EXHIBIT K:

Stormwater Management Report

Nutmeg Solar Project

Enfield, Connecticut

Exhibit K
Stormwater Management Report

The items listed below are included in Exhibit K.

1 Nutmeg Solar Project Stormwater Management Report

2 Nutmeg Solar Project Construction Sequencing Figures

POST CONSTRUCTION STORMWATER MANAGEMENT REPORT

Tighe&Bond

Nutmeg Solar Project
Enfield, CT

Stormwater Management Report

Prepared For:

Nutmeg Solar, LLC

September 2018

Section 1 Project Introduction

Section 2 Project Description

Section 3 Regulatory Compliance

Appendices

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Section 1
Project Introduction

Tighe & Bond has prepared the following Stormwater Management Report to support the proposed installation of a 19.6 megawatt (MW) alternating current (AC) ground-mounted solar photovoltaic (PV) facility to be constructed in the Town of Enfield, Connecticut (Project). The Project Site is generally bounded by Bailey Road to the north, Broad Brook Road to the west, forested areas to the south and the Eversource Scitico to Franconia 115 kV transmission line to the east. Combined, the Project Area/Site parcels under lease or purchase option agreements encompass approximately 162 acres. As proposed, the Development Area/ limit of work of the proposed project will occupy approximately 131 acres of the 162-acre Project Area/ Site.

The following Stormwater Management Report details how the project will impact local hydrology and to document compliance with local, state, and federal stormwater management regulations. Note that this Report focuses primarily on post-construction stormwater management; the Applicant has submitted a Stormwater Permit application to the CT Department of Energy and Environmental Protection (DEEP) to demonstrate compliance with the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities ("Construction Stormwater General Permit").

Section 2
Project Description

2.1 Existing Conditions

The Project Site consists of 9 parcels located in the southeast portion of the Town of Enfield, in Hartford County, Connecticut. A Site Locus Map, Figure 1, is provided in Appendix A.

The site occurs in a mixed rural and agricultural area within Enfield, Connecticut, with residential homes occurring generally north and west of the Project Site. A locally-owned orchard is located to the northeast, and an active concrete batch plant is located immediately southeast of the Project Site. A locally-owned orchard is located to the northeast, and an active concrete batch plant is located immediately southeast of the Project Site.

The surrounding land uses include residential development, agricultural production, and industrial use, including an inactive railroad line and the Enfield Transit Mix batch plant located on the west side of Broad Brook Raod. The Scantic River is located north of the Project Site across Bailey Road.

The western portion of the Project Site consists of predominantly flat areas in current use as agricultural fields, with accompanying outbuildings (i.e. tobacco barns). The area has been actively used for agricultural purposes, and has been used most recently for the cultivation of tobacco and gourd (i.e. pumpkin and squash) crops.

The eastern portion of the Project Site primarily consists of mixed second-growth forest. There is an existing network of recreational vehicle trails and tree stands indicating the current use of this land is primarily for hunting and recreational activities. There is evidence of past timber harvesting and gravel extraction activities on the property. The topography throughout the Project Site ranges in elevation from approximately 166 to 320 feet above mean sea level according to the National Geodetic Vertical Datum.

Natural Resource Conservation Service (NRCS) soil data was obtained through the Web Soil Survey portal on the USDA NRCS website. The areas surrounding the property were queried for soil types according to the record soil survey maps maintained by NRCS. Soil types depicted on the soils map on the subject property include Haven and Enfield association, Windsor association, Manchester association, Wapping association, Narragansett association, Ninigret and Tisbury association, and Agawam association. Each soil classification is further detailed below. NRCS soils information is provided in Appendix B.

Table 2.1
NRCS Soil Summary

Map Unit Designation	Soil Association	Additional Description	Hydrologic Soil Group (HSG)
21A	Ninigret and Tisbury association	Fine sandy loam	C
32A, B	Haven and Enfield association	Fine sandy loam	B
37C	Manchester association	Gravelly sandy loam	A
66C	Narragansett association	Silt loam	B
68D	Narragansett association	Silt loam, extremely stony	B

Soils designated as HSG A are generally well draining and have a high capacity for water infiltration. Soils designated as HSG B generally have a moderate infiltration capacity and are well drained despite their finer texture. Soils designated as HSG C have a slow infiltration rate due to layers of finer texture soils. Based on this, soils within the project area are generally well draining with some potential to infiltrate water. A Soils Area Map is provided as Figure 2 in Appendix A. The NRCS Soils Mapping is provided in Appendix B.

The topography of the existing conditions site conveys stormwater towards numerous design points. A ridgeline within the eastern portion of the project area divides the site to drain easterly and westerly. A portion of the site drains northerly to the Scantic River. The far western portion of the side drains easterly towards Broad Brook Road. The central portion of the site also drains westerly to Broad Brook Road. Existing conditions drainage areas are presented on Figure 3 in Appendix A.

Existing groundcover types and soil conditions were used to determine a Runoff Curve Number (CN) value for each drainage area. Weighted CN values were determined for each drainage area using the following CN values, as described in the United States Department of Agriculture (USDA) Technical Release (TR) 55:

- Woods, Good condition, HSG A (CN 30)
- Woods, Good condition, HSG B (CN 55)
- Woods, Good condition, HSG C (CN 70)
- Row crops, HSG A (CN 67)
- Row crops, HSG B (CN 78)
- Row crops, HSG C (CN 85)
- Existing structure, HSG A (CN 98)
- Existing structure, HSG B (CN 98)
- Gravel, HSG B (CN 96)

A summary of the existing conditions drainage area sizes and runoff curve number is provided in Table 2.2 below.

Table 2.2
Existing Conditions Drainage Area Summary

Subcatchment Designation	Area (acres)	Weighted Runoff Curve Number
Drainage Area 1S	27.2	65
Drainage Area 2S	25.4	66
Drainage Area 3S	8.0	75
Drainage Area 4S	28.0	61
Drainage Area 5S	9.7	55
Drainage Area 6S	4.8	55
Drainage Area 7S	31.5	55
Drainage Area 8S	26.6	55
Drainage Area 9S	1.5	57
Overall Existing Analysis Area	**162.7 Acres**	**60**

2.2 Proposed Improvements

The Nutmeg Solar Project is a fixed tilt solar PV energy system that will consist of solar modules, inverters, a collector substation, site roads, fencing, and stormwater management features, along with related infrastructure. It is important to note that final equipment selection is subject to change, but the size of the Project Development Area will not increase. The Project consists of a western array and an eastern array. The western array is located within the western portion of the Development Area, which consists primarily of open agricultural fields. The eastern array is located within the eastern portion of the Development Area, which consists primarily of second-growth forest.

A series of gravel site roads will be constructed within the Development Area to provide access to the solar arrays, substation and centralized inverter/ transformer stations. Site roads for the Project will utilize site roads currently present throughout the Project Site to the greatest extent practicable.

The majority of the 1.4 miles of proposed site roads will be approximately 16 feet wide. At the proposed substation location, the road is approximately 20 feet wide for a short section to provide a turning radius necessary for component delivery. Site roads will be comprised of a 12-inch thick crushed stone base and a 4-inch thick traffic bound gravel surface. Minor grading will be required along the proposed site roads in select locations to address minor variations in site topography.

A temporary designated lay-down area will be located within the northern portion of the Development Area and adjacent to the proposed collector substation. The laydown area will be used during construction for component delivery, off-loading and storage. The area will employ appropriate erosion controls, which will be kept in place until the Project Site is determined to be suitably stable.

Approximately 91 acres of vegetation will be cleared and grubbed, to allow for the construction and operation of the Project and to minimize shading impacts. No clearing will occur in wetlands or watercourses. The areas to be cleared are designated on Project Site Plans.

Selective vegetation management is proposed to be employed on approximately **5** acres. This will occur in the forested area surrounding the identified vernal pool habitat. In the selective vegetation management area, clearing impacts will be minimized through use of hand cutting for incompatible vegetation, using chain saws or brush saws, and loppers or hand pruners. The selective cutting areas will be inspected and vegetation present within the buffer observed to be capable of exceeding the canopy height limit (20-40 feet) within the next 5 years will be removed. The remaining vegetation will, over time, be expected to develop into early successional communities that would naturally inhibit the growth of tree species capable of growing to a height that would exceed the canopy limits, thereby reducing the need for maintenance or disturbance. Shrub plantings will be employed along the eastern edge of the proposed site road to the west of the vernal pool after clearing and grading, to provide cover and habitat for amphibian species.

The ground within the Development Area will be planted with native seed mix to establish a meadow habitat that will be maintained for the life of the Project.

Appropriate erosion control and sedimentation prevention measures will be implemented during construction and operation in accordance with the 2004 Connecticut Stormwater Quality Manual (Stormwater Manual) and the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control (SESC Guidelines). A separate Stormwater Pollution Control Plan (SWPCP) has been prepared for the project to further detail project phasing, stabilization and erosion and sedimentation control practices through construction. General construction sequencing information is provided in Section 3.2.3 of this report.

The topography of the site will not substantially change as a result of the proposed development. Within the solar array, micro-grading, or the grading of existing undulations, will occur prior to installation of the solar array; however, this activity will not cause substantial changes to drainage areas or stormwater flow paths on the site. While the proposed site roads require both areas of cut and fill, general site topography will be maintained, resulting in no net impact to watershed drainage patterns.

Under proposed conditions, large portions of the agricultural uses will be converted to solar array where panels will be installed using driven posts; in some areas, ground screws may be used in lieu of or in addition to the posts. Existing woodland within the eastern portion of the project will be cleared and grubbed and allowed to stabilize prior to construction of solar infrastructure.

Throughout the project, stormwater will fall onto solar panels and will flow off the edge into the vegetated surface and flow along existing flow paths as under existing conditions. Therefore, the only solar panels that are considered impervious will be the most up-

gradient panels in each subcatchment.[1] The remainder of the solar facility within the limit of work will be considered meadow, non-grazed. Concrete equipment pads or skids, existing and proposed gravel site roads, woodland, remaining agricultural fields and water surfaces were also included in the post-development analysis.

Since the project will not substantially alter topography of the site, the Proposed Conditions Drainage Area Map, provided as Figure 4 in Appendix A, indicates that the nine existing conditions design points will be maintained under proposed conditions. The contributing drainage areas will convey stormwater runoff generally as under existing conditions. Proposed groundcover types within the limit of work, along with existing groundcover types outside of the limit of work and existing soil conditions were used to determine a Runoff Curve Number (CN) value for each proposed condition drainage area. Existing groundcovers utilized in proposed conditions computations are provided in Section 2.1. Weighted CN values were determined for each drainage area using the following CN values, as described in the United States Department of Agriculture (USDA) Technical Release (TR) 55:

- Proposed gravel roads, HSG A (CN 96)
- Proposed gravel roads, HSG B (CN 96)
- Proposed gravel roads, HSG C (CN 96)
- Meadow, HSG A (CN 30)
- Meadow, HSG B (CN 58)
- Meadow, HSG C (CN 71)
- Woods/Grass Combination, HSG B (CN 65)
- Solar Panels (CN 98)
- Concrete Pad (CN 98)
- Water Surface/Basin (CN 98)

Proposed drainage areas are further summarized in Table 2.3 below.

[1] Cook, L.M. & McCuen, R. H., (2013). Hydrologic Response of Solar Farms. *Journal of Hydrologic Engineering*, 18(5). pp.536-541

Table 2.3
Proposed Conditions Drainage Area Summary

Subcatchment Designation	Area (acres)	Weighted Runoff Curve Number
Drainage Area 1AS	17.4	55
Drainage Area 1BS	9.8	62
Drainage Area 1CS	4.6	82
Drainage Area 2AS	11.5	59
Drainage Area 2BS	15.6	58
Drainage Area 3AS	6.3	63
Drainage Area 4AS	4.7	58
Drainage Area 4BS	24.8	58
Drainage Area 5AS	1.8	58
Drainage Area 5BS	1.2	58
Drainage Area 5S	6.7	56
Drainage Area 6AS	1.2	59
Drainage Area 6BS	0.5	59
Drainage Area 6S	3.1	57
Drainage Area 7AS	11.9	58
Drainage Area 7S	19.5	57
Drainage Area 8AS	6.5	58
Drainage Area 8BS	4.3	58
Drainage Area 8S	9.9	61
Drainage Area 9S	1.0	59
Overall Proposed Analysis Area	**162.7 acres**	**59**

The slight decrease in the runoff curve number is due to the conversation of agricultural fields to a grassy meadow condition, which offsets the impacts of the proposed gravel site roads, concrete equipment pads and solar panel installation. Within the solar array, stormwater will fall onto the PV modules and will flow off the edge into the grassy ground cover. Stormwater runoff will continue to flow across the ground surface as under existing conditions along existing flow paths.

Under proposed conditions, the time of concentration (Tc) decreases due to the conversion of woods to meadow, as water flows faster through meadow than a woodland scenario. To attenuate peak runoff rate and volume, additional infiltration is provided through the use of constructing berms to collect, contain and infiltrate runoff. The berms were

designed to avoid substantial excavation, which maintains the existing separation to seasonal high groundwater depths in order to mimic existing conditions. The berms are designed to infiltrate the 100-year storm event and are equipped with an emergency spillway.

2.3 Hydrologic Analysis

A hydrologic analysis of the pre-development and post-development site was performed to determine the impacts of the proposed project to peak discharge rates and stormwater runoff volumes. HydroCAD Release 9.10 is a hydrology and hydraulics software using Technical Release (TR) 20 and TR-55 methodologies for the determination of stormwater runoff quantities. The HydroCAD Report for both pre- and post-development conditions for the 2-, 10-, 25- and 100-year storm events is provided in Appendix C.

The proposed Project will not substantially alter stormwater flow paths and will result in decreased peak discharge rates as a result of a reduction in the composite Curve Number (CN) under the proposed conditions analysis and additional infiltration. The existing site is primarily woodland and agricultural with existing buildings and paved and gravel roads. As previously presented, the CN value for the existing site is 60 and the proposed CN value is 59 for the entire site. Composite runoff curve number calculations are provided in the HydroCAD Report in Appendix C. As previously presented, additional infiltration to attenuate runoff rate and volume was achieved through the construction of berms.

The hydrologic analysis assumes that in each drainage subcatchment, only the topographically highest row of panels is considered impervious due to the nature of how stormwater will continue to travel on the site beneath subsequent rows of panels. This approach is conservative, in that the panels from which the time of concentration was calculated is not the most hydrologically remote point, but results in a reduction in peak discharge rates from the site.

The HydroCAD Report includes the analysis for the 2-, 10-, 25- and 100-year storm events for both existing and proposed conditions. Rainfall depths used in the analysis are consistent with those published in the 2004 Connecticut Stormwater Quality Manual for Hartford County and as provided in the Table below.

Table 2.4
Design Rainfall Depths

Storm Event	Rainfall Depth (inches)
2-Year	2.6
10-Year	4.7
25-Year	5.5
100-Year	6.9

Table 2.5 presents the results of the pre-development stormwater runoff analysis versus the post-development stormwater runoff analysis for each design point.

Table 2.5

Peak Discharge Rate Comparison

		2-year Storm Event (cfs)	10-year Storm Event (cfs)	25-year Storm Event (cfs)	100-year Storm Event (cfs)
Design Point 1	Existing	7.5	21.4	30.2	46.9
	Proposed	2.0	7.7	12.8	23.7
Design Point 2	Existing	7.7	20.9	29.2	44.9
	Proposed	2.1	8.9	13.6	23.1
Design Point 3	Existing	7.0	14.7	19.2	27.2
	Proposed	2.3	7.7	11.1	17.7
Design Point 4	Existing	5.5	19.2	28.4	46.3
	Proposed	3.8	16.4	25.3	43.1
Design Point 5	Existing	0.8	4.7	7.7	14.0
	Proposed	0.8	4.3	7.0	12.5
Design Point 6	Existing	0.4	2.0	3.3	5.9
	Proposed	0.4	1.9	3.0	5.2
Design Point 7	Existing	2.6	15.0	24.8	44.8
	Proposed	2.7	13.2	21.0	37.0
Design Point 8	Existing	1.8	9.9	16.1	29.1
	Proposed	2.5	9.5	14.1	23.1
Design Point 9	Existing	0.2	1.0	1.6	2.8
	Proposed	0.2	0.9	1.4	2.4
Project Total	**Existing**	**33.4**	**108.8**	**160.4**	**261.8**
	Proposed	**16.7**	**70.6**	**109.4**	**187.6**

Table 2.5 indicates that existing peak discharge rates from the proposed development are reduced for the 2-, 10-, 25- and 100-year storm events.

Section 3
Regulatory Compliance

3.1 Stormwater Manual Compliance

The project has been designed to comply with the 2004 Connecticut Stormwater Quality Manual (Stormwater Manual) and the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control (SESC Guidelines). The following section describes how the project complies with the criteria outlined in each document.

The project has been designed to comply with the Stormwater Quality requirements of the Stormwater Manual for both Water Quality and Groundwater Recharge. Both requirements are based on the imperviousness of the proposed development.

3.1.1 Water Quality Volume

The required Water Quality Volume (WQV) for the proposed conditions is based on the acreage of impervious surfaces including gravel site roads and impervious concrete pads. While the hydrologic analysis assumed that a portion of the solar panels in each drainage area were considered impervious in order to determine anticipated peak discharge rates, they have been excluded from WQV computations. The panels, as well as the concrete equipment pads, will not be subject to vehicular access, and therefore do not produce any pollutants to stormwater runoff.

All other impervious surfaces, specifically gravel site roads, will not be curbed in order to promote a "country drainage" scenario. Roadside swales have been designed to convey runoff from the proposed site roads to engineered discharge locations, where energy dissipation devices have been designed to reduce stormwater flow velocity. The swales will remove any sediment from the runoff prior to discharge off-site.

Further discussion pertaining to water quality concerns of the Scantic River, located to the north of the project, is provided in Section 3.3.

3.1.2 Water Quality Flow

The Water Quality Flow (WQF) is a quantity of stormwater runoff based on the water quality design storm, or a 1-inch rainfall depth. This flow is important when designing water quality swales or other runoff diversion features to endure the property treatment is provided. The proposed project does not include any Best Management Practice (BMPs) that requires a WQF rate for design purposes, therefore this calculation was not performed.

3.1.3 Groundwater Recharge

The required Groundwater Recharge Volume (GRV) is based on impervious ground coverage as well as the Hydrologic Soil Group of the underlying soils. In general, runoff from the proposed solar panels will be allowed to recharge within the grassy vegetation below the panels. Runoff from the proposed site roads will be conveyed through roadside swales to engineered discharge locations to avoid erosive velocities, and will discharge to vegetated areas to promote further groundwater recharge. The project does not include large, uninterrupted spans of impervious ground coverage. Concrete equipment pads are relatively small in comparison to the overall watershed, will not adversely impact

groundwater recharge capabilities of the proposed conditions site. The total development area (area within the limit of work shown on the project drawings) is 131 acres. Of that 131 acres, impervious ground coverage will increase from 0.88% of the entire project area to 2.67% of the entire project area. Since this increase is negligible in relation to the entire project area and larger watershed, no further calculations to determine the volume of required groundwater recharge have been provided as part of this report.

3.2 Soil Erosion and Sediment Control Guidelines

3.2.1 Erosion and Sedimentation Control Narrative

Erosion and sedimentation control measures are an important component of site construction to limit impacts to environmental features and abutting properties. The contractor will be required to install erosion and sedimentation control measures prior to construction. All installed erosion and sedimentation control measures shall be maintained by the Contractor through the duration of construction. The Contractor shall have additional erosion and sedimentation control measure materials on-site during construction. Silt fencing will be installed along the limit of work where the project abuts a wetland resource area, as well as where the limit of work abuts a property line. Stone construction entrances will be construction to limit sediment tracking outside of the construction zone. Soil erosion and sedimentation control measures shall conform to the standards outlined in the DEEP "2002 Connecticut Guidelines for Soil Erosion and Sediment Control", latest revision.

A separate Stormwater Pollution Control Plan (SWPCP) has been prepared for the project to further detail project phasing, stabilization and erosion and sedimentation control practices through construction.

3.2.2 Erosion and Sedimentation Control Notes

The following notes have been included on the Site Plans and are to be followed throughout the construction duration.

1. Install all erosion control measures shown, specified and required by the Engineer prior to any construction or immediately upon request. Maintain all such control measures until final surface treatments are in place and/or until permanent vegetation is established.
2. Mark work limit line(s) prior to starting work. Do not disturb vegetation and topsoil beyond the proposed limit line. Coordinate with the Engineer for the location for the temporary stockpiling of topsoil during construction.
3. Fine grade and immediately seed all side slopes, shoulder areas, and disturbed vegetated areas. All grading to be a maximum slope of 2:1, compacted, and stabilized. Slopes greater than 3:1 to be stabilized with erosion control blanket.
4. Remove and dispose of all silt trapped at barriers in upland areas outside of buffer zones. Remove materials deposited in any temporary settling traps and/or basins at the completion of the project. Restore all disturbed areas to pre-construction conditions.
5. Remove any sediment tracked on public Rights-of-Ways at the end of each day.

3.2.3 Construction Sequence

The Project is proposed to be constructed in phases to minimize disturbance. The Project will be constructed in four major phases, and 34 sub-phases. Within each major phase, sub-phases will be designed to be less than 10 acres and each will have a temporary sediment basin or trap as required. The major phases include the following:

- Phase 1: Site Roads and Staging
- Phase 2: Eastern Array Grubbing and Stormwater Controls
- Phase 3: Western Array Stormwater Controls and Solar Equipment Installation
- Phase 4: Eastern Array Stormwater Controls and Solar Equipment Installation

Note that Phase 2 and Phase 4 occur in the same location, with differing construction activities. Phase 4 is the installation of solar infrastructure in the area that was grubbed and temporarily stabilized in Phase 2.

The construction sequence described below has been developed in close consultation with DEEP staff in in support of the applicaton for Registration in accordance with the DEEP General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (Construction General Permit). Phasing plans for construction are provided in Exhibit K of the Petition. Detailed drawings depicting stormwater controls for each sub-phase will be provided to DEEP as part of the Construction General Permit registration.

During construction, Nutmeg Solar will employ a full-time environmental monitor present on site to document conditions and ensure compliance with the terms of the DEEP Construction General Permit. As required by the DEEP, a third-party certified inspector also will provide oversight and compliance monitoring for the construction process.

Pre-Construction

1. Demarcation of clearing limits, selective cutting zones, and buffer areas.
2. Cut trees above ground (retain stumps) in frozen conditions.
3. Barn relocation and removal (no ground disturbance).
4. Environmental restriction and safety training for all site personnel.
5. Preconstruction meeting.

Phase 1 - Site Roads and Staging

1. Flag the limits of construction necessary to facilitate the preconstruction meeting.
2. Environmental restriction and safety training for all site personnel.
3. Preconstruction meeting.
4. Install construction entrance.
5. Install perimeter controls to establish phase work area in accordance with site plan and stormwater pollution control plan (SWPCP).
6. Prior to installing surface water controls such as temporary diversions and stone check dam, inspect existing conditions to ensure discharge locations are stable. If

not stable, review discharge conditions with the design engineer and implement additional stabilized measures prior to installing surface water controls.

7. Construct temporary sediment traps and/ or basins, diversion swales and berms with check dams.
8. Once temporary stormwater controls area established, clear and grub existing stumps.
9. Strip, re-distribute, and stabilize all topsoil that is within the footprint of the site road, site road appurtenances and the collector substation (see 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, Chapter 4, Part ii and the Farmland Soils Mitigation Plan in Exhibit E).
10. Construct site roads, roadside swales and buried utility conduits.
11. Stabilize site by hydroseeding with bonded fiber matrix or installing erosion control blanket in all disturbed areas. Monitor hydroseeded area and amend with additional seeding as needed.
12. Upon stabilization, temporary controls may be removed or relocated to construct subsequent sub-phases.

Phase 2 – Eastern Array Grubbing and Stormwater Controls

1. Flag the limits of construction.
2. Install perimeter controls to establish phase work area in accordance with site plan and SWPCP plans.
3. Prior to installing surface water controls such as temporary diversions and stone check dams, inspect existing conditions to ensure discharge locations are stable. If not stable, review discharge conditions with the design engineer and implement additional stabilized measures prior to installing surface water controls.
4. Construct temporary sediment traps and/ or basins, diversion swales and berms with checkdams.
5. Once temporary stormwater controls area established, grub existing stumps from previously cleared trees.
6. Stabilize site by hydroseeding with bonded fiber matrix or installing erosion control blanket in all ground-disturbed areas. Monitor hydroseeded area and amend with additional seeding as needed.
7. Check and repair temporary controls as needed. Temporary controls to remain in place through Phase 4 construction.

Phase 3 – Western Array Stormwater Controls and Solar Equipment Installation

1. Flag the limits of construction.
2. Install perimeter controls to establish phase work area in accordance with site plan and SWPCP plans.
3. Prior to installing surface water controls such as temporary diversions and stone check dams, inspect existing conditions to ensure discharge locations are stable. If not stable, review discharge conditions with the design engineer and implement additional stabilized measures prior to installing surface water controls.

4. Construct temporary sediment traps and/ or basins, diversion swales and berms with check dams.
5. Clear and grub existing stumps as needed.
6. Install solar infrastructure including racking, solar modules, utility connections, and equipment pads. Solar array construction will begin with posts or ground screws being driven into the ground; racking will then be affixed to the posts; and modules will be mounted and installed on the racks.
7. Stabilize site by hydroseeding with bonded fiber matrix or installing erosion control blanket in all disturbed areas. Monitor hydroseeded area daily and amend with additional seeding as needed.
8. After site is fully stabilized, remove temporary stormwater controls.

Phase 4 – Eastern Array Stormwater Controls and Solar Equipment Installation

1. Inspect and install perimeter controls established in Phase 2 to ensure phase work area is in accordance with site plan and SWPCP plans.
2. Inspect and construct temporary sediment traps and/ or basins, diversion swales and berms with check dams installed in Phase 2.
3. Install solar infrastructure including racking, solar modules, utility connections, and equipment pads. Solar array construction will begin with posts or ground screws being driven into the ground; racking will then be affixed to the posts; and modules will be mounted and installed on the racks.
4. Construct collector substation
5. Stabilize site by hydroseeding with bonded fiber matrix or installing erosion control blanket in all disturbed areas. Monitor hydroseeded area daily and amend with additional seeding as needed.
6. After site is fully stabilized, remove temporary stormwater controls.

3.3 Watershed Management

The Scantic River is located to the north of the project. Stormwater runoff from the post-construction project will ultimately discharge to the Scantic River. The Scantic River watershed is approximately 170 square kilometers[2] and extends into the Towns of Hampden and Somers, Connecticut. The watershed includes a variety of land uses, primarily agricultural, residential, commercial, recreational and undeveloped woodland. According to the State of Connecticut Department of Energy and Environmental Projection (CTDEEP) 2017 Integrated Water Quality Report, the impairments observed in the Scantic River include Escherichia coli, with potential sources including stormwater, insufficient on-site treatment/septic systems, and agricultural activities. The proposed project will not result in an increase in the identified pollutants.

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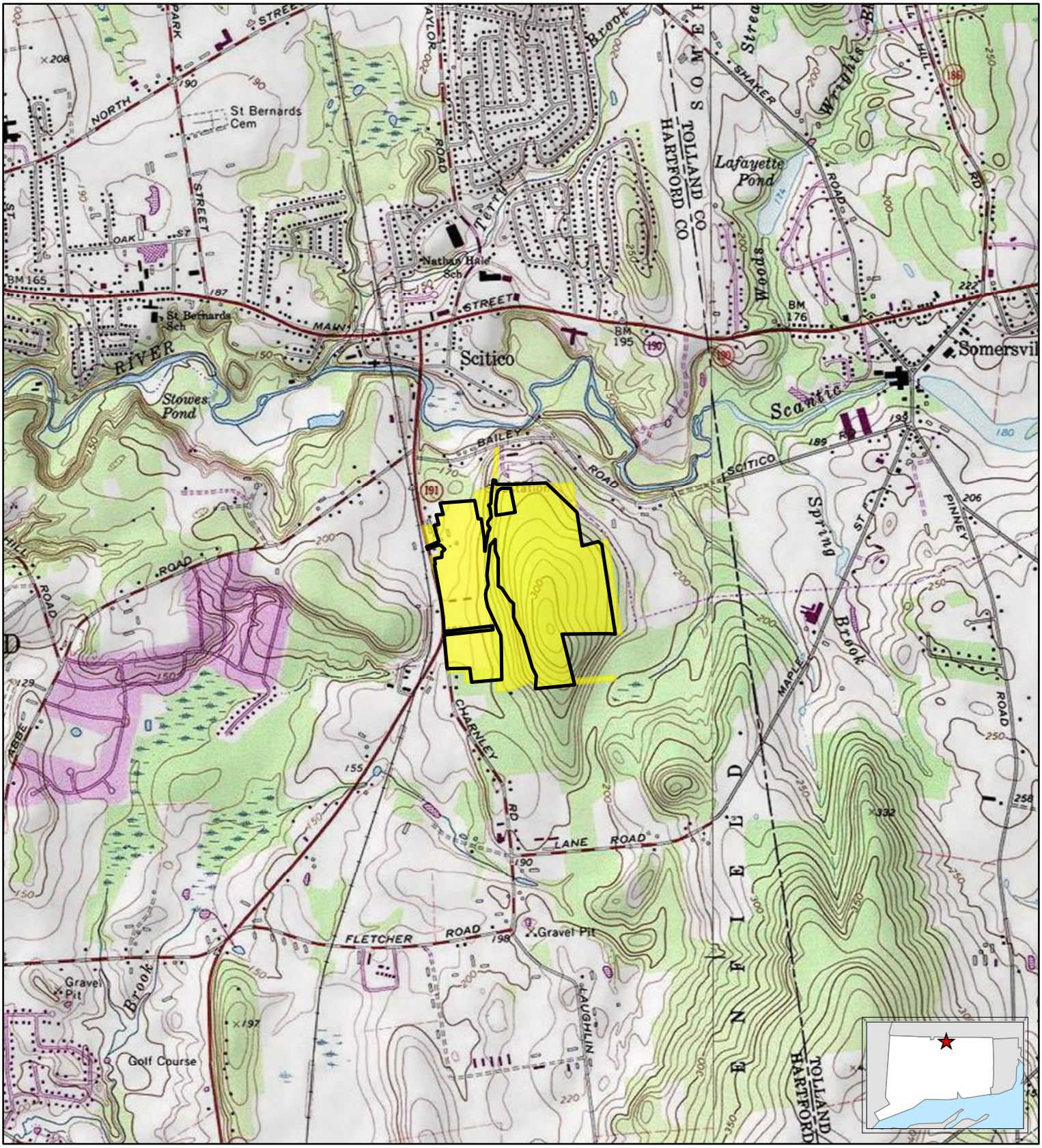
[2] From EPA's MyWatersMapper and Geospatial Tool for Google Earth.

Exhibit K:
Stormwater Management Report

Appendix A: Figures



Legend

Limit of Work/Development Area

Project Site

Tighe&Bond
Engineers | Environmental Specialists

Based on USGS Topographic Map for Broad Brook, & Ellington, CT

1:24,000

0 1,000 2,000

Feet

N

FIGURE 1
SITE LOCATION
Nutmeg Solar
Enfield, Connecticut

August 2018

V:\Projects\R\R0317\NutmegEnfieldSolar\Maps\FilingFigures\Nutmeg_SiteLocation.mxd

R-0317

N

66C
37C
29A
306
68D
36A
29A
28B
38E
36A
29B
32A
36B
32B
66C
66B
21A
37C
66B
53A
32A
32A
66B
32A
66B
66C
67B
32B
68D
32A
32B
68D
68D
66B
66C
21A
21A
32B
66B
32A

LEGEND

SOIL ASSOCIATION BOUNDARY

32A SOIL ASSOCIATION LABEL

NUTMEG SOLAR PROJECT
ENFIELD, CONNECTICUT

FIGURE 2
SOIL COVER MAP

Tighe&Bond *Consulting Engineers*
www.tighebond.com

SCALE: 1"=450'

DATE: SEPTEMBER 2018

N

DESIGN POINT 9

DESIGN POINT 8

DESIGN POINT 1

DRAINAGE AREA 9S

DRAINAGE AREA 8S

DRAINAGE AREA 1S

DESIGN POINT 2

DRAINAGE AREA 9S

DRAINAGE AREA 2S

DRAINAGE AREA 7S

DRAINAGE AREA 3S

DESIGN POINT 3

DESIGN POINT 7

DESIGN POINT 4

DRAINAGE AREA 6S

DRAINAGE AREA 4S

DRAINAGE AREA 5S

DESIGN POINT 6

DESIGN POINT 5

LEGEND

SUBCATCHMENT BOUNDARY

DRAINAGE AREA 6S — SUBCATCHMENT DESIGNATION

STORMWATER FLOW PATH

NUTMEG SOLAR PROJECT
ENFIELD, CONNECTICUT

FIGURE 3
EXISTING CONDITIONS
DRAINAGE AREA MAP

Tighe&Bond *Consulting Engineers*
www.tighebond.com

SCALE: 1"=450'

DATE: SEPTEMBER 2018

N

DESIGN POINT 9

DRAINAGE AREA 1CS

DESIGN POINT 8

DESIGN POINT 1

DRAINAGE AREA 9S

CULVERTS

DRAINAGE AREA 8BS

DRAINAGE AREA 8S

DRAINAGE AREA 1AS

DRAINAGE AREA 1BS

DRAINAGE AREA 8AS

CULVERT

DESIGN POINT 2

CULVERTS

DRAINAGE AREA 2BS

CULVERT

DRAINAGE AREA 7AS

DRAINAGE AREA 2AS

DRAINAGE AREA 3AS

CULVERT

DRAINAGE AREA 7S

DESIGN POINT 3

DRAINAGE AREA 4AS

DESIGN POINT 7

DRAINAGE AREA 6S

DRAINAGE AREA 4BS

DESIGN POINT 4

DESIGN POINT 6

DESIGN POINT 5

DRAINAGE AREA 5S

DRAINAGE AREA 5AS

DRAINAGE AREA 5BS

LEGEND

SUBCATCHMENT BOUNDARY

DRAINAGE AREA 6S — SUBCATCHMENT DESIGNATION

STORMWATER FLOW PATH

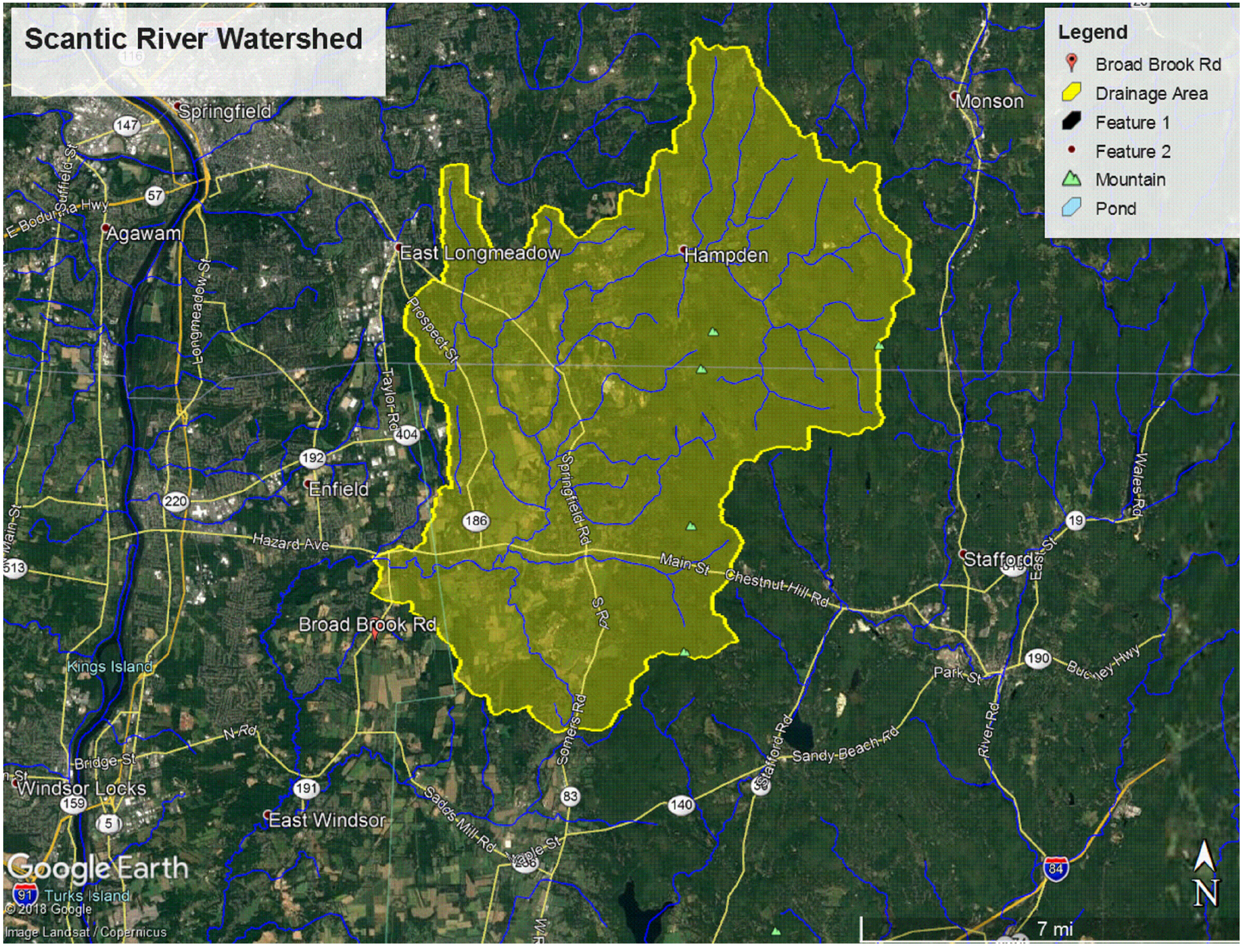
NUTMEG SOLAR PROJECT
ENFIELD, CONNECTICUT

FIGURE 5
PROPOSED CONDITIONS DRAINAGE AREA MAP

Tighe&Bond *Consulting Engineers*
www.tighebond.com

SCALE: 1"=450'

DATE: SEPTEMBER 2018



NUTMEG SOLAR PROJECT
ENFIELD, CONNECTICUT

FIGURE 5
SCANTIC RIVER WATERSHED

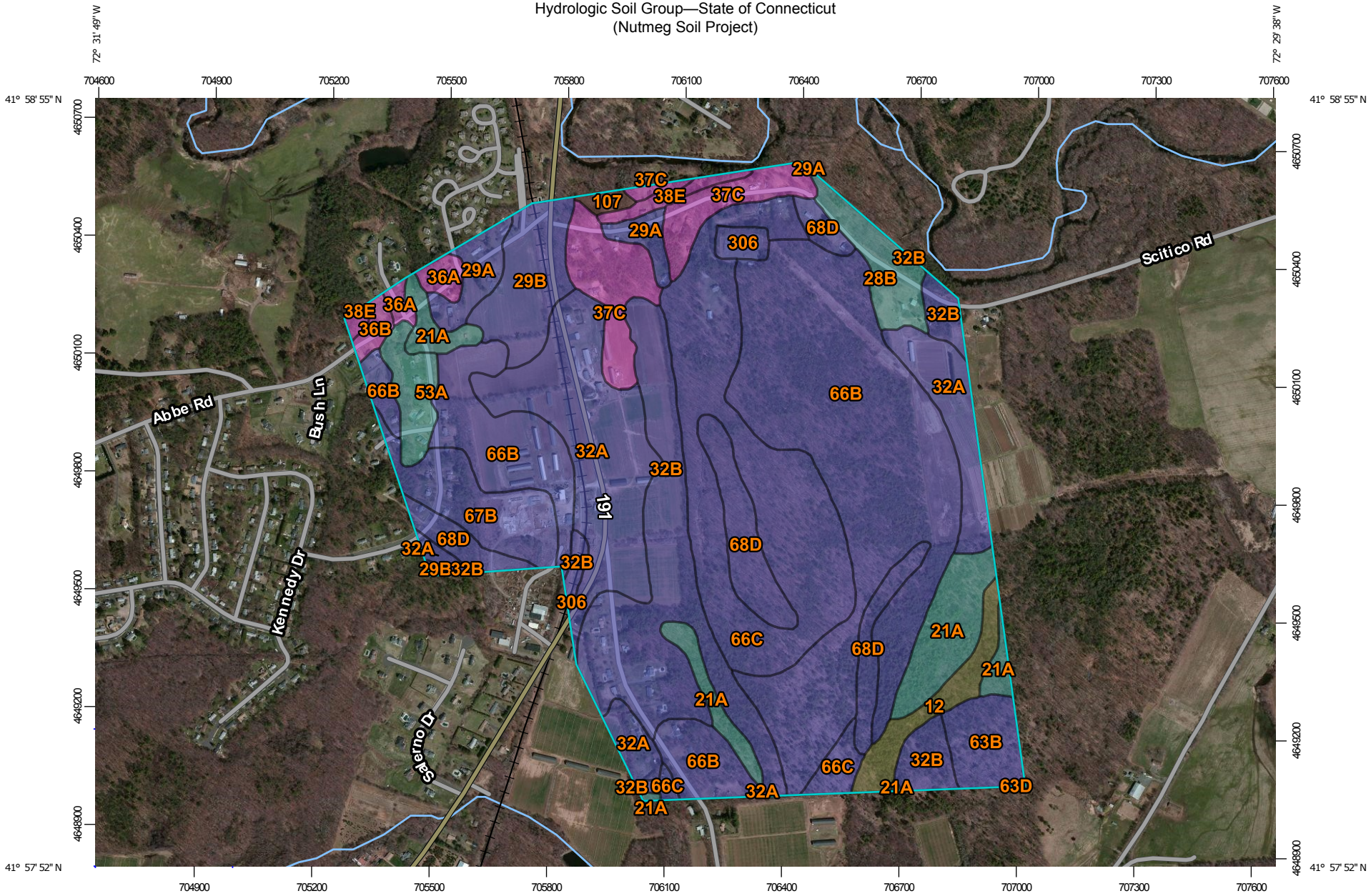
Tighe&Bond Consulting Engineers
www.tighebond.com

SCALE: NO SCALE DATE: SEPTEMBER 2018

Exhibit K:
Stormwater Management Report

Appendix B: Soils Data

Hydrologic Soil Group—State of Connecticut
(Nutmeg Soil Project)



MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

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 1:12,000.

