, Lag= 5.3 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.12 fps, Min. Travel Time= 3.2 min
Avg. Velocity = 1.45 fps, Avg. Travel Time= 6.8 min

Peak Storage= 707 cf @ 12.70 hrs
Average Depth at Peak Storage= 0.23'
Bank-Full Depth= 2.00' Flow Area= 14.0 sf, Capacity= 148.39 cfs

5.00' x 2.00' deep channel, n= 0.030
Side Slope Z-value= 1.0 '/' Top Width= 9.00'
Length= 597.0' Slope= 0.0318 '/'
Inlet Invert= 117.00', Outlet Invert= 98.00'

Summary for Reach 5R: Existing Wetland

Inflow Area = 28.020 ac, 33.83% Impervious, Inflow Depth > 1.10" for 2 YEAR event
Inflow = 14.75 cfs @ 12.54 hrs, Volume= 2.574 af
Outflow = 14.71 cfs @ 12.59 hrs, Volume= 2.564 af, Atten= 0%, Lag= 3.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.50 fps, Min. Travel Time= 1.9 min
Avg. Velocity = 2.22 fps, Avg. Travel Time= 3.8 min

Peak Storage= 1,638 cf @ 12.56 hrs
Average Depth at Peak Storage= 0.32'
Bank-Full Depth= 4.00' Flow Area= 56.0 sf, Capacity= 1,068.27 cfs

10.00' x 4.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 1.0 '/' Top Width= 18.00'
Length= 500.0' Slope= 0.0220 '/'
Inlet Invert= 92.00', Outlet Invert= 81.00'

Summary for Reach 7R: EXISTING WETLAND SWALE

Inflow Area = 0.430 ac, 23.26% Impervious, Inflow Depth > 0.61" for 2 YEAR event
Inflow = 0.23 cfs @ 12.24 hrs, Volume= 0.022 af
Outflow = 0.23 cfs @ 12.32 hrs, Volume= 0.022 af, Atten= 2%, Lag= 4.8 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.80 fps, Min. Travel Time= 2.8 min
Avg. Velocity = 0.81 fps, Avg. Travel Time= 6.1 min

Peak Storage= 38 cf @ 12.27 hrs
Average Depth at Peak Storage= 0.04'
Bank-Full Depth= 1.00' Flow Area= 4.0 sf, Capacity= 47.10 cfs

3.00' x 1.00' deep channel, n= 0.030 Stream, clean & straight
Side Slope Z-value= 1.0 '/' Top Width= 5.00'
Length= 300.0' Slope= 0.0933 '/'
Inlet Invert= 118.00', Outlet Invert= 90.00'

Summary for Reach 50R: Property Line

Inflow Area = 1.400 ac, 10.71% Impervious, Inflow Depth > 0.75" for 2 YEAR event
Inflow = 0.76 cfs @ 12.40 hrs, Volume= 0.087 af
Outflow = 0.75 cfs @ 12.42 hrs, Volume= 0.087 af, Atten= 0%, Lag= 1.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.52 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 0.66 fps, Avg. Travel Time= 1.5 min

Peak Storage= 30 cf @ 12.41 hrs
Average Depth at Peak Storage= 0.17'
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 11.58 cfs

3.00' x 1.00' deep channel, n= 0.150 Sheet flow over Short Grass
Length= 60.0' Slope= 0.3000 '/'
Inlet Invert= 138.00', Outlet Invert= 120.00'

Summary for Reach 70R: Property Line

Inflow Area = 0.430 ac, 23.26% Impervious, Inflow Depth > 0.61" for 2 YEAR event
Inflow = 0.24 cfs @ 12.21 hrs, Volume= 0.022 af
Outflow = 0.23 cfs @ 12.24 hrs, Volume= 0.022 af, Atten= 2%, Lag= 1.8 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.57 fps, Min. Travel Time= 0.9 min
Avg. Velocity = 2.18 fps, Avg. Travel Time= 1.5 min

Peak Storage= 13 cf @ 12.22 hrs
Average Depth at Peak Storage= 0.02'
Bank-Full Depth= 1.00' Flow Area= 6.0 sf, Capacity= 204.82 cfs

3.00' x 1.00' deep channel, n= 0.010 PVC, smooth interior
Side Slope Z-value= 3.0 '/' Top Width= 9.00'
Length= 200.0' Slope= 0.0950 '/'
Inlet Invert= 137.00', Outlet Invert= 118.00'

‡

Summary for Reach 80R: Property Line

Inflow Area = 1.160 ac, 12.93% Impervious, Inflow Depth > 0.77" for 2 YEAR event
Inflow = 0.70 cfs @ 12.34 hrs, Volume= 0.075 af
Outflow = 0.70 cfs @ 12.36 hrs, Volume= 0.075 af, Atten= 0%, Lag= 1.3 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.37 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 0.57 fps, Avg. Travel Time= 1.8 min

Peak Storage= 31 cf @ 12.34 hrs
Average Depth at Peak Storage= 0.17'
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 10.21 cfs

3.00' x 1.00' deep channel, n= 0.150 Sheet flow over Short Grass
Length= 60.0' Slope= 0.2333 '/'
Inlet Invert= 134.00', Outlet Invert= 120.00'

Summary for Pond 1P: 24" CULVERT AT PARK DRIVE

Inflow Area = 13.250 ac, 38.04% Impervious, Inflow Depth > 1.03" for 2 YEAR event
Inflow = 5.92 cfs @ 12.63 hrs, Volume= 1.141 af
Outflow = 5.91 cfs @ 12.65 hrs, Volume= 1.135 af, Atten= 0%, Lag= 1.2 min
Primary = 5.91 cfs @ 12.65 hrs, Volume= 1.135 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 95.31' @ 12.65 hrs Surf.Area= 637 sf Storage= 793 cf

Plug-Flow detention time= 4.1 min calculated for 1.135 af (99% of inflow)
Center-of-Mass det. time= 2.5 min (871.2 - 868.8)

Volume	Invert	Avail.Storage	Storage Description
#1	94.00'	105,871 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
94.00	500	0	0
96.00	708	1,208	1,208
98.00	1,037	1,745	2,953
100.00	3,501	4,538	7,491
105.00	9,197	31,745	39,236
110.00	17,457	66,635	105,871

Device	Routing	Invert	Outlet Devices
#1	Primary	94.10'	**24.0" Round Culvert** L= 70.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 94.10' / 92.70' S= 0.0200 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=5.90 cfs @ 12.65 hrs HW=95.31' (Free Discharge)
↑**1=Culvert** (Inlet Controls 5.90 cfs @ 2.96 fps)

Summary for Pond 2P: 24" CULVERT AT PARK DRIVE

Inflow Area = 14.770 ac, 30.06% Impervious, Inflow Depth > 1.18" for 2 YEAR event
Inflow = 9.52 cfs @ 12.38 hrs, Volume= 1.452 af
Outflow = 9.42 cfs @ 12.43 hrs, Volume= 1.439 af, Atten= 1%, Lag= 3.2 min
Primary = 9.42 cfs @ 12.43 hrs, Volume= 1.439 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 99.73' @ 12.43 hrs Surf.Area= 2,046 sf Storage= 2,229 cf

Plug-Flow detention time= 7.9 min calculated for 1.439 af (99% of inflow)
Center-of-Mass det. time= 4.8 min (839.7 - 834.9)

Volume	Invert	Avail.Storage	Storage Description
#1	98.00'	175,248 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
98.00	250	0	0
100.00	2,323	2,573	2,573
105.00	14,820	42,858	45,431
110.00	37,107	129,818	175,248

Device	Routing	Invert	Outlet Devices
#1	Primary	98.10'	**24.0" Round Culvert** L= 70.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 98.10' / 96.70' S= 0.0200 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=9.41 cfs @ 12.43 hrs HW=99.73' (Free Discharge)
└**1=Culvert** (Inlet Controls 9.41 cfs @ 3.43 fps)

Summary for Pond 4P: 12" CULVERT

Inflow Area = 1.400 ac, 10.71% Impervious, Inflow Depth > 0.75" for 2 YEAR event
Inflow = 0.75 cfs @ 12.42 hrs, Volume= 0.087 af
Outflow = 0.75 cfs @ 12.42 hrs, Volume= 0.087 af, Atten= 0%, Lag= 0.0 min
Primary = 0.75 cfs @ 12.42 hrs, Volume= 0.087 af
Secondary = 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= 120.00' @ 12.42 hrs Surf.Area= 52 sf Storage= 1 cf

Plug-Flow detention time= 0.0 min calculated for 0.087 af (100% of inflow)
Center-of-Mass det. time= 0.0 min (839.5 - 839.5)

Volume	Invert	Avail.Storage	Storage Description
#1	120.00'	1,028 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
120.00	50	0	0
121.00	670	360	360
121.50	2,000	668	1,028

Device	Routing	Invert	Outlet Devices
#1	Primary	118.50'	**12.0" Round Culvert** L= 55.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 118.50' / 117.00' S= 0.0273 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf
#2	Secondary	121.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=2.99 cfs @ 12.42 hrs HW=120.00' (Free Discharge)
└**1=Culvert** (Inlet Controls 2.99 cfs @ 3.81 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=120.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 6P: EXISTING FILTER POND - GOOD WILL SITE

Inflow Area = 5.780 ac, 49.65% Impervious, Inflow Depth > 1.41" for 2 YEAR event
Inflow = 8.79 cfs @ 12.01 hrs, Volume= 0.681 af
Outflow = 2.27 cfs @ 12.54 hrs, Volume= 0.479 af, Atten= 74%, Lag= 31.8 min
Primary = 2.27 cfs @ 12.54 hrs, Volume= 0.479 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 115.57' @ 12.54 hrs Surf.Area= 8,915 sf Storage= 14,740 cf

Plug-Flow detention time= 182.4 min calculated for 0.479 af (70% of inflow)
Center-of-Mass det. time= 112.8 min (893.2 - 780.4)

Volume	Invert	Avail.Storage	Storage Description
#1	112.00'	30,350 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
112.00	533	0	0
113.00	1,387	960	960
114.00	4,783	3,085	4,045
115.00	7,372	6,078	10,123
116.00	10,094	8,733	18,856
117.00	12,894	11,494	30,350

Device	Routing	Invert	Outlet Devices
#1	Primary	110.98'	**12.0" Round Culvert** L= 126.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 110.98' / 105.85' S= 0.0407 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf
#2	Device 1	114.50'	**6.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	115.40'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	116.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=2.25 cfs @ 12.54 hrs HW=115.57' (Free Discharge)
└**1=Culvert** (Passes 2.25 cfs of 7.64 cfs potential flow)
└**2=Orifice/Grate** (Orifice Controls 0.85 cfs @ 4.35 fps)
└**3=Orifice/Grate** (Weir Controls 1.40 cfs @ 1.34 fps)
└**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 7P: 24" CULVERT AT PARK DRIVE

Inflow Area = 7.820 ac, 21.10% Impervious, Inflow Depth > 1.31" for 2 YEAR event
Inflow = 8.35 cfs @ 12.32 hrs, Volume= 0.854 af
Outflow = 8.10 cfs @ 12.37 hrs, Volume= 0.851 af, Atten= 3%, Lag= 3.3 min
Primary = 8.10 cfs @ 12.37 hrs, Volume= 0.851 af
Secondary = 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= 95.57' @ 12.37 hrs Surf.Area= 770 sf Storage= 1,311 cf

Plug-Flow detention time= 3.7 min calculated for 0.851 af (100% of inflow)
Center-of-Mass det. time= 2.4 min (816.8 - 814.4)

Volume	Invert	Avail.Storage	Storage Description
#1	94.00'	25,133 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
94.00	275	0	0
95.00	527	401	401
100.00	2,643	7,925	8,326
101.00	3,360	3,002	11,328
102.00	4,154	3,757	15,085
104.00	5,894	10,048	25,133

Device	Routing	Invert	Outlet Devices
#1	Primary	94.10'	**24.0" Round Culvert** L= 70.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 94.10' / 92.70' S= 0.0200 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf
#2	Secondary	102.00'	**20.0' long x 20.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=8.04 cfs @ 12.37 hrs HW=95.57' (Free Discharge)
1=Culvert (Inlet Controls 8.04 cfs @ 3.26 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=94.00' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 8P: ECB300

Inflow Area = 1.400 ac, 10.71% Impervious, Inflow Depth > 0.75" for 2 YEAR event
Inflow = 0.75 cfs @ 12.42 hrs, Volume= 0.087 af
Outflow = 0.75 cfs @ 12.42 hrs, Volume= 0.087 af, Atten= 0%, Lag= 0.0 min
Primary = 0.75 cfs @ 12.42 hrs, Volume= 0.087 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 116.84' @ 12.42 hrs
Flood Elev= 120.34'

Device	Routing	Invert	Outlet Devices
#1	Primary	116.40'	**12.0" Round Culvert** L= 164.8' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 116.40' / 115.48' S= 0.0056 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.75 cfs @ 12.42 hrs HW=116.84' (Free Discharge)
1=Culvert (Barrel Controls 0.75 cfs @ 3.31 fps)

Summary for Pond 9P: 4 APARTMENT DRIPLINES

Inflow Area = 0.410 ac,100.00% Impervious, Inflow Depth > 2.77" for 2 YEAR event
Inflow = 1.46 cfs @ 12.00 hrs, Volume= 0.095 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 118.32' @ 20.00 hrs Surf.Area= 3,780 sf Storage= 4,128 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	115.80'	2,954 cf	**3.00'W x 105.00'L x 6.00'H Prismatoid** x 4 7,560 cf Overall - 176 cf Embedded = 7,384 cf x 40.0% Voids
#2	115.80'	176 cf	**6.0" Round Pipe Storage** x 4 Inside #1 L= 224.0' S= 0.0050 '/'
		3,130 cf	x 3.00 = 9,389 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	120.80'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 4.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=115.80' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 9PV: ECB100

Inflow Area = 1.400 ac, 10.71% Impervious, Inflow Depth > 0.75" for 2 YEAR event
Inflow = 0.75 cfs @ 12.42 hrs, Volume= 0.087 af
Outflow = 0.75 cfs @ 12.42 hrs, Volume= 0.087 af, Atten= 0%, Lag= 0.0 min
Primary = 0.75 cfs @ 12.42 hrs, Volume= 0.087 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 115.84' @ 12.42 hrs
Flood Elev= 119.51'

Device	Routing	Invert	Outlet Devices
#1	Primary	115.38'	**12.0" Round Culvert** L= 96.1' RCP, square edge headwall, Ke= 0.500

Inlet / Outlet Invert= 115.38' / 114.90' S= 0.0050 '/' Cc= 0.900
n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.75 cfs @ 12.42 hrs HW=115.84' (Free Discharge)
1=Culvert (Barrel Controls 0.75 cfs @ 3.09 fps)

Summary for Pond 10P: 18" CULVERT STA 12+75

Inflow Area = 2.770 ac, 27.80% Impervious, Inflow Depth > 1.28" for 2 YEAR event
Inflow = 2.24 cfs @ 12.56 hrs, Volume= 0.295 af
Outflow = 2.24 cfs @ 12.56 hrs, Volume= 0.295 af, Atten= 0%, Lag= 0.0 min
Primary = 2.24 cfs @ 12.56 hrs, Volume= 0.295 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 130.02' @ 12.56 hrs Surf.Area= 84 sf Storage= 7 cf

Plug-Flow detention time= 0.1 min calculated for 0.295 af (100% of inflow)
Center-of-Mass det. time= 0.0 min (829.2 - 829.1)

Volume	Invert	Avail.Storage	Storage Description
#1	130.00'	6,127 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
130.00	73	0	0
131.00	672	373	373
132.00	2,609	1,641	2,013
133.00	5,618	4,114	6,127

Device	Routing	Invert	Outlet Devices
#1	Primary	129.00'	**18.0" Round Culvert** L= 70.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 129.00' / 128.30' S= 0.0100 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=3.47 cfs @ 12.56 hrs HW=130.02' (Free Discharge)
1=Culvert (Inlet Controls 3.47 cfs @ 2.71 fps)

Summary for Pond 11P: ECB600

Device	Routing	Invert	Outlet Devices
#1	Primary	116.40'	**12.0" Round Culvert** L= 82.4' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 116.40' / 115.99' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=0.00' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

Summary for Pond 12P: ECB500

Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
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= 115.89' @ 5.00 hrs
Flood Elev= 119.93'

Device	Routing	Invert	Outlet Devices
#1	Primary	115.89'	**12.0" Round Culvert** L= 82.4' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 115.89' / 115.48' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=115.89' (Free Discharge)
↑—**1=Culvert** (Controls 0.00 cfs)

Summary for Pond 13P: 12" CULVERT

Inflow Area = 1.160 ac, 12.93% Impervious, Inflow Depth > 0.77" for 2 YEAR event
Inflow = 0.70 cfs @ 12.36 hrs, Volume= 0.075 af
Outflow = 0.69 cfs @ 12.38 hrs, Volume= 0.074 af, Atten= 0%, Lag= 1.1 min
Primary = 0.69 cfs @ 12.38 hrs, Volume= 0.074 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 118.98' @ 12.38 hrs Surf.Area= 284 sf Storage= 82 cf

Plug-Flow detention time= 4.2 min calculated for 0.074 af (99% of inflow)
Center-of-Mass det. time= 2.5 min (836.8 - 834.3)

Volume	Invert	Avail.Storage	Storage Description
#1	118.50'	1,046 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
118.50	50	0	0
119.00	294	86	86
120.00	1,625	960	1,046

Device	Routing	Invert	Outlet Devices
#1	Primary	118.50'	**12.0" Round Culvert** L= 55.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 118.50' / 117.00' S= 0.0273 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.69 cfs @ 12.38 hrs HW=118.98' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 0.69 cfs @ 1.86 fps)

Summary for Pond 14P: ECB400

Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
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= 115.38' @ 5.00 hrs
Flood Elev= 119.42'

Device	Routing	Invert	Outlet Devices
#1	Primary	115.38'	**12.0" Round Culvert** L= 39.5' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 115.38' / 115.18' S= 0.0051 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=115.38' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

Summary for Pond 20P: 18" CULVERT STA 18+00

Inflow Area = 4.810 ac, 25.78% Impervious, Inflow Depth > 1.07" for 2 YEAR event
Inflow = 2.31 cfs @ 12.67 hrs, Volume= 0.427 af
Outflow = 2.31 cfs @ 12.68 hrs, Volume= 0.427 af, Atten= 0%, Lag= 0.7 min
Primary = 2.31 cfs @ 12.68 hrs, Volume= 0.427 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 120.30' @ 12.68 hrs Surf.Area= 183 sf Storage= 108 cf

Plug-Flow detention time= 1.0 min calculated for 0.425 af (100% of inflow)
Center-of-Mass det. time= 0.6 min (867.9 - 867.3)

Volume	Invert	Avail.Storage	Storage Description
#1	119.50'	1,365 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
119.50	36	0	0
120.00	140	44	44
121.00	284	212	256
122.00	576	430	686
123.00	781	679	1,365

Device	Routing	Invert	Outlet Devices
#1	Primary	119.50'	**18.0" Round Culvert** L= 81.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 119.50' / 116.50' S= 0.0370 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=2.30 cfs @ 12.68 hrs HW=120.30' (Free Discharge)
1=Culvert (Inlet Controls 2.30 cfs @ 2.40 fps)

