Appendix C-1

Stormwater Pollution Prevention Plan,
Conservation Plan

PETRUCCELLI ENGINEERING

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Principal

November 1, 2010

Proposed Conservation Subdivision
23-Lot Residential Subdivision

Harris Road
Town of Bedford
Westchester County, New York

STORMWATER POLLUTION PREVENTION PLAN

Prepared for:
Mr. Cosimo Tripi

I Rudolph C. Petruccelli, PE certifies that this Stormwater Pollution Prevention Plan has been prepared in accordance with NYSDEC rules and regulations and in accordance with the Town of Bedford Code Section 103.

Prepared by:
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November 1, 2010

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TRIPI CONSERVATION SUBDIVISION

TOWN OF BEDFORD

WESTCHESTER COUNTY, NEW YORK

Stormwater Pollution Prevention Plan (SWPPP)

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Harris Road
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1. GENERAL

A. Introduction

This Stormwater Pollution Prevention Plan has been prepared pursuant to the Phase II regulations under General Permit (GP) 0-08-001 as required by the New York State Department of Environmental Conservation (NYSDEC).

The proposal is for (23) twenty three lot conservation subdivision on a 25.59 acre site in the Town of Bedford, Westchester County, New York. The (21) Twenty one clustered lots will be accessed by a proposed loop road which will be extended From New Street. The remaining two (2) individual lots will conform to existing zoning requirements and will have frontage to Harris Road.

Site construction for this project consists of a thirty (30) foot wide loop road which will be with curbs and paved, and have an emergency access road from Harris Road which will be without curbs. The first 200 feet of the emergency access road paved and the remaining section connects to the proposed loop road will be graded and kept as a dirt road.

All residences will be serviced with individual driveways and town water. The clustered lots will be serviced by a community effluent septic system, with each house having a septic tank, pump tank and valve tank. The individual lots will be serviced by individual sewage disposal systems on their property.

The stormwater runoff from the new impervious surface created by the proposed clustered lots will be directed to new stormwater management basins and subsurface exfiltration chambers which have been designed in accordance with the New York State Stormwater (NYSDEC) Design Manual and the New York City Department of Environmental Conservation (NYCDEP) regulations.

B. Existing Site Description

The site is located off of Harris Road and New Street in the Town of Bedford, Westchester County, New York and lies within the Muscoot Watershed which is East of Hudson (EOH). There is an existing residence on the property with access from Harris Road. In addition, there is a through dirt driveway which connects New Street to Harris Road. The principal structure is serviced by town water and septic system. The remainder of the site is mainly wooded with some areas of lawn near the existing residence. Also, the site consists of approximately 6.3 acres of slopes in excess of 25%.

The site runoff is directed to (8) eight drainage areas which discharge to (7) seven distinct discharge points, this can be seen on the pre-development drainage map. These points have been selected based on the topography available on the survey. Based on the USGS maps the receiving water is the Stone Hill River and the

stormwater interactive map provided on the NYSDEC website illustrates that the site is in a TMDL watershed but does not contain and is not adjacent to any 303d listed streams.

The stormwater runoff from the site is conveyed via overland flow to the discharge points illustrated on the Pre-Development Map.

C. Project Description

The proposal is for (23) twenty three lot conservation subdivision of which (21) twenty one are conservation lots and (2) two individual lots meeting existing zoning on a 25.59 acre site in the Town of Bedford, Westchester County, New York. Site construction for this project consists of (1) one loop roadway which is approximately 2,230 feet in length and connected to New Street, and an approximately 925 foot emergency access roadway which begins at Harris Road and ends at sta. 8+50 of the loop roadway. There are (21) twenty one new residences in the conservation development, one new individual house on a new conforming lot and one existing residence. The conservation lots will be serviced by a community effluent septic system and the other two lots by individual septic systems. All lots will be serviced by town water. Stormwater management facilities will be constructed to satisfy NYSDEC and NYSDEP requirements. The total land disturbance associated with this construction is approximately 13.06 acres.

I - Soils

The soils in the project area is mapped as CsD (Charlton-Chatfield) and CrC (Chatfield-Charlton Complex), hilly and very rocky. These soils are classified as 'B' soil". These soils are considered to have moderate runoff potential and are moderately drained.

II - Grading and Drainage

The grading and drainage plan has been designed to capture and treat the stormwater runoff from the new and existing impervious surfaces and disturbed areas at each improvement location. Stormwater will be collected through catch basins and underground pipes and discharged into stormwater basins, subsurface exfiltration chambers and/or detention ponds that have been designed in accordance with the NYS Stormwater Management Design Manual, NYCDEP criteria, and the Phosphorus Removal Section of the SWM. Basin designs have been included in this application and are designated as NYSDEC I-2 Infiltration Basins and the exfiltration chamber are designed as NYSDEC I-4 basins.

The ponds have been designed for Water Quality and Flood Control, mitigating the post-

development rate of stormwater runoff to the pre-development rate.

Storm water runoff rates for the 1 (NYSDEC Stream Channel Protection and water quality volume), 2 year storm event, 10 (NYSDEC Overbank Protection), and 100-year (NYSDEC Extreme Flood) storm events have been analyzed and routed in the pre-development and post-development condition utilizing computer software "Hydrocad" The design assumptions are provided in the appendix of this report.

It is expected that the project will take approximately 48 months to construct from the time of ground breaking to final completion, with work commencing shortly after the receipt of all necessary approvals. Throughout the construction process strict adherence to the Erosion Control Plans and Specifications will be maintained to ensure all sediment is contained within the improvement areas.

Storm water management design also provides for water quality treatment such that the project areas will not represent a negative impact or degradation in water quality to any reservoir, stream, wetlands or watercourses.

D. Storm Water Management Methodology

Storm water quality and quantity has been analyzed in accordance with the guidelines set forth in the New York State General Permit for Storm Water Discharge, GP 0-08-001. The water quality volume was computed from the runoff produced by the 1 year 24 hour event. Water Quality volume and invert elevations of the low flow orifices have been calculated for each of the drainage areas and are included in the Appendix. The low flow orifices in each basin have been sized to release the water quality volume over a 24 hour period. Additional control devices are included in the outlet structures to control the rate of runoff from the 1, 2, 10, and 100 year 24 hour storm events to the pre-construction runoff rate. Velocity dissipators are specified at each inlet and outlet and shall be a riprap pad per "New York Guidelines for Urban Erosion & Sediment Control".

The proposed ponds are designed as Infiltration basins (NYSDEC I-2) and include hydrodynamic pre-treatment separators at each basin that can accommodate the 1 year storm event.

The Pre and Post-Construction Drainage Divide Maps are included in the Appendix of this report. The Times of Concentration, coverage types, and hydrograph/stormwater calculations for the pre and post construction conditions are provided in the stormwater routings and are also provided in the Appendix.

Storm water quality and quantity computations are based upon the following publications.

- Soil Conservation Service (SCS) - TR-20
- Urban Hydrology for Small Watersheds - TR-55
- NYSDEC 'New York State Stormwater Management Design Manual', latest edition

- Controlling Urban Runoff: A practical Manual for Planning and Designing Urban BMP'S, by the Metropolitan Washington Council of Governments.
- Computer software Hydrocad has been utilized for the stormwater analysis. This program is on USDA Soil Conservation Service (SCS) Technical Release 55 (TR 55)

Compliance with Better Site Design (BSD):

Chapter 10 "Enhance Phosphorus Removal Standards" section 10.3.4 of the NYS Stromwater Manual indicates (4) four goals to meet treatment performance based on a BSD. The goals and project compliance are as follows:

Goal 1: Reduce Runoff Volumes:

The project has been designed to reduce the total amount of impervious surfaces and to promote overland flow through vegetated areas. The subdivision layout, unlike standard subdivisions of today incorporates some tuck-under garages and minimal driveway back up areas adjacent to the garages. Additionally the driveways are proposed to have curbing so that run off from these impervious surfaces is conveyed via pipe to stormwater basins.

Goal 2: Achieving Effluent Concentrations for Particulate Phosphorus:

By implementing the stormwater practices listed in section 10.4 of the NYS stormwater manual this goal is achieved. Additionally hydrodynamic separators that are equipped with an internal bypass have been incorporated into the design as pre-treatment devices. These chambers are allowed under the NYSDEC regulations and have been sized based on the 1 year storm event.

Goal 3: Achieving Effluent Concentrations for Dissolved Phosphorus:

By implementing those stormwater practices listed in section 10.4 of the NYS stormwater manual this goal has been achieved. Considering that infiltration basins and hydrodynamic separators have been utilized for the proposed drainage areas, the concentration dissolved phosphorous will be reduced by allowing the stormwater to come in contact with the substrate soils

Goal 4: Achieving Effluent Concentrations for Dissolved Phosphorus:

By implement those stormwater practices listed in section 10.4 of the NYS stormwater manual this goal is achieved. Considering that gravel trenches and infiltration basins have been utilized for a majority of the proposed drainage areas the concentration of dissolved phosphorous will be reduced by allowing the

stormwater to come in contact with the substrate soils.

I - STANDARDS

- Peak flow rates have been controlled to ensure that the post-development rate of runoff from the site will not exceed pre-development rates for 1, 10, and 100 year 24 hour storm events.
- Pollutant loading is controlled by means of detaining the runoff generated from the water quality storm event for longer than 24 hours.
- The proposed structures will be constructed above the 100-year floodplain.

II - Summary of Results

The results of the hydrographs from the contributing watersheds were compared under pre and post development conditions. The analysis consists of (5) five design points each noted on the pre and post development drainage maps. The results are summarized in the following table:

2. Pre-Development & Post-Development Peak Flow Summary

Table 1. Summary of Flows DP-1

Design Storm (yr)	Pre-Development Peak runoff (cfs)	Post-Development Peak runoff (cfs)	Post-Development % Reduction w/ Mitigation
1	1.44	1.20	16.67%
2	3.94	3.27	17.01%
10	12.15	10.00	17.70%
100	30.24	24.82	17.92%

Table 2. Summary of Flows DP-2

Design Storm (yr)	Pre-Development Peak runoff (cfs)	Post-Development Peak runoff (cfs)	Post-Development % Reduction w/ Mitigation
1	0.76	0.21	72.37%
2	1.89	0.50	73.54%
10	5.35	1.34	74.95%
100	12.69	3.10	75.57%

Table 3. Summary of Flows DP-3

Design Storm (yr)	Pre-Development Peak runoff (cfs)	Post-Development Peak runoff (cfs)	Post-Development % Reduction w/ Mitigation
1	0.66	0.41	37.88%
2	1.38	0.94	31.88%
10	3.36	2.52	25.00%
100	7.30	5.81	20.41%

Table 4. Summary of Flows DP-4

Design Storm (yr)	Pre-Development Peak runoff (cfs)	Post-Development Peak runoff (cfs)	Post-Development % Reduction w/ Mitigation
1	0.46	0.10	78.26%
2	1.25	0.40	68.00%
10	3.94	1.58	59.90%
100	9.81	4.41	55.05%

Table 5. Summary of Flows DP-5

Design Storm (yr)	Pre-Development Peak runoff (cfs)	Post-Development Peak runoff (cfs)	Post-Development % Reduction w/ Mitigation
1	1.32	0.68	48.48%
2	2.36	1.45	38.56%
10	4.96	3.53	28.83%
100	9.90	7.69	22.32%

Table 6. Summary of Flows DP-6

Design Storm (yr)	Pre-Development Peak runoff (cfs)	Post-Development Peak runoff (cfs)	Post-Development % Reduction w/ Mitigation
1	0.68	0.51	25.00%
2	1.45	1.35	6.90%
10	3.52	3.18	9.66%
100	7.66	7.58	1.04%

Table 7. Summary of Flows DP-7

Design Storm (yr)	Pre-Development Peak runoff (cfs)	Post-Development Peak runoff (cfs)	Post-Development % Reduction w/ Mitigation
1	1.06	0.66	37.74%
2	2.16	1.57	27.31%
10	5.10	4.11	19.41%
100	10.87	9.33	14.17%

Table 8. Summary of Flows for Entire Site

Design Storm (yr)	Pre-Development Peak runoff (cfs)	Post-Development Peak runoff (cfs)	Post-Development % Reduction w/ Mitigation
1	6.38	3.77	40.91%
2	14.43	9.48	34.30%
10	38.38	26.26	31.58%
100	88.47	62.74	29.08%

3. CONSTRUCTION AND MAINTENANCE DESCRIPTION

A. Erosion and Sediment Control Plan

I. Temporary Structural Measures:

The temporary soil erosion and sediment control devices include protective earthmoving procedures and grading practices, vegetated cover, hay bales, silt fencing, stabilized construction entrance, dust control, construction road stabilization, silt traps, inlet protections and sediment basins. The methodology of the plan is to control erosion & sedimentation, and to re-establish vegetation as soon as possible. These temporary controls will be installed prior to commencement of earthmoving activities where possible.

All proposed erosion and sediment controls and details as well as the stormwater management facilities are shown on various plans prepared by Petruccelli Engineering. All proposed soil erosion and sediment control practices are designed in accordance with the following publications:

- New York State Guidelines for Urban Erosion and Sediment Control, latest edition
- New York State General Permit for Stormwater Discharges, GP0-08-001 (General Permit)
- "Reducing the Impacts of Stormwater Runoff from New Development", as published by the New York State Department of Environmental Conservation (NYSDEC), second edition, April 1993.

II. Permanent Structural Measures:

The temporary sediment traps will be installed to prevent sediments from entering the infiltration basins. Once the disturbance areas have been stabilized these sediment traps will be removed. In addition, rock outlet protections will be installed at the inflow of stormwater facilities. All other temporary devices such as silt fencing, hay bales and diversions will be removed during the course of construction.

III. Pollution Prevention Measures and Materials Storage/Disposal:

The construction materials and vehicles expected to be present during construction include but are not limited to drainage pipe, pre-cast concrete drainage structures, earth moving equipment, concrete trucks, asphalt trucks, pavement marking machinery, and worker vehicles.

All construction related debris will be collected and removed from the area on a regular basis. Concrete wash out areas will be provided where necessary and existing and or excess asphalt material will be removed from the site and disposed of in the proper manner.

Sediment spoils will be disposed in an approved off-site location along with temporary erosion control devices.

B. Narrative Report

The primary goal of the soil erosion and sediment control measures is to reduce soil erosion from areas stripped of vegetation during and after construction, and to prevent discharge of silt offsite. Erosion control barriers shall be placed around exposed areas during construction. The barriers shall consist of staked haybales or silt fence. Temporary sediment basins or traps will be used at stormwater collection points to allow sediment removal prior to releasing the stormwater offsite.

Any areas stripped of vegetation during construction will be left bare for the shortest time possible. Any topsoil removed during construction will be temporarily stockpiled for future use in grading and landscaping. A stockpile location has been provided on the Erosion Control Plan and shall be contained within a silt fence barrier.

Temporary vegetation will be established to protect exposed soil areas during construction. If growing conditions are not suitable for the temporary vegetation, mulch will be used. Materials that may be used for mulching include; straw, hay, salt hay, wood fiber, synthetic soil stabilizers, mulch netting, and sod. A permanent vegetative cover will be established upon completion of construction of those areas that have been brought to finish grade and to remain undisturbed.

A temporary stabilized construction entrance comprised of three inches clean stone will be constructed at the entrances to the site. The purpose of a stabilized entrance is to remove soil from the construction vehicle tires prior to exiting the site and traveling on the existing roadways. During construction, inlet protection will be installed at each storm sewer inlet to minimize the conveyance of silt and sediment through the storm sewer system.

C. Construction Sequencing

The following is a detailed Construction Sequencing:

1. Install stabilized construction entrance at the site access point.
2. Install silt fence and barrier fence and tree protection as shown.
3. Install inlet protection as required.
4. Minimize clearing within the limits of disturbance as required for construction.
5. Install soil stockpiling protection.
6. Install temporary sediment basins at the locations of micro-pool detention to intercept and detain the sediment during construction. At the time of construction convert ponds into permanent stormwater detention ponds.
7. Excavate for buildings, roads and utilities and stockpile topsoil.
8. Perform temporary stabilization over all disturbed soil areas.
9. Remove temporary soil erosion and sediment control measures such as vegetative measures

D. Construction Inspection Stages

The contractor is directed to the town of Bedford code, section 103-10 a(1)(a) which specifies the staging of construction inspections for erosion and sediment controls. The contractor shall notify the town of Bedford enforcement official at least 48 hours before any of the following items are required by stormwater management officer:

1. Start of construction
2. Installation of sediment and erosion control measures
3. Completion of site clearing
4. Completion of rough grading
5. Completion of final grading
6. Close of the construction season
7. Completion of final landscaping
8. Successful establishment of landscaping in public areas

E. Storm Water Management Facilities Maintenance Program

The following maintenance program is proposed in order to maintain the proper function of all drainage and erosion and sediment control facilities:

- Mow the side slopes and bottom of the basin as necessary to maintain their appearance but not less than twice a year. Inspect basin and if necessary remove invasive woody vegetation to prevent it from becoming established within the basin.

- During mowing operations, litter and debris will be removed from vegetated swale, extended detention basin and the outlet control structures.
- During the construction of the project, the site erosion and sediment control measures as well as basin embankments and outlet structure will be inspected by the project superintendent once a week and/or immediately following a rainstorm. Any repairs required will be performed in a timely manner. All sediment removal and/or repairs will be followed immediately by re-vegetation.
- All disturbed areas will be stabilized and the sediment build up (50% of sediment basin) in the basins removed before the basin is fined graded and landscaped. After the construction is completed, any areas disturbed will be stabilized immediately after the required work is completed.
- The Owner will inspect the facilities once a month, and once a year by a Professional Engineer. A report by the Professional Engineer will be submitted to the Owner in the event deficiencies are found. In addition, the Owner will inspect the system after each major storm event to ensure the small orifices and inlets remain open. Specific attention will be paid to the following:
  - Evidence of clogging of outlet control device.
  - Erosion of the flow path through the detention facility.
  - Subsidence, erosion, cracking or tree growth on the embankments.
  - Accumulation of sediment.
- Clean catch basins and other drainage structures from silt regularly, but not less than twice a year. Remove sediment build up in the basin as required, but a minimum of every five years. A rubber-tired backhoe with a minimum reach of 25' will be used to remove silt accumulation. Laborers with shovel and wheelbarrows will be used to maintain the embankment slopes, to repair minor erosion problems and remove minor accumulation of silt. The use of hand labor will also minimize the disturbance of stabilized areas and the established vegetation. A rubber-tired backhoe has the reach and maneuverability to maintain these basins from the adjacent areas.
- Tree growth on the downstream face of the detention ponds will also be monitored regularly. Trees that develop shall be removed during routine maintenance of the basin.
- The owner will take all necessary measures to have seeps, leeks, and/or settlements on the embankment of detention pond repaired. If seeps, leaks, and/or settlement are discovered the owner will be obligated to contract a licensed engineer to assess the problem and offer solutions to repair.
- Restore and re-seed any eroded areas and gullies as soon as possible.

- The Stormwater Management facilities Maintenance Program will be managed by:

E. Conclusions

The incorporation of the Best Management Practices will significantly reduce the pollutant loadings in the post-construction condition by capturing and treating the runoff from the new and existing impervious surfaces and disturbed areas to the greatest extent possible. This plan meets the requirements of the NYSDEC & NYCDEP for Water Quality and Quantity, providing minimal impact to downstream waters.

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APPENDIX A

- POLLUTANT LOADING ANALYSIS

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Tripi Conservation Subdivision
Harris Road
Town of Bedford
Westchester County, NY

POLLUTANT LOADING ANALYSIS

PRE-DEVELOPMENT CONDITIONS AND QUALITY IMPACTS											
SUB-AREA	LAND USE	AREA (ACRES)	HYDROLOGIC SOIL GROUP	ANNUAL LOADING RATES (LB/AC/YR				ANNUAL LOADS (LB/YR)			
				BOD	TSS	TP	TN	BOD	TSS	TP	TN
1	Meadow	14.001	B	7	214	0.32	3.85	98.0	2989.2	4.4	53.9
	Developed	0.547	B	53.9	523	1.68	9.1	29.5	286.0	0.9	5.0
2	Meadow	4.697	B	7	214	0.32	3.85	32.9	1002.8	1.5	18.1
	Developed	0.554	B	53.9	523	1.68	9.1	29.9	289.7	0.9	5.0
3	Meadow	2.366	B	7	214	0.32	3.85	16.6	505.1	0.7	9.1
	Developed	0.052	B	53.9	523	1.68	9.1	2.8	27.2	0.1	0.5
4	Meadow	4.018	B	7	214	0.32	3.85	28.1	857.8	1.3	15.5
	Developed	0.253	B	53.9	523	1.68	9.1	13.6	132.3	0.4	2.3
5	Meadow	2.561	B	7	214	0.32	3.85	17.9	546.8	0.8	9.9
	Developed	0.575	B	53.9	523	1.68	9.1	31.0	300.7	1.0	5.2
6	Meadow	2.273	B	7	214	0.32	3.85	15.9	485.3	0.7	8.8
	Developed	0.045	B	53.9	523	1.68	9.1	2.4	23.5	0.1	0.4
7	Meadow	2.890	B	7	214	0.32	3.85	20.2	617.0	0.9	11.1
	Developed	0.235	B	53.9	523	1.68	9.1	12.7	122.9	0.4	2.1
		35.1				TOTALS		351.5	8186.4	14.1	146.9

Tripi Conservation Subdivision
Harris Road
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POST-DEVELOPMENT CONDITIONS AND QUALITY IMPACTS											
SUB-AREA	LAND USE	AREA (ACRES)	HYDROLOGIC SOIL GROUP	ANNUAL LOADING RATES				ANNUAL LOADS (LB/YR)			
				BOD	TSS	TP	TN	BOD	TSS	TP	TN
1	Meadow	9.824	B	7	214	0.32	3.85	68.8	2097.4	3.1	37.8
	Grass	2.770	B	7	214	0.32	3.85	19.4	591.4	0.9	10.7
	Developed	0.698	B	53.9	523	1.68	9.1	37.6	365.0	1.2	6.4
2A	Grass	3.319	B	7	214	0.32	3.85	23.2	708.6	1.0	12.8
	Meadow	0.520	B	7	214	0.32	3.85	3.6	111.0	0.2	2.0
	Developed	1.912	B	53.9	523	1.68	9.1	103.1	999.8	3.2	17.4
2B	Developed	0.459	B	53.9	523	1.68	9.1	24.7	240.0	0.8	4.2
3	Meadow	1.297	B	7	214	0.32	3.85	9.1	276.9	0.4	5.0
	Grass	1.144	B	7	214	0.32	3.85	8.0	244.2	0.4	4.4
	Developed	0.212	B	53.9	523	1.68	9.1	11.4	110.9	0.4	1.9
4	Meadow	0.730	B	7	214	0.32	3.85	5.1	155.9	0.2	2.8
	Grass	0.451	B	7	214	0.32	3.85	3.2	96.3	0.1	1.7
	Developed	0.093	B	53.9	523	1.68	9.1	5.0	48.6	0.2	0.8
5	Meadow	2.327	B	7	214	0.32	3.85	16.3	496.8	0.7	9.0
	Grass	0.545	B	7	214	0.32	3.85	3.8	116.4	0.2	2.1
	Developed	0.016	B	53.9	523	1.68	9.1	0.9	8.4	0.0	0.1
6A	Meadow	0.893	B	7	214	0.32	3.85	6.3	190.7	0.3	3.4
	Developed	1.109	B	53.9	523	1.68	9.1	59.8	579.9	1.9	10.1
	Grass	0.935	B	7	214	0.32	3.85	6.5	199.6	0.3	3.6
6B	Developed	0.231	B	53.9	523	1.68	9.1	12.5	120.8	0.4	2.1
6C	Meadow	0.303	B	7	214	0.32	3.85	2.1	64.7	0.1	1.2
7	Meadow	1.340	B	7	214	0.32	3.85	9.4	286.1	0.4	5.2
	Grass	1.375	B	7	214	0.32	3.85	9.6	293.6	0.4	5.3
	Developed	0.291	B	53.9	523	1.68	9.1	15.7	152.2	0.5	2.6
8	Meadow	0.954	B	7	214	0.32	3.85	6.7	203.7	0.3	3.7
	Grass	0.977	B	7	214	0.32	3.85	6.8	208.6	0.3	3.8
	Developed	0.362	B	53.9	523	1.68	9.1	19.5	189.3	0.6	3.3
		35.1				TOTALS		498.1	9156.6	18.4	163.3

Tripi Conservation Subdivision
Harris Road
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TREATED LOADS									
SUB-AREA	BEST MANAGEMENT PRACTICE	REMOVAL RATE (%)				ANNUAL REMOVED LOADS (LB/YR) W/ TREATMENT			
		BOD	TSS	TP	TN	BOD	TSS	TP	TN
1	NONE	0	0	0	0	0.0	0.0	0.0	0.0
2A	INFILTRATION BASIN	90	90	70	70	116.9	1,637.5	3.1	22.5
2B	DRY DETENTION POND	60	87	40	35	14.8	208.8	0.3	1.5
3	NONE	0	0	0	0	0.0	0.0	0.0	0.0
4	NONE	0	0	0	0	0.0	0.0	0.0	0.0
5	NONE	0	0	0	0	0.0	0.0	0.0	0.0
6A	DRY DETENTION POND	60	87	40	35	43.5	844.1	1.0	6.0
6B	INFILTRATION BASIN	90	90	70	70	11.2	108.7	0.3	1.5
6C	NONE	0	0	0	0	0.0	0.0	0.0	0.0
7	NONE	0	0	0	0	0.0	0.0	0.0	0.0
8	NONE	0	0	0	0	0.0	0.0	0.0	0.0
				TOTALS		186.5	2799.0	4.7	31.5

SUMMARY TABLE	BOD (LB/YR)	TSS (LB/YR)	TP (LB/YR)	TN (LB/YR)
PREDEVELOPMENT	351.5	8186.4	14.1	146.9
POST DEVELOPMENT WITHOUT TREATMENT	498.1	9156.6	18.4	163.3
REMOVED LOADS (LB/YR) W/ TREATMENT	186.5	2799.0	4.7	31.5
POST DEVELOPMENT WITH TREATMENT	311.5	6357.5	13.7	131.9
% CHANGE OF PRE-DEVELOPMENT RATES WITH TREATMENT	11.4%	22.3%	2.7%	10.2%

Note: Each area infiltration basin is proposed with a hydrodynamic seperator which will remove BOD, TSS, TP, &TN rates beyond those shown above.