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: State of Connecticut
Survey Area Data: Version 15, Sep 28, 2016

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

Date(s) aerial images were photographed: Mar 28, 2011—Apr 18, 2011

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.

Hydrologic Soil Group

Hydrologic Soil Group— Summary by Map Unit — State of Connecticut (CT600)				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
12	Raypol silt loam	C/D	9.5	1.9%
21A	Ninigret and Tisbury soils, 0 to 5 percent slopes	C	24.6	5.0%
28B	Elmridge fine sandy loam, 3 to 8 percent slopes	C	10.1	2.1%
29A	Agawam fine sandy loam, 0 to 3 percent slopes	B	10.1	2.1%
29B	Agawam fine sandy loam, 3 to 8 percent slopes	B	16.7	3.4%
32A	Haven and Enfield soils, 0 to 3 percent slopes	B	59.6	12.1%
32B	Haven and Enfield soils, 3 to 8 percent slopes	B	57.4	11.7%
36A	Windsor loamy sand, 0 to 3 percent slopes	A	3.9	0.8%
36B	Windsor loamy sand, 3 to 8 percent slopes	A	2.3	0.5%
37C	Manchester gravelly sandy loam, 3 to 15 percent slopes	A	23.7	4.8%
38E	Hinckley loamy sand, 15 to 45 percent slopes	A	3.7	0.7%
53A	Wapping very fine sandy loam, 0 to 3 percent slopes	C	7.9	1.6%
63B	Cheshire fine sandy loam, 3 to 8 percent slopes	B	9.9	2.0%
63D	Cheshire fine sandy loam, 15 to 25 percent slopes	B	0.1	0.0%
66B	Narragansett silt loam, 2 to 8 percent slopes	B	137.3	28.0%
66C	Narragansett silt loam, 8 to 15 percent slopes	B	67.8	13.8%
67B	Narragansett silt loam, 3 to 8 percent slopes, very stony	B	16.7	3.4%

Hydrologic Soil Group— Summary by Map Unit — State of Connecticut (CT600)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
68D	Narragansett silt loam, 15 to 25 percent slopes, extremely stony	B	25.4	5.2%
107	Limerick and Lim soils	B/D	1.5	0.3%
306	Udorthents-Urban land complex	B	2.8	0.6%
Totals for Area of Interest			**491.0**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

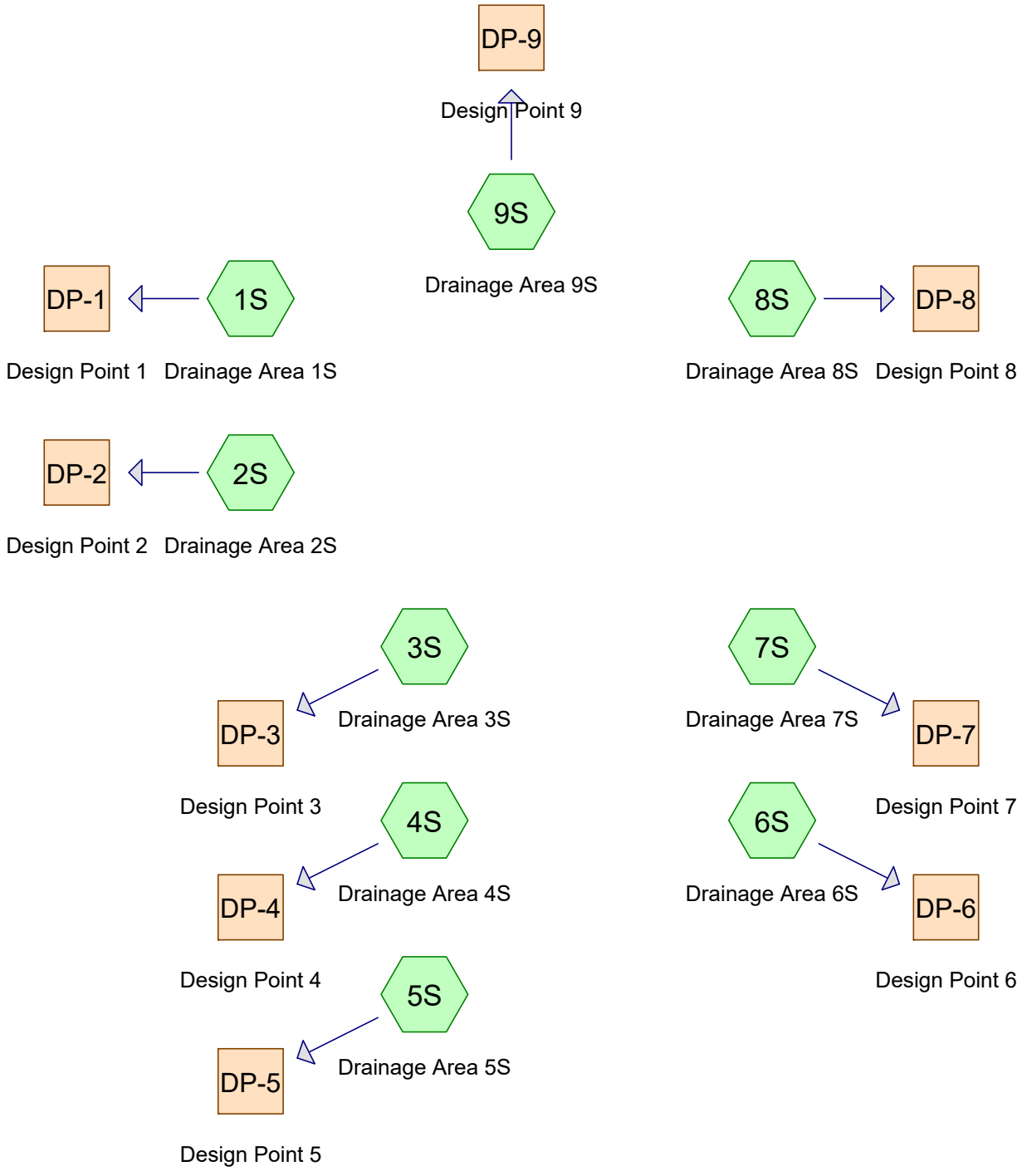
Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Exhibit K:
Stormwater Management Report

Appendix C: Hydrologic and Hydraulic Calculations

Existing Conditions Hydrology



Routing Diagram for Existing Hydrology - Nutmeg
Prepared by Tighe & Bond, Printed 9/11/2018

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.262	98	Existing Structure, HSG A (1S)
0.869	98	Existing Structure, HSG B (1S, 2S)
0.048	96	Gravel surface, HSG A (9S)
0.651	96	Gravel surface, HSG B (1S, 9S)
3.538	67	Row crops, straight row, Good, HSG A (1S)
32.722	78	Row crops, straight row, Good, HSG B (1S, 2S, 3S, 4S)
0.187	30	Woods, Good, HSG A (9S)
124.053	55	Woods, Good, HSG B (1S, 2S, 3S, 4S, 5S, 6S, 7S, 8S, 9S)
0.380	70	Woods, Good, HSG C (4S)
162.710	**60**	**TOTAL AREA**

Time span=5.00-30.00 hrs, dt=0.05 hrs, 501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Drainage Area 1S Runoff Area=27.185 ac 3.18% Impervious Runoff Depth=0.60"
Flow Length=1,752' Tc=39.8 min CN=65 Runoff=7.52 cfs 1.360 af

Subcatchment 2S: Drainage Area 2S Runoff Area=25.406 ac 1.05% Impervious Runoff Depth=0.64"
Flow Length=2,263' Tc=40.8 min CN=66 Runoff=7.65 cfs 1.361 af

Subcatchment 3S: Drainage Area 3S Runoff Area=8.003 ac 0.00% Impervious Runoff Depth=1.09"
Flow Length=836' Tc=17.1 min CN=75 Runoff=6.98 cfs 0.730 af

Subcatchment 4S: Drainage Area 4S Runoff Area=28.046 ac 0.00% Impervious Runoff Depth=0.44"
Flow Length=1,476' Tc=31.6 min CN=61 Runoff=5.49 cfs 1.038 af

Subcatchment 5S: Drainage Area 5S Runoff Area=9.675 ac 0.00% Impervious Runoff Depth=0.25"
Flow Length=1,196' Tc=21.8 min CN=55 Runoff=0.82 cfs 0.202 af

Subcatchment 6S: Drainage Area 6S Runoff Area=4.792 ac 0.00% Impervious Runoff Depth=0.25"
Flow Length=1,486' Tc=32.4 min CN=55 Runoff=0.35 cfs 0.100 af

Subcatchment 7S: Drainage Area 7S Runoff Area=31.477 ac 0.00% Impervious Runoff Depth=0.25"
Flow Length=1,268' Tc=22.8 min CN=55 Runoff=2.63 cfs 0.658 af

Subcatchment 8S: Drainage Area 8S Runoff Area=26.599 ac 0.00% Impervious Runoff Depth=0.25"
Flow Length=1,700' Tc=40.7 min CN=55 Runoff=1.75 cfs 0.556 af

Subcatchment 9S: Drainage Area 9S Runoff Area=1.527 ac 0.00% Impervious Runoff Depth=0.31"
Flow Length=925' Tc=16.0 min CN=57 Runoff=0.20 cfs 0.039 af

Reach DP-1: Design Point 1 Inflow=7.52 cfs 1.360 af
Outflow=7.52 cfs 1.360 af

Reach DP-2: Design Point 2 Inflow=7.65 cfs 1.361 af
Outflow=7.65 cfs 1.361 af

Reach DP-3: Design Point 3 Inflow=6.98 cfs 0.730 af
Outflow=6.98 cfs 0.730 af

Reach DP-4: Design Point 4 Inflow=5.49 cfs 1.038 af
Outflow=5.49 cfs 1.038 af

Reach DP-5: Design Point 5 Inflow=0.82 cfs 0.202 af
Outflow=0.82 cfs 0.202 af

Reach DP-6: Design Point 6 Inflow=0.35 cfs 0.100 af
Outflow=0.35 cfs 0.100 af

Reach DP-7: Design Point 7 Inflow=2.63 cfs 0.658 af
Outflow=2.63 cfs 0.658 af

Reach DP-8: Design Point 8 Inflow=1.75 cfs 0.556 af
Outflow=1.75 cfs 0.556 af

Reach DP-9: Design Point 9 Inflow=0.20 cfs 0.039 af
Outflow=0.20 cfs 0.039 af

Total Runoff Area = 162.710 ac Runoff Volume = 6.045 af Average Runoff Depth = 0.45"
99.30% Pervious = 161.579 ac 0.70% Impervious = 1.131 ac

Summary for Subcatchment 1S: Drainage Area 1S

Runoff = 7.52 cfs @ 12.66 hrs, Volume= 1.360 af, Depth= 0.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (ac)	CN	Description
*	0.262	98	Existing Structure, HSG A
*	0.603	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	14.767	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	3.538	67	Row crops, straight row, Good, HSG A
	7.488	78	Row crops, straight row, Good, HSG B
	0.000	85	Row crops, straight row, Good, HSG C
	0.527	96	Gravel surface, HSG B
	27.185	65	Weighted Average
	26.320		96.82% Pervious Area
	0.865		3.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	50	0.0300	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
3.0	154	0.0292	0.85		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.3	564	0.1277	1.79		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.5	271	0.0664	1.80		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
18.5	713	0.0084	0.64		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
39.8	1,752	Total			

Summary for Subcatchment 2S: Drainage Area 2S

Runoff = 7.65 cfs @ 12.67 hrs, Volume= 1.361 af, Depth= 0.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.266	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	13.979	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	67	Row crops, straight row, Good, HSG A
	11.161	78	Row crops, straight row, Good, HSG B
	0.000	85	Row crops, straight row, Good, HSG C
	25.406	66	Weighted Average
	25.140		98.95% Pervious Area
	0.266		1.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
13.5	1,037	0.0656	1.28		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.5	311	0.1768	2.10		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.6	304	0.0757	1.93		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
12.9	561	0.0107	0.72		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
40.8	2,263	Total			

Summary for Subcatchment 3S: Drainage Area 3S

Runoff = 6.98 cfs @ 12.26 hrs, Volume= 0.730 af, Depth= 1.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	1.186	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	98	Paved parking, HSG B
	0.000	67	Row crops, straight row, Good, HSG A
	6.817	78	Row crops, straight row, Good, HSG B
	0.000	85	Row crops, straight row, Good, HSG C
	8.003	75	Weighted Average
	8.003		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	50	0.1200	0.14		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.9	85	0.1059	1.63		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.9	296	0.0574	1.68		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.3	405	0.0173	0.92		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
17.1	836	Total			

Summary for Subcatchment 4S: Drainage Area 4S

Runoff = 5.49 cfs @ 12.59 hrs, Volume= 1.038 af, Depth= 0.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	20.410	55	Woods, Good, HSG B
	0.380	70	Woods, Good, HSG C
	0.000	98	Paved parking, HSG B
	0.000	67	Row crops, straight row, Good, HSG A
	7.256	78	Row crops, straight row, Good, HSG B
	0.000	85	Row crops, straight row, Good, HSG C
	28.046	61	Weighted Average
	28.046		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	50	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
1.0	65	0.0462	1.07		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
4.6	581	0.1756	2.10		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.9	306	0.0686	1.31		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.1	321	0.0312	0.88		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.7	153	0.0098	0.69		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
31.6	1,476	Total			

Summary for Subcatchment 5S: Drainage Area 5S

Runoff = 0.82 cfs @ 12.57 hrs, Volume= 0.202 af, Depth= 0.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	9.675	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	98	Paved parking, HSG B
	0.000	67	Row crops, straight row, Good, HSG A
	0.000	78	Row crops, straight row, Good, HSG B
	0.000	85	Row crops, straight row, Good, HSG C
	9.675	55	Weighted Average
	9.675		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
1.5	95	0.0421	1.03		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
11.0	1,051	0.1018	1.60		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
21.8	1,196	Total			

Summary for Subcatchment 6S: Drainage Area 6S

Runoff = 0.35 cfs @ 12.72 hrs, Volume= 0.100 af, Depth= 0.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	4.792	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	98	Paved parking, HSG B
	0.000	67	Row crops, straight row, Good, HSG A
	0.000	78	Row crops, straight row, Good, HSG B
	0.000	85	Row crops, straight row, Good, HSG C
	4.792	55	Weighted Average
	4.792		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	50	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
4.3	236	0.0339	0.92		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.5	554	0.0812	1.42		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.3	187	0.2406	2.45		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.0	459	0.0370	0.96		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
32.4	1,486	Total			

Summary for Subcatchment 7S: Drainage Area 7S

Runoff = 2.63 cfs @ 12.58 hrs, Volume= 0.658 af, Depth= 0.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	31.477	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	98	Paved parking, HSG B
	0.000	67	Row crops, straight row, Good, HSG A
	0.000	78	Row crops, straight row, Good, HSG B
	0.000	85	Row crops, straight row, Good, HSG C
	31.477	55	Weighted Average
	31.477		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	50	0.0600	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
14.9	1,218	0.0747	1.37		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
22.8	1,268	Total			

Summary for Subcatchment 8S: Drainage Area 8S

Runoff = 1.75 cfs @ 12.86 hrs, Volume= 0.556 af, Depth= 0.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	26.599	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	98	Paved parking, HSG B
	0.000	67	Row crops, straight row, Good, HSG A
	0.000	78	Row crops, straight row, Good, HSG B
	0.000	85	Row crops, straight row, Good, HSG C
	26.599	55	Weighted Average
	26.599		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	50	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
2.2	145	0.0484	1.10		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.6	499	0.0481	1.10		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
12.8	510	0.0176	0.66		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.8	208	0.0625	1.25		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.0	288	0.1007	1.59		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
40.7	1,700	Total			

Summary for Subcatchment 9S: Drainage Area 9S

Runoff = 0.20 cfs @ 12.44 hrs, Volume= 0.039 af, Depth= 0.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.187	30	Woods, Good, HSG A
	1.168	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	98	Paved parking, HSG B
	0.000	67	Row crops, straight row, Good, HSG A
	0.000	78	Row crops, straight row, Good, HSG B
	0.000	85	Row crops, straight row, Good, HSG C
	0.048	96	Gravel surface, HSG A
	0.124	96	Gravel surface, HSG B
	1.527	57	Weighted Average
	1.527		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
4.9	388	0.0696	1.32		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.8	487	0.0801	4.56		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
16.0	925	Total			

Summary for Reach DP-1: Design Point 1

Inflow Area = 27.185 ac, 3.18% Impervious, Inflow Depth = 0.60" for 2-Year event
Inflow = 7.52 cfs @ 12.66 hrs, Volume= 1.360 af
Outflow = 7.52 cfs @ 12.66 hrs, Volume= 1.360 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-2: Design Point 2

Inflow Area = 25.406 ac, 1.05% Impervious, Inflow Depth = 0.64" for 2-Year event
Inflow = 7.65 cfs @ 12.67 hrs, Volume= 1.361 af
Outflow = 7.65 cfs @ 12.67 hrs, Volume= 1.361 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-3: Design Point 3

Inflow Area = 8.003 ac, 0.00% Impervious, Inflow Depth = 1.09" for 2-Year event
Inflow = 6.98 cfs @ 12.26 hrs, Volume= 0.730 af
Outflow = 6.98 cfs @ 12.26 hrs, Volume= 0.730 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-4: Design Point 4

Inflow Area = 28.046 ac, 0.00% Impervious, Inflow Depth = 0.44" for 2-Year event
Inflow = 5.49 cfs @ 12.59 hrs, Volume= 1.038 af
Outflow = 5.49 cfs @ 12.59 hrs, Volume= 1.038 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-5: Design Point 5

Inflow Area = 9.675 ac, 0.00% Impervious, Inflow Depth = 0.25" for 2-Year event
Inflow = 0.82 cfs @ 12.57 hrs, Volume= 0.202 af
Outflow = 0.82 cfs @ 12.57 hrs, Volume= 0.202 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-6: Design Point 6

Inflow Area = 4.792 ac, 0.00% Impervious, Inflow Depth = 0.25" for 2-Year event
Inflow = 0.35 cfs @ 12.72 hrs, Volume= 0.100 af
Outflow = 0.35 cfs @ 12.72 hrs, Volume= 0.100 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-7: Design Point 7

Inflow Area = 31.477 ac, 0.00% Impervious, Inflow Depth = 0.25" for 2-Year event
Inflow = 2.63 cfs @ 12.58 hrs, Volume= 0.658 af
Outflow = 2.63 cfs @ 12.58 hrs, Volume= 0.658 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-8: Design Point 8

Inflow Area = 26.599 ac, 0.00% Impervious, Inflow Depth = 0.25" for 2-Year event
Inflow = 1.75 cfs @ 12.86 hrs, Volume= 0.556 af
Outflow = 1.75 cfs @ 12.86 hrs, Volume= 0.556 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-9: Design Point 9

Inflow Area = 1.527 ac, 0.00% Impervious, Inflow Depth = 0.31" for 2-Year event
Inflow = 0.20 cfs @ 12.44 hrs, Volume= 0.039 af
Outflow = 0.20 cfs @ 12.44 hrs, Volume= 0.039 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Time span=5.00-30.00 hrs, dt=0.05 hrs, 501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Drainage Area 1S Runoff Area=27.185 ac 3.18% Impervious Runoff Depth=1.46"
Flow Length=1,752' Tc=39.8 min CN=65 Runoff=21.44 cfs 3.301 af

Subcatchment 2S: Drainage Area 2S Runoff Area=25.406 ac 1.05% Impervious Runoff Depth=1.53"
Flow Length=2,263' Tc=40.8 min CN=66 Runoff=20.91 cfs 3.232 af

Subcatchment 3S: Drainage Area 3S Runoff Area=8.003 ac 0.00% Impervious Runoff Depth=2.21"
Flow Length=836' Tc=17.1 min CN=75 Runoff=14.70 cfs 1.473 af

Subcatchment 4S: Drainage Area 4S Runoff Area=28.046 ac 0.00% Impervious Runoff Depth=1.19"
Flow Length=1,476' Tc=31.6 min CN=61 Runoff=19.23 cfs 2.787 af

Subcatchment 5S: Drainage Area 5S Runoff Area=9.675 ac 0.00% Impervious Runoff Depth=0.83"
Flow Length=1,196' Tc=21.8 min CN=55 Runoff=4.68 cfs 0.673 af

Subcatchment 6S: Drainage Area 6S Runoff Area=4.792 ac 0.00% Impervious Runoff Depth=0.83"
Flow Length=1,486' Tc=32.4 min CN=55 Runoff=1.99 cfs 0.333 af

Subcatchment 7S: Drainage Area 7S Runoff Area=31.477 ac 0.00% Impervious Runoff Depth=0.83"
Flow Length=1,268' Tc=22.8 min CN=55 Runoff=15.01 cfs 2.189 af

Subcatchment 8S: Drainage Area 8S Runoff Area=26.599 ac 0.00% Impervious Runoff Depth=0.83"
Flow Length=1,700' Tc=40.7 min CN=55 Runoff=9.87 cfs 1.850 af

Subcatchment 9S: Drainage Area 9S Runoff Area=1.527 ac 0.00% Impervious Runoff Depth=0.95"
Flow Length=925' Tc=16.0 min CN=57 Runoff=1.00 cfs 0.121 af

Reach DP-1: Design Point 1 Inflow=21.44 cfs 3.301 af
Outflow=21.44 cfs 3.301 af

Reach DP-2: Design Point 2 Inflow=20.91 cfs 3.232 af
Outflow=20.91 cfs 3.232 af

Reach DP-3: Design Point 3 Inflow=14.70 cfs 1.473 af
Outflow=14.70 cfs 1.473 af

Reach DP-4: Design Point 4 Inflow=19.23 cfs 2.787 af
Outflow=19.23 cfs 2.787 af

Reach DP-5: Design Point 5 Inflow=4.68 cfs 0.673 af
Outflow=4.68 cfs 0.673 af

Reach DP-6: Design Point 6 Inflow=1.99 cfs 0.333 af
Outflow=1.99 cfs 0.333 af

Reach DP-7: Design Point 7 Inflow=15.01 cfs 2.189 af
Outflow=15.01 cfs 2.189 af

Reach DP-8: Design Point 8 Inflow=9.87 cfs 1.850 af
Outflow=9.87 cfs 1.850 af

Reach DP-9: Design Point 9 Inflow=1.00 cfs 0.121 af
Outflow=1.00 cfs 0.121 af

Total Runoff Area = 162.710 ac Runoff Volume = 15.960 af Average Runoff Depth = 1.18"
99.30% Pervious = 161.579 ac 0.70% Impervious = 1.131 ac

Summary for Subcatchment 1S: Drainage Area 1S

Runoff = 21.44 cfs @ 12.60 hrs, Volume= 3.301 af, Depth= 1.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (ac)	CN	Description
*	0.262	98	Existing Structure, HSG A
*	0.603	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	14.767	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	3.538	67	Row crops, straight row, Good, HSG A
	7.488	78	Row crops, straight row, Good, HSG B
	0.000	85	Row crops, straight row, Good, HSG C
	0.527	96	Gravel surface, HSG B
	27.185	65	Weighted Average
	26.320		96.82% Pervious Area
	0.865		3.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	50	0.0300	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
3.0	154	0.0292	0.85		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.3	564	0.1277	1.79		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.5	271	0.0664	1.80		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
18.5	713	0.0084	0.64		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
39.8	1,752	Total			

Summary for Subcatchment 2S: Drainage Area 2S

Runoff = 20.91 cfs @ 12.61 hrs, Volume= 3.232 af, Depth= 1.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.266	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	13.979	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	67	Row crops, straight row, Good, HSG A
	11.161	78	Row crops, straight row, Good, HSG B
	0.000	85	Row crops, straight row, Good, HSG C
	25.406	66	Weighted Average
	25.140		98.95% Pervious Area
	0.266		1.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
13.5	1,037	0.0656	1.28		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.5	311	0.1768	2.10		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.6	304	0.0757	1.93		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
12.9	561	0.0107	0.72		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
40.8	2,263	Total			

Summary for Subcatchment 3S: Drainage Area 3S

Runoff = 14.70 cfs @ 12.24 hrs, Volume= 1.473 af, Depth= 2.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	1.186	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	98	Paved parking, HSG B
	0.000	67	Row crops, straight row, Good, HSG A
	6.817	78	Row crops, straight row, Good, HSG B
	0.000	85	Row crops, straight row, Good, HSG C
	8.003	75	Weighted Average
	8.003		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	50	0.1200	0.14		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.9	85	0.1059	1.63		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.9	296	0.0574	1.68		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.3	405	0.0173	0.92		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
17.1	836	Total			

Summary for Subcatchment 4S: Drainage Area 4S

Runoff = 19.23 cfs @ 12.50 hrs, Volume= 2.787 af, Depth= 1.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	20.410	55	Woods, Good, HSG B
	0.380	70	Woods, Good, HSG C
	0.000	98	Paved parking, HSG B
	0.000	67	Row crops, straight row, Good, HSG A
	7.256	78	Row crops, straight row, Good, HSG B
	0.000	85	Row crops, straight row, Good, HSG C
	28.046	61	Weighted Average
	28.046		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	50	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
1.0	65	0.0462	1.07		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
4.6	581	0.1756	2.10		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.9	306	0.0686	1.31		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.1	321	0.0312	0.88		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.7	153	0.0098	0.69		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
31.6	1,476	Total			

Summary for Subcatchment 5S: Drainage Area 5S

Runoff = 4.68 cfs @ 12.39 hrs, Volume= 0.673 af, Depth= 0.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	9.675	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	98	Paved parking, HSG B
	0.000	67	Row crops, straight row, Good, HSG A
	0.000	78	Row crops, straight row, Good, HSG B
	0.000	85	Row crops, straight row, Good, HSG C
	9.675	55	Weighted Average
	9.675		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
1.5	95	0.0421	1.03		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
11.0	1,051	0.1018	1.60		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
21.8	1,196	Total			

Summary for Subcatchment 6S: Drainage Area 6S

Runoff = 1.99 cfs @ 12.56 hrs, Volume= 0.333 af, Depth= 0.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	4.792	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	98	Paved parking, HSG B
	0.000	67	Row crops, straight row, Good, HSG A
	0.000	78	Row crops, straight row, Good, HSG B
	0.000	85	Row crops, straight row, Good, HSG C
	4.792	55	Weighted Average
	4.792		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	50	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
4.3	236	0.0339	0.92		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.5	554	0.0812	1.42		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.3	187	0.2406	2.45		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.0	459	0.0370	0.96		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
32.4	1,486	Total			

Summary for Subcatchment 7S: Drainage Area 7S

Runoff = 15.01 cfs @ 12.41 hrs, Volume= 2.189 af, Depth= 0.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	31.477	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	98	Paved parking, HSG B
	0.000	67	Row crops, straight row, Good, HSG A
	0.000	78	Row crops, straight row, Good, HSG B
	0.000	85	Row crops, straight row, Good, HSG C
	31.477	55	Weighted Average
	31.477		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	50	0.0600	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
14.9	1,218	0.0747	1.37		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
22.8	1,268	Total			

Summary for Subcatchment 8S: Drainage Area 8S

Runoff = 9.87 cfs @ 12.68 hrs, Volume= 1.850 af, Depth= 0.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	26.599	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	98	Paved parking, HSG B
	0.000	67	Row crops, straight row, Good, HSG A
	0.000	78	Row crops, straight row, Good, HSG B
	0.000	85	Row crops, straight row, Good, HSG C
	26.599	55	Weighted Average
	26.599		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	50	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
2.2	145	0.0484	1.10		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.6	499	0.0481	1.10		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
12.8	510	0.0176	0.66		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.8	208	0.0625	1.25		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.0	288	0.1007	1.59		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
40.7	1,700	Total			

Summary for Subcatchment 9S: Drainage Area 9S

Runoff = 1.00 cfs @ 12.27 hrs, Volume= 0.121 af, Depth= 0.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.187	30	Woods, Good, HSG A
	1.168	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	98	Paved parking, HSG B
	0.000	67	Row crops, straight row, Good, HSG A
	0.000	78	Row crops, straight row, Good, HSG B
	0.000	85	Row crops, straight row, Good, HSG C
	0.048	96	Gravel surface, HSG A
	0.124	96	Gravel surface, HSG B
	1.527	57	Weighted Average
	1.527		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
4.9	388	0.0696	1.32		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.8	487	0.0801	4.56		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
16.0	925	Total			

Summary for Reach DP-1: Design Point 1

Inflow Area = 27.185 ac, 3.18% Impervious, Inflow Depth = 1.46" for 10-Year event
Inflow = 21.44 cfs @ 12.60 hrs, Volume= 3.301 af
Outflow = 21.44 cfs @ 12.60 hrs, Volume= 3.301 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-2: Design Point 2

Inflow Area = 25.406 ac, 1.05% Impervious, Inflow Depth = 1.53" for 10-Year event
Inflow = 20.91 cfs @ 12.61 hrs, Volume= 3.232 af
Outflow = 20.91 cfs @ 12.61 hrs, Volume= 3.232 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-3: Design Point 3

Inflow Area = 8.003 ac, 0.00% Impervious, Inflow Depth = 2.21" for 10-Year event
Inflow = 14.70 cfs @ 12.24 hrs, Volume= 1.473 af
Outflow = 14.70 cfs @ 12.24 hrs, Volume= 1.473 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-4: Design Point 4

Inflow Area = 28.046 ac, 0.00% Impervious, Inflow Depth = 1.19" for 10-Year event
Inflow = 19.23 cfs @ 12.50 hrs, Volume= 2.787 af
Outflow = 19.23 cfs @ 12.50 hrs, Volume= 2.787 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-5: Design Point 5

Inflow Area = 9.675 ac, 0.00% Impervious, Inflow Depth = 0.83" for 10-Year event
Inflow = 4.68 cfs @ 12.39 hrs, Volume= 0.673 af
Outflow = 4.68 cfs @ 12.39 hrs, Volume= 0.673 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-6: Design Point 6

Inflow Area = 4.792 ac, 0.00% Impervious, Inflow Depth = 0.83" for 10-Year event
Inflow = 1.99 cfs @ 12.56 hrs, Volume= 0.333 af
Outflow = 1.99 cfs @ 12.56 hrs, Volume= 0.333 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-7: Design Point 7

Inflow Area = 31.477 ac, 0.00% Impervious, Inflow Depth = 0.83" for 10-Year event
Inflow = 15.01 cfs @ 12.41 hrs, Volume= 2.189 af
Outflow = 15.01 cfs @ 12.41 hrs, Volume= 2.189 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-8: Design Point 8

Inflow Area = 26.599 ac, 0.00% Impervious, Inflow Depth = 0.83" for 10-Year event
Inflow = 9.87 cfs @ 12.68 hrs, Volume= 1.850 af
Outflow = 9.87 cfs @ 12.68 hrs, Volume= 1.850 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-9: Design Point 9

Inflow Area = 1.527 ac, 0.00% Impervious, Inflow Depth = 0.95" for 10-Year event
Inflow = 1.00 cfs @ 12.27 hrs, Volume= 0.121 af
Outflow = 1.00 cfs @ 12.27 hrs, Volume= 0.121 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Time span=5.00-30.00 hrs, dt=0.05 hrs, 501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Drainage Area 1S Runoff Area=27.185 ac 3.18% Impervious Runoff Depth=1.99"
Flow Length=1,752' Tc=39.8 min CN=65 Runoff=30.20 cfs 4.519 af

Subcatchment 2S: Drainage Area 2S Runoff Area=25.406 ac 1.05% Impervious Runoff Depth=2.08"
Flow Length=2,263' Tc=40.8 min CN=66 Runoff=29.17 cfs 4.396 af

Subcatchment 3S: Drainage Area 3S Runoff Area=8.003 ac 0.00% Impervious Runoff Depth=2.86"
Flow Length=836' Tc=17.1 min CN=75 Runoff=19.15 cfs 1.908 af

Subcatchment 4S: Drainage Area 4S Runoff Area=28.046 ac 0.00% Impervious Runoff Depth=1.68"
Flow Length=1,476' Tc=31.6 min CN=61 Runoff=28.38 cfs 3.924 af

Subcatchment 5S: Drainage Area 5S Runoff Area=9.675 ac 0.00% Impervious Runoff Depth=1.24"
Flow Length=1,196' Tc=21.8 min CN=55 Runoff=7.74 cfs 0.999 af

Subcatchment 6S: Drainage Area 6S Runoff Area=4.792 ac 0.00% Impervious Runoff Depth=1.24"
Flow Length=1,486' Tc=32.4 min CN=55 Runoff=3.25 cfs 0.495 af

Subcatchment 7S: Drainage Area 7S Runoff Area=31.477 ac 0.00% Impervious Runoff Depth=1.24"
Flow Length=1,268' Tc=22.8 min CN=55 Runoff=24.75 cfs 3.251 af

Subcatchment 8S: Drainage Area 8S Runoff Area=26.599 ac 0.00% Impervious Runoff Depth=1.24"
Flow Length=1,700' Tc=40.7 min CN=55 Runoff=16.13 cfs 2.747 af

Subcatchment 9S: Drainage Area 9S Runoff Area=1.527 ac 0.00% Impervious Runoff Depth=1.38"
Flow Length=925' Tc=16.0 min CN=57 Runoff=1.59 cfs 0.176 af

Reach DP-1: Design Point 1 Inflow=30.20 cfs 4.519 af
Outflow=30.20 cfs 4.519 af

Reach DP-2: Design Point 2 Inflow=29.17 cfs 4.396 af
Outflow=29.17 cfs 4.396 af

Reach DP-3: Design Point 3 Inflow=19.15 cfs 1.908 af
Outflow=19.15 cfs 1.908 af

Reach DP-4: Design Point 4 Inflow=28.38 cfs 3.924 af
Outflow=28.38 cfs 3.924 af

Reach DP-5: Design Point 5 Inflow=7.74 cfs 0.999 af
Outflow=7.74 cfs 0.999 af

Reach DP-6: Design Point 6 Inflow=3.25 cfs 0.495 af
Outflow=3.25 cfs 0.495 af

Reach DP-7: Design Point 7 Inflow=24.75 cfs 3.251 af
Outflow=24.75 cfs 3.251 af

Reach DP-8: Design Point 8 Inflow=16.13 cfs 2.747 af
Outflow=16.13 cfs 2.747 af

Reach DP-9: Design Point 9 Inflow=1.59 cfs 0.176 af
Outflow=1.59 cfs 0.176 af

Total Runoff Area = 162.710 ac Runoff Volume = 22.414 af Average Runoff Depth = 1.65"
99.30% Pervious = 161.579 ac 0.70% Impervious = 1.131 ac

Summary for Subcatchment 1S: Drainage Area 1S

Runoff = 30.20 cfs @ 12.59 hrs, Volume= 4.519 af, Depth= 1.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (ac)	CN	Description
*	0.262	98	Existing Structure, HSG A
*	0.603	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	14.767	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	3.538	67	Row crops, straight row, Good, HSG A
	7.488	78	Row crops, straight row, Good, HSG B
	0.000	85	Row crops, straight row, Good, HSG C
	0.527	96	Gravel surface, HSG B
	27.185	65	Weighted Average
	26.320		96.82% Pervious Area
	0.865		3.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	50	0.0300	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
3.0	154	0.0292	0.85		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.3	564	0.1277	1.79		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.5	271	0.0664	1.80		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
18.5	713	0.0084	0.64		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
39.8	1,752	Total			

Summary for Subcatchment 2S: Drainage Area 2S

Runoff = 29.17 cfs @ 12.60 hrs, Volume= 4.396 af, Depth= 2.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.266	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	13.979	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	67	Row crops, straight row, Good, HSG A
	11.161	78	Row crops, straight row, Good, HSG B
	0.000	85	Row crops, straight row, Good, HSG C
	25.406	66	Weighted Average
	25.140		98.95% Pervious Area
	0.266		1.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
13.5	1,037	0.0656	1.28		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.5	311	0.1768	2.10		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.6	304	0.0757	1.93		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
12.9	561	0.0107	0.72		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
40.8	2,263	Total			

Summary for Subcatchment 3S: Drainage Area 3S

Runoff = 19.15 cfs @ 12.24 hrs, Volume= 1.908 af, Depth= 2.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	1.186	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	98	Paved parking, HSG B
	0.000	67	Row crops, straight row, Good, HSG A
	6.817	78	Row crops, straight row, Good, HSG B
	0.000	85	Row crops, straight row, Good, HSG C
	8.003	75	Weighted Average
	8.003		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	50	0.1200	0.14		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.9	85	0.1059	1.63		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.9	296	0.0574	1.68		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.3	405	0.0173	0.92		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
17.1	836	Total			