Summary for Pond 56P: 2 HOUSE DRIPLINES

Inflow Area = 0.100 ac,100.00% Impervious, Inflow Depth > 2.77" for 2 YEAR event
Inflow = 0.36 cfs @ 12.00 hrs, Volume= 0.023 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 141.90' @ 20.00 hrs Surf.Area= 1,260 sf Storage= 1,007 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	140.00'	1,244 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 2 3,150 cf Overall - 41 cf Embedded = 3,109 cf x 40.0% Voids
#2	140.00'	41 cf	**6.0" Round Pipe Storage** x 2 Inside #1 L= 105.0' S= 0.0050 '/'
		1,285 cf	x 2.00 = 2,569 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	144.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 2.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=140.00' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 57P: 3 HOUSE DRIPLINES

Inflow Area = 0.150 ac,100.00% Impervious, Inflow Depth > 2.77" for 2 YEAR event
Inflow = 0.53 cfs @ 12.00 hrs, Volume= 0.035 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 139.73' @ 20.00 hrs Surf.Area= 2,835 sf Storage= 1,510 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	138.50'	1,865 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 3 4,725 cf Overall - 62 cf Embedded = 4,663 cf x 40.0% Voids
#2	138.50'	62 cf	**6.0" Round Pipe Storage** x 3 Inside #1 L= 105.0' S= 0.0050 '/'
		1,927 cf	x 3.00 = 5,781 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	142.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 3.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60

Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=138.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 58P: 3 HOUSE DRIPLINES

Inflow Area = 0.150 ac,100.00% Impervious, Inflow Depth > 2.77" for 2 YEAR event
Inflow = 0.53 cfs @ 12.00 hrs, Volume= 0.035 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 135.73' @ 20.00 hrs Surf.Area= 2,835 sf Storage= 1,510 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	134.50'	1,865 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 3 4,725 cf Overall - 62 cf Embedded = 4,663 cf x 40.0% Voids
#2	134.50'	62 cf	**6.0" Round Pipe Storage** x 3 Inside #1 L= 105.0' S= 0.0050 '/'
		1,927 cf	x 3.00 = 5,781 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	138.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 3.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=134.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 59P: 4 HOUSE DRIPLINES

Inflow Area = 0.200 ac,100.00% Impervious, Inflow Depth > 2.77" for 2 YEAR event
Inflow = 0.71 cfs @ 12.00 hrs, Volume= 0.046 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 121.40' @ 20.00 hrs Surf.Area= 5,040 sf Storage= 2,014 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	120.50'	2,487 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 4 6,300 cf Overall - 82 cf Embedded = 6,218 cf x 40.0% Voids
#2	120.50'	82 cf	**6.0" Round Pipe Storage** x 4 Inside #1 L= 105.0' S= 0.0050 '/'
		2,569 cf	x 4.00 = 10,278 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	124.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 4.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=120.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 60P: 5 HOUSE DRIPLINES

Inflow Area = 0.250 ac,100.00% Impervious, Inflow Depth > 2.77" for 2 YEAR event
Inflow = 0.89 cfs @ 12.00 hrs, Volume= 0.058 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 121.22' @ 20.00 hrs Surf.Area= 7,875 sf Storage= 2,518 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	120.50'	3,109 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 5 7,875 cf Overall - 103 cf Embedded = 7,772 cf x 40.0% Voids
#2	120.50'	103 cf	**6.0" Round Pipe Storage** x 5 Inside #1 L= 105.0' S= 0.0050 '/'
		3,212 cf	x 5.00 = 16,059 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	124.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 5.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=120.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 61P: 4 HOUSE DRIPLINES

Inflow Area = 0.200 ac,100.00% Impervious, Inflow Depth > 2.77" for 2 YEAR event
Inflow = 0.71 cfs @ 12.00 hrs, Volume= 0.046 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 121.40' @ 20.00 hrs Surf.Area= 5,040 sf Storage= 2,014 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	120.50'	2,487 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 4 6,300 cf Overall - 82 cf Embedded = 6,218 cf x 40.0% Voids
#2	120.50'	82 cf	**6.0" Round Pipe Storage** x 4 Inside #1 L= 105.0' S= 0.0050 '/'
		2,569 cf	x 4.00 = 10,278 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	124.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 4.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=120.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 100P: 24" CULVERT AT TOPSHAM FAIR MALL ROAD

Inflow Area = 46.910 ac, 28.35% Impervious, Inflow Depth > 1.12" for 2 YEAR event
Inflow = 29.66 cfs @ 12.42 hrs, Volume= 4.382 af
Outflow = 21.35 cfs @ 12.76 hrs, Volume= 4.247 af, Atten= 28%, Lag= 20.9 min
Primary = 21.35 cfs @ 12.76 hrs, Volume= 4.247 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 75.09' @ 12.76 hrs Surf.Area= 15,469 sf Storage= 30,132 cf

Plug-Flow detention time= 28.9 min calculated for 4.233 af (97% of inflow)
Center-of-Mass det. time= 18.6 min (860.6 - 842.1)

Volume	Invert	Avail.Storage	Storage Description
#1	72.00'	885,614 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
72.00	3,381	0	0
75.00	15,000	27,572	27,572
80.00	40,318	138,295	165,867
85.00	69,683	275,003	440,869
90.00	108,215	444,745	885,614

Device	Routing	Invert	Outlet Devices
#1	Primary	72.10'	**24.0" Round Culvert** L= 70.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 72.10' / 70.00' S= 0.0300 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=21.35 cfs @ 12.76 hrs HW=75.09' (Free Discharge)
└**1=Culvert** (Inlet Controls 21.35 cfs @ 6.80 fps)

Summary for Pond F1: STA 12+50 LEFT

Inflow Area = 2.580 ac, 37.98% Impervious, Inflow Depth > 1.45" for 2 YEAR event
Inflow = 3.48 cfs @ 12.09 hrs, Volume= 0.313 af
Outflow = 0.82 cfs @ 12.82 hrs, Volume= 0.188 af, Atten= 76%, Lag= 43.8 min
Primary = 0.82 cfs @ 12.82 hrs, Volume= 0.188 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 126.07' @ 12.82 hrs Surf.Area= 3,697 sf Storage= 6,917 cf

Plug-Flow detention time= 167.4 min calculated for 0.188 af (60% of inflow)
Center-of-Mass det. time= 89.1 min (886.3 - 797.3)

Volume	Invert	Avail.Storage	Storage Description
#1	124.00'	24,339 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
124.00	2,986	0	0
125.00	3,322	3,154	3,154
126.00	3,671	3,497	6,651
127.00	4,035	3,853	10,504
128.00	4,412	4,224	14,727
129.00	4,802	4,607	19,334
130.00	5,207	5,005	24,339

Device	Routing	Invert	Outlet Devices
#1	Primary	120.50'	**18.0" Round Culvert** L= 36.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 120.50' / 120.00' S= 0.0139 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf
#2	Device 1	125.50'	**8.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	128.70'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.82 cfs @ 12.82 hrs HW=126.07' (Free Discharge)
└**1=Culvert** (Passes 0.82 cfs of 18.68 cfs potential flow)
├**2=Orifice/Grate** (Orifice Controls 0.82 cfs @ 2.58 fps)
└**3=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond F5: STA 18+25 RIGHT 2.5:1 Slopes

Inflow Area = 1.100 ac, 42.73% Impervious, Inflow Depth > 1.56" for 2 YEAR event
Inflow = 2.01 cfs @ 12.11 hrs, Volume= 0.143 af
Outflow = 0.23 cfs @ 12.99 hrs, Volume= 0.124 af, Atten= 89%, Lag= 52.8 min
Primary = 0.23 cfs @ 12.99 hrs, Volume= 0.124 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 124.00' Surf.Area= 2,612 sf Storage= 3,412 cf
Peak Elev= 125.06' @ 12.99 hrs Surf.Area= 3,250 sf Storage= 6,518 cf (3,107 cf above start)

Plug-Flow detention time= 377.3 min calculated for 0.046 af (32% of inflow)
Center-of-Mass det. time= 129.8 min (924.5 - 794.7)

Volume	Invert	Avail.Storage	Storage Description
#1	122.50'	18,871 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
122.50	1,937	0	0
124.00	2,612	3,412	3,412
126.00	3,815	6,427	9,839
128.00	5,217	9,032	18,871

Device	Routing	Invert	Outlet Devices
#1	Primary	119.00'	**18.0" Round Culvert** L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 119.00' / 116.50' S= 0.0625 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf
#2	Device 1	126.50'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	124.00'	**3.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=0.23 cfs @ 12.99 hrs HW=125.06' (Free Discharge)
└**1=Culvert** (Passes 0.23 cfs of 19.61 cfs potential flow)
  ├**2=Orifice/Grate** (Controls 0.00 cfs)
  └**3=Orifice/Grate** (Orifice Controls 0.23 cfs @ 4.66 fps)

Summary for Subcatchment 6S: GOODWILL SITE AREA

Runoff = 13.13 cfs @ 12.01 hrs, Volume= 0.820 af, Depth> 3.50"

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

	Area (ac)	CN	Description
*	2.160	98	ON SITE IMPERVIOUS
*	0.580	74	ON SITE LAWN
*	0.070	74	OFF SITE LAWN
*	0.000	98	ON SITE IMPERVIOUS (SEE 9s) 0.41 AC
	2.810	92	Weighted Average
	0.650		23.13% Pervious Area
	2.160		76.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	46	0.0200	1.18		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 8S: OFF SITE BACK YARD AREA 8

Runoff = 1.48 cfs @ 12.32 hrs, Volume= 0.152 af, Depth> 1.81"

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

	Area (ac)	CN	Description
	0.280	70	Woods, Good, HSG C
*	0.000	98	OFF SITE IMPERVIOUS (See 58S 0.1)
*	0.180	74	ON SITE LAWN
*	0.550	74	OFF SITE LAWN
	1.010	73	Weighted Average
	1.010		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	50	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
0.5	250	0.0150	8.80	105.56	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.022 Earth, clean & straight
22.0	300	Total			

Summary for Subcatchment 9S: 4 Apartment Roof Areas

Runoff = 2.11 cfs @ 12.00 hrs, Volume= 0.139 af, Depth> 4.05"

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

	Area (ac)	CN	Description
*	0.410	98	4 Apartment Roofs (75'x60')
	0.410		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 10S: BACK YARDS AND UPPER WATERSHED

Runoff = 4.12 cfs @ 12.54 hrs, Volume= 0.542 af, Depth> 2.35"

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

	Area (ac)	CN	Description
	0.560	70	Woods, Good, HSG C
*	0.770	98	OFF SITE EXISTING IMPERVIOUS
*	1.440	74	OFF SITE EXISTING LAWNS
	2.770	80	Weighted Average
	2.000		72.20% Pervious Area
	0.770		27.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
37.4	100	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
1.5	50	0.0500	0.56		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
38.9	150	Total			

Summary for Subcatchment 11S:

Runoff = 3.64 cfs @ 12.29 hrs, Volume= 0.360 af, Depth> 2.04"

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

	Area (ac)	CN	Description
	1.330	70	Woods, Good, HSG C
*	0.420	98	OFF SITE IMPERVIOUS
*	0.370	74	OFF SITE LAWN
	2.120	76	Weighted Average
	1.700		80.19% Pervious Area
	0.420		19.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.6	89	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
0.7	60	0.3000	1.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
20.3	149	Total			

Summary for Subcatchment 14S: ROAD SENT TO POND F1 PHASE 3

Runoff = 4.02 cfs @ 12.09 hrs, Volume= 0.279 af, Depth> 3.10"

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

	Area (ac)	CN	Description
*	0.650	98	OFF SITE IMPERVIOUS
*	0.430	74	OFF SITE LAWN
	1.080	88	Weighted Average
	0.430		39.81% Pervious Area
	0.650		60.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	37	0.0200	0.14		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.5	100	0.0230	3.08		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	240	0.0050	4.84	5.94	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
5.7	377	Total			

Summary for Subcatchment 15S: BACK YARDS AND UPPER WATERSHED

Runoff = 1.54 cfs @ 12.44 hrs, Volume= 0.180 af, Depth> 1.88"

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

	Area (ac)	CN	Description
	0.590	70	Woods, Good, HSG C
*	0.120	98	OFF SITE IMPERVIOUS
*	0.440	74	OFF SITE LAWN
	1.150	74	Weighted Average
	1.030		89.57% Pervious Area
	0.120		10.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.3	100	0.0400	0.06		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
1.5	50	0.0500	0.56		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
0.2	129	0.0500	11.00	32.99	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.00' Z= 1.0 '/' Top.W=4.00' n= 0.022 Earth, clean & straight
0.2	600	0.5000	48.39	59.38	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
30.2	879	Total			

Summary for Subcatchment 20S: BACK YARD AND UPPER WATERSHED

Runoff = 4.13 cfs @ 12.65 hrs, Volume= 0.590 af, Depth> 2.02"

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

	Area (ac)	CN	Description
	1.270	70	Woods, Good, HSG C
*	0.570	98	OFF SITE IMPERVIOUS (see 59S 0.2)
*	1.670	74	OFF SITE LAWNS
	3.510	76	Weighted Average
	2.940		83.76% Pervious Area
	0.570		16.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
37.4	100	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
8.6	257	0.0400	0.50		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
46.0	357	Total			

Summary for Subcatchment 21S:

Runoff = 1.62 cfs @ 12.47 hrs, Volume= 0.196 af, Depth> 1.66"

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

	Area (ac)	CN	Description
	1.060	70	Woods, Good, HSG C
*	0.000	98	OFF SITE IMPERVIOUS (see 60s .25)
*	0.360	74	OFF SITE LAWN
	1.420	71	Weighted Average
	1.420		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.3	100	0.0400	0.06		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
3.7	112	0.0400	0.50		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
32.0	212	Total			

Summary for Subcatchment 22S: ROAD SENT TO POND F1 PHASE 1

Runoff = 1.26 cfs @ 12.10 hrs, Volume= 0.090 af, Depth> 3.10"

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

	Area (ac)	CN	Description
*	0.210	98	OFF SITE IMPERVIOUS
*	0.140	74	OFF SITE LAWN
	0.350	88	Weighted Average
	0.140		40.00% Pervious Area
	0.210		60.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	60	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.5	92	0.0230	3.08		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.1	115	0.2000	30.60	37.56	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
7.1	267	Total			

Summary for Subcatchment 23S: ROAD AND LOT DEVELOPMENT

Runoff = 3.47 cfs @ 12.11 hrs, Volume= 0.250 af, Depth> 2.72"

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

	Area (ac)	CN	Description
*	0.470	98	OFF SITE IMPERVIOUS
*	0.630	74	OFF SITE LAWN
	1.100	84	Weighted Average
	0.630		57.27% Pervious Area
	0.470		42.73% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	60	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.9	172	0.0230	3.08		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.4	110	0.0050	4.84	5.94	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
7.8	342	Total			

Summary for Subcatchment 41S:

Runoff = 1.61 cfs @ 12.73 hrs, Volume= 0.248 af, Depth> 1.94"

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

	Area (ac)	CN	Description
	0.500	70	Woods, Good, HSG C
*	0.150	98	OFF SITE IMPERVIOUS (see 61s 0.20)
*	0.890	74	OFF SITE LAWN
	1.540	75	Weighted Average
	1.390		90.26% Pervious Area
	0.150		9.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
49.3	100	0.0100	0.03		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
2.2	50	0.0220	0.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
1.2	312	0.0050	4.40	5.40	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.011 Concrete pipe, straight & clean
52.7	462	Total			

Summary for Subcatchment 50S: OFF SITE BACK YARD AREA

Runoff = 1.64 cfs @ 12.38 hrs, Volume= 0.180 af, Depth> 1.73"

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

	Area (ac)	CN	Description
	0.570	70	Woods, Good, HSG C
*	0.000	98	OFF SITE IMPERVIOUS (see 57s 0.15)
*	0.180	74	EXISTING ON SITE LAWN
*	0.440	74	OFF SITE LAWN
*	0.060	74	NEW ON SITE LAWN
	1.250	72	Weighted Average
	1.250		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	100	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
4.4	187	0.0800	0.71		**Shallow Concentrated Flow, BC** Forest w/Heavy Litter Kv= 2.5 fps
25.9	287	Total			

Summary for Subcatchment 56S: 2 House Roof Areas

Runoff = 0.51 cfs @ 12.00 hrs, Volume= 0.034 af, Depth> 4.05"

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

	Area (ac)	CN	Description
*	0.100	98	2 House Roofs
	0.100		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 57S: 3 House Roof Areas

Runoff = 0.77 cfs @ 12.00 hrs, Volume= 0.051 af, Depth> 4.05"

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

	Area (ac)	CN	Description
*	0.150	98	3 House Roofs
	0.150		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 58S: 3 House Roof Areas

Runoff = 0.77 cfs @ 12.00 hrs, Volume= 0.051 af, Depth> 4.05"

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

	Area (ac)	CN	Description
*	0.150	98	3 House Roofs
	0.150		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 59S: 4 House Roof Areas

Runoff = 1.03 cfs @ 12.00 hrs, Volume= 0.068 af, Depth> 4.05"

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

	Area (ac)	CN	Description
*	0.200	98	4 House Roofs
	0.200		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 60S: 5 House Roof Areas

Runoff = 1.29 cfs @ 12.00 hrs, Volume= 0.084 af, Depth> 4.05"

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

	Area (ac)	CN	Description
*	0.250	98	5 House Roofs
	0.250		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 61S: 4 House Roof Areas

Runoff = 1.03 cfs @ 12.00 hrs, Volume= 0.068 af, Depth> 4.05"

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

	Area (ac)	CN	Description
*	0.200	98	4 House Roofs
	0.200		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 70S: BACK YARD AREA

Runoff = 0.53 cfs @ 12.20 hrs, Volume= 0.046 af, Depth> 1.67"

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

	Area (ac)	CN	Description
	0.210	70	Woods, Good, HSG C
*	0.000	98	OFF SITE IMPERVIOUS
*	0.120	74	OFF SITE LAWN
	0.330	71	Weighted Average
	0.330		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	57	0.0800	0.07		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"

Summary for Subcatchment 100:

Runoff = 19.03 cfs @ 12.29 hrs, Volume= 1.880 af, Depth> 2.04"

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

	Area (ac)	CN	Description
	6.730	70	Woods, Good, HSG C
*	2.170	98	OFF SITE IMPERVIOUS
*	2.170	74	OFF SITE LAWN
	11.070	76	Weighted Average
	8.900		80.40% Pervious Area
	2.170		19.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.6	89	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
0.7	60	0.3000	1.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
20.3	149	Total			

Summary for Subcatchment 200:

Runoff = 13.68 cfs @ 12.32 hrs, Volume= 1.431 af, Depth> 2.62"

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

	Area (ac)	CN	Description
	1.350	70	Woods, Good, HSG C
*	2.600	98	OFF SITE IMPERVIOUS
*	2.600	74	OFF SITE LAWN
	6.550	83	Weighted Average
	3.950		60.31% Pervious Area
	2.600		39.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	100	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
1.6	131	0.3000	1.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
23.1	231	Total			

Summary for Subcatchment 700:

Runoff = 14.71 cfs @ 12.31 hrs, Volume= 1.507 af, Depth> 2.45"

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

	Area (ac)	CN	Description
	3.980	77	Woods, Good, HSG D
*	1.400	98	OFF SITE IMPERVIOUS
*	1.400	74	OFF SITE LAWN
*	0.150	98	ON SITE IMPERVIOUS
*	0.460	74	ON SITE LAWN
	7.390	81	Weighted Average
	5.840		79.03% Pervious Area
	1.550		20.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	100	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
0.7	60	0.3000	1.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
22.2	160	Total			