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APPENDIX B

- SOILS INFORMATION
- FEMA MAP

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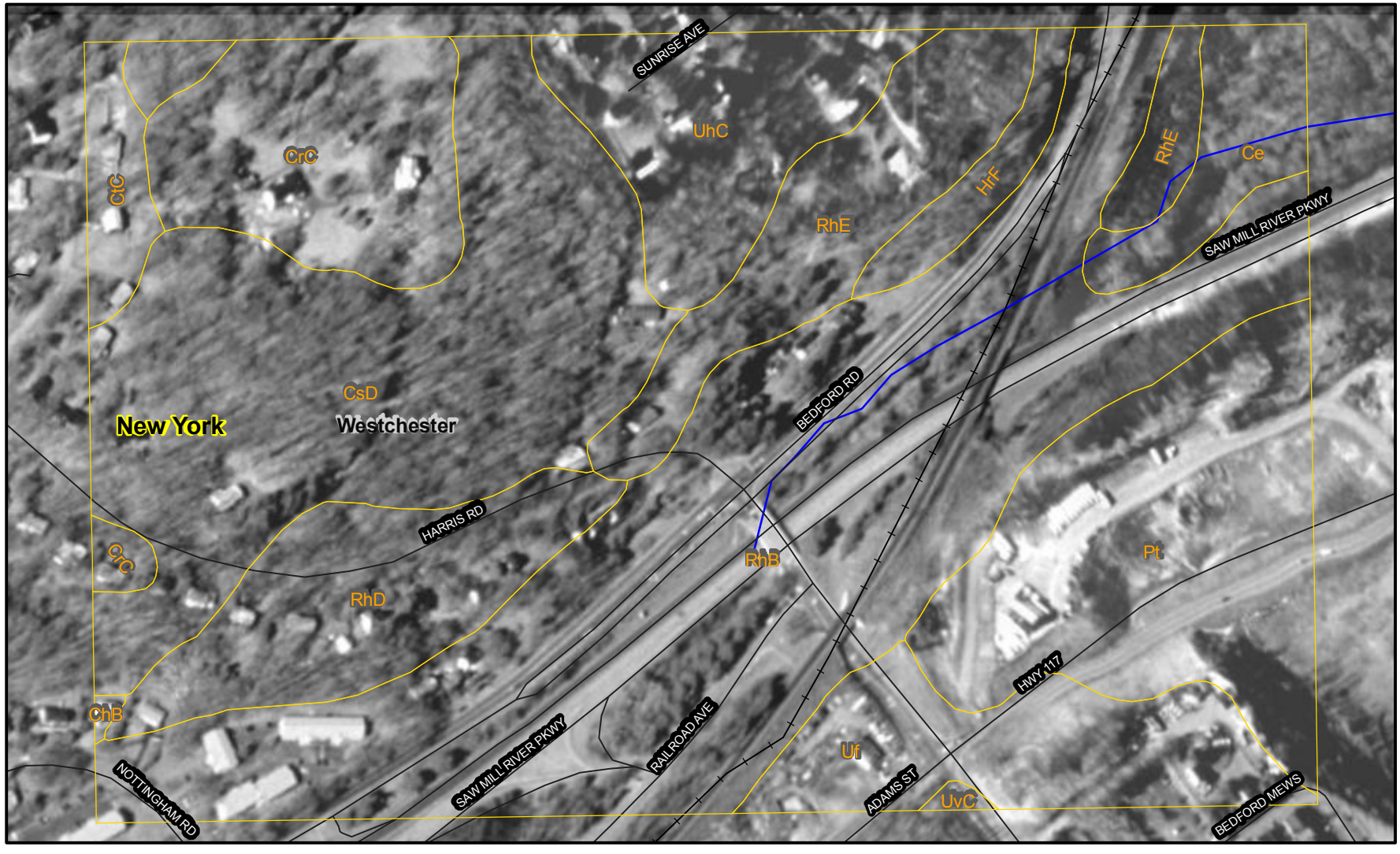
Tripi Soils Map



Meters
0 40 80 160

Feet
0 100 200 400 600 800

Tripi Soils Map

MAP LEGEND

- Soil Map Units
- Cities
- Detailed Counties
- Detailed States
- Interstate Highways
- Roads
- Rails
- Water
- Hydrography
- Oceans
- Escarpment, bedrock
- Escarpment, non-bedrock
- Gulley
- Levee
- Slope
- Blowout
- Borrow Pit
- Clay Spot
- Depression, closed
- Eroded Spot
- Gravel Pit
- Gravelly Spot
- Gulley
- Lava Flow
- Landfill
- Marsh or Swamp
- Miscellaneous Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Slide or Slip
- Sinkhole
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Perennial Water
- Wet Spot

MAP INFORMATION

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov

Coordinate System: UTM Zone 18

Soil Survey Area: Westchester County, New York
Spatial Version of Data: 1
Soil Map Compilation Scale: 1:12000

Map comprised of aerial images photographed on these dates:
4/12/1991

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

Map Unit Legend Summary

Westchester County, New York

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ce	Carlisle muck	2.7	2.7
ChB	Charlton loam, 2 to 8 percent slopes	0.1	0.1
CrC	Charlton-Chatfield complex, rolling, very rocky	6.9	7.1
CsD	Chatfield-Charlton complex, hilly, very rocky	18.9	19.4
CtC	Chatfield-Hollis-Rock outcrop complex, rolling	1.6	1.6
HrF	Hollis-Rock outcrop complex, very steep	1.5	1.5
Pt	Pits, gravel	11.6	11.8
RhB	Riverhead loam, 3 to 8 percent slopes	29.6	30.3
RhD	Riverhead loam, 15 to 25 percent slopes	6.3	6.5
RhE	Riverhead loam, 25 to 50 percent slopes	6.7	6.8
Uf	Urban land	6.0	6.1
UhC	Urban land-Charlton complex, 8 to 15 percent slopes	5.8	6.0
UvC	Urban land-Riverhead complex, 8 to 15 percent slopes	0.1	0.1

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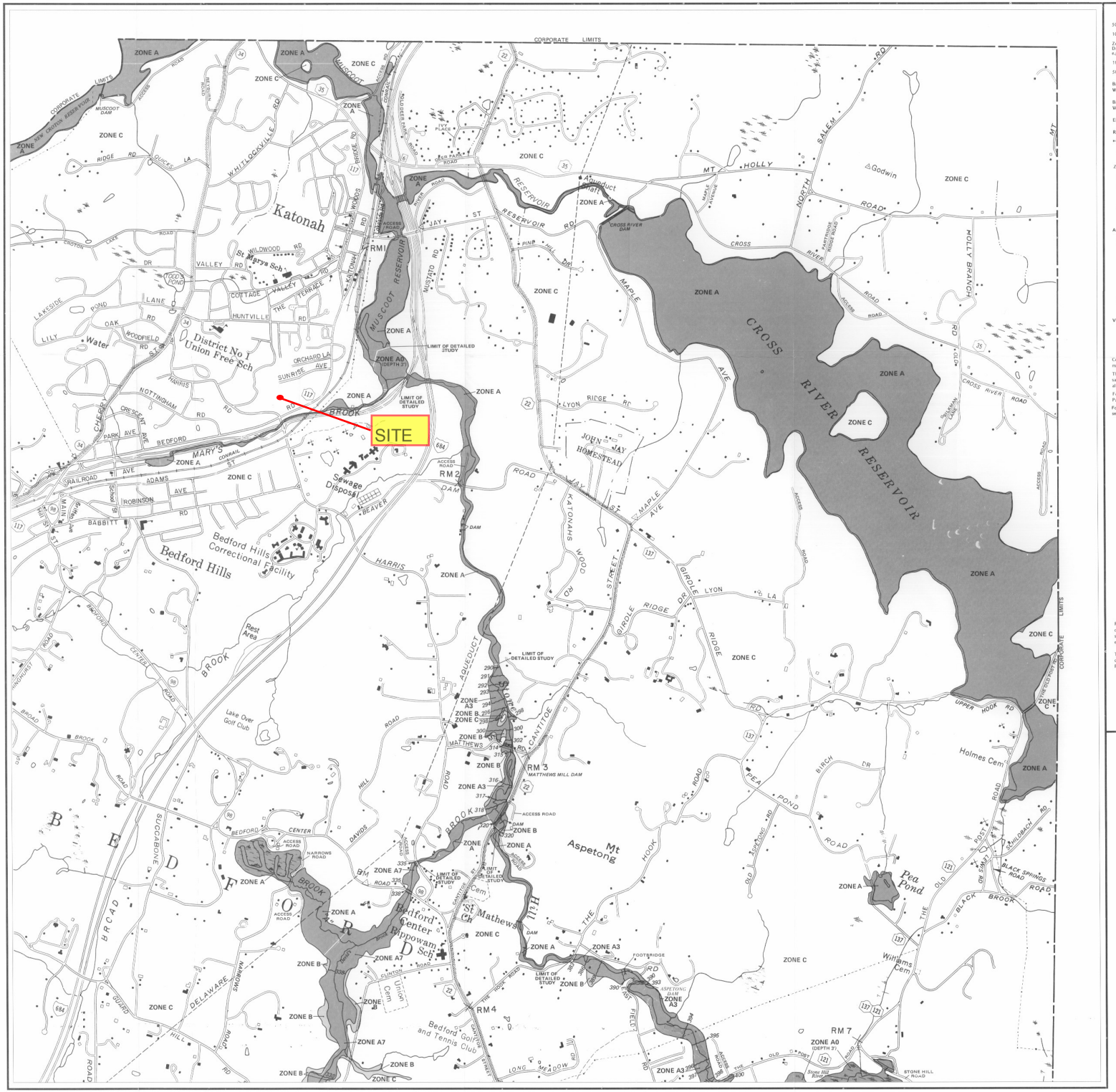

KEY TO MAP

100-Year Flood Boundary ——— ZONE B

100-Year Flood Boundary ——— ZONE A1 DATE / ZONE A5 DATE

Zone Designations* With Date of Identification e.g., 1/2/74

500-Year Flood Boundary ——— ZONE B

Base Flood Elevation Line With Elevation In Feet** ——— 513

Base Flood Elevation In Feet Where Uniform Within Zone** (EL 987)

Elevation Reference Mark RM7 ×

River Mile • M1.5

**Referenced to the National Geodetic Vertical Datum of 1929

*EXPLANATION OF ZONE DESIGNATIONS

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
AO	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.

NOTES TO USER

Certain areas not in the special flood hazard areas (zones A and V) may be protected by flood control structures.

This map is for flood insurance purposes only; it does not necessarily show all areas subject to flooding in the community or all planimetric features outside special flood hazard areas.

For adjoining map panels, see separately printed Index To Map Panels.

For description of Elevation Reference Marks, see Panel 360903 0020.

INITIAL IDENTIFICATION:
MAY 31, 1974
FLOOD HAZARD BOUNDARY MAP REVISIONS:
JULY 9, 1976
JUNE 3, 1977

FLOOD INSURANCE RATE MAP EFFECTIVE:
DECEMBER 4, 1979
FLOOD INSURANCE RATE MAP REVISIONS:

Refer to the FLOOD INSURANCE RATE MAP EFFECTIVE date shown on this map to determine when actuarial rates apply to structures in the zones where elevations or depths have been established.

To determine if flood insurance is available in this community, contact your insurance agent, or call the National Flood Insurance Program at (800) 638-6620, or (800) 424-8872.

APPROXIMATE SCALE
1000 0 1000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

TOWN OF
BEDFORD,
NEW YORK
WESTCHESTER COUNTY

PANEL 10 OF 20
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
360903 0010 C

EFFECTIVE DATE:
DECEMBER 4, 1979

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
FEDERAL INSURANCE ADMINISTRATION

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APPENDIX C

- PRE-DEVELOPMENT DRAINAGE DIVIDE MAP AND ROUTINGS
- POST-DEVELOPMENT DRAINAGE DIVIDE MAP AND ROUTINGS

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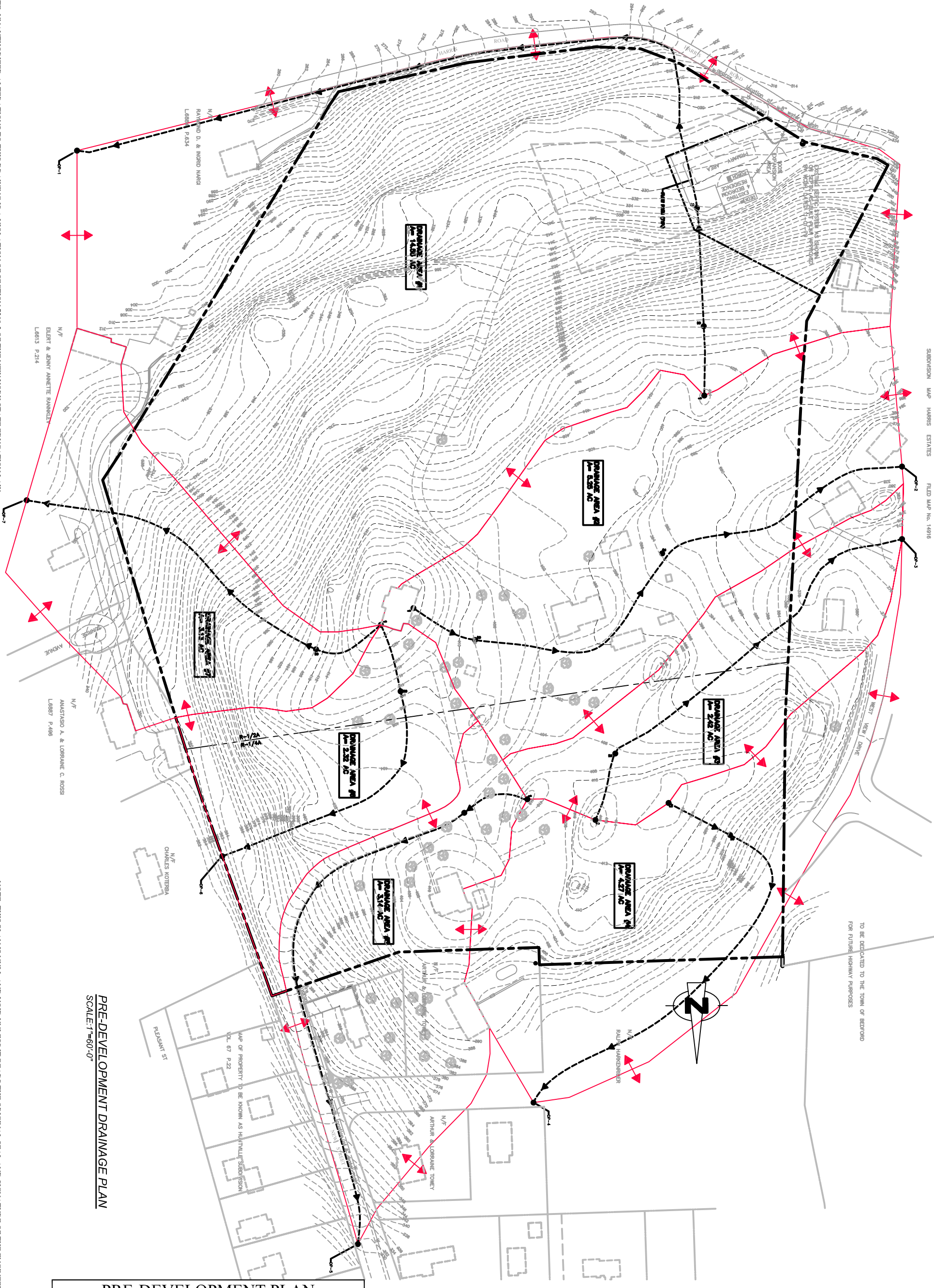
NOTE: UNAUTHORIZED ALTERATIONS TO THIS DRAWING IS A VIOLATION OF SECTION 7209-2 OF THE NEW YORK STATE EDUCATION LAW.



PRE-DEVELOPMENT DRAINAGE PLAN

SCALE:1"=60'-0"

NOTE: THIS PLAN IS NULL AND VOID UNLESS IT BEARS THE ORIGINAL SEAL AND SIGNATURE OF THE ENGINEER.

PRE-DEVELOPMENT PLAN

PROPOSED CONSERVATION SUBDIVISION

FOR
COSIMO TRIPI
AND
JAMES P. MURPHY AND ADELAIDE V. MURPHY
BEDFORD HARRIS ROAD NEW YORK

SHEET NO. 1 / 2

PETRUCCELLI ENGINEERING
392 COLUMBUS AVENUE
VALHALLA, NEW YORK 10595
914.948.3629
RUDOLPH C. PETRUCCELLI, P.E.

REVISIONS
05-05-10
07-06-10
09-13-10
11-01-10

JOB NO.	2001-27
DATE:	03-04-09
SCALE:	AS NOTED
DRAWN BY:	SP/MJG
CHECKED BY:	R.C.P.

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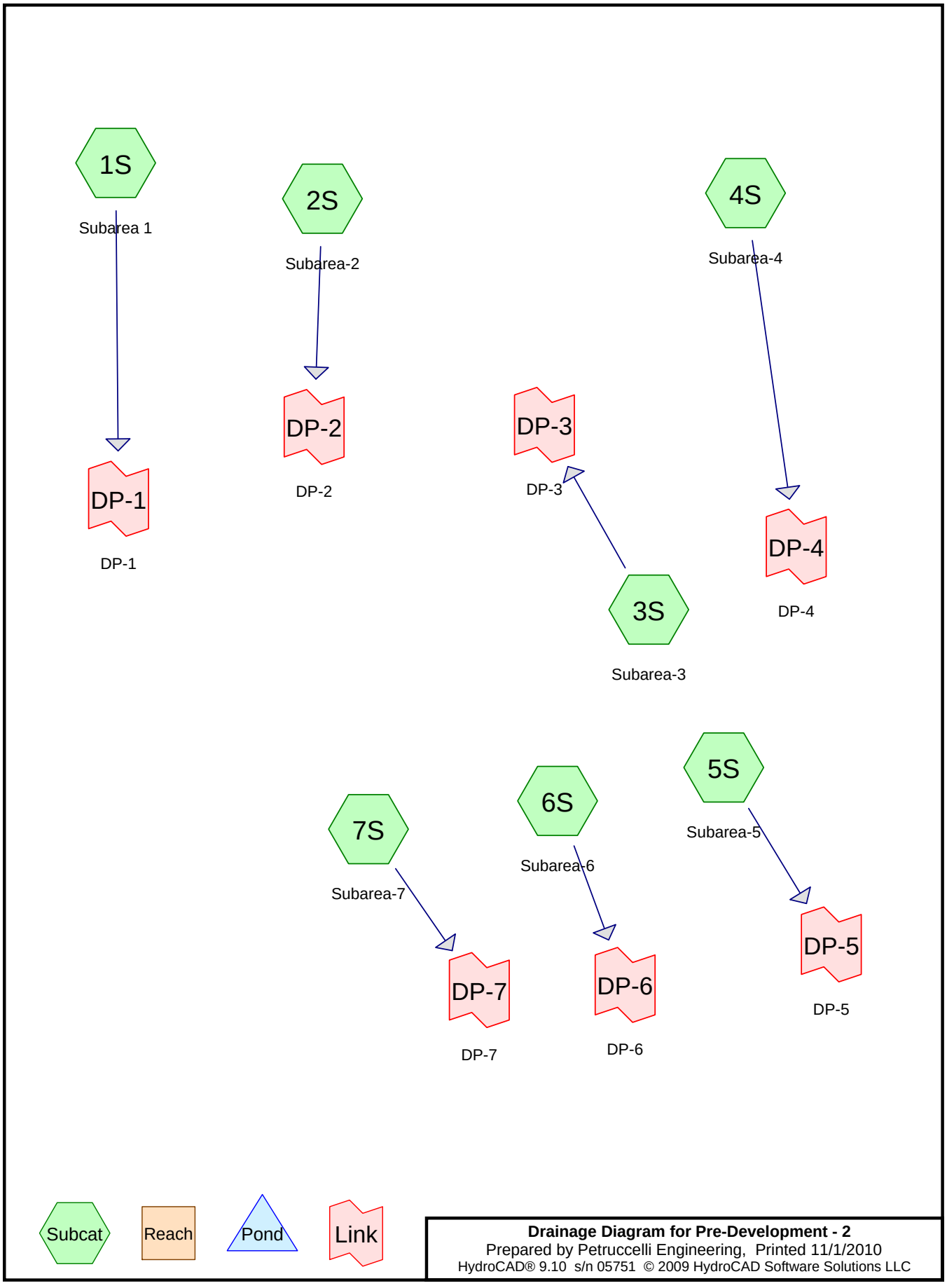

Drainage Diagram for Pre-Development - 2

Prepared by Petruccelli Engineering, Printed 11/1/2010

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
22.716	58	Woods/grass comb., Good, HSG B (1S, 2S, 4S)
10.090	65	Woods/grass comb., Fair, HSG B (3S, 5S, 6S, 7S)
2.261	98	Paved roads w/curbs & sewers (1S, 2S, 3S, 4S, 5S, 6S, 7S)
35.066		**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
32.806	HSG B	1S, 2S, 3S, 4S, 5S, 6S, 7S
0.000	HSG C	
0.000	HSG D	
2.261	Other	1S, 2S, 3S, 4S, 5S, 6S, 7S
35.066		**TOTAL AREA**

Time span=0.00-250.00 hrs, dt=0.01 hrs, 25001 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1S: Subarea 1 Runoff Area=14.548 ac 3.76% Impervious Runoff Depth=0.26"
Flow Length=1,389' Tc=25.0 min CN=60 Runoff=1.44 cfs 0.321 af

Subcatchment 2S: Subarea-2 Runoff Area=228,729 sf 10.55% Impervious Runoff Depth=0.32"
Flow Length=821' Tc=21.0 min CN=62 Runoff=0.76 cfs 0.141 af

Subcatchment 3S: Subarea-3 Runoff Area=105,316 sf 2.16% Impervious Runoff Depth=0.45"
Flow Length=634' Tc=17.0 min CN=66 Runoff=0.66 cfs 0.091 af

Subcatchment 4S: Subarea-4 Runoff Area=186,025 sf 5.92% Impervious Runoff Depth=0.26"
Flow Length=680' Tc=19.6 min CN=60 Runoff=0.46 cfs 0.094 af

Subcatchment 5S: Subarea-5 Runoff Area=136,628 sf 18.34% Impervious Runoff Depth=0.65"
Flow Length=877' Tc=21.9 min CN=71 Runoff=1.32 cfs 0.169 af

Subcatchment 6S: Subarea-6 Runoff Area=100,951 sf 1.94% Impervious Runoff Depth=0.45"
Flow Length=504' Tc=13.5 min CN=66 Runoff=0.68 cfs 0.087 af

Subcatchment 7S: Subarea-7 Runoff Area=136,133 sf 7.51% Impervious Runoff Depth=0.49"
Flow Length=594' Tc=12.8 min CN=67 Runoff=1.06 cfs 0.127 af

Link DP-1: DP-1 Inflow=1.44 cfs 0.321 af
Primary=1.44 cfs 0.321 af

Link DP-2: DP-2 Inflow=0.76 cfs 0.141 af
Primary=0.76 cfs 0.141 af

Link DP-3: DP-3 Inflow=0.66 cfs 0.091 af
Primary=0.66 cfs 0.091 af

Link DP-4: DP-4 Inflow=0.46 cfs 0.094 af
Primary=0.46 cfs 0.094 af

Link DP-5: DP-5 Inflow=1.32 cfs 0.169 af
Primary=1.32 cfs 0.169 af

Link DP-6: DP-6 Inflow=0.68 cfs 0.087 af
Primary=0.68 cfs 0.087 af

Link DP-7: DP-7 Inflow=1.06 cfs 0.127 af
Primary=1.06 cfs 0.127 af

Total Runoff Area = 35.066 ac Runoff Volume = 1.031 af Average Runoff Depth = 0.35"
93.55% Pervious = 32.806 ac 6.45% Impervious = 2.261 ac

Summary for Subcatchment 1S: Subarea 1

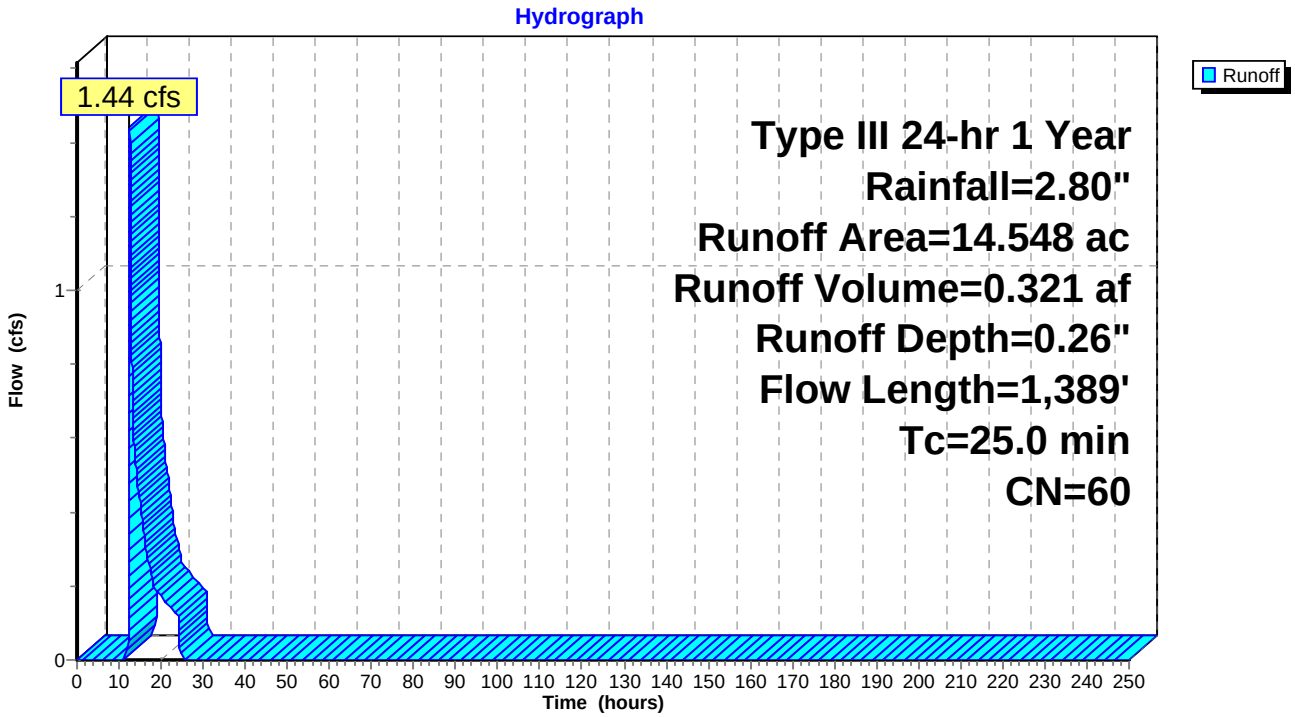
Runoff = 1.44 cfs @ 12.58 hrs, Volume= 0.321 af, Depth= 0.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 Year Rainfall=2.80"