Summary for Subcatchment 4S: Drainage Area 4S

Runoff = 28.38 cfs @ 12.48 hrs, Volume= 3.924 af, Depth= 1.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	20.410	55	Woods, Good, HSG B
	0.380	70	Woods, Good, HSG C
	0.000	98	Paved parking, HSG B
	0.000	67	Row crops, straight row, Good, HSG A
	7.256	78	Row crops, straight row, Good, HSG B
	0.000	85	Row crops, straight row, Good, HSG C
	28.046	61	Weighted Average
	28.046		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	50	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
1.0	65	0.0462	1.07		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
4.6	581	0.1756	2.10		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.9	306	0.0686	1.31		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.1	321	0.0312	0.88		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.7	153	0.0098	0.69		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
31.6	1,476	Total			

Summary for Subcatchment 5S: Drainage Area 5S

Runoff = 7.74 cfs @ 12.36 hrs, Volume= 0.999 af, Depth= 1.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	9.675	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	98	Paved parking, HSG B
	0.000	67	Row crops, straight row, Good, HSG A
	0.000	78	Row crops, straight row, Good, HSG B
	0.000	85	Row crops, straight row, Good, HSG C
	9.675	55	Weighted Average
	9.675		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
1.5	95	0.0421	1.03		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
11.0	1,051	0.1018	1.60		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
21.8	1,196	Total			

Summary for Subcatchment 6S: Drainage Area 6S

Runoff = 3.25 cfs @ 12.53 hrs, Volume= 0.495 af, Depth= 1.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	4.792	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	98	Paved parking, HSG B
	0.000	67	Row crops, straight row, Good, HSG A
	0.000	78	Row crops, straight row, Good, HSG B
	0.000	85	Row crops, straight row, Good, HSG C
	4.792	55	Weighted Average
	4.792		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	50	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
4.3	236	0.0339	0.92		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.5	554	0.0812	1.42		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.3	187	0.2406	2.45		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.0	459	0.0370	0.96		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
32.4	1,486	Total			

Summary for Subcatchment 7S: Drainage Area 7S

Runoff = 24.75 cfs @ 12.37 hrs, Volume= 3.251 af, Depth= 1.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	31.477	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	98	Paved parking, HSG B
	0.000	67	Row crops, straight row, Good, HSG A
	0.000	78	Row crops, straight row, Good, HSG B
	0.000	85	Row crops, straight row, Good, HSG C
	31.477	55	Weighted Average
	31.477		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	50	0.0600	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
14.9	1,218	0.0747	1.37		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
22.8	1,268	Total			

Summary for Subcatchment 8S: Drainage Area 8S

Runoff = 16.13 cfs @ 12.65 hrs, Volume= 2.747 af, Depth= 1.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	26.599	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	98	Paved parking, HSG B
	0.000	67	Row crops, straight row, Good, HSG A
	0.000	78	Row crops, straight row, Good, HSG B
	0.000	85	Row crops, straight row, Good, HSG C
	26.599	55	Weighted Average
	26.599		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	50	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
2.2	145	0.0484	1.10		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.6	499	0.0481	1.10		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
12.8	510	0.0176	0.66		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.8	208	0.0625	1.25		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.0	288	0.1007	1.59		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
40.7	1,700	Total			

Summary for Subcatchment 9S: Drainage Area 9S

Runoff = 1.59 cfs @ 12.25 hrs, Volume= 0.176 af, Depth= 1.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.187	30	Woods, Good, HSG A
	1.168	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	98	Paved parking, HSG B
	0.000	67	Row crops, straight row, Good, HSG A
	0.000	78	Row crops, straight row, Good, HSG B
	0.000	85	Row crops, straight row, Good, HSG C
	0.048	96	Gravel surface, HSG A
	0.124	96	Gravel surface, HSG B
	1.527	57	Weighted Average
	1.527		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
4.9	388	0.0696	1.32		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.8	487	0.0801	4.56		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
16.0	925	Total			

Summary for Reach DP-1: Design Point 1

Inflow Area = 27.185 ac, 3.18% Impervious, Inflow Depth = 1.99" for 25-Year event
Inflow = 30.20 cfs @ 12.59 hrs, Volume= 4.519 af
Outflow = 30.20 cfs @ 12.59 hrs, Volume= 4.519 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-2: Design Point 2

Inflow Area = 25.406 ac, 1.05% Impervious, Inflow Depth = 2.08" for 25-Year event
Inflow = 29.17 cfs @ 12.60 hrs, Volume= 4.396 af
Outflow = 29.17 cfs @ 12.60 hrs, Volume= 4.396 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-3: Design Point 3

Inflow Area = 8.003 ac, 0.00% Impervious, Inflow Depth = 2.86" for 25-Year event
Inflow = 19.15 cfs @ 12.24 hrs, Volume= 1.908 af
Outflow = 19.15 cfs @ 12.24 hrs, Volume= 1.908 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-4: Design Point 4

Inflow Area = 28.046 ac, 0.00% Impervious, Inflow Depth = 1.68" for 25-Year event
Inflow = 28.38 cfs @ 12.48 hrs, Volume= 3.924 af
Outflow = 28.38 cfs @ 12.48 hrs, Volume= 3.924 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-5: Design Point 5

Inflow Area = 9.675 ac, 0.00% Impervious, Inflow Depth = 1.24" for 25-Year event
Inflow = 7.74 cfs @ 12.36 hrs, Volume= 0.999 af
Outflow = 7.74 cfs @ 12.36 hrs, Volume= 0.999 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-6: Design Point 6

Inflow Area = 4.792 ac, 0.00% Impervious, Inflow Depth = 1.24" for 25-Year event
Inflow = 3.25 cfs @ 12.53 hrs, Volume= 0.495 af
Outflow = 3.25 cfs @ 12.53 hrs, Volume= 0.495 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-7: Design Point 7

Inflow Area = 31.477 ac, 0.00% Impervious, Inflow Depth = 1.24" for 25-Year event
Inflow = 24.75 cfs @ 12.37 hrs, Volume= 3.251 af
Outflow = 24.75 cfs @ 12.37 hrs, Volume= 3.251 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-8: Design Point 8

Inflow Area = 26.599 ac, 0.00% Impervious, Inflow Depth = 1.24" for 25-Year event
Inflow = 16.13 cfs @ 12.65 hrs, Volume= 2.747 af
Outflow = 16.13 cfs @ 12.65 hrs, Volume= 2.747 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-9: Design Point 9

Inflow Area = 1.527 ac, 0.00% Impervious, Inflow Depth = 1.38" for 25-Year event
Inflow = 1.59 cfs @ 12.25 hrs, Volume= 0.176 af
Outflow = 1.59 cfs @ 12.25 hrs, Volume= 0.176 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Time span=5.00-30.00 hrs, dt=0.05 hrs, 501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Drainage Area 1S Runoff Area=27.185 ac 3.18% Impervious Runoff Depth=3.03"
Flow Length=1,752' Tc=39.8 min CN=65 Runoff=46.89 cfs 6.854 af

Subcatchment 2S: Drainage Area 2S Runoff Area=25.406 ac 1.05% Impervious Runoff Depth=3.13"
Flow Length=2,263' Tc=40.8 min CN=66 Runoff=44.85 cfs 6.618 af

Subcatchment 3S: Drainage Area 3S Runoff Area=8.003 ac 0.00% Impervious Runoff Depth=4.06"
Flow Length=836' Tc=17.1 min CN=75 Runoff=27.23 cfs 2.709 af

Subcatchment 4S: Drainage Area 4S Runoff Area=28.046 ac 0.00% Impervious Runoff Depth=2.63"
Flow Length=1,476' Tc=31.6 min CN=61 Runoff=46.28 cfs 6.147 af

Subcatchment 5S: Drainage Area 5S Runoff Area=9.675 ac 0.00% Impervious Runoff Depth=2.06"
Flow Length=1,196' Tc=21.8 min CN=55 Runoff=14.00 cfs 1.661 af

Subcatchment 6S: Drainage Area 6S Runoff Area=4.792 ac 0.00% Impervious Runoff Depth=2.06"
Flow Length=1,486' Tc=32.4 min CN=55 Runoff=5.86 cfs 0.823 af

Subcatchment 7S: Drainage Area 7S Runoff Area=31.477 ac 0.00% Impervious Runoff Depth=2.06"
Flow Length=1,268' Tc=22.8 min CN=55 Runoff=44.78 cfs 5.405 af

Subcatchment 8S: Drainage Area 8S Runoff Area=26.599 ac 0.00% Impervious Runoff Depth=2.06"
Flow Length=1,700' Tc=40.7 min CN=55 Runoff=29.08 cfs 4.568 af

Subcatchment 9S: Drainage Area 9S Runoff Area=1.527 ac 0.00% Impervious Runoff Depth=2.25"
Flow Length=925' Tc=16.0 min CN=57 Runoff=2.78 cfs 0.286 af

Reach DP-1: Design Point 1 Inflow=46.89 cfs 6.854 af
Outflow=46.89 cfs 6.854 af

Reach DP-2: Design Point 2 Inflow=44.85 cfs 6.618 af
Outflow=44.85 cfs 6.618 af

Reach DP-3: Design Point 3 Inflow=27.23 cfs 2.709 af
Outflow=27.23 cfs 2.709 af

Reach DP-4: Design Point 4 Inflow=46.28 cfs 6.147 af
Outflow=46.28 cfs 6.147 af

Reach DP-5: Design Point 5 Inflow=14.00 cfs 1.661 af
Outflow=14.00 cfs 1.661 af

Reach DP-6: Design Point 6 Inflow=5.86 cfs 0.823 af
Outflow=5.86 cfs 0.823 af

Reach DP-7: Design Point 7 Inflow=44.78 cfs 5.405 af
Outflow=44.78 cfs 5.405 af

Reach DP-8: Design Point 8 Inflow=29.08 cfs 4.568 af
Outflow=29.08 cfs 4.568 af

Reach DP-9: Design Point 9 Inflow=2.78 cfs 0.286 af
Outflow=2.78 cfs 0.286 af

Total Runoff Area = 162.710 ac Runoff Volume = 35.071 af Average Runoff Depth = 2.59"
99.30% Pervious = 161.579 ac 0.70% Impervious = 1.131 ac

Summary for Subcatchment 1S: Drainage Area 1S

Runoff = 46.89 cfs @ 12.57 hrs, Volume= 6.854 af, Depth= 3.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.90"

	Area (ac)	CN	Description
*	0.262	98	Existing Structure, HSG A
*	0.603	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	14.767	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	3.538	67	Row crops, straight row, Good, HSG A
	7.488	78	Row crops, straight row, Good, HSG B
	0.000	85	Row crops, straight row, Good, HSG C
	0.527	96	Gravel surface, HSG B
	27.185	65	Weighted Average
	26.320		96.82% Pervious Area
	0.865		3.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	50	0.0300	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
3.0	154	0.0292	0.85		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.3	564	0.1277	1.79		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.5	271	0.0664	1.80		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
18.5	713	0.0084	0.64		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
39.8	1,752	Total			

Summary for Subcatchment 2S: Drainage Area 2S

Runoff = 44.85 cfs @ 12.58 hrs, Volume= 6.618 af, Depth= 3.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.90"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.266	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	13.979	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	67	Row crops, straight row, Good, HSG A
	11.161	78	Row crops, straight row, Good, HSG B
	0.000	85	Row crops, straight row, Good, HSG C
	25.406	66	Weighted Average
	25.140		98.95% Pervious Area
	0.266		1.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
13.5	1,037	0.0656	1.28		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.5	311	0.1768	2.10		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.6	304	0.0757	1.93		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
12.9	561	0.0107	0.72		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
40.8	2,263	Total			

Summary for Subcatchment 3S: Drainage Area 3S

Runoff = 27.23 cfs @ 12.24 hrs, Volume= 2.709 af, Depth= 4.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.90"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	1.186	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	98	Paved parking, HSG B
	0.000	67	Row crops, straight row, Good, HSG A
	6.817	78	Row crops, straight row, Good, HSG B
	0.000	85	Row crops, straight row, Good, HSG C
	8.003	75	Weighted Average
	8.003		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	50	0.1200	0.14		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.9	85	0.1059	1.63		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.9	296	0.0574	1.68		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.3	405	0.0173	0.92		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
17.1	836	Total			

Summary for Subcatchment 4S: Drainage Area 4S

Runoff = 46.28 cfs @ 12.47 hrs, Volume= 6.147 af, Depth= 2.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.90"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	20.410	55	Woods, Good, HSG B
	0.380	70	Woods, Good, HSG C
	0.000	98	Paved parking, HSG B
	0.000	67	Row crops, straight row, Good, HSG A
	7.256	78	Row crops, straight row, Good, HSG B
	0.000	85	Row crops, straight row, Good, HSG C
	28.046	61	Weighted Average
	28.046		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	50	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
1.0	65	0.0462	1.07		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
4.6	581	0.1756	2.10		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.9	306	0.0686	1.31		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.1	321	0.0312	0.88		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.7	153	0.0098	0.69		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
31.6	1,476	Total			

Summary for Subcatchment 5S: Drainage Area 5S

Runoff = 14.00 cfs @ 12.33 hrs, Volume= 1.661 af, Depth= 2.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.90"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	9.675	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	98	Paved parking, HSG B
	0.000	67	Row crops, straight row, Good, HSG A
	0.000	78	Row crops, straight row, Good, HSG B
	0.000	85	Row crops, straight row, Good, HSG C
	9.675	55	Weighted Average
	9.675		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
1.5	95	0.0421	1.03		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
11.0	1,051	0.1018	1.60		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
21.8	1,196	Total			

Summary for Subcatchment 6S: Drainage Area 6S

Runoff = 5.86 cfs @ 12.50 hrs, Volume= 0.823 af, Depth= 2.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.90"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	4.792	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	98	Paved parking, HSG B
	0.000	67	Row crops, straight row, Good, HSG A
	0.000	78	Row crops, straight row, Good, HSG B
	0.000	85	Row crops, straight row, Good, HSG C
	4.792	55	Weighted Average
	4.792		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	50	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
4.3	236	0.0339	0.92		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.5	554	0.0812	1.42		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.3	187	0.2406	2.45		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.0	459	0.0370	0.96		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
32.4	1,486	Total			

Summary for Subcatchment 7S: Drainage Area 7S

Runoff = 44.78 cfs @ 12.35 hrs, Volume= 5.405 af, Depth= 2.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.90"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	31.477	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	98	Paved parking, HSG B
	0.000	67	Row crops, straight row, Good, HSG A
	0.000	78	Row crops, straight row, Good, HSG B
	0.000	85	Row crops, straight row, Good, HSG C
	31.477	55	Weighted Average
	31.477		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	50	0.0600	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
14.9	1,218	0.0747	1.37		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
22.8	1,268	Total			

Summary for Subcatchment 8S: Drainage Area 8S

Runoff = 29.08 cfs @ 12.62 hrs, Volume= 4.568 af, Depth= 2.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.90"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	26.599	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	98	Paved parking, HSG B
	0.000	67	Row crops, straight row, Good, HSG A
	0.000	78	Row crops, straight row, Good, HSG B
	0.000	85	Row crops, straight row, Good, HSG C
	26.599	55	Weighted Average
	26.599		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	50	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
2.2	145	0.0484	1.10		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.6	499	0.0481	1.10		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
12.8	510	0.0176	0.66		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.8	208	0.0625	1.25		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.0	288	0.1007	1.59		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
40.7	1,700	Total			

Summary for Subcatchment 9S: Drainage Area 9S

Runoff = 2.78 cfs @ 12.24 hrs, Volume= 0.286 af, Depth= 2.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.90"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.187	30	Woods, Good, HSG A
	1.168	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	98	Paved parking, HSG B
	0.000	67	Row crops, straight row, Good, HSG A
	0.000	78	Row crops, straight row, Good, HSG B
	0.000	85	Row crops, straight row, Good, HSG C
	0.048	96	Gravel surface, HSG A
	0.124	96	Gravel surface, HSG B
	1.527	57	Weighted Average
	1.527		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
4.9	388	0.0696	1.32		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.8	487	0.0801	4.56		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
16.0	925	Total			

Summary for Reach DP-1: Design Point 1

Inflow Area = 27.185 ac, 3.18% Impervious, Inflow Depth = 3.03" for 100-Year event
Inflow = 46.89 cfs @ 12.57 hrs, Volume= 6.854 af
Outflow = 46.89 cfs @ 12.57 hrs, Volume= 6.854 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-2: Design Point 2

Inflow Area = 25.406 ac, 1.05% Impervious, Inflow Depth = 3.13" for 100-Year event
Inflow = 44.85 cfs @ 12.58 hrs, Volume= 6.618 af
Outflow = 44.85 cfs @ 12.58 hrs, Volume= 6.618 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-3: Design Point 3

Inflow Area = 8.003 ac, 0.00% Impervious, Inflow Depth = 4.06" for 100-Year event
Inflow = 27.23 cfs @ 12.24 hrs, Volume= 2.709 af
Outflow = 27.23 cfs @ 12.24 hrs, Volume= 2.709 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-4: Design Point 4

Inflow Area = 28.046 ac, 0.00% Impervious, Inflow Depth = 2.63" for 100-Year event
Inflow = 46.28 cfs @ 12.47 hrs, Volume= 6.147 af
Outflow = 46.28 cfs @ 12.47 hrs, Volume= 6.147 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-5: Design Point 5

Inflow Area = 9.675 ac, 0.00% Impervious, Inflow Depth = 2.06" for 100-Year event
Inflow = 14.00 cfs @ 12.33 hrs, Volume= 1.661 af
Outflow = 14.00 cfs @ 12.33 hrs, Volume= 1.661 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-6: Design Point 6

Inflow Area = 4.792 ac, 0.00% Impervious, Inflow Depth = 2.06" for 100-Year event
Inflow = 5.86 cfs @ 12.50 hrs, Volume= 0.823 af
Outflow = 5.86 cfs @ 12.50 hrs, Volume= 0.823 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-7: Design Point 7

Inflow Area = 31.477 ac, 0.00% Impervious, Inflow Depth = 2.06" for 100-Year event
Inflow = 44.78 cfs @ 12.35 hrs, Volume= 5.405 af
Outflow = 44.78 cfs @ 12.35 hrs, Volume= 5.405 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-8: Design Point 8

Inflow Area = 26.599 ac, 0.00% Impervious, Inflow Depth = 2.06" for 100-Year event
Inflow = 29.08 cfs @ 12.62 hrs, Volume= 4.568 af
Outflow = 29.08 cfs @ 12.62 hrs, Volume= 4.568 af, Atten= 0%, Lag= 0.0 min

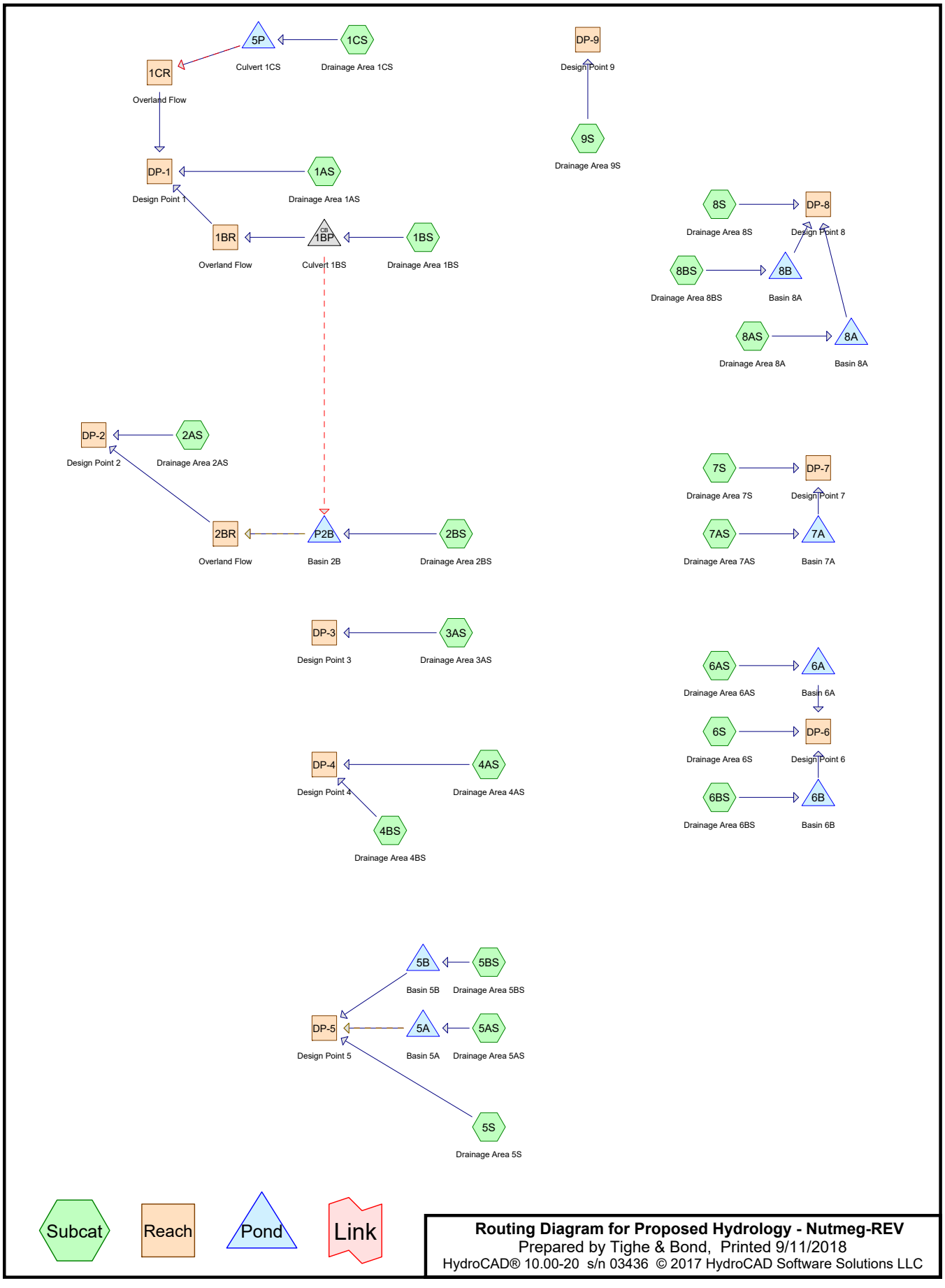
Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-9: Design Point 9

Inflow Area = 1.527 ac, 0.00% Impervious, Inflow Depth = 2.25" for 100-Year event
Inflow = 2.78 cfs @ 12.24 hrs, Volume= 0.286 af
Outflow = 2.78 cfs @ 12.24 hrs, Volume= 0.286 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Proposed Conditions Hydrology



Routing Diagram for Proposed Hydrology - Nutmeg-REV
Prepared by Tighe & Bond, Printed 9/11/2018

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.164	98	Existing Structure, HSG A (1AS)
0.678	98	Existing Structure, HSG B (1AS, 1CS, 2AS)
0.089	96	Gravel surface, HSG A (1AS, 9S)
5.822	96	Gravel surface, HSG B (1AS, 1BS, 1CS, 2AS, 2BS, 3AS, 4AS, 4BS, 8S, 9S)
3.589	30	Meadow, non-grazed, HSG A (1AS)
116.398	58	Meadow, non-grazed, HSG B (1AS, 1BS, 1CS, 2AS, 2BS, 3AS, 4AS, 4BS, 5AS, 5BS, 5S, 6AS, 6BS, 6S, 7AS, 7S, 8AS, 8BS, 8S, 9S)
0.393	71	Meadow, non-grazed, HSG C (4BS)
0.006	98	Unconnected pavement, HSG A (1AS)
2.389	98	Unconnected pavement, HSG B (1AS, 1BS, 1CS, 2AS, 2BS, 3AS, 4AS, 4BS, 6AS, 6BS, 7AS, 7S, 8AS, 8BS, 8S)
0.370	98	Water Surface, HSG B (2BS, 3AS)
0.187	30	Woods, Good, HSG A (9S)
32.027	55	Woods, Good, HSG B (1AS, 1CS, 2BS, 3AS, 4AS, 4BS, 5S, 6S, 7S, 8S, 9S)
0.274	65	Woods/grass comb., Fair, HSG B (1AS, 2AS, 4BS)
162.386	**59**	**TOTAL AREA**

Time span=5.00-30.00 hrs, dt=0.05 hrs, 501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1AS: Drainage Area 1AS Runoff Area=17.426 ac 5.85% Impervious Runoff Depth=0.25"
Flow Length=1,146' Tc=29.0 min CN=55 Runoff=1.33 cfs 0.364 af

Subcatchment 1BS: Drainage Area 1BS Runoff Area=9.780 ac 2.10% Impervious Runoff Depth=0.48"
Flow Length=1,301' Tc=17.2 min CN=62 Runoff=2.67 cfs 0.392 af

Subcatchment 1CS: Drainage Area 1CS Runoff Area=4.622 ac 6.34% Impervious Runoff Depth=1.54"
Flow Length=870' Tc=16.6 min UI Adjusted CN=82 Runoff=5.99 cfs 0.592 af

Subcatchment 2AS: Drainage Area 2AS Runoff Area=11.522 ac 2.97% Impervious Runoff Depth=0.37"
Flow Length=747' Tc=16.5 min CN=59 Runoff=2.09 cfs 0.359 af

Subcatchment 2BS: Drainage Area 2BS Runoff Area=15.629 ac 0.72% Impervious Runoff Depth=0.34"
Flow Length=1,098' Tc=14.2 min CN=58 Runoff=2.50 cfs 0.444 af

Subcatchment 3AS: Drainage Area 3AS Runoff Area=6.262 ac 7.41% Impervious Runoff Depth=0.52"
Flow Length=840' Tc=9.8 min UI Adjusted CN=63 Runoff=2.31 cfs 0.271 af

Subcatchment 4AS: Drainage Area 4AS Runoff Area=4.677 ac 2.67% Impervious Runoff Depth=0.34"
Flow Length=1,146' Tc=13.7 min CN=58 Runoff=0.75 cfs 0.133 af

Subcatchment 4BS: Drainage Area 4BS Runoff Area=24.770 ac 0.45% Impervious Runoff Depth=0.34"
Flow Length=1,845' Tc=29.3 min CN=58 Runoff=3.25 cfs 0.704 af

Subcatchment 5AS: Drainage Area 5AS Runoff Area=1.754 ac 0.00% Impervious Runoff Depth=0.34"
Flow Length=445' Tc=5.4 min CN=58 Runoff=0.32 cfs 0.050 af

Subcatchment 5BS: Drainage Area 5BS Runoff Area=1.232 ac 0.00% Impervious Runoff Depth=0.34"
Flow Length=394' Tc=8.0 min CN=58 Runoff=0.21 cfs 0.035 af

Subcatchment 5S: Drainage Area 5S Runoff Area=6.687 ac 0.00% Impervious Runoff Depth=0.28"
Flow Length=1,088' Tc=13.1 min CN=56 Runoff=0.78 cfs 0.156 af

Subcatchment 6AS: Drainage Area 6AS Runoff Area=1.181 ac 6.35% Impervious Runoff Depth=0.37"
Flow Length=290' Tc=7.3 min UI Adjusted CN=59 Runoff=0.26 cfs 0.037 af

Subcatchment 6BS: Drainage Area 6BS Runoff Area=0.525 ac 4.76% Impervious Runoff Depth=0.37"
Flow Length=290' Tc=7.3 min UI Adjusted CN=59 Runoff=0.11 cfs 0.016 af

Subcatchment 6S: Drainage Area 6S Runoff Area=3.086 ac 0.00% Impervious Runoff Depth=0.31"
Flow Length=1,253' Tc=19.3 min CN=57 Runoff=0.39 cfs 0.080 af

Subcatchment 7AS: Drainage Area 7AS Runoff Area=11.944 ac 0.52% Impervious Runoff Depth=0.34"
Flow Length=1,206' Tc=14.8 min CN=58 Runoff=1.90 cfs 0.340 af

Subcatchment 7S: Drainage Area 7S Runoff Area=19.533 ac 0.35% Impervious Runoff Depth=0.31"
Flow Length=1,268' Tc=14.5 min UI Adjusted CN=57 Runoff=2.65 cfs 0.504 af

Subcatchment 8AS: Drainage Area 8A Runoff Area=6.478 ac 0.57% Impervious Runoff Depth=0.34"
Flow Length=984' Tc=16.1 min CN=58 Runoff=1.01 cfs 0.184 af

Subcatchment 8BS: Drainage Area 8BS Runoff Area=4.301 ac 0.98% Impervious Runoff Depth=0.34"
Flow Length=1,438' Tc=24.0 min CN=58 Runoff=0.61 cfs 0.122 af

Subcatchment 8S: Drainage Area 8S Runoff Area=9.946 ac 6.29% Impervious Runoff Depth=0.44"
Flow Length=794' Tc=13.8 min UI Adjusted CN=61 Runoff=2.52 cfs 0.368 af

Subcatchment 9S: Drainage Area 9S Runoff Area=1.031 ac 0.00% Impervious Runoff Depth=0.37"
Flow Length=613' Tc=10.6 min CN=59 Runoff=0.20 cfs 0.032 af

Reach 1BR: Overland Flow Avg. Flow Depth=0.01' Max Vel=0.36 fps Inflow=2.67 cfs 0.392 af
n=0.030 L=940.0' S=0.0426 '/' Capacity=0.71 cfs Outflow=1.25 cfs 0.391 af

Reach 1CR: Overland Flow Avg. Flow Depth=0.09' Max Vel=0.55 fps Inflow=5.71 cfs 0.592 af
n=0.030 L=6,700.0' S=0.0084 '/' Capacity=17.41 cfs Outflow=0.99 cfs 0.541 af

Reach 2BR: Overland Flow Avg. Flow Depth=0.02' Max Vel=0.31 fps Inflow=2.06 cfs 0.286 af
n=0.030 L=785.0' S=0.0280 '/' Capacity=0.46 cfs Outflow=0.99 cfs 0.285 af

Reach DP-1: Design Point 1 Inflow=1.97 cfs 1.297 af
Outflow=1.97 cfs 1.297 af

Reach DP-2: Design Point 2 Inflow=2.09 cfs 0.644 af
Outflow=2.09 cfs 0.644 af

Reach DP-3: Design Point 3 Inflow=2.31 cfs 0.271 af
Outflow=2.31 cfs 0.271 af

Reach DP-4: Design Point 4 Inflow=3.82 cfs 0.837 af
Outflow=3.82 cfs 0.837 af

Reach DP-5: Design Point 5 Inflow=0.78 cfs 0.156 af
Outflow=0.78 cfs 0.156 af

Reach DP-6: Design Point 6 Inflow=0.39 cfs 0.080 af
Outflow=0.39 cfs 0.080 af

Reach DP-7: Design Point 7 Inflow=2.65 cfs 0.504 af
Outflow=2.65 cfs 0.504 af

Reach DP-8: Design Point 8 Inflow=2.52 cfs 0.368 af
Outflow=2.52 cfs 0.368 af

Reach DP-9: Design Point 9 Inflow=0.20 cfs 0.032 af
Outflow=0.20 cfs 0.032 af

Pond 1BP: Culvert 1BS Peak Elev=213.06' Inflow=2.67 cfs 0.392 af
Primary=2.67 cfs 0.392 af Secondary=0.00 cfs 0.000 af Outflow=2.67 cfs 0.392 af

Pond 5A: Basin 5A Peak Elev=273.08' Storage=221 cf Inflow=0.32 cfs 0.050 af
Discarded=0.16 cfs 0.050 af Primary=0.00 cfs 0.000 af Outflow=0.16 cfs 0.050 af

Pond 5B: Basin 5B Peak Elev=290.18' Storage=365 cf Inflow=0.21 cfs 0.035 af
Discarded=0.05 cfs 0.035 af Primary=0.00 cfs 0.000 af Outflow=0.05 cfs 0.035 af

Pond 5P: Culvert 1CS Peak Elev=226.32' Storage=617 cf Inflow=5.99 cfs 0.592 af
Primary=5.71 cfs 0.592 af Secondary=0.00 cfs 0.000 af Outflow=5.71 cfs 0.592 af

Pond 6A: Basin 6A Peak Elev=302.04' Storage=116 cf Inflow=0.26 cfs 0.037 af
Discarded=0.17 cfs 0.037 af Primary=0.00 cfs 0.000 af Outflow=0.17 cfs 0.037 af

Pond 6B: Basin 6B Peak Elev=292.40' Storage=143 cf Inflow=0.11 cfs 0.016 af
Discarded=0.03 cfs 0.016 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.016 af

Pond 7A: Basin 7A Peak Elev=250.98' Storage=5,302 cf Inflow=1.90 cfs 0.340 af
Discarded=0.35 cfs 0.333 af Primary=0.00 cfs 0.000 af Outflow=0.35 cfs 0.333 af

Pond 8A: Basin 8A Peak Elev=249.39' Storage=2,385 cf Inflow=1.01 cfs 0.184 af
Discarded=0.22 cfs 0.184 af Primary=0.00 cfs 0.000 af Outflow=0.22 cfs 0.184 af

Pond 8B: Basin 8A Peak Elev=243.76' Storage=1,308 cf Inflow=0.61 cfs 0.122 af
Discarded=0.17 cfs 0.122 af Primary=0.00 cfs 0.000 af Outflow=0.17 cfs 0.122 af

Pond P2B: Basin 2B Peak Elev=196.45' Storage=1,234 cf Inflow=2.50 cfs 0.444 af
Discarded=0.20 cfs 0.158 af Primary=2.06 cfs 0.286 af Secondary=0.00 cfs 0.000 af Outflow=2.26 cfs 0.444 af

Total Runoff Area = 162.386 ac Runoff Volume = 5.185 af Average Runoff Depth = 0.38"
97.78% Pervious = 158.779 ac 2.22% Impervious = 3.607 ac

Summary for Subcatchment 1AS: Drainage Area 1AS

Runoff = 1.33 cfs @ 12.67 hrs, Volume= 0.364 af, Depth= 0.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (ac)	CN	Description
*	0.164	98	Existing Structure, HSG A
*	0.533	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	3.149	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.041	96	Gravel surface, HSG A
	0.371	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	3.589	30	Meadow, non-grazed, HSG A
	9.178	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.006	98	Unconnected pavement, HSG A
	0.317	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	0.078	65	Woods/grass comb., Fair, HSG B
	17.426	55	Weighted Average
	16.406		94.15% Pervious Area
	1.020		5.85% Impervious Area
	0.323		31.67% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	50	0.1200	0.14		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.5	82	0.1459	2.67		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.0	236	0.0762	1.93		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.3	68	0.0147	0.85		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
11.9	445	0.0079	0.62		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.3	265	0.0075	0.61		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
29.0	1,146	Total			

Summary for Subcatchment 1BS: Drainage Area 1BS

Runoff = 2.67 cfs @ 12.33 hrs, Volume= 0.392 af, Depth= 0.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.922	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	8.653	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.205	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	9.780	62	Weighted Average
	9.575		97.90% Pervious Area
	0.205		2.10% Impervious Area
	0.205		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	50	0.0800	0.26		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
10.1	765	0.0327	1.27		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.8	278	0.0576	1.68		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.4	82	0.2560	3.54		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.7	126	0.0397	3.21		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
17.2	1,301	Total			

Summary for Subcatchment 1CS: Drainage Area 1CS

Runoff = 5.99 cfs @ 12.24 hrs, Volume= 0.592 af, Depth= 1.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (ac)	CN	Adj	Description
*	0.000	98		Existing Structure, HSG A
*	0.120	98		Existing Structure, HSG B
	0.000	30		Woods, Good, HSG A
	0.613	55		Woods, Good, HSG B
	0.000	70		Woods, Good, HSG C
	0.000	96		Gravel surface, HSG A
	2.738	96		Gravel surface, HSG B
	0.000	96		Gravel surface, HSG C
	0.000	30		Meadow, non-grazed, HSG A
	0.978	58		Meadow, non-grazed, HSG B
	0.000	71		Meadow, non-grazed, HSG C
	0.000	98		Unconnected pavement, HSG A
	0.173	98		Unconnected pavement, HSG B
	0.000	98		Unconnected pavement, HSG C
	0.000	98		Water Surface, HSG A
	0.000	98		Water Surface, HSG B
	0.000	98		Water Surface, HSG C
	4.622	83	82	Weighted Average, UI Adjusted
	4.329			93.66% Pervious Area
	0.293			6.34% Impervious Area
	0.173			59.04% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
3.9	160	0.0094	0.68		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.6	122	0.0328	1.27		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.8	222	0.0676	1.30		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	33	0.1212	2.44		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.5	283	0.0141	1.91		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
16.6	870	Total			

Summary for Subcatchment 2AS: Drainage Area 2AS

Runoff = 2.09 cfs @ 12.39 hrs, Volume= 0.359 af, Depth= 0.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.025	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.079	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	11.084	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.317	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	0.017	65	Woods/grass comb., Fair, HSG B
	11.522	59	Weighted Average
	11.180		97.03% Pervious Area
	0.342		2.97% Impervious Area
	0.317		92.69% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	50	0.0800	0.26		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
2.9	284	0.0528	1.61		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.2	80	0.0250	1.11		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
9.2	333	0.0075	0.61		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
16.5	747	Total			

Summary for Subcatchment 2BS: Drainage Area 2BS

Runoff = 2.50 cfs @ 12.38 hrs, Volume= 0.444 af, Depth= 0.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	5.460	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.340	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	9.717	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.031	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.081	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	15.629	58	Weighted Average
	15.517		99.28% Pervious Area
	0.112		0.72% Impervious Area
	0.031		27.68% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.8	182	0.0549	1.64		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.3	410	0.0879	2.08		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.9	120	0.1083	2.30		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.4	291	0.1684	2.05		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	45	0.2426	3.45		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
14.2	1,098	Total			

Summary for Subcatchment 3AS: Drainage Area 3AS

Runoff = 2.31 cfs @ 12.18 hrs, Volume= 0.271 af, Depth= 0.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (ac)	CN	Adj	Description
*	0.000	98		Existing Structure, HSG A
*	0.000	98		Existing Structure, HSG B
	0.000	30		Woods, Good, HSG A
	0.153	55		Woods, Good, HSG B
	0.000	70		Woods, Good, HSG C
	0.000	96		Gravel surface, HSG A
	0.496	96		Gravel surface, HSG B
	0.000	96		Gravel surface, HSG C
	0.000	30		Meadow, non-grazed, HSG A
	5.149	58		Meadow, non-grazed, HSG B
	0.000	71		Meadow, non-grazed, HSG C
	0.000	98		Unconnected pavement, HSG A
	0.175	98		Unconnected pavement, HSG B
	0.000	98		Unconnected pavement, HSG C
	0.000	98		Water Surface, HSG A
	0.289	98		Water Surface, HSG B
	0.000	98		Water Surface, HSG C
	6.262	64	63	Weighted Average, UI Adjusted
	5.798			92.59% Pervious Area
	0.464			7.41% Impervious Area
	0.175			37.72% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	50	0.1600	0.16		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.3	38	0.1316	1.81		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	32	0.0938	2.14		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	25	0.0800	4.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
2.4	463	0.0390	3.18		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.4	232	0.0302	2.80		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
9.8	840	Total			

Summary for Subcatchment 4AS: Drainage Area 4AS

Runoff = 0.75 cfs @ 12.38 hrs, Volume= 0.133 af, Depth= 0.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	3.033	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.148	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	1.371	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.125	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	4.677	58	Weighted Average
	4.552		97.33% Pervious Area
	0.125		2.67% Impervious Area
	0.125		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.0	79	0.0380	1.36		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.8	107	0.0935	2.14		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.3	532	0.1729	2.08		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.8	67	0.0448	1.48		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.2	311	0.0676	4.19		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
13.7	1,146	Total			