Summary for Reach 1R: WETLAND SWALE @ PL

Inflow Area = 5.350 ac, 32.71% Impervious, Inflow Depth > 2.16" for 10 YEAR event
Inflow = 5.93 cfs @ 12.57 hrs, Volume= 0.963 af
Outflow = 5.88 cfs @ 12.68 hrs, Volume= 0.956 af, Atten= 1%, Lag= 6.8 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.93 fps, Min. Travel Time= 4.1 min
Avg. Velocity = 1.25 fps, Avg. Travel Time= 9.6 min

Peak Storage= 1,448 cf @ 12.61 hrs
Average Depth at Peak Storage= 0.20'
Bank-Full Depth= 2.00' Flow Area= 24.0 sf, Capacity= 282.47 cfs

10.00' x 2.00' deep channel, n= 0.030
Side Slope Z-value= 1.0 '/' Top Width= 14.00'
Length= 720.0' Slope= 0.0319 '/'
Inlet Invert= 121.00', Outlet Invert= 98.00'

Summary for Reach 2R: WETLAND SWALE @ PL

Inflow Area = 8.220 ac, 22.38% Impervious, Inflow Depth > 1.79" for 10 YEAR event
Inflow = 7.39 cfs @ 12.63 hrs, Volume= 1.227 af
Outflow = 7.37 cfs @ 12.70 hrs, Volume= 1.221 af, Atten= 0%, Lag= 4.2 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.02 fps, Min. Travel Time= 2.5 min
Avg. Velocity = 1.70 fps, Avg. Travel Time= 5.9 min

Peak Storage= 1,095 cf @ 12.66 hrs
Average Depth at Peak Storage= 0.34'
Bank-Full Depth= 2.00' Flow Area= 14.0 sf, Capacity= 148.39 cfs

5.00' x 2.00' deep channel, n= 0.030
Side Slope Z-value= 1.0 '/' Top Width= 9.00'
Length= 597.0' Slope= 0.0318 '/'
Inlet Invert= 117.00', Outlet Invert= 98.00'

Summary for Reach 5R: Existing Wetland

Inflow Area = 28.020 ac, 33.83% Impervious, Inflow Depth > 2.09" for 10 YEAR event
Inflow = 27.93 cfs @ 12.52 hrs, Volume= 4.871 af
Outflow = 27.88 cfs @ 12.56 hrs, Volume= 4.857 af, Atten= 0%, Lag= 2.6 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.72 fps, Min. Travel Time= 1.5 min
Avg. Velocity = 2.57 fps, Avg. Travel Time= 3.2 min

Peak Storage= 2,439 cf @ 12.53 hrs
Average Depth at Peak Storage= 0.47'
Bank-Full Depth= 4.00' Flow Area= 56.0 sf, Capacity= 1,068.27 cfs

10.00' x 4.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 1.0 '/' Top Width= 18.00'
Length= 500.0' Slope= 0.0220 '/'
Inlet Invert= 92.00', Outlet Invert= 81.00'

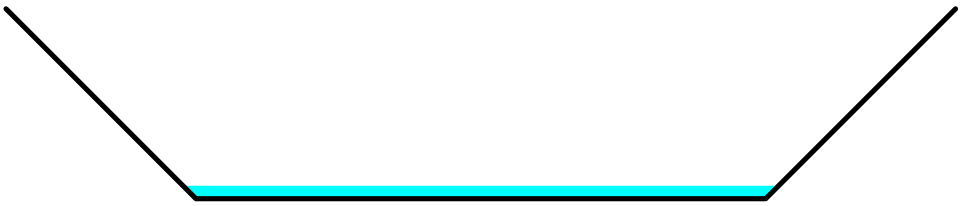
Summary for Reach 7R: EXISTING WETLAND SWALE

Inflow Area = 0.430 ac, 23.26% Impervious, Inflow Depth > 1.28" for 10 YEAR event
Inflow = 0.53 cfs @ 12.22 hrs, Volume= 0.046 af
Outflow = 0.51 cfs @ 12.28 hrs, Volume= 0.046 af, Atten= 3%, Lag= 3.7 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.47 fps, Min. Travel Time= 2.0 min
Avg. Velocity = 0.94 fps, Avg. Travel Time= 5.3 min

Peak Storage= 63 cf @ 12.25 hrs
Average Depth at Peak Storage= 0.07'
Bank-Full Depth= 1.00' Flow Area= 4.0 sf, Capacity= 47.10 cfs

3.00' x 1.00' deep channel, n= 0.030 Stream, clean & straight
Side Slope Z-value= 1.0 '/' Top Width= 5.00'
Length= 300.0' Slope= 0.0933 '/'
Inlet Invert= 118.00', Outlet Invert= 90.00'



Summary for Reach 50R: Property Line

Inflow Area = 1.400 ac, 10.71% Impervious, Inflow Depth > 1.55" for 10 YEAR event
Inflow = 1.64 cfs @ 12.38 hrs, Volume= 0.180 af
Outflow = 1.63 cfs @ 12.39 hrs, Volume= 0.180 af, Atten= 0%, Lag= 0.9 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.03 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 0.80 fps, Avg. Travel Time= 1.3 min

Peak Storage= 49 cf @ 12.38 hrs
Average Depth at Peak Storage= 0.27'
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 11.58 cfs

3.00' x 1.00' deep channel, n= 0.150 Sheet flow over Short Grass
Length= 60.0' Slope= 0.3000 '/'
Inlet Invert= 138.00', Outlet Invert= 120.00'

Summary for Reach 70R: Property Line

Inflow Area = 0.430 ac, 23.26% Impervious, Inflow Depth > 1.28" for 10 YEAR event
Inflow = 0.53 cfs @ 12.20 hrs, Volume= 0.046 af
Outflow = 0.53 cfs @ 12.22 hrs, Volume= 0.046 af, Atten= 1%, Lag= 1.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.86 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 2.28 fps, Avg. Travel Time= 1.5 min

Peak Storage= 22 cf @ 12.21 hrs
Average Depth at Peak Storage= 0.04'
Bank-Full Depth= 1.00' Flow Area= 6.0 sf, Capacity= 204.82 cfs

3.00' x 1.00' deep channel, n= 0.010 PVC, smooth interior
Side Slope Z-value= 3.0 '/' Top Width= 9.00'
Length= 200.0' Slope= 0.0950 '/'
Inlet Invert= 137.00', Outlet Invert= 118.00'

‡

Summary for Reach 80R: Property Line

Inflow Area = 1.160 ac, 12.93% Impervious, Inflow Depth > 1.57" for 10 YEAR event
Inflow = 1.48 cfs @ 12.32 hrs, Volume= 0.152 af
Outflow = 1.48 cfs @ 12.33 hrs, Volume= 0.152 af, Atten= 1%, Lag= 1.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.80 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 0.68 fps, Avg. Travel Time= 1.5 min

Peak Storage= 49 cf @ 12.32 hrs
Average Depth at Peak Storage= 0.27'
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 10.21 cfs

3.00' x 1.00' deep channel, n= 0.150 Sheet flow over Short Grass
Length= 60.0' Slope= 0.2333 '/'
Inlet Invert= 134.00', Outlet Invert= 120.00'

Summary for Pond 1P: 24" CULVERT AT PARK DRIVE

Inflow Area = 13.250 ac, 38.04% Impervious, Inflow Depth > 2.03" for 10 YEAR event
Inflow = 13.91 cfs @ 12.39 hrs, Volume= 2.243 af
Outflow = 13.83 cfs @ 12.44 hrs, Volume= 2.235 af, Atten= 1%, Lag= 2.9 min
Primary = 13.83 cfs @ 12.44 hrs, Volume= 2.235 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 96.44' @ 12.44 hrs Surf.Area= 781 sf Storage= 1,593 cf

Plug-Flow detention time= 3.0 min calculated for 2.235 af (100% of inflow)
Center-of-Mass det. time= 1.9 min (840.7 - 838.8)

Volume	Invert	Avail.Storage	Storage Description
#1	94.00'	105,871 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
94.00	500	0	0
96.00	708	1,208	1,208
98.00	1,037	1,745	2,953
100.00	3,501	4,538	7,491
105.00	9,197	31,745	39,236
110.00	17,457	66,635	105,871

Device	Routing	Invert	Outlet Devices
#1	Primary	94.10'	**24.0" Round Culvert** L= 70.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 94.10' / 92.70' S= 0.0200 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=13.82 cfs @ 12.44 hrs HW=96.44' (Free Discharge)
1=Culvert (Inlet Controls 13.82 cfs @ 4.40 fps)

Summary for Pond 2P: 24" CULVERT AT PARK DRIVE

Inflow Area = 14.770 ac, 30.06% Impervious, Inflow Depth > 2.15" for 10 YEAR event
Inflow = 17.85 cfs @ 12.38 hrs, Volume= 2.651 af
Outflow = 14.67 cfs @ 12.66 hrs, Volume= 2.635 af, Atten= 18%, Lag= 16.7 min
Primary = 14.67 cfs @ 12.66 hrs, Volume= 2.635 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 100.61' @ 12.66 hrs Surf.Area= 3,845 sf Storage= 7,794 cf

Plug-Flow detention time= 7.6 min calculated for 2.627 af (99% of inflow)
Center-of-Mass det. time= 5.5 min (827.2 - 821.7)

Volume	Invert	Avail.Storage	Storage Description
#1	98.00'	175,248 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
98.00	250	0	0
100.00	2,323	2,573	2,573
105.00	14,820	42,858	45,431
110.00	37,107	129,818	175,248

Device	Routing	Invert	Outlet Devices
#1	Primary	98.10'	**24.0" Round Culvert** L= 70.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 98.10' / 96.70' S= 0.0200 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=14.66 cfs @ 12.66 hrs HW=100.61' (Free Discharge)
└**1=Culvert** (Inlet Controls 14.66 cfs @ 4.67 fps)

Summary for Pond 4P: 12" CULVERT

Inflow Area = 1.400 ac, 10.71% Impervious, Inflow Depth > 1.54" for 10 YEAR event
Inflow = 1.63 cfs @ 12.39 hrs, Volume= 0.180 af
Outflow = 1.63 cfs @ 12.39 hrs, Volume= 0.180 af, Atten= 0%, Lag= 0.0 min
Primary = 1.63 cfs @ 12.39 hrs, Volume= 0.180 af
Secondary = 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= 120.01' @ 12.39 hrs Surf.Area= 55 sf Storage= 3 cf

Plug-Flow detention time= 0.0 min calculated for 0.180 af (100% of inflow)
Center-of-Mass det. time= 0.0 min (823.3 - 823.3)

Volume	Invert	Avail.Storage	Storage Description
#1	120.00'	1,028 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
120.00	50	0	0
121.00	670	360	360
121.50	2,000	668	1,028

Device	Routing	Invert	Outlet Devices
#1	Primary	118.50'	**12.0" Round Culvert** L= 55.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 118.50' / 117.00' S= 0.0273 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf
#2	Secondary	121.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=3.00 cfs @ 12.39 hrs HW=120.01' (Free Discharge)
└**1=Culvert** (Inlet Controls 3.00 cfs @ 3.82 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=120.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 6P: EXISTING FILTER POND - GOOD WILL SITE

Inflow Area = 5.780 ac, 49.65% Impervious, Inflow Depth > 2.39" for 10 YEAR event
Inflow = 13.95 cfs @ 12.01 hrs, Volume= 1.151 af
Outflow = 7.15 cfs @ 12.16 hrs, Volume= 0.927 af, Atten= 49%, Lag= 9.0 min
Primary = 7.15 cfs @ 12.16 hrs, Volume= 0.927 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 115.85' @ 12.16 hrs Surf.Area= 9,680 sf Storage= 17,352 cf

Plug-Flow detention time= 128.3 min calculated for 0.927 af (80% of inflow)
Center-of-Mass det. time= 74.6 min (847.2 - 772.5)

Volume	Invert	Avail.Storage	Storage Description
#1	112.00'	30,350 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
112.00	533	0	0
113.00	1,387	960	960
114.00	4,783	3,085	4,045
115.00	7,372	6,078	10,123
116.00	10,094	8,733	18,856
117.00	12,894	11,494	30,350

Device	Routing	Invert	Outlet Devices
#1	Primary	110.98'	**12.0" Round Culvert** L= 126.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 110.98' / 105.85' S= 0.0407 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf
#2	Device 1	114.50'	**6.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	115.40'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	116.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=7.13 cfs @ 12.16 hrs HW=115.85' (Free Discharge)
└**1=Culvert** (Passes 7.13 cfs of 7.90 cfs potential flow)
└**2=Orifice/Grate** (Orifice Controls 0.99 cfs @ 5.04 fps)
└**3=Orifice/Grate** (Weir Controls 6.14 cfs @ 2.19 fps)
└**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 7P: 24" CULVERT AT PARK DRIVE

Inflow Area = 7.820 ac, 21.10% Impervious, Inflow Depth > 2.38" for 10 YEAR event
Inflow = 15.21 cfs @ 12.31 hrs, Volume= 1.553 af
Outflow = 14.33 cfs @ 12.38 hrs, Volume= 1.549 af, Atten= 6%, Lag= 4.6 min
Primary = 14.33 cfs @ 12.38 hrs, Volume= 1.549 af
Secondary = 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= 96.54' @ 12.38 hrs Surf.Area= 1,179 sf Storage= 2,843 cf

Plug-Flow detention time= 3.3 min calculated for 1.544 af (99% of inflow)
Center-of-Mass det. time= 2.4 min (803.5 - 801.1)

Volume	Invert	Avail.Storage	Storage Description
#1	94.00'	25,133 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
94.00	275	0	0
95.00	527	401	401
100.00	2,643	7,925	8,326
101.00	3,360	3,002	11,328
102.00	4,154	3,757	15,085
104.00	5,894	10,048	25,133

Device	Routing	Invert	Outlet Devices
#1	Primary	94.10'	**24.0" Round Culvert** L= 70.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 94.10' / 92.70' S= 0.0200 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf
#2	Secondary	102.00'	**20.0' long x 20.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=14.28 cfs @ 12.38 hrs HW=96.53' (Free Discharge)
1=Culvert (Inlet Controls 14.28 cfs @ 4.54 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=94.00' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 8P: ECB300

Inflow Area = 1.400 ac, 10.71% Impervious, Inflow Depth > 1.54" for 10 YEAR event
Inflow = 1.63 cfs @ 12.39 hrs, Volume= 0.180 af
Outflow = 1.63 cfs @ 12.39 hrs, Volume= 0.180 af, Atten= 0%, Lag= 0.0 min
Primary = 1.63 cfs @ 12.39 hrs, Volume= 0.180 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 117.09' @ 12.39 hrs
Flood Elev= 120.34'

Device	Routing	Invert	Outlet Devices
#1	Primary	116.40'	**12.0" Round Culvert** L= 164.8' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 116.40' / 115.48' S= 0.0056 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.63 cfs @ 12.39 hrs HW=117.09' (Free Discharge)
1=Culvert (Barrel Controls 1.63 cfs @ 3.97 fps)

Summary for Pond 9P: 4 APARTMENT DRIPLINES

Inflow Area = 0.410 ac,100.00% Impervious, Inflow Depth > 4.05" for 10 YEAR event
Inflow = 2.11 cfs @ 12.00 hrs, Volume= 0.139 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 119.58' @ 20.00 hrs Surf.Area= 3,780 sf Storage= 6,033 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	115.80'	2,954 cf	**3.00'W x 105.00'L x 6.00'H Prismatoid** x 4 7,560 cf Overall - 176 cf Embedded = 7,384 cf x 40.0% Voids
#2	115.80'	176 cf	**6.0" Round Pipe Storage** x 4 Inside #1 L= 224.0' S= 0.0050 '/'
		3,130 cf	x 3.00 = 9,389 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	120.80'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 4.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=115.80' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 9PV: ECB100

Inflow Area = 1.400 ac, 10.71% Impervious, Inflow Depth > 1.54" for 10 YEAR event
Inflow = 1.63 cfs @ 12.39 hrs, Volume= 0.180 af
Outflow = 1.63 cfs @ 12.39 hrs, Volume= 0.180 af, Atten= 0%, Lag= 0.0 min
Primary = 1.63 cfs @ 12.39 hrs, Volume= 0.180 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 116.11' @ 12.39 hrs
Flood Elev= 119.51'

Device	Routing	Invert	Outlet Devices
#1	Primary	115.38'	**12.0" Round Culvert** L= 96.1' RCP, square edge headwall, Ke= 0.500

Inlet / Outlet Invert= 115.38' / 114.90' S= 0.0050 '/' Cc= 0.900
n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.63 cfs @ 12.39 hrs HW=116.11' (Free Discharge)
1=Culvert (Barrel Controls 1.63 cfs @ 3.68 fps)

Summary for Pond 10P: 18" CULVERT STA 12+75

Inflow Area = 2.770 ac, 27.80% Impervious, Inflow Depth > 2.35" for 10 YEAR event
Inflow = 4.12 cfs @ 12.54 hrs, Volume= 0.542 af
Outflow = 4.12 cfs @ 12.56 hrs, Volume= 0.542 af, Atten= 0%, Lag= 1.2 min
Primary = 4.12 cfs @ 12.56 hrs, Volume= 0.542 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 130.14' @ 12.56 hrs Surf.Area= 155 sf Storage= 51 cf

Plug-Flow detention time= 0.1 min calculated for 0.542 af (100% of inflow)
Center-of-Mass det. time= 0.1 min (816.0 - 815.9)

Volume	Invert	Avail.Storage	Storage Description
#1	130.00'	6,127 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
130.00	73	0	0
131.00	672	373	373
132.00	2,609	1,641	2,013
133.00	5,618	4,114	6,127

Device	Routing	Invert	Outlet Devices
#1	Primary	129.00'	**18.0" Round Culvert** L= 70.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 129.00' / 128.30' S= 0.0100 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=4.11 cfs @ 12.56 hrs HW=130.14' (Free Discharge)
1=Culvert (Inlet Controls 4.11 cfs @ 2.86 fps)

Summary for Pond 11P: ECB600

Device	Routing	Invert	Outlet Devices
#1	Primary	116.40'	**12.0" Round Culvert** L= 82.4' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 116.40' / 115.99' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=0.00' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

Summary for Pond 12P: ECB500

Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
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= 115.89' @ 5.00 hrs
Flood Elev= 119.93'

Device	Routing	Invert	Outlet Devices
#1	Primary	115.89'	**12.0" Round Culvert** L= 82.4' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 115.89' / 115.48' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=115.89' (Free Discharge)
↑**1=Culvert** (Controls 0.00 cfs)

Summary for Pond 13P: 12" CULVERT

Inflow Area = 1.160 ac, 12.93% Impervious, Inflow Depth > 1.57" for 10 YEAR event
Inflow = 1.48 cfs @ 12.33 hrs, Volume= 0.152 af
Outflow = 1.38 cfs @ 12.42 hrs, Volume= 0.152 af, Atten= 7%, Lag= 5.3 min
Primary = 1.38 cfs @ 12.42 hrs, Volume= 0.152 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 119.22' @ 12.42 hrs Surf.Area= 585 sf Storage= 296 cf

Plug-Flow detention time= 3.7 min calculated for 0.152 af (100% of inflow)
Center-of-Mass det. time= 2.6 min (821.0 - 818.4)

Volume	Invert	Avail.Storage	Storage Description
#1	118.50'	1,046 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
118.50	50	0	0
119.00	294	86	86
120.00	1,625	960	1,046