Area (ac)	CN	Description
0.547	98	Paved roads w/curbs & sewers
14.001	58	Woods/grass comb., Good, HSG B
14.548	60	Weighted Average
14.001		96.24% Pervious Area
0.547		3.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	100	0.1000	0.15		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
0.9	171	0.3600	3.00		**Shallow Concentrated Flow, 2 to 3** Woodland Kv= 5.0 fps
13.2	1,118	0.0800	1.41		**Shallow Concentrated Flow, 3 to DP-1** Woodland Kv= 5.0 fps
25.0	1,389	Total			

Subcatchment 1S: Subarea 1



Summary for Subcatchment 2S: Subarea-2

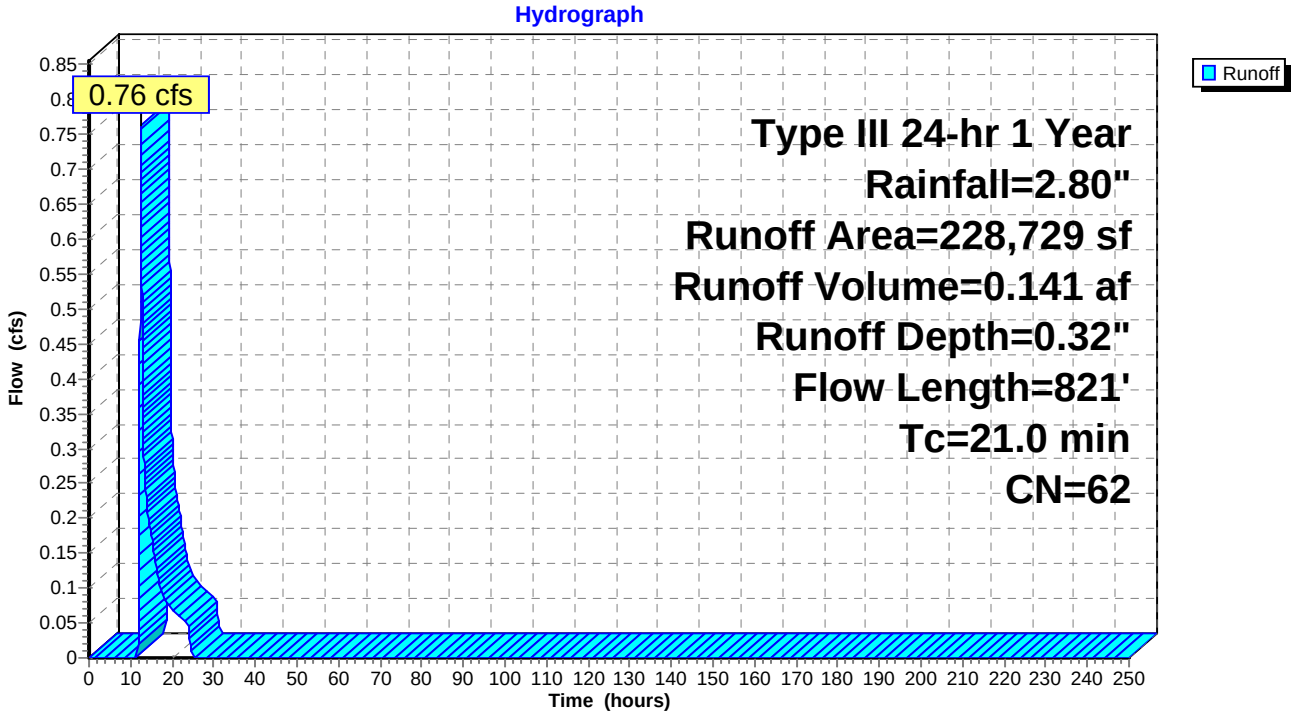
Runoff = 0.76 cfs @ 12.48 hrs, Volume= 0.141 af, Depth= 0.32"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 Year Rainfall=2.80"

Area (sf)	CN	Description
24,134	98	Paved roads w/curbs & sewers
204,595	58	Woods/grass comb., Good, HSG B
228,729	62	Weighted Average
204,595		89.45% Pervious Area
24,134		10.55% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	100	0.1400	0.18		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
11.6	721	0.0430	1.04		**Shallow Concentrated Flow, 2 to 3** Woodland Kv= 5.0 fps
21.0	821	Total			

Subcatchment 2S: Subarea-2



Summary for Subcatchment 3S: Subarea-3

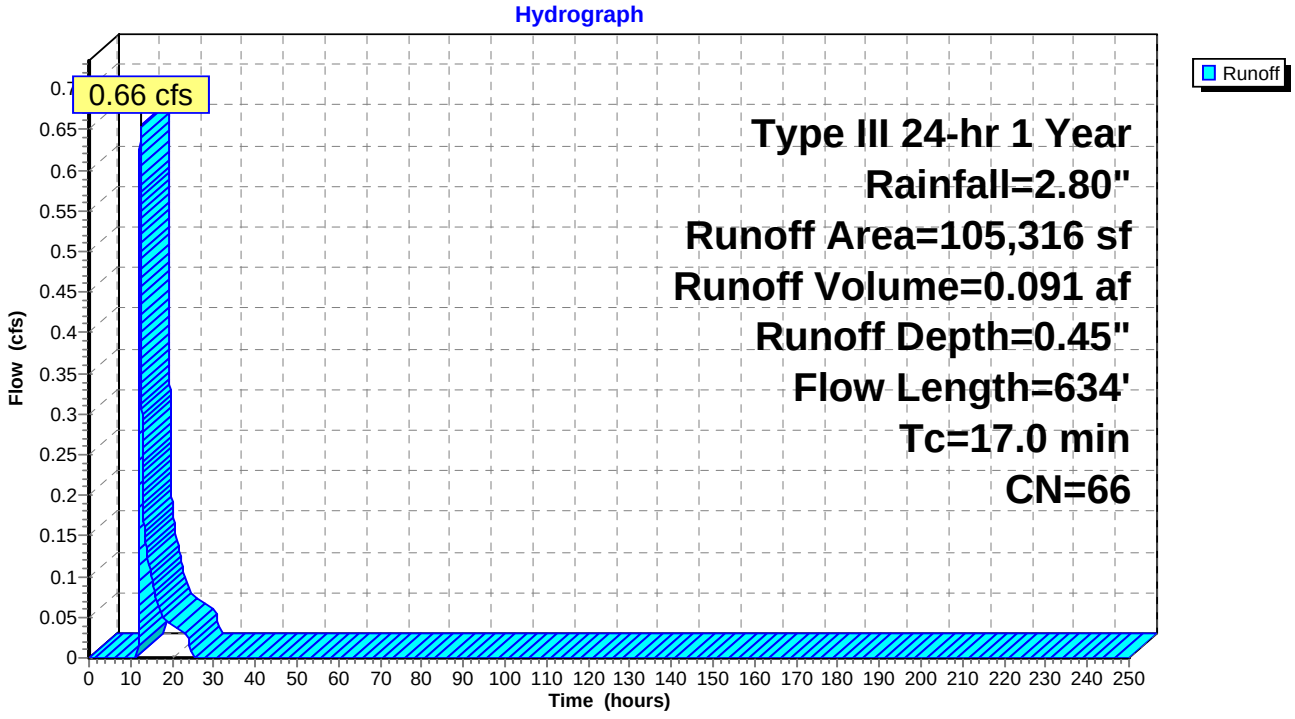
Runoff = 0.66 cfs @ 12.30 hrs, Volume= 0.091 af, Depth= 0.45"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 Year Rainfall=2.80"

Area (sf)	CN	Description
2,270	98	Paved roads w/curbs & sewers
103,046	65	Woods/grass comb., Fair, HSG B
105,316	66	Weighted Average
103,046		97.84% Pervious Area
2,270		2.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.9	100	0.1250	0.17		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
7.1	534	0.0620	1.24		**Shallow Concentrated Flow, 2 to DP-3** Woodland Kv= 5.0 fps
17.0	634	Total			

Subcatchment 3S: Subarea-3



Summary for Subcatchment 4S: Subarea-4

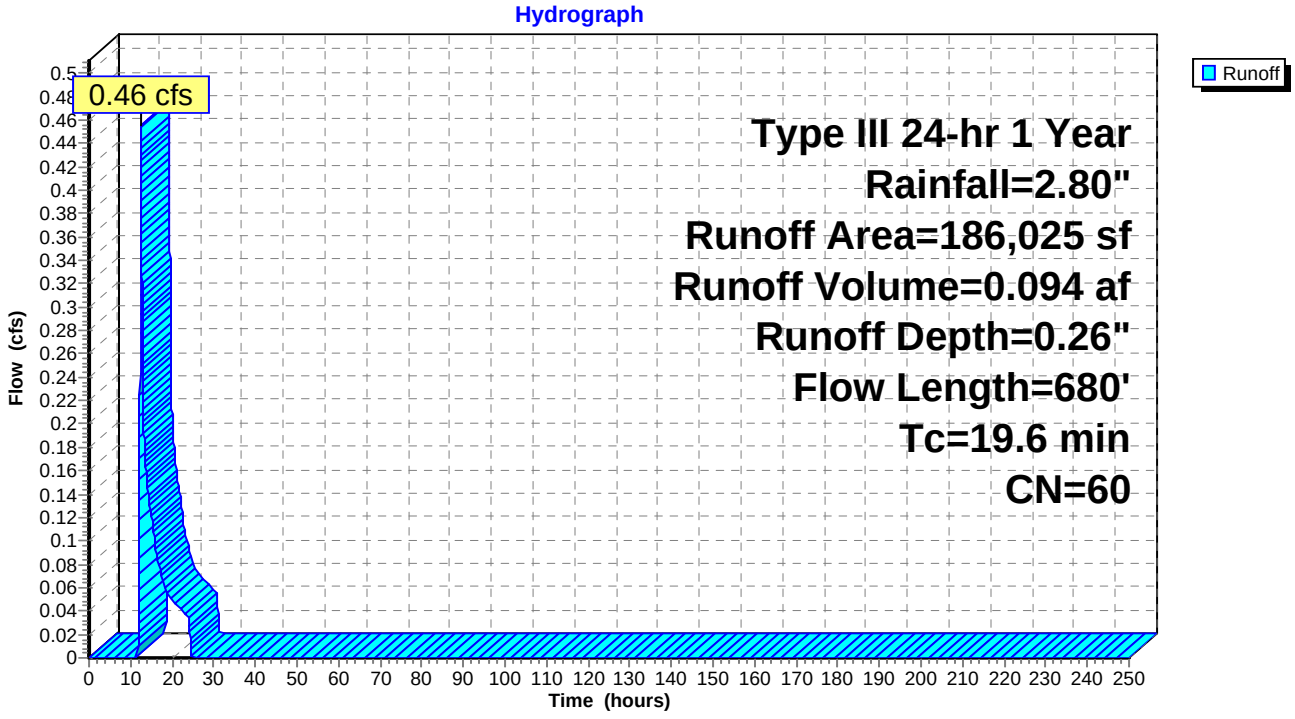
Runoff = 0.46 cfs @ 12.50 hrs, Volume= 0.094 af, Depth= 0.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 Year Rainfall=2.80"

Area (sf)	CN	Description
11,012	98	Paved roads w/curbs & sewers
175,013	58	Woods/grass comb., Good, HSG B
186,025	60	Weighted Average
175,013		94.08% Pervious Area
11,012		5.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	100	0.1400	0.18		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
10.2	580	0.0360	0.95		**Shallow Concentrated Flow, 2 to DP-4** Woodland Kv= 5.0 fps
19.6	680	Total			

Subcatchment 4S: Subarea-4



Summary for Subcatchment 5S: Subarea-5

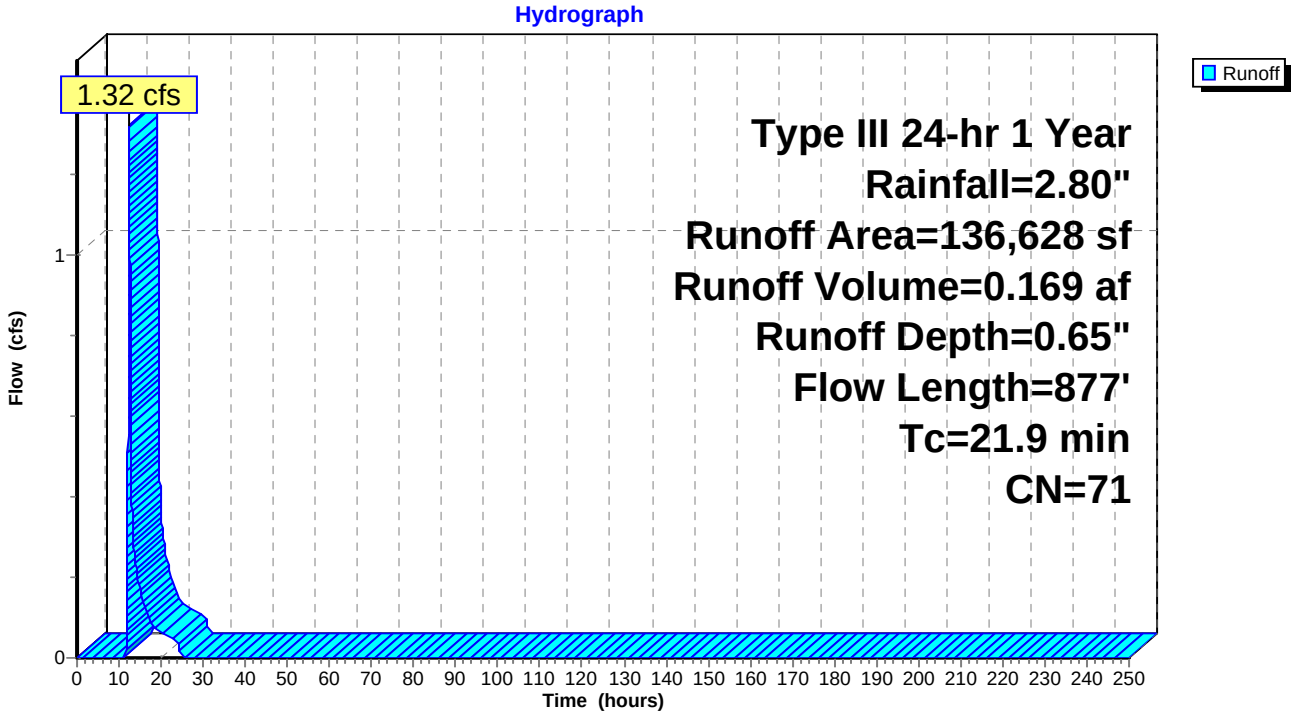
Runoff = 1.32 cfs @ 12.35 hrs, Volume= 0.169 af, Depth= 0.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 Year Rainfall=2.80"

Area (sf)	CN	Description
25,055	98	Paved roads w/curbs & sewers
111,573	65	Woods/grass comb., Fair, HSG B
136,628	71	Weighted Average
111,573		81.66% Pervious Area
25,055		18.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	100	0.0550	0.12		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
8.2	777	0.0990	1.57		**Shallow Concentrated Flow, 2 to DP-5** Woodland Kv= 5.0 fps
21.9	877	Total			

Subcatchment 5S: Subarea-5



Summary for Subcatchment 6S: Subarea-6

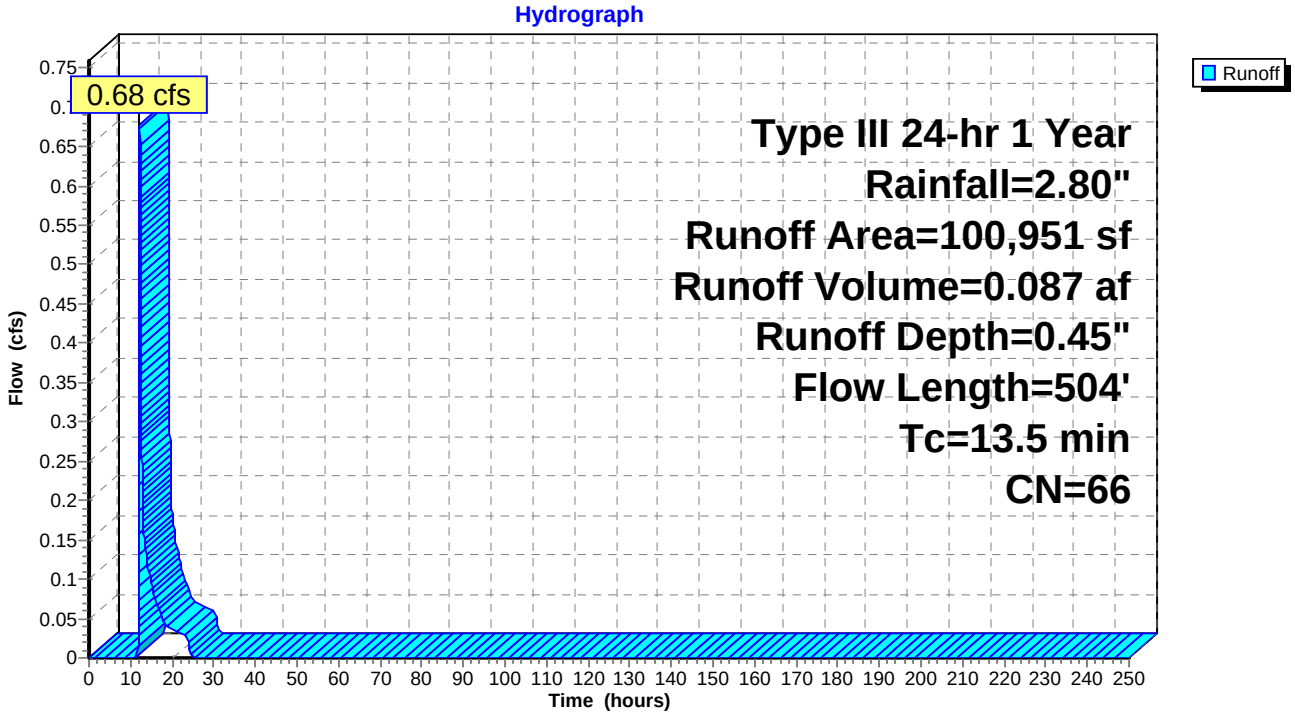
Runoff = 0.68 cfs @ 12.24 hrs, Volume= 0.087 af, Depth= 0.45"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 Year Rainfall=2.80"

Area (sf)	CN	Description
1,957	98	Paved roads w/curbs & sewers
98,994	65	Woods/grass comb., Fair, HSG B
100,951	66	Weighted Average
98,994		98.06% Pervious Area
1,957		1.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	100	0.1300	0.17		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
3.8	404	0.1260	1.77		**Shallow Concentrated Flow, 2 to DP-6** Woodland Kv= 5.0 fps
13.5	504	Total			

Subcatchment 6S: Subarea-6



Summary for Subcatchment 7S: Subarea-7

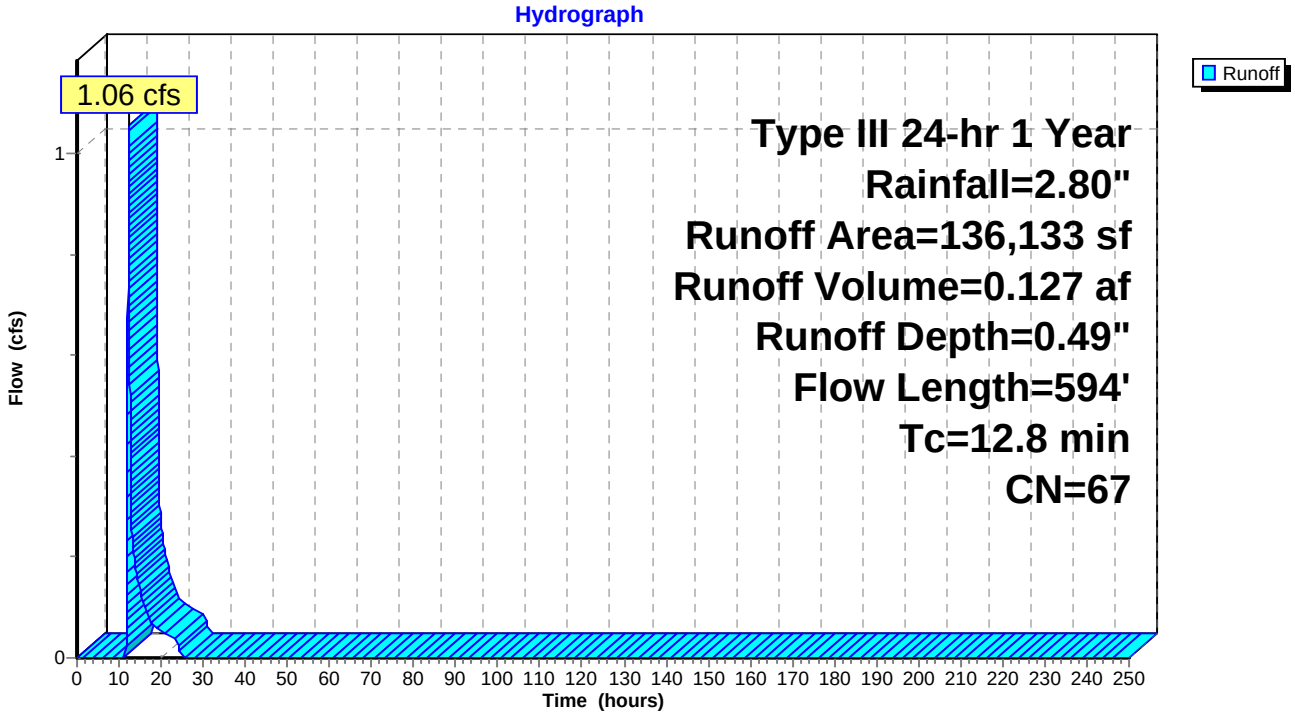
Runoff = 1.06 cfs @ 12.22 hrs, Volume= 0.127 af, Depth= 0.49"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 Year Rainfall=2.80"

Area (sf)	CN	Description
10,223	98	Paved roads w/curbs & sewers
125,910	65	Woods/grass comb., Fair, HSG B
136,133	67	Weighted Average
125,910		92.49% Pervious Area
10,223		7.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	100	0.1600	0.19		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
3.9	494	0.1780	2.11		**Shallow Concentrated Flow, 2 to DP-7** Woodland Kv= 5.0 fps
12.8	594	Total			

Subcatchment 7S: Subarea-7

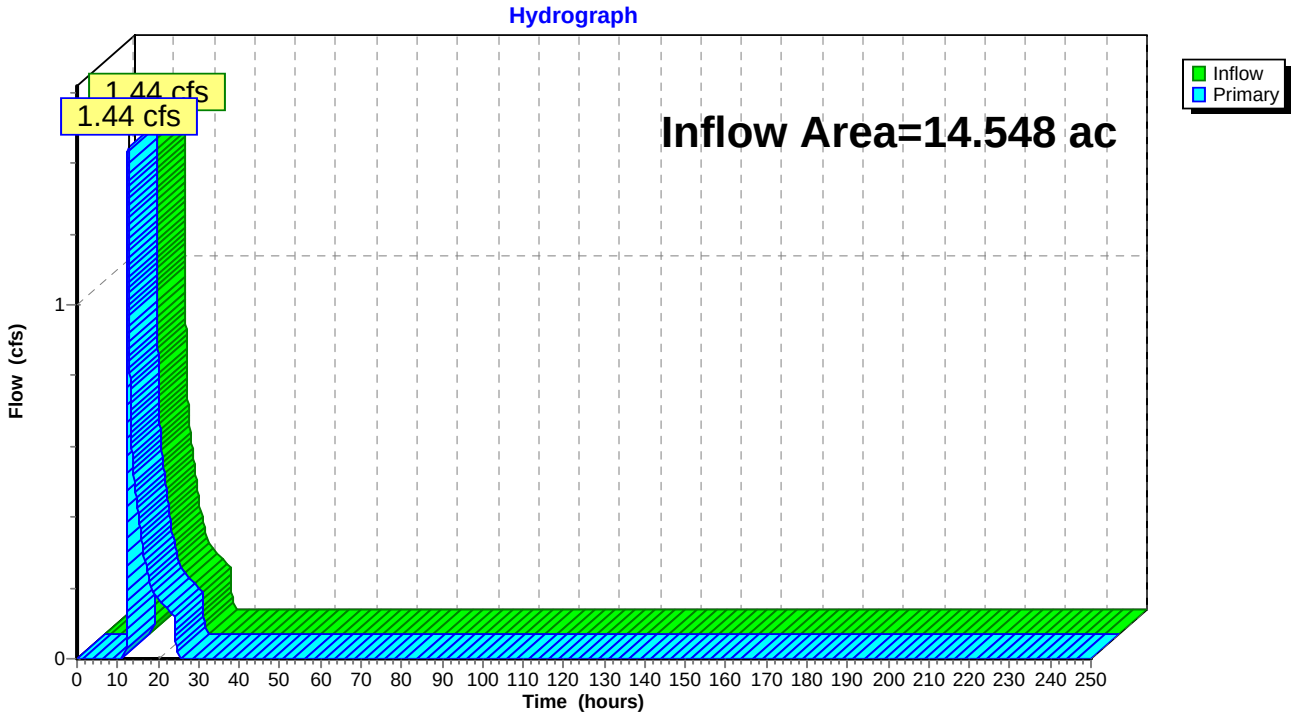


Summary for Link DP-1: DP-1

Inflow Area = 14.548 ac, 3.76% Impervious, Inflow Depth = 0.26" for 1 Year event
Inflow = 1.44 cfs @ 12.58 hrs, Volume= 0.321 af
Primary = 1.44 cfs @ 12.58 hrs, Volume= 0.321 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-1: DP-1