Summary for Subcatchment 4BS: Drainage Area 4BS

Runoff = 3.25 cfs @ 12.61 hrs, Volume= 0.704 af, Depth= 0.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	6.999	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.046	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	17.042	58	Meadow, non-grazed, HSG B
	0.393	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.111	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	0.179	65	Woods/grass comb., Fair, HSG B
	24.770	58	Weighted Average
	24.659		99.55% Pervious Area
	0.111		0.45% Impervious Area
	0.111		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.6	186	0.0806	1.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.4	72	0.1668	2.86		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.7	439	0.1550	1.97		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.7	411	0.0681	1.83		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
14.3	687	0.0131	0.80		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
29.3	1,845	Total			

Summary for Subcatchment 5AS: Drainage Area 5AS

Runoff = 0.32 cfs @ 12.16 hrs, Volume= 0.050 af, Depth= 0.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.000	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	1.754	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.000	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	1.754	58	Weighted Average
	1.754		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	50	0.0800	0.26		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
2.2	395	0.1800	2.97		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.4	445	Total			

Summary for Subcatchment 5BS: Drainage Area 5BS

Runoff = 0.21 cfs @ 12.20 hrs, Volume= 0.035 af, Depth= 0.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.000	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	1.232	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.000	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	1.232	58	Weighted Average
	1.232		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.3	50	0.0400	0.20		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.3	113	0.0442	1.47		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.4	231	0.0520	1.60		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.0	394	Total			

Summary for Subcatchment 5S: Drainage Area 5S

Runoff = 0.78 cfs @ 12.42 hrs, Volume= 0.156 af, Depth= 0.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	4.693	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.000	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	1.994	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.000	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	6.687	56	Weighted Average
	6.687		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	50	0.0800	0.26		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
3.0	396	0.0959	2.17		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.2	435	0.1172	1.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.7	207	0.0676	1.30		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
13.1	1,088	Total			

Summary for Subcatchment 6AS: Drainage Area 6AS

Runoff = 0.26 cfs @ 12.17 hrs, Volume= 0.037 af, Depth= 0.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (ac)	CN	Adj	Description
*	0.000	98		Existing Structure, HSG A
*	0.000	98		Existing Structure, HSG B
	0.000	30		Woods, Good, HSG A
	0.000	55		Woods, Good, HSG B
	0.000	70		Woods, Good, HSG C
	0.000	96		Gravel surface, HSG A
	0.000	96		Gravel surface, HSG B
	0.000	96		Gravel surface, HSG C
	0.000	30		Meadow, non-grazed, HSG A
	1.106	58		Meadow, non-grazed, HSG B
	0.000	71		Meadow, non-grazed, HSG C
	0.000	98		Unconnected pavement, HSG A
	0.075	98		Unconnected pavement, HSG B
	0.000	98		Unconnected pavement, HSG C
	0.000	98		Water Surface, HSG A
	0.000	98		Water Surface, HSG B
	0.000	98		Water Surface, HSG C
	1.181	61	59	Weighted Average, UI Adjusted
	1.106			93.65% Pervious Area
	0.075			6.35% Impervious Area
	0.075			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	50	0.0300	0.17		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
2.5	240	0.0542	1.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.3	290	Total			

Summary for Subcatchment 6BS: Drainage Area 6BS

Runoff = 0.11 cfs @ 12.17 hrs, Volume= 0.016 af, Depth= 0.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (ac)	CN	Adj	Description
*	0.000	98		Existing Structure, HSG A
*	0.000	98		Existing Structure, HSG B
	0.000	30		Woods, Good, HSG A
	0.000	55		Woods, Good, HSG B
	0.000	70		Woods, Good, HSG C
	0.000	96		Gravel surface, HSG A
	0.000	96		Gravel surface, HSG B
	0.000	96		Gravel surface, HSG C
	0.000	30		Meadow, non-grazed, HSG A
	0.500	58		Meadow, non-grazed, HSG B
	0.000	71		Meadow, non-grazed, HSG C
	0.000	98		Unconnected pavement, HSG A
	0.025	98		Unconnected pavement, HSG B
	0.000	98		Unconnected pavement, HSG C
	0.000	98		Water Surface, HSG A
	0.000	98		Water Surface, HSG B
	0.000	98		Water Surface, HSG C
	0.525	60	59	Weighted Average, UI Adjusted
	0.500			95.24% Pervious Area
	0.025			4.76% Impervious Area
	0.025			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	50	0.0300	0.17		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
2.5	240	0.0542	1.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.3	290	Total			

Summary for Subcatchment 6S: Drainage Area 6S

Runoff = 0.39 cfs @ 12.49 hrs, Volume= 0.080 af, Depth= 0.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	1.480	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.000	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	1.606	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.000	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	3.086	57	Weighted Average
	3.086		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.3	50	0.0400	0.20		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
4.8	571	0.0800	1.98		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.0	257	0.1900	2.18		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.2	375	0.0235	0.77		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
19.3	1,253	Total			

Summary for Subcatchment 7AS: Drainage Area 7AS

Runoff = 1.90 cfs @ 12.39 hrs, Volume= 0.340 af, Depth= 0.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.000	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	11.882	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.062	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	11.944	58	Weighted Average
	11.882		99.48% Pervious Area
	0.062		0.52% Impervious Area
	0.062		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	50	0.0700	0.24		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
11.4	1,156	0.0579	1.68		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
14.8	1,206	Total			

Summary for Subcatchment 7S: Drainage Area 7S

Runoff = 2.65 cfs @ 12.42 hrs, Volume= 0.504 af, Depth= 0.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (ac)	CN	Adj	Description
*	0.000	98		Existing Structure, HSG A
*	0.000	98		Existing Structure, HSG B
	0.000	30		Woods, Good, HSG A
	3.886	55		Woods, Good, HSG B
	0.000	70		Woods, Good, HSG C
	0.000	96		Gravel surface, HSG A
	0.000	96		Gravel surface, HSG B
	0.000	96		Gravel surface, HSG C
	0.000	30		Meadow, non-grazed, HSG A
	15.579	58		Meadow, non-grazed, HSG B
	0.000	71		Meadow, non-grazed, HSG C
	0.000	98		Unconnected pavement, HSG A
	0.068	98		Unconnected pavement, HSG B
	0.000	98		Unconnected pavement, HSG C
	0.000	98		Water Surface, HSG A
	0.000	98		Water Surface, HSG B
	0.000	98		Water Surface, HSG C
	19.533	58	57	Weighted Average, UI Adjusted
	19.465			99.65% Pervious Area
	0.068			0.35% Impervious Area
	0.068			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.6	50	0.0600	0.23		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
9.8	1,125	0.0747	1.91		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.1	93	0.0753	1.37		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.5	1,268	Total			

Summary for Subcatchment 8AS: Drainage Area 8A

Runoff = 1.01 cfs @ 12.42 hrs, Volume= 0.184 af, Depth= 0.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.000	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	6.441	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.037	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	6.478	58	Weighted Average
	6.441		99.43% Pervious Area
	0.037		0.57% Impervious Area
	0.037		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
10.5	934	0.0450	1.48		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
16.1	984	Total			

Summary for Subcatchment 8BS: Drainage Area 8BS

Runoff = 0.61 cfs @ 12.53 hrs, Volume= 0.122 af, Depth= 0.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.000	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	4.259	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.042	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	4.301	58	Weighted Average
	4.259		99.02% Pervious Area
	0.042		0.98% Impervious Area
	0.042		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.6	145	0.0484	1.54		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.4	499	0.0481	1.54		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
9.2	510	0.0176	0.93		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.2	234	0.0625	1.75		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
24.0	1,438	Total			

Summary for Subcatchment 8S: Drainage Area 8S

Runoff = 2.52 cfs @ 12.28 hrs, Volume= 0.368 af, Depth= 0.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (ac)	CN	Adj	Description
*	0.000	98		Existing Structure, HSG A
*	0.000	98		Existing Structure, HSG B
	0.000	30		Woods, Good, HSG A
	2.137	55		Woods, Good, HSG B
	0.000	70		Woods, Good, HSG C
	0.000	96		Gravel surface, HSG A
	0.543	96		Gravel surface, HSG B
	0.000	96		Gravel surface, HSG C
	0.000	30		Meadow, non-grazed, HSG A
	6.640	58		Meadow, non-grazed, HSG B
	0.000	71		Meadow, non-grazed, HSG C
	0.000	98		Unconnected pavement, HSG A
	0.626	98		Unconnected pavement, HSG B
	0.000	98		Unconnected pavement, HSG C
	0.000	98		Water Surface, HSG A
	0.000	98		Water Surface, HSG B
	0.000	98		Water Surface, HSG C
	9.946	62	61	Weighted Average, UI Adjusted
	9.320			93.71% Pervious Area
	0.626			6.29% Impervious Area
	0.626			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
2.8	175	0.0228	1.06		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.5	385	0.0701	1.85		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.9	184	0.1007	1.59		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
13.8	794	Total			

Summary for Subcatchment 9S: Drainage Area 9S

Runoff = 0.20 cfs @ 12.26 hrs, Volume= 0.032 af, Depth= 0.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.187	30	Woods, Good, HSG A
	0.424	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.048	96	Gravel surface, HSG A
	0.139	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	0.233	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.000	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	1.031	59	Weighted Average
	1.031		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.3	50	0.0400	0.20		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.3	70	0.0572	3.85		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.9	82	0.0971	1.56		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.1	411	0.0730	1.35		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.6	613	Total			

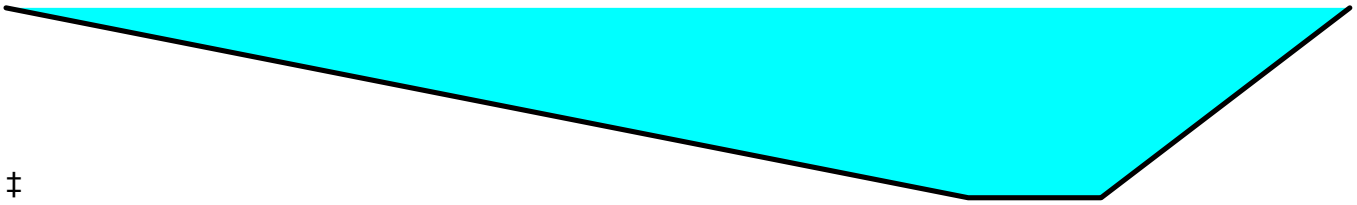
Summary for Reach 1BR: Overland Flow

Inflow Area = 9.780 ac, 2.10% Impervious, Inflow Depth = 0.48" for 2-Year event
Inflow = 2.67 cfs @ 12.33 hrs, Volume= 0.392 af
Outflow = 1.25 cfs @ 13.51 hrs, Volume= 0.391 af, Atten= 53%, Lag= 70.5 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.36 fps, Min. Travel Time= 43.9 min
Avg. Velocity = 0.21 fps, Avg. Travel Time= 73.9 min

Peak Storage= 3,294 cf @ 12.77 hrs
Average Depth at Peak Storage= 0.01'
Bank-Full Depth= 0.01' Flow Area= 2.2 sf, Capacity= 0.71 cfs

Custom cross-section, Length= 940.0' Slope= 0.0426 '/'
Constant n= 0.030 Short grass
Inlet Invert= 209.00', Outlet Invert= 169.00'



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Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	0.00	0.00
290.00	-0.01	0.01
330.00	-0.01	0.01
405.00	0.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	40.0	0	0.00
0.01	2.2	405.0	2,092	0.71

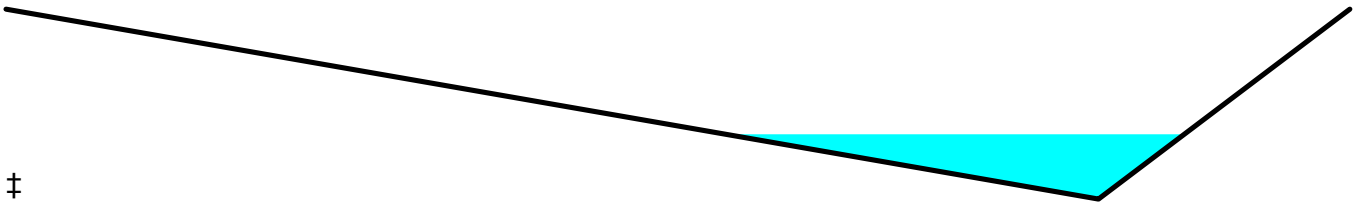
Summary for Reach 1CR: Overland Flow

Inflow Area = 4.622 ac, 6.34% Impervious, Inflow Depth = 1.54" for 2-Year event
Inflow = 5.71 cfs @ 12.29 hrs, Volume= 0.592 af
Outflow = 0.99 cfs @ 16.44 hrs, Volume= 0.541 af, Atten= 83%, Lag= 249.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.55 fps, Min. Travel Time= 201.9 min
Avg. Velocity = 0.37 fps, Avg. Travel Time= 298.7 min

Peak Storage= 12,001 cf @ 13.07 hrs
Average Depth at Peak Storage= 0.09'
Bank-Full Depth= 0.25' Flow Area= 15.4 sf, Capacity= 17.41 cfs

Custom cross-section, Length= 6,700.0' Slope= 0.0084 '/'
Constant n= 0.030 Short grass
Inlet Invert= 224.00', Outlet Invert= 168.00'



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Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	0.00	0.00
100.00	-0.25	0.25
123.00	0.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	0.0	0	0.00
0.25	15.4	123.0	103,013	17.41

Summary for Reach 2BR: Overland Flow

Inflow Area = 15.629 ac, 0.72% Impervious, Inflow Depth = 0.22" for 2-Year event
Inflow = 2.06 cfs @ 12.51 hrs, Volume= 0.286 af
Outflow = 0.99 cfs @ 13.67 hrs, Volume= 0.285 af, Atten= 52%, Lag= 69.6 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.31 fps, Min. Travel Time= 42.0 min
Avg. Velocity = 0.17 fps, Avg. Travel Time= 76.5 min

Peak Storage= 2,482 cf @ 12.97 hrs
Average Depth at Peak Storage= 0.02'
Bank-Full Depth= 0.01' Flow Area= 1.7 sf, Capacity= 0.46 cfs

Custom cross-section, Length= 785.0' Slope= 0.0280 '/'
Constant n= 0.030 Short grass
Inlet Invert= 194.00', Outlet Invert= 172.00'

‡

Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	0.00	0.00
120.00	-0.01	0.01
170.00	-0.01	0.01
290.00	0.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	50.0	0	0.00
0.01	1.7	290.0	1,335	0.46

Summary for Reach DP-1: Design Point 1

Inflow Area = 31.828 ac, 4.77% Impervious, Inflow Depth > 0.49" for 2-Year event
Inflow = 1.97 cfs @ 13.45 hrs, Volume= 1.297 af
Outflow = 1.97 cfs @ 13.45 hrs, Volume= 1.297 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-2: Design Point 2

Inflow Area = 27.151 ac, 1.67% Impervious, Inflow Depth > 0.28" for 2-Year event
Inflow = 2.09 cfs @ 12.39 hrs, Volume= 0.644 af
Outflow = 2.09 cfs @ 12.39 hrs, Volume= 0.644 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-3: Design Point 3

Inflow Area = 6.262 ac, 7.41% Impervious, Inflow Depth = 0.52" for 2-Year event
Inflow = 2.31 cfs @ 12.18 hrs, Volume= 0.271 af
Outflow = 2.31 cfs @ 12.18 hrs, Volume= 0.271 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-4: Design Point 4

Inflow Area = 29.447 ac, 0.80% Impervious, Inflow Depth = 0.34" for 2-Year event
Inflow = 3.82 cfs @ 12.57 hrs, Volume= 0.837 af
Outflow = 3.82 cfs @ 12.57 hrs, Volume= 0.837 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-5: Design Point 5

Inflow Area = 9.673 ac, 0.00% Impervious, Inflow Depth = 0.19" for 2-Year event
Inflow = 0.78 cfs @ 12.42 hrs, Volume= 0.156 af
Outflow = 0.78 cfs @ 12.42 hrs, Volume= 0.156 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-6: Design Point 6

Inflow Area = 4.792 ac, 2.09% Impervious, Inflow Depth = 0.20" for 2-Year event
Inflow = 0.39 cfs @ 12.49 hrs, Volume= 0.080 af
Outflow = 0.39 cfs @ 12.49 hrs, Volume= 0.080 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-7: Design Point 7

Inflow Area = 31.477 ac, 0.41% Impervious, Inflow Depth = 0.19" for 2-Year event
Inflow = 2.65 cfs @ 12.42 hrs, Volume= 0.504 af
Outflow = 2.65 cfs @ 12.42 hrs, Volume= 0.504 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-8: Design Point 8

Inflow Area = 20.725 ac, 3.40% Impervious, Inflow Depth = 0.21" for 2-Year event
Inflow = 2.52 cfs @ 12.28 hrs, Volume= 0.368 af
Outflow = 2.52 cfs @ 12.28 hrs, Volume= 0.368 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-9: Design Point 9

Inflow Area = 1.031 ac, 0.00% Impervious, Inflow Depth = 0.37" for 2-Year event
Inflow = 0.20 cfs @ 12.26 hrs, Volume= 0.032 af
Outflow = 0.20 cfs @ 12.26 hrs, Volume= 0.032 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Pond 1BP: Culvert 1BS

Inflow Area = 9.780 ac, 2.10% Impervious, Inflow Depth = 0.48" for 2-Year event
Inflow = 2.67 cfs @ 12.33 hrs, Volume= 0.392 af
Outflow = 2.67 cfs @ 12.33 hrs, Volume= 0.392 af, Atten= 0%, Lag= 0.0 min
Primary = 2.67 cfs @ 12.33 hrs, Volume= 0.392 af
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 213.06' @ 12.33 hrs
Flood Elev= 215.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	212.50'	**18.0" Round Culvert X 2.00** L= 72.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 212.50' / 210.00' S= 0.0347 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Secondary	214.25'	**6.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=2.66 cfs @ 12.33 hrs HW=213.06' (Free Discharge)
1=Culvert (Inlet Controls 2.66 cfs @ 2.24 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=212.50' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 5A: Basin 5A

Inflow Area = 1.754 ac, 0.00% Impervious, Inflow Depth = 0.34" for 2-Year event
Inflow = 0.32 cfs @ 12.16 hrs, Volume= 0.050 af
Outflow = 0.16 cfs @ 12.55 hrs, Volume= 0.050 af, Atten= 50%, Lag= 23.6 min
Discarded = 0.16 cfs @ 12.55 hrs, Volume= 0.050 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 273.08' @ 12.55 hrs Surf.Area= 2,878 sf Storage= 221 cf
Flood Elev= 275.00' Surf.Area= 11,878 sf Storage= 13,898 cf

Plug-Flow detention time= 9.4 min calculated for 0.050 af (100% of inflow)
Center-of-Mass det. time= 9.4 min (941.7 - 932.2)

Volume	Invert	Avail.Storage	Storage Description
#1	273.00'	13,898 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
273.00	2,606	536.7	0	0	2,606
274.00	6,939	667.0	4,599	4,599	15,102
275.00	11,878	730.0	9,299	13,898	22,140

Device	Routing	Invert	Outlet Devices
#1	Discarded	273.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 194.00'
#2	Primary	274.75'	**15.0' long x 8.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Discarded OutFlow Max=0.16 cfs @ 12.55 hrs HW=273.08' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.16 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=273.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 5B: Basin 5B

Inflow Area = 1.232 ac, 0.00% Impervious, Inflow Depth = 0.34" for 2-Year event
Inflow = 0.21 cfs @ 12.20 hrs, Volume= 0.035 af
Outflow = 0.05 cfs @ 13.92 hrs, Volume= 0.035 af, Atten= 75%, Lag= 103.3 min
Discarded = 0.05 cfs @ 13.92 hrs, Volume= 0.035 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 290.18' @ 13.92 hrs Surf.Area= 951 sf Storage= 365 cf
Flood Elev= 293.00' Surf.Area= 9,526 sf Storage= 13,669 cf

Plug-Flow detention time= 96.6 min calculated for 0.035 af (100% of inflow)
Center-of-Mass det. time= 96.5 min (1,031.1 - 934.7)

Volume	Invert	Avail.Storage	Storage Description
#1	289.00'	13,669 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
289.00	0	0.0	0	0	0
290.00	670	199.3	223	223	3,162
291.00	2,920	369.2	1,663	1,886	10,854
292.00	5,718	494.6	4,241	6,128	19,485
293.00	9,526	525.0	7,541	13,669	22,003

Device	Routing	Invert	Outlet Devices
#1	Discarded	289.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 194.00'
#2	Primary	292.30'	**15.0' long x 8.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Discarded OutFlow Max=0.05 cfs @ 13.92 hrs HW=290.18' (Free Discharge)
1=Exfiltration (Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=289.00' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 5P: Culvert 1CS

Inflow Area = 4.622 ac, 6.34% Impervious, Inflow Depth = 1.54" for 2-Year event
Inflow = 5.99 cfs @ 12.24 hrs, Volume= 0.592 af
Outflow = 5.71 cfs @ 12.29 hrs, Volume= 0.592 af, Atten= 5%, Lag= 3.3 min
Primary = 5.71 cfs @ 12.29 hrs, Volume= 0.592 af
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 226.32' @ 12.29 hrs Surf.Area= 1,310 sf Storage= 617 cf

Plug-Flow detention time= 0.8 min calculated for 0.591 af (100% of inflow)
Center-of-Mass det. time= 0.8 min (846.9 - 846.1)

Volume	Invert	Avail.Storage	Storage Description
#1	225.00'	8,119 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
225.00	0	0.0	0	0	0
226.00	823	554.8	274	274	24,496
227.00	2,690	609.2	1,667	1,941	29,568
228.00	4,726	653.1	3,661	5,602	34,023
228.50	5,351	662.0	2,518	8,119	35,011

Device	Routing	Invert	Outlet Devices
#1	Primary	225.00'	**18.0" Round Culvert** L= 54.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 225.00' / 224.00' S= 0.0185 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Secondary	228.40'	**7.0' long x 25.0' 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=5.68 cfs @ 12.29 hrs HW=226.32' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 5.68 cfs @ 3.45 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=225.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 6A: Basin 6A

Inflow Area = 1.181 ac, 6.35% Impervious, Inflow Depth = 0.37" for 2-Year event
Inflow = 0.26 cfs @ 12.17 hrs, Volume= 0.037 af
Outflow = 0.17 cfs @ 12.49 hrs, Volume= 0.037 af, Atten= 35%, Lag= 19.0 min
Discarded = 0.17 cfs @ 12.49 hrs, Volume= 0.037 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 302.04' @ 12.49 hrs Surf.Area= 2,961 sf Storage= 116 cf
Flood Elev= 304.00' Surf.Area= 11,352 sf Storage= 13,687 cf

Plug-Flow detention time= 6.7 min calculated for 0.037 af (100% of inflow)
Center-of-Mass det. time= 6.7 min (934.3 - 927.6)

Volume	Invert	Avail.Storage	Storage Description
#1	302.00'	13,687 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
302.00	2,834	486.7	0	0	2,834
303.00	6,833	540.2	4,689	4,689	7,236
304.00	11,352	606.8	8,997	13,687	13,342

Device	Routing	Invert	Outlet Devices
#1	Discarded	302.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 194.00'
#2	Primary	303.75'	**15.0' long x 8.0' breadth Broad-Crested Rectangular Weir**

Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50
Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Discarded OutFlow Max=0.17 cfs @ 12.49 hrs HW=302.04' (Free Discharge)
↑**1=Exfiltration** (Controls 0.17 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=302.00' (Free Discharge)
↑**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 6B: Basin 6B

Inflow Area = 0.525 ac, 4.76% Impervious, Inflow Depth = 0.37" for 2-Year event
Inflow = 0.11 cfs @ 12.17 hrs, Volume= 0.016 af
Outflow = 0.03 cfs @ 13.07 hrs, Volume= 0.016 af, Atten= 73%, Lag= 54.2 min
Discarded = 0.03 cfs @ 13.07 hrs, Volume= 0.016 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 292.40' @ 13.07 hrs Surf.Area= 517 sf Storage= 143 cf
Flood Elev= 294.00' Surf.Area= 2,686 sf Storage= 2,540 cf

Plug-Flow detention time= 48.8 min calculated for 0.016 af (100% of inflow)
Center-of-Mass det. time= 48.7 min (976.3 - 927.6)

Volume	Invert	Avail.Storage	Storage Description
#1	292.00'	2,540 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
292.00	214	119.6	0	0	214
293.00	1,206	200.7	643	643	2,287
294.00	2,686	286.0	1,897	2,540	5,600

Device	Routing	Invert	Outlet Devices
#1	Discarded	292.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 288.00'
#2	Primary	293.75'	**15.0' long x 8.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Discarded OutFlow Max=0.03 cfs @ 13.07 hrs HW=292.40' (Free Discharge)
↑**1=Exfiltration** (Controls 0.03 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=292.00' (Free Discharge)
↑**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 7A: Basin 7A

Inflow Area = 11.944 ac, 0.52% Impervious, Inflow Depth = 0.34" for 2-Year event
Inflow = 1.90 cfs @ 12.39 hrs, Volume= 0.340 af
Outflow = 0.35 cfs @ 15.71 hrs, Volume= 0.333 af, Atten= 81%, Lag= 199.2 min
Discarded = 0.35 cfs @ 15.71 hrs, Volume= 0.333 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 250.98' @ 15.71 hrs Surf.Area= 6,249 sf Storage= 5,302 cf
Flood Elev= 254.00' Surf.Area= 44,034 sf Storage= 75,130 cf

Plug-Flow detention time= 218.9 min calculated for 0.332 af (98% of inflow)
Center-of-Mass det. time= 208.9 min (1,149.9 - 941.0)

Volume	Invert	Avail.Storage	Storage Description
#1	248.00'	75,130 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
248.00	0	0.0	0	0	0
249.00	520	128.5	173	173	1,316
250.00	2,102	372.1	1,222	1,396	11,023
251.00	6,364	802.0	4,041	5,437	51,194
252.00	16,015	1,315.7	10,825	16,262	137,769
253.00	29,426	1,401.6	22,383	38,645	156,394
254.00	44,034	1,517.9	36,485	75,130	183,453

Device	Routing	Invert	Outlet Devices
#1	Discarded	248.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 194.00'
#2	Primary	253.75'	**15.0' long x 8.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Discarded OutFlow Max=0.35 cfs @ 15.71 hrs HW=250.98' (Free Discharge)
1=Exfiltration (Controls 0.35 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=248.00' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 8A: Basin 8A

Inflow Area = 6.478 ac, 0.57% Impervious, Inflow Depth = 0.34" for 2-Year event
Inflow = 1.01 cfs @ 12.42 hrs, Volume= 0.184 af
Outflow = 0.22 cfs @ 15.12 hrs, Volume= 0.184 af, Atten= 78%, Lag= 162.4 min
Discarded = 0.22 cfs @ 15.12 hrs, Volume= 0.184 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 249.39' @ 15.12 hrs Surf.Area= 3,985 sf Storage= 2,385 cf
Flood Elev= 252.50' Surf.Area= 21,546 sf Storage= 38,517 cf

Plug-Flow detention time= 145.6 min calculated for 0.184 af (100% of inflow)
Center-of-Mass det. time= 145.5 min (1,087.7 - 942.2)

Volume	Invert	Avail.Storage	Storage Description
#1	248.00'	38,517 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
248.00	123	99.2	0	0	123
249.00	2,613	493.4	1,101	1,101	18,715
250.00	6,683	622.8	4,492	5,593	30,222
251.00	11,513	733.8	8,989	14,582	42,224
252.00	17,210	829.8	14,266	28,848	54,195
252.50	21,546	830.5	9,669	38,517	54,620

Device	Routing	Invert	Outlet Devices
#1	Discarded	248.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 194.00'
#2	Primary	252.25'	**15.0' long x 8.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Discarded OutFlow Max=0.22 cfs @ 15.12 hrs HW=249.39' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.22 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=248.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 8B: Basin 8A

Inflow Area =	4.301 ac,	0.98% Impervious,	Inflow Depth =	0.34" for 2-Year event
Inflow =	0.61 cfs @	12.53 hrs,	Volume=	0.122 af
Outflow =	0.17 cfs @	14.41 hrs,	Volume=	0.122 af, Atten= 71%, Lag= 112.5 min
Discarded =	0.17 cfs @	14.41 hrs,	Volume=	0.122 af
Primary =	0.00 cfs @	5.00 hrs,	Volume=	0.000 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 243.76' @ 14.41 hrs Surf.Area= 3,098 sf Storage= 1,308 cf
Flood Elev= 246.00' Surf.Area= 16,698 sf Storage= 21,360 cf

Plug-Flow detention time= 98.2 min calculated for 0.122 af (100% of inflow)
Center-of-Mass det. time= 98.0 min (1,047.5 - 949.5)

Volume	Invert	Avail.Storage	Storage Description
#1	243.00'	21,360 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
243.00	649	429.6	0	0	649
244.00	4,253	502.8	2,188	2,188	6,100
245.00	9,040	671.8	6,498	8,686	21,908
246.00	16,698	842.9	12,675	21,360	42,546

Device	Routing	Invert	Outlet Devices
#1	Discarded	243.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 199.00'
#2	Primary	245.75'	**15.0' long x 8.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Discarded OutFlow Max=0.17 cfs @ 14.41 hrs HW=243.76' (Free Discharge)
1=Exfiltration (Controls 0.17 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=243.00' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond P2B: Basin 2B

Inflow Area = 15.629 ac, 0.72% Impervious, Inflow Depth = 0.34" for 2-Year event
Inflow = 2.50 cfs @ 12.38 hrs, Volume= 0.444 af
Outflow = 2.26 cfs @ 12.51 hrs, Volume= 0.444 af, Atten= 10%, Lag= 7.7 min
Discarded = 0.20 cfs @ 12.51 hrs, Volume= 0.158 af
Primary = 2.06 cfs @ 12.51 hrs, Volume= 0.286 af
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 196.45' @ 12.51 hrs Surf.Area= 3,006 sf Storage= 1,234 cf
Flood Elev= 198.50' Surf.Area= 6,749 sf Storage= 10,528 cf

Plug-Flow detention time= 13.6 min calculated for 0.444 af (100% of inflow)
Center-of-Mass det. time= 13.4 min (953.8 - 940.4)

Volume	Invert	Avail.Storage	Storage Description
#1	196.00'	10,528 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
196.00	2,453	396.9	0	0	2,453
197.00	3,748	465.9	3,078	3,078	7,210
198.00	5,223	506.0	4,465	7,543	10,349
198.50	6,749	523.0	2,985	10,528	11,765

Device	Routing	Invert	Outlet Devices
#1	Primary	195.50'	**24.0" Round Culvert** L= 50.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 195.50' / 195.00' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Discarded	196.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 194.00'
#3	Secondary	198.00'	**50.0' 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
#4	Device 1	196.00'	**18.0" Vert. Orifice/Grate X 2.00** C= 0.600
#5	Device 1	198.00'	**27.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.20 cfs @ 12.51 hrs HW=196.45' (Free Discharge)
└**2=Exfiltration** (Controls 0.20 cfs)

Primary OutFlow Max=2.05 cfs @ 12.51 hrs HW=196.45' (Free Discharge)
└**1=Culvert** (Passes 2.05 cfs of 4.32 cfs potential flow)
  ├**4=Orifice/Grate** (Orifice Controls 2.05 cfs @ 2.29 fps)
  └**5=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=196.00' (Free Discharge)
└**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Time span=5.00-30.00 hrs, dt=0.05 hrs, 501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1AS: Drainage Area 1AS Runoff Area=17.426 ac 5.85% Impervious Runoff Depth=0.83"
Flow Length=1,146' Tc=29.0 min CN=55 Runoff=7.58 cfs 1.212 af

Subcatchment 1BS: Drainage Area 1BS Runoff Area=9.780 ac 2.10% Impervious Runoff Depth=1.26"
Flow Length=1,301' Tc=17.2 min CN=62 Runoff=9.22 cfs 1.024 af

Subcatchment 1CS: Drainage Area 1CS Runoff Area=4.622 ac 6.34% Impervious Runoff Depth=2.81"
Flow Length=870' Tc=16.6 min UI Adjusted CN=82 Runoff=11.01 cfs 1.083 af

Subcatchment 2AS: Drainage Area 2AS Runoff Area=11.522 ac 2.97% Impervious Runoff Depth=1.07"
Flow Length=747' Tc=16.5 min CN=59 Runoff=8.87 cfs 1.025 af

Subcatchment 2BS: Drainage Area 2BS Runoff Area=15.629 ac 0.72% Impervious Runoff Depth=1.01"
Flow Length=1,098' Tc=14.2 min CN=58 Runoff=11.63 cfs 1.312 af

Subcatchment 3AS: Drainage Area 3AS Runoff Area=6.262 ac 7.41% Impervious Runoff Depth=1.32"
Flow Length=840' Tc=9.8 min UI Adjusted CN=63 Runoff=7.71 cfs 0.690 af

Subcatchment 4AS: Drainage Area 4AS Runoff Area=4.677 ac 2.67% Impervious Runoff Depth=1.01"
Flow Length=1,146' Tc=13.7 min CN=58 Runoff=3.55 cfs 0.393 af

Subcatchment 4BS: Drainage Area 4BS Runoff Area=24.770 ac 0.45% Impervious Runoff Depth=1.01"
Flow Length=1,845' Tc=29.3 min CN=58 Runoff=14.03 cfs 2.080 af

Subcatchment 5AS: Drainage Area 5AS Runoff Area=1.754 ac 0.00% Impervious Runoff Depth=1.01"
Flow Length=445' Tc=5.4 min CN=58 Runoff=1.74 cfs 0.147 af

Subcatchment 5BS: Drainage Area 5BS Runoff Area=1.232 ac 0.00% Impervious Runoff Depth=1.01"
Flow Length=394' Tc=8.0 min CN=58 Runoff=1.10 cfs 0.103 af

Subcatchment 5S: Drainage Area 5S Runoff Area=6.687 ac 0.00% Impervious Runoff Depth=0.89"
Flow Length=1,088' Tc=13.1 min CN=56 Runoff=4.30 cfs 0.496 af

Subcatchment 6AS: Drainage Area 6AS Runoff Area=1.181 ac 6.35% Impervious Runoff Depth=1.07"
Flow Length=290' Tc=7.3 min UI Adjusted CN=59 Runoff=1.19 cfs 0.105 af

Subcatchment 6BS: Drainage Area 6BS Runoff Area=0.525 ac 4.76% Impervious Runoff Depth=1.07"
Flow Length=290' Tc=7.3 min UI Adjusted CN=59 Runoff=0.53 cfs 0.047 af

Subcatchment 6S: Drainage Area 6S Runoff Area=3.086 ac 0.00% Impervious Runoff Depth=0.95"
Flow Length=1,253' Tc=19.3 min CN=57 Runoff=1.89 cfs 0.244 af

Subcatchment 7AS: Drainage Area 7AS Runoff Area=11.944 ac 0.52% Impervious Runoff Depth=1.01"
Flow Length=1,206' Tc=14.8 min CN=58 Runoff=8.78 cfs 1.003 af

Subcatchment 7S: Drainage Area 7S Runoff Area=19.533 ac 0.35% Impervious Runoff Depth=0.95"
Flow Length=1,268' Tc=14.5 min UI Adjusted CN=57 Runoff=13.24 cfs 1.544 af

Subcatchment 8AS: Drainage Area 8A Runoff Area=6.478 ac 0.57% Impervious Runoff Depth=1.01"
Flow Length=984' Tc=16.1 min CN=58 Runoff=4.63 cfs 0.544 af

Subcatchment 8BS: Drainage Area 8BS Runoff Area=4.301 ac 0.98% Impervious Runoff Depth=1.01"
Flow Length=1,438' Tc=24.0 min CN=58 Runoff=2.64 cfs 0.361 af

Subcatchment 8S: Drainage Area 8S Runoff Area=9.946 ac 6.29% Impervious Runoff Depth=1.19"
Flow Length=794' Tc=13.8 min UI Adjusted CN=61 Runoff=9.52 cfs 0.988 af

Subcatchment 9S: Drainage Area 9S Runoff Area=1.031 ac 0.00% Impervious Runoff Depth=1.07"
Flow Length=613' Tc=10.6 min CN=59 Runoff=0.93 cfs 0.092 af

Reach 1BR: Overland Flow Avg. Flow Depth=0.03' Max Vel=0.40 fps Inflow=9.22 cfs 1.024 af
n=0.030 L=940.0' S=0.0426 '/' Capacity=0.71 cfs Outflow=4.41 cfs 1.023 af

Reach 1CR: Overland Flow Avg. Flow Depth=0.12' Max Vel=0.68 fps Inflow=9.02 cfs 1.083 af
n=0.030 L=6,700.0' S=0.0084 '/' Capacity=17.41 cfs Outflow=2.24 cfs 1.023 af

Reach 2BR: Overland Flow Avg. Flow Depth=0.05' Max Vel=0.35 fps Inflow=10.28 cfs 1.125 af
n=0.030 L=785.0' S=0.0280 '/' Capacity=0.46 cfs Outflow=4.98 cfs 1.124 af

Reach DP-1: Design Point 1 Inflow=7.70 cfs 3.258 af
Outflow=7.70 cfs 3.258 af

Reach DP-2: Design Point 2 Inflow=8.87 cfs 2.150 af
Outflow=8.87 cfs 2.150 af

Reach DP-3: Design Point 3 Inflow=7.71 cfs 0.690 af
Outflow=7.71 cfs 0.690 af

Reach DP-4: Design Point 4 Inflow=16.43 cfs 2.473 af
Outflow=16.43 cfs 2.473 af

Reach DP-5: Design Point 5 Inflow=4.30 cfs 0.496 af
Outflow=4.30 cfs 0.496 af

Reach DP-6: Design Point 6 Inflow=1.89 cfs 0.244 af
Outflow=1.89 cfs 0.244 af

Reach DP-7: Design Point 7 Inflow=13.24 cfs 1.544 af
Outflow=13.24 cfs 1.544 af

Reach DP-8: Design Point 8 Inflow=9.52 cfs 0.988 af
Outflow=9.52 cfs 0.988 af

Reach DP-9: Design Point 9 Inflow=0.93 cfs 0.092 af
Outflow=0.93 cfs 0.092 af

Pond 1BP: Culvert 1BS Peak Elev=213.64' Inflow=9.22 cfs 1.024 af
Primary=9.22 cfs 1.024 af Secondary=0.00 cfs 0.000 af Outflow=9.22 cfs 1.024 af

Pond 5A: Basin 5A Peak Elev=273.53' Storage=1,913 cf Inflow=1.74 cfs 0.147 af
Discarded=0.26 cfs 0.147 af Primary=0.00 cfs 0.000 af Outflow=0.26 cfs 0.147 af

Pond 5B: Basin 5B Peak Elev=290.90' Storage=1,604 cf Inflow=1.10 cfs 0.103 af
Discarded=0.15 cfs 0.103 af Primary=0.00 cfs 0.000 af Outflow=0.15 cfs 0.103 af

Pond 5P: Culvert 1CS Peak Elev=227.19' Storage=2,494 cf Inflow=11.01 cfs 1.083 af
Primary=9.02 cfs 1.083 af Secondary=0.00 cfs 0.000 af Outflow=9.02 cfs 1.083 af

Pond 6A: Basin 6A Peak Elev=302.36' Storage=1,232 cf Inflow=1.19 cfs 0.105 af
Discarded=0.23 cfs 0.105 af Primary=0.00 cfs 0.000 af Outflow=0.23 cfs 0.105 af