Device	Routing	Invert	Outlet Devices
#1	Primary	118.50'	**12.0" Round Culvert** L= 55.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 118.50' / 117.00' S= 0.0273 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.37 cfs @ 12.42 hrs HW=119.22' (Free Discharge)
↑**1=Culvert** (Inlet Controls 1.37 cfs @ 2.28 fps)

Summary for Pond 14P: ECB400

Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
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= 115.38' @ 5.00 hrs
Flood Elev= 119.42'

Device	Routing	Invert	Outlet Devices
#1	Primary	115.38'	**12.0" Round Culvert** L= 39.5' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 115.38' / 115.18' S= 0.0051 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=115.38' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

Summary for Pond 20P: 18" CULVERT STA 18+00

Inflow Area = 4.810 ac, 25.78% Impervious, Inflow Depth > 1.95" for 10 YEAR event
Inflow = 4.44 cfs @ 12.65 hrs, Volume= 0.784 af
Outflow = 4.44 cfs @ 12.66 hrs, Volume= 0.783 af, Atten= 0%, Lag= 0.7 min
Primary = 4.44 cfs @ 12.66 hrs, Volume= 0.783 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 120.70' @ 12.66 hrs Surf.Area= 240 sf Storage= 191 cf

Plug-Flow detention time= 0.8 min calculated for 0.780 af (100% of inflow)
Center-of-Mass det. time= 0.6 min (854.2 - 853.6)

Volume	Invert	Avail.Storage	Storage Description
#1	119.50'	1,365 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
119.50	36	0	0
120.00	140	44	44
121.00	284	212	256
122.00	576	430	686
123.00	781	679	1,365

Device	Routing	Invert	Outlet Devices
#1	Primary	119.50'	**18.0" Round Culvert** L= 81.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 119.50' / 116.50' S= 0.0370 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=4.43 cfs @ 12.66 hrs HW=120.69' (Free Discharge)
1=Culvert (Inlet Controls 4.43 cfs @ 2.94 fps)

Summary for Pond 56P: 2 HOUSE DRIPLINES

Inflow Area = 0.100 ac,100.00% Impervious, Inflow Depth > 4.05" for 10 YEAR event
Inflow = 0.51 cfs @ 12.00 hrs, Volume= 0.034 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 142.82' @ 20.00 hrs Surf.Area= 1,260 sf Storage= 1,471 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	140.00'	1,244 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 2 3,150 cf Overall - 41 cf Embedded = 3,109 cf x 40.0% Voids
#2	140.00'	41 cf	**6.0" Round Pipe Storage** x 2 Inside #1 L= 105.0' S= 0.0050 '/'
		1,285 cf	x 2.00 = 2,569 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	144.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 2.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=140.00' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 57P: 3 HOUSE DRIPLINES

Inflow Area = 0.150 ac,100.00% Impervious, Inflow Depth > 4.05" for 10 YEAR event
Inflow = 0.77 cfs @ 12.00 hrs, Volume= 0.051 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 140.35' @ 20.00 hrs Surf.Area= 2,835 sf Storage= 2,207 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	138.50'	1,865 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 3 4,725 cf Overall - 62 cf Embedded = 4,663 cf x 40.0% Voids
#2	138.50'	62 cf	**6.0" Round Pipe Storage** x 3 Inside #1 L= 105.0' S= 0.0050 '/'
		1,927 cf	x 3.00 = 5,781 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	142.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 3.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60

Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=138.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 58P: 3 HOUSE DRIPLINES

Inflow Area = 0.150 ac,100.00% Impervious, Inflow Depth > 4.05" for 10 YEAR event
Inflow = 0.77 cfs @ 12.00 hrs, Volume= 0.051 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 136.35' @ 20.00 hrs Surf.Area= 2,835 sf Storage= 2,207 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	134.50'	1,865 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 3 4,725 cf Overall - 62 cf Embedded = 4,663 cf x 40.0% Voids
#2	134.50'	62 cf	**6.0" Round Pipe Storage** x 3 Inside #1 L= 105.0' S= 0.0050 '/'
		1,927 cf	x 3.00 = 5,781 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	138.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 3.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=134.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 59P: 4 HOUSE DRIPLINES

Inflow Area = 0.200 ac,100.00% Impervious, Inflow Depth > 4.05" for 10 YEAR event
Inflow = 1.03 cfs @ 12.00 hrs, Volume= 0.068 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 121.86' @ 20.00 hrs Surf.Area= 5,040 sf Storage= 2,943 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	120.50'	2,487 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 4 6,300 cf Overall - 82 cf Embedded = 6,218 cf x 40.0% Voids
#2	120.50'	82 cf	**6.0" Round Pipe Storage** x 4 Inside #1 L= 105.0' S= 0.0050 '/'
		2,569 cf	x 4.00 = 10,278 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	124.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 4.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=120.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 60P: 5 HOUSE DRIPLINES

Inflow Area = 0.250 ac,100.00% Impervious, Inflow Depth > 4.05" for 10 YEAR event
Inflow = 1.29 cfs @ 12.00 hrs, Volume= 0.084 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 121.57' @ 20.00 hrs Surf.Area= 7,875 sf Storage= 3,678 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	120.50'	3,109 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 5 7,875 cf Overall - 103 cf Embedded = 7,772 cf x 40.0% Voids
#2	120.50'	103 cf	**6.0" Round Pipe Storage** x 5 Inside #1 L= 105.0' S= 0.0050 '/'
		3,212 cf	x 5.00 = 16,059 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	124.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 5.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=120.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 61P: 4 HOUSE DRIPLINES

Inflow Area = 0.200 ac,100.00% Impervious, Inflow Depth > 4.05" for 10 YEAR event
Inflow = 1.03 cfs @ 12.00 hrs, Volume= 0.068 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 121.86' @ 20.00 hrs Surf.Area= 5,040 sf Storage= 2,943 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	120.50'	2,487 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 4 6,300 cf Overall - 82 cf Embedded = 6,218 cf x 40.0% Voids
#2	120.50'	82 cf	**6.0" Round Pipe Storage** x 4 Inside #1 L= 105.0' S= 0.0050 '/'
		2,569 cf	x 4.00 = 10,278 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	124.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 4.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=120.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 100P: 24" CULVERT AT TOPSHAM FAIR MALL ROAD

Inflow Area = 46.910 ac, 28.35% Impervious, Inflow Depth > 2.12" for 10 YEAR event
Inflow = 57.95 cfs @ 12.36 hrs, Volume= 8.286 af
Outflow = 29.87 cfs @ 13.00 hrs, Volume= 8.117 af, Atten= 48%, Lag= 38.2 min
Primary = 29.87 cfs @ 13.00 hrs, Volume= 8.117 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 77.00' @ 13.00 hrs Surf.Area= 25,126 sf Storage= 82,883 cf

Plug-Flow detention time= 34.8 min calculated for 8.117 af (98% of inflow)
Center-of-Mass det. time= 27.5 min (851.6 - 824.1)

Volume	Invert	Avail.Storage	Storage Description
#1	72.00'	885,614 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
72.00	3,381	0	0
75.00	15,000	27,572	27,572
80.00	40,318	138,295	165,867
85.00	69,683	275,003	440,869
90.00	108,215	444,745	885,614

Device	Routing	Invert	Outlet Devices
#1	Primary	72.10'	**24.0" Round Culvert** L= 70.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 72.10' / 70.00' S= 0.0300 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=29.87 cfs @ 13.00 hrs HW=77.00' (Free Discharge)
└**1=Culvert** (Inlet Controls 29.87 cfs @ 9.51 fps)

Summary for Pond F1: STA 12+50 LEFT

Inflow Area = 2.580 ac, 37.98% Impervious, Inflow Depth > 2.55" for 10 YEAR event
Inflow = 5.84 cfs @ 12.09 hrs, Volume= 0.549 af
Outflow = 1.83 cfs @ 12.68 hrs, Volume= 0.421 af, Atten= 69%, Lag= 35.0 min
Primary = 1.83 cfs @ 12.68 hrs, Volume= 0.421 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 127.02' @ 12.68 hrs Surf.Area= 4,042 sf Storage= 10,583 cf

Plug-Flow detention time= 127.4 min calculated for 0.421 af (77% of inflow)
Center-of-Mass det. time= 69.2 min (855.7 - 786.5)

Volume	Invert	Avail.Storage	Storage Description
#1	124.00'	24,339 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
124.00	2,986	0	0
125.00	3,322	3,154	3,154
126.00	3,671	3,497	6,651
127.00	4,035	3,853	10,504
128.00	4,412	4,224	14,727
129.00	4,802	4,607	19,334
130.00	5,207	5,005	24,339

Device	Routing	Invert	Outlet Devices
#1	Primary	120.50'	**18.0" Round Culvert** L= 36.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 120.50' / 120.00' S= 0.0139 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf
#2	Device 1	125.50'	**8.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	128.70'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.83 cfs @ 12.68 hrs HW=127.02' (Free Discharge)
└**1=Culvert** (Passes 1.83 cfs of 20.44 cfs potential flow)
├**2=Orifice/Grate** (Orifice Controls 1.83 cfs @ 5.24 fps)
└**3=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond F5: STA 18+25 RIGHT 2.5:1 Slopes

Inflow Area = 1.100 ac, 42.73% Impervious, Inflow Depth > 2.72" for 10 YEAR event
Inflow = 3.47 cfs @ 12.11 hrs, Volume= 0.250 af
Outflow = 0.31 cfs @ 13.22 hrs, Volume= 0.193 af, Atten= 91%, Lag= 66.7 min
Primary = 0.31 cfs @ 13.22 hrs, Volume= 0.193 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 124.00' Surf.Area= 2,612 sf Storage= 3,412 cf
Peak Elev= 125.83' @ 13.22 hrs Surf.Area= 3,714 sf Storage= 9,208 cf (5,796 cf above start)

Plug-Flow detention time= 332.2 min calculated for 0.115 af (46% of inflow)
Center-of-Mass det. time= 144.3 min (926.2 - 781.9)

Volume	Invert	Avail.Storage	Storage Description
#1	122.50'	18,871 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
122.50	1,937	0	0
124.00	2,612	3,412	3,412
126.00	3,815	6,427	9,839
128.00	5,217	9,032	18,871

Device	Routing	Invert	Outlet Devices
#1	Primary	119.00'	**18.0" Round Culvert** L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 119.00' / 116.50' S= 0.0625 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf
#2	Device 1	126.50'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	124.00'	**3.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=0.31 cfs @ 13.22 hrs HW=125.83' (Free Discharge)
└─**1=Culvert** (Passes 0.31 cfs of 20.98 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  └─**3=Orifice/Grate** (Orifice Controls 0.31 cfs @ 6.29 fps)

Summary for Subcatchment 6S: GOODWILL SITE AREA

Runoff = 16.71 cfs @ 12.01 hrs, Volume= 1.057 af, Depth> 4.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
*	2.160	98	ON SITE IMPERVIOUS
*	0.580	74	ON SITE LAWN
*	0.070	74	OFF SITE LAWN
*	0.000	98	ON SITE IMPERVIOUS (SEE 9s) 0.41 AC
	2.810	92	Weighted Average
	0.650		23.13% Pervious Area
	2.160		76.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	46	0.0200	1.18		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 8S: OFF SITE BACK YARD AREA 8

Runoff = 2.17 cfs @ 12.31 hrs, Volume= 0.221 af, Depth> 2.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
	0.280	70	Woods, Good, HSG C
*	0.000	98	OFF SITE IMPERVIOUS (See 58S 0.1)
*	0.180	74	ON SITE LAWN
*	0.550	74	OFF SITE LAWN
	1.010	73	Weighted Average
	1.010		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	50	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
0.5	250	0.0150	8.80	105.56	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.022 Earth, clean & straight
22.0	300	Total			

Summary for Subcatchment 9S: 4 Apartment Roof Areas

Runoff = 2.62 cfs @ 12.00 hrs, Volume= 0.173 af, Depth> 5.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
*	0.410	98	4 Apartment Roofs (75'x60')
	0.410		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 10S: BACK YARDS AND UPPER WATERSHED

Runoff = 5.68 cfs @ 12.53 hrs, Volume= 0.751 af, Depth> 3.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
	0.560	70	Woods, Good, HSG C
*	0.770	98	OFF SITE EXISTING IMPERVIOUS
*	1.440	74	OFF SITE EXISTING LAWNS
	2.770	80	Weighted Average
	2.000		72.20% Pervious Area
	0.770		27.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
37.4	100	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
1.5	50	0.0500	0.56		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
38.9	150	Total			

Summary for Subcatchment 11S:

Runoff = 5.18 cfs @ 12.28 hrs, Volume= 0.512 af, Depth> 2.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
	1.330	70	Woods, Good, HSG C
*	0.420	98	OFF SITE IMPERVIOUS
*	0.370	74	OFF SITE LAWN
	2.120	76	Weighted Average
	1.700		80.19% Pervious Area
	0.420		19.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.6	89	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
0.7	60	0.3000	1.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
20.3	149	Total			

Summary for Subcatchment 14S: ROAD SENT TO POND F1 PHASE 3

Runoff = 5.24 cfs @ 12.08 hrs, Volume= 0.369 af, Depth> 4.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
*	0.650	98	OFF SITE IMPERVIOUS
*	0.430	74	OFF SITE LAWN
	1.080	88	Weighted Average
	0.430		39.81% Pervious Area
	0.650		60.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	37	0.0200	0.14		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.5	100	0.0230	3.08		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	240	0.0050	4.84	5.94	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
5.7	377	Total			

Summary for Subcatchment 15S: BACK YARDS AND UPPER WATERSHED

Runoff = 2.22 cfs @ 12.43 hrs, Volume= 0.259 af, Depth> 2.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
	0.590	70	Woods, Good, HSG C
*	0.120	98	OFF SITE IMPERVIOUS
*	0.440	74	OFF SITE LAWN
	1.150	74	Weighted Average
	1.030		89.57% Pervious Area
	0.120		10.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.3	100	0.0400	0.06		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
1.5	50	0.0500	0.56		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
0.2	129	0.0500	11.00	32.99	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.00' Z= 1.0 '/' Top.W=4.00' n= 0.022 Earth, clean & straight
0.2	600	0.5000	48.39	59.38	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
30.2	879	Total			

Summary for Subcatchment 20S: BACK YARD AND UPPER WATERSHED

Runoff = 5.88 cfs @ 12.64 hrs, Volume= 0.839 af, Depth> 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
	1.270	70	Woods, Good, HSG C
*	0.570	98	OFF SITE IMPERVIOUS (see 59S 0.2)
*	1.670	74	OFF SITE LAWNS
	3.510	76	Weighted Average
	2.940		83.76% Pervious Area
	0.570		16.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
37.4	100	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
8.6	257	0.0400	0.50		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
46.0	357	Total			

Summary for Subcatchment 21S:

Runoff = 2.41 cfs @ 12.46 hrs, Volume= 0.289 af, Depth> 2.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
	1.060	70	Woods, Good, HSG C
*	0.000	98	OFF SITE IMPERVIOUS (see 60s .25)
*	0.360	74	OFF SITE LAWN
	1.420	71	Weighted Average
	1.420		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.3	100	0.0400	0.06		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
3.7	112	0.0400	0.50		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
32.0	212	Total			

Summary for Subcatchment 22S: ROAD SENT TO POND F1 PHASE 1

Runoff = 1.64 cfs @ 12.10 hrs, Volume= 0.119 af, Depth> 4.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
*	0.210	98	OFF SITE IMPERVIOUS
*	0.140	74	OFF SITE LAWN
	0.350	88	Weighted Average
	0.140		40.00% Pervious Area
	0.210		60.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	60	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.5	92	0.0230	3.08		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.1	115	0.2000	30.60	37.56	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
7.1	267	Total			

Summary for Subcatchment 23S: ROAD AND LOT DEVELOPMENT

Runoff = 4.63 cfs @ 12.11 hrs, Volume= 0.338 af, Depth> 3.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
*	0.470	98	OFF SITE IMPERVIOUS
*	0.630	74	OFF SITE LAWN
	1.100	84	Weighted Average
	0.630		57.27% Pervious Area
	0.470		42.73% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	60	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.9	172	0.0230	3.08		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.4	110	0.0050	4.84	5.94	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
7.8	342	Total			

Summary for Subcatchment 41S:

Runoff = 2.32 cfs @ 12.72 hrs, Volume= 0.356 af, Depth> 2.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
	0.500	70	Woods, Good, HSG C
*	0.150	98	OFF SITE IMPERVIOUS (see 61s 0.20)
*	0.890	74	OFF SITE LAWN
	1.540	75	Weighted Average
	1.390		90.26% Pervious Area
	0.150		9.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
49.3	100	0.0100	0.03		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
2.2	50	0.0220	0.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
1.2	312	0.0050	4.40	5.40	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.011 Concrete pipe, straight & clean
52.7	462	Total			

Summary for Subcatchment 50S: OFF SITE BACK YARD AREA

Runoff = 2.42 cfs @ 12.37 hrs, Volume= 0.264 af, Depth> 2.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
	0.570	70	Woods, Good, HSG C
*	0.000	98	OFF SITE IMPERVIOUS (see 57s 0.15)
*	0.180	74	EXISTING ON SITE LAWN
*	0.440	74	OFF SITE LAWN
*	0.060	74	NEW ON SITE LAWN
	1.250	72	Weighted Average
	1.250		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	100	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
4.4	187	0.0800	0.71		**Shallow Concentrated Flow, BC** Forest w/Heavy Litter Kv= 2.5 fps
25.9	287	Total			

Summary for Subcatchment 56S: 2 House Roof Areas

Runoff = 0.64 cfs @ 12.00 hrs, Volume= 0.042 af, Depth> 5.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
*	0.100	98	2 House Roofs
	0.100		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 57S: 3 House Roof Areas

Runoff = 0.96 cfs @ 12.00 hrs, Volume= 0.063 af, Depth> 5.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
*	0.150	98	3 House Roofs
	0.150		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 58S: 3 House Roof Areas

Runoff = 0.96 cfs @ 12.00 hrs, Volume= 0.063 af, Depth> 5.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
*	0.150	98	3 House Roofs
	0.150		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 59S: 4 House Roof Areas

Runoff = 1.28 cfs @ 12.00 hrs, Volume= 0.084 af, Depth> 5.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
*	0.200	98	4 House Roofs
	0.200		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 60S: 5 House Roof Areas

Runoff = 1.60 cfs @ 12.00 hrs, Volume= 0.105 af, Depth> 5.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
*	0.250	98	5 House Roofs
	0.250		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 61S: 4 House Roof Areas

Runoff = 1.28 cfs @ 12.00 hrs, Volume= 0.084 af, Depth> 5.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
*	0.200	98	4 House Roofs
	0.200		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 70S: BACK YARD AREA

Runoff = 0.79 cfs @ 12.20 hrs, Volume= 0.068 af, Depth> 2.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
	0.210	70	Woods, Good, HSG C
*	0.000	98	OFF SITE IMPERVIOUS
*	0.120	74	OFF SITE LAWN
	0.330	71	Weighted Average
	0.330		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	57	0.0800	0.07		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"

Summary for Subcatchment 100:

Runoff = 27.05 cfs @ 12.28 hrs, Volume= 2.672 af, Depth> 2.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
	6.730	70	Woods, Good, HSG C
*	2.170	98	OFF SITE IMPERVIOUS
*	2.170	74	OFF SITE LAWN
	11.070	76	Weighted Average
	8.900		80.40% Pervious Area
	2.170		19.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.6	89	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
0.7	60	0.3000	1.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
20.3	149	Total			