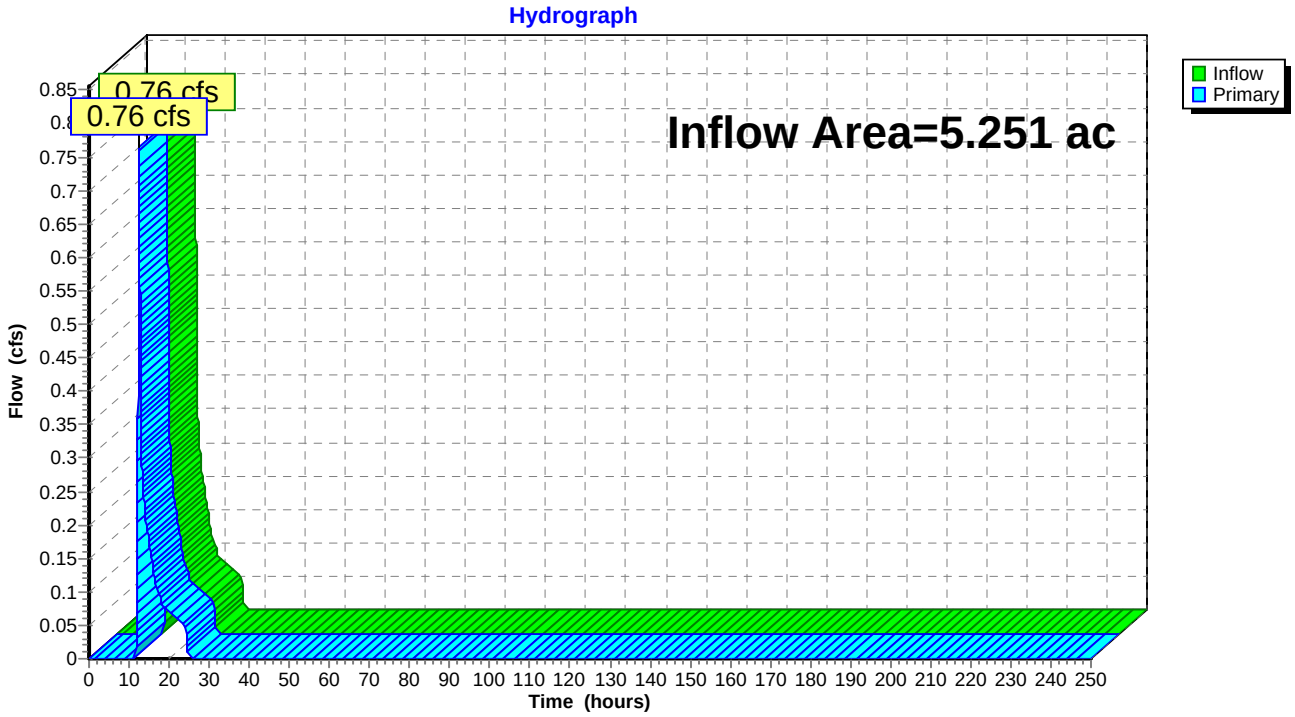


Summary for Link DP-2: DP-2

Inflow Area = 5.251 ac, 10.55% Impervious, Inflow Depth = 0.32" for 1 Year event
Inflow = 0.76 cfs @ 12.48 hrs, Volume= 0.141 af
Primary = 0.76 cfs @ 12.48 hrs, Volume= 0.141 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-2: DP-2

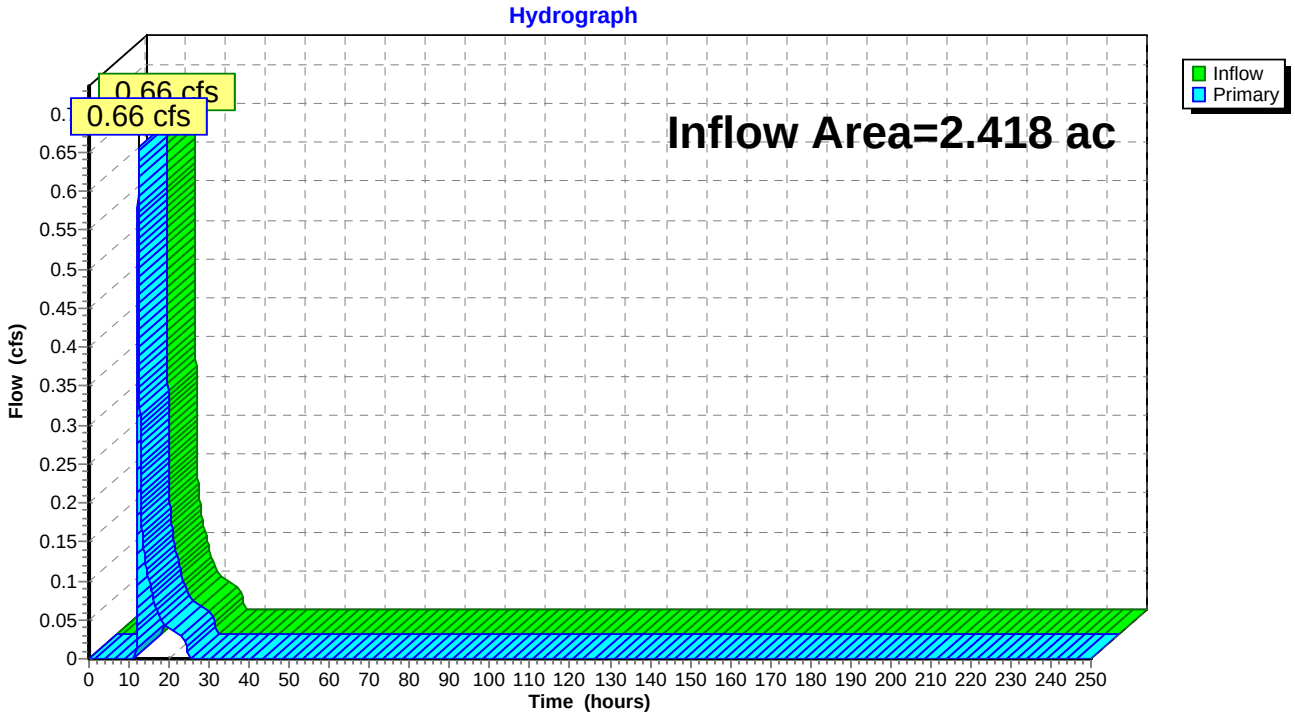


Summary for Link DP-3: DP-3

Inflow Area = 2.418 ac, 2.16% Impervious, Inflow Depth = 0.45" for 1 Year event
Inflow = 0.66 cfs @ 12.30 hrs, Volume= 0.091 af
Primary = 0.66 cfs @ 12.30 hrs, Volume= 0.091 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-3: DP-3

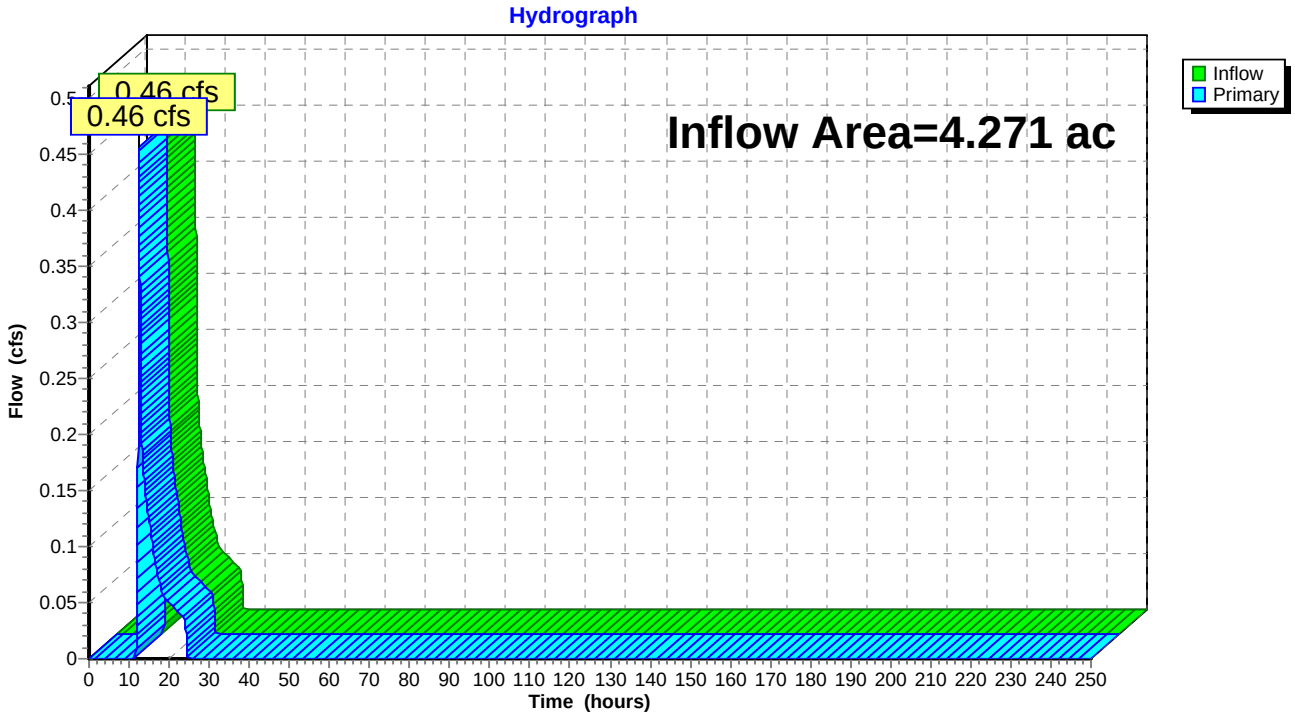


Summary for Link DP-4: DP-4

Inflow Area = 4.271 ac, 5.92% Impervious, Inflow Depth = 0.26" for 1 Year event
Inflow = 0.46 cfs @ 12.50 hrs, Volume= 0.094 af
Primary = 0.46 cfs @ 12.50 hrs, Volume= 0.094 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-4: DP-4

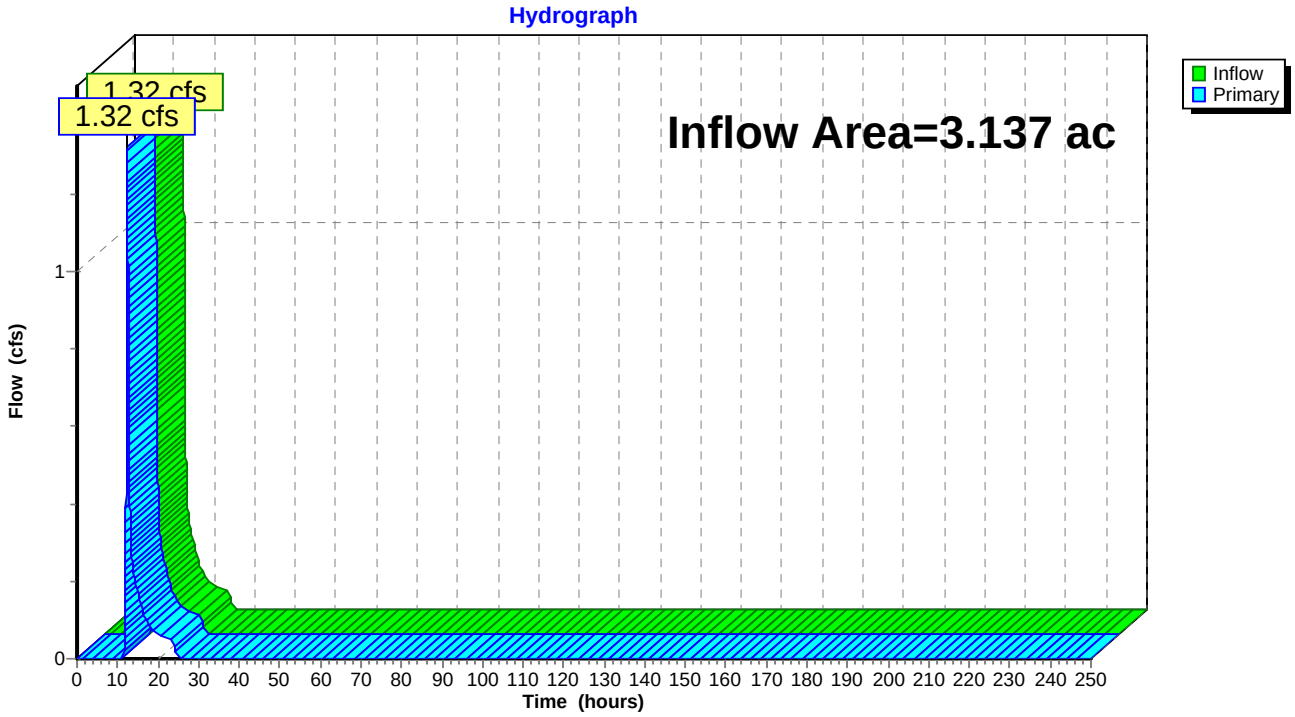


Summary for Link DP-5: DP-5

Inflow Area = 3.137 ac, 18.34% Impervious, Inflow Depth = 0.65" for 1 Year event
Inflow = 1.32 cfs @ 12.35 hrs, Volume= 0.169 af
Primary = 1.32 cfs @ 12.35 hrs, Volume= 0.169 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-5: DP-5

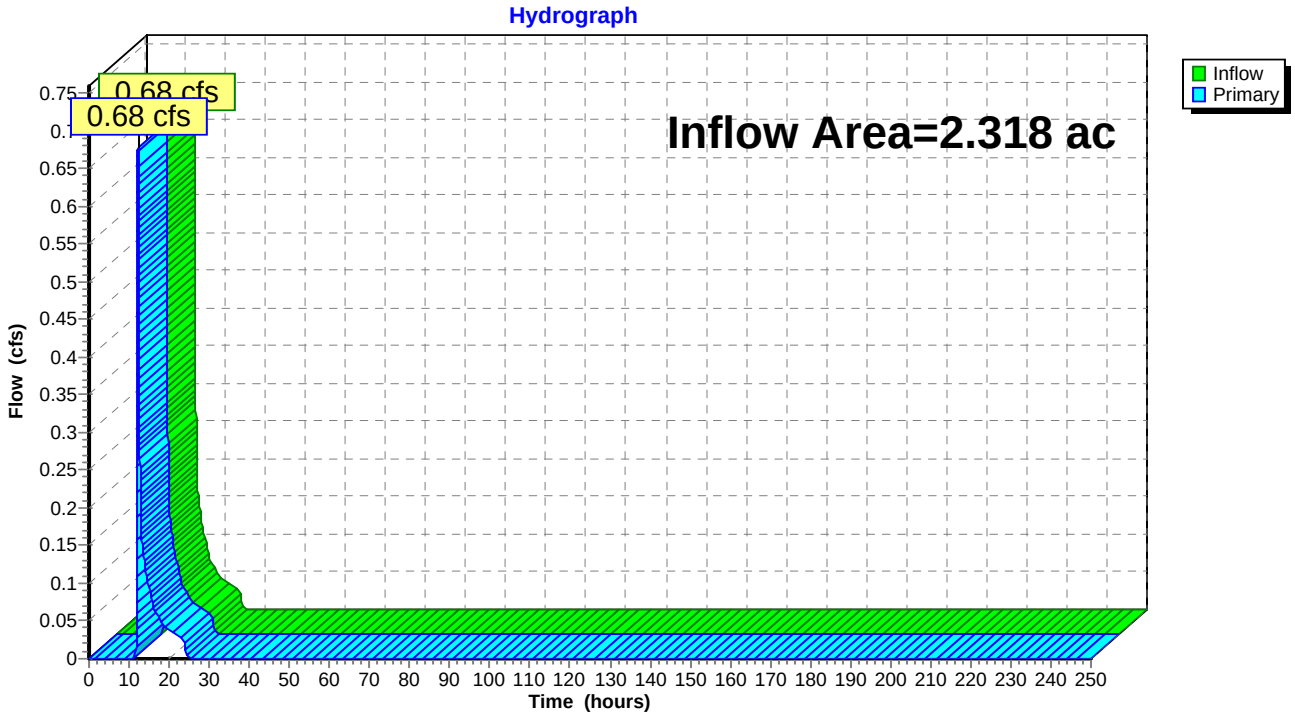


Summary for Link DP-6: DP-6

Inflow Area = 2.318 ac, 1.94% Impervious, Inflow Depth = 0.45" for 1 Year event
Inflow = 0.68 cfs @ 12.24 hrs, Volume= 0.087 af
Primary = 0.68 cfs @ 12.24 hrs, Volume= 0.087 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-6: DP-6

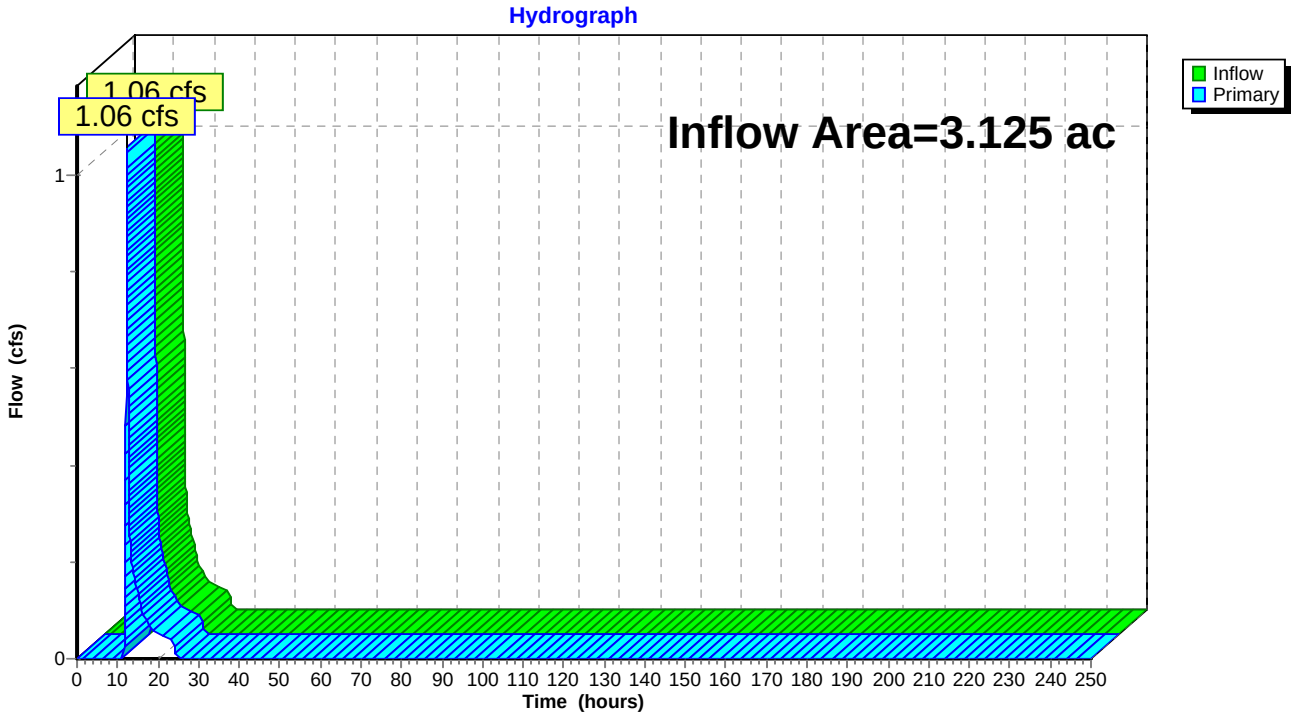


Summary for Link DP-7: DP-7

Inflow Area = 3.125 ac, 7.51% Impervious, Inflow Depth = 0.49" for 1 Year event
Inflow = 1.06 cfs @ 12.22 hrs, Volume= 0.127 af
Primary = 1.06 cfs @ 12.22 hrs, Volume= 0.127 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-7: DP-7



Time span=0.00-250.00 hrs, dt=0.01 hrs, 25001 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1S: Subarea 1 Runoff Area=14.548 ac 3.76% Impervious Runoff Depth=0.53"
Flow Length=1,389' Tc=25.0 min CN=60 Runoff=3.94 cfs 0.644 af

Subcatchment 2S: Subarea-2 Runoff Area=228,729 sf 10.55% Impervious Runoff Depth=0.62"
Flow Length=821' Tc=21.0 min CN=62 Runoff=1.89 cfs 0.269 af

Subcatchment 3S: Subarea-3 Runoff Area=105,316 sf 2.16% Impervious Runoff Depth=0.80"
Flow Length=634' Tc=17.0 min CN=66 Runoff=1.38 cfs 0.161 af

Subcatchment 4S: Subarea-4 Runoff Area=186,025 sf 5.92% Impervious Runoff Depth=0.53"
Flow Length=680' Tc=19.6 min CN=60 Runoff=1.25 cfs 0.189 af

Subcatchment 5S: Subarea-5 Runoff Area=136,628 sf 18.34% Impervious Runoff Depth=1.06"
Flow Length=877' Tc=21.9 min CN=71 Runoff=2.36 cfs 0.278 af

Subcatchment 6S: Subarea-6 Runoff Area=100,951 sf 1.94% Impervious Runoff Depth=0.80"
Flow Length=504' Tc=13.5 min CN=66 Runoff=1.45 cfs 0.155 af

Subcatchment 7S: Subarea-7 Runoff Area=136,133 sf 7.51% Impervious Runoff Depth=0.85"
Flow Length=594' Tc=12.8 min CN=67 Runoff=2.16 cfs 0.221 af

Link DP-1: DP-1 Inflow=3.94 cfs 0.644 af
Primary=3.94 cfs 0.644 af

Link DP-2: DP-2 Inflow=1.89 cfs 0.269 af
Primary=1.89 cfs 0.269 af

Link DP-3: DP-3 Inflow=1.38 cfs 0.161 af
Primary=1.38 cfs 0.161 af

Link DP-4: DP-4 Inflow=1.25 cfs 0.189 af
Primary=1.25 cfs 0.189 af

Link DP-5: DP-5 Inflow=2.36 cfs 0.278 af
Primary=2.36 cfs 0.278 af

Link DP-6: DP-6 Inflow=1.45 cfs 0.155 af
Primary=1.45 cfs 0.155 af

Link DP-7: DP-7 Inflow=2.16 cfs 0.221 af
Primary=2.16 cfs 0.221 af

Total Runoff Area = 35.066 ac Runoff Volume = 1.918 af Average Runoff Depth = 0.66"
93.55% Pervious = 32.806 ac 6.45% Impervious = 2.261 ac

Summary for Subcatchment 1S: Subarea 1

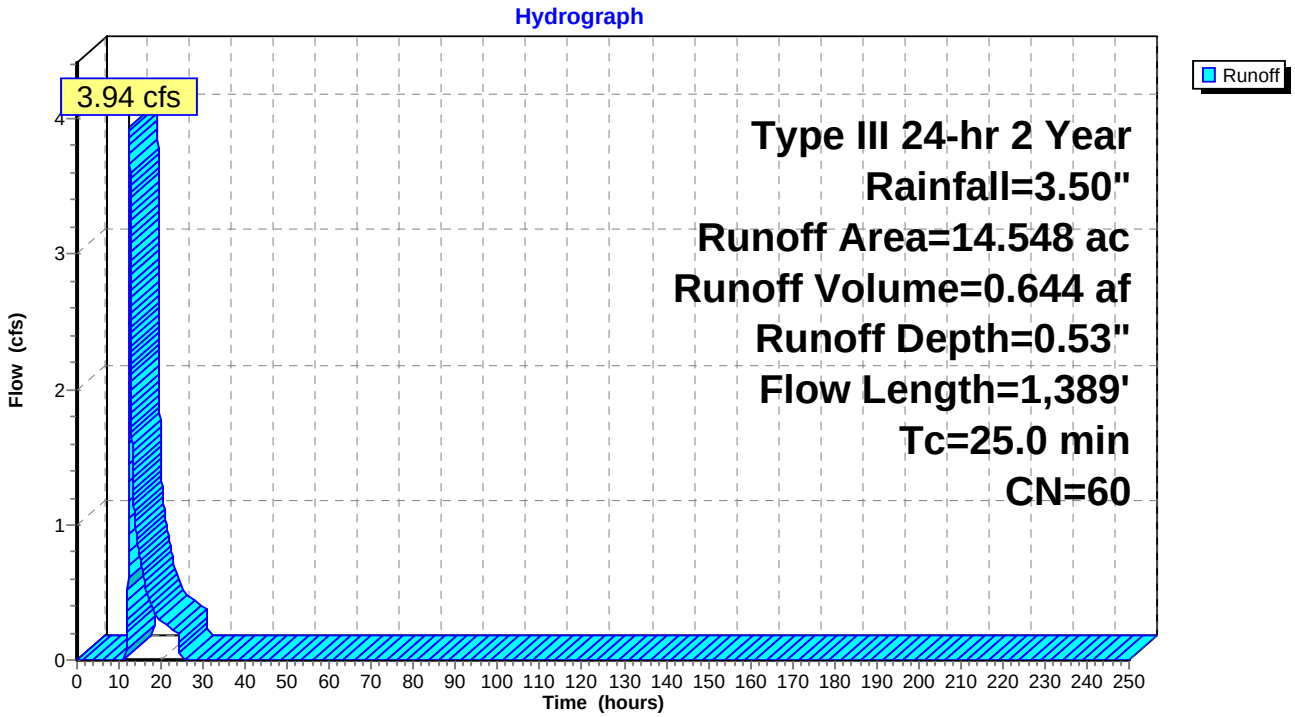
Runoff = 3.94 cfs @ 12.47 hrs, Volume= 0.644 af, Depth= 0.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.50"

Area (ac)	CN	Description
0.547	98	Paved roads w/curbs & sewers
14.001	58	Woods/grass comb., Good, HSG B
14.548	60	Weighted Average
14.001		96.24% Pervious Area
0.547		3.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	100	0.1000	0.15		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
0.9	171	0.3600	3.00		**Shallow Concentrated Flow, 2 to 3** Woodland Kv= 5.0 fps
13.2	1,118	0.0800	1.41		**Shallow Concentrated Flow, 3 to DP-1** Woodland Kv= 5.0 fps
25.0	1,389	Total			

Subcatchment 1S: Subarea 1



Summary for Subcatchment 2S: Subarea-2

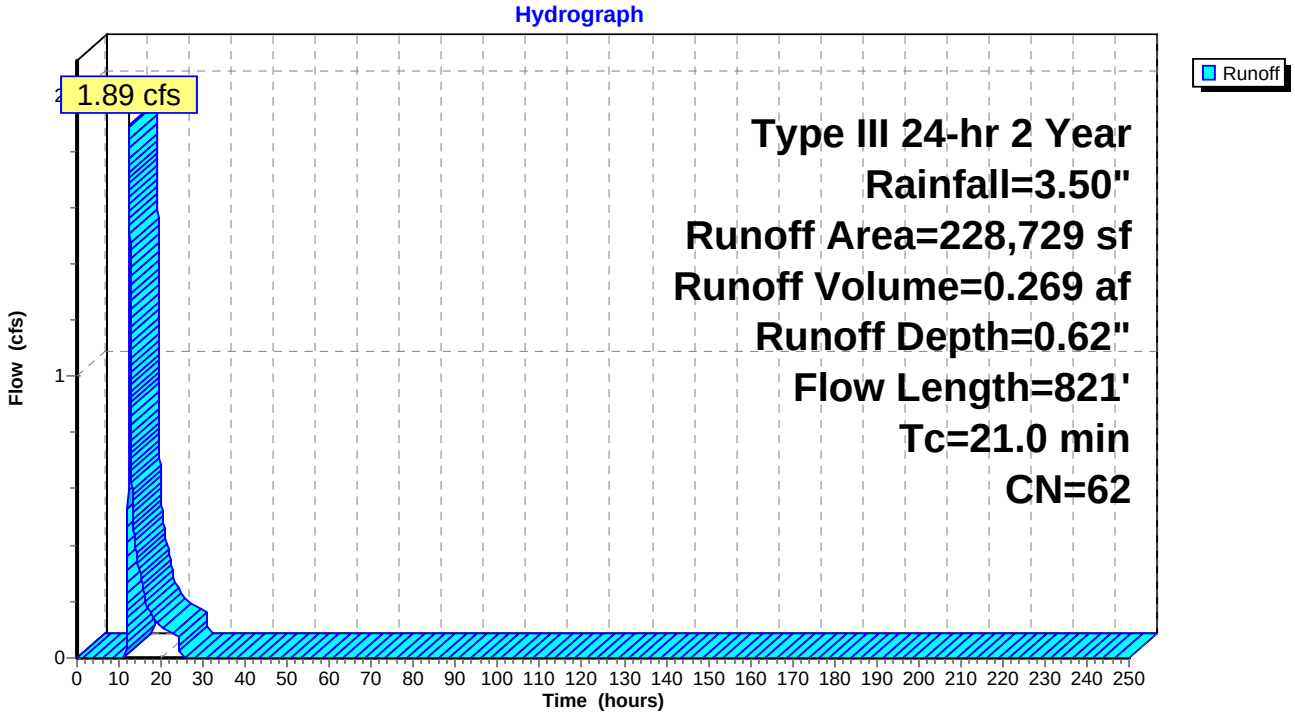
Runoff = 1.89 cfs @ 12.37 hrs, Volume= 0.269 af, Depth= 0.62"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.50"