Pond 6B: Basin 6B Peak Elev=293.03' Storage=676 cf Inflow=0.53 cfs 0.047 af
Discarded=0.08 cfs 0.047 af Primary=0.00 cfs 0.000 af Outflow=0.08 cfs 0.047 af

Pond 7A: Basin 7A Peak Elev=252.16' Storage=18,979 cf Inflow=8.78 cfs 1.003 af
Discarded=1.02 cfs 0.962 af Primary=0.00 cfs 0.000 af Outflow=1.02 cfs 0.962 af

Pond 8A: Basin 8A Peak Elev=250.59' Storage=10,325 cf Inflow=4.63 cfs 0.544 af
Discarded=0.53 cfs 0.536 af Primary=0.00 cfs 0.000 af Outflow=0.53 cfs 0.536 af

Pond 8B: Basin 8A Peak Elev=244.69' Storage=6,157 cf Inflow=2.64 cfs 0.361 af
Discarded=0.42 cfs 0.361 af Primary=0.00 cfs 0.000 af Outflow=0.42 cfs 0.361 af

Pond P2B: Basin 2B Peak Elev=197.13' Storage=3,567 cf Inflow=11.63 cfs 1.312 af
Discarded=0.31 cfs 0.187 af Primary=10.28 cfs 1.125 af Secondary=0.00 cfs 0.000 af Outflow=10.59 cfs 1.312 af

Total Runoff Area = 162.386 ac Runoff Volume = 14.496 af Average Runoff Depth = 1.07"
97.78% Pervious = 158.779 ac 2.22% Impervious = 3.607 ac

Summary for Subcatchment 1AS: Drainage Area 1AS

Runoff = 7.58 cfs @ 12.51 hrs, Volume= 1.212 af, Depth= 0.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (ac)	CN	Description
*	0.164	98	Existing Structure, HSG A
*	0.533	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	3.149	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.041	96	Gravel surface, HSG A
	0.371	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	3.589	30	Meadow, non-grazed, HSG A
	9.178	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.006	98	Unconnected pavement, HSG A
	0.317	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	0.078	65	Woods/grass comb., Fair, HSG B
	17.426	55	Weighted Average
	16.406		94.15% Pervious Area
	1.020		5.85% Impervious Area
	0.323		31.67% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	50	0.1200	0.14		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.5	82	0.1459	2.67		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.0	236	0.0762	1.93		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.3	68	0.0147	0.85		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
11.9	445	0.0079	0.62		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.3	265	0.0075	0.61		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
29.0	1,146	Total			

Summary for Subcatchment 1BS: Drainage Area 1BS

Runoff = 9.22 cfs @ 12.27 hrs, Volume= 1.024 af, Depth= 1.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.922	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	8.653	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.205	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	9.780	62	Weighted Average
	9.575		97.90% Pervious Area
	0.205		2.10% Impervious Area
	0.205		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	50	0.0800	0.26		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
10.1	765	0.0327	1.27		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.8	278	0.0576	1.68		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.4	82	0.2560	3.54		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.7	126	0.0397	3.21		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
17.2	1,301	Total			

Summary for Subcatchment 1CS: Drainage Area 1CS

Runoff = 11.01 cfs @ 12.23 hrs, Volume= 1.083 af, Depth= 2.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (ac)	CN	Adj	Description
*	0.000	98		Existing Structure, HSG A
*	0.120	98		Existing Structure, HSG B
	0.000	30		Woods, Good, HSG A
	0.613	55		Woods, Good, HSG B
	0.000	70		Woods, Good, HSG C
	0.000	96		Gravel surface, HSG A
	2.738	96		Gravel surface, HSG B
	0.000	96		Gravel surface, HSG C
	0.000	30		Meadow, non-grazed, HSG A
	0.978	58		Meadow, non-grazed, HSG B
	0.000	71		Meadow, non-grazed, HSG C
	0.000	98		Unconnected pavement, HSG A
	0.173	98		Unconnected pavement, HSG B
	0.000	98		Unconnected pavement, HSG C
	0.000	98		Water Surface, HSG A
	0.000	98		Water Surface, HSG B
	0.000	98		Water Surface, HSG C
	4.622	83	82	Weighted Average, UI Adjusted
	4.329			93.66% Pervious Area
	0.293			6.34% Impervious Area
	0.173			59.04% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
3.9	160	0.0094	0.68		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.6	122	0.0328	1.27		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.8	222	0.0676	1.30		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	33	0.1212	2.44		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.5	283	0.0141	1.91		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
16.6	870	Total			

Summary for Subcatchment 2AS: Drainage Area 2AS

Runoff = 8.87 cfs @ 12.27 hrs, Volume= 1.025 af, Depth= 1.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.025	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.079	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	11.084	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.317	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	0.017	65	Woods/grass comb., Fair, HSG B
	11.522	59	Weighted Average
	11.180		97.03% Pervious Area
	0.342		2.97% Impervious Area
	0.317		92.69% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	50	0.0800	0.26		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
2.9	284	0.0528	1.61		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.2	80	0.0250	1.11		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
9.2	333	0.0075	0.61		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
16.5	747	Total			

Summary for Subcatchment 2BS: Drainage Area 2BS

Runoff = 11.63 cfs @ 12.23 hrs, Volume= 1.312 af, Depth= 1.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	5.460	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.340	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	9.717	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.031	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.081	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	15.629	58	Weighted Average
	15.517		99.28% Pervious Area
	0.112		0.72% Impervious Area
	0.031		27.68% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.8	182	0.0549	1.64		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.3	410	0.0879	2.08		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.9	120	0.1083	2.30		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.4	291	0.1684	2.05		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	45	0.2426	3.45		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
14.2	1,098	Total			

Summary for Subcatchment 3AS: Drainage Area 3AS

Runoff = 7.71 cfs @ 12.16 hrs, Volume= 0.690 af, Depth= 1.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (ac)	CN	Adj	Description
*	0.000	98		Existing Structure, HSG A
*	0.000	98		Existing Structure, HSG B
	0.000	30		Woods, Good, HSG A
	0.153	55		Woods, Good, HSG B
	0.000	70		Woods, Good, HSG C
	0.000	96		Gravel surface, HSG A
	0.496	96		Gravel surface, HSG B
	0.000	96		Gravel surface, HSG C
	0.000	30		Meadow, non-grazed, HSG A
	5.149	58		Meadow, non-grazed, HSG B
	0.000	71		Meadow, non-grazed, HSG C
	0.000	98		Unconnected pavement, HSG A
	0.175	98		Unconnected pavement, HSG B
	0.000	98		Unconnected pavement, HSG C
	0.000	98		Water Surface, HSG A
	0.289	98		Water Surface, HSG B
	0.000	98		Water Surface, HSG C
	6.262	64	63	Weighted Average, UI Adjusted
	5.798			92.59% Pervious Area
	0.464			7.41% Impervious Area
	0.175			37.72% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	50	0.1600	0.16		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.3	38	0.1316	1.81		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	32	0.0938	2.14		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	25	0.0800	4.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
2.4	463	0.0390	3.18		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.4	232	0.0302	2.80		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
9.8	840	Total			

Summary for Subcatchment 4AS: Drainage Area 4AS

Runoff = 3.55 cfs @ 12.22 hrs, Volume= 0.393 af, Depth= 1.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	3.033	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.148	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	1.371	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.125	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	4.677	58	Weighted Average
	4.552		97.33% Pervious Area
	0.125		2.67% Impervious Area
	0.125		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.0	79	0.0380	1.36		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.8	107	0.0935	2.14		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.3	532	0.1729	2.08		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.8	67	0.0448	1.48		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.2	311	0.0676	4.19		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
13.7	1,146	Total			

Summary for Subcatchment 4BS: Drainage Area 4BS

Runoff = 14.03 cfs @ 12.49 hrs, Volume= 2.080 af, Depth= 1.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	6.999	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.046	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	17.042	58	Meadow, non-grazed, HSG B
	0.393	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.111	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	0.179	65	Woods/grass comb., Fair, HSG B
	24.770	58	Weighted Average
	24.659		99.55% Pervious Area
	0.111		0.45% Impervious Area
	0.111		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.6	186	0.0806	1.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.4	72	0.1668	2.86		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.7	439	0.1550	1.97		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.7	411	0.0681	1.83		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
14.3	687	0.0131	0.80		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
29.3	1,845	Total			

Summary for Subcatchment 5AS: Drainage Area 5AS

Runoff = 1.74 cfs @ 12.10 hrs, Volume= 0.147 af, Depth= 1.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.000	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	1.754	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.000	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	1.754	58	Weighted Average
	1.754		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	50	0.0800	0.26		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
2.2	395	0.1800	2.97		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.4	445	Total			

Summary for Subcatchment 5BS: Drainage Area 5BS

Runoff = 1.10 cfs @ 12.14 hrs, Volume= 0.103 af, Depth= 1.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.000	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	1.232	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.000	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	1.232	58	Weighted Average
	1.232		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.3	50	0.0400	0.20		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.3	113	0.0442	1.47		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.4	231	0.0520	1.60		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.0	394	Total			

Summary for Subcatchment 5S: Drainage Area 5S

Runoff = 4.30 cfs @ 12.22 hrs, Volume= 0.496 af, Depth= 0.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	4.693	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.000	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	1.994	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.000	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	6.687	56	Weighted Average
	6.687		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	50	0.0800	0.26		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
3.0	396	0.0959	2.17		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.2	435	0.1172	1.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.7	207	0.0676	1.30		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
13.1	1,088	Total			

Summary for Subcatchment 6AS: Drainage Area 6AS

Runoff = 1.19 cfs @ 12.12 hrs, Volume= 0.105 af, Depth= 1.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (ac)	CN	Adj	Description
*	0.000	98		Existing Structure, HSG A
*	0.000	98		Existing Structure, HSG B
	0.000	30		Woods, Good, HSG A
	0.000	55		Woods, Good, HSG B
	0.000	70		Woods, Good, HSG C
	0.000	96		Gravel surface, HSG A
	0.000	96		Gravel surface, HSG B
	0.000	96		Gravel surface, HSG C
	0.000	30		Meadow, non-grazed, HSG A
	1.106	58		Meadow, non-grazed, HSG B
	0.000	71		Meadow, non-grazed, HSG C
	0.000	98		Unconnected pavement, HSG A
	0.075	98		Unconnected pavement, HSG B
	0.000	98		Unconnected pavement, HSG C
	0.000	98		Water Surface, HSG A
	0.000	98		Water Surface, HSG B
	0.000	98		Water Surface, HSG C
	1.181	61	59	Weighted Average, UI Adjusted
	1.106			93.65% Pervious Area
	0.075			6.35% Impervious Area
	0.075			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	50	0.0300	0.17		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
2.5	240	0.0542	1.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.3	290	Total			

Summary for Subcatchment 6BS: Drainage Area 6BS

Runoff = 0.53 cfs @ 12.12 hrs, Volume= 0.047 af, Depth= 1.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (ac)	CN	Adj	Description
*	0.000	98		Existing Structure, HSG A
*	0.000	98		Existing Structure, HSG B
	0.000	30		Woods, Good, HSG A
	0.000	55		Woods, Good, HSG B
	0.000	70		Woods, Good, HSG C
	0.000	96		Gravel surface, HSG A
	0.000	96		Gravel surface, HSG B
	0.000	96		Gravel surface, HSG C
	0.000	30		Meadow, non-grazed, HSG A
	0.500	58		Meadow, non-grazed, HSG B
	0.000	71		Meadow, non-grazed, HSG C
	0.000	98		Unconnected pavement, HSG A
	0.025	98		Unconnected pavement, HSG B
	0.000	98		Unconnected pavement, HSG C
	0.000	98		Water Surface, HSG A
	0.000	98		Water Surface, HSG B
	0.000	98		Water Surface, HSG C
	0.525	60	59	Weighted Average, UI Adjusted
	0.500			95.24% Pervious Area
	0.025			4.76% Impervious Area
	0.025			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	50	0.0300	0.17		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
2.5	240	0.0542	1.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.3	290	Total			

Summary for Subcatchment 6S: Drainage Area 6S

Runoff = 1.89 cfs @ 12.32 hrs, Volume= 0.244 af, Depth= 0.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	1.480	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.000	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	1.606	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.000	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	3.086	57	Weighted Average
	3.086		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.3	50	0.0400	0.20		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
4.8	571	0.0800	1.98		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.0	257	0.1900	2.18		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.2	375	0.0235	0.77		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
19.3	1,253	Total			

Summary for Subcatchment 7AS: Drainage Area 7AS

Runoff = 8.78 cfs @ 12.24 hrs, Volume= 1.003 af, Depth= 1.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.000	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	11.882	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.062	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	11.944	58	Weighted Average
	11.882		99.48% Pervious Area
	0.062		0.52% Impervious Area
	0.062		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	50	0.0700	0.24		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
11.4	1,156	0.0579	1.68		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
14.8	1,206	Total			

Summary for Subcatchment 7S: Drainage Area 7S

Runoff = 13.24 cfs @ 12.24 hrs, Volume= 1.544 af, Depth= 0.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (ac)	CN	Adj	Description
*	0.000	98		Existing Structure, HSG A
*	0.000	98		Existing Structure, HSG B
	0.000	30		Woods, Good, HSG A
	3.886	55		Woods, Good, HSG B
	0.000	70		Woods, Good, HSG C
	0.000	96		Gravel surface, HSG A
	0.000	96		Gravel surface, HSG B
	0.000	96		Gravel surface, HSG C
	0.000	30		Meadow, non-grazed, HSG A
	15.579	58		Meadow, non-grazed, HSG B
	0.000	71		Meadow, non-grazed, HSG C
	0.000	98		Unconnected pavement, HSG A
	0.068	98		Unconnected pavement, HSG B
	0.000	98		Unconnected pavement, HSG C
	0.000	98		Water Surface, HSG A
	0.000	98		Water Surface, HSG B
	0.000	98		Water Surface, HSG C
	19.533	58	57	Weighted Average, UI Adjusted
	19.465			99.65% Pervious Area
	0.068			0.35% Impervious Area
	0.068			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.6	50	0.0600	0.23		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
9.8	1,125	0.0747	1.91		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.1	93	0.0753	1.37		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.5	1,268	Total			

Summary for Subcatchment 8AS: Drainage Area 8A

Runoff = 4.63 cfs @ 12.26 hrs, Volume= 0.544 af, Depth= 1.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.000	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	6.441	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.037	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	6.478	58	Weighted Average
	6.441		99.43% Pervious Area
	0.037		0.57% Impervious Area
	0.037		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
10.5	934	0.0450	1.48		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
16.1	984	Total			

Summary for Subcatchment 8BS: Drainage Area 8BS

Runoff = 2.64 cfs @ 12.40 hrs, Volume= 0.361 af, Depth= 1.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.000	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	4.259	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.042	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	4.301	58	Weighted Average
	4.259		99.02% Pervious Area
	0.042		0.98% Impervious Area
	0.042		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.6	145	0.0484	1.54		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.4	499	0.0481	1.54		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
9.2	510	0.0176	0.93		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.2	234	0.0625	1.75		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
24.0	1,438	Total			

Summary for Subcatchment 8S: Drainage Area 8S

Runoff = 9.52 cfs @ 12.22 hrs, Volume= 0.988 af, Depth= 1.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (ac)	CN	Adj	Description
*	0.000	98		Existing Structure, HSG A
*	0.000	98		Existing Structure, HSG B
	0.000	30		Woods, Good, HSG A
	2.137	55		Woods, Good, HSG B
	0.000	70		Woods, Good, HSG C
	0.000	96		Gravel surface, HSG A
	0.543	96		Gravel surface, HSG B
	0.000	96		Gravel surface, HSG C
	0.000	30		Meadow, non-grazed, HSG A
	6.640	58		Meadow, non-grazed, HSG B
	0.000	71		Meadow, non-grazed, HSG C
	0.000	98		Unconnected pavement, HSG A
	0.626	98		Unconnected pavement, HSG B
	0.000	98		Unconnected pavement, HSG C
	0.000	98		Water Surface, HSG A
	0.000	98		Water Surface, HSG B
	0.000	98		Water Surface, HSG C
	9.946	62	61	Weighted Average, UI Adjusted
	9.320			93.71% Pervious Area
	0.626			6.29% Impervious Area
	0.626			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
2.8	175	0.0228	1.06		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.5	385	0.0701	1.85		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.9	184	0.1007	1.59		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
13.8	794	Total			

Summary for Subcatchment 9S: Drainage Area 9S

Runoff = 0.93 cfs @ 12.17 hrs, Volume= 0.092 af, Depth= 1.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.187	30	Woods, Good, HSG A
	0.424	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.048	96	Gravel surface, HSG A
	0.139	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	0.233	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.000	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	1.031	59	Weighted Average
	1.031		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.3	50	0.0400	0.20		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.3	70	0.0572	3.85		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.9	82	0.0971	1.56		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.1	411	0.0730	1.35		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.6	613	Total			

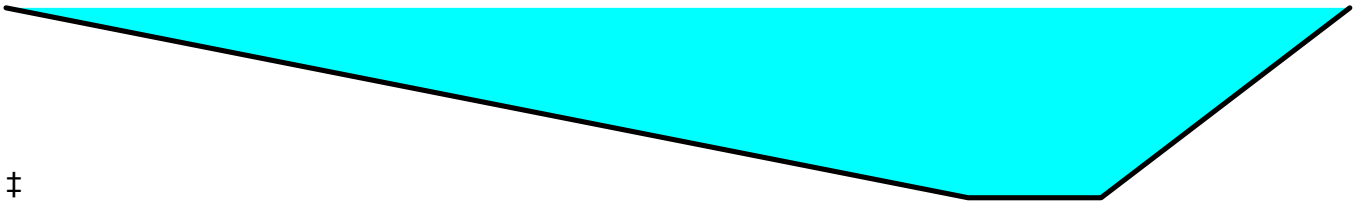
Summary for Reach 1BR: Overland Flow

Inflow Area = 9.780 ac, 2.10% Impervious, Inflow Depth = 1.26" for 10-Year event
Inflow = 9.22 cfs @ 12.27 hrs, Volume= 1.024 af
Outflow = 4.41 cfs @ 13.30 hrs, Volume= 1.023 af, Atten= 52%, Lag= 61.9 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.40 fps, Min. Travel Time= 38.9 min
Avg. Velocity = 0.25 fps, Avg. Travel Time= 63.2 min

Peak Storage= 10,304 cf @ 12.65 hrs
Average Depth at Peak Storage= 0.03'
Bank-Full Depth= 0.01' Flow Area= 2.2 sf, Capacity= 0.71 cfs

Custom cross-section, Length= 940.0' Slope= 0.0426 '/'
Constant n= 0.030 Short grass
Inlet Invert= 209.00', Outlet Invert= 169.00'



‡

Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	0.00	0.00
290.00	-0.01	0.01
330.00	-0.01	0.01
405.00	0.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	40.0	0	0.00
0.01	2.2	405.0	2,092	0.71

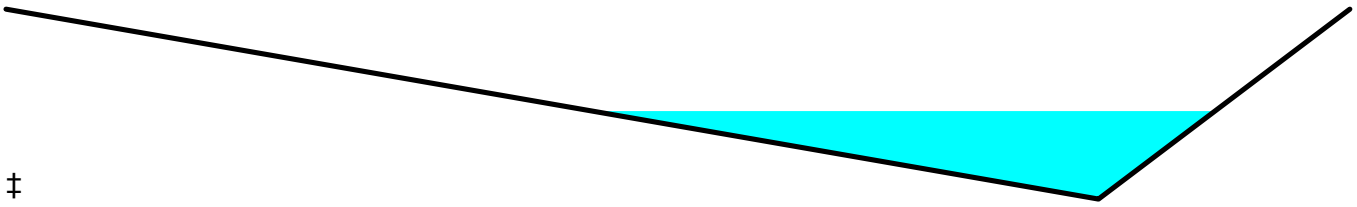
Summary for Reach 1CR: Overland Flow

Inflow Area = 4.622 ac, 6.34% Impervious, Inflow Depth = 2.81" for 10-Year event
Inflow = 9.02 cfs @ 12.35 hrs, Volume= 1.083 af
Outflow = 2.24 cfs @ 15.63 hrs, Volume= 1.023 af, Atten= 75%, Lag= 196.5 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.68 fps, Min. Travel Time= 164.6 min
Avg. Velocity = 0.42 fps, Avg. Travel Time= 268.7 min

Peak Storage= 22,151 cf @ 12.88 hrs
Average Depth at Peak Storage= 0.12'
Bank-Full Depth= 0.25' Flow Area= 15.4 sf, Capacity= 17.41 cfs

Custom cross-section, Length= 6,700.0' Slope= 0.0084 '/'
Constant n= 0.030 Short grass
Inlet Invert= 224.00', Outlet Invert= 168.00'



‡

Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	0.00	0.00
100.00	-0.25	0.25
123.00	0.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	0.0	0	0.00
0.25	15.4	123.0	103,013	17.41

Summary for Reach 2BR: Overland Flow

Inflow Area = 15.629 ac, 0.72% Impervious, Inflow Depth = 0.86" for 10-Year event
Inflow = 10.28 cfs @ 12.32 hrs, Volume= 1.125 af
Outflow = 4.98 cfs @ 13.34 hrs, Volume= 1.124 af, Atten= 52%, Lag= 60.8 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.35 fps, Min. Travel Time= 37.4 min
Avg. Velocity = 0.23 fps, Avg. Travel Time= 57.5 min

Peak Storage= 11,180 cf @ 12.71 hrs
Average Depth at Peak Storage= 0.05'
Bank-Full Depth= 0.01' Flow Area= 1.7 sf, Capacity= 0.46 cfs

Custom cross-section, Length= 785.0' Slope= 0.0280 '/'
Constant n= 0.030 Short grass
Inlet Invert= 194.00', Outlet Invert= 172.00'

‡

Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	0.00	0.00
120.00	-0.01	0.01
170.00	-0.01	0.01
290.00	0.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	50.0	0	0.00
0.01	1.7	290.0	1,335	0.46

Summary for Reach DP-1: Design Point 1

Inflow Area = 31.828 ac, 4.77% Impervious, Inflow Depth > 1.23" for 10-Year event
Inflow = 7.70 cfs @ 12.52 hrs, Volume= 3.258 af
Outflow = 7.70 cfs @ 12.52 hrs, Volume= 3.258 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-2: Design Point 2

Inflow Area = 27.151 ac, 1.67% Impervious, Inflow Depth > 0.95" for 10-Year event
Inflow = 8.87 cfs @ 12.27 hrs, Volume= 2.150 af
Outflow = 8.87 cfs @ 12.27 hrs, Volume= 2.150 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-3: Design Point 3

Inflow Area = 6.262 ac, 7.41% Impervious, Inflow Depth = 1.32" for 10-Year event
Inflow = 7.71 cfs @ 12.16 hrs, Volume= 0.690 af
Outflow = 7.71 cfs @ 12.16 hrs, Volume= 0.690 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-4: Design Point 4

Inflow Area = 29.447 ac, 0.80% Impervious, Inflow Depth = 1.01" for 10-Year event
Inflow = 16.43 cfs @ 12.46 hrs, Volume= 2.473 af
Outflow = 16.43 cfs @ 12.46 hrs, Volume= 2.473 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-5: Design Point 5

Inflow Area = 9.673 ac, 0.00% Impervious, Inflow Depth = 0.62" for 10-Year event
Inflow = 4.30 cfs @ 12.22 hrs, Volume= 0.496 af
Outflow = 4.30 cfs @ 12.22 hrs, Volume= 0.496 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-6: Design Point 6

Inflow Area = 4.792 ac, 2.09% Impervious, Inflow Depth = 0.61" for 10-Year event
Inflow = 1.89 cfs @ 12.32 hrs, Volume= 0.244 af
Outflow = 1.89 cfs @ 12.32 hrs, Volume= 0.244 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-7: Design Point 7

Inflow Area = 31.477 ac, 0.41% Impervious, Inflow Depth = 0.59" for 10-Year event
Inflow = 13.24 cfs @ 12.24 hrs, Volume= 1.544 af
Outflow = 13.24 cfs @ 12.24 hrs, Volume= 1.544 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-8: Design Point 8

Inflow Area = 20.725 ac, 3.40% Impervious, Inflow Depth = 0.57" for 10-Year event
Inflow = 9.52 cfs @ 12.22 hrs, Volume= 0.988 af
Outflow = 9.52 cfs @ 12.22 hrs, Volume= 0.988 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-9: Design Point 9

Inflow Area = 1.031 ac, 0.00% Impervious, Inflow Depth = 1.07" for 10-Year event
Inflow = 0.93 cfs @ 12.17 hrs, Volume= 0.092 af
Outflow = 0.93 cfs @ 12.17 hrs, Volume= 0.092 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Pond 1BP: Culvert 1BS

Inflow Area = 9.780 ac, 2.10% Impervious, Inflow Depth = 1.26" for 10-Year event
Inflow = 9.22 cfs @ 12.27 hrs, Volume= 1.024 af
Outflow = 9.22 cfs @ 12.27 hrs, Volume= 1.024 af, Atten= 0%, Lag= 0.0 min
Primary = 9.22 cfs @ 12.27 hrs, Volume= 1.024 af
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 213.64' @ 12.27 hrs
Flood Elev= 215.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	212.50'	**18.0" Round Culvert X 2.00** L= 72.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 212.50' / 210.00' S= 0.0347 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Secondary	214.25'	**6.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=9.13 cfs @ 12.27 hrs HW=213.63' (Free Discharge)
1=Culvert (Inlet Controls 9.13 cfs @ 3.19 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=212.50' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 5A: Basin 5A

Inflow Area = 1.754 ac, 0.00% Impervious, Inflow Depth = 1.01" for 10-Year event
Inflow = 1.74 cfs @ 12.10 hrs, Volume= 0.147 af
Outflow = 0.26 cfs @ 13.01 hrs, Volume= 0.147 af, Atten= 85%, Lag= 54.3 min
Discarded = 0.26 cfs @ 13.01 hrs, Volume= 0.147 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 273.53' @ 13.01 hrs Surf.Area= 4,660 sf Storage= 1,913 cf
Flood Elev= 275.00' Surf.Area= 11,878 sf Storage= 13,898 cf

Plug-Flow detention time= 74.4 min calculated for 0.147 af (100% of inflow)
Center-of-Mass det. time= 74.3 min (960.9 - 886.6)

Volume	Invert	Avail.Storage	Storage Description
#1	273.00'	13,898 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
273.00	2,606	536.7	0	0	2,606
274.00	6,939	667.0	4,599	4,599	15,102
275.00	11,878	730.0	9,299	13,898	22,140

Device	Routing	Invert	Outlet Devices
#1	Discarded	273.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 194.00'
#2	Primary	274.75'	**15.0' long x 8.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Discarded OutFlow Max=0.26 cfs @ 13.01 hrs HW=273.53' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.26 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=273.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 5B: Basin 5B

Inflow Area = 1.232 ac, 0.00% Impervious, Inflow Depth = 1.01" for 10-Year event
Inflow = 1.10 cfs @ 12.14 hrs, Volume= 0.103 af
Outflow = 0.15 cfs @ 13.65 hrs, Volume= 0.103 af, Atten= 87%, Lag= 90.5 min
Discarded = 0.15 cfs @ 13.65 hrs, Volume= 0.103 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 290.90' @ 13.65 hrs Surf.Area= 2,618 sf Storage= 1,604 cf
Flood Elev= 293.00' Surf.Area= 9,526 sf Storage= 13,669 cf

Plug-Flow detention time= 152.5 min calculated for 0.103 af (100% of inflow)
Center-of-Mass det. time= 152.6 min (1,041.6 - 889.0)

Volume	Invert	Avail.Storage	Storage Description
#1	289.00'	13,669 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
289.00	0	0.0	0	0	0
290.00	670	199.3	223	223	3,162
291.00	2,920	369.2	1,663	1,886	10,854
292.00	5,718	494.6	4,241	6,128	19,485
293.00	9,526	525.0	7,541	13,669	22,003

Device	Routing	Invert	Outlet Devices
#1	Discarded	289.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 194.00'
#2	Primary	292.30'	**15.0' long x 8.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Discarded OutFlow Max=0.15 cfs @ 13.65 hrs HW=290.90' (Free Discharge)
↑**1=Exfiltration** (Controls 0.15 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=289.00' (Free Discharge)
↑**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 5P: Culvert 1CS

Inflow Area = 4.622 ac, 6.34% Impervious, Inflow Depth = 2.81" for 10-Year event
Inflow = 11.01 cfs @ 12.23 hrs, Volume= 1.083 af
Outflow = 9.02 cfs @ 12.35 hrs, Volume= 1.083 af, Atten= 18%, Lag= 7.4 min
Primary = 9.02 cfs @ 12.35 hrs, Volume= 1.083 af
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 227.19' @ 12.35 hrs Surf.Area= 3,038 sf Storage= 2,494 cf

Plug-Flow detention time= 1.6 min calculated for 1.081 af (100% of inflow)
Center-of-Mass det. time= 1.6 min (830.3 - 828.7)

Volume	Invert	Avail.Storage	Storage Description
#1	225.00'	8,119 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
225.00	0	0.0	0	0	0
226.00	823	554.8	274	274	24,496
227.00	2,690	609.2	1,667	1,941	29,568
228.00	4,726	653.1	3,661	5,602	34,023
228.50	5,351	662.0	2,518	8,119	35,011

Device	Routing	Invert	Outlet Devices
#1	Primary	225.00'	**18.0" Round Culvert** L= 54.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 225.00' / 224.00' S= 0.0185 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Secondary	228.40'	**7.0' long x 25.0' 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=9.01 cfs @ 12.35 hrs HW=227.19' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 9.01 cfs @ 5.10 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=225.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 6A: Basin 6A

Inflow Area = 1.181 ac, 6.35% Impervious, Inflow Depth = 1.07" for 10-Year event
Inflow = 1.19 cfs @ 12.12 hrs, Volume= 0.105 af
Outflow = 0.23 cfs @ 12.80 hrs, Volume= 0.105 af, Atten= 81%, Lag= 40.5 min
Discarded = 0.23 cfs @ 12.80 hrs, Volume= 0.105 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 302.36' @ 12.80 hrs Surf.Area= 4,069 sf Storage= 1,232 cf
Flood Elev= 304.00' Surf.Area= 11,352 sf Storage= 13,687 cf

Plug-Flow detention time= 47.3 min calculated for 0.105 af (100% of inflow)
Center-of-Mass det. time= 47.2 min (932.0 - 884.8)

Volume	Invert	Avail.Storage	Storage Description
#1	302.00'	13,687 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
302.00	2,834	486.7	0	0	2,834
303.00	6,833	540.2	4,689	4,689	7,236
304.00	11,352	606.8	8,997	13,687	13,342

Device	Routing	Invert	Outlet Devices
#1	Discarded	302.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 194.00'
#2	Primary	303.75'	**15.0' long x 8.0' breadth Broad-Crested Rectangular Weir**

Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50
Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Discarded OutFlow Max=0.23 cfs @ 12.80 hrs HW=302.36' (Free Discharge)
↑**1=Exfiltration** (Controls 0.23 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=302.00' (Free Discharge)
↑**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 6B: Basin 6B

Inflow Area = 0.525 ac, 4.76% Impervious, Inflow Depth = 1.07" for 10-Year event
Inflow = 0.53 cfs @ 12.12 hrs, Volume= 0.047 af
Outflow = 0.08 cfs @ 13.10 hrs, Volume= 0.047 af, Atten= 85%, Lag= 58.5 min
Discarded = 0.08 cfs @ 13.10 hrs, Volume= 0.047 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 293.03' @ 13.10 hrs Surf.Area= 1,239 sf Storage= 676 cf
Flood Elev= 294.00' Surf.Area= 2,686 sf Storage= 2,540 cf

Plug-Flow detention time= 111.6 min calculated for 0.047 af (100% of inflow)
Center-of-Mass det. time= 111.5 min (996.3 - 884.8)

Volume	Invert	Avail.Storage	Storage Description
#1	292.00'	2,540 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
292.00	214	119.6	0	0	214
293.00	1,206	200.7	643	643	2,287
294.00	2,686	286.0	1,897	2,540	5,600

Device	Routing	Invert	Outlet Devices
#1	Discarded	292.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 288.00'
#2	Primary	293.75'	**15.0' long x 8.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Discarded OutFlow Max=0.08 cfs @ 13.10 hrs HW=293.03' (Free Discharge)
↑**1=Exfiltration** (Controls 0.08 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=292.00' (Free Discharge)
↑**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 7A: Basin 7A

Inflow Area = 11.944 ac, 0.52% Impervious, Inflow Depth = 1.01" for 10-Year event
Inflow = 8.78 cfs @ 12.24 hrs, Volume= 1.003 af
Outflow = 1.02 cfs @ 15.02 hrs, Volume= 0.962 af, Atten= 88%, Lag= 166.8 min
Discarded = 1.02 cfs @ 15.02 hrs, Volume= 0.962 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 252.16' @ 15.02 hrs Surf.Area= 17,893 sf Storage= 18,979 cf
Flood Elev= 254.00' Surf.Area= 44,034 sf Storage= 75,130 cf

Plug-Flow detention time= 267.0 min calculated for 0.962 af (96% of inflow)
Center-of-Mass det. time= 245.5 min (1,140.8 - 895.3)

Volume	Invert	Avail.Storage	Storage Description
#1	248.00'	75,130 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
248.00	0	0.0	0	0	0
249.00	520	128.5	173	173	1,316
250.00	2,102	372.1	1,222	1,396	11,023
251.00	6,364	802.0	4,041	5,437	51,194
252.00	16,015	1,315.7	10,825	16,262	137,769
253.00	29,426	1,401.6	22,383	38,645	156,394
254.00	44,034	1,517.9	36,485	75,130	183,453

Device	Routing	Invert	Outlet Devices
#1	Discarded	248.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 194.00'
#2	Primary	253.75'	**15.0' long x 8.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Discarded OutFlow Max=1.02 cfs @ 15.02 hrs HW=252.16' (Free Discharge)
1=Exfiltration (Controls 1.02 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=248.00' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 8A: Basin 8A

Inflow Area = 6.478 ac, 0.57% Impervious, Inflow Depth = 1.01" for 10-Year event
Inflow = 4.63 cfs @ 12.26 hrs, Volume= 0.544 af
Outflow = 0.53 cfs @ 15.17 hrs, Volume= 0.536 af, Atten= 88%, Lag= 174.6 min
Discarded = 0.53 cfs @ 15.17 hrs, Volume= 0.536 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 250.59' @ 15.17 hrs Surf.Area= 9,384 sf Storage= 10,325 cf
Flood Elev= 252.50' Surf.Area= 21,546 sf Storage= 38,517 cf

Plug-Flow detention time= 262.7 min calculated for 0.536 af (99% of inflow)
Center-of-Mass det. time= 255.1 min (1,151.6 - 896.5)

Volume	Invert	Avail.Storage	Storage Description
#1	248.00'	38,517 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
248.00	123	99.2	0	0	123
249.00	2,613	493.4	1,101	1,101	18,715
250.00	6,683	622.8	4,492	5,593	30,222
251.00	11,513	733.8	8,989	14,582	42,224
252.00	17,210	829.8	14,266	28,848	54,195
252.50	21,546	830.5	9,669	38,517	54,620

Device	Routing	Invert	Outlet Devices
#1	Discarded	248.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 194.00'
#2	Primary	252.25'	**15.0' long x 8.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Discarded OutFlow Max=0.53 cfs @ 15.17 hrs HW=250.59' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.53 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=248.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 8B: Basin 8A

Inflow Area =	4.301 ac,	0.98% Impervious,	Inflow Depth =	1.01" for 10-Year event
Inflow =	2.64 cfs @	12.40 hrs,	Volume=	0.361 af
Outflow =	0.42 cfs @	14.56 hrs,	Volume=	0.361 af, Atten= 84%, Lag= 129.4 min
Discarded =	0.42 cfs @	14.56 hrs,	Volume=	0.361 af
Primary =	0.00 cfs @	5.00 hrs,	Volume=	0.000 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 244.69' @ 14.56 hrs Surf.Area= 7,372 sf Storage= 6,157 cf
Flood Elev= 246.00' Surf.Area= 16,698 sf Storage= 21,360 cf

Plug-Flow detention time= 197.3 min calculated for 0.361 af (100% of inflow)
Center-of-Mass det. time= 197.2 min (1,101.0 - 903.8)

Volume	Invert	Avail.Storage	Storage Description
#1	243.00'	21,360 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
243.00	649	429.6	0	0	649
244.00	4,253	502.8	2,188	2,188	6,100
245.00	9,040	671.8	6,498	8,686	21,908
246.00	16,698	842.9	12,675	21,360	42,546

Device	Routing	Invert	Outlet Devices
#1	Discarded	243.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 199.00'
#2	Primary	245.75'	**15.0' long x 8.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Discarded OutFlow Max=0.42 cfs @ 14.56 hrs HW=244.69' (Free Discharge)
1=Exfiltration (Controls 0.42 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=243.00' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond P2B: Basin 2B

Inflow Area = 15.629 ac, 0.72% Impervious, Inflow Depth = 1.01" for 10-Year event
Inflow = 11.63 cfs @ 12.23 hrs, Volume= 1.312 af
Outflow = 10.59 cfs @ 12.32 hrs, Volume= 1.312 af, Atten= 9%, Lag= 5.4 min
Discarded = 0.31 cfs @ 12.32 hrs, Volume= 0.187 af
Primary = 10.28 cfs @ 12.32 hrs, Volume= 1.125 af
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 197.13' @ 12.32 hrs Surf.Area= 3,922 sf Storage= 3,567 cf
Flood Elev= 198.50' Surf.Area= 6,749 sf Storage= 10,528 cf

Plug-Flow detention time= 9.9 min calculated for 1.310 af (100% of inflow)
Center-of-Mass det. time= 9.9 min (904.6 - 894.7)

Volume	Invert	Avail.Storage	Storage Description
#1	196.00'	10,528 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
196.00	2,453	396.9	0	0	2,453
197.00	3,748	465.9	3,078	3,078	7,210
198.00	5,223	506.0	4,465	7,543	10,349
198.50	6,749	523.0	2,985	10,528	11,765

Device	Routing	Invert	Outlet Devices
#1	Primary	195.50'	**24.0" Round Culvert** L= 50.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 195.50' / 195.00' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Discarded	196.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 194.00'
#3	Secondary	198.00'	**50.0' 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
#4	Device 1	196.00'	**18.0" Vert. Orifice/Grate X 2.00** C= 0.600
#5	Device 1	198.00'	**27.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.31 cfs @ 12.32 hrs HW=197.12' (Free Discharge)
└**2=Exfiltration** (Controls 0.31 cfs)

Primary OutFlow Max=10.21 cfs @ 12.32 hrs HW=197.12' (Free Discharge)
└**1=Culvert** (Barrel Controls 10.21 cfs @ 5.10 fps)
  ├**4=Orifice/Grate** (Passes 10.21 cfs of 10.22 cfs potential flow)
  └**5=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=196.00' (Free Discharge)
└**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Time span=5.00-30.00 hrs, dt=0.05 hrs, 501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1AS: Drainage Area 1AS Runoff Area=17.426 ac 5.85% Impervious Runoff Depth=1.24"
Flow Length=1,146' Tc=29.0 min CN=55 Runoff=12.43 cfs 1.800 af

Subcatchment 1BS: Drainage Area 1BS Runoff Area=9.780 ac 2.10% Impervious Runoff Depth=1.76"
Flow Length=1,301' Tc=17.2 min CN=62 Runoff=13.48 cfs 1.431 af

Subcatchment 1CS: Drainage Area 1CS Runoff Area=4.622 ac 6.34% Impervious Runoff Depth=3.53"
Flow Length=870' Tc=16.6 min UI Adjusted CN=82 Runoff=13.78 cfs 1.360 af