Summary for Subcatchment 200:

Runoff = 18.44 cfs @ 12.31 hrs, Volume= 1.946 af, Depth> 3.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
	1.350	70	Woods, Good, HSG C
*	2.600	98	OFF SITE IMPERVIOUS
*	2.600	74	OFF SITE LAWN
	6.550	83	Weighted Average
	3.950		60.31% Pervious Area
	2.600		39.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	100	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
1.6	131	0.3000	1.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
23.1	231	Total			

Summary for Subcatchment 700:

Runoff = 20.11 cfs @ 12.30 hrs, Volume= 2.075 af, Depth> 3.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.70"

	Area (ac)	CN	Description
	3.980	77	Woods, Good, HSG D
*	1.400	98	OFF SITE IMPERVIOUS
*	1.400	74	OFF SITE LAWN
*	0.150	98	ON SITE IMPERVIOUS
*	0.460	74	ON SITE LAWN
	7.390	81	Weighted Average
	5.840		79.03% Pervious Area
	1.550		20.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	100	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
0.7	60	0.3000	1.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
22.2	160	Total			

Summary for Reach 1R: WETLAND SWALE @ PL

Inflow Area = 5.350 ac, 32.71% Impervious, Inflow Depth > 3.07" for 25 YEAR event
Inflow = 8.04 cfs @ 12.57 hrs, Volume= 1.367 af
Outflow = 7.99 cfs @ 12.67 hrs, Volume= 1.359 af, Atten= 1%, Lag= 6.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.30 fps, Min. Travel Time= 3.6 min
Avg. Velocity = 1.37 fps, Avg. Travel Time= 8.8 min

Peak Storage= 1,747 cf @ 12.61 hrs
Average Depth at Peak Storage= 0.24'
Bank-Full Depth= 2.00' Flow Area= 24.0 sf, Capacity= 282.47 cfs

10.00' x 2.00' deep channel, n= 0.030
Side Slope Z-value= 1.0 '/' Top Width= 14.00'
Length= 720.0' Slope= 0.0319 '/'
Inlet Invert= 121.00', Outlet Invert= 98.00'

Summary for Reach 2R: WETLAND SWALE @ PL

Inflow Area = 8.220 ac, 22.38% Impervious, Inflow Depth > 2.51" for 25 YEAR event
Inflow = 10.48 cfs @ 12.63 hrs, Volume= 1.722 af
Outflow = 10.45 cfs @ 12.69 hrs, Volume= 1.715 af, Atten= 0%, Lag= 3.6 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.56 fps, Min. Travel Time= 2.2 min
Avg. Velocity = 1.84 fps, Avg. Travel Time= 5.4 min

Peak Storage= 1,371 cf @ 12.65 hrs
Average Depth at Peak Storage= 0.42'
Bank-Full Depth= 2.00' Flow Area= 14.0 sf, Capacity= 148.39 cfs

5.00' x 2.00' deep channel, n= 0.030
Side Slope Z-value= 1.0 '/' Top Width= 9.00'
Length= 597.0' Slope= 0.0318 '/'
Inlet Invert= 117.00', Outlet Invert= 98.00'

Summary for Reach 5R: Existing Wetland

Inflow Area = 28.020 ac, 33.83% Impervious, Inflow Depth > 2.91" for 25 YEAR event
Inflow = 37.17 cfs @ 12.62 hrs, Volume= 6.803 af
Outflow = 37.15 cfs @ 12.64 hrs, Volume= 6.787 af, Atten= 0%, Lag= 1.5 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.36 fps, Min. Travel Time= 1.3 min
Avg. Velocity = 2.78 fps, Avg. Travel Time= 3.0 min

Peak Storage= 2,924 cf @ 12.63 hrs
Average Depth at Peak Storage= 0.55'
Bank-Full Depth= 4.00' Flow Area= 56.0 sf, Capacity= 1,068.27 cfs

10.00' x 4.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 1.0 '/' Top Width= 18.00'
Length= 500.0' Slope= 0.0220 '/'
Inlet Invert= 92.00', Outlet Invert= 81.00'

Summary for Reach 7R: EXISTING WETLAND SWALE

Inflow Area = 0.430 ac, 23.26% Impervious, Inflow Depth > 1.88" for 25 YEAR event
Inflow = 0.79 cfs @ 12.21 hrs, Volume= 0.067 af
Outflow = 0.77 cfs @ 12.27 hrs, Volume= 0.067 af, Atten= 2%, Lag= 3.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.88 fps, Min. Travel Time= 1.7 min
Avg. Velocity = 1.03 fps, Avg. Travel Time= 4.9 min

Peak Storage= 81 cf @ 12.23 hrs
Average Depth at Peak Storage= 0.09'
Bank-Full Depth= 1.00' Flow Area= 4.0 sf, Capacity= 47.10 cfs

3.00' x 1.00' deep channel, n= 0.030 Stream, clean & straight
Side Slope Z-value= 1.0 '/' Top Width= 5.00'
Length= 300.0' Slope= 0.0933 '/'
Inlet Invert= 118.00', Outlet Invert= 90.00'

Summary for Reach 50R: Property Line

Inflow Area = 1.400 ac, 10.71% Impervious, Inflow Depth > 2.26" for 25 YEAR event
Inflow = 2.42 cfs @ 12.37 hrs, Volume= 0.264 af
Outflow = 2.41 cfs @ 12.38 hrs, Volume= 0.263 af, Atten= 0%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.32 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 0.88 fps, Avg. Travel Time= 1.1 min

Peak Storage= 62 cf @ 12.37 hrs
Average Depth at Peak Storage= 0.35'
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 11.58 cfs

3.00' x 1.00' deep channel, n= 0.150 Sheet flow over Short Grass
Length= 60.0' Slope= 0.3000 '/'
Inlet Invert= 138.00', Outlet Invert= 120.00'

Summary for Reach 70R: Property Line

Inflow Area = 0.430 ac, 23.26% Impervious, Inflow Depth > 1.88" for 25 YEAR event
Inflow = 0.79 cfs @ 12.20 hrs, Volume= 0.068 af
Outflow = 0.79 cfs @ 12.21 hrs, Volume= 0.067 af, Atten= 1%, Lag= 1.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.65 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 2.37 fps, Avg. Travel Time= 1.4 min

Peak Storage= 28 cf @ 12.20 hrs
Average Depth at Peak Storage= 0.04'
Bank-Full Depth= 1.00' Flow Area= 6.0 sf, Capacity= 204.82 cfs

3.00' x 1.00' deep channel, n= 0.010 PVC, smooth interior
Side Slope Z-value= 3.0 '/' Top Width= 9.00'
Length= 200.0' Slope= 0.0950 '/'
Inlet Invert= 137.00', Outlet Invert= 118.00'

‡

Summary for Reach 80R: Property Line

Inflow Area = 1.160 ac, 12.93% Impervious, Inflow Depth > 2.28" for 25 YEAR event
Inflow = 2.17 cfs @ 12.31 hrs, Volume= 0.221 af
Outflow = 2.16 cfs @ 12.32 hrs, Volume= 0.221 af, Atten= 0%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.06 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 0.76 fps, Avg. Travel Time= 1.3 min

Peak Storage= 63 cf @ 12.32 hrs
Average Depth at Peak Storage= 0.35'
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 10.21 cfs

3.00' x 1.00' deep channel, n= 0.150 Sheet flow over Short Grass
Length= 60.0' Slope= 0.2333 '/'
Inlet Invert= 134.00', Outlet Invert= 120.00'

Summary for Pond 1P: 24" CULVERT AT PARK DRIVE

Inflow Area = 13.250 ac, 38.04% Impervious, Inflow Depth > 2.87" for 25 YEAR event
Inflow = 19.45 cfs @ 12.37 hrs, Volume= 3.168 af
Outflow = 19.28 cfs @ 12.47 hrs, Volume= 3.160 af, Atten= 1%, Lag= 5.7 min
Primary = 19.28 cfs @ 12.47 hrs, Volume= 3.160 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 97.71' @ 12.47 hrs Surf.Area= 989 sf Storage= 2,697 cf

Plug-Flow detention time= 2.8 min calculated for 3.160 af (100% of inflow)
Center-of-Mass det. time= 1.9 min (829.4 - 827.5)

Volume	Invert	Avail.Storage	Storage Description
#1	94.00'	105,871 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
94.00	500	0	0
96.00	708	1,208	1,208
98.00	1,037	1,745	2,953
100.00	3,501	4,538	7,491
105.00	9,197	31,745	39,236
110.00	17,457	66,635	105,871

Device	Routing	Invert	Outlet Devices
#1	Primary	94.10'	**24.0" Round Culvert** L= 70.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 94.10' / 92.70' S= 0.0200 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=19.26 cfs @ 12.47 hrs HW=97.70' (Free Discharge)
1=Culvert (Inlet Controls 19.26 cfs @ 6.13 fps)

Summary for Pond 2P: 24" CULVERT AT PARK DRIVE

Inflow Area = 14.770 ac, 30.06% Impervious, Inflow Depth > 2.97" for 25 YEAR event
Inflow = 24.79 cfs @ 12.38 hrs, Volume= 3.661 af
Outflow = 18.54 cfs @ 12.72 hrs, Volume= 3.643 af, Atten= 25%, Lag= 20.7 min
Primary = 18.54 cfs @ 12.72 hrs, Volume= 3.643 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 101.51' @ 12.72 hrs Surf.Area= 6,101 sf Storage= 15,529 cf

Plug-Flow detention time= 9.0 min calculated for 3.631 af (99% of inflow)
Center-of-Mass det. time= 7.3 min (821.2 - 814.0)

Volume	Invert	Avail.Storage	Storage Description
#1	98.00'	175,248 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
98.00	250	0	0
100.00	2,323	2,573	2,573
105.00	14,820	42,858	45,431
110.00	37,107	129,818	175,248

Device	Routing	Invert	Outlet Devices
#1	Primary	98.10'	**24.0" Round Culvert** L= 70.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 98.10' / 96.70' S= 0.0200 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=18.53 cfs @ 12.72 hrs HW=101.51' (Free Discharge)
└**1=Culvert** (Inlet Controls 18.53 cfs @ 5.90 fps)

Summary for Pond 4P: 12" CULVERT

Inflow Area = 1.400 ac, 10.71% Impervious, Inflow Depth > 2.26" for 25 YEAR event
Inflow = 2.41 cfs @ 12.38 hrs, Volume= 0.263 af
Outflow = 2.41 cfs @ 12.38 hrs, Volume= 0.263 af, Atten= 0%, Lag= 0.0 min
Primary = 2.41 cfs @ 12.38 hrs, Volume= 0.263 af
Secondary = 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= 120.01' @ 12.38 hrs Surf.Area= 57 sf Storage= 4 cf

Plug-Flow detention time= 0.0 min calculated for 0.263 af (100% of inflow)
Center-of-Mass det. time= 0.0 min (814.9 - 814.8)

Volume	Invert	Avail.Storage	Storage Description
#1	120.00'	1,028 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
120.00	50	0	0
121.00	670	360	360
121.50	2,000	668	1,028

Device	Routing	Invert	Outlet Devices
#1	Primary	118.50'	**12.0" Round Culvert** L= 55.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 118.50' / 117.00' S= 0.0273 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf
#2	Secondary	121.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=3.00 cfs @ 12.38 hrs HW=120.01' (Free Discharge)
└**1=Culvert** (Inlet Controls 3.00 cfs @ 3.82 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=120.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 6P: EXISTING FILTER POND - GOOD WILL SITE

Inflow Area = 5.780 ac, 49.65% Impervious, Inflow Depth > 3.20" for 25 YEAR event
Inflow = 18.05 cfs @ 12.01 hrs, Volume= 1.541 af
Outflow = 9.50 cfs @ 12.15 hrs, Volume= 1.297 af, Atten= 47%, Lag= 8.3 min
Primary = 9.50 cfs @ 12.15 hrs, Volume= 1.297 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 116.14' @ 12.15 hrs Surf.Area= 10,491 sf Storage= 20,316 cf

Plug-Flow detention time= 106.6 min calculated for 1.293 af (84% of inflow)
Center-of-Mass det. time= 60.7 min (829.1 - 768.4)

Volume	Invert	Avail.Storage	Storage Description
#1	112.00'	30,350 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
112.00	533	0	0
113.00	1,387	960	960
114.00	4,783	3,085	4,045
115.00	7,372	6,078	10,123
116.00	10,094	8,733	18,856
117.00	12,894	11,494	30,350

Device	Routing	Invert	Outlet Devices
#1	Primary	110.98'	**12.0" Round Culvert** L= 126.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 110.98' / 105.85' S= 0.0407 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf
#2	Device 1	114.50'	**6.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	115.40'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	116.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=9.49 cfs @ 12.15 hrs HW=116.14' (Free Discharge)
├**1=Culvert** (Inlet Controls 8.17 cfs @ 10.40 fps)
│ ├**2=Orifice/Grate** (Passes < 1.12 cfs potential flow)
│ └**3=Orifice/Grate** (Passes < 13.03 cfs potential flow)
└**4=Broad-Crested Rectangular Weir** (Weir Controls 1.33 cfs @ 0.94 fps)

Summary for Pond 7P: 24" CULVERT AT PARK DRIVE

Inflow Area = 7.820 ac, 21.10% Impervious, Inflow Depth > 3.29" for 25 YEAR event
Inflow = 20.85 cfs @ 12.30 hrs, Volume= 2.142 af
Outflow = 19.11 cfs @ 12.40 hrs, Volume= 2.138 af, Atten= 8%, Lag= 5.6 min
Primary = 19.11 cfs @ 12.40 hrs, Volume= 2.138 af
Secondary = 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= 97.66' @ 12.40 hrs Surf.Area= 1,654 sf Storage= 4,620 cf

Plug-Flow detention time= 3.3 min calculated for 2.138 af (100% of inflow)
Center-of-Mass det. time= 2.6 min (796.3 - 793.7)

Volume	Invert	Avail.Storage	Storage Description
#1	94.00'	25,133 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
94.00	275	0	0
95.00	527	401	401
100.00	2,643	7,925	8,326
101.00	3,360	3,002	11,328
102.00	4,154	3,757	15,085
104.00	5,894	10,048	25,133

Device	Routing	Invert	Outlet Devices
#1	Primary	94.10'	**24.0" Round Culvert** L= 70.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 94.10' / 92.70' S= 0.0200 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf
#2	Secondary	102.00'	**20.0' long x 20.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=19.09 cfs @ 12.40 hrs HW=97.66' (Free Discharge)
1=Culvert (Inlet Controls 19.09 cfs @ 6.08 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=94.00' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 8P: ECB300

Inflow Area = 1.400 ac, 10.71% Impervious, Inflow Depth > 2.26" for 25 YEAR event
Inflow = 2.41 cfs @ 12.38 hrs, Volume= 0.263 af
Outflow = 2.41 cfs @ 12.38 hrs, Volume= 0.263 af, Atten= 0%, Lag= 0.0 min
Primary = 2.41 cfs @ 12.38 hrs, Volume= 0.263 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 117.30' @ 12.38 hrs
Flood Elev= 120.34'

Device	Routing	Invert	Outlet Devices
#1	Primary	116.40'	**12.0" Round Culvert** L= 164.8' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 116.40' / 115.48' S= 0.0056 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.40 cfs @ 12.38 hrs HW=117.30' (Free Discharge)
1=Culvert (Inlet Controls 2.40 cfs @ 3.23 fps)

Summary for Pond 9P: 4 APARTMENT DRIPLINES

Inflow Area = 0.410 ac,100.00% Impervious, Inflow Depth > 5.06" for 25 YEAR event
Inflow = 2.62 cfs @ 12.00 hrs, Volume= 0.173 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 120.57' @ 20.00 hrs Surf.Area= 3,780 sf Storage= 7,523 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	115.80'	2,954 cf	**3.00'W x 105.00'L x 6.00'H Prismatoid** x 4 7,560 cf Overall - 176 cf Embedded = 7,384 cf x 40.0% Voids
#2	115.80'	176 cf	**6.0" Round Pipe Storage** x 4 Inside #1 L= 224.0' S= 0.0050 '/'
		3,130 cf	x 3.00 = 9,389 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	120.80'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 4.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=115.80' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 9PV: ECB100

Inflow Area = 1.400 ac, 10.71% Impervious, Inflow Depth > 2.26" for 25 YEAR event
Inflow = 2.41 cfs @ 12.38 hrs, Volume= 0.263 af
Outflow = 2.41 cfs @ 12.38 hrs, Volume= 0.263 af, Atten= 0%, Lag= 0.0 min
Primary = 2.41 cfs @ 12.38 hrs, Volume= 0.263 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 116.34' @ 12.38 hrs
Flood Elev= 119.51'

Device	Routing	Invert	Outlet Devices
#1	Primary	115.38'	**12.0" Round Culvert** L= 96.1' RCP, square edge headwall, Ke= 0.500

Inlet / Outlet Invert= 115.38' / 114.90' S= 0.0050 '/' Cc= 0.900
n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.40 cfs @ 12.38 hrs HW=116.33' (Free Discharge)
1=Culvert (Barrel Controls 2.40 cfs @ 3.99 fps)

Summary for Pond 10P: 18" CULVERT STA 12+75

Inflow Area = 2.770 ac, 27.80% Impervious, Inflow Depth > 3.25" for 25 YEAR event
Inflow = 5.68 cfs @ 12.53 hrs, Volume= 0.751 af
Outflow = 5.66 cfs @ 12.56 hrs, Volume= 0.751 af, Atten= 0%, Lag= 1.7 min
Primary = 5.66 cfs @ 12.56 hrs, Volume= 0.751 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 130.45' @ 12.56 hrs Surf.Area= 343 sf Storage= 168 cf

Plug-Flow detention time= 0.2 min calculated for 0.751 af (100% of inflow)
Center-of-Mass det. time= 0.2 min (808.7 - 808.6)

Volume	Invert	Avail.Storage	Storage Description
#1	130.00'	6,127 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
130.00	73	0	0
131.00	672	373	373
132.00	2,609	1,641	2,013
133.00	5,618	4,114	6,127

Device	Routing	Invert	Outlet Devices
#1	Primary	129.00'	**18.0" Round Culvert** L= 70.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 129.00' / 128.30' S= 0.0100 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=5.66 cfs @ 12.56 hrs HW=130.45' (Free Discharge)
1=Culvert (Inlet Controls 5.66 cfs @ 3.23 fps)

Summary for Pond 11P: ECB600

Device	Routing	Invert	Outlet Devices
#1	Primary	116.40'	**12.0" Round Culvert** L= 82.4' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 116.40' / 115.99' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=0.00' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

Summary for Pond 12P: ECB500

Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
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= 115.89' @ 5.00 hrs
Flood Elev= 119.93'

Device	Routing	Invert	Outlet Devices
#1	Primary	115.89'	**12.0" Round Culvert** L= 82.4' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 115.89' / 115.48' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=115.89' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

Summary for Pond 13P: 12" CULVERT

Inflow Area = 1.160 ac, 12.93% Impervious, Inflow Depth > 2.28" for 25 YEAR event
Inflow = 2.16 cfs @ 12.32 hrs, Volume= 0.221 af
Outflow = 1.99 cfs @ 12.42 hrs, Volume= 0.220 af, Atten= 8%, Lag= 5.7 min
Primary = 1.99 cfs @ 12.42 hrs, Volume= 0.220 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 119.44' @ 12.42 hrs Surf.Area= 874 sf Storage= 504 cf