Area (sf)	CN	Description
24,134	98	Paved roads w/curbs & sewers
204,595	58	Woods/grass comb., Good, HSG B
228,729	62	Weighted Average
204,595		89.45% Pervious Area
24,134		10.55% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	100	0.1400	0.18		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
11.6	721	0.0430	1.04		**Shallow Concentrated Flow, 2 to 3** Woodland Kv= 5.0 fps
21.0	821	Total			

Subcatchment 2S: Subarea-2



Summary for Subcatchment 3S: Subarea-3

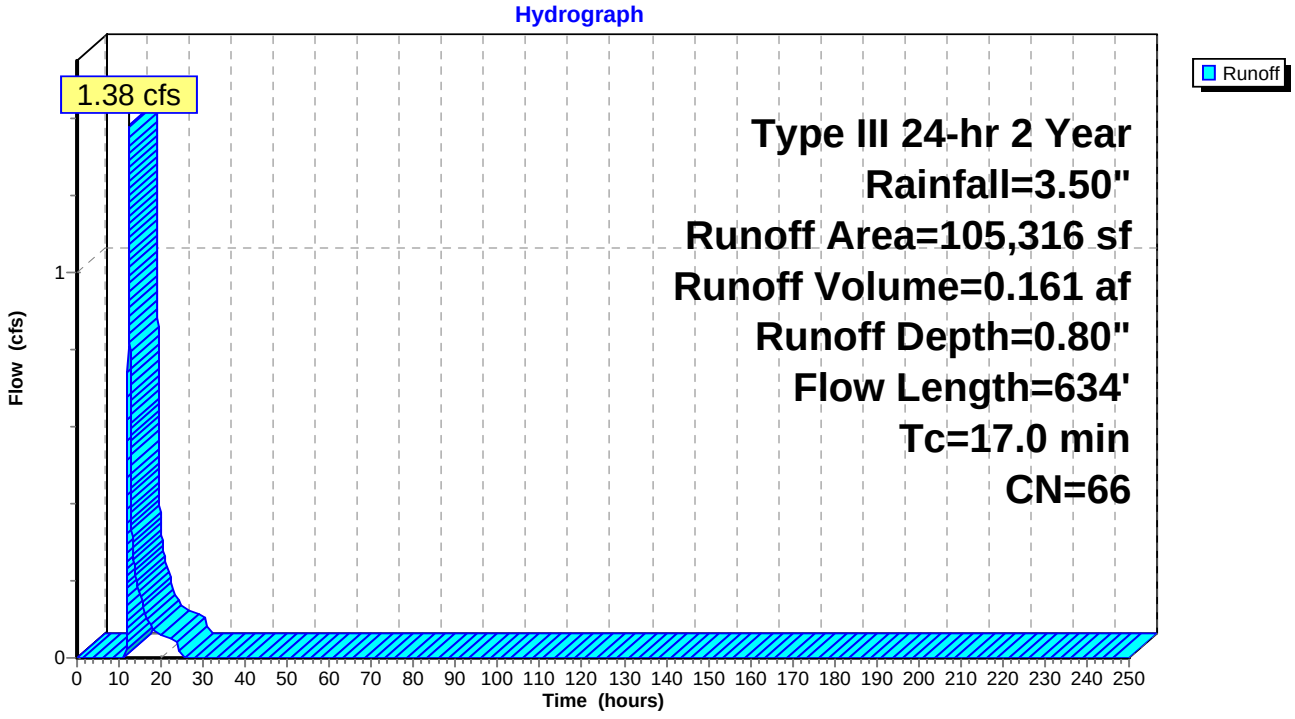
Runoff = 1.38 cfs @ 12.27 hrs, Volume= 0.161 af, Depth= 0.80"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.50"

Area (sf)	CN	Description
2,270	98	Paved roads w/curbs & sewers
103,046	65	Woods/grass comb., Fair, HSG B
105,316	66	Weighted Average
103,046		97.84% Pervious Area
2,270		2.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.9	100	0.1250	0.17		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
7.1	534	0.0620	1.24		**Shallow Concentrated Flow, 2 to DP-3** Woodland Kv= 5.0 fps
17.0	634	Total			

Subcatchment 3S: Subarea-3



Summary for Subcatchment 4S: Subarea-4

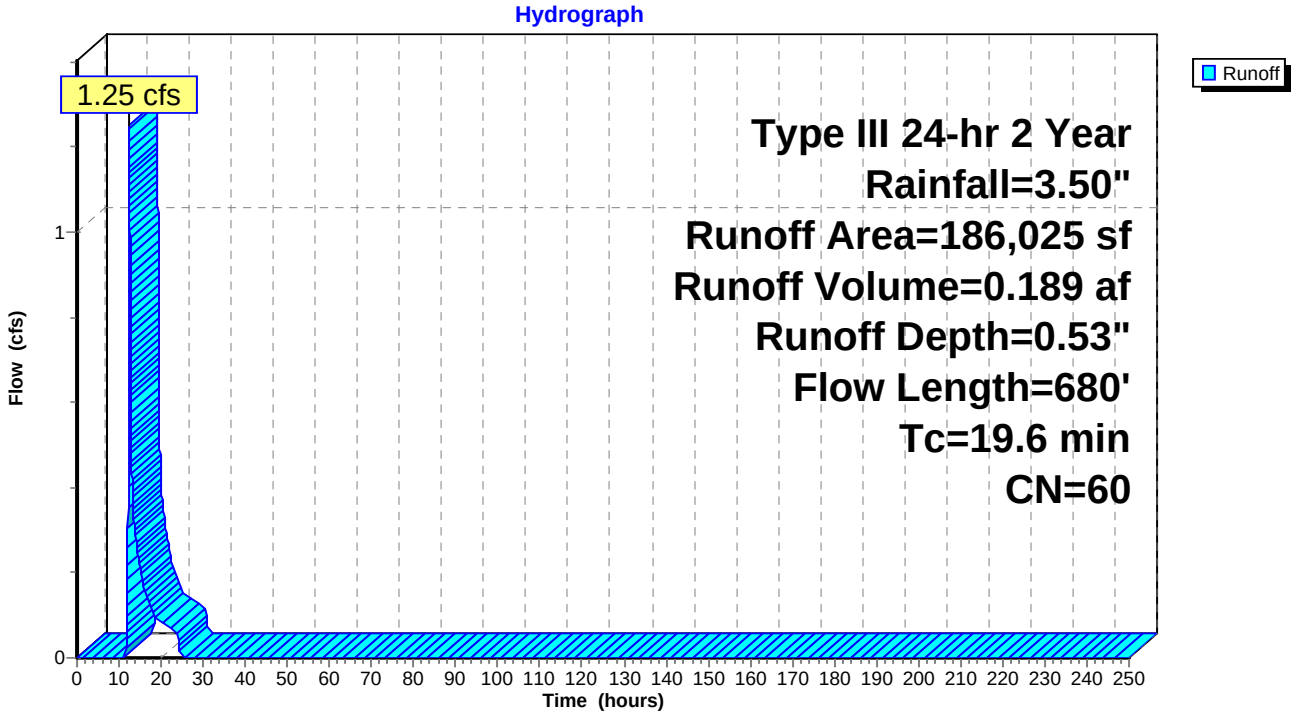
Runoff = 1.25 cfs @ 12.37 hrs, Volume= 0.189 af, Depth= 0.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.50"

Area (sf)	CN	Description
11,012	98	Paved roads w/curbs & sewers
175,013	58	Woods/grass comb., Good, HSG B
186,025	60	Weighted Average
175,013		94.08% Pervious Area
11,012		5.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	100	0.1400	0.18		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
10.2	580	0.0360	0.95		**Shallow Concentrated Flow, 2 to DP-4** Woodland Kv= 5.0 fps
19.6	680	Total			

Subcatchment 4S: Subarea-4



Summary for Subcatchment 5S: Subarea-5

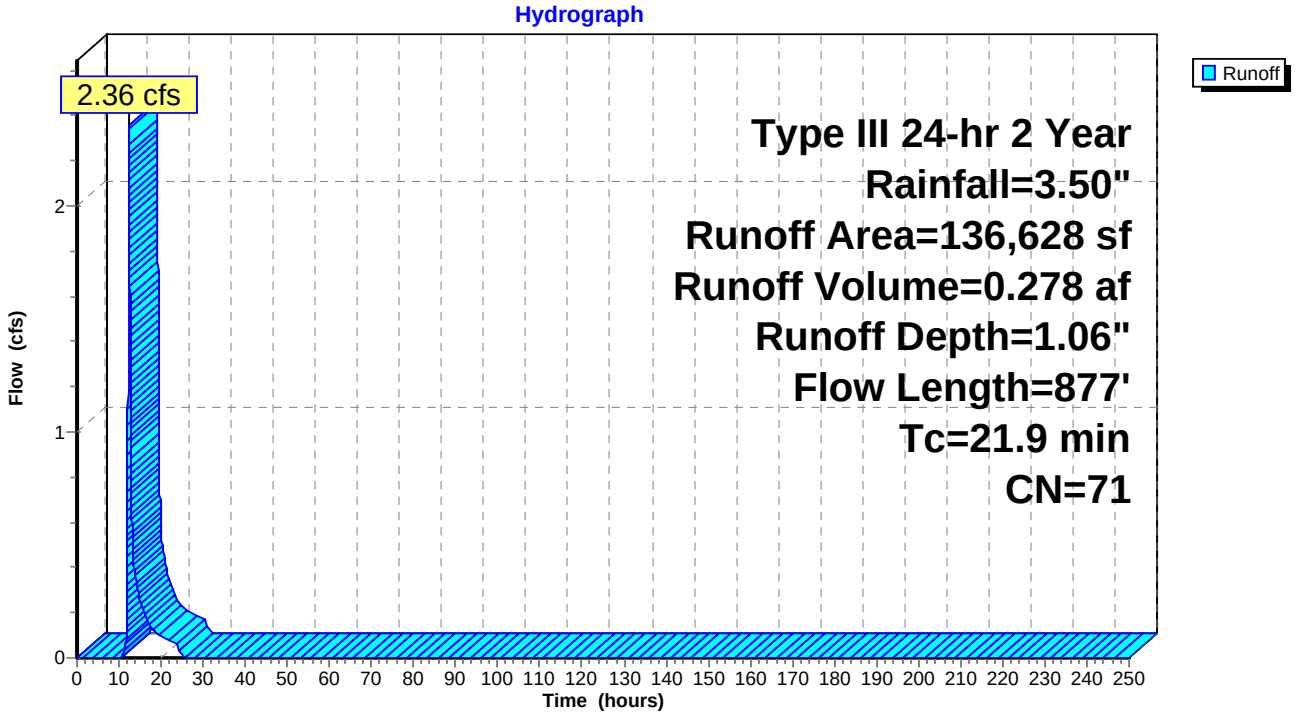
Runoff = 2.36 cfs @ 12.34 hrs, Volume= 0.278 af, Depth= 1.06"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.50"

Area (sf)	CN	Description
25,055	98	Paved roads w/curbs & sewers
111,573	65	Woods/grass comb., Fair, HSG B
136,628	71	Weighted Average
111,573		81.66% Pervious Area
25,055		18.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	100	0.0550	0.12		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
8.2	777	0.0990	1.57		**Shallow Concentrated Flow, 2 to DP-5** Woodland Kv= 5.0 fps
21.9	877	Total			

Subcatchment 5S: Subarea-5



Summary for Subcatchment 6S: Subarea-6

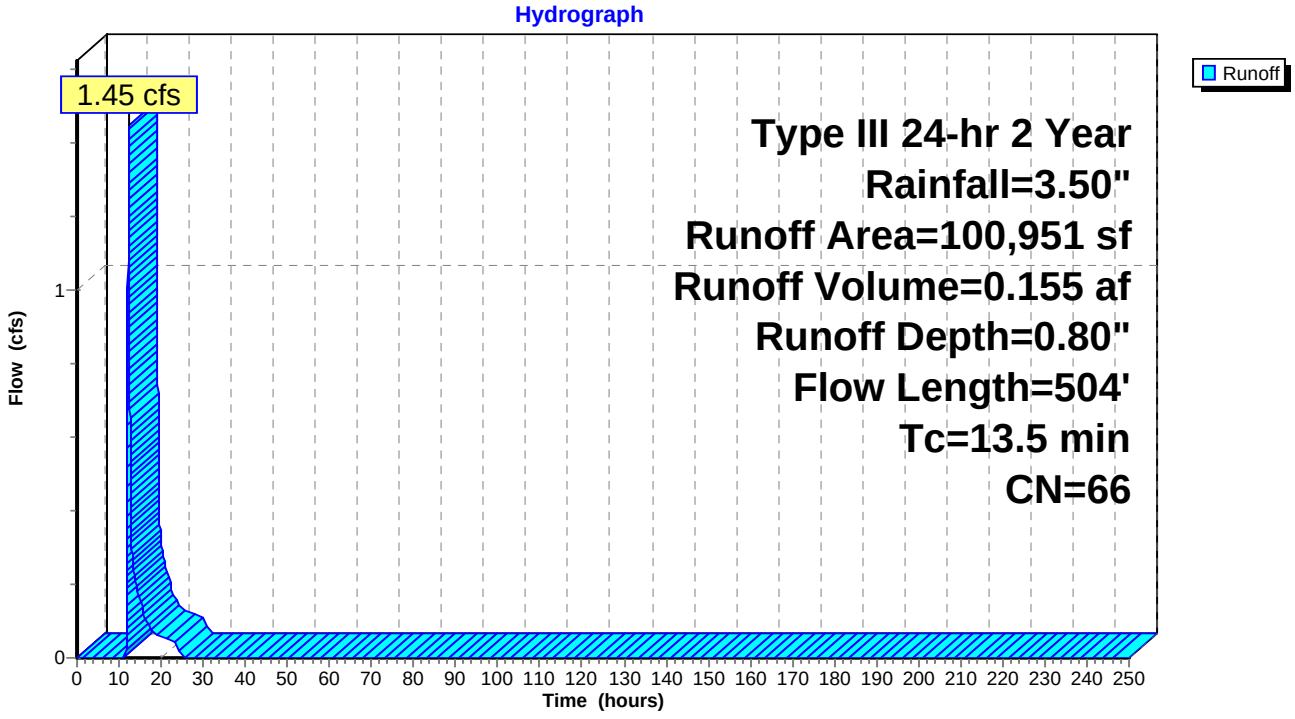
Runoff = 1.45 cfs @ 12.21 hrs, Volume= 0.155 af, Depth= 0.80"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.50"

Area (sf)	CN	Description
1,957	98	Paved roads w/curbs & sewers
98,994	65	Woods/grass comb., Fair, HSG B
100,951	66	Weighted Average
98,994		98.06% Pervious Area
1,957		1.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	100	0.1300	0.17		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
3.8	404	0.1260	1.77		**Shallow Concentrated Flow, 2 to DP-6** Woodland Kv= 5.0 fps
13.5	504	Total			

Subcatchment 6S: Subarea-6



Summary for Subcatchment 7S: Subarea-7

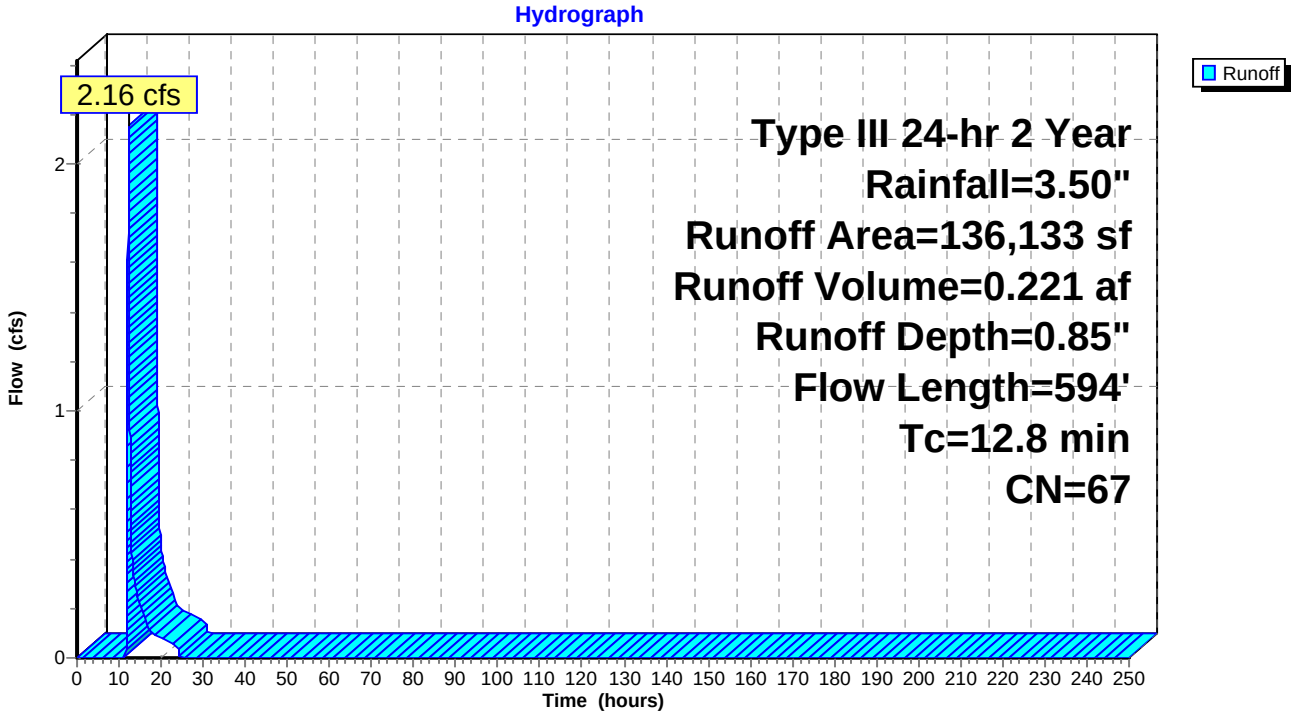
Runoff = 2.16 cfs @ 12.20 hrs, Volume= 0.221 af, Depth= 0.85"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.50"

Area (sf)	CN	Description
10,223	98	Paved roads w/curbs & sewers
125,910	65	Woods/grass comb., Fair, HSG B
136,133	67	Weighted Average
125,910		92.49% Pervious Area
10,223		7.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	100	0.1600	0.19		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
3.9	494	0.1780	2.11		**Shallow Concentrated Flow, 2 to DP-7** Woodland Kv= 5.0 fps
12.8	594	Total			

Subcatchment 7S: Subarea-7

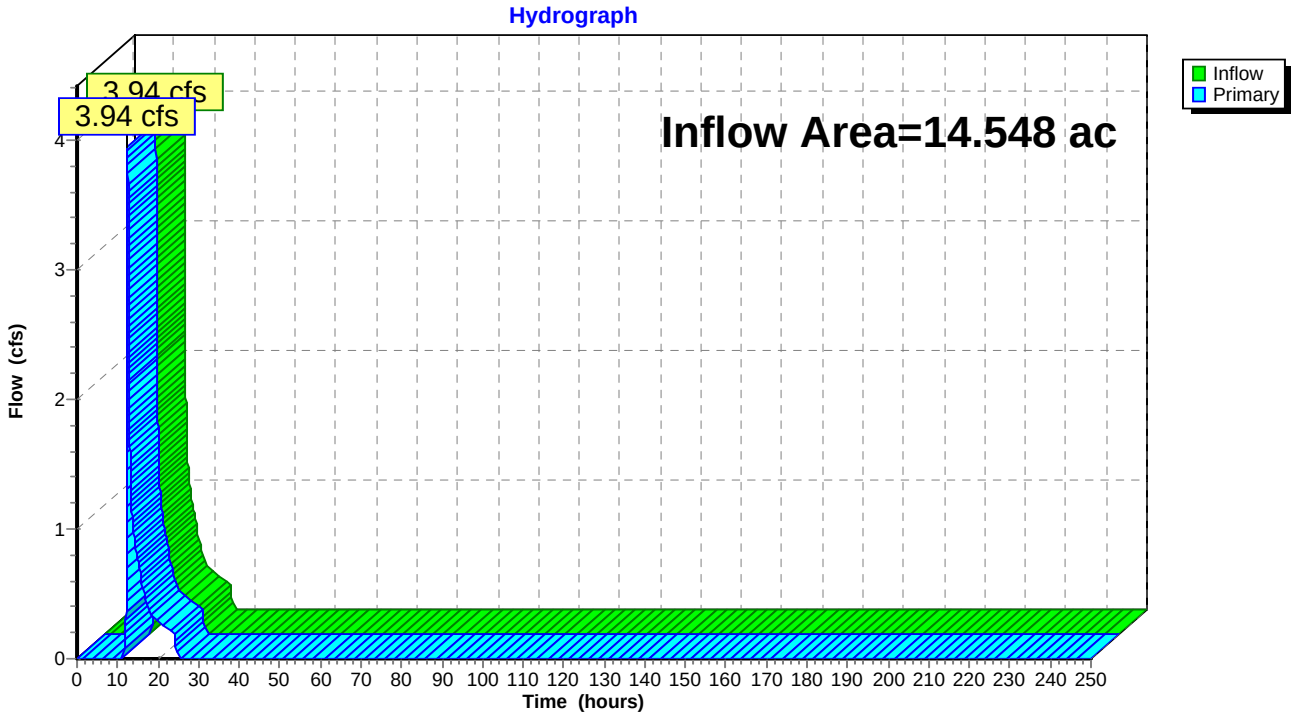


Summary for Link DP-1: DP-1

Inflow Area = 14.548 ac, 3.76% Impervious, Inflow Depth = 0.53" for 2 Year event
Inflow = 3.94 cfs @ 12.47 hrs, Volume= 0.644 af
Primary = 3.94 cfs @ 12.47 hrs, Volume= 0.644 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-1: DP-1

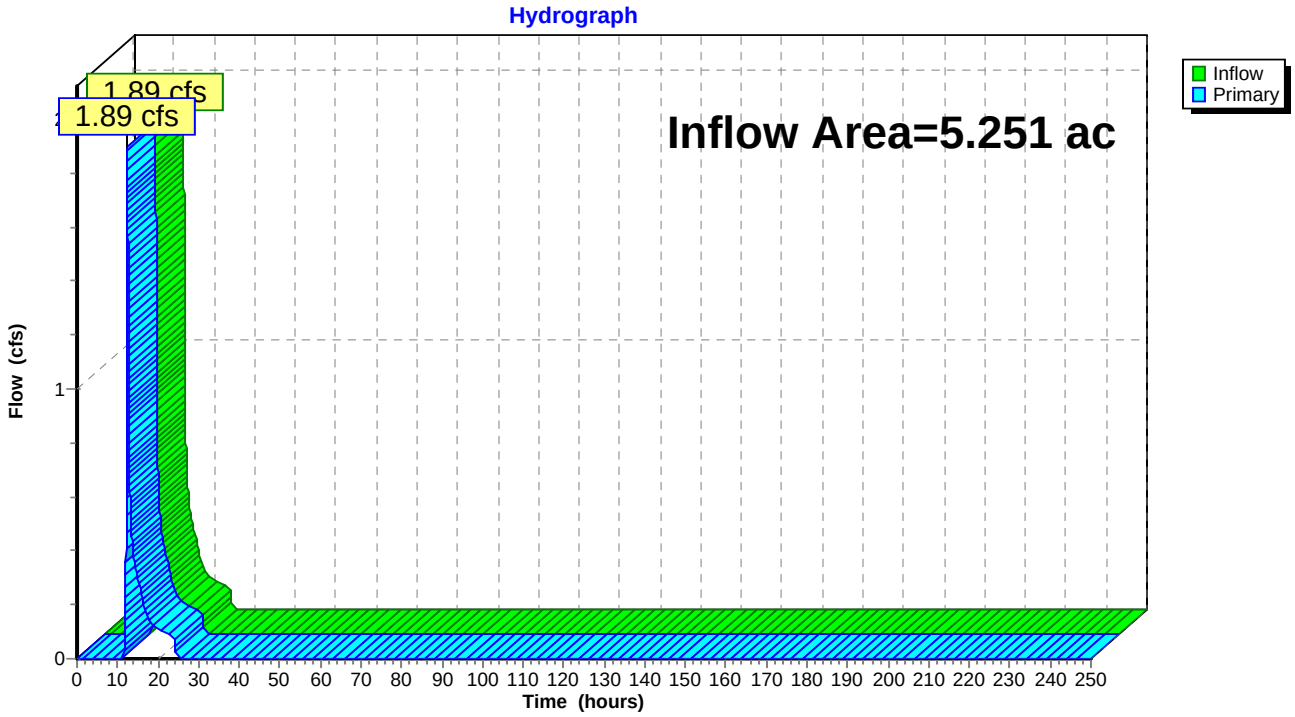


Summary for Link DP-2: DP-2

Inflow Area = 5.251 ac, 10.55% Impervious, Inflow Depth = 0.62" for 2 Year event
Inflow = 1.89 cfs @ 12.37 hrs, Volume= 0.269 af
Primary = 1.89 cfs @ 12.37 hrs, Volume= 0.269 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-2: DP-2