Subcatchment 2AS: Drainage Area 2AS Runoff Area=11.522 ac 2.97% Impervious Runoff Depth=1.53"
Flow Length=747' Tc=16.5 min CN=59 Runoff=13.56 cfs 1.467 af

Subcatchment 2BS: Drainage Area 2BS Runoff Area=15.629 ac 0.72% Impervious Runoff Depth=1.45"
Flow Length=1,098' Tc=14.2 min CN=58 Runoff=18.28 cfs 1.893 af

Subcatchment 3AS: Drainage Area 3AS Runoff Area=6.262 ac 7.41% Impervious Runoff Depth=1.83"
Flow Length=840' Tc=9.8 min UI Adjusted CN=63 Runoff=11.12 cfs 0.957 af

Subcatchment 4AS: Drainage Area 4AS Runoff Area=4.677 ac 2.67% Impervious Runoff Depth=1.45"
Flow Length=1,146' Tc=13.7 min CN=58 Runoff=5.54 cfs 0.567 af

Subcatchment 4BS: Drainage Area 4BS Runoff Area=24.770 ac 0.45% Impervious Runoff Depth=1.45"
Flow Length=1,845' Tc=29.3 min CN=58 Runoff=21.69 cfs 3.001 af

Subcatchment 5AS: Drainage Area 5AS Runoff Area=1.754 ac 0.00% Impervious Runoff Depth=1.45"
Flow Length=445' Tc=5.4 min CN=58 Runoff=2.70 cfs 0.212 af

Subcatchment 5BS: Drainage Area 5BS Runoff Area=1.232 ac 0.00% Impervious Runoff Depth=1.45"
Flow Length=394' Tc=8.0 min CN=58 Runoff=1.71 cfs 0.149 af

Subcatchment 5S: Drainage Area 5S Runoff Area=6.687 ac 0.00% Impervious Runoff Depth=1.31"
Flow Length=1,088' Tc=13.1 min CN=56 Runoff=7.00 cfs 0.730 af

Subcatchment 6AS: Drainage Area 6AS Runoff Area=1.181 ac 6.35% Impervious Runoff Depth=1.53"
Flow Length=290' Tc=7.3 min UI Adjusted CN=59 Runoff=1.82 cfs 0.150 af

Subcatchment 6BS: Drainage Area 6BS Runoff Area=0.525 ac 4.76% Impervious Runoff Depth=1.53"
Flow Length=290' Tc=7.3 min UI Adjusted CN=59 Runoff=0.81 cfs 0.067 af

Subcatchment 6S: Drainage Area 6S Runoff Area=3.086 ac 0.00% Impervious Runoff Depth=1.38"
Flow Length=1,253' Tc=19.3 min CN=57 Runoff=3.00 cfs 0.355 af

Subcatchment 7AS: Drainage Area 7AS Runoff Area=11.944 ac 0.52% Impervious Runoff Depth=1.45"
Flow Length=1,206' Tc=14.8 min CN=58 Runoff=13.66 cfs 1.447 af

Subcatchment 7S: Drainage Area 7S Runoff Area=19.533 ac 0.35% Impervious Runoff Depth=1.38"
Flow Length=1,268' Tc=14.5 min UI Adjusted CN=57 Runoff=21.03 cfs 2.248 af

Subcatchment 8AS: Drainage Area 8A Runoff Area=6.478 ac 0.57% Impervious Runoff Depth=1.45"
Flow Length=984' Tc=16.1 min CN=58 Runoff=7.21 cfs 0.785 af

Subcatchment 8BS: Drainage Area 8BS Runoff Area=4.301 ac 0.98% Impervious Runoff Depth=1.45"
Flow Length=1,438' Tc=24.0 min CN=58 Runoff=4.09 cfs 0.521 af

Subcatchment 8S: Drainage Area 8S Runoff Area=9.946 ac 6.29% Impervious Runoff Depth=1.68"
Flow Length=794' Tc=13.8 min UI Adjusted CN=61 Runoff=14.12 cfs 1.391 af

Subcatchment 9S: Drainage Area 9S Runoff Area=1.031 ac 0.00% Impervious Runoff Depth=1.53"
Flow Length=613' Tc=10.6 min CN=59 Runoff=1.43 cfs 0.131 af

Reach 1BR: Overland Flow Avg. Flow Depth=0.04' Max Vel=0.41 fps Inflow=13.48 cfs 1.431 af
n=0.030 L=940.0' S=0.0426 '/' Capacity=0.71 cfs Outflow=6.52 cfs 1.430 af

Reach 1CR: Overland Flow Avg. Flow Depth=0.13' Max Vel=0.73 fps Inflow=10.39 cfs 1.360 af
n=0.030 L=6,700.0' S=0.0084 '/' Capacity=17.41 cfs Outflow=3.05 cfs 1.296 af

Reach 2BR: Overland Flow Avg. Flow Depth=0.08' Max Vel=0.35 fps Inflow=14.54 cfs 1.690 af
n=0.030 L=785.0' S=0.0280 '/' Capacity=0.46 cfs Outflow=8.01 cfs 1.689 af

Reach DP-1: Design Point 1 Inflow=12.82 cfs 4.525 af
Outflow=12.82 cfs 4.525 af

Reach DP-2: Design Point 2 Inflow=13.56 cfs 3.155 af
Outflow=13.56 cfs 3.155 af

Reach DP-3: Design Point 3 Inflow=11.12 cfs 0.957 af
Outflow=11.12 cfs 0.957 af

Reach DP-4: Design Point 4 Inflow=25.31 cfs 3.567 af
Outflow=25.31 cfs 3.567 af

Reach DP-5: Design Point 5 Inflow=7.00 cfs 0.730 af
Outflow=7.00 cfs 0.730 af

Reach DP-6: Design Point 6 Inflow=3.00 cfs 0.355 af
Outflow=3.00 cfs 0.355 af

Reach DP-7: Design Point 7 Inflow=21.03 cfs 2.248 af
Outflow=21.03 cfs 2.248 af

Reach DP-8: Design Point 8 Inflow=14.12 cfs 1.391 af
Outflow=14.12 cfs 1.391 af

Reach DP-9: Design Point 9 Inflow=1.43 cfs 0.131 af
Outflow=1.43 cfs 0.131 af

Pond 1BP: Culvert 1BS Peak Elev=214.06' Inflow=13.48 cfs 1.431 af
Primary=13.48 cfs 1.431 af Secondary=0.00 cfs 0.000 af Outflow=13.48 cfs 1.431 af

Pond 5A: Basin 5A Peak Elev=273.79' Storage=3,236 cf Inflow=2.70 cfs 0.212 af
Discarded=0.33 cfs 0.212 af Primary=0.00 cfs 0.000 af Outflow=0.33 cfs 0.212 af

Pond 5B: Basin 5B Peak Elev=291.22' Storage=2,587 cf Inflow=1.71 cfs 0.149 af
Discarded=0.19 cfs 0.149 af Primary=0.00 cfs 0.000 af Outflow=0.19 cfs 0.149 af

Pond 5P: Culvert 1CS Peak Elev=227.67' Storage=4,147 cf Inflow=13.78 cfs 1.360 af
Primary=10.39 cfs 1.360 af Secondary=0.00 cfs 0.000 af Outflow=10.39 cfs 1.360 af

Pond 6A: Basin 6A Peak Elev=302.56' Storage=2,118 cf Inflow=1.82 cfs 0.150 af
Discarded=0.27 cfs 0.150 af Primary=0.00 cfs 0.000 af Outflow=0.27 cfs 0.150 af

Pond 6B: Basin 6B Peak Elev=293.31' Storage=1,079 cf Inflow=0.81 cfs 0.067 af
Discarded=0.10 cfs 0.067 af Primary=0.00 cfs 0.000 af Outflow=0.10 cfs 0.067 af

Pond 7A: Basin 7A Peak Elev=252.66' Storage=29,454 cf Inflow=13.66 cfs 1.447 af
Discarded=1.39 cfs 1.371 af Primary=0.00 cfs 0.000 af Outflow=1.39 cfs 1.371 af

Pond 8A: Basin 8A Peak Elev=251.15' Storage=16,355 cf Inflow=7.21 cfs 0.785 af
Discarded=0.70 cfs 0.752 af Primary=0.00 cfs 0.000 af Outflow=0.70 cfs 0.752 af

Pond 8B: Basin 8A Peak Elev=245.12' Storage=9,836 cf Inflow=4.09 cfs 0.521 af
Discarded=0.56 cfs 0.520 af Primary=0.00 cfs 0.000 af Outflow=0.56 cfs 0.520 af

Pond P2B: Basin 2B Peak Elev=197.69' Storage=5,982 cf Inflow=18.28 cfs 1.893 af
Discarded=0.42 cfs 0.204 af Primary=14.54 cfs 1.690 af Secondary=0.00 cfs 0.000 af Outflow=14.96 cfs 1.893 af

Total Runoff Area = 162.386 ac Runoff Volume = 20.662 af Average Runoff Depth = 1.53"
97.78% Pervious = 158.779 ac 2.22% Impervious = 3.607 ac

Summary for Subcatchment 1AS: Drainage Area 1AS

Runoff = 12.43 cfs @ 12.47 hrs, Volume= 1.800 af, Depth= 1.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (ac)	CN	Description
*	0.164	98	Existing Structure, HSG A
*	0.533	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	3.149	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.041	96	Gravel surface, HSG A
	0.371	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	3.589	30	Meadow, non-grazed, HSG A
	9.178	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.006	98	Unconnected pavement, HSG A
	0.317	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	0.078	65	Woods/grass comb., Fair, HSG B
	17.426	55	Weighted Average
	16.406		94.15% Pervious Area
	1.020		5.85% Impervious Area
	0.323		31.67% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	50	0.1200	0.14		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.5	82	0.1459	2.67		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.0	236	0.0762	1.93		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.3	68	0.0147	0.85		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
11.9	445	0.0079	0.62		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.3	265	0.0075	0.61		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
29.0	1,146	Total			

Summary for Subcatchment 1BS: Drainage Area 1BS

Runoff = 13.48 cfs @ 12.26 hrs, Volume= 1.431 af, Depth= 1.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.922	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	8.653	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.205	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	9.780	62	Weighted Average
	9.575		97.90% Pervious Area
	0.205		2.10% Impervious Area
	0.205		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	50	0.0800	0.26		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
10.1	765	0.0327	1.27		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.8	278	0.0576	1.68		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.4	82	0.2560	3.54		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.7	126	0.0397	3.21		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
17.2	1,301	Total			

Summary for Subcatchment 1CS: Drainage Area 1CS

Runoff = 13.78 cfs @ 12.23 hrs, Volume= 1.360 af, Depth= 3.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (ac)	CN	Adj	Description
*	0.000	98		Existing Structure, HSG A
*	0.120	98		Existing Structure, HSG B
	0.000	30		Woods, Good, HSG A
	0.613	55		Woods, Good, HSG B
	0.000	70		Woods, Good, HSG C
	0.000	96		Gravel surface, HSG A
	2.738	96		Gravel surface, HSG B
	0.000	96		Gravel surface, HSG C
	0.000	30		Meadow, non-grazed, HSG A
	0.978	58		Meadow, non-grazed, HSG B
	0.000	71		Meadow, non-grazed, HSG C
	0.000	98		Unconnected pavement, HSG A
	0.173	98		Unconnected pavement, HSG B
	0.000	98		Unconnected pavement, HSG C
	0.000	98		Water Surface, HSG A
	0.000	98		Water Surface, HSG B
	0.000	98		Water Surface, HSG C
	4.622	83	82	Weighted Average, UI Adjusted
	4.329			93.66% Pervious Area
	0.293			6.34% Impervious Area
	0.173			59.04% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
3.9	160	0.0094	0.68		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.6	122	0.0328	1.27		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.8	222	0.0676	1.30		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	33	0.1212	2.44		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.5	283	0.0141	1.91		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
16.6	870	Total			

Summary for Subcatchment 2AS: Drainage Area 2AS

Runoff = 13.56 cfs @ 12.26 hrs, Volume= 1.467 af, Depth= 1.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.025	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.079	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	11.084	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.317	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	0.017	65	Woods/grass comb., Fair, HSG B
	11.522	59	Weighted Average
	11.180		97.03% Pervious Area
	0.342		2.97% Impervious Area
	0.317		92.69% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	50	0.0800	0.26		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
2.9	284	0.0528	1.61		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.2	80	0.0250	1.11		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
9.2	333	0.0075	0.61		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
16.5	747	Total			

Summary for Subcatchment 2BS: Drainage Area 2BS

Runoff = 18.28 cfs @ 12.22 hrs, Volume= 1.893 af, Depth= 1.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	5.460	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.340	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	9.717	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.031	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.081	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	15.629	58	Weighted Average
	15.517		99.28% Pervious Area
	0.112		0.72% Impervious Area
	0.031		27.68% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.8	182	0.0549	1.64		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.3	410	0.0879	2.08		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.9	120	0.1083	2.30		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.4	291	0.1684	2.05		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	45	0.2426	3.45		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
14.2	1,098	Total			

Summary for Subcatchment 3AS: Drainage Area 3AS

Runoff = 11.12 cfs @ 12.15 hrs, Volume= 0.957 af, Depth= 1.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (ac)	CN	Adj	Description
*	0.000	98		Existing Structure, HSG A
*	0.000	98		Existing Structure, HSG B
	0.000	30		Woods, Good, HSG A
	0.153	55		Woods, Good, HSG B
	0.000	70		Woods, Good, HSG C
	0.000	96		Gravel surface, HSG A
	0.496	96		Gravel surface, HSG B
	0.000	96		Gravel surface, HSG C
	0.000	30		Meadow, non-grazed, HSG A
	5.149	58		Meadow, non-grazed, HSG B
	0.000	71		Meadow, non-grazed, HSG C
	0.000	98		Unconnected pavement, HSG A
	0.175	98		Unconnected pavement, HSG B
	0.000	98		Unconnected pavement, HSG C
	0.000	98		Water Surface, HSG A
	0.289	98		Water Surface, HSG B
	0.000	98		Water Surface, HSG C
	6.262	64	63	Weighted Average, UI Adjusted
	5.798			92.59% Pervious Area
	0.464			7.41% Impervious Area
	0.175			37.72% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	50	0.1600	0.16		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.3	38	0.1316	1.81		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	32	0.0938	2.14		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	25	0.0800	4.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
2.4	463	0.0390	3.18		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.4	232	0.0302	2.80		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
9.8	840	Total			

Summary for Subcatchment 4AS: Drainage Area 4AS

Runoff = 5.54 cfs @ 12.21 hrs, Volume= 0.567 af, Depth= 1.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	3.033	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.148	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	1.371	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.125	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	4.677	58	Weighted Average
	4.552		97.33% Pervious Area
	0.125		2.67% Impervious Area
	0.125		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.0	79	0.0380	1.36		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.8	107	0.0935	2.14		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.3	532	0.1729	2.08		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.8	67	0.0448	1.48		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.2	311	0.0676	4.19		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
13.7	1,146	Total			

Summary for Subcatchment 4BS: Drainage Area 4BS

Runoff = 21.69 cfs @ 12.46 hrs, Volume= 3.001 af, Depth= 1.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	6.999	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.046	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	17.042	58	Meadow, non-grazed, HSG B
	0.393	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.111	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	0.179	65	Woods/grass comb., Fair, HSG B
	24.770	58	Weighted Average
	24.659		99.55% Pervious Area
	0.111		0.45% Impervious Area
	0.111		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.6	186	0.0806	1.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.4	72	0.1668	2.86		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.7	439	0.1550	1.97		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.7	411	0.0681	1.83		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
14.3	687	0.0131	0.80		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
29.3	1,845	Total			

Summary for Subcatchment 5AS: Drainage Area 5AS

Runoff = 2.70 cfs @ 12.10 hrs, Volume= 0.212 af, Depth= 1.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.000	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	1.754	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.000	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	1.754	58	Weighted Average
	1.754		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	50	0.0800	0.26		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
2.2	395	0.1800	2.97		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.4	445	Total			

Summary for Subcatchment 5BS: Drainage Area 5BS

Runoff = 1.71 cfs @ 12.13 hrs, Volume= 0.149 af, Depth= 1.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.000	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	1.232	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.000	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	1.232	58	Weighted Average
	1.232		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.3	50	0.0400	0.20		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.3	113	0.0442	1.47		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.4	231	0.0520	1.60		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.0	394	Total			

Summary for Subcatchment 5S: Drainage Area 5S

Runoff = 7.00 cfs @ 12.21 hrs, Volume= 0.730 af, Depth= 1.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	4.693	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.000	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	1.994	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.000	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	6.687	56	Weighted Average
	6.687		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	50	0.0800	0.26		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
3.0	396	0.0959	2.17		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.2	435	0.1172	1.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.7	207	0.0676	1.30		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
13.1	1,088	Total			

Summary for Subcatchment 6AS: Drainage Area 6AS

Runoff = 1.82 cfs @ 12.12 hrs, Volume= 0.150 af, Depth= 1.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (ac)	CN	Adj	Description
*	0.000	98		Existing Structure, HSG A
*	0.000	98		Existing Structure, HSG B
	0.000	30		Woods, Good, HSG A
	0.000	55		Woods, Good, HSG B
	0.000	70		Woods, Good, HSG C
	0.000	96		Gravel surface, HSG A
	0.000	96		Gravel surface, HSG B
	0.000	96		Gravel surface, HSG C
	0.000	30		Meadow, non-grazed, HSG A
	1.106	58		Meadow, non-grazed, HSG B
	0.000	71		Meadow, non-grazed, HSG C
	0.000	98		Unconnected pavement, HSG A
	0.075	98		Unconnected pavement, HSG B
	0.000	98		Unconnected pavement, HSG C
	0.000	98		Water Surface, HSG A
	0.000	98		Water Surface, HSG B
	0.000	98		Water Surface, HSG C
	1.181	61	59	Weighted Average, UI Adjusted
	1.106			93.65% Pervious Area
	0.075			6.35% Impervious Area
	0.075			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	50	0.0300	0.17		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
2.5	240	0.0542	1.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.3	290	Total			

Summary for Subcatchment 6BS: Drainage Area 6BS

Runoff = 0.81 cfs @ 12.12 hrs, Volume= 0.067 af, Depth= 1.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (ac)	CN	Adj	Description
*	0.000	98		Existing Structure, HSG A
*	0.000	98		Existing Structure, HSG B
	0.000	30		Woods, Good, HSG A
	0.000	55		Woods, Good, HSG B
	0.000	70		Woods, Good, HSG C
	0.000	96		Gravel surface, HSG A
	0.000	96		Gravel surface, HSG B
	0.000	96		Gravel surface, HSG C
	0.000	30		Meadow, non-grazed, HSG A
	0.500	58		Meadow, non-grazed, HSG B
	0.000	71		Meadow, non-grazed, HSG C
	0.000	98		Unconnected pavement, HSG A
	0.025	98		Unconnected pavement, HSG B
	0.000	98		Unconnected pavement, HSG C
	0.000	98		Water Surface, HSG A
	0.000	98		Water Surface, HSG B
	0.000	98		Water Surface, HSG C
	0.525	60	59	Weighted Average, UI Adjusted
	0.500			95.24% Pervious Area
	0.025			4.76% Impervious Area
	0.025			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	50	0.0300	0.17		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
2.5	240	0.0542	1.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.3	290	Total			

Summary for Subcatchment 6S: Drainage Area 6S

Runoff = 3.00 cfs @ 12.31 hrs, Volume= 0.355 af, Depth= 1.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	1.480	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.000	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	1.606	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.000	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	3.086	57	Weighted Average
	3.086		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.3	50	0.0400	0.20		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
4.8	571	0.0800	1.98		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.0	257	0.1900	2.18		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.2	375	0.0235	0.77		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
19.3	1,253	Total			

Summary for Subcatchment 7AS: Drainage Area 7AS

Runoff = 13.66 cfs @ 12.23 hrs, Volume= 1.447 af, Depth= 1.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.000	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	11.882	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.062	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	11.944	58	Weighted Average
	11.882		99.48% Pervious Area
	0.062		0.52% Impervious Area
	0.062		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	50	0.0700	0.24		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
11.4	1,156	0.0579	1.68		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
14.8	1,206	Total			

Summary for Subcatchment 7S: Drainage Area 7S

Runoff = 21.03 cfs @ 12.23 hrs, Volume= 2.248 af, Depth= 1.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (ac)	CN	Adj	Description
*	0.000	98		Existing Structure, HSG A
*	0.000	98		Existing Structure, HSG B
	0.000	30		Woods, Good, HSG A
	3.886	55		Woods, Good, HSG B
	0.000	70		Woods, Good, HSG C
	0.000	96		Gravel surface, HSG A
	0.000	96		Gravel surface, HSG B
	0.000	96		Gravel surface, HSG C
	0.000	30		Meadow, non-grazed, HSG A
	15.579	58		Meadow, non-grazed, HSG B
	0.000	71		Meadow, non-grazed, HSG C
	0.000	98		Unconnected pavement, HSG A
	0.068	98		Unconnected pavement, HSG B
	0.000	98		Unconnected pavement, HSG C
	0.000	98		Water Surface, HSG A
	0.000	98		Water Surface, HSG B
	0.000	98		Water Surface, HSG C
	19.533	58	57	Weighted Average, UI Adjusted
	19.465			99.65% Pervious Area
	0.068			0.35% Impervious Area
	0.068			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.6	50	0.0600	0.23		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
9.8	1,125	0.0747	1.91		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.1	93	0.0753	1.37		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.5	1,268	Total			

Summary for Subcatchment 8AS: Drainage Area 8A

Runoff = 7.21 cfs @ 12.25 hrs, Volume= 0.785 af, Depth= 1.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.000	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	6.441	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.037	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	6.478	58	Weighted Average
	6.441		99.43% Pervious Area
	0.037		0.57% Impervious Area
	0.037		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
10.5	934	0.0450	1.48		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
16.1	984	Total			

Summary for Subcatchment 8BS: Drainage Area 8BS

Runoff = 4.09 cfs @ 12.38 hrs, Volume= 0.521 af, Depth= 1.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.000	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	4.259	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.042	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	4.301	58	Weighted Average
	4.259		99.02% Pervious Area
	0.042		0.98% Impervious Area
	0.042		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.6	145	0.0484	1.54		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.4	499	0.0481	1.54		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
9.2	510	0.0176	0.93		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.2	234	0.0625	1.75		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
24.0	1,438	Total			

Summary for Subcatchment 8S: Drainage Area 8S

Runoff = 14.12 cfs @ 12.21 hrs, Volume= 1.391 af, Depth= 1.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (ac)	CN	Adj	Description
*	0.000	98		Existing Structure, HSG A
*	0.000	98		Existing Structure, HSG B
	0.000	30		Woods, Good, HSG A
	2.137	55		Woods, Good, HSG B
	0.000	70		Woods, Good, HSG C
	0.000	96		Gravel surface, HSG A
	0.543	96		Gravel surface, HSG B
	0.000	96		Gravel surface, HSG C
	0.000	30		Meadow, non-grazed, HSG A
	6.640	58		Meadow, non-grazed, HSG B
	0.000	71		Meadow, non-grazed, HSG C
	0.000	98		Unconnected pavement, HSG A
	0.626	98		Unconnected pavement, HSG B
	0.000	98		Unconnected pavement, HSG C
	0.000	98		Water Surface, HSG A
	0.000	98		Water Surface, HSG B
	0.000	98		Water Surface, HSG C
	9.946	62	61	Weighted Average, UI Adjusted
	9.320			93.71% Pervious Area
	0.626			6.29% Impervious Area
	0.626			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
2.8	175	0.0228	1.06		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.5	385	0.0701	1.85		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.9	184	0.1007	1.59		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
13.8	794	Total			

Summary for Subcatchment 9S: Drainage Area 9S

Runoff = 1.43 cfs @ 12.17 hrs, Volume= 0.131 af, Depth= 1.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.187	30	Woods, Good, HSG A
	0.424	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.048	96	Gravel surface, HSG A
	0.139	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	0.233	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.000	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	1.031	59	Weighted Average
	1.031		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.3	50	0.0400	0.20		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.3	70	0.0572	3.85		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.9	82	0.0971	1.56		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.1	411	0.0730	1.35		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.6	613	Total			

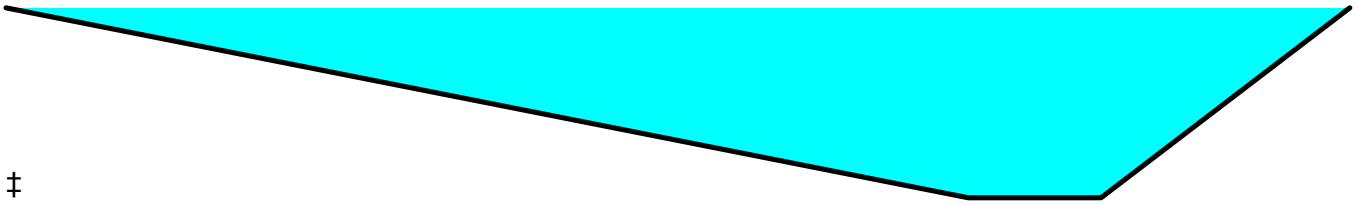
Summary for Reach 1BR: Overland Flow

Inflow Area = 9.780 ac, 2.10% Impervious, Inflow Depth = 1.76" for 25-Year event
Inflow = 13.48 cfs @ 12.26 hrs, Volume= 1.431 af
Outflow = 6.52 cfs @ 13.26 hrs, Volume= 1.430 af, Atten= 52%, Lag= 60.2 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.41 fps, Min. Travel Time= 38.3 min
Avg. Velocity = 0.26 fps, Avg. Travel Time= 60.4 min

Peak Storage= 15,002 cf @ 12.62 hrs
Average Depth at Peak Storage= 0.04'
Bank-Full Depth= 0.01' Flow Area= 2.2 sf, Capacity= 0.71 cfs

Custom cross-section, Length= 940.0' Slope= 0.0426 '/'
Constant n= 0.030 Short grass
Inlet Invert= 209.00', Outlet Invert= 169.00'



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Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	0.00	0.00
290.00	-0.01	0.01
330.00	-0.01	0.01
405.00	0.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	40.0	0	0.00
0.01	2.2	405.0	2,092	0.71

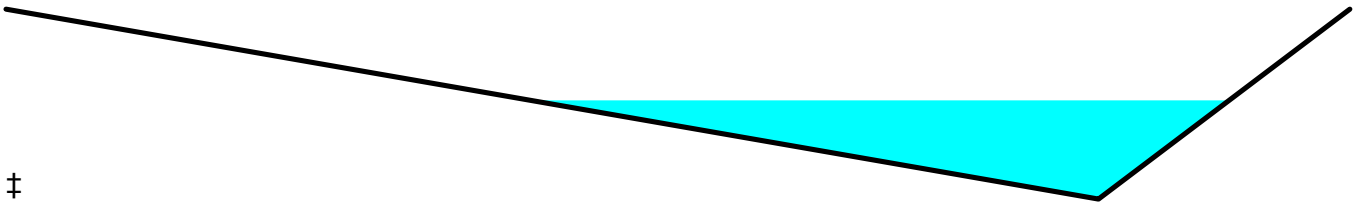
Summary for Reach 1CR: Overland Flow

Inflow Area = 4.622 ac, 6.34% Impervious, Inflow Depth = 3.53" for 25-Year event
Inflow = 10.39 cfs @ 12.38 hrs, Volume= 1.360 af
Outflow = 3.05 cfs @ 15.42 hrs, Volume= 1.296 af, Atten= 71%, Lag= 182.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.73 fps, Min. Travel Time= 152.5 min
Avg. Velocity = 0.43 fps, Avg. Travel Time= 258.5 min

Peak Storage= 27,876 cf @ 12.87 hrs
Average Depth at Peak Storage= 0.13'
Bank-Full Depth= 0.25' Flow Area= 15.4 sf, Capacity= 17.41 cfs

Custom cross-section, Length= 6,700.0' Slope= 0.0084 '/'
Constant n= 0.030 Short grass
Inlet Invert= 224.00', Outlet Invert= 168.00'



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Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	0.00	0.00
100.00	-0.25	0.25
123.00	0.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	0.0	0	0.00
0.25	15.4	123.0	103,013	17.41

Summary for Reach 2BR: Overland Flow

Inflow Area = 15.629 ac, 0.72% Impervious, Inflow Depth = 1.30" for 25-Year event
Inflow = 14.54 cfs @ 12.35 hrs, Volume= 1.690 af
Outflow = 8.01 cfs @ 13.32 hrs, Volume= 1.689 af, Atten= 45%, Lag= 57.8 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.35 fps, Min. Travel Time= 36.9 min
Avg. Velocity = 0.24 fps, Avg. Travel Time= 54.5 min

Peak Storage= 17,771 cf @ 12.70 hrs
Average Depth at Peak Storage= 0.08'
Bank-Full Depth= 0.01' Flow Area= 1.7 sf, Capacity= 0.46 cfs

Custom cross-section, Length= 785.0' Slope= 0.0280 '/'
Constant n= 0.030 Short grass
Inlet Invert= 194.00', Outlet Invert= 172.00'

‡

Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	0.00	0.00
120.00	-0.01	0.01
170.00	-0.01	0.01
290.00	0.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	50.0	0	0.00
0.01	1.7	290.0	1,335	0.46

Summary for Reach DP-1: Design Point 1

Inflow Area = 31.828 ac, 4.77% Impervious, Inflow Depth > 1.71" for 25-Year event
Inflow = 12.82 cfs @ 12.49 hrs, Volume= 4.525 af
Outflow = 12.82 cfs @ 12.49 hrs, Volume= 4.525 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-2: Design Point 2

Inflow Area = 27.151 ac, 1.67% Impervious, Inflow Depth > 1.39" for 25-Year event
Inflow = 13.56 cfs @ 12.26 hrs, Volume= 3.155 af
Outflow = 13.56 cfs @ 12.26 hrs, Volume= 3.155 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-3: Design Point 3

Inflow Area = 6.262 ac, 7.41% Impervious, Inflow Depth = 1.83" for 25-Year event
Inflow = 11.12 cfs @ 12.15 hrs, Volume= 0.957 af
Outflow = 11.12 cfs @ 12.15 hrs, Volume= 0.957 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-4: Design Point 4

Inflow Area = 29.447 ac, 0.80% Impervious, Inflow Depth = 1.45" for 25-Year event
Inflow = 25.31 cfs @ 12.44 hrs, Volume= 3.567 af
Outflow = 25.31 cfs @ 12.44 hrs, Volume= 3.567 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-5: Design Point 5

Inflow Area = 9.673 ac, 0.00% Impervious, Inflow Depth = 0.91" for 25-Year event
Inflow = 7.00 cfs @ 12.21 hrs, Volume= 0.730 af
Outflow = 7.00 cfs @ 12.21 hrs, Volume= 0.730 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-6: Design Point 6

Inflow Area = 4.792 ac, 2.09% Impervious, Inflow Depth = 0.89" for 25-Year event
Inflow = 3.00 cfs @ 12.31 hrs, Volume= 0.355 af
Outflow = 3.00 cfs @ 12.31 hrs, Volume= 0.355 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-7: Design Point 7

Inflow Area = 31.477 ac, 0.41% Impervious, Inflow Depth = 0.86" for 25-Year event
Inflow = 21.03 cfs @ 12.23 hrs, Volume= 2.248 af
Outflow = 21.03 cfs @ 12.23 hrs, Volume= 2.248 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-8: Design Point 8

Inflow Area = 20.725 ac, 3.40% Impervious, Inflow Depth = 0.81" for 25-Year event
Inflow = 14.12 cfs @ 12.21 hrs, Volume= 1.391 af
Outflow = 14.12 cfs @ 12.21 hrs, Volume= 1.391 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-9: Design Point 9

Inflow Area = 1.031 ac, 0.00% Impervious, Inflow Depth = 1.53" for 25-Year event
Inflow = 1.43 cfs @ 12.17 hrs, Volume= 0.131 af
Outflow = 1.43 cfs @ 12.17 hrs, Volume= 0.131 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Pond 1BP: Culvert 1BS

Inflow Area = 9.780 ac, 2.10% Impervious, Inflow Depth = 1.76" for 25-Year event
Inflow = 13.48 cfs @ 12.26 hrs, Volume= 1.431 af
Outflow = 13.48 cfs @ 12.26 hrs, Volume= 1.431 af, Atten= 0%, Lag= 0.0 min
Primary = 13.48 cfs @ 12.26 hrs, Volume= 1.431 af
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 214.06' @ 12.26 hrs
Flood Elev= 215.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	212.50'	**18.0" Round Culvert X 2.00** L= 72.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 212.50' / 210.00' S= 0.0347 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Secondary	214.25'	**6.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=13.39 cfs @ 12.26 hrs HW=214.05' (Free Discharge)
1=Culvert (Inlet Controls 13.39 cfs @ 3.79 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=212.50' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 5A: Basin 5A

Inflow Area = 1.754 ac, 0.00% Impervious, Inflow Depth = 1.45" for 25-Year event
Inflow = 2.70 cfs @ 12.10 hrs, Volume= 0.212 af
Outflow = 0.33 cfs @ 13.15 hrs, Volume= 0.212 af, Atten= 88%, Lag= 62.9 min
Discarded = 0.33 cfs @ 13.15 hrs, Volume= 0.212 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 273.79' @ 13.15 hrs Surf.Area= 5,838 sf Storage= 3,236 cf
Flood Elev= 275.00' Surf.Area= 11,878 sf Storage= 13,898 cf

Plug-Flow detention time= 110.4 min calculated for 0.212 af (100% of inflow)
Center-of-Mass det. time= 110.2 min (984.1 - 873.9)

Volume	Invert	Avail.Storage	Storage Description
#1	273.00'	13,898 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
273.00	2,606	536.7	0	0	2,606
274.00	6,939	667.0	4,599	4,599	15,102
275.00	11,878	730.0	9,299	13,898	22,140

Device	Routing	Invert	Outlet Devices
#1	Discarded	273.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 194.00'
#2	Primary	274.75'	**15.0' long x 8.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Discarded OutFlow Max=0.33 cfs @ 13.15 hrs HW=273.79' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.33 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=273.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 5B: Basin 5B

Inflow Area = 1.232 ac, 0.00% Impervious, Inflow Depth = 1.45" for 25-Year event
Inflow = 1.71 cfs @ 12.13 hrs, Volume= 0.149 af
Outflow = 0.19 cfs @ 13.75 hrs, Volume= 0.149 af, Atten= 89%, Lag= 97.1 min
Discarded = 0.19 cfs @ 13.75 hrs, Volume= 0.149 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 291.22' @ 13.75 hrs Surf.Area= 3,456 sf Storage= 2,587 cf
Flood Elev= 293.00' Surf.Area= 9,526 sf Storage= 13,669 cf

Plug-Flow detention time= 181.2 min calculated for 0.149 af (100% of inflow)
Center-of-Mass det. time= 181.2 min (1,057.5 - 876.3)

Volume	Invert	Avail.Storage	Storage Description
#1	289.00'	13,669 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
289.00	0	0.0	0	0	0
290.00	670	199.3	223	223	3,162
291.00	2,920	369.2	1,663	1,886	10,854
292.00	5,718	494.6	4,241	6,128	19,485
293.00	9,526	525.0	7,541	13,669	22,003

Device	Routing	Invert	Outlet Devices
#1	Discarded	289.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 194.00'
#2	Primary	292.30'	**15.0' long x 8.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Discarded OutFlow Max=0.19 cfs @ 13.75 hrs HW=291.22' (Free Discharge)
└**1=Exfiltration** (Controls 0.19 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=289.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 5P: Culvert 1CS

Inflow Area = 4.622 ac, 6.34% Impervious, Inflow Depth = 3.53" for 25-Year event
Inflow = 13.78 cfs @ 12.23 hrs, Volume= 1.360 af
Outflow = 10.39 cfs @ 12.38 hrs, Volume= 1.360 af, Atten= 25%, Lag= 9.3 min
Primary = 10.39 cfs @ 12.38 hrs, Volume= 1.360 af
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 227.67' @ 12.38 hrs Surf.Area= 3,981 sf Storage= 4,147 cf

Plug-Flow detention time= 2.3 min calculated for 1.357 af (100% of inflow)
Center-of-Mass det. time= 2.3 min (824.5 - 822.2)

Volume	Invert	Avail.Storage	Storage Description
#1	225.00'	8,119 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
225.00	0	0.0	0	0	0
226.00	823	554.8	274	274	24,496
227.00	2,690	609.2	1,667	1,941	29,568
228.00	4,726	653.1	3,661	5,602	34,023
228.50	5,351	662.0	2,518	8,119	35,011

Device	Routing	Invert	Outlet Devices
#1	Primary	225.00'	**18.0" Round Culvert** L= 54.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 225.00' / 224.00' S= 0.0185 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Secondary	228.40'	**7.0' long x 25.0' 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=10.37 cfs @ 12.38 hrs HW=227.66' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 10.37 cfs @ 5.87 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=225.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 6A: Basin 6A

Inflow Area = 1.181 ac, 6.35% Impervious, Inflow Depth = 1.53" for 25-Year event
Inflow = 1.82 cfs @ 12.12 hrs, Volume= 0.150 af
Outflow = 0.27 cfs @ 12.96 hrs, Volume= 0.150 af, Atten= 85%, Lag= 50.6 min
Discarded = 0.27 cfs @ 12.96 hrs, Volume= 0.150 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 302.56' @ 12.96 hrs Surf.Area= 4,851 sf Storage= 2,118 cf
Flood Elev= 304.00' Surf.Area= 11,352 sf Storage= 13,687 cf

Plug-Flow detention time= 77.2 min calculated for 0.150 af (100% of inflow)
Center-of-Mass det. time= 77.0 min (949.7 - 872.7)

Volume	Invert	Avail.Storage	Storage Description
#1	302.00'	13,687 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
302.00	2,834	486.7	0	0	2,834
303.00	6,833	540.2	4,689	4,689	7,236
304.00	11,352	606.8	8,997	13,687	13,342

Device	Routing	Invert	Outlet Devices
#1	Discarded	302.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 194.00'
#2	Primary	303.75'	**15.0' long x 8.0' breadth Broad-Crested Rectangular Weir**

Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50
Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Discarded OutFlow Max=0.27 cfs @ 12.96 hrs HW=302.56' (Free Discharge)
↑**1=Exfiltration** (Controls 0.27 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=302.00' (Free Discharge)
↑**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 6B: Basin 6B

Inflow Area = 0.525 ac, 4.76% Impervious, Inflow Depth = 1.53" for 25-Year event
Inflow = 0.81 cfs @ 12.12 hrs, Volume= 0.067 af
Outflow = 0.10 cfs @ 13.15 hrs, Volume= 0.067 af, Atten= 87%, Lag= 62.1 min
Discarded = 0.10 cfs @ 13.15 hrs, Volume= 0.067 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 293.31' @ 13.15 hrs Surf.Area= 1,605 sf Storage= 1,079 cf
Flood Elev= 294.00' Surf.Area= 2,686 sf Storage= 2,540 cf

Plug-Flow detention time= 136.5 min calculated for 0.067 af (100% of inflow)
Center-of-Mass det. time= 136.4 min (1,009.1 - 872.7)

Volume	Invert	Avail.Storage	Storage Description
#1	292.00'	2,540 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
292.00	214	119.6	0	0	214
293.00	1,206	200.7	643	643	2,287
294.00	2,686	286.0	1,897	2,540	5,600