Plug-Flow detention time= 3.7 min calculated for 0.220 af (100% of inflow)
Center-of-Mass det. time= 2.8 min (812.9 - 810.1)

Volume	Invert	Avail.Storage	Storage Description
#1	118.50'	1,046 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
118.50	50	0	0
119.00	294	86	86
120.00	1,625	960	1,046

Device	Routing	Invert	Outlet Devices
#1	Primary	118.50'	**12.0" Round Culvert** L= 55.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 118.50' / 117.00' S= 0.0273 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.98 cfs @ 12.42 hrs HW=119.43' (Free Discharge)
1=Culvert (Inlet Controls 1.98 cfs @ 2.59 fps)

Summary for Pond 14P: ECB400

Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
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= 115.38' @ 5.00 hrs
Flood Elev= 119.42'

Device	Routing	Invert	Outlet Devices
#1	Primary	115.38'	**12.0" Round Culvert** L= 39.5' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 115.38' / 115.18' S= 0.0051 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=115.38' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

Summary for Pond 20P: 18" CULVERT STA 18+00

Inflow Area = 4.810 ac, 25.78% Impervious, Inflow Depth > 2.69" for 25 YEAR event
Inflow = 6.23 cfs @ 12.64 hrs, Volume= 1.079 af
Outflow = 6.20 cfs @ 12.67 hrs, Volume= 1.078 af, Atten= 0%, Lag= 1.9 min
Primary = 6.20 cfs @ 12.67 hrs, Volume= 1.078 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 121.10' @ 12.67 hrs Surf.Area= 314 sf Storage= 300 cf

Plug-Flow detention time= 0.8 min calculated for 1.075 af (100% of inflow)
Center-of-Mass det. time= 0.6 min (845.1 - 844.5)

Volume	Invert	Avail.Storage	Storage Description
#1	119.50'	1,365 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
119.50	36	0	0
120.00	140	44	44
121.00	284	212	256
122.00	576	430	686
123.00	781	679	1,365

Device	Routing	Invert	Outlet Devices
#1	Primary	119.50'	**18.0" Round Culvert** L= 81.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 119.50' / 116.50' S= 0.0370 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=6.19 cfs @ 12.67 hrs HW=121.10' (Free Discharge)
1=Culvert (Inlet Controls 6.19 cfs @ 3.50 fps)

Summary for Pond 56P: 2 HOUSE DRIPLINES

Inflow Area = 0.100 ac,100.00% Impervious, Inflow Depth > 5.06" for 25 YEAR event
Inflow = 0.64 cfs @ 12.00 hrs, Volume= 0.042 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 143.54' @ 20.00 hrs Surf.Area= 1,260 sf Storage= 1,835 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	140.00'	1,244 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 2 3,150 cf Overall - 41 cf Embedded = 3,109 cf x 40.0% Voids
#2	140.00'	41 cf	**6.0" Round Pipe Storage** x 2 Inside #1 L= 105.0' S= 0.0050 '/'
		1,285 cf	x 2.00 = 2,569 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	144.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 2.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=140.00' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 57P: 3 HOUSE DRIPLINES

Inflow Area = 0.150 ac,100.00% Impervious, Inflow Depth > 5.06" for 25 YEAR event
Inflow = 0.96 cfs @ 12.00 hrs, Volume= 0.063 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 140.83' @ 20.00 hrs Surf.Area= 2,835 sf Storage= 2,752 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	138.50'	1,865 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 3 4,725 cf Overall - 62 cf Embedded = 4,663 cf x 40.0% Voids
#2	138.50'	62 cf	**6.0" Round Pipe Storage** x 3 Inside #1 L= 105.0' S= 0.0050 '/'
		1,927 cf	x 3.00 = 5,781 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	142.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 3.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60

Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=138.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 58P: 3 HOUSE DRIPLINES

Inflow Area = 0.150 ac,100.00% Impervious, Inflow Depth > 5.06" for 25 YEAR event
Inflow = 0.96 cfs @ 12.00 hrs, Volume= 0.063 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 136.83' @ 20.00 hrs Surf.Area= 2,835 sf Storage= 2,752 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	134.50'	1,865 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 3 4,725 cf Overall - 62 cf Embedded = 4,663 cf x 40.0% Voids
#2	134.50'	62 cf	**6.0" Round Pipe Storage** x 3 Inside #1 L= 105.0' S= 0.0050 '/'
		1,927 cf	x 3.00 = 5,781 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	138.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 3.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=134.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 59P: 4 HOUSE DRIPLINES

Inflow Area = 0.200 ac,100.00% Impervious, Inflow Depth > 5.06" for 25 YEAR event
Inflow = 1.28 cfs @ 12.00 hrs, Volume= 0.084 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 122.22' @ 20.00 hrs Surf.Area= 5,040 sf Storage= 3,670 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	120.50'	2,487 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 4 6,300 cf Overall - 82 cf Embedded = 6,218 cf x 40.0% Voids
#2	120.50'	82 cf	**6.0" Round Pipe Storage** x 4 Inside #1 L= 105.0' S= 0.0050 '/'
		2,569 cf	x 4.00 = 10,278 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	124.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 4.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=120.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 60P: 5 HOUSE DRIPLINES

Inflow Area = 0.250 ac,100.00% Impervious, Inflow Depth > 5.06" for 25 YEAR event
Inflow = 1.60 cfs @ 12.00 hrs, Volume= 0.105 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 121.86' @ 20.00 hrs Surf.Area= 7,875 sf Storage= 4,587 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	120.50'	3,109 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 5 7,875 cf Overall - 103 cf Embedded = 7,772 cf x 40.0% Voids
#2	120.50'	103 cf	**6.0" Round Pipe Storage** x 5 Inside #1 L= 105.0' S= 0.0050 '/'
		3,212 cf	x 5.00 = 16,059 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	124.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 5.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=120.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 61P: 4 HOUSE DRIPLINES

Inflow Area = 0.200 ac,100.00% Impervious, Inflow Depth > 5.06" for 25 YEAR event
Inflow = 1.28 cfs @ 12.00 hrs, Volume= 0.084 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 122.22' @ 20.00 hrs Surf.Area= 5,040 sf Storage= 3,670 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	120.50'	2,487 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 4 6,300 cf Overall - 82 cf Embedded = 6,218 cf x 40.0% Voids
#2	120.50'	82 cf	**6.0" Round Pipe Storage** x 4 Inside #1 L= 105.0' S= 0.0050 '/'
		2,569 cf	x 4.00 = 10,278 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	124.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 4.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=120.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 100P: 24" CULVERT AT TOPSHAM FAIR MALL ROAD

Inflow Area = 46.910 ac, 28.35% Impervious, Inflow Depth > 2.97" for 25 YEAR event
Inflow = 77.48 cfs @ 12.36 hrs, Volume= 11.597 af
Outflow = 35.92 cfs @ 13.10 hrs, Volume= 11.405 af, Atten= 54%, Lag= 44.1 min
Primary = 35.92 cfs @ 13.10 hrs, Volume= 11.405 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 78.74' @ 13.10 hrs Surf.Area= 33,938 sf Storage= 131,019 cf

Plug-Flow detention time= 42.2 min calculated for 11.405 af (98% of inflow)
Center-of-Mass det. time= 36.1 min (852.0 - 815.9)

Volume	Invert	Avail.Storage	Storage Description
#1	72.00'	885,614 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
72.00	3,381	0	0
75.00	15,000	27,572	27,572
80.00	40,318	138,295	165,867
85.00	69,683	275,003	440,869
90.00	108,215	444,745	885,614

Device	Routing	Invert	Outlet Devices
#1	Primary	72.10'	**24.0" Round Culvert** L= 70.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 72.10' / 70.00' S= 0.0300 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=35.92 cfs @ 13.10 hrs HW=78.74' (Free Discharge)
└**1=Culvert** (Inlet Controls 35.92 cfs @ 11.44 fps)

Summary for Pond F1: STA 12+50 LEFT

Inflow Area = 2.580 ac, 37.98% Impervious, Inflow Depth > 3.48" for 25 YEAR event
Inflow = 7.74 cfs @ 12.09 hrs, Volume= 0.747 af
Outflow = 2.40 cfs @ 12.70 hrs, Volume= 0.616 af, Atten= 69%, Lag= 36.4 min
Primary = 2.40 cfs @ 12.70 hrs, Volume= 0.616 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 127.88' @ 12.70 hrs Surf.Area= 4,365 sf Storage= 14,179 cf

Plug-Flow detention time= 120.1 min calculated for 0.616 af (82% of inflow)
Center-of-Mass det. time= 71.2 min (851.6 - 780.5)

Volume	Invert	Avail.Storage	Storage Description
#1	124.00'	24,339 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
124.00	2,986	0	0
125.00	3,322	3,154	3,154
126.00	3,671	3,497	6,651
127.00	4,035	3,853	10,504
128.00	4,412	4,224	14,727
129.00	4,802	4,607	19,334
130.00	5,207	5,005	24,339

Device	Routing	Invert	Outlet Devices
#1	Primary	120.50'	**18.0" Round Culvert** L= 36.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 120.50' / 120.00' S= 0.0139 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf
#2	Device 1	125.50'	**8.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	128.70'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.40 cfs @ 12.70 hrs HW=127.88' (Free Discharge)
└**1=Culvert** (Passes 2.40 cfs of 21.90 cfs potential flow)
├**2=Orifice/Grate** (Orifice Controls 2.40 cfs @ 6.88 fps)
└**3=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond F5: STA 18+25 RIGHT 2.5:1 Slopes

Inflow Area = 1.100 ac, 42.73% Impervious, Inflow Depth > 3.68" for 25 YEAR event
Inflow = 4.63 cfs @ 12.11 hrs, Volume= 0.338 af
Outflow = 0.36 cfs @ 13.53 hrs, Volume= 0.239 af, Atten= 92%, Lag= 85.0 min
Primary = 0.36 cfs @ 13.53 hrs, Volume= 0.239 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 124.00' Surf.Area= 2,612 sf Storage= 3,412 cf
Peak Elev= 126.43' @ 13.53 hrs Surf.Area= 4,118 sf Storage= 11,554 cf (8,142 cf above start)

Plug-Flow detention time= 321.0 min calculated for 0.161 af (48% of inflow)
Center-of-Mass det. time= 148.1 min (922.9 - 774.8)

Volume	Invert	Avail.Storage	Storage Description
#1	122.50'	18,871 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
122.50	1,937	0	0
124.00	2,612	3,412	3,412
126.00	3,815	6,427	9,839
128.00	5,217	9,032	18,871

Device	Routing	Invert	Outlet Devices
#1	Primary	119.00'	**18.0" Round Culvert** L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 119.00' / 116.50' S= 0.0625 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf
#2	Device 1	126.50'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	124.00'	**3.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=0.36 cfs @ 13.53 hrs HW=126.43' (Free Discharge)
└─**1=Culvert** (Passes 0.36 cfs of 22.00 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  └─**3=Orifice/Grate** (Orifice Controls 0.36 cfs @ 7.31 fps)

Summary for Subcatchment 6S: GOODWILL SITE AREA

Runoff = 23.46 cfs @ 12.01 hrs, Volume= 1.511 af, Depth> 6.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
*	2.160	98	ON SITE IMPERVIOUS
*	0.580	74	ON SITE LAWN
*	0.070	74	OFF SITE LAWN
*	0.000	98	ON SITE IMPERVIOUS (SEE 9s) 0.41 AC
	2.810	92	Weighted Average
	0.650		23.13% Pervious Area
	2.160		76.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	46	0.0200	1.18		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 8S: OFF SITE BACK YARD AREA 8

Runoff = 3.55 cfs @ 12.30 hrs, Volume= 0.363 af, Depth> 4.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
	0.280	70	Woods, Good, HSG C
*	0.000	98	OFF SITE IMPERVIOUS (See 58S 0.1)
*	0.180	74	ON SITE LAWN
*	0.550	74	OFF SITE LAWN
	1.010	73	Weighted Average
	1.010		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	50	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
0.5	250	0.0150	8.80	105.56	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.022 Earth, clean & straight
22.0	300	Total			

Summary for Subcatchment 9S: 4 Apartment Roof Areas

Runoff = 3.59 cfs @ 12.00 hrs, Volume= 0.238 af, Depth> 6.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
*	0.410	98	4 Apartment Roofs (75'x60')
	0.410		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 10S: BACK YARDS AND UPPER WATERSHED

Runoff = 8.73 cfs @ 12.52 hrs, Volume= 1.170 af, Depth> 5.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
	0.560	70	Woods, Good, HSG C
*	0.770	98	OFF SITE EXISTING IMPERVIOUS
*	1.440	74	OFF SITE EXISTING LAWNS
	2.770	80	Weighted Average
	2.000		72.20% Pervious Area
	0.770		27.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
37.4	100	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
1.5	50	0.0500	0.56		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
38.9	150	Total			

Summary for Subcatchment 11S:

Runoff = 8.23 cfs @ 12.28 hrs, Volume= 0.821 af, Depth> 4.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
	1.330	70	Woods, Good, HSG C
*	0.420	98	OFF SITE IMPERVIOUS
*	0.370	74	OFF SITE LAWN
	2.120	76	Weighted Average
	1.700		80.19% Pervious Area
	0.420		19.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.6	89	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
0.7	60	0.3000	1.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
20.3	149	Total			

Summary for Subcatchment 14S: ROAD SENT TO POND F1 PHASE 3

Runoff = 7.53 cfs @ 12.08 hrs, Volume= 0.542 af, Depth> 6.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
*	0.650	98	OFF SITE IMPERVIOUS
*	0.430	74	OFF SITE LAWN
	1.080	88	Weighted Average
	0.430		39.81% Pervious Area
	0.650		60.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	37	0.0200	0.14		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.5	100	0.0230	3.08		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	240	0.0050	4.84	5.94	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
5.7	377	Total			

Summary for Subcatchment 15S: BACK YARDS AND UPPER WATERSHED

Runoff = 3.60 cfs @ 12.42 hrs, Volume= 0.423 af, Depth> 4.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
	0.590	70	Woods, Good, HSG C
*	0.120	98	OFF SITE IMPERVIOUS
*	0.440	74	OFF SITE LAWN
	1.150	74	Weighted Average
	1.030		89.57% Pervious Area
	0.120		10.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.3	100	0.0400	0.06		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
1.5	50	0.0500	0.56		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
0.2	129	0.0500	11.00	32.99	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.00' Z= 1.0 '/' Top.W=4.00' n= 0.022 Earth, clean & straight
0.2	600	0.5000	48.39	59.38	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
30.2	879	Total			

Summary for Subcatchment 20S: BACK YARD AND UPPER WATERSHED

Runoff = 9.35 cfs @ 12.62 hrs, Volume= 1.348 af, Depth> 4.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
	1.270	70	Woods, Good, HSG C
*	0.570	98	OFF SITE IMPERVIOUS (see 59S 0.2)
*	1.670	74	OFF SITE LAWNS
	3.510	76	Weighted Average
	2.940		83.76% Pervious Area
	0.570		16.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
37.4	100	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
8.6	257	0.0400	0.50		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
46.0	357	Total			

Summary for Subcatchment 21S:

Runoff = 4.02 cfs @ 12.45 hrs, Volume= 0.482 af, Depth> 4.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

Area (ac)	CN	Description
1.060	70	Woods, Good, HSG C
* 0.000	98	OFF SITE IMPERVIOUS (see 60s .25)
* 0.360	74	OFF SITE LAWN
1.420	71	Weighted Average
1.420		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.3	100	0.0400	0.06		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
3.7	112	0.0400	0.50		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
32.0	212	Total			

Summary for Subcatchment 22S: ROAD SENT TO POND F1 PHASE 1

Runoff = 2.36 cfs @ 12.10 hrs, Volume= 0.176 af, Depth> 6.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

Area (ac)	CN	Description
* 0.210	98	OFF SITE IMPERVIOUS
* 0.140	74	OFF SITE LAWN
0.350	88	Weighted Average
0.140		40.00% Pervious Area
0.210		60.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	60	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.5	92	0.0230	3.08		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.1	115	0.2000	30.60	37.56	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
7.1	267	Total			

Summary for Subcatchment 23S: ROAD AND LOT DEVELOPMENT

Runoff = 6.87 cfs @ 12.11 hrs, Volume= 0.511 af, Depth> 5.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
*	0.470	98	OFF SITE IMPERVIOUS
*	0.630	74	OFF SITE LAWN
	1.100	84	Weighted Average
	0.630		57.27% Pervious Area
	0.470		42.73% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	60	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.9	172	0.0230	3.08		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.4	110	0.0050	4.84	5.94	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
7.8	342	Total			

Summary for Subcatchment 41S:

Runoff = 3.73 cfs @ 12.71 hrs, Volume= 0.576 af, Depth> 4.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
	0.500	70	Woods, Good, HSG C
*	0.150	98	OFF SITE IMPERVIOUS (see 61s 0.20)
*	0.890	74	OFF SITE LAWN
	1.540	75	Weighted Average
	1.390		90.26% Pervious Area
	0.150		9.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
49.3	100	0.0100	0.03		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
2.2	50	0.0220	0.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
1.2	312	0.0050	4.40	5.40	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.011 Concrete pipe, straight & clean
52.7	462	Total			

Summary for Subcatchment 50S: OFF SITE BACK YARD AREA

Runoff = 4.00 cfs @ 12.36 hrs, Volume= 0.437 af, Depth> 4.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
	0.570	70	Woods, Good, HSG C
*	0.000	98	OFF SITE IMPERVIOUS (see 57s 0.15)
*	0.180	74	EXISTING ON SITE LAWN
*	0.440	74	OFF SITE LAWN
*	0.060	74	NEW ON SITE LAWN
	1.250	72	Weighted Average
	1.250		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	100	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
4.4	187	0.0800	0.71		**Shallow Concentrated Flow, BC** Forest w/Heavy Litter Kv= 2.5 fps
25.9	287	Total			

Summary for Subcatchment 56S: 2 House Roof Areas

Runoff = 0.88 cfs @ 12.00 hrs, Volume= 0.058 af, Depth> 6.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
*	0.100	98	2 House Roofs
	0.100		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 57S: 3 House Roof Areas

Runoff = 1.31 cfs @ 12.00 hrs, Volume= 0.087 af, Depth> 6.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
*	0.150	98	3 House Roofs
	0.150		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 58S: 3 House Roof Areas

Runoff = 1.31 cfs @ 12.00 hrs, Volume= 0.087 af, Depth> 6.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
*	0.150	98	3 House Roofs
	0.150		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 59S: 4 House Roof Areas

Runoff = 1.75 cfs @ 12.00 hrs, Volume= 0.116 af, Depth> 6.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
*	0.200	98	4 House Roofs
	0.200		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 60S: 5 House Roof Areas

Runoff = 2.19 cfs @ 12.00 hrs, Volume= 0.145 af, Depth> 6.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
*	0.250	98	5 House Roofs
	0.250		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 61S: 4 House Roof Areas

Runoff = 1.75 cfs @ 12.00 hrs, Volume= 0.116 af, Depth> 6.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
*	0.200	98	4 House Roofs
	0.200		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.30		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.20"

Summary for Subcatchment 70S: BACK YARD AREA

Runoff = 1.33 cfs @ 12.19 hrs, Volume= 0.113 af, Depth> 4.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
	0.210	70	Woods, Good, HSG C
*	0.000	98	OFF SITE IMPERVIOUS
*	0.120	74	OFF SITE LAWN
	0.330	71	Weighted Average
	0.330		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	57	0.0800	0.07		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"

Summary for Subcatchment 100:

Runoff = 42.99 cfs @ 12.28 hrs, Volume= 4.286 af, Depth> 4.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
	6.730	70	Woods, Good, HSG C
*	2.170	98	OFF SITE IMPERVIOUS
*	2.170	74	OFF SITE LAWN
	11.070	76	Weighted Average
	8.900		80.40% Pervious Area
	2.170		19.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.6	89	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
0.7	60	0.3000	1.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
20.3	149	Total			

Summary for Subcatchment 200:

Runoff = 27.59 cfs @ 12.31 hrs, Volume= 2.967 af, Depth> 5.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
	1.350	70	Woods, Good, HSG C
*	2.600	98	OFF SITE IMPERVIOUS
*	2.600	74	OFF SITE LAWN
	6.550	83	Weighted Average
	3.950		60.31% Pervious Area
	2.600		39.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	100	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
1.6	131	0.3000	1.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
23.1	231	Total			

Summary for Subcatchment 700:

Runoff = 30.58 cfs @ 12.30 hrs, Volume= 3.207 af, Depth> 5.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.80"

	Area (ac)	CN	Description
	3.980	77	Woods, Good, HSG D
*	1.400	98	OFF SITE IMPERVIOUS
*	1.400	74	OFF SITE LAWN
*	0.150	98	ON SITE IMPERVIOUS
*	0.460	74	ON SITE LAWN
	7.390	81	Weighted Average
	5.840		79.03% Pervious Area
	1.550		20.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	100	0.0800	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.20"
0.7	60	0.3000	1.37		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
22.2	160	Total			

Summary for Reach 1R: WETLAND SWALE @ PL

Inflow Area = 5.350 ac, 32.71% Impervious, Inflow Depth > 4.88" for 100 YEAR event
Inflow = 13.76 cfs @ 12.52 hrs, Volume= 2.175 af
Outflow = 13.69 cfs @ 12.61 hrs, Volume= 2.165 af, Atten= 1%, Lag= 5.2 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.05 fps, Min. Travel Time= 3.0 min
Avg. Velocity = 1.54 fps, Avg. Travel Time= 7.8 min

Peak Storage= 2,433 cf @ 12.56 hrs
Average Depth at Peak Storage= 0.33'
Bank-Full Depth= 2.00' Flow Area= 24.0 sf, Capacity= 282.47 cfs

10.00' x 2.00' deep channel, n= 0.030
Side Slope Z-value= 1.0 '/' Top Width= 14.00'
Length= 720.0' Slope= 0.0319 '/'
Inlet Invert= 121.00', Outlet Invert= 98.00'

Summary for Reach 2R: WETLAND SWALE @ PL

Inflow Area = 8.220 ac, 22.38% Impervious, Inflow Depth > 4.07" for 100 YEAR event
Inflow = 18.02 cfs @ 12.59 hrs, Volume= 2.791 af
Outflow = 17.97 cfs @ 12.64 hrs, Volume= 2.782 af, Atten= 0%, Lag= 3.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.50 fps, Min. Travel Time= 1.8 min
Avg. Velocity = 2.09 fps, Avg. Travel Time= 4.8 min

Peak Storage= 1,953 cf @ 12.61 hrs
Average Depth at Peak Storage= 0.59'
Bank-Full Depth= 2.00' Flow Area= 14.0 sf, Capacity= 148.39 cfs

5.00' x 2.00' deep channel, n= 0.030
Side Slope Z-value= 1.0 '/' Top Width= 9.00'
Length= 597.0' Slope= 0.0318 '/'
Inlet Invert= 117.00', Outlet Invert= 98.00'

Summary for Reach 5R: Existing Wetland

Inflow Area = 28.020 ac, 33.83% Impervious, Inflow Depth > 4.62" for 100 YEAR event
Inflow = 53.22 cfs @ 12.73 hrs, Volume= 10.788 af
Outflow = 53.19 cfs @ 12.76 hrs, Volume= 10.768 af, Atten= 0%, Lag= 1.9 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.25 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 3.12 fps, Avg. Travel Time= 2.7 min

Peak Storage= 3,672 cf @ 12.74 hrs
Average Depth at Peak Storage= 0.69'
Bank-Full Depth= 4.00' Flow Area= 56.0 sf, Capacity= 1,068.27 cfs

10.00' x 4.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 1.0 '/' Top Width= 18.00'
Length= 500.0' Slope= 0.0220 '/'
Inlet Invert= 92.00', Outlet Invert= 81.00'

Summary for Reach 7R: EXISTING WETLAND SWALE

Inflow Area = 0.430 ac, 23.26% Impervious, Inflow Depth > 3.28" for 100 YEAR event
Inflow = 1.32 cfs @ 12.21 hrs, Volume= 0.117 af
Outflow = 1.29 cfs @ 12.25 hrs, Volume= 0.117 af, Atten= 2%, Lag= 2.6 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.49 fps, Min. Travel Time= 1.4 min
Avg. Velocity = 1.21 fps, Avg. Travel Time= 4.1 min

Peak Storage= 112 cf @ 12.22 hrs
Average Depth at Peak Storage= 0.12'
Bank-Full Depth= 1.00' Flow Area= 4.0 sf, Capacity= 47.10 cfs

3.00' x 1.00' deep channel, n= 0.030 Stream, clean & straight
Side Slope Z-value= 1.0 '/' Top Width= 5.00'
Length= 300.0' Slope= 0.0933 '/'
Inlet Invert= 118.00', Outlet Invert= 90.00'

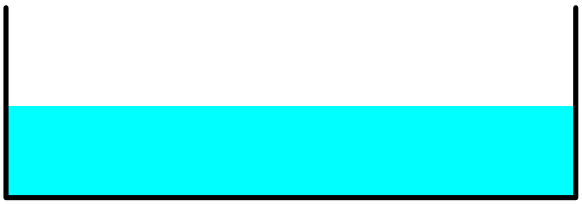
Summary for Reach 50R: Property Line

Inflow Area = 1.400 ac, 10.71% Impervious, Inflow Depth > 3.74" for 100 YEAR event
Inflow = 4.00 cfs @ 12.36 hrs, Volume= 0.437 af
Outflow = 3.99 cfs @ 12.37 hrs, Volume= 0.437 af, Atten= 0%, Lag= 0.6 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.77 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 1.01 fps, Avg. Travel Time= 1.0 min

Peak Storage= 87 cf @ 12.36 hrs
Average Depth at Peak Storage= 0.48'
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 11.58 cfs

3.00' x 1.00' deep channel, n= 0.150 Sheet flow over Short Grass
Length= 60.0' Slope= 0.3000 '/'
Inlet Invert= 138.00', Outlet Invert= 120.00'



Summary for Reach 70R: Property Line

Inflow Area = 0.430 ac, 23.26% Impervious, Inflow Depth > 3.28" for 100 YEAR event
Inflow = 1.33 cfs @ 12.19 hrs, Volume= 0.118 af
Outflow = 1.32 cfs @ 12.21 hrs, Volume= 0.117 af, Atten= 1%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.82 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 2.56 fps, Avg. Travel Time= 1.3 min

Peak Storage= 39 cf @ 12.20 hrs
Average Depth at Peak Storage= 0.06'
Bank-Full Depth= 1.00' Flow Area= 6.0 sf, Capacity= 204.82 cfs

3.00' x 1.00' deep channel, n= 0.010 PVC, smooth interior
Side Slope Z-value= 3.0 '/' Top Width= 9.00'
Length= 200.0' Slope= 0.0950 '/'
Inlet Invert= 137.00', Outlet Invert= 118.00'

‡

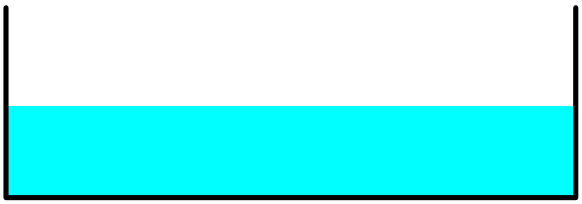
Summary for Reach 80R: Property Line

Inflow Area = 1.160 ac, 12.93% Impervious, Inflow Depth > 3.75" for 100 YEAR event
Inflow = 3.55 cfs @ 12.30 hrs, Volume= 0.363 af
Outflow = 3.53 cfs @ 12.32 hrs, Volume= 0.363 af, Atten= 0%, Lag= 0.7 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.45 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 0.86 fps, Avg. Travel Time= 1.2 min

Peak Storage= 87 cf @ 12.31 hrs
Average Depth at Peak Storage= 0.48'
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 10.21 cfs

3.00' x 1.00' deep channel, n= 0.150 Sheet flow over Short Grass
Length= 60.0' Slope= 0.2333 '/'
Inlet Invert= 134.00', Outlet Invert= 120.00'



Summary for Pond 1P: 24" CULVERT AT PARK DRIVE

Inflow Area = 13.250 ac, 38.04% Impervious, Inflow Depth > 4.59" for 100 YEAR event
Inflow = 30.05 cfs @ 12.48 hrs, Volume= 5.069 af
Outflow = 27.37 cfs @ 12.64 hrs, Volume= 5.060 af, Atten= 9%, Lag= 9.5 min
Primary = 27.37 cfs @ 12.64 hrs, Volume= 5.060 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 100.35' @ 12.64 hrs Surf.Area= 3,904 sf Storage= 9,737 cf

Plug-Flow detention time= 3.6 min calculated for 5.060 af (100% of inflow)
Center-of-Mass det. time= 2.9 min (816.9 - 813.9)

Volume	Invert	Avail.Storage	Storage Description
#1	94.00'	105,871 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
94.00	500	0	0
96.00	708	1,208	1,208
98.00	1,037	1,745	2,953
100.00	3,501	4,538	7,491
105.00	9,197	31,745	39,236
110.00	17,457	66,635	105,871

Device	Routing	Invert	Outlet Devices
#1	Primary	94.10'	**24.0" Round Culvert** L= 70.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 94.10' / 92.70' S= 0.0200 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=27.37 cfs @ 12.64 hrs HW=100.35' (Free Discharge)
1=Culvert (Inlet Controls 27.37 cfs @ 8.71 fps)

Summary for Pond 2P: 24" CULVERT AT PARK DRIVE

Inflow Area = 14.770 ac, 30.06% Impervious, Inflow Depth > 4.67" for 100 YEAR event
Inflow = 40.27 cfs @ 12.38 hrs, Volume= 5.748 af
Outflow = 26.14 cfs @ 12.81 hrs, Volume= 5.728 af, Atten= 35%, Lag= 25.5 min
Primary = 26.14 cfs @ 12.81 hrs, Volume= 5.728 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 103.89' @ 12.81 hrs Surf.Area= 12,048 sf Storage= 35,924 cf

Plug-Flow detention time= 12.9 min calculated for 5.728 af (100% of inflow)
Center-of-Mass det. time= 11.4 min (812.3 - 800.8)

Volume	Invert	Avail.Storage	Storage Description
#1	98.00'	175,248 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
98.00	250	0	0
100.00	2,323	2,573	2,573
105.00	14,820	42,858	45,431
110.00	37,107	129,818	175,248

Device	Routing	Invert	Outlet Devices
#1	Primary	98.10'	**24.0" Round Culvert** L= 70.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 98.10' / 96.70' S= 0.0200 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=26.13 cfs @ 12.81 hrs HW=103.89' (Free Discharge)
└**1=Culvert** (Inlet Controls 26.13 cfs @ 8.32 fps)

Summary for Pond 4P: 12" CULVERT

Inflow Area = 1.400 ac, 10.71% Impervious, Inflow Depth > 3.74" for 100 YEAR event
Inflow = 3.99 cfs @ 12.37 hrs, Volume= 0.437 af
Outflow = 3.82 cfs @ 12.44 hrs, Volume= 0.437 af, Atten= 4%, Lag= 4.4 min
Primary = 3.82 cfs @ 12.44 hrs, Volume= 0.437 af
Secondary = 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= 120.64' @ 12.44 hrs Surf.Area= 447 sf Storage= 230 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.2 min (803.6 - 803.4)

Volume	Invert	Avail.Storage	Storage Description
#1	120.00'	1,028 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
120.00	50	0	0
121.00	670	360	360
121.50	2,000	668	1,028

Device	Routing	Invert	Outlet Devices
#1	Primary	118.50'	**12.0" Round Culvert** L= 55.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 118.50' / 117.00' S= 0.0273 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf
#2	Secondary	121.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=3.82 cfs @ 12.44 hrs HW=120.63' (Free Discharge)
└**1=Culvert** (Inlet Controls 3.82 cfs @ 4.86 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=120.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 6P: EXISTING FILTER POND - GOOD WILL SITE

Inflow Area = 5.780 ac, 49.65% Impervious, Inflow Depth > 4.91" for 100 YEAR event
Inflow = 25.72 cfs @ 12.01 hrs, Volume= 2.367 af
Outflow = 16.57 cfs @ 12.11 hrs, Volume= 2.084 af, Atten= 36%, Lag= 5.8 min
Primary = 16.57 cfs @ 12.11 hrs, Volume= 2.084 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 116.46' @ 12.11 hrs Surf.Area= 11,382 sf Storage= 23,796 cf

Plug-Flow detention time= 81.9 min calculated for 2.076 af (88% of inflow)
Center-of-Mass det. time= 44.0 min (810.8 - 766.8)

Volume	Invert	Avail.Storage	Storage Description
#1	112.00'	30,350 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
112.00	533	0	0
113.00	1,387	960	960
114.00	4,783	3,085	4,045
115.00	7,372	6,078	10,123
116.00	10,094	8,733	18,856
117.00	12,894	11,494	30,350

Device	Routing	Invert	Outlet Devices
#1	Primary	110.98'	**12.0" Round Culvert** L= 126.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 110.98' / 105.85' S= 0.0407 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf
#2	Device 1	114.50'	**6.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	115.40'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	116.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=16.43 cfs @ 12.11 hrs HW=116.46' (Free Discharge)
├**1=Culvert** (Inlet Controls 8.44 cfs @ 10.74 fps)
│ ├**2=Orifice/Grate** (Passes < 1.23 cfs potential flow)
│ └**3=Orifice/Grate** (Passes < 15.54 cfs potential flow)
└**4=Broad-Crested Rectangular Weir** (Weir Controls 8.00 cfs @ 1.75 fps)

Summary for Pond 7P: 24" CULVERT AT PARK DRIVE

Inflow Area = 7.820 ac, 21.10% Impervious, Inflow Depth > 5.10" for 100 YEAR event
Inflow = 31.80 cfs @ 12.30 hrs, Volume= 3.324 af
Outflow = 27.25 cfs @ 12.43 hrs, Volume= 3.320 af, Atten= 14%, Lag= 7.7 min
Primary = 27.25 cfs @ 12.43 hrs, Volume= 3.320 af
Secondary = 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= 100.31' @ 12.43 hrs Surf.Area= 2,864 sf Storage= 9,252 cf

Plug-Flow detention time= 3.6 min calculated for 3.320 af (100% of inflow)
Center-of-Mass det. time= 3.1 min (786.9 - 783.9)

Volume	Invert	Avail.Storage	Storage Description
#1	94.00'	25,133 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
94.00	275	0	0
95.00	527	401	401
100.00	2,643	7,925	8,326
101.00	3,360	3,002	11,328
102.00	4,154	3,757	15,085
104.00	5,894	10,048	25,133

Device	Routing	Invert	Outlet Devices
#1	Primary	94.10'	**24.0" Round Culvert** L= 70.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 94.10' / 92.70' S= 0.0200 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf
#2	Secondary	102.00'	**20.0' long x 20.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=27.21 cfs @ 12.43 hrs HW=100.29' (Free Discharge)
1=Culvert (Inlet Controls 27.21 cfs @ 8.66 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=94.00' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 8P: ECB300

Inflow Area = 1.400 ac, 10.71% Impervious, Inflow Depth > 3.74" for 100 YEAR event
Inflow = 3.82 cfs @ 12.44 hrs, Volume= 0.437 af
Outflow = 3.82 cfs @ 12.44 hrs, Volume= 0.437 af, Atten= 0%, Lag= 0.0 min
Primary = 3.82 cfs @ 12.44 hrs, Volume= 0.437 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 118.16' @ 12.44 hrs
Flood Elev= 120.34'

Device	Routing	Invert	Outlet Devices
#1	Primary	116.40'	**12.0" Round Culvert** L= 164.8' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 116.40' / 115.48' S= 0.0056 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.82 cfs @ 12.44 hrs HW=118.15' (Free Discharge)
└**1=Culvert** (Barrel Controls 3.82 cfs @ 4.86 fps)

Summary for Pond 9P: 4 APARTMENT DRIPLINES

Inflow Area = 0.410 ac,100.00% Impervious, Inflow Depth > 6.96" for 100 YEAR event
Inflow = 3.59 cfs @ 12.00 hrs, Volume= 0.238 af
Outflow = 0.25 cfs @ 13.01 hrs, Volume= 0.057 af, Atten= 93%, Lag= 60.2 min
Primary = 0.25 cfs @ 13.01 hrs, Volume= 0.057 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 120.81' @ 13.00 hrs Surf.Area= 3,780 sf Storage= 7,895 cf

Plug-Flow detention time= 374.6 min calculated for 0.057 af (24% of inflow)
Center-of-Mass det. time= 194.9 min (923.8 - 728.9)

Volume	Invert	Avail.Storage	Storage Description
#1	115.80'	2,954 cf	**3.00'W x 105.00'L x 6.00'H Prismatoid** x 4 7,560 cf Overall - 176 cf Embedded = 7,384 cf x 40.0% Voids
#2	115.80'	176 cf	**6.0" Round Pipe Storage** x 4 Inside #1 L= 224.0' S= 0.0050 '/'
		3,130 cf	x 3.00 = 9,389 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	120.80'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 4.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.13 cfs @ 13.01 hrs HW=120.81' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 0.13 cfs @ 0.28 fps)

Summary for Pond 9PV: ECB100

Inflow Area = 1.400 ac, 10.71% Impervious, Inflow Depth > 3.74" for 100 YEAR event
Inflow = 3.82 cfs @ 12.44 hrs, Volume= 0.437 af
Outflow = 3.82 cfs @ 12.44 hrs, Volume= 0.437 af, Atten= 0%, Lag= 0.0 min
Primary = 3.82 cfs @ 12.44 hrs, Volume= 0.437 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 117.11' @ 12.44 hrs
Flood Elev= 119.51'

Device	Routing	Invert	Outlet Devices
#1	Primary	115.38'	**12.0" Round Culvert** L= 96.1' RCP, square edge headwall, Ke= 0.500

Inlet / Outlet Invert= 115.38' / 114.90' S= 0.0050 '/' Cc= 0.900
n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.82 cfs @ 12.44 hrs HW=117.10' (Free Discharge)
1=Culvert (Barrel Controls 3.82 cfs @ 4.86 fps)

Summary for Pond 10P: 18" CULVERT STA 12+75

Inflow Area = 2.770 ac, 27.80% Impervious, Inflow Depth > 5.07" for 100 YEAR event
Inflow = 8.73 cfs @ 12.52 hrs, Volume= 1.170 af
Outflow = 8.30 cfs @ 12.63 hrs, Volume= 1.170 af, Atten= 5%, Lag= 6.5 min
Primary = 8.30 cfs @ 12.63 hrs, Volume= 1.170 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 131.28' @ 12.63 hrs Surf.Area= 1,210 sf Storage= 828 cf

Plug-Flow detention time= 0.5 min calculated for 1.166 af (100% of inflow)
Center-of-Mass det. time= 0.4 min (798.8 - 798.3)