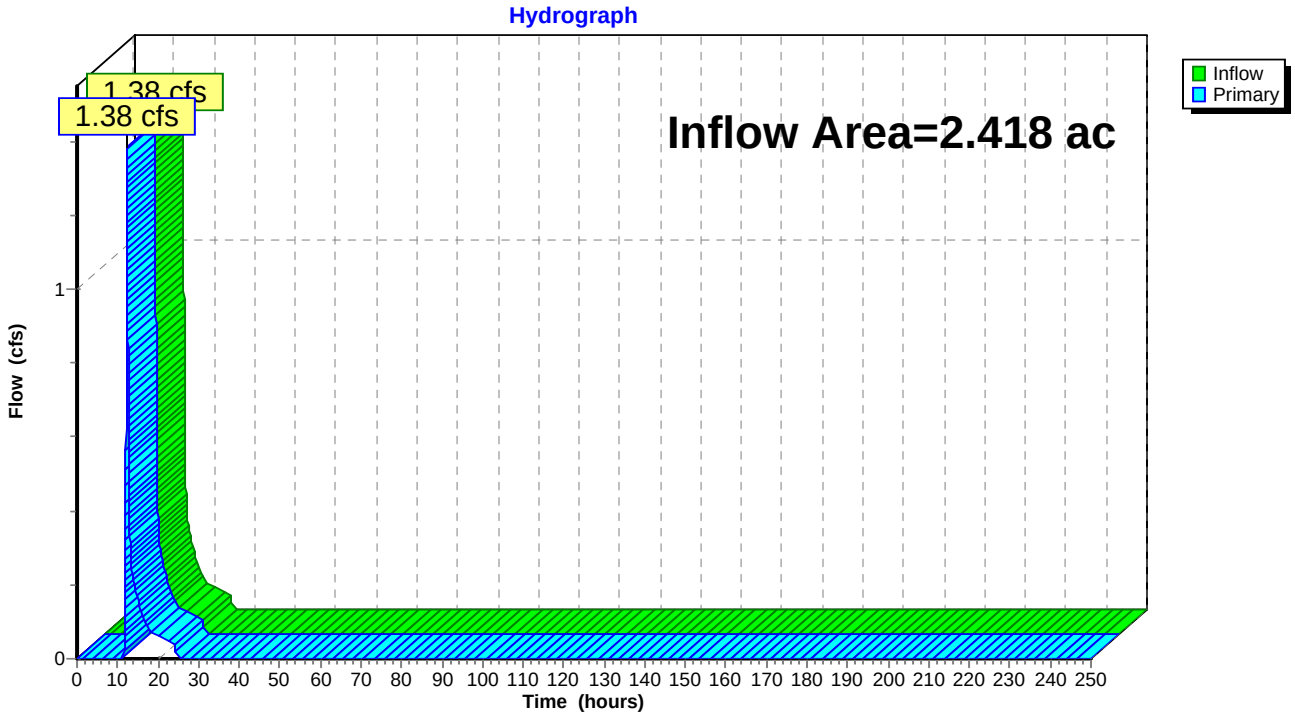


Summary for Link DP-3: DP-3

Inflow Area = 2.418 ac, 2.16% Impervious, Inflow Depth = 0.80" for 2 Year event
Inflow = 1.38 cfs @ 12.27 hrs, Volume= 0.161 af
Primary = 1.38 cfs @ 12.27 hrs, Volume= 0.161 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-3: DP-3

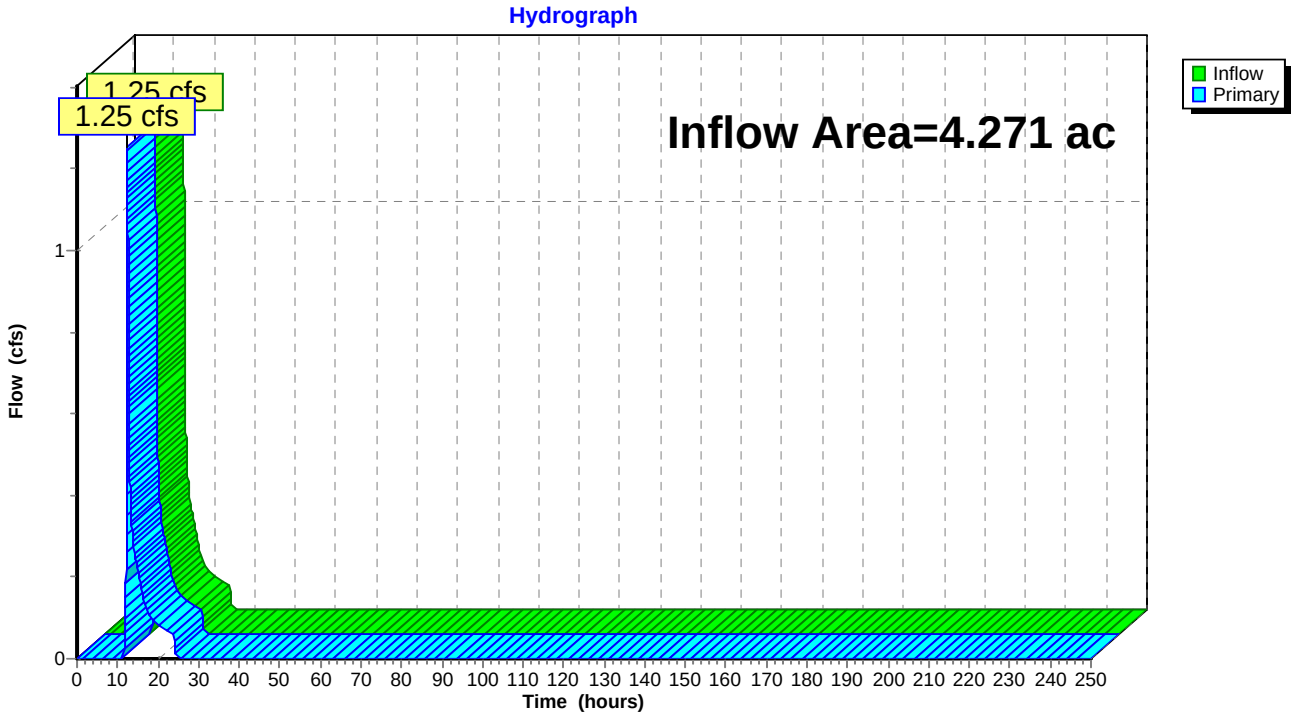


Summary for Link DP-4: DP-4

Inflow Area = 4.271 ac, 5.92% Impervious, Inflow Depth = 0.53" for 2 Year event
Inflow = 1.25 cfs @ 12.37 hrs, Volume= 0.189 af
Primary = 1.25 cfs @ 12.37 hrs, Volume= 0.189 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-4: DP-4

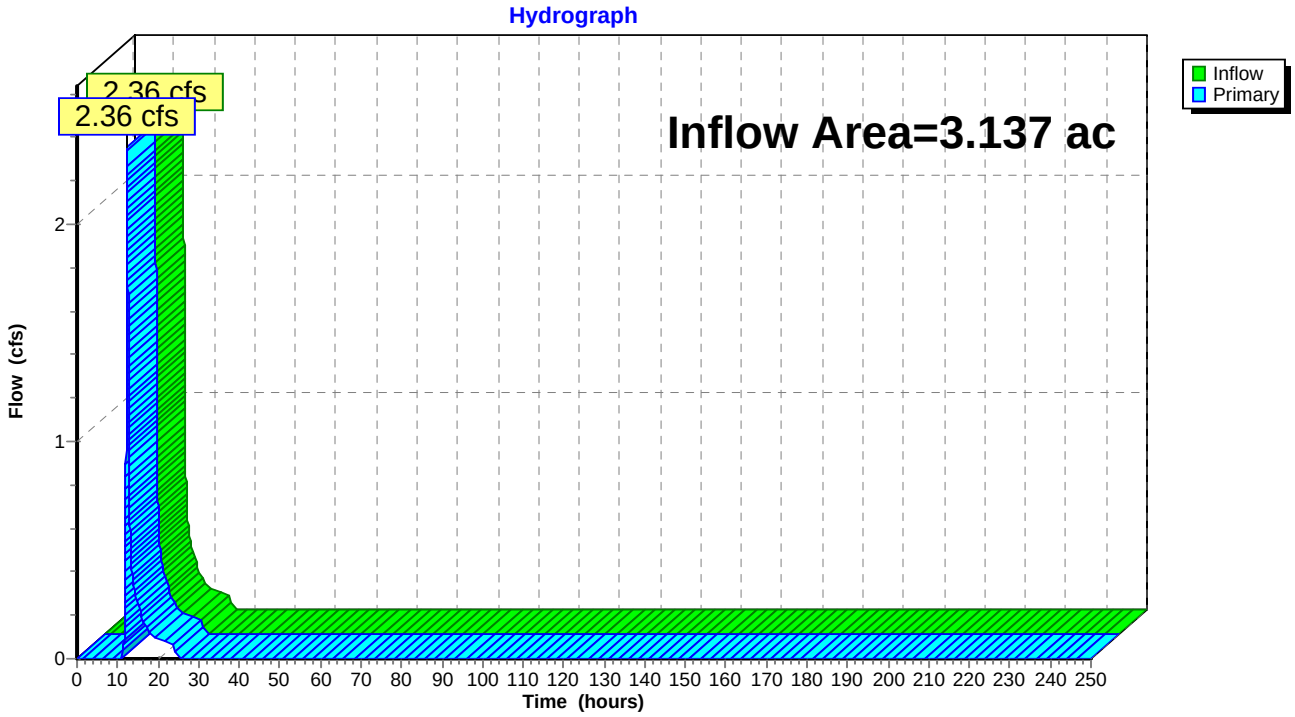


Summary for Link DP-5: DP-5

Inflow Area = 3.137 ac, 18.34% Impervious, Inflow Depth = 1.06" for 2 Year event
Inflow = 2.36 cfs @ 12.34 hrs, Volume= 0.278 af
Primary = 2.36 cfs @ 12.34 hrs, Volume= 0.278 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-5: DP-5

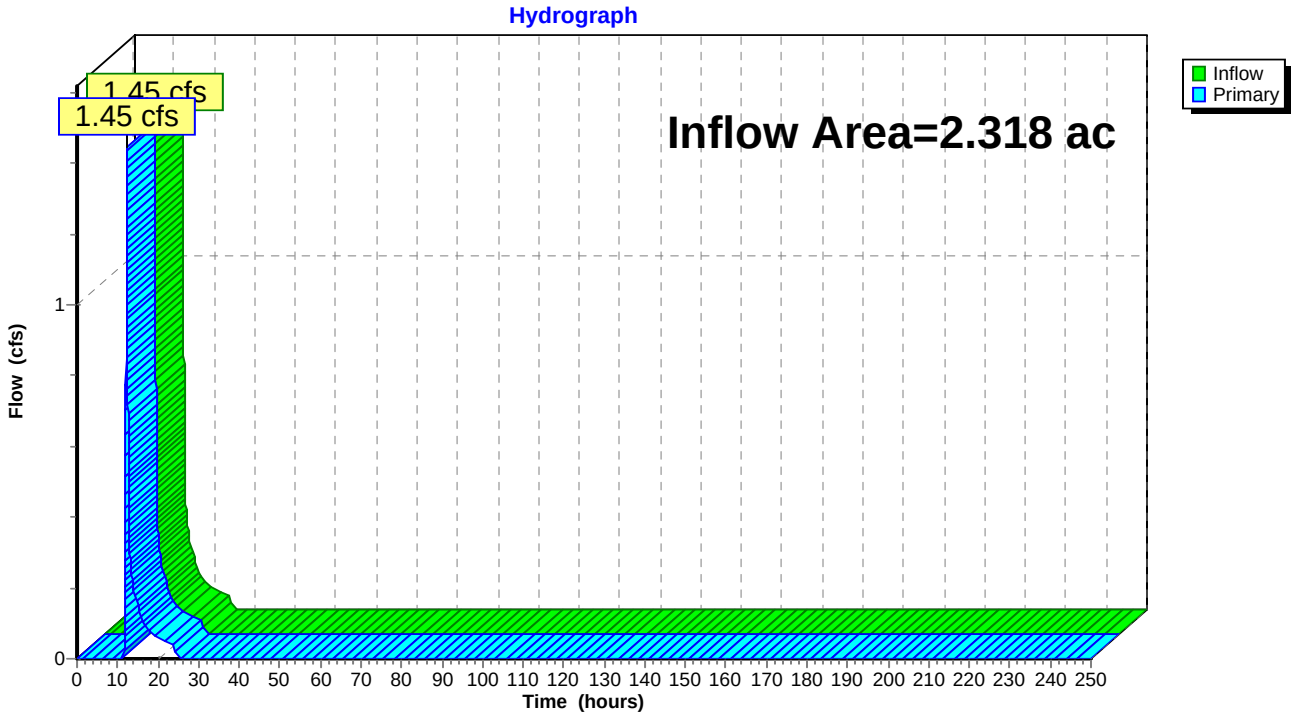


Summary for Link DP-6: DP-6

Inflow Area = 2.318 ac, 1.94% Impervious, Inflow Depth = 0.80" for 2 Year event
Inflow = 1.45 cfs @ 12.21 hrs, Volume= 0.155 af
Primary = 1.45 cfs @ 12.21 hrs, Volume= 0.155 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-6: DP-6

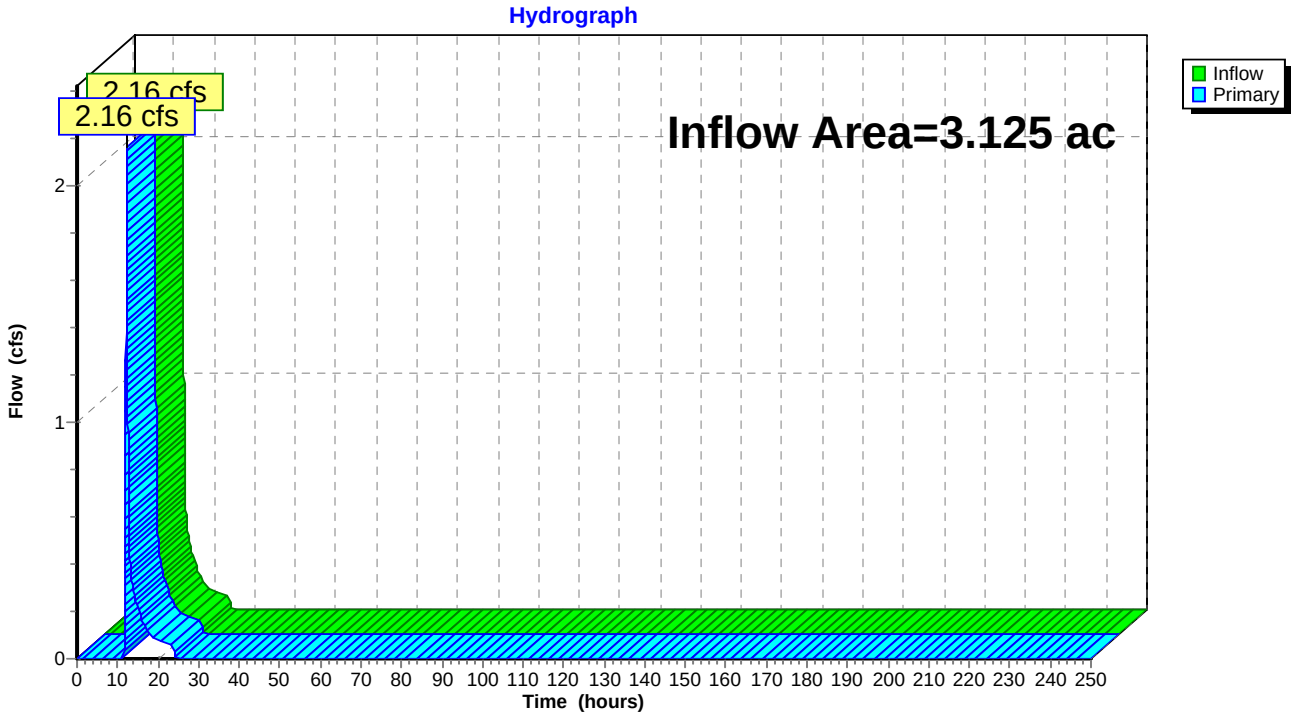


Summary for Link DP-7: DP-7

Inflow Area = 3.125 ac, 7.51% Impervious, Inflow Depth = 0.85" for 2 Year event
Inflow = 2.16 cfs @ 12.20 hrs, Volume= 0.221 af
Primary = 2.16 cfs @ 12.20 hrs, Volume= 0.221 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-7: DP-7



Time span=0.00-250.00 hrs, dt=0.01 hrs, 25001 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1S: Subarea 1 Runoff Area=14.548 ac 3.76% Impervious Runoff Depth=1.30"
Flow Length=1,389' Tc=25.0 min CN=60 Runoff=12.15 cfs 1.577 af

Subcatchment 2S: Subarea-2 Runoff Area=228,729 sf 10.55% Impervious Runoff Depth=1.44"
Flow Length=821' Tc=21.0 min CN=62 Runoff=5.35 cfs 0.629 af

Subcatchment 3S: Subarea-3 Runoff Area=105,316 sf 2.16% Impervious Runoff Depth=1.73"
Flow Length=634' Tc=17.0 min CN=66 Runoff=3.36 cfs 0.348 af

Subcatchment 4S: Subarea-4 Runoff Area=186,025 sf 5.92% Impervious Runoff Depth=1.30"
Flow Length=680' Tc=19.6 min CN=60 Runoff=3.94 cfs 0.463 af

Subcatchment 5S: Subarea-5 Runoff Area=136,628 sf 18.34% Impervious Runoff Depth=2.12"
Flow Length=877' Tc=21.9 min CN=71 Runoff=4.96 cfs 0.553 af

Subcatchment 6S: Subarea-6 Runoff Area=100,951 sf 1.94% Impervious Runoff Depth=1.73"
Flow Length=504' Tc=13.5 min CN=66 Runoff=3.52 cfs 0.334 af

Subcatchment 7S: Subarea-7 Runoff Area=136,133 sf 7.51% Impervious Runoff Depth=1.80"
Flow Length=594' Tc=12.8 min CN=67 Runoff=5.10 cfs 0.470 af

Link DP-1: DP-1 Inflow=12.15 cfs 1.577 af
Primary=12.15 cfs 1.577 af

Link DP-2: DP-2 Inflow=5.35 cfs 0.629 af
Primary=5.35 cfs 0.629 af

Link DP-3: DP-3 Inflow=3.36 cfs 0.348 af
Primary=3.36 cfs 0.348 af

Link DP-4: DP-4 Inflow=3.94 cfs 0.463 af
Primary=3.94 cfs 0.463 af

Link DP-5: DP-5 Inflow=4.96 cfs 0.553 af
Primary=4.96 cfs 0.553 af

Link DP-6: DP-6 Inflow=3.52 cfs 0.334 af
Primary=3.52 cfs 0.334 af

Link DP-7: DP-7 Inflow=5.10 cfs 0.470 af
Primary=5.10 cfs 0.470 af

Total Runoff Area = 35.066 ac Runoff Volume = 4.374 af Average Runoff Depth = 1.50"
93.55% Pervious = 32.806 ac 6.45% Impervious = 2.261 ac

Summary for Subcatchment 1S: Subarea 1

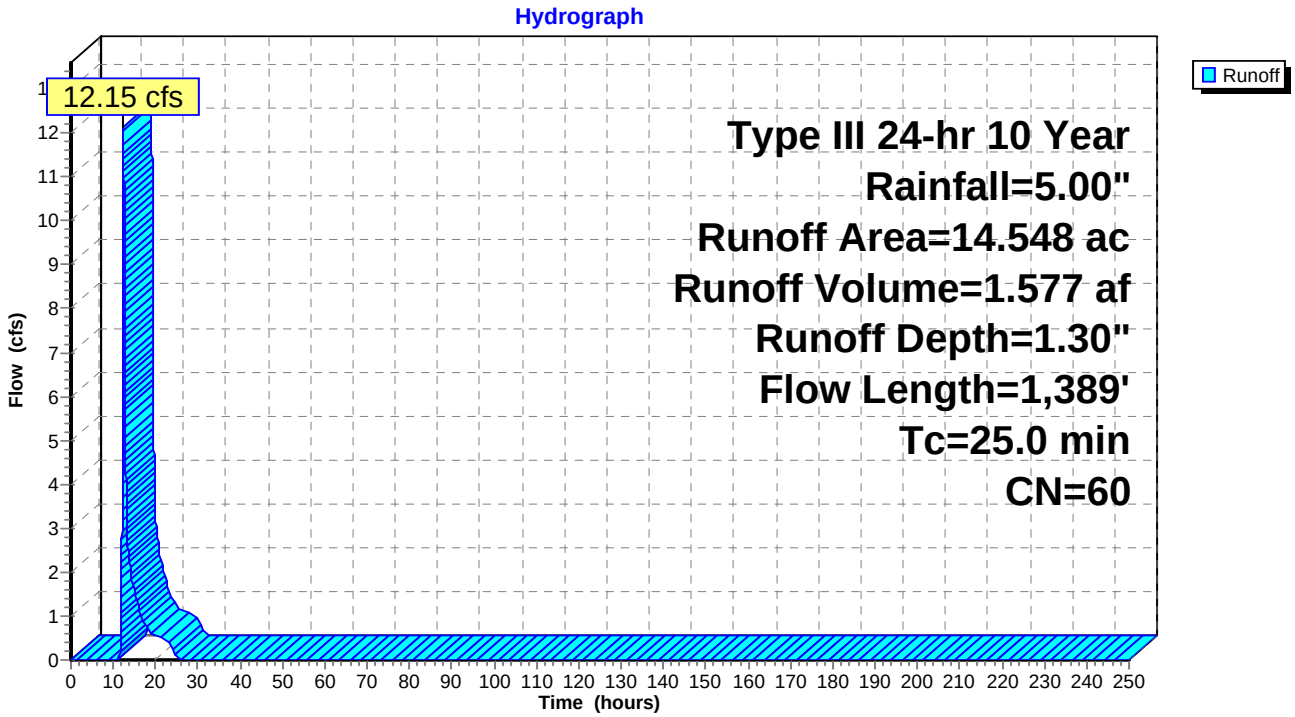
Runoff = 12.15 cfs @ 12.39 hrs, Volume= 1.577 af, Depth= 1.30"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Year Rainfall=5.00"

Area (ac)	CN	Description
0.547	98	Paved roads w/curbs & sewers
14.001	58	Woods/grass comb., Good, HSG B
14.548	60	Weighted Average
14.001		96.24% Pervious Area
0.547		3.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	100	0.1000	0.15		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
0.9	171	0.3600	3.00		**Shallow Concentrated Flow, 2 to 3** Woodland Kv= 5.0 fps
13.2	1,118	0.0800	1.41		**Shallow Concentrated Flow, 3 to DP-1** Woodland Kv= 5.0 fps
25.0	1,389	Total			

Subcatchment 1S: Subarea 1



Summary for Subcatchment 2S: Subarea-2

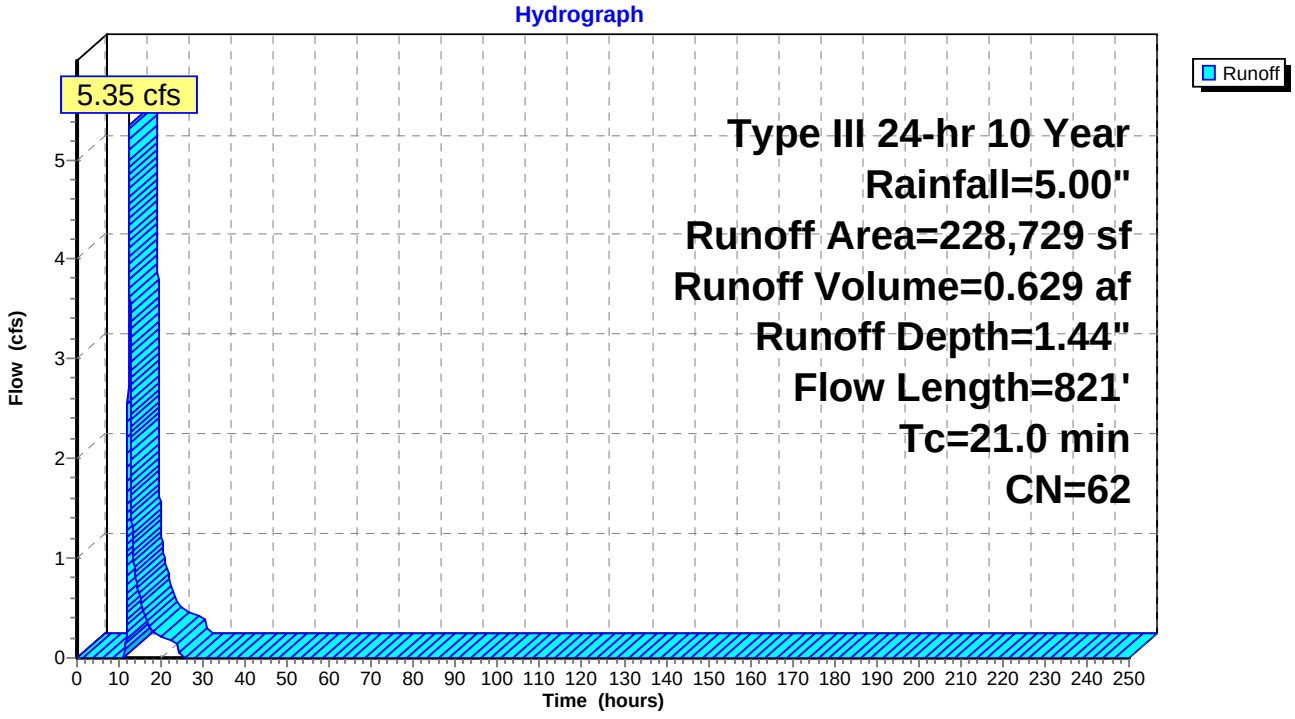
Runoff = 5.35 cfs @ 12.32 hrs, Volume= 0.629 af, Depth= 1.44"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Year Rainfall=5.00"

Area (sf)	CN	Description
24,134	98	Paved roads w/curbs & sewers
204,595	58	Woods/grass comb., Good, HSG B
228,729	62	Weighted Average
204,595		89.45% Pervious Area
24,134		10.55% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	100	0.1400	0.18		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
11.6	721	0.0430	1.04		**Shallow Concentrated Flow, 2 to 3** Woodland Kv= 5.0 fps
21.0	821	Total			