Device	Routing	Invert	Outlet Devices
#1	Discarded	292.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 288.00'
#2	Primary	293.75'	**15.0' long x 8.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Discarded OutFlow Max=0.10 cfs @ 13.15 hrs HW=293.31' (Free Discharge)
↑**1=Exfiltration** (Controls 0.10 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=292.00' (Free Discharge)
↑**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 7A: Basin 7A

Inflow Area = 11.944 ac, 0.52% Impervious, Inflow Depth = 1.45" for 25-Year event
Inflow = 13.66 cfs @ 12.23 hrs, Volume= 1.447 af
Outflow = 1.39 cfs @ 14.97 hrs, Volume= 1.371 af, Atten= 90%, Lag= 164.6 min
Discarded = 1.39 cfs @ 14.97 hrs, Volume= 1.371 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 252.66' @ 14.97 hrs Surf.Area= 24,382 sf Storage= 29,454 cf
Flood Elev= 254.00' Surf.Area= 44,034 sf Storage= 75,130 cf

Plug-Flow detention time= 294.5 min calculated for 1.371 af (95% of inflow)
Center-of-Mass det. time= 267.0 min (1,149.6 - 882.6)

Volume	Invert	Avail.Storage	Storage Description
#1	248.00'	75,130 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
248.00	0	0.0	0	0	0
249.00	520	128.5	173	173	1,316
250.00	2,102	372.1	1,222	1,396	11,023
251.00	6,364	802.0	4,041	5,437	51,194
252.00	16,015	1,315.7	10,825	16,262	137,769
253.00	29,426	1,401.6	22,383	38,645	156,394
254.00	44,034	1,517.9	36,485	75,130	183,453

Device	Routing	Invert	Outlet Devices
#1	Discarded	248.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 194.00'
#2	Primary	253.75'	**15.0' long x 8.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Discarded OutFlow Max=1.39 cfs @ 14.97 hrs HW=252.66' (Free Discharge)
1=Exfiltration (Controls 1.39 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=248.00' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 8A: Basin 8A

Inflow Area = 6.478 ac, 0.57% Impervious, Inflow Depth = 1.45" for 25-Year event
Inflow = 7.21 cfs @ 12.25 hrs, Volume= 0.785 af
Outflow = 0.70 cfs @ 15.27 hrs, Volume= 0.752 af, Atten= 90%, Lag= 180.8 min
Discarded = 0.70 cfs @ 15.27 hrs, Volume= 0.752 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 251.15' @ 15.27 hrs Surf.Area= 12,289 sf Storage= 16,355 cf
Flood Elev= 252.50' Surf.Area= 21,546 sf Storage= 38,517 cf

Plug-Flow detention time= 310.0 min calculated for 0.751 af (96% of inflow)
Center-of-Mass det. time= 288.3 min (1,172.1 - 883.8)

Volume	Invert	Avail.Storage	Storage Description
#1	248.00'	38,517 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
248.00	123	99.2	0	0	123
249.00	2,613	493.4	1,101	1,101	18,715
250.00	6,683	622.8	4,492	5,593	30,222
251.00	11,513	733.8	8,989	14,582	42,224
252.00	17,210	829.8	14,266	28,848	54,195
252.50	21,546	830.5	9,669	38,517	54,620

Device	Routing	Invert	Outlet Devices
#1	Discarded	248.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 194.00'
#2	Primary	252.25'	**15.0' long x 8.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Discarded OutFlow Max=0.70 cfs @ 15.27 hrs HW=251.15' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.70 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=248.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 8B: Basin 8A

Inflow Area = 4.301 ac, 0.98% Impervious, Inflow Depth = 1.45" for 25-Year event
Inflow = 4.09 cfs @ 12.38 hrs, Volume= 0.521 af
Outflow = 0.56 cfs @ 14.61 hrs, Volume= 0.520 af, Atten= 86%, Lag= 133.9 min
Discarded = 0.56 cfs @ 14.61 hrs, Volume= 0.520 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 245.12' @ 14.61 hrs Surf.Area= 9,848 sf Storage= 9,836 cf
Flood Elev= 246.00' Surf.Area= 16,698 sf Storage= 21,360 cf

Plug-Flow detention time= 239.2 min calculated for 0.519 af (100% of inflow)
Center-of-Mass det. time= 238.7 min (1,129.9 - 891.2)

Volume	Invert	Avail.Storage	Storage Description
#1	243.00'	21,360 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
243.00	649	429.6	0	0	649
244.00	4,253	502.8	2,188	2,188	6,100
245.00	9,040	671.8	6,498	8,686	21,908
246.00	16,698	842.9	12,675	21,360	42,546

Device	Routing	Invert	Outlet Devices
#1	Discarded	243.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 199.00'
#2	Primary	245.75'	**15.0' long x 8.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Discarded OutFlow Max=0.56 cfs @ 14.61 hrs HW=245.12' (Free Discharge)
1=Exfiltration (Controls 0.56 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=243.00' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond P2B: Basin 2B

Inflow Area = 15.629 ac, 0.72% Impervious, Inflow Depth = 1.45" for 25-Year event
Inflow = 18.28 cfs @ 12.22 hrs, Volume= 1.893 af
Outflow = 14.96 cfs @ 12.35 hrs, Volume= 1.893 af, Atten= 18%, Lag= 8.0 min
Discarded = 0.42 cfs @ 12.35 hrs, Volume= 0.204 af
Primary = 14.54 cfs @ 12.35 hrs, Volume= 1.690 af
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 197.69' @ 12.35 hrs Surf.Area= 4,734 sf Storage= 5,982 cf
Flood Elev= 198.50' Surf.Area= 6,749 sf Storage= 10,528 cf

Plug-Flow detention time= 9.0 min calculated for 1.890 af (100% of inflow)
Center-of-Mass det. time= 9.1 min (891.1 - 882.1)

Volume	Invert	Avail.Storage	Storage Description
#1	196.00'	10,528 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
196.00	2,453	396.9	0	0	2,453
197.00	3,748	465.9	3,078	3,078	7,210
198.00	5,223	506.0	4,465	7,543	10,349
198.50	6,749	523.0	2,985	10,528	11,765

Device	Routing	Invert	Outlet Devices
#1	Primary	195.50'	**24.0" Round Culvert** L= 50.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 195.50' / 195.00' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Discarded	196.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 194.00'
#3	Secondary	198.00'	**50.0' 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
#4	Device 1	196.00'	**18.0" Vert. Orifice/Grate X 2.00** C= 0.600
#5	Device 1	198.00'	**27.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.42 cfs @ 12.35 hrs HW=197.68' (Free Discharge)
└**2=Exfiltration** (Controls 0.42 cfs)

Primary OutFlow Max=14.53 cfs @ 12.35 hrs HW=197.68' (Free Discharge)
└**1=Culvert** (Inlet Controls 14.53 cfs @ 4.62 fps)
  ├**4=Orifice/Grate** (Passes 14.53 cfs of 16.45 cfs potential flow)
  └**5=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=196.00' (Free Discharge)
└**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Time span=5.00-30.00 hrs, dt=0.05 hrs, 501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1AS: Drainage Area 1AS Runoff Area=17.426 ac 5.85% Impervious Runoff Depth=2.06"
Flow Length=1,146' Tc=29.0 min CN=55 Runoff=22.41 cfs 2.992 af

Subcatchment 1BS: Drainage Area 1BS Runoff Area=9.780 ac 2.10% Impervious Runoff Depth=2.73"
Flow Length=1,301' Tc=17.2 min CN=62 Runoff=21.74 cfs 2.223 af

Subcatchment 1CS: Drainage Area 1CS Runoff Area=4.622 ac 6.34% Impervious Runoff Depth=4.82"
Flow Length=870' Tc=16.6 min UI Adjusted CN=82 Runoff=18.74 cfs 1.857 af

Subcatchment 2AS: Drainage Area 2AS Runoff Area=11.522 ac 2.97% Impervious Runoff Depth=2.44"
Flow Length=747' Tc=16.5 min CN=59 Runoff=22.83 cfs 2.340 af

Subcatchment 2BS: Drainage Area 2BS Runoff Area=15.629 ac 0.72% Impervious Runoff Depth=2.34"
Flow Length=1,098' Tc=14.2 min CN=58 Runoff=31.34 cfs 3.050 af

Subcatchment 3AS: Drainage Area 3AS Runoff Area=6.262 ac 7.41% Impervious Runoff Depth=2.83"
Flow Length=840' Tc=9.8 min UI Adjusted CN=63 Runoff=17.68 cfs 1.475 af

Subcatchment 4AS: Drainage Area 4AS Runoff Area=4.677 ac 2.67% Impervious Runoff Depth=2.34"
Flow Length=1,146' Tc=13.7 min CN=58 Runoff=9.50 cfs 0.913 af

Subcatchment 4BS: Drainage Area 4BS Runoff Area=24.770 ac 0.45% Impervious Runoff Depth=2.34"
Flow Length=1,845' Tc=29.3 min CN=58 Runoff=36.98 cfs 4.833 af

Subcatchment 5AS: Drainage Area 5AS Runoff Area=1.754 ac 0.00% Impervious Runoff Depth=2.34"
Flow Length=445' Tc=5.4 min CN=58 Runoff=4.59 cfs 0.342 af

Subcatchment 5BS: Drainage Area 5BS Runoff Area=1.232 ac 0.00% Impervious Runoff Depth=2.34"
Flow Length=394' Tc=8.0 min CN=58 Runoff=2.97 cfs 0.240 af

Subcatchment 5S: Drainage Area 5S Runoff Area=6.687 ac 0.00% Impervious Runoff Depth=2.15"
Flow Length=1,088' Tc=13.1 min CN=56 Runoff=12.45 cfs 1.200 af

Subcatchment 6AS: Drainage Area 6AS Runoff Area=1.181 ac 6.35% Impervious Runoff Depth=2.44"
Flow Length=290' Tc=7.3 min UI Adjusted CN=59 Runoff=3.06 cfs 0.240 af

Subcatchment 6BS: Drainage Area 6BS Runoff Area=0.525 ac 4.76% Impervious Runoff Depth=2.44"
Flow Length=290' Tc=7.3 min UI Adjusted CN=59 Runoff=1.36 cfs 0.107 af

Subcatchment 6S: Drainage Area 6S Runoff Area=3.086 ac 0.00% Impervious Runoff Depth=2.25"
Flow Length=1,253' Tc=19.3 min CN=57 Runoff=5.22 cfs 0.578 af

Subcatchment 7AS: Drainage Area 7AS Runoff Area=11.944 ac 0.52% Impervious Runoff Depth=2.34"
Flow Length=1,206' Tc=14.8 min CN=58 Runoff=23.59 cfs 2.331 af

Subcatchment 7S: Drainage Area 7S Runoff Area=19.533 ac 0.35% Impervious Runoff Depth=2.25"
Flow Length=1,268' Tc=14.5 min UI Adjusted CN=57 Runoff=36.99 cfs 3.658 af

Subcatchment 8AS: Drainage Area 8A Runoff Area=6.478 ac 0.57% Impervious Runoff Depth=2.34"
Flow Length=984' Tc=16.1 min CN=58 Runoff=12.35 cfs 1.264 af

Subcatchment 8BS: Drainage Area 8BS Runoff Area=4.301 ac 0.98% Impervious Runoff Depth=2.34"
Flow Length=1,438' Tc=24.0 min CN=58 Runoff=7.00 cfs 0.839 af

Subcatchment 8S: Drainage Area 8S Runoff Area=9.946 ac 6.29% Impervious Runoff Depth=2.63"
Flow Length=794' Tc=13.8 min UI Adjusted CN=61 Runoff=23.08 cfs 2.180 af

Subcatchment 9S: Drainage Area 9S Runoff Area=1.031 ac 0.00% Impervious Runoff Depth=2.44"
Flow Length=613' Tc=10.6 min CN=59 Runoff=2.40 cfs 0.209 af

Reach 1BR: Overland Flow Avg. Flow Depth=0.06' Max Vel=0.41 fps Inflow=17.81 cfs 2.161 af
n=0.030 L=940.0' S=0.0426 '/' Capacity=0.71 cfs Outflow=9.94 cfs 2.160 af

Reach 1CR: Overland Flow Avg. Flow Depth=0.15' Max Vel=0.81 fps Inflow=12.62 cfs 1.857 af
n=0.030 L=6,700.0' S=0.0084 '/' Capacity=17.41 cfs Outflow=4.55 cfs 1.788 af

Reach 2BR: Overland Flow Avg. Flow Depth=0.14' Max Vel=0.36 fps Inflow=35.20 cfs 2.877 af
n=0.030 L=785.0' S=0.0280 '/' Capacity=0.46 cfs Outflow=14.07 cfs 2.876 af

Reach DP-1: Design Point 1 Inflow=23.66 cfs 6.940 af
Outflow=23.66 cfs 6.940 af

Reach DP-2: Design Point 2 Inflow=23.05 cfs 5.216 af
Outflow=23.05 cfs 5.216 af

Reach DP-3: Design Point 3 Inflow=17.68 cfs 1.475 af
Outflow=17.68 cfs 1.475 af

Reach DP-4: Design Point 4 Inflow=43.07 cfs 5.746 af
Outflow=43.07 cfs 5.746 af

Reach DP-5: Design Point 5 Inflow=12.45 cfs 1.200 af
Outflow=12.45 cfs 1.200 af

Reach DP-6: Design Point 6 Inflow=5.22 cfs 0.578 af
Outflow=5.22 cfs 0.578 af

Reach DP-7: Design Point 7 Inflow=36.99 cfs 3.658 af
Outflow=36.99 cfs 3.658 af

Reach DP-8: Design Point 8 Inflow=23.08 cfs 2.180 af
Outflow=23.08 cfs 2.180 af

Reach DP-9: Design Point 9 Inflow=2.40 cfs 0.209 af
Outflow=2.40 cfs 0.209 af

Pond 1BP: Culvert 1BS Peak Elev=214.66' Inflow=21.74 cfs 2.223 af
Primary=17.81 cfs 2.161 af Secondary=3.93 cfs 0.062 af Outflow=21.74 cfs 2.223 af

Pond 5A: Basin 5A Peak Elev=274.20' Storage=6,080 cf Inflow=4.59 cfs 0.342 af
Discarded=0.44 cfs 0.342 af Primary=0.00 cfs 0.000 af Outflow=0.44 cfs 0.342 af

Pond 5B: Basin 5B Peak Elev=291.73' Storage=4,715 cf Inflow=2.97 cfs 0.240 af
Discarded=0.27 cfs 0.240 af Primary=0.00 cfs 0.000 af Outflow=0.27 cfs 0.240 af

Pond 5P: Culvert 1CS Peak Elev=228.46' Storage=7,904 cf Inflow=18.74 cfs 1.857 af
Primary=12.36 cfs 1.856 af Secondary=0.26 cfs 0.002 af Outflow=12.62 cfs 1.857 af

Pond 6A: Basin 6A Peak Elev=302.89' Storage=3,990 cf Inflow=3.06 cfs 0.240 af
Discarded=0.35 cfs 0.240 af Primary=0.00 cfs 0.000 af Outflow=0.35 cfs 0.240 af

Pond 6B: Basin 6B Peak Elev=293.75' Storage=1,925 cf Inflow=1.36 cfs 0.107 af
Discarded=0.15 cfs 0.107 af Primary=0.00 cfs 0.000 af Outflow=0.15 cfs 0.107 af

Pond 7A: Basin 7A Peak Elev=253.41' Storage=51,978 cf Inflow=23.59 cfs 2.331 af
Discarded=2.01 cfs 2.152 af Primary=0.00 cfs 0.000 af Outflow=2.01 cfs 2.152 af

Pond 8A: Basin 8A Peak Elev=252.01' Storage=29,096 cf Inflow=12.35 cfs 1.264 af
Discarded=1.00 cfs 1.142 af Primary=0.00 cfs 0.000 af Outflow=1.00 cfs 1.142 af

Pond 8B: Basin 8A Peak Elev=245.75' Storage=17,434 cf Inflow=7.00 cfs 0.839 af
Discarded=0.83 cfs 0.818 af Primary=0.00 cfs 0.000 af Outflow=0.83 cfs 0.818 af

Pond P2B: Basin 2B Peak Elev=198.26' Storage=8,983 cf Inflow=34.97 cfs 3.112 af
Discarded=0.56 cfs 0.234 af Primary=17.69 cfs 2.617 af Secondary=17.51 cfs 0.261 af Outflow=35.76 cfs 3.112 af

Total Runoff Area = 162.386 ac Runoff Volume = 32.871 af Average Runoff Depth = 2.43"
97.78% Pervious = 158.779 ac 2.22% Impervious = 3.607 ac

Summary for Subcatchment 1AS: Drainage Area 1AS

Runoff = 22.41 cfs @ 12.45 hrs, Volume= 2.992 af, Depth= 2.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.90"

	Area (ac)	CN	Description
*	0.164	98	Existing Structure, HSG A
*	0.533	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	3.149	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.041	96	Gravel surface, HSG A
	0.371	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	3.589	30	Meadow, non-grazed, HSG A
	9.178	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.006	98	Unconnected pavement, HSG A
	0.317	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	0.078	65	Woods/grass comb., Fair, HSG B
	17.426	55	Weighted Average
	16.406		94.15% Pervious Area
	1.020		5.85% Impervious Area
	0.323		31.67% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	50	0.1200	0.14		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.5	82	0.1459	2.67		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.0	236	0.0762	1.93		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.3	68	0.0147	0.85		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
11.9	445	0.0079	0.62		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.3	265	0.0075	0.61		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
29.0	1,146	Total			

Summary for Subcatchment 1BS: Drainage Area 1BS

Runoff = 21.74 cfs @ 12.25 hrs, Volume= 2.223 af, Depth= 2.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.90"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.922	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	8.653	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.205	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	9.780	62	Weighted Average
	9.575		97.90% Pervious Area
	0.205		2.10% Impervious Area
	0.205		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	50	0.0800	0.26		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
10.1	765	0.0327	1.27		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.8	278	0.0576	1.68		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.4	82	0.2560	3.54		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.7	126	0.0397	3.21		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
17.2	1,301	Total			

Summary for Subcatchment 1CS: Drainage Area 1CS

Runoff = 18.74 cfs @ 12.22 hrs, Volume= 1.857 af, Depth= 4.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.90"

	Area (ac)	CN	Adj	Description
*	0.000	98		Existing Structure, HSG A
*	0.120	98		Existing Structure, HSG B
	0.000	30		Woods, Good, HSG A
	0.613	55		Woods, Good, HSG B
	0.000	70		Woods, Good, HSG C
	0.000	96		Gravel surface, HSG A
	2.738	96		Gravel surface, HSG B
	0.000	96		Gravel surface, HSG C
	0.000	30		Meadow, non-grazed, HSG A
	0.978	58		Meadow, non-grazed, HSG B
	0.000	71		Meadow, non-grazed, HSG C
	0.000	98		Unconnected pavement, HSG A
	0.173	98		Unconnected pavement, HSG B
	0.000	98		Unconnected pavement, HSG C
	0.000	98		Water Surface, HSG A
	0.000	98		Water Surface, HSG B
	0.000	98		Water Surface, HSG C
	4.622	83	82	Weighted Average, UI Adjusted
	4.329			93.66% Pervious Area
	0.293			6.34% Impervious Area
	0.173			59.04% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
3.9	160	0.0094	0.68		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.6	122	0.0328	1.27		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.8	222	0.0676	1.30		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	33	0.1212	2.44		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.5	283	0.0141	1.91		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
16.6	870	Total			

Summary for Subcatchment 2AS: Drainage Area 2AS

Runoff = 22.83 cfs @ 12.25 hrs, Volume= 2.340 af, Depth= 2.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.90"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.025	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.079	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	11.084	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.317	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	0.017	65	Woods/grass comb., Fair, HSG B
	11.522	59	Weighted Average
	11.180		97.03% Pervious Area
	0.342		2.97% Impervious Area
	0.317		92.69% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	50	0.0800	0.26		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
2.9	284	0.0528	1.61		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.2	80	0.0250	1.11		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
9.2	333	0.0075	0.61		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
16.5	747	Total			

Summary for Subcatchment 2BS: Drainage Area 2BS

Runoff = 31.34 cfs @ 12.21 hrs, Volume= 3.050 af, Depth= 2.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.90"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	5.460	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.340	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	9.717	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.031	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.081	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	15.629	58	Weighted Average
	15.517		99.28% Pervious Area
	0.112		0.72% Impervious Area
	0.031		27.68% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.8	182	0.0549	1.64		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.3	410	0.0879	2.08		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.9	120	0.1083	2.30		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.4	291	0.1684	2.05		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	45	0.2426	3.45		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
14.2	1,098	Total			

Summary for Subcatchment 3AS: Drainage Area 3AS

Runoff = 17.68 cfs @ 12.15 hrs, Volume= 1.475 af, Depth= 2.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.90"

	Area (ac)	CN	Adj	Description
*	0.000	98		Existing Structure, HSG A
*	0.000	98		Existing Structure, HSG B
	0.000	30		Woods, Good, HSG A
	0.153	55		Woods, Good, HSG B
	0.000	70		Woods, Good, HSG C
	0.000	96		Gravel surface, HSG A
	0.496	96		Gravel surface, HSG B
	0.000	96		Gravel surface, HSG C
	0.000	30		Meadow, non-grazed, HSG A
	5.149	58		Meadow, non-grazed, HSG B
	0.000	71		Meadow, non-grazed, HSG C
	0.000	98		Unconnected pavement, HSG A
	0.175	98		Unconnected pavement, HSG B
	0.000	98		Unconnected pavement, HSG C
	0.000	98		Water Surface, HSG A
	0.289	98		Water Surface, HSG B
	0.000	98		Water Surface, HSG C
	6.262	64	63	Weighted Average, UI Adjusted
	5.798			92.59% Pervious Area
	0.464			7.41% Impervious Area
	0.175			37.72% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	50	0.1600	0.16		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.3	38	0.1316	1.81		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	32	0.0938	2.14		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	25	0.0800	4.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
2.4	463	0.0390	3.18		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.4	232	0.0302	2.80		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
9.8	840	Total			

Summary for Subcatchment 4AS: Drainage Area 4AS

Runoff = 9.50 cfs @ 12.21 hrs, Volume= 0.913 af, Depth= 2.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.90"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	3.033	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.148	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	1.371	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.125	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	4.677	58	Weighted Average
	4.552		97.33% Pervious Area
	0.125		2.67% Impervious Area
	0.125		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.0	79	0.0380	1.36		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.8	107	0.0935	2.14		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.3	532	0.1729	2.08		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.8	67	0.0448	1.48		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.2	311	0.0676	4.19		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
13.7	1,146	Total			

Summary for Subcatchment 4BS: Drainage Area 4BS

Runoff = 36.98 cfs @ 12.44 hrs, Volume= 4.833 af, Depth= 2.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.90"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	6.999	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.046	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	17.042	58	Meadow, non-grazed, HSG B
	0.393	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.111	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	0.179	65	Woods/grass comb., Fair, HSG B
	24.770	58	Weighted Average
	24.659		99.55% Pervious Area
	0.111		0.45% Impervious Area
	0.111		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.6	186	0.0806	1.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.4	72	0.1668	2.86		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.7	439	0.1550	1.97		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.7	411	0.0681	1.83		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
14.3	687	0.0131	0.80		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
29.3	1,845	Total			

Summary for Subcatchment 5AS: Drainage Area 5AS

Runoff = 4.59 cfs @ 12.09 hrs, Volume= 0.342 af, Depth= 2.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.90"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.000	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	1.754	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.000	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	1.754	58	Weighted Average
	1.754		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	50	0.0800	0.26		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
2.2	395	0.1800	2.97		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.4	445	Total			

Summary for Subcatchment 5BS: Drainage Area 5BS

Runoff = 2.97 cfs @ 12.12 hrs, Volume= 0.240 af, Depth= 2.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.90"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.000	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	1.232	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.000	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	1.232	58	Weighted Average
	1.232		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.3	50	0.0400	0.20		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.3	113	0.0442	1.47		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.4	231	0.0520	1.60		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.0	394	Total			

Summary for Subcatchment 5S: Drainage Area 5S

Runoff = 12.45 cfs @ 12.20 hrs, Volume= 1.200 af, Depth= 2.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.90"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	4.693	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.000	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	1.994	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.000	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	6.687	56	Weighted Average
	6.687		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	50	0.0800	0.26		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
3.0	396	0.0959	2.17		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.2	435	0.1172	1.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.7	207	0.0676	1.30		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
13.1	1,088	Total			

Summary for Subcatchment 6AS: Drainage Area 6AS

Runoff = 3.06 cfs @ 12.11 hrs, Volume= 0.240 af, Depth= 2.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.90"

	Area (ac)	CN	Adj	Description
*	0.000	98		Existing Structure, HSG A
*	0.000	98		Existing Structure, HSG B
	0.000	30		Woods, Good, HSG A
	0.000	55		Woods, Good, HSG B
	0.000	70		Woods, Good, HSG C
	0.000	96		Gravel surface, HSG A
	0.000	96		Gravel surface, HSG B
	0.000	96		Gravel surface, HSG C
	0.000	30		Meadow, non-grazed, HSG A
	1.106	58		Meadow, non-grazed, HSG B
	0.000	71		Meadow, non-grazed, HSG C
	0.000	98		Unconnected pavement, HSG A
	0.075	98		Unconnected pavement, HSG B
	0.000	98		Unconnected pavement, HSG C
	0.000	98		Water Surface, HSG A
	0.000	98		Water Surface, HSG B
	0.000	98		Water Surface, HSG C
	1.181	61	59	Weighted Average, UI Adjusted
	1.106			93.65% Pervious Area
	0.075			6.35% Impervious Area
	0.075			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	50	0.0300	0.17		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
2.5	240	0.0542	1.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.3	290	Total			

Summary for Subcatchment 6BS: Drainage Area 6BS

Runoff = 1.36 cfs @ 12.11 hrs, Volume= 0.107 af, Depth= 2.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.90"

	Area (ac)	CN	Adj	Description
*	0.000	98		Existing Structure, HSG A
*	0.000	98		Existing Structure, HSG B
	0.000	30		Woods, Good, HSG A
	0.000	55		Woods, Good, HSG B
	0.000	70		Woods, Good, HSG C
	0.000	96		Gravel surface, HSG A
	0.000	96		Gravel surface, HSG B
	0.000	96		Gravel surface, HSG C
	0.000	30		Meadow, non-grazed, HSG A
	0.500	58		Meadow, non-grazed, HSG B
	0.000	71		Meadow, non-grazed, HSG C
	0.000	98		Unconnected pavement, HSG A
	0.025	98		Unconnected pavement, HSG B
	0.000	98		Unconnected pavement, HSG C
	0.000	98		Water Surface, HSG A
	0.000	98		Water Surface, HSG B
	0.000	98		Water Surface, HSG C
	0.525	60	59	Weighted Average, UI Adjusted
	0.500			95.24% Pervious Area
	0.025			4.76% Impervious Area
	0.025			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	50	0.0300	0.17		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
2.5	240	0.0542	1.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.3	290	Total			

Summary for Subcatchment 6S: Drainage Area 6S

Runoff = 5.22 cfs @ 12.29 hrs, Volume= 0.578 af, Depth= 2.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.90"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	1.480	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.000	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	1.606	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.000	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	3.086	57	Weighted Average
	3.086		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.3	50	0.0400	0.20		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
4.8	571	0.0800	1.98		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.0	257	0.1900	2.18		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.2	375	0.0235	0.77		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
19.3	1,253	Total			

Summary for Subcatchment 7AS: Drainage Area 7AS

Runoff = 23.59 cfs @ 12.22 hrs, Volume= 2.331 af, Depth= 2.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.90"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.000	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	11.882	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.062	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	11.944	58	Weighted Average
	11.882		99.48% Pervious Area
	0.062		0.52% Impervious Area
	0.062		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	50	0.0700	0.24		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
11.4	1,156	0.0579	1.68		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
14.8	1,206	Total			

Summary for Subcatchment 7S: Drainage Area 7S

Runoff = 36.99 cfs @ 12.22 hrs, Volume= 3.658 af, Depth= 2.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.90"

	Area (ac)	CN	Adj	Description
*	0.000	98		Existing Structure, HSG A
*	0.000	98		Existing Structure, HSG B
	0.000	30		Woods, Good, HSG A
	3.886	55		Woods, Good, HSG B
	0.000	70		Woods, Good, HSG C
	0.000	96		Gravel surface, HSG A
	0.000	96		Gravel surface, HSG B
	0.000	96		Gravel surface, HSG C
	0.000	30		Meadow, non-grazed, HSG A
	15.579	58		Meadow, non-grazed, HSG B
	0.000	71		Meadow, non-grazed, HSG C
	0.000	98		Unconnected pavement, HSG A
	0.068	98		Unconnected pavement, HSG B
	0.000	98		Unconnected pavement, HSG C
	0.000	98		Water Surface, HSG A
	0.000	98		Water Surface, HSG B
	0.000	98		Water Surface, HSG C
	19.533	58	57	Weighted Average, UI Adjusted
	19.465			99.65% Pervious Area
	0.068			0.35% Impervious Area
	0.068			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.6	50	0.0600	0.23		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
9.8	1,125	0.0747	1.91		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.1	93	0.0753	1.37		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.5	1,268	Total			

Summary for Subcatchment 8AS: Drainage Area 8A

Runoff = 12.35 cfs @ 12.24 hrs, Volume= 1.264 af, Depth= 2.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.90"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.000	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	6.441	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.037	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	6.478	58	Weighted Average
	6.441		99.43% Pervious Area
	0.037		0.57% Impervious Area
	0.037		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
10.5	934	0.0450	1.48		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
16.1	984	Total			

Summary for Subcatchment 8BS: Drainage Area 8BS

Runoff = 7.00 cfs @ 12.36 hrs, Volume= 0.839 af, Depth= 2.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.90"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.000	30	Woods, Good, HSG A
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	96	Gravel surface, HSG A
	0.000	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	4.259	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.042	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	4.301	58	Weighted Average
	4.259		99.02% Pervious Area
	0.042		0.98% Impervious Area
	0.042		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.6	145	0.0484	1.54		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.4	499	0.0481	1.54		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
9.2	510	0.0176	0.93		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.2	234	0.0625	1.75		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
24.0	1,438	Total			

Summary for Subcatchment 8S: Drainage Area 8S

Runoff = 23.08 cfs @ 12.20 hrs, Volume= 2.180 af, Depth= 2.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.90"

	Area (ac)	CN	Adj	Description
*	0.000	98		Existing Structure, HSG A
*	0.000	98		Existing Structure, HSG B
	0.000	30		Woods, Good, HSG A
	2.137	55		Woods, Good, HSG B
	0.000	70		Woods, Good, HSG C
	0.000	96		Gravel surface, HSG A
	0.543	96		Gravel surface, HSG B
	0.000	96		Gravel surface, HSG C
	0.000	30		Meadow, non-grazed, HSG A
	6.640	58		Meadow, non-grazed, HSG B
	0.000	71		Meadow, non-grazed, HSG C
	0.000	98		Unconnected pavement, HSG A
	0.626	98		Unconnected pavement, HSG B
	0.000	98		Unconnected pavement, HSG C
	0.000	98		Water Surface, HSG A
	0.000	98		Water Surface, HSG B
	0.000	98		Water Surface, HSG C
	9.946	62	61	Weighted Average, UI Adjusted
	9.320			93.71% Pervious Area
	0.626			6.29% Impervious Area
	0.626			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
2.8	175	0.0228	1.06		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.5	385	0.0701	1.85		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.9	184	0.1007	1.59		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
13.8	794	Total			

Summary for Subcatchment 9S: Drainage Area 9S

Runoff = 2.40 cfs @ 12.16 hrs, Volume= 0.209 af, Depth= 2.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.90"

	Area (ac)	CN	Description
*	0.000	98	Existing Structure, HSG A
*	0.000	98	Existing Structure, HSG B
	0.187	30	Woods, Good, HSG A
	0.424	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.048	96	Gravel surface, HSG A
	0.139	96	Gravel surface, HSG B
	0.000	96	Gravel surface, HSG C
	0.000	30	Meadow, non-grazed, HSG A
	0.233	58	Meadow, non-grazed, HSG B
	0.000	71	Meadow, non-grazed, HSG C
	0.000	98	Unconnected pavement, HSG A
	0.000	98	Unconnected pavement, HSG B
	0.000	98	Unconnected pavement, HSG C
	0.000	98	Water Surface, HSG A
	0.000	98	Water Surface, HSG B
	0.000	98	Water Surface, HSG C
	1.031	59	Weighted Average
	1.031		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.3	50	0.0400	0.20		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.3	70	0.0572	3.85		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.9	82	0.0971	1.56		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.1	411	0.0730	1.35		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.6	613	Total			

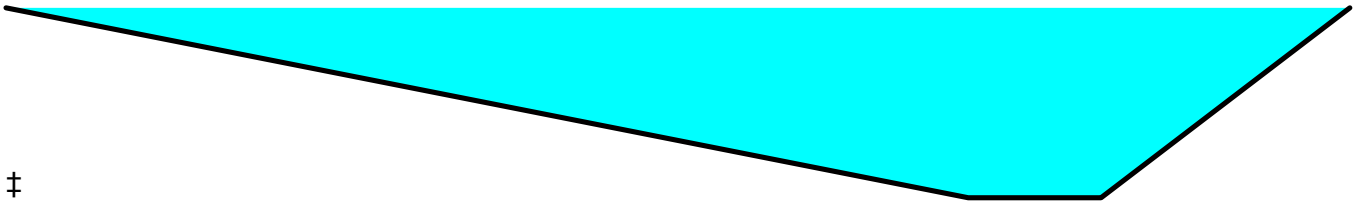
Summary for Reach 1BR: Overland Flow

Inflow Area = 9.780 ac, 2.10% Impervious, Inflow Depth = 2.65" for 100-Year event
Inflow = 17.81 cfs @ 12.25 hrs, Volume= 2.161 af
Outflow = 9.94 cfs @ 13.25 hrs, Volume= 2.160 af, Atten= 44%, Lag= 60.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.41 fps, Min. Travel Time= 37.8 min
Avg. Velocity = 0.27 fps, Avg. Travel Time= 57.1 min

Peak Storage= 22,594 cf @ 12.62 hrs
Average Depth at Peak Storage= 0.06'
Bank-Full Depth= 0.01' Flow Area= 2.2 sf, Capacity= 0.71 cfs

Custom cross-section, Length= 940.0' Slope= 0.0426 '/'
Constant n= 0.030 Short grass
Inlet Invert= 209.00', Outlet Invert= 169.00'



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Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	0.00	0.00
290.00	-0.01	0.01
330.00	-0.01	0.01
405.00	0.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	40.0	0	0.00
0.01	2.2	405.0	2,092	0.71

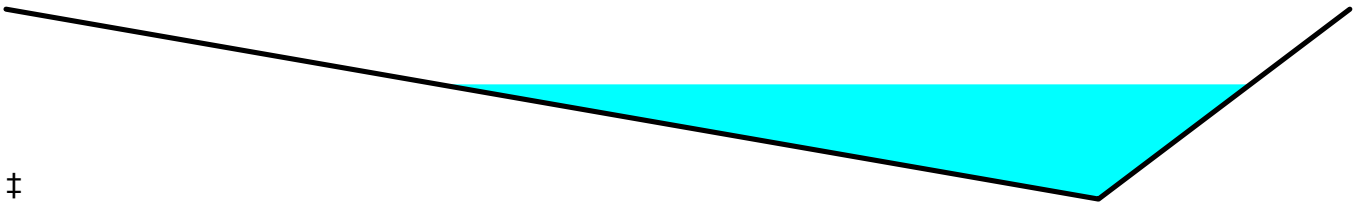
Summary for Reach 1CR: Overland Flow

Inflow Area = 4.622 ac, 6.34% Impervious, Inflow Depth = 4.82" for 100-Year event
Inflow = 12.62 cfs @ 12.42 hrs, Volume= 1.857 af
Outflow = 4.55 cfs @ 15.28 hrs, Volume= 1.788 af, Atten= 64%, Lag= 171.4 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.81 fps, Min. Travel Time= 138.0 min
Avg. Velocity = 0.46 fps, Avg. Travel Time= 244.6 min

Peak Storage= 37,640 cf @ 12.98 hrs
Average Depth at Peak Storage= 0.15'
Bank-Full Depth= 0.25' Flow Area= 15.4 sf, Capacity= 17.41 cfs

Custom cross-section, Length= 6,700.0' Slope= 0.0084 '/'
Constant n= 0.030 Short grass
Inlet Invert= 224.00', Outlet Invert= 168.00'



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Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	0.00	0.00
100.00	-0.25	0.25
123.00	0.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	0.0	0	0.00
0.25	15.4	123.0	103,013	17.41

Summary for Reach 2BR: Overland Flow

Inflow Area = 15.629 ac, 0.72% Impervious, Inflow Depth = 2.21" for 100-Year event
Inflow = 35.20 cfs @ 12.26 hrs, Volume= 2.877 af
Outflow = 14.07 cfs @ 13.30 hrs, Volume= 2.876 af, Atten= 60%, Lag= 62.5 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.36 fps, Min. Travel Time= 36.6 min
Avg. Velocity = 0.25 fps, Avg. Travel Time= 51.7 min

Peak Storage= 30,935 cf @ 12.69 hrs
Average Depth at Peak Storage= 0.14'
Bank-Full Depth= 0.01' Flow Area= 1.7 sf, Capacity= 0.46 cfs

Custom cross-section, Length= 785.0' Slope= 0.0280 '/'
Constant n= 0.030 Short grass
Inlet Invert= 194.00', Outlet Invert= 172.00'

‡

Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	0.00	0.00
120.00	-0.01	0.01
170.00	-0.01	0.01
290.00	0.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	50.0	0	0.00
0.01	1.7	290.0	1,335	0.46

Summary for Reach DP-1: Design Point 1

Inflow Area = 31.828 ac, 4.77% Impervious, Inflow Depth > 2.62" for 100-Year event
Inflow = 23.66 cfs @ 12.46 hrs, Volume= 6.940 af
Outflow = 23.66 cfs @ 12.46 hrs, Volume= 6.940 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-2: Design Point 2

Inflow Area = 27.151 ac, 1.67% Impervious, Inflow Depth > 2.31" for 100-Year event
Inflow = 23.05 cfs @ 12.25 hrs, Volume= 5.216 af
Outflow = 23.05 cfs @ 12.25 hrs, Volume= 5.216 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-3: Design Point 3

Inflow Area = 6.262 ac, 7.41% Impervious, Inflow Depth = 2.83" for 100-Year event
Inflow = 17.68 cfs @ 12.15 hrs, Volume= 1.475 af
Outflow = 17.68 cfs @ 12.15 hrs, Volume= 1.475 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-4: Design Point 4

Inflow Area = 29.447 ac, 0.80% Impervious, Inflow Depth = 2.34" for 100-Year event
Inflow = 43.07 cfs @ 12.41 hrs, Volume= 5.746 af
Outflow = 43.07 cfs @ 12.41 hrs, Volume= 5.746 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-5: Design Point 5

Inflow Area = 9.673 ac, 0.00% Impervious, Inflow Depth = 1.49" for 100-Year event
Inflow = 12.45 cfs @ 12.20 hrs, Volume= 1.200 af
Outflow = 12.45 cfs @ 12.20 hrs, Volume= 1.200 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-6: Design Point 6

Inflow Area = 4.792 ac, 2.09% Impervious, Inflow Depth = 1.45" for 100-Year event
Inflow = 5.22 cfs @ 12.29 hrs, Volume= 0.578 af
Outflow = 5.22 cfs @ 12.29 hrs, Volume= 0.578 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-7: Design Point 7