Volume	Invert	Avail.Storage	Storage Description
#1	130.00'	6,127 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
130.00	73	0	0
131.00	672	373	373
132.00	2,609	1,641	2,013
133.00	5,618	4,114	6,127

Device	Routing	Invert	Outlet Devices
#1	Primary	129.00'	**18.0" Round Culvert** L= 70.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 129.00' / 128.30' S= 0.0100 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=8.29 cfs @ 12.63 hrs HW=131.27' (Free Discharge)
1=Culvert (Inlet Controls 8.29 cfs @ 4.69 fps)

Summary for Pond 11P: ECB600

Device	Routing	Invert	Outlet Devices
#1	Primary	116.40'	**12.0" Round Culvert** L= 82.4' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 116.40' / 115.99' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=0.00' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

Summary for Pond 12P: ECB500

Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
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= 115.89' @ 5.00 hrs
Flood Elev= 119.93'

Device	Routing	Invert	Outlet Devices
#1	Primary	115.89'	**12.0" Round Culvert** L= 82.4' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 115.89' / 115.48' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=115.89' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

Summary for Pond 13P: 12" CULVERT

Inflow Area = 1.160 ac, 12.93% Impervious, Inflow Depth > 3.75" for 100 YEAR event
Inflow = 3.53 cfs @ 12.32 hrs, Volume= 0.363 af
Outflow = 3.30 cfs @ 12.40 hrs, Volume= 0.362 af, Atten= 7%, Lag= 5.2 min
Primary = 3.30 cfs @ 12.40 hrs, Volume= 0.362 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 120.22' @ 12.40 hrs Surf.Area= 1,625 sf Storage= 1,046 cf

Plug-Flow detention time= 4.0 min calculated for 0.362 af (100% of inflow)
Center-of-Mass det. time= 3.3 min (802.1 - 798.7)

Volume	Invert	Avail.Storage	Storage Description
#1	118.50'	1,046 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
118.50	50	0	0
119.00	294	86	86
120.00	1,625	960	1,046

Device	Routing	Invert	Outlet Devices
#1	Primary	118.50'	**12.0" Round Culvert** L= 55.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 118.50' / 117.00' S= 0.0273 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.28 cfs @ 12.40 hrs HW=120.21' (Free Discharge)
1=Culvert (Inlet Controls 3.28 cfs @ 4.18 fps)

Summary for Pond 14P: ECB400

Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
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= 115.38' @ 5.00 hrs
Flood Elev= 119.42'

Device	Routing	Invert	Outlet Devices
#1	Primary	115.38'	**12.0" Round Culvert** L= 39.5' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 115.38' / 115.18' S= 0.0051 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=115.38' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

Summary for Pond 20P: 18" CULVERT STA 18+00

Inflow Area = 4.810 ac, 25.78% Impervious, Inflow Depth > 4.33" for 100 YEAR event
Inflow = 11.16 cfs @ 12.54 hrs, Volume= 1.734 af
Outflow = 10.92 cfs @ 12.63 hrs, Volume= 1.733 af, Atten= 2%, Lag= 5.4 min
Primary = 10.92 cfs @ 12.63 hrs, Volume= 1.733 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 122.89' @ 12.63 hrs Surf.Area= 759 sf Storage= 1,292 cf

Plug-Flow detention time= 1.1 min calculated for 1.733 af (100% of inflow)
Center-of-Mass det. time= 0.9 min (823.6 - 822.7)

Volume	Invert	Avail.Storage	Storage Description
#1	119.50'	1,365 cf	**Custom Stage Data (Prismatic)**Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
119.50	36	0	0
120.00	140	44	44
121.00	284	212	256
122.00	576	430	686
123.00	781	679	1,365

Device	Routing	Invert	Outlet Devices
#1	Primary	119.50'	**18.0" Round Culvert** L= 81.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 119.50' / 116.50' S= 0.0370 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=10.90 cfs @ 12.63 hrs HW=122.88' (Free Discharge)
1=Culvert (Inlet Controls 10.90 cfs @ 6.17 fps)

Summary for Pond 56P: 2 HOUSE DRIPLINES

Inflow Area = 0.100 ac,100.00% Impervious, Inflow Depth > 6.96" for 100 YEAR event
Inflow = 0.88 cfs @ 12.00 hrs, Volume= 0.058 af
Outflow = 0.03 cfs @ 15.96 hrs, Volume= 0.005 af, Atten= 97%, Lag= 237.6 min
Primary = 0.03 cfs @ 15.96 hrs, Volume= 0.005 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 144.50' @ 15.96 hrs Surf.Area= 1,260 sf Storage= 2,319 cf

Plug-Flow detention time= 634.6 min calculated for 0.005 af (8% of inflow)
Center-of-Mass det. time= 333.1 min (1,062.0 - 728.9)

Volume	Invert	Avail.Storage	Storage Description
#1	140.00'	1,244 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 2 3,150 cf Overall - 41 cf Embedded = 3,109 cf x 40.0% Voids
#2	140.00'	41 cf	**6.0" Round Pipe Storage** x 2 Inside #1 L= 105.0' S= 0.0050 '/'
		1,285 cf	x 2.00 = 2,569 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	144.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 2.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.01 cfs @ 15.96 hrs HW=144.50' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 0.01 cfs @ 0.12 fps)

Summary for Pond 57P: 3 HOUSE DRIPLINES

Inflow Area = 0.150 ac,100.00% Impervious, Inflow Depth > 6.96" for 100 YEAR event
Inflow = 1.31 cfs @ 12.00 hrs, Volume= 0.087 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 141.74' @ 20.00 hrs Surf.Area= 2,835 sf Storage= 3,790 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	138.50'	1,865 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 3 4,725 cf Overall - 62 cf Embedded = 4,663 cf x 40.0% Voids
#2	138.50'	62 cf	**6.0" Round Pipe Storage** x 3 Inside #1 L= 105.0' S= 0.0050 '/'
		1,927 cf	x 3.00 = 5,781 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	142.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 3.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60

Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=138.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 58P: 3 HOUSE DRIPLINES

Inflow Area = 0.150 ac,100.00% Impervious, Inflow Depth > 6.96" for 100 YEAR event
Inflow = 1.31 cfs @ 12.00 hrs, Volume= 0.087 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 137.74' @ 20.00 hrs Surf.Area= 2,835 sf Storage= 3,790 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	134.50'	1,865 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 3 4,725 cf Overall - 62 cf Embedded = 4,663 cf x 40.0% Voids
#2	134.50'	62 cf	**6.0" Round Pipe Storage** x 3 Inside #1 L= 105.0' S= 0.0050 '/'
		1,927 cf	x 3.00 = 5,781 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	138.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 3.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=134.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 59P: 4 HOUSE DRIPLINES

Inflow Area = 0.200 ac,100.00% Impervious, Inflow Depth > 6.96" for 100 YEAR event
Inflow = 1.75 cfs @ 12.00 hrs, Volume= 0.116 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 122.91' @ 20.00 hrs Surf.Area= 5,040 sf Storage= 5,054 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	120.50'	2,487 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 4 6,300 cf Overall - 82 cf Embedded = 6,218 cf x 40.0% Voids
#2	120.50'	82 cf	**6.0" Round Pipe Storage** x 4 Inside #1 L= 105.0' S= 0.0050 '/'
		2,569 cf	x 4.00 = 10,278 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	124.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 4.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=120.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 60P: 5 HOUSE DRIPLINES

Inflow Area = 0.250 ac,100.00% Impervious, Inflow Depth > 6.96" for 100 YEAR event
Inflow = 2.19 cfs @ 12.00 hrs, Volume= 0.145 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 122.41' @ 20.00 hrs Surf.Area= 7,875 sf Storage= 6,317 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	120.50'	3,109 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 5 7,875 cf Overall - 103 cf Embedded = 7,772 cf x 40.0% Voids
#2	120.50'	103 cf	**6.0" Round Pipe Storage** x 5 Inside #1 L= 105.0' S= 0.0050 '/'
		3,212 cf	x 5.00 = 16,059 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	124.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 5.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=120.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 61P: 4 HOUSE DRIPLINES

Inflow Area = 0.200 ac,100.00% Impervious, Inflow Depth > 6.96" for 100 YEAR event
Inflow = 1.75 cfs @ 12.00 hrs, Volume= 0.116 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
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= 122.91' @ 20.00 hrs Surf.Area= 5,040 sf Storage= 5,054 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	120.50'	2,487 cf	**3.00'W x 105.00'L x 5.00'H Prismatoid** x 4 6,300 cf Overall - 82 cf Embedded = 6,218 cf x 40.0% Voids
#2	120.50'	82 cf	**6.0" Round Pipe Storage** x 4 Inside #1 L= 105.0' S= 0.0050 '/'
		2,569 cf	x 4.00 = 10,278 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	124.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir X 4.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=120.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 100P: 24" CULVERT AT TOPSHAM FAIR MALL ROAD

Inflow Area = 46.910 ac, 28.35% Impervious, Inflow Depth > 4.70" for 100 YEAR event
Inflow = 111.81 cfs @ 12.35 hrs, Volume= 18.374 af
Outflow = 43.57 cfs @ 13.33 hrs, Volume= 18.149 af, Atten= 61%, Lag= 58.9 min
Primary = 43.57 cfs @ 13.33 hrs, Volume= 18.149 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 81.40' @ 13.33 hrs Surf.Area= 48,518 sf Storage= 242,658 cf

Plug-Flow detention time= 59.4 min calculated for 18.149 af (99% of inflow)
Center-of-Mass det. time= 54.8 min (860.2 - 805.4)

Volume	Invert	Avail.Storage	Storage Description
#1	72.00'	885,614 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
72.00	3,381	0	0
75.00	15,000	27,572	27,572
80.00	40,318	138,295	165,867
85.00	69,683	275,003	440,869
90.00	108,215	444,745	885,614

Device	Routing	Invert	Outlet Devices
#1	Primary	72.10'	**24.0" Round Culvert** L= 70.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 72.10' / 70.00' S= 0.0300 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=43.57 cfs @ 13.33 hrs HW=81.40' (Free Discharge)
└**1=Culvert** (Inlet Controls 43.57 cfs @ 13.87 fps)

Summary for Pond F1: STA 12+50 LEFT

Inflow Area = 2.580 ac, 37.98% Impervious, Inflow Depth > 5.30" for 100 YEAR event
Inflow = 11.40 cfs @ 12.09 hrs, Volume= 1.140 af
Outflow = 5.75 cfs @ 12.49 hrs, Volume= 1.005 af, Atten= 50%, Lag= 24.0 min
Primary = 5.75 cfs @ 12.49 hrs, Volume= 1.005 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 128.96' @ 12.49 hrs Surf.Area= 4,787 sf Storage= 19,154 cf

Plug-Flow detention time= 108.0 min calculated for 1.005 af (88% of inflow)
Center-of-Mass det. time= 70.7 min (843.2 - 772.5)

Volume	Invert	Avail.Storage	Storage Description
#1	124.00'	24,339 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
124.00	2,986	0	0
125.00	3,322	3,154	3,154
126.00	3,671	3,497	6,651
127.00	4,035	3,853	10,504
128.00	4,412	4,224	14,727
129.00	4,802	4,607	19,334
130.00	5,207	5,005	24,339

Device	Routing	Invert	Outlet Devices
#1	Primary	120.50'	**18.0" Round Culvert** L= 36.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 120.50' / 120.00' S= 0.0139 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf
#2	Device 1	125.50'	**8.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	128.70'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=5.72 cfs @ 12.49 hrs HW=128.96' (Free Discharge)
└**1=Culvert** (Passes 5.72 cfs of 23.63 cfs potential flow)
├**2=Orifice/Grate** (Orifice Controls 2.97 cfs @ 8.52 fps)
└**3=Orifice/Grate** (Weir Controls 2.75 cfs @ 1.67 fps)

Summary for Pond F5: STA 18+25 RIGHT 2.5:1 Slopes

Inflow Area = 1.100 ac, 42.73% Impervious, Inflow Depth > 5.57" for 100 YEAR event
Inflow = 6.87 cfs @ 12.11 hrs, Volume= 0.511 af
Outflow = 3.05 cfs @ 12.34 hrs, Volume= 0.386 af, Atten= 56%, Lag= 13.8 min
Primary = 3.05 cfs @ 12.34 hrs, Volume= 0.386 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 124.00' Surf.Area= 2,612 sf Storage= 3,412 cf
Peak Elev= 126.76' @ 12.34 hrs Surf.Area= 4,345 sf Storage= 12,921 cf (9,509 cf above start)

Plug-Flow detention time= 218.6 min calculated for 0.308 af (60% of inflow)
Center-of-Mass det. time= 96.9 min (861.8 - 764.9)

Volume	Invert	Avail.Storage	Storage Description
#1	122.50'	18,871 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
122.50	1,937	0	0
124.00	2,612	3,412	3,412
126.00	3,815	6,427	9,839
128.00	5,217	9,032	18,871

Device	Routing	Invert	Outlet Devices
#1	Primary	119.00'	**18.0" Round Culvert** L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 119.00' / 116.50' S= 0.0625 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf
#2	Device 1	126.50'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	124.00'	**3.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=3.02 cfs @ 12.34 hrs HW=126.75' (Free Discharge)
└**1=Culvert** (Passes 3.02 cfs of 22.52 cfs potential flow)
  ├**2=Orifice/Grate** (Weir Controls 2.63 cfs @ 1.65 fps)
  └**3=Orifice/Grate** (Orifice Controls 0.38 cfs @ 7.81 fps)

APPENDIX H. 24-hour duration rainfalls for various return periods

COUNTY	Storm Type	1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
ANDROSCOGGIN	III	2.5	3.0	3.7	4.3	5.4	6.4	7.6	11.1
AROOSTOOK C (Presque Isle Area)	II	1.9	2.3	2.8	3.2	3.9	4.6	5.3	7.6
AROOSTOOK N (Fort Kent Area)	II	1.9	2.2	2.7	3.1	3.7	4.3	5.0	7.0
AROOSTOOK S (Houlton Area)	II	2.1	2.5	3.0	3.4	4.1	4.7	5.4	7.5
CUMBERLAND NW (Bridgton Area)	III	2.5	3.0	3.7	4.3	5.4	6.3	7.5	10.9
CUMBERLAND SE (N Windham Area)	III	2.6	3.1	3.9	4.6	5.8	6.9	8.1	12.1
FRANKLIN	II	2.0	2.4	2.9	3.4	4.2	4.9	5.7	8.2
HANCOCK	III	2.5	2.9	3.6	4.2	5.2	6.1	7.2	10.5
KENNEBEC	III	2.4	2.8	3.5	4.2	5.2	6.1	7.2	10.6
KNOX	III	2.6	3.2	3.9	4.6	5.7	6.7	7.9	11.5
LINCOLN	III	2.5	3.1	3.8	4.5	5.5	6.5	7.6	11.1
OXFORD E (Rumford Area)	II[1]	2.3	2.7	3.3	3.9	4.8	5.7	6.7	9.7
OXFORD W (Gilead Area)	II	2.2	2.7	3.4	4.0	4.9	5.8	6.9	10.1
PENOBSCOT N (Millinocket Area)	II	2.2	2.6	3.2	3.8	4.7	5.6	6.5	9.5
PENOBSCOT S (Hudson Area)	II	2.3	2.7	3.4	3.9	4.9	5.7	6.7	9.7
PISCATAQUIS N (Chesuncook Area)	II	2.0	2.4	2.9	3.4	4.2	5.0	5.8	8.5
PISCATAQUIS S (Monson Area)	II	2.2	2.7	3.3	3.9	4.8	5.7	6.8	10.0
SAGADAHOC	III	2.6	3.2	3.9	4.6	5.7	6.7	7.8	11.4
SOMERSET N (Pittston Farm Area)	II	2.0	2.3	2.8	3.3	4.0	4.7	5.4	7.8
SOMERSET S (Solon Area)	II	2.3	2.7	3.4	3.9	4.9	5.7	6.7	9.8
WALDO	III	2.4	2.9	3.6	4.2	5.2	6.1	7.2	10.5
WASHINGTON	III	2.5	2.8	3.4	3.9	4.8	5.5	6.4	9.0
YORK	III	2.6	3.3	4.1	4.9	6.2	7.3	8.7	13.2

1 Use Type III rainfall for the towns of Brownfield, Buckfield, Denmark, Hartford, Hebron, Hiram, Oxford, and Porter.

Source: Data extracted by the Maine Department of Environmental Protection from the Northeast Regional Climate Center website (http://precip.eas.cornell.edu), Extreme Precipitation Tables. Data from this website was obtained from the National Oceanic and Atmospheric Administration's Regional Climate Center Program.
June 2014

Table 5-1 - Hydrologic Soil Groups for Maine Soils

This table provides information on the hydrologic soil series recognized in Maine and is current as of January 1, 2016. It is understood that these ratings may, and some probably will, change over time and with better data. The USDA - NRCS (Natural Resources Conservation Service) should be contacted for more accurate information.
http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm

HSG A	HSG A/D	HSG B	HSG B/D	HSG C	HSG C/D	HSG D
Adams	Au Gres	Agawam	Atherton	Becket	Boothbay #	Abram
Colton	Bucksport	Allagash	Belgrade	Chesuncook *	Buxton #	Aurelie
Croghan	Chocorua	Bangor	Charles	Conant	Chesuncook **	Bemis
Danforth	Kinsman	Berkshire	Cornish	Dixfield *	Dixfield **	Benson
Deerfield	Markey	Caribou	Elmwood +	Elliottsville	Dixmont	Biddeford
Eldridge	Moosabec	Charlton	Fredon	Howland *	Easton	Brayton
Enchanted	Naskeag	Fryeburg	Halsey	Linneus	Howland **	Burnham
Hermon	Naumburg	Hadley	Limerick	Mapleton	Lamoine	Cabot
Hinckley	Rifle	Hartland	Lovewell +	Marlow	Leicester	Canaan
Mahoosuc	Scarboro	Nicholville ^	Medomak	Melrose	Perham **	Canandaigua
Masardis	Searsport	Machias ^	Ninigret +	Paxton	Pushaw	Colonel
Merrimac	Sebago	Madawaska ^	Podunk +	Penquis	Ragmuff **	Creasey
Skowhegan	Togus	Monadnock	Raynham	Perham *	Peru **	Daigle
Stetson	Vassalboro	Ondawa	Red Hook	Peru *	Skerry *	Gouldsboro
Sunday	Walpole	Salmon	Roundabout	Plaisted	Surplus **	Hogback
Udipsamments	Waskish	Sheepscot ^	Rumney	Ragmuff *	Washburn	Hollis
Windsor			Saco	Rawsonville	Woodbridge	Knob Lock
			Scio +	Sisk		Lyman
			Sutton +	Skerry **		Monarda
			Swanton	Suffield		Monson
			Whately	Surplus *		Peacham
			Winooski +	Tunbridge		Pillsbury
			Wonsqueak	Winnecook		Ricker
						Ridgebury
	Soils (with *) are HSG C or C/D depending on depth to Cd (C horizon with a dense unconsolidated material) and depth to water table - (with **) most commonly HSG C/D					Saddleback
						Scantic
						Saugatuck
	Soils (with +) are HSG B or B/D if aquic-redox is within 60cm					Schoodic
						Swanville
	Soils (with ^) are HSG B if water table is below 60cm and Ksat of lower horizon greater than 10					Telos
						Thorndike
	Soils (with #) are HSG C - or C/D if aquic-redox is within 60cm					Westbury
						Whitman