Subcatchment 2S: Subarea-2



Summary for Subcatchment 3S: Subarea-3

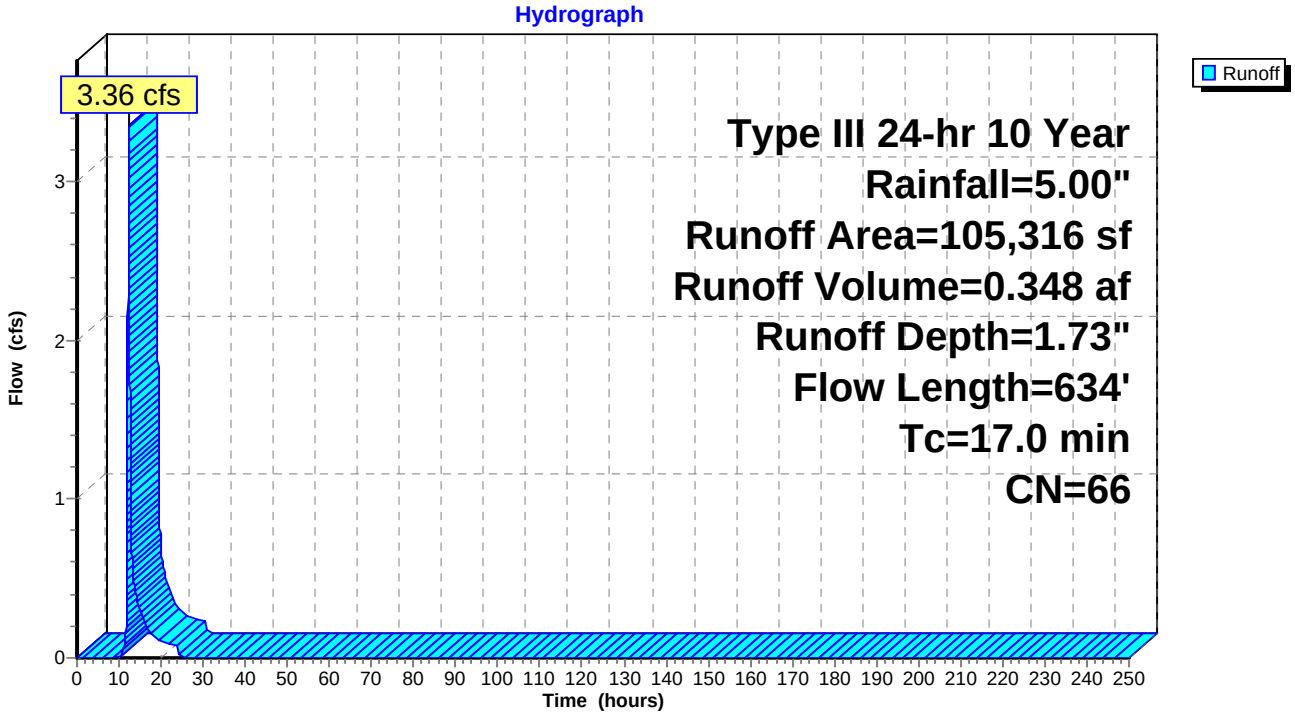
Runoff = 3.36 cfs @ 12.25 hrs, Volume= 0.348 af, Depth= 1.73"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Year Rainfall=5.00"

Area (sf)	CN	Description
2,270	98	Paved roads w/curbs & sewers
103,046	65	Woods/grass comb., Fair, HSG B
105,316	66	Weighted Average
103,046		97.84% Pervious Area
2,270		2.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.9	100	0.1250	0.17		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
7.1	534	0.0620	1.24		**Shallow Concentrated Flow, 2 to DP-3** Woodland Kv= 5.0 fps
17.0	634	Total			

Subcatchment 3S: Subarea-3



Summary for Subcatchment 4S: Subarea-4

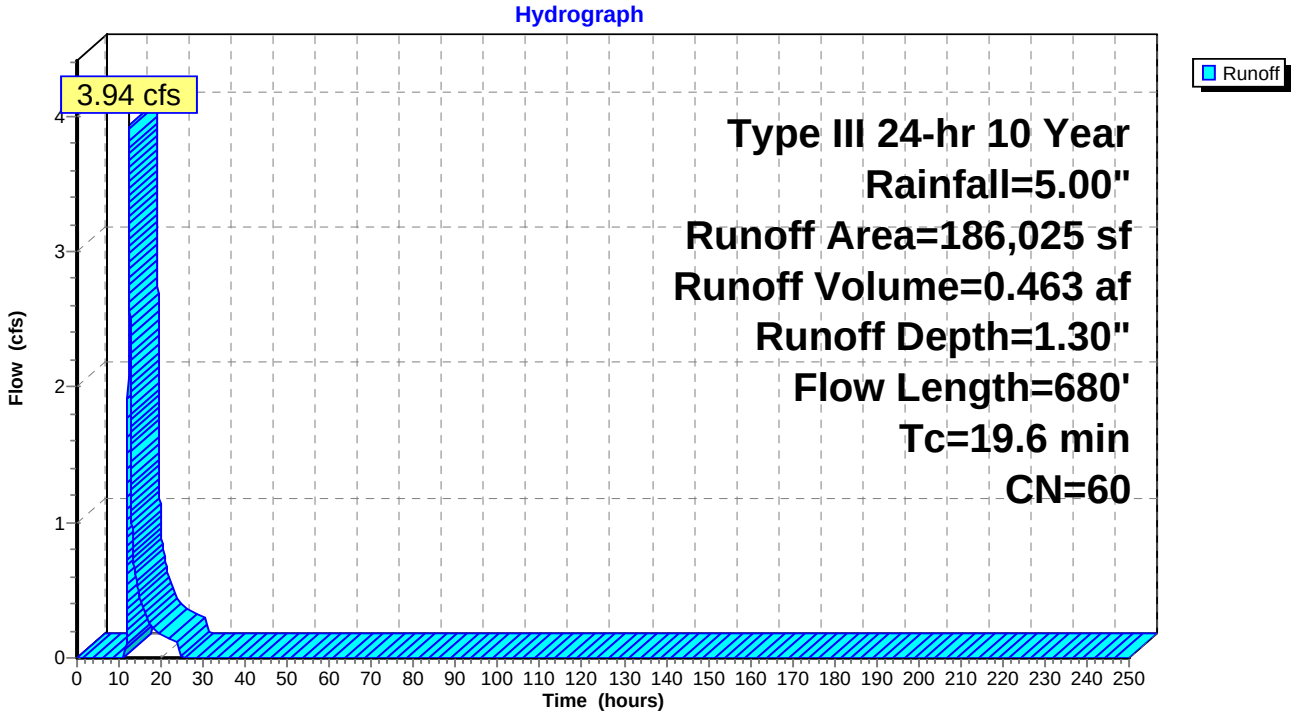
Runoff = 3.94 cfs @ 12.30 hrs, Volume= 0.463 af, Depth= 1.30"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Year Rainfall=5.00"

Area (sf)	CN	Description
11,012	98	Paved roads w/curbs & sewers
175,013	58	Woods/grass comb., Good, HSG B
186,025	60	Weighted Average
175,013		94.08% Pervious Area
11,012		5.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	100	0.1400	0.18		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
10.2	580	0.0360	0.95		**Shallow Concentrated Flow, 2 to DP-4** Woodland Kv= 5.0 fps
19.6	680	Total			

Subcatchment 4S: Subarea-4



Summary for Subcatchment 5S: Subarea-5

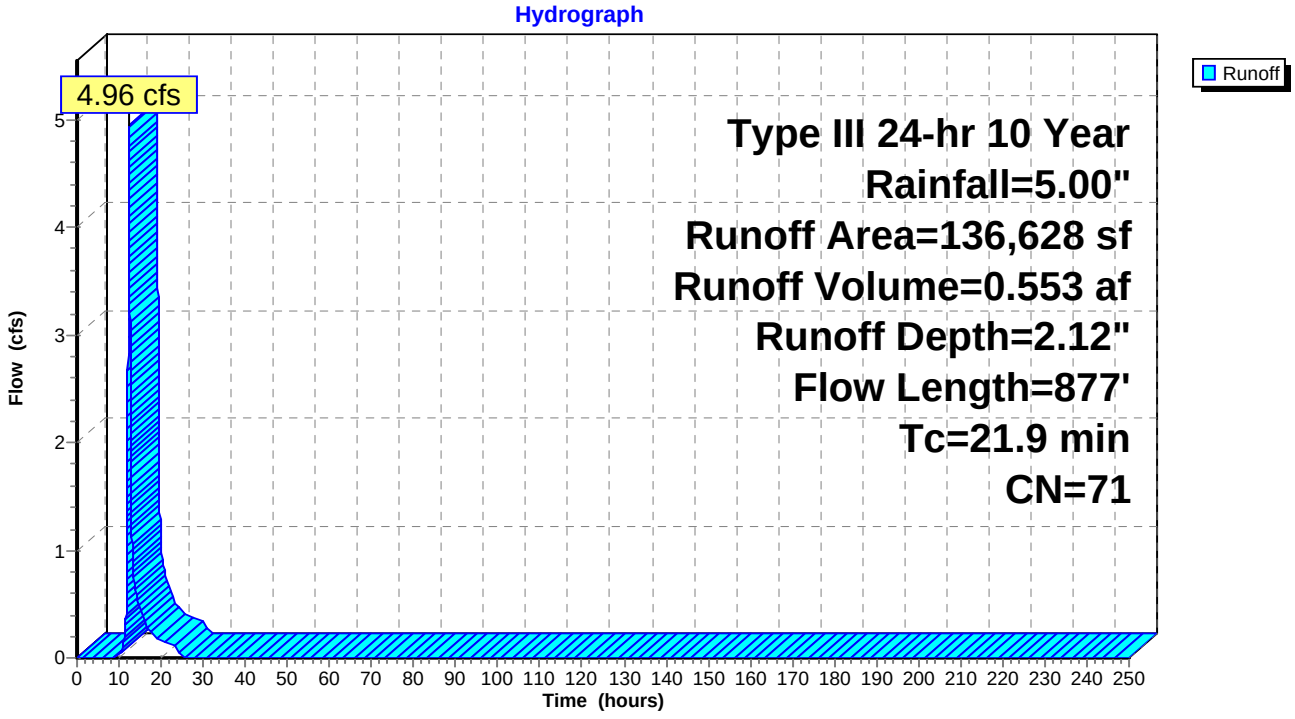
Runoff = 4.96 cfs @ 12.31 hrs, Volume= 0.553 af, Depth= 2.12"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Year Rainfall=5.00"

Area (sf)	CN	Description
25,055	98	Paved roads w/curbs & sewers
111,573	65	Woods/grass comb., Fair, HSG B
136,628	71	Weighted Average
111,573		81.66% Pervious Area
25,055		18.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	100	0.0550	0.12		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
8.2	777	0.0990	1.57		**Shallow Concentrated Flow, 2 to DP-5** Woodland Kv= 5.0 fps
21.9	877	Total			

Subcatchment 5S: Subarea-5



Summary for Subcatchment 6S: Subarea-6

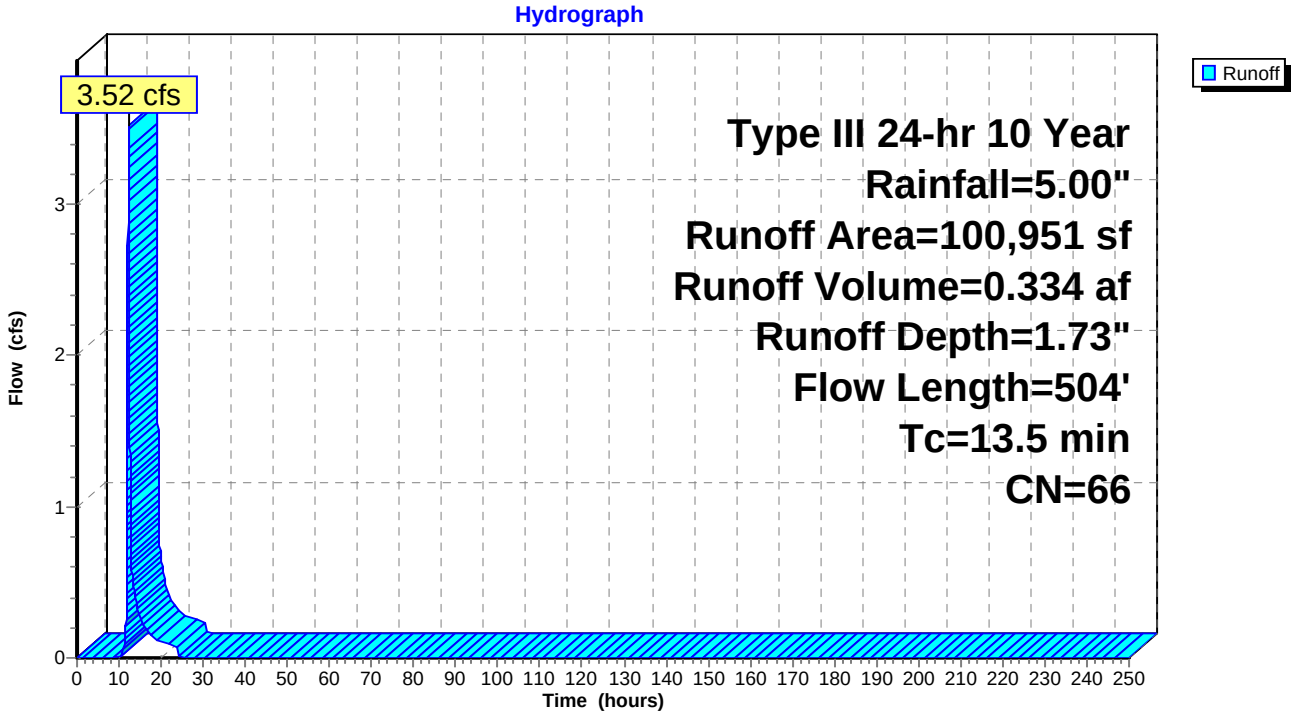
Runoff = 3.52 cfs @ 12.20 hrs, Volume= 0.334 af, Depth= 1.73"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Year Rainfall=5.00"

Area (sf)	CN	Description
1,957	98	Paved roads w/curbs & sewers
98,994	65	Woods/grass comb., Fair, HSG B
100,951	66	Weighted Average
98,994		98.06% Pervious Area
1,957		1.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	100	0.1300	0.17		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
3.8	404	0.1260	1.77		**Shallow Concentrated Flow, 2 to DP-6** Woodland Kv= 5.0 fps
13.5	504	Total			

Subcatchment 6S: Subarea-6



Summary for Subcatchment 7S: Subarea-7

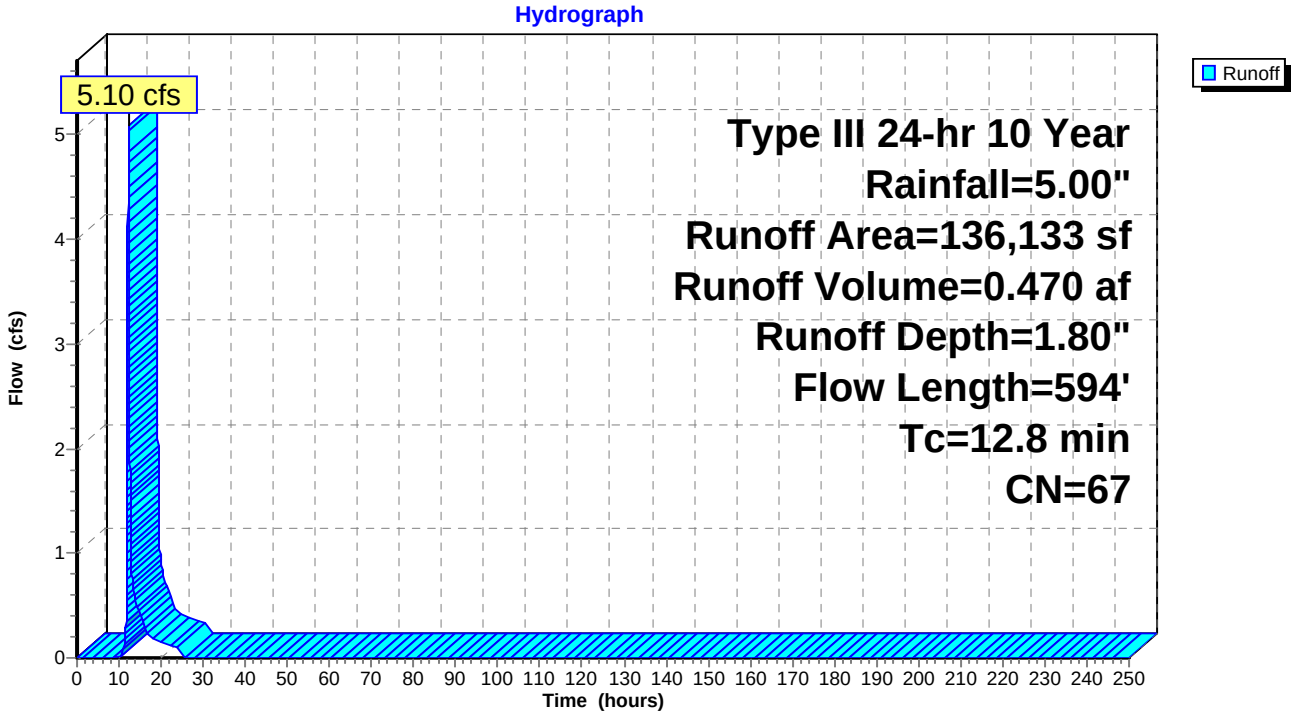
Runoff = 5.10 cfs @ 12.19 hrs, Volume= 0.470 af, Depth= 1.80"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Year Rainfall=5.00"

Area (sf)	CN	Description
10,223	98	Paved roads w/curbs & sewers
125,910	65	Woods/grass comb., Fair, HSG B
136,133	67	Weighted Average
125,910		92.49% Pervious Area
10,223		7.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	100	0.1600	0.19		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
3.9	494	0.1780	2.11		**Shallow Concentrated Flow, 2 to DP-7** Woodland Kv= 5.0 fps
12.8	594	Total			

Subcatchment 7S: Subarea-7

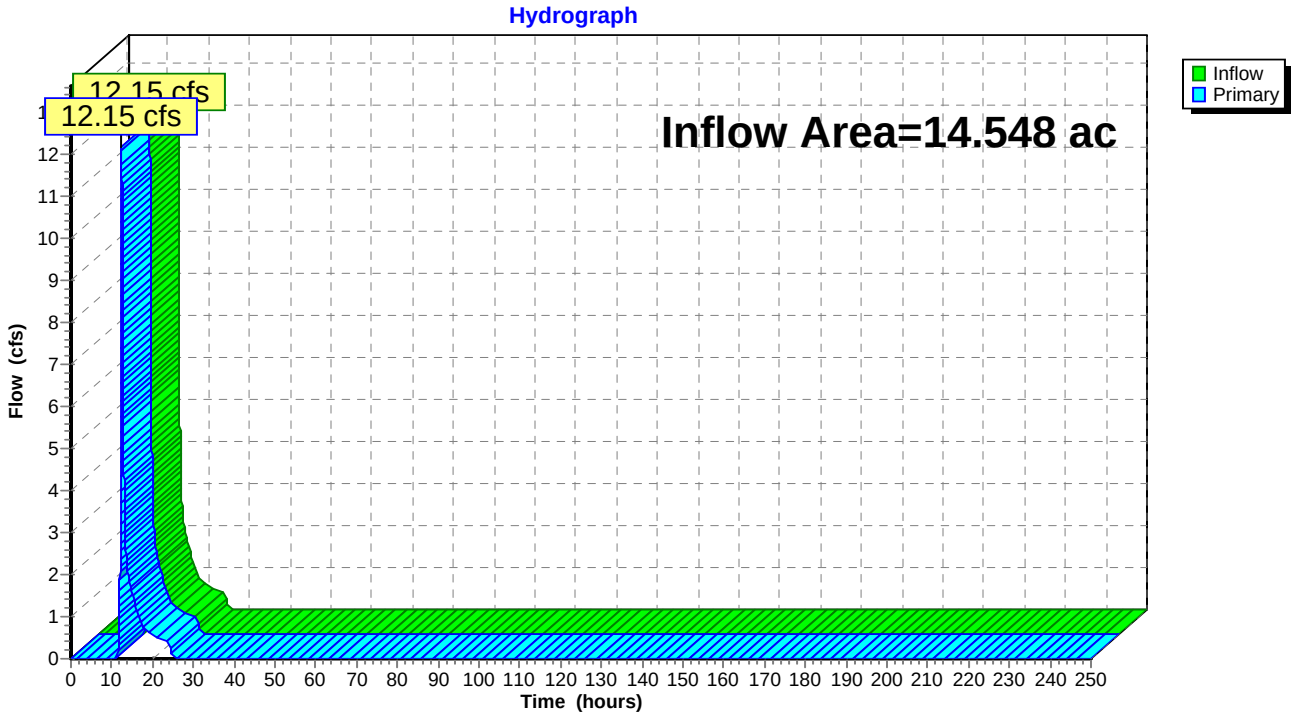


Summary for Link DP-1: DP-1

Inflow Area = 14.548 ac, 3.76% Impervious, Inflow Depth = 1.30" for 10 Year event
Inflow = 12.15 cfs @ 12.39 hrs, Volume= 1.577 af
Primary = 12.15 cfs @ 12.39 hrs, Volume= 1.577 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-1: DP-1

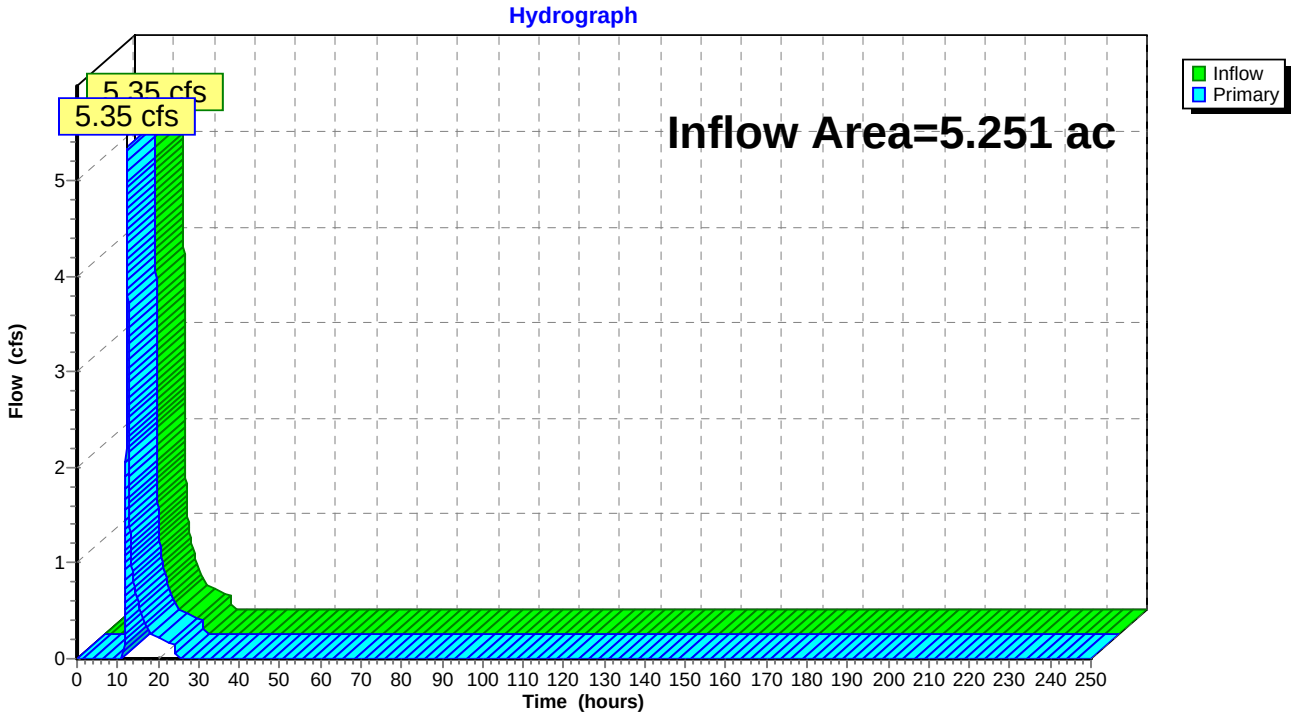


Summary for Link DP-2: DP-2

Inflow Area = 5.251 ac, 10.55% Impervious, Inflow Depth = 1.44" for 10 Year event
Inflow = 5.35 cfs @ 12.32 hrs, Volume= 0.629 af
Primary = 5.35 cfs @ 12.32 hrs, Volume= 0.629 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-2: DP-2

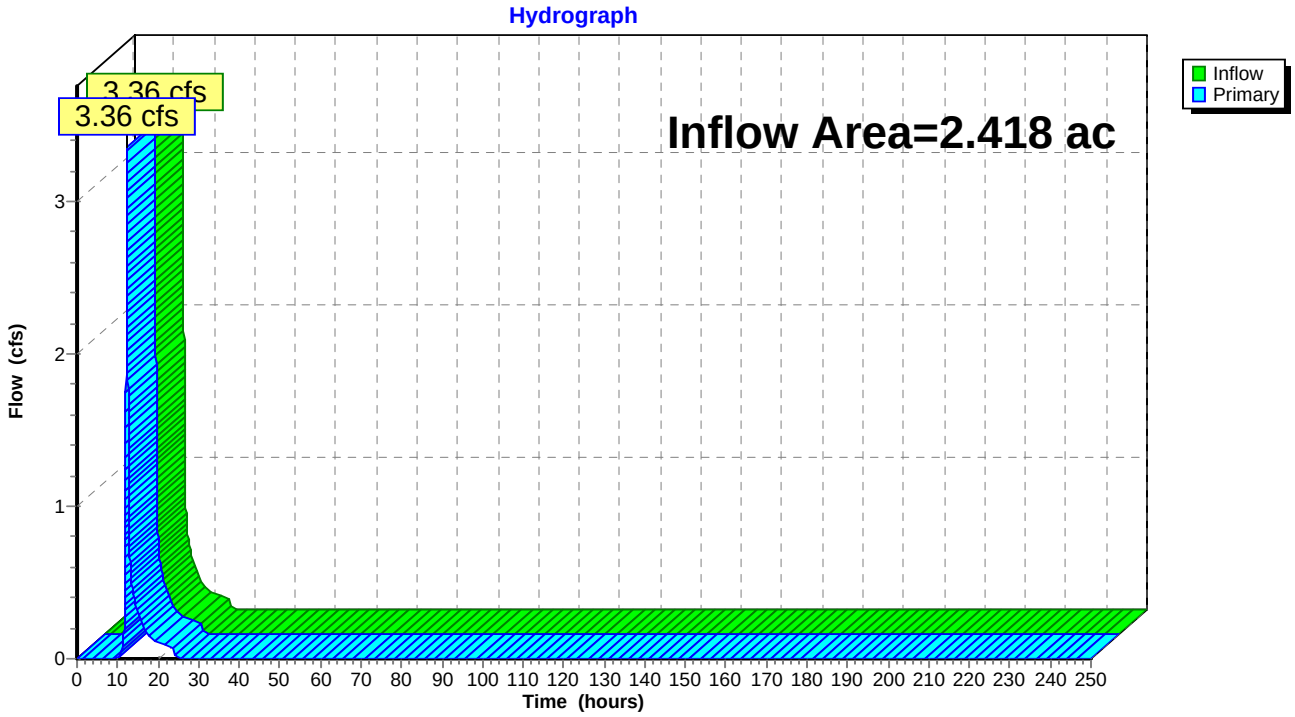


Summary for Link DP-3: DP-3

Inflow Area = 2.418 ac, 2.16% Impervious, Inflow Depth = 1.73" for 10 Year event
Inflow = 3.36 cfs @ 12.25 hrs, Volume= 0.348 af
Primary = 3.36 cfs @ 12.25 hrs, Volume= 0.348 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-3: DP-3