Inflow Area = 31.477 ac, 0.41% Impervious, Inflow Depth = 1.39" for 100-Year event
Inflow = 36.99 cfs @ 12.22 hrs, Volume= 3.658 af
Outflow = 36.99 cfs @ 12.22 hrs, Volume= 3.658 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-8: Design Point 8

Inflow Area = 20.725 ac, 3.40% Impervious, Inflow Depth = 1.26" for 100-Year event
Inflow = 23.08 cfs @ 12.20 hrs, Volume= 2.180 af
Outflow = 23.08 cfs @ 12.20 hrs, Volume= 2.180 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach DP-9: Design Point 9

Inflow Area = 1.031 ac, 0.00% Impervious, Inflow Depth = 2.44" for 100-Year event
Inflow = 2.40 cfs @ 12.16 hrs, Volume= 0.209 af
Outflow = 2.40 cfs @ 12.16 hrs, Volume= 0.209 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs

Summary for Pond 1BP: Culvert 1BS

Inflow Area = 9.780 ac, 2.10% Impervious, Inflow Depth = 2.73" for 100-Year event
Inflow = 21.74 cfs @ 12.25 hrs, Volume= 2.223 af
Outflow = 21.74 cfs @ 12.25 hrs, Volume= 2.223 af, Atten= 0%, Lag= 0.0 min
Primary = 17.81 cfs @ 12.25 hrs, Volume= 2.161 af
Secondary = 3.93 cfs @ 12.25 hrs, Volume= 0.062 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 214.66' @ 12.25 hrs
Flood Elev= 215.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	212.50'	**18.0" Round Culvert X 2.00** L= 72.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 212.50' / 210.00' S= 0.0347 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Secondary	214.25'	**6.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=17.80 cfs @ 12.25 hrs HW=214.66' (Free Discharge)
1=Culvert (Inlet Controls 17.80 cfs @ 5.04 fps)

Secondary OutFlow Max=3.91 cfs @ 12.25 hrs HW=214.66' (Free Discharge)
2=Broad-Crested Rectangular Weir (Weir Controls 3.91 cfs @ 1.60 fps)

Summary for Pond 5A: Basin 5A

Inflow Area = 1.754 ac, 0.00% Impervious, Inflow Depth = 2.34" for 100-Year event
Inflow = 4.59 cfs @ 12.09 hrs, Volume= 0.342 af
Outflow = 0.44 cfs @ 13.53 hrs, Volume= 0.342 af, Atten= 90%, Lag= 86.4 min
Discarded = 0.44 cfs @ 13.53 hrs, Volume= 0.342 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 274.20' @ 13.53 hrs Surf.Area= 7,824 sf Storage= 6,080 cf
Flood Elev= 275.00' Surf.Area= 11,878 sf Storage= 13,898 cf

Plug-Flow detention time= 165.8 min calculated for 0.342 af (100% of inflow)
Center-of-Mass det. time= 165.5 min (1,024.2 - 858.7)

Volume	Invert	Avail.Storage	Storage Description
#1	273.00'	13,898 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
273.00	2,606	536.7	0	0	2,606
274.00	6,939	667.0	4,599	4,599	15,102
275.00	11,878	730.0	9,299	13,898	22,140

Device	Routing	Invert	Outlet Devices
#1	Discarded	273.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 194.00'
#2	Primary	274.75'	**15.0' long x 8.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Discarded OutFlow Max=0.44 cfs @ 13.53 hrs HW=274.20' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.44 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=273.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 5B: Basin 5B

Inflow Area = 1.232 ac, 0.00% Impervious, Inflow Depth = 2.34" for 100-Year event
Inflow = 2.97 cfs @ 12.12 hrs, Volume= 0.240 af
Outflow = 0.27 cfs @ 13.90 hrs, Volume= 0.240 af, Atten= 91%, Lag= 106.6 min
Discarded = 0.27 cfs @ 13.90 hrs, Volume= 0.240 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 291.73' @ 13.90 hrs Surf.Area= 4,880 sf Storage= 4,715 cf
Flood Elev= 293.00' Surf.Area= 9,526 sf Storage= 13,669 cf

Plug-Flow detention time= 230.5 min calculated for 0.240 af (100% of inflow)
Center-of-Mass det. time= 228.9 min (1,090.1 - 861.1)

Volume	Invert	Avail.Storage	Storage Description
#1	289.00'	13,669 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
289.00	0	0.0	0	0	0
290.00	670	199.3	223	223	3,162
291.00	2,920	369.2	1,663	1,886	10,854
292.00	5,718	494.6	4,241	6,128	19,485
293.00	9,526	525.0	7,541	13,669	22,003

Device	Routing	Invert	Outlet Devices
#1	Discarded	289.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 194.00'
#2	Primary	292.30'	**15.0' long x 8.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Discarded OutFlow Max=0.27 cfs @ 13.90 hrs HW=291.73' (Free Discharge)
1=Exfiltration (Controls 0.27 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=289.00' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 5P: Culvert 1CS

Inflow Area = 4.622 ac, 6.34% Impervious, Inflow Depth = 4.82" for 100-Year event
Inflow = 18.74 cfs @ 12.22 hrs, Volume= 1.857 af
Outflow = 12.62 cfs @ 12.42 hrs, Volume= 1.857 af, Atten= 33%, Lag= 11.7 min
Primary = 12.36 cfs @ 12.42 hrs, Volume= 1.856 af
Secondary = 0.26 cfs @ 12.42 hrs, Volume= 0.002 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 228.46' @ 12.42 hrs Surf.Area= 5,299 sf Storage= 7,904 cf

Plug-Flow detention time= 3.6 min calculated for 1.854 af (100% of inflow)
Center-of-Mass det. time= 3.6 min (817.0 - 813.4)

Volume	Invert	Avail.Storage	Storage Description
#1	225.00'	8,119 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
225.00	0	0.0	0	0	0
226.00	823	554.8	274	274	24,496
227.00	2,690	609.2	1,667	1,941	29,568
228.00	4,726	653.1	3,661	5,602	34,023
228.50	5,351	662.0	2,518	8,119	35,011

Device	Routing	Invert	Outlet Devices
#1	Primary	225.00'	**18.0" Round Culvert** L= 54.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 225.00' / 224.00' S= 0.0185 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Secondary	228.40'	**7.0' long x 25.0' 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=12.34 cfs @ 12.42 hrs HW=228.45' (Free Discharge)
1=Culvert (Inlet Controls 12.34 cfs @ 6.98 fps)

Secondary OutFlow Max=0.22 cfs @ 12.42 hrs HW=228.45' (Free Discharge)
2=Broad-Crested Rectangular Weir (Weir Controls 0.22 cfs @ 0.61 fps)

Summary for Pond 6A: Basin 6A

Inflow Area = 1.181 ac, 6.35% Impervious, Inflow Depth = 2.44" for 100-Year event
Inflow = 3.06 cfs @ 12.11 hrs, Volume= 0.240 af
Outflow = 0.35 cfs @ 13.12 hrs, Volume= 0.240 af, Atten= 88%, Lag= 60.3 min
Discarded = 0.35 cfs @ 13.12 hrs, Volume= 0.240 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 302.89' @ 13.12 hrs Surf.Area= 6,326 sf Storage= 3,990 cf
Flood Elev= 304.00' Surf.Area= 11,352 sf Storage= 13,687 cf

Plug-Flow detention time= 124.4 min calculated for 0.239 af (100% of inflow)
Center-of-Mass det. time= 124.1 min (982.1 - 858.0)

Volume	Invert	Avail.Storage	Storage Description
#1	302.00'	13,687 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
302.00	2,834	486.7	0	0	2,834
303.00	6,833	540.2	4,689	4,689	7,236
304.00	11,352	606.8	8,997	13,687	13,342

Device	Routing	Invert	Outlet Devices
#1	Discarded	302.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 194.00'
#2	Primary	303.75'	**15.0' long x 8.0' breadth Broad-Crested Rectangular Weir**

Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50
Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Discarded OutFlow Max=0.35 cfs @ 13.12 hrs HW=302.89' (Free Discharge)
↑**1=Exfiltration** (Controls 0.35 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=302.00' (Free Discharge)
↑**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 6B: Basin 6B

Inflow Area = 0.525 ac, 4.76% Impervious, Inflow Depth = 2.44" for 100-Year event
Inflow = 1.36 cfs @ 12.11 hrs, Volume= 0.107 af
Outflow = 0.15 cfs @ 13.17 hrs, Volume= 0.107 af, Atten= 89%, Lag= 63.1 min
Discarded = 0.15 cfs @ 13.17 hrs, Volume= 0.107 af
Primary = 0.00 cfs @ 13.17 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 293.75' @ 13.17 hrs Surf.Area= 2,263 sf Storage= 1,925 cf
Flood Elev= 294.00' Surf.Area= 2,686 sf Storage= 2,540 cf

Plug-Flow detention time= 170.8 min calculated for 0.106 af (100% of inflow)
Center-of-Mass det. time= 170.8 min (1,028.8 - 858.0)

Volume	Invert	Avail.Storage	Storage Description
#1	292.00'	2,540 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
292.00	214	119.6	0	0	214
293.00	1,206	200.7	643	643	2,287
294.00	2,686	286.0	1,897	2,540	5,600

Device	Routing	Invert	Outlet Devices
#1	Discarded	292.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 288.00'
#2	Primary	293.75'	**15.0' long x 8.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Discarded OutFlow Max=0.15 cfs @ 13.17 hrs HW=293.75' (Free Discharge)
↑**1=Exfiltration** (Controls 0.15 cfs)

Primary OutFlow Max=0.00 cfs @ 13.17 hrs HW=293.75' (Free Discharge)
↑**2=Broad-Crested Rectangular Weir** (Weir Controls 0.00 cfs @ 0.08 fps)

Summary for Pond 7A: Basin 7A

Inflow Area = 11.944 ac, 0.52% Impervious, Inflow Depth = 2.34" for 100-Year event
Inflow = 23.59 cfs @ 12.22 hrs, Volume= 2.331 af
Outflow = 2.01 cfs @ 15.06 hrs, Volume= 2.152 af, Atten= 91%, Lag= 170.5 min
Discarded = 2.01 cfs @ 15.06 hrs, Volume= 2.152 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 253.41' @ 15.06 hrs Surf.Area= 35,113 sf Storage= 51,978 cf
Flood Elev= 254.00' Surf.Area= 44,034 sf Storage= 75,130 cf

Plug-Flow detention time= 340.0 min calculated for 2.152 af (92% of inflow)
Center-of-Mass det. time= 301.1 min (1,168.6 - 867.4)

Volume	Invert	Avail.Storage	Storage Description
#1	248.00'	75,130 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
248.00	0	0.0	0	0	0
249.00	520	128.5	173	173	1,316
250.00	2,102	372.1	1,222	1,396	11,023
251.00	6,364	802.0	4,041	5,437	51,194
252.00	16,015	1,315.7	10,825	16,262	137,769
253.00	29,426	1,401.6	22,383	38,645	156,394
254.00	44,034	1,517.9	36,485	75,130	183,453

Device	Routing	Invert	Outlet Devices
#1	Discarded	248.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 194.00'
#2	Primary	253.75'	**15.0' long x 8.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Discarded OutFlow Max=2.01 cfs @ 15.06 hrs HW=253.41' (Free Discharge)
↑—**1=Exfiltration** (Controls 2.01 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=248.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 8A: Basin 8A

Inflow Area = 6.478 ac, 0.57% Impervious, Inflow Depth = 2.34" for 100-Year event
Inflow = 12.35 cfs @ 12.24 hrs, Volume= 1.264 af
Outflow = 1.00 cfs @ 15.40 hrs, Volume= 1.142 af, Atten= 92%, Lag= 189.8 min
Discarded = 1.00 cfs @ 15.40 hrs, Volume= 1.142 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 252.01' @ 15.40 hrs Surf.Area= 17,328 sf Storage= 29,096 cf
Flood Elev= 252.50' Surf.Area= 21,546 sf Storage= 38,517 cf

Plug-Flow detention time= 369.2 min calculated for 1.140 af (90% of inflow)
Center-of-Mass det. time= 322.4 min (1,191.0 - 868.6)

Volume	Invert	Avail.Storage	Storage Description
#1	248.00'	38,517 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
248.00	123	99.2	0	0	123
249.00	2,613	493.4	1,101	1,101	18,715
250.00	6,683	622.8	4,492	5,593	30,222
251.00	11,513	733.8	8,989	14,582	42,224
252.00	17,210	829.8	14,266	28,848	54,195
252.50	21,546	830.5	9,669	38,517	54,620

Device	Routing	Invert	Outlet Devices
#1	Discarded	248.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 194.00'
#2	Primary	252.25'	**15.0' long x 8.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Discarded OutFlow Max=1.00 cfs @ 15.40 hrs HW=252.01' (Free Discharge)
↑—**1=Exfiltration** (Controls 1.00 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=248.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 8B: Basin 8A

Inflow Area = 4.301 ac, 0.98% Impervious, Inflow Depth = 2.34" for 100-Year event
Inflow = 7.00 cfs @ 12.36 hrs, Volume= 0.839 af
Outflow = 0.83 cfs @ 14.62 hrs, Volume= 0.818 af, Atten= 88%, Lag= 135.5 min
Discarded = 0.83 cfs @ 14.62 hrs, Volume= 0.818 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 245.75' @ 14.62 hrs Surf.Area= 14,553 sf Storage= 17,434 cf
Flood Elev= 246.00' Surf.Area= 16,698 sf Storage= 21,360 cf

Plug-Flow detention time= 286.6 min calculated for 0.818 af (98% of inflow)
Center-of-Mass det. time= 272.8 min (1,148.7 - 876.0)

Volume	Invert	Avail.Storage	Storage Description
#1	243.00'	21,360 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
243.00	649	429.6	0	0	649
244.00	4,253	502.8	2,188	2,188	6,100
245.00	9,040	671.8	6,498	8,686	21,908
246.00	16,698	842.9	12,675	21,360	42,546

Device	Routing	Invert	Outlet Devices
#1	Discarded	243.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 199.00'
#2	Primary	245.75'	**15.0' long x 8.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Discarded OutFlow Max=0.83 cfs @ 14.62 hrs HW=245.75' (Free Discharge)
1=Exfiltration (Controls 0.83 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=243.00' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond P2B: Basin 2B

Inflow Area =	15.629 ac,	0.72% Impervious,	Inflow Depth =	2.39" for 100-Year event
Inflow =	34.97 cfs @	12.22 hrs, Volume=	3.112 af	
Outflow =	35.76 cfs @	12.26 hrs, Volume=	3.112 af, Atten= 0%, Lag= 2.2 min	
Discarded =	0.56 cfs @	12.26 hrs, Volume=	0.234 af	
Primary =	17.69 cfs @	12.26 hrs, Volume=	2.617 af	
Secondary =	17.51 cfs @	12.26 hrs, Volume=	0.261 af	

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 198.26' @ 12.26 hrs Surf.Area= 5,984 sf Storage= 8,983 cf
Flood Elev= 198.50' Surf.Area= 6,749 sf Storage= 10,528 cf

Plug-Flow detention time= 7.9 min calculated for 3.105 af (100% of inflow)
Center-of-Mass det. time= 7.9 min (872.2 - 864.3)

Volume	Invert	Avail.Storage	Storage Description
#1	196.00'	10,528 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
196.00	2,453	396.9	0	0	2,453
197.00	3,748	465.9	3,078	3,078	7,210
198.00	5,223	506.0	4,465	7,543	10,349
198.50	6,749	523.0	2,985	10,528	11,765

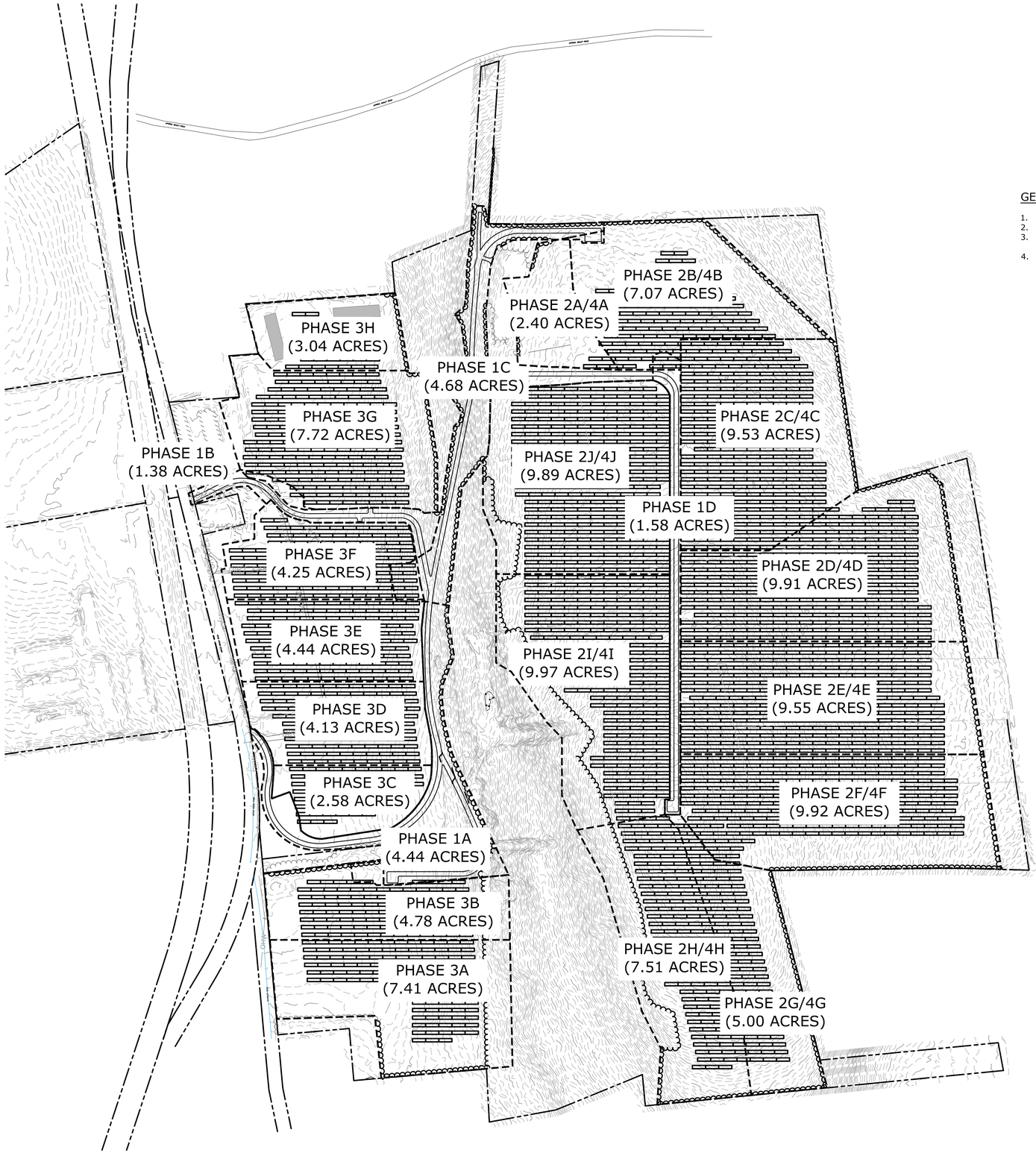
Device	Routing	Invert	Outlet Devices
#1	Primary	195.50'	**24.0" Round Culvert** L= 50.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 195.50' / 195.00' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Discarded	196.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 194.00'
#3	Secondary	198.00'	**50.0' 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
#4	Device 1	196.00'	**18.0" Vert. Orifice/Grate X 2.00** C= 0.600
#5	Device 1	198.00'	**27.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.56 cfs @ 12.26 hrs HW=198.25' (Free Discharge)
└**2=Exfiltration** (Controls 0.56 cfs)

Primary OutFlow Max=17.65 cfs @ 12.26 hrs HW=198.25' (Free Discharge)
└**1=Culvert** (Inlet Controls 17.65 cfs @ 5.62 fps)
  ├**4=Orifice/Grate** (Passes < 20.84 cfs potential flow)
  └**5=Orifice/Grate** (Passes < 2.88 cfs potential flow)

Secondary OutFlow Max=16.75 cfs @ 12.26 hrs HW=198.25' (Free Discharge)
└**3=Broad-Crested Rectangular Weir** (Weir Controls 16.75 cfs @ 1.34 fps)

CONSTRUCTION PERIOD PHASING PLANS



GENERAL NOTES

1. PHASE 1 □ROADS□
2. PHASE 2 □□CLEARING FOR EASTERN ARRAY□
3. PHASE 3 □INSTALLING WESTERN ARRAY SOLAR INFRASTRUCTURE□
4. PHASE 3 □INSTALLING EASTERN ARRAY SOLAR INFRASTRUCTURE□

Tighe&Bond

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Nutmeg Solar □ro□ect

Nutmeg Solar, LLC

Enfield, Connecticut

0	-	Initial Release
MARK	DATE	DESCRIPTION

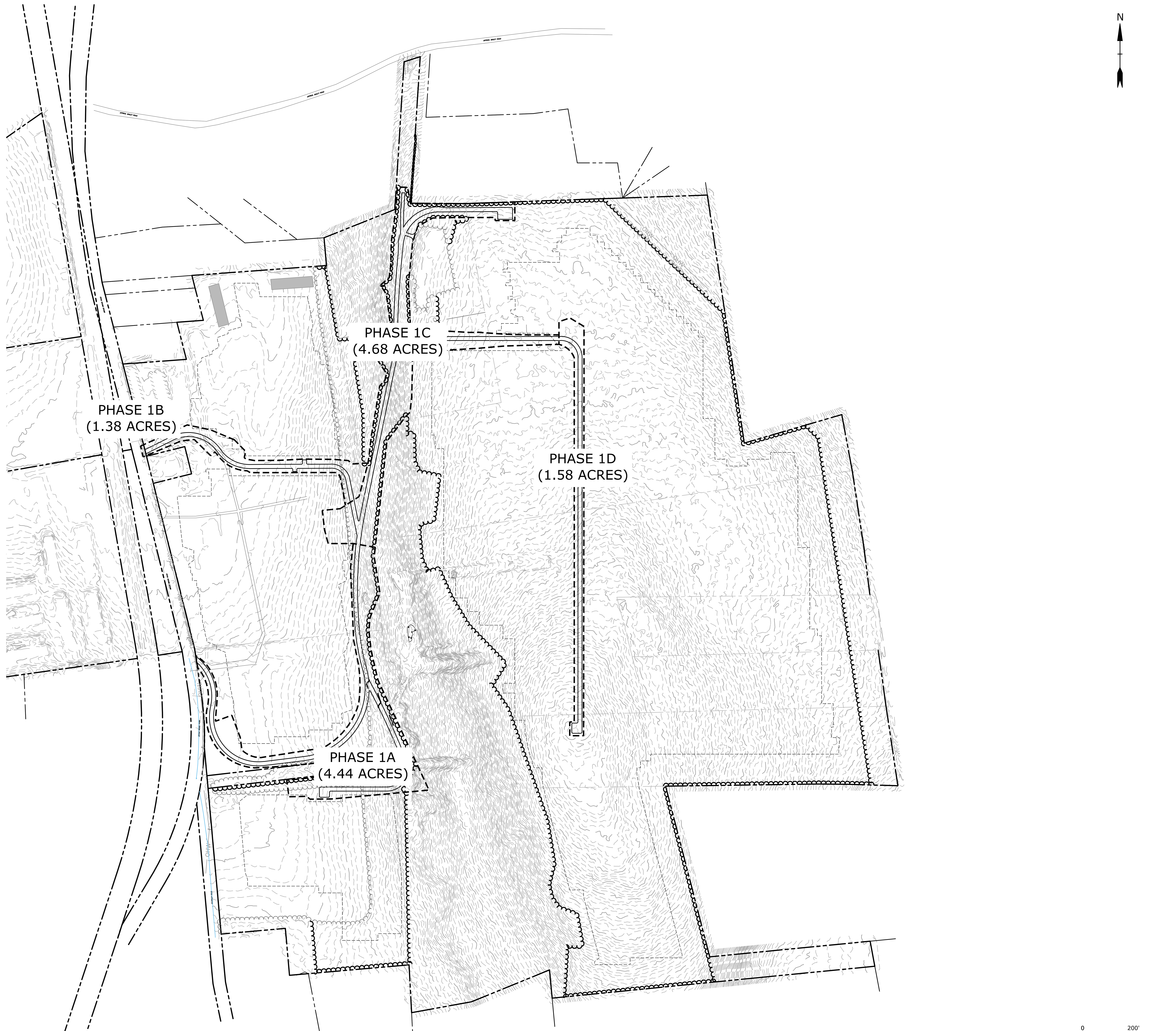
PROJECT NO:	R-0317
DATE:	09/14/2018
FILE:	R0317-Nutmeg-SESC Phasing.dwg
DRAWN BY:	ELD/AG
CHECKED:	JEC
APPROVED:	

SOIL EROSION AND SEDIMENT CONTROL PLAN - OVERALL

SCALE: 1" = 200'

SESC-1

Last Saved: 9/18/2018
Plotted: Nov 11, 2018 - 4:28pm By: ELD
Tighe & Bond: J:\R\R0317 Ranger Solar\R-0317-4 Nutmeg\Drawings\Sheets\SESC Plans\R0317-Nutmeg-SESC Phasing.dwg



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Nutmeg
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Nutmeg Solar, LLC

Enfield, Connecticut

MARK	DATE	DESCRIPTION
0	-	Initial Release

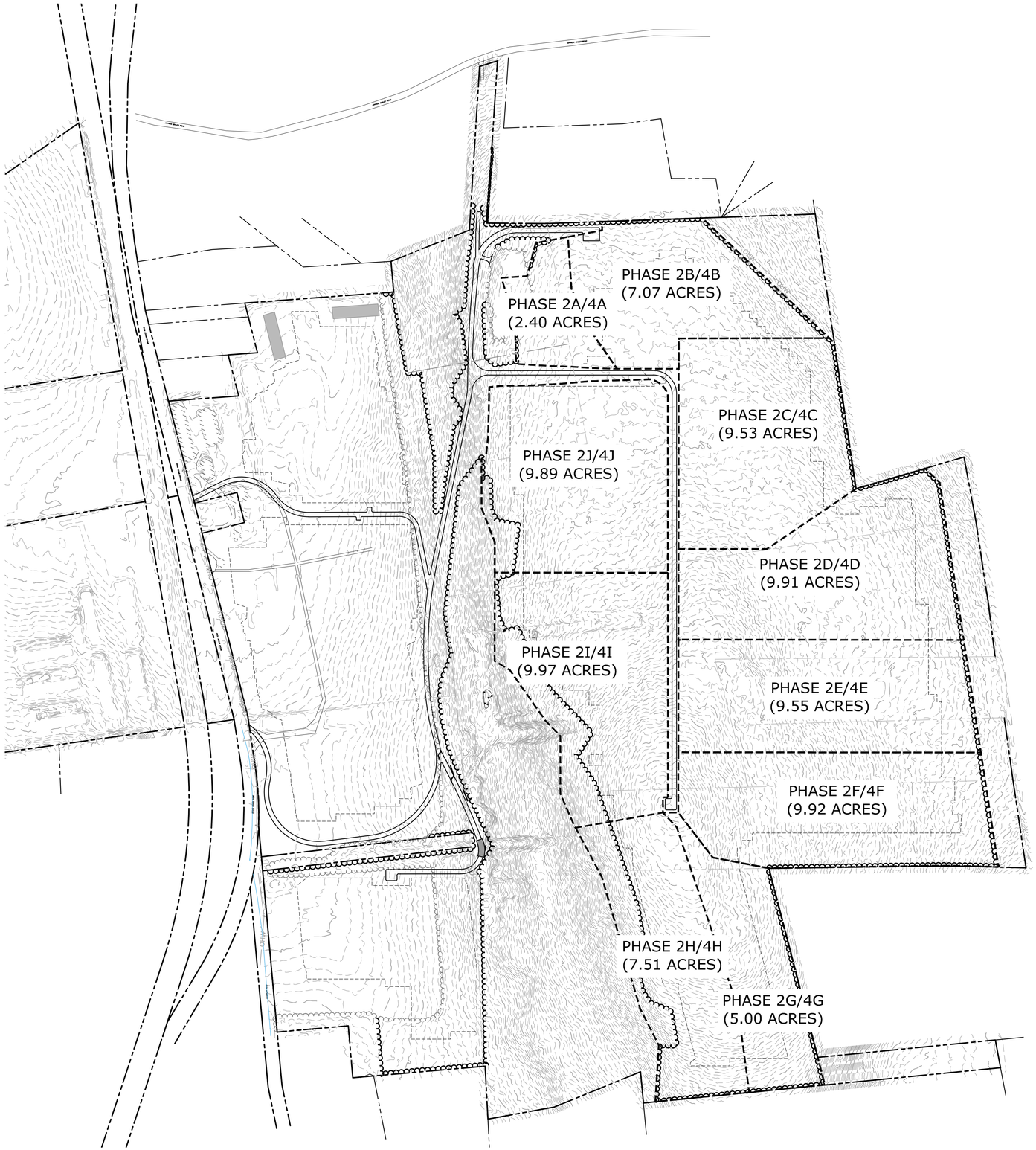
PROJECT NO:	R-0317
DATE:	09/14/2018
FILE:	R0317-Nutmeg-SESC Phasing.dwg
DRAWN BY:	ELD/AG
CHECKED:	JEC
APPROVED:	

SOIL EROSION AND SEDIMENT CONTROL PLAN
SE□UENCE 1 - OVERALL

SCALE: 1" = 200'

SESC-2

Last Saved: 9/18/2018
Plotted On:Oct 11, 2018-4:39pm By: ELD
Tighe & Bond: J:\R\R0317 Ranger Solar\R-0317-4 Nutmeg\Drawings\Sheets\SESC Plans\R0317-Nutmeg-SESC Phasing.dwg



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Enfield, Connecticut

MARK	DATE	DESCRIPTION
0	-	Initial Release

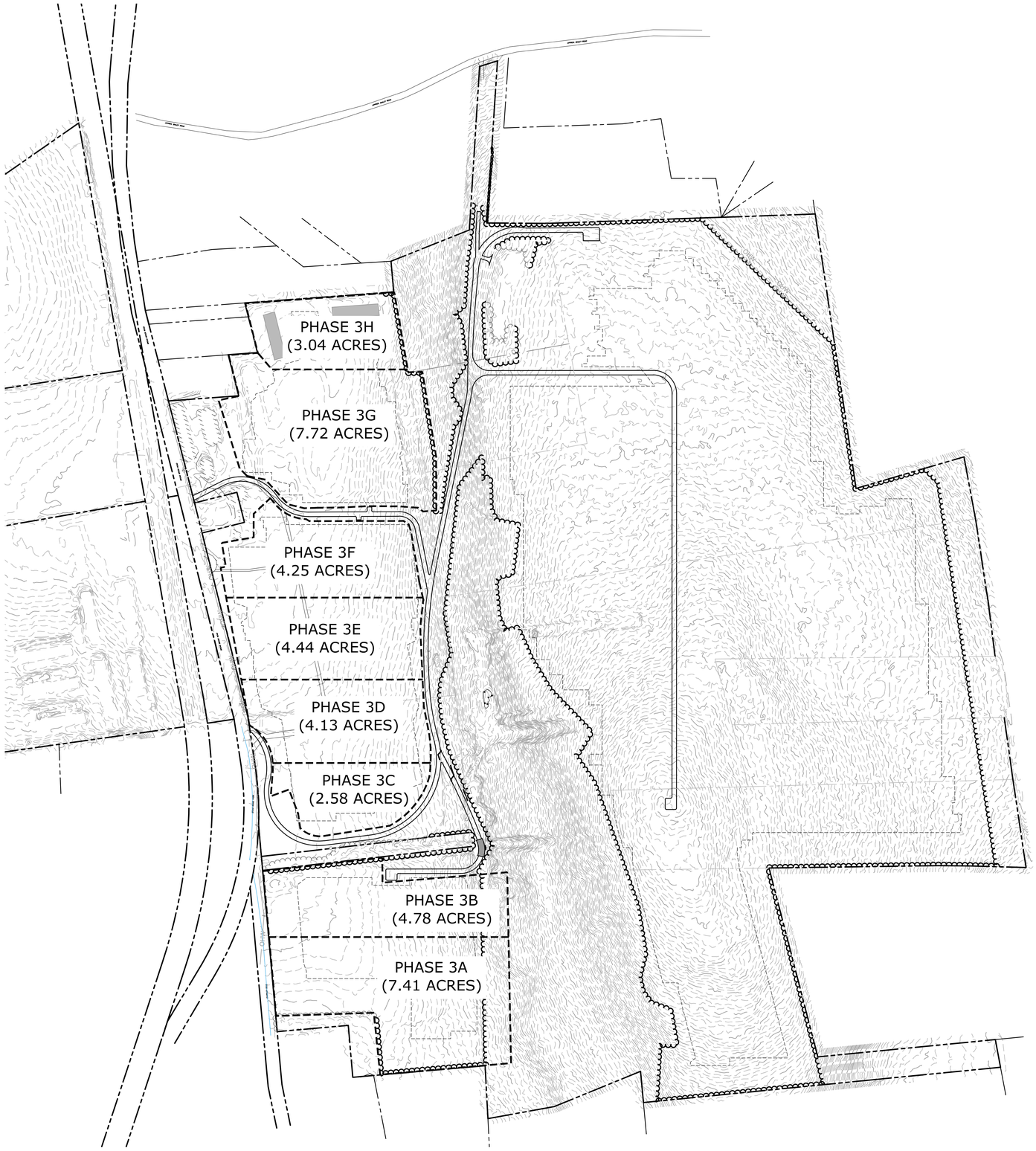
PROJECT NO:	R-0317
DATE:	09/14/2018
FILE:	R0317-Nutmeg-SESC Phasing.dwg
DRAWN BY:	ELD/AG
CHECKED:	JEC
APPROVED:	

SOIL EROSION AND SEDIMENT CONTROL PLAN
SE□UENCE 2- OVERALL

SCALE: 1" = 200'

SESC-7

Last Saved: 9/18/2018
Plotted: Oct 17, 2018 - 4:41pm By: ELD
Tighe & Bond J:\R\R0317 Ranger Solar\R-0317-4 Nutmeg\Drawings\Sheets\SESC Plans\R0317-Nutmeg-SESC Phasing.dwg



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MARK	DATE	DESCRIPTION
0	-	Initial Release

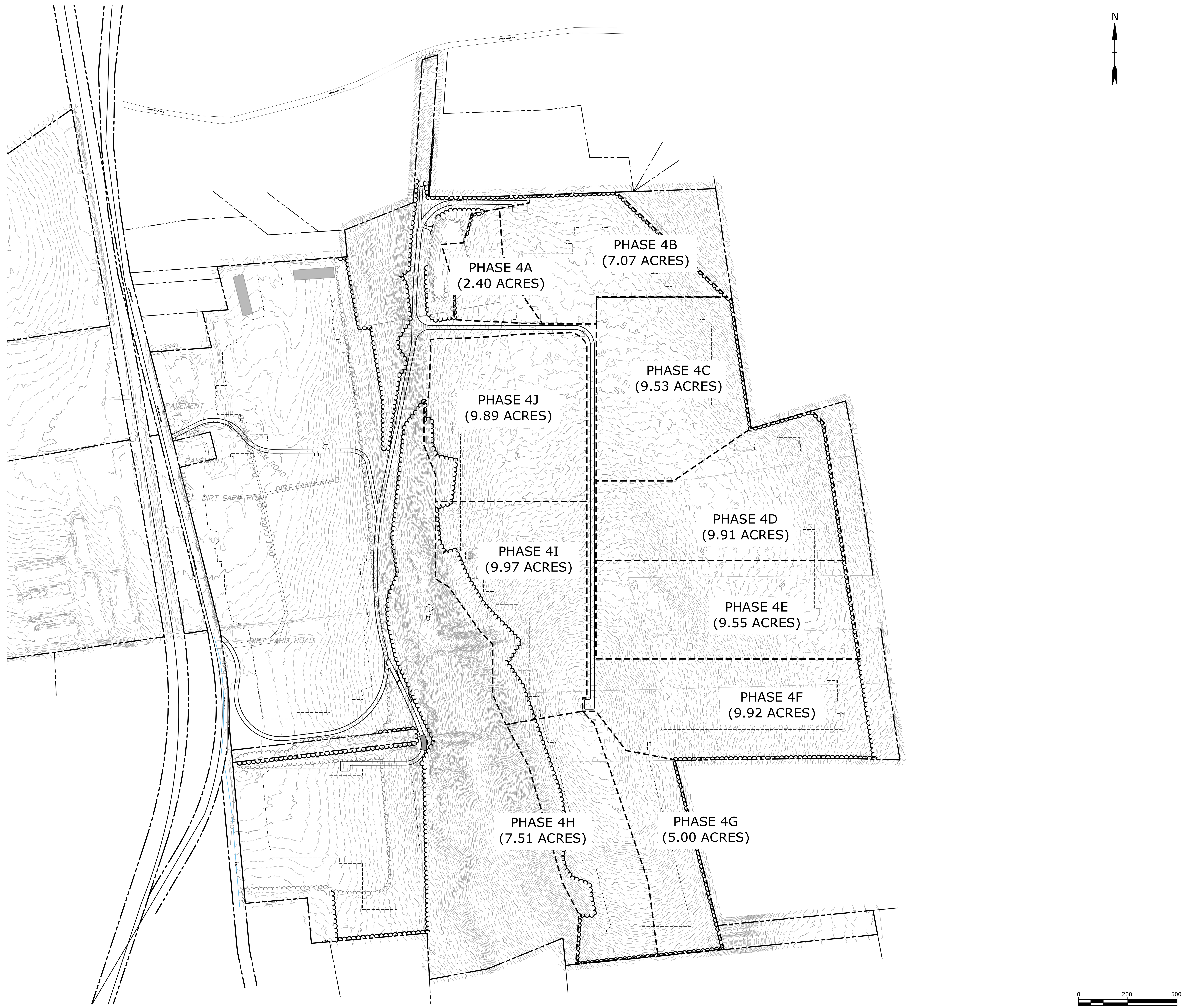
PROJECT NO:	R-0317
DATE:	09/14/2018
FILE:	R0317-Nutmeg-SESC Phasing.dwg
DRAWN BY:	ELD/AG
CHECKED:	JEC
APPROVED:	

SOIL EROSION AND SEDIMENT CONTROL PLAN
SEC□UENCE 3 - OVERALL

SCALE: 1" = 200'

SESC-18

Last Saved: 9/18/2018
Plotted: Nov 28, 2018 - 4:42pm By: ELD
Tighe & Bond: J:\R\R0317 Ranger Solar\R-0317-4 Nutmeg\Drawings\Sheets\SESC Plans\R0317-Nutmeg-SESC Phasing.dwg



Tighe&Bond

NOT FOR CONSTRUCTION

Nutmeg Solar Project

Nutmeg Solar, LLC

Enfield, Connecticut

MARK	DATE	DESCRIPTION
0	-	Initial Release

PROJECT NO:	R-0317
DATE:	09/14/2018
FILE: R0317-Nutmeg-SESC Phasing.dwg	
DRAWN BY:	ELD/AG
CHECKED:	JEC
APPROVED:	

SOIL EROSION AND SEDIMENT CONTROL PLAN
SEQUENCE 4- OVERALL

SCALE: 1" = 200'

SESC-27

Last Saved: 9/18/2018
Plotted On:Oct 11, 2018-4:43pm By: ELD
Tighe & Bond: J:\R\R0317 Ranger Solar\R-0317-4 Nutmeg\Drawings\Sheets\SESC Plans\R0317-Nutmeg-SESC Phasing.dwg