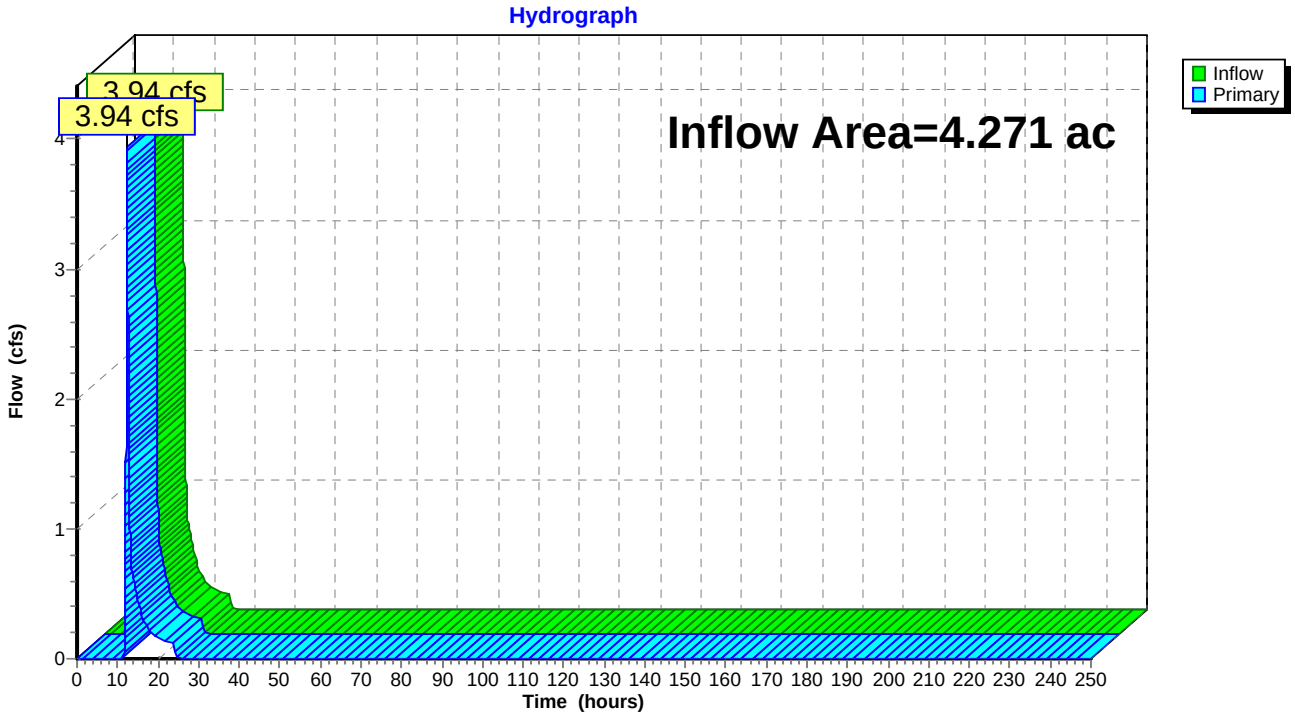


Summary for Link DP-4: DP-4

Inflow Area = 4.271 ac, 5.92% Impervious, Inflow Depth = 1.30" for 10 Year event
Inflow = 3.94 cfs @ 12.30 hrs, Volume= 0.463 af
Primary = 3.94 cfs @ 12.30 hrs, Volume= 0.463 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-4: DP-4

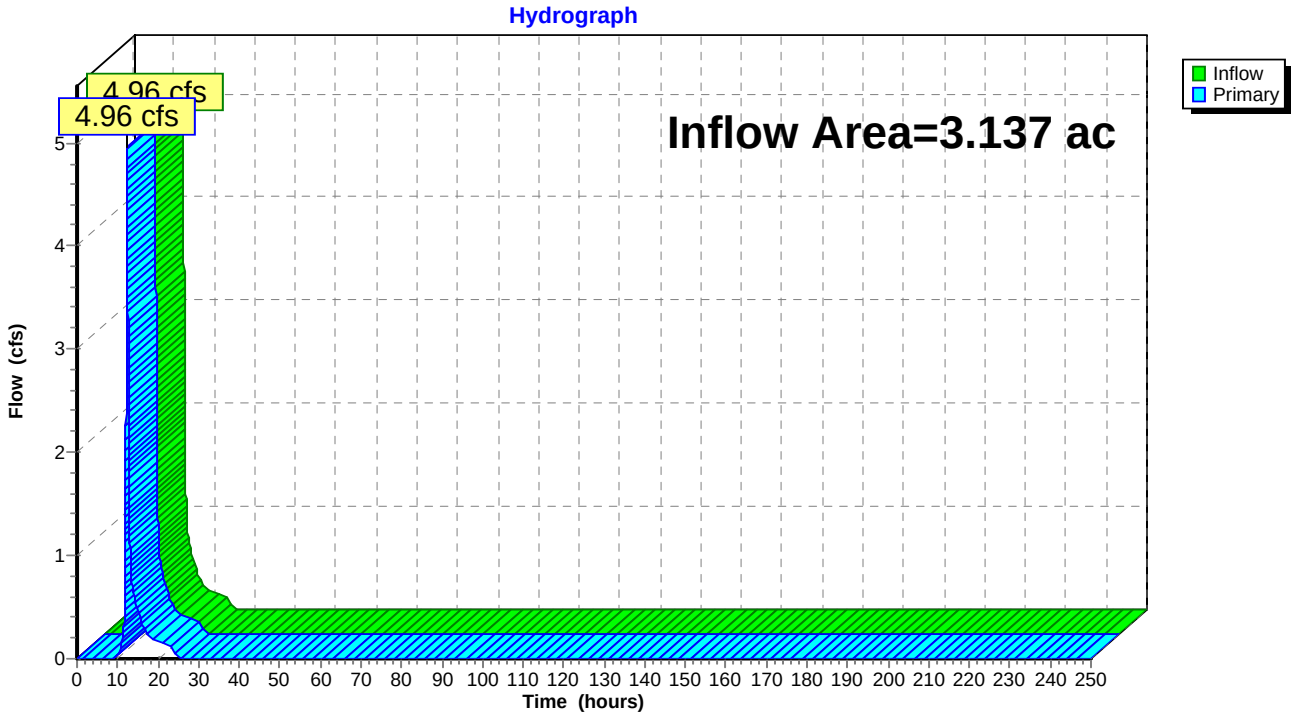


Summary for Link DP-5: DP-5

Inflow Area = 3.137 ac, 18.34% Impervious, Inflow Depth = 2.12" for 10 Year event
Inflow = 4.96 cfs @ 12.31 hrs, Volume= 0.553 af
Primary = 4.96 cfs @ 12.31 hrs, Volume= 0.553 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-5: DP-5

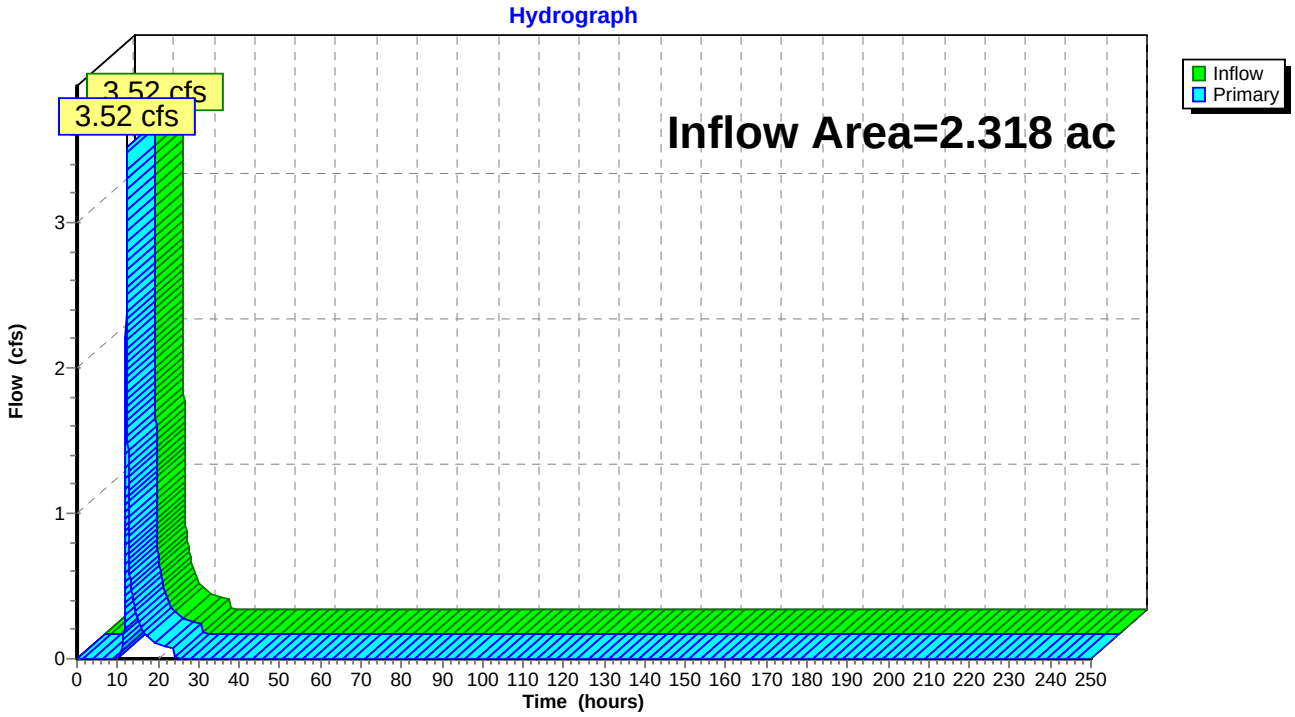


Summary for Link DP-6: DP-6

Inflow Area = 2.318 ac, 1.94% Impervious, Inflow Depth = 1.73" for 10 Year event
Inflow = 3.52 cfs @ 12.20 hrs, Volume= 0.334 af
Primary = 3.52 cfs @ 12.20 hrs, Volume= 0.334 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-6: DP-6

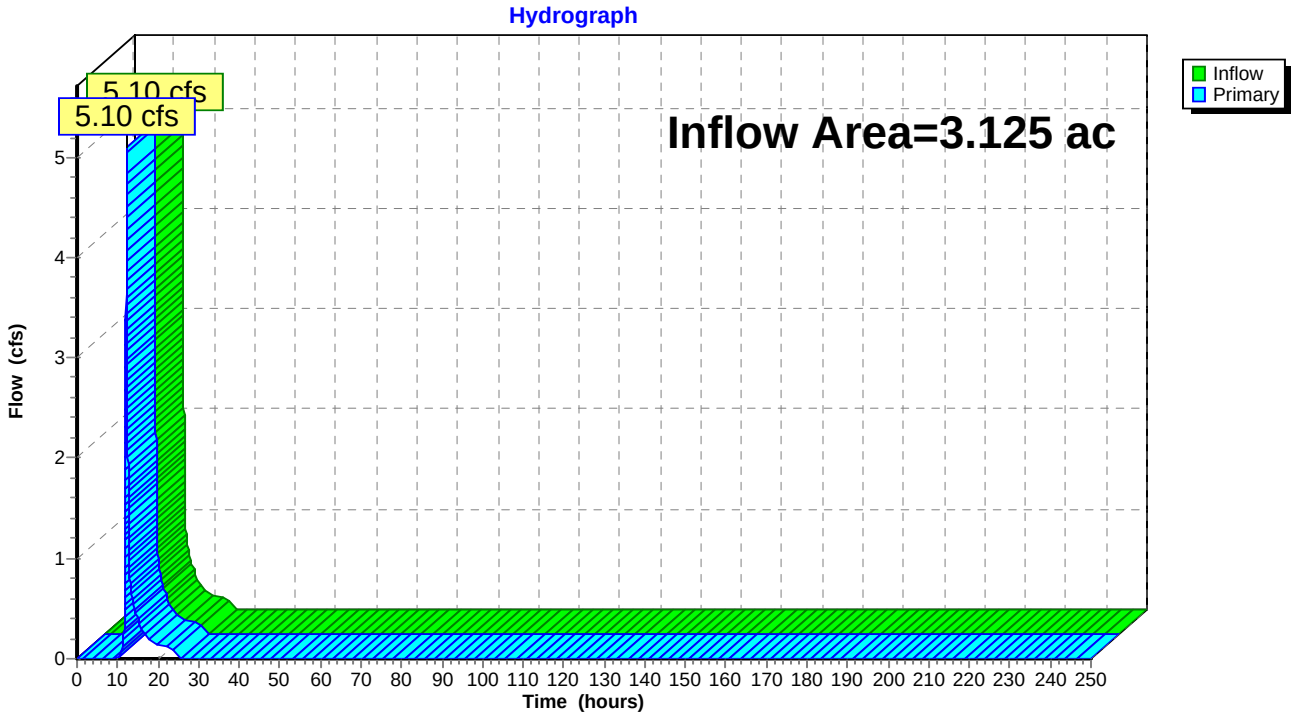


Summary for Link DP-7: DP-7

Inflow Area = 3.125 ac, 7.51% Impervious, Inflow Depth = 1.80" for 10 Year event
Inflow = 5.10 cfs @ 12.19 hrs, Volume= 0.470 af
Primary = 5.10 cfs @ 12.19 hrs, Volume= 0.470 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-7: DP-7



Time span=0.00-250.00 hrs, dt=0.01 hrs, 25001 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1S: Subarea 1 Runoff Area=14.548 ac 3.76% Impervious Runoff Depth=2.96"
Flow Length=1,389' Tc=25.0 min CN=60 Runoff=30.24 cfs 3.592 af

Subcatchment 2S: Subarea-2 Runoff Area=228,729 sf 10.55% Impervious Runoff Depth=3.17"
Flow Length=821' Tc=21.0 min CN=62 Runoff=12.69 cfs 1.389 af

Subcatchment 3S: Subarea-3 Runoff Area=105,316 sf 2.16% Impervious Runoff Depth=3.60"
Flow Length=634' Tc=17.0 min CN=66 Runoff=7.30 cfs 0.726 af

Subcatchment 4S: Subarea-4 Runoff Area=186,025 sf 5.92% Impervious Runoff Depth=2.96"
Flow Length=680' Tc=19.6 min CN=60 Runoff=9.81 cfs 1.055 af

Subcatchment 5S: Subarea-5 Runoff Area=136,628 sf 18.34% Impervious Runoff Depth=4.15"
Flow Length=877' Tc=21.9 min CN=71 Runoff=9.90 cfs 1.084 af

Subcatchment 6S: Subarea-6 Runoff Area=100,951 sf 1.94% Impervious Runoff Depth=3.60"
Flow Length=504' Tc=13.5 min CN=66 Runoff=7.66 cfs 0.696 af

Subcatchment 7S: Subarea-7 Runoff Area=136,133 sf 7.51% Impervious Runoff Depth=3.71"
Flow Length=594' Tc=12.8 min CN=67 Runoff=10.87 cfs 0.966 af

Link DP-1: DP-1 Inflow=30.24 cfs 3.592 af
Primary=30.24 cfs 3.592 af

Link DP-2: DP-2 Inflow=12.69 cfs 1.389 af
Primary=12.69 cfs 1.389 af

Link DP-3: DP-3 Inflow=7.30 cfs 0.726 af
Primary=7.30 cfs 0.726 af

Link DP-4: DP-4 Inflow=9.81 cfs 1.055 af
Primary=9.81 cfs 1.055 af

Link DP-5: DP-5 Inflow=9.90 cfs 1.084 af
Primary=9.90 cfs 1.084 af

Link DP-6: DP-6 Inflow=7.66 cfs 0.696 af
Primary=7.66 cfs 0.696 af

Link DP-7: DP-7 Inflow=10.87 cfs 0.966 af
Primary=10.87 cfs 0.966 af

Total Runoff Area = 35.066 ac Runoff Volume = 9.507 af Average Runoff Depth = 3.25"
93.55% Pervious = 32.806 ac 6.45% Impervious = 2.261 ac

Summary for Subcatchment 1S: Subarea 1

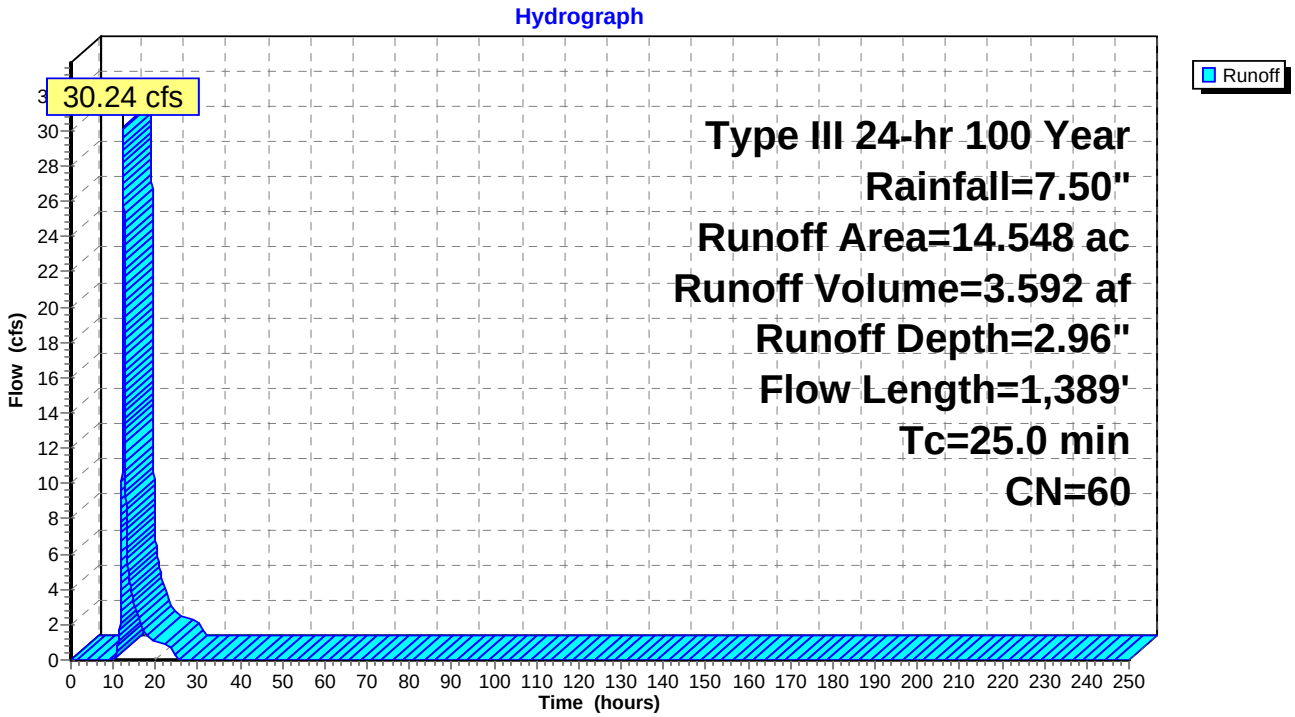
Runoff = 30.24 cfs @ 12.36 hrs, Volume= 3.592 af, Depth= 2.96"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 Year Rainfall=7.50"

Area (ac)	CN	Description
0.547	98	Paved roads w/curbs & sewers
14.001	58	Woods/grass comb., Good, HSG B
14.548	60	Weighted Average
14.001		96.24% Pervious Area
0.547		3.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	100	0.1000	0.15		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
0.9	171	0.3600	3.00		**Shallow Concentrated Flow, 2 to 3** Woodland Kv= 5.0 fps
13.2	1,118	0.0800	1.41		**Shallow Concentrated Flow, 3 to DP-1** Woodland Kv= 5.0 fps
25.0	1,389	Total			

Subcatchment 1S: Subarea 1



Summary for Subcatchment 2S: Subarea-2

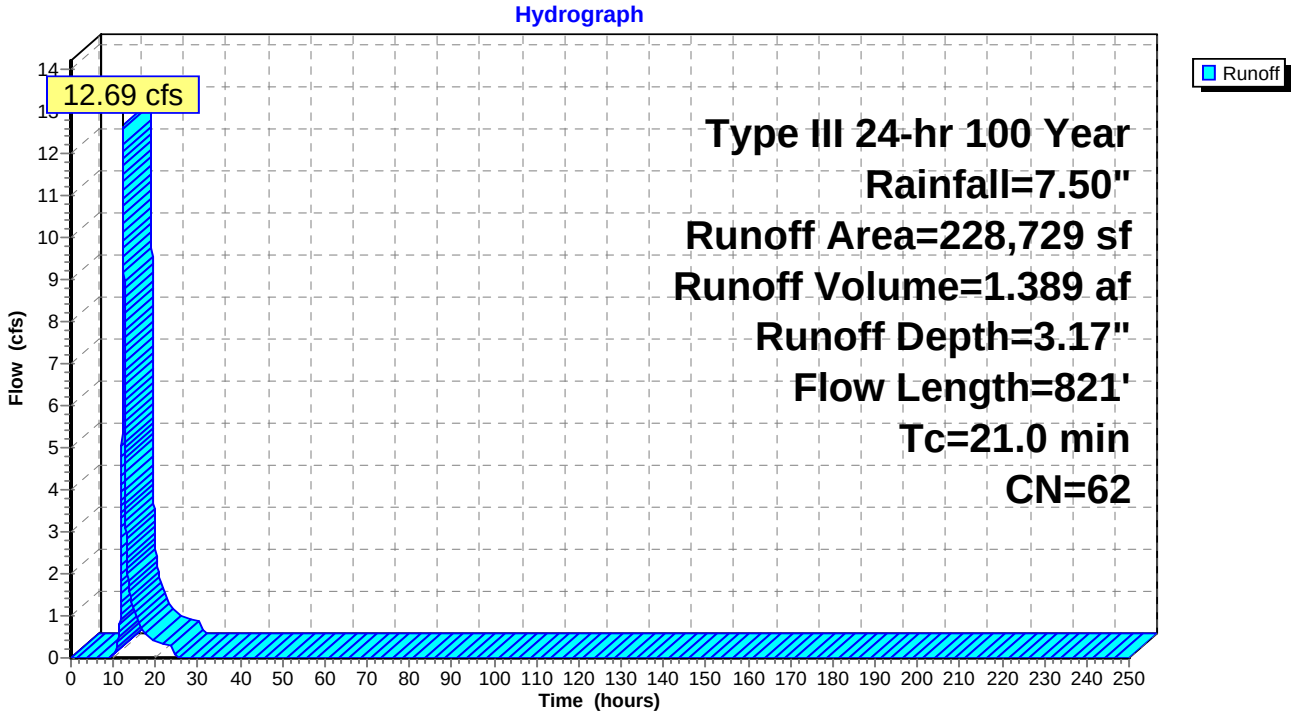
Runoff = 12.69 cfs @ 12.30 hrs, Volume= 1.389 af, Depth= 3.17"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 Year Rainfall=7.50"

Area (sf)	CN	Description
24,134	98	Paved roads w/curbs & sewers
204,595	58	Woods/grass comb., Good, HSG B
228,729	62	Weighted Average
204,595		89.45% Pervious Area
24,134		10.55% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	100	0.1400	0.18		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
11.6	721	0.0430	1.04		**Shallow Concentrated Flow, 2 to 3** Woodland Kv= 5.0 fps
21.0	821	Total			

Subcatchment 2S: Subarea-2



Summary for Subcatchment 3S: Subarea-3

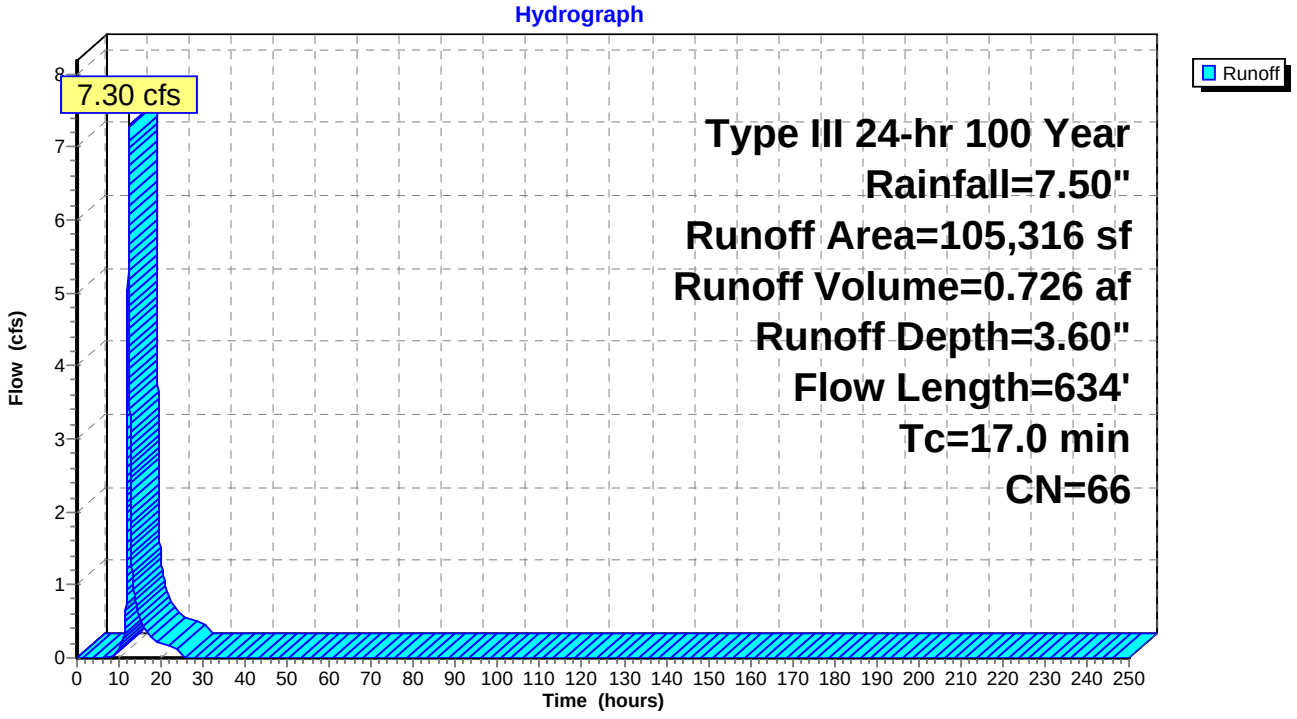
Runoff = 7.30 cfs @ 12.24 hrs, Volume= 0.726 af, Depth= 3.60"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 Year Rainfall=7.50"

Area (sf)	CN	Description
2,270	98	Paved roads w/curbs & sewers
103,046	65	Woods/grass comb., Fair, HSG B
105,316	66	Weighted Average
103,046		97.84% Pervious Area
2,270		2.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.9	100	0.1250	0.17		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
7.1	534	0.0620	1.24		**Shallow Concentrated Flow, 2 to DP-3** Woodland Kv= 5.0 fps
17.0	634	Total			

Subcatchment 3S: Subarea-3



Summary for Subcatchment 4S: Subarea-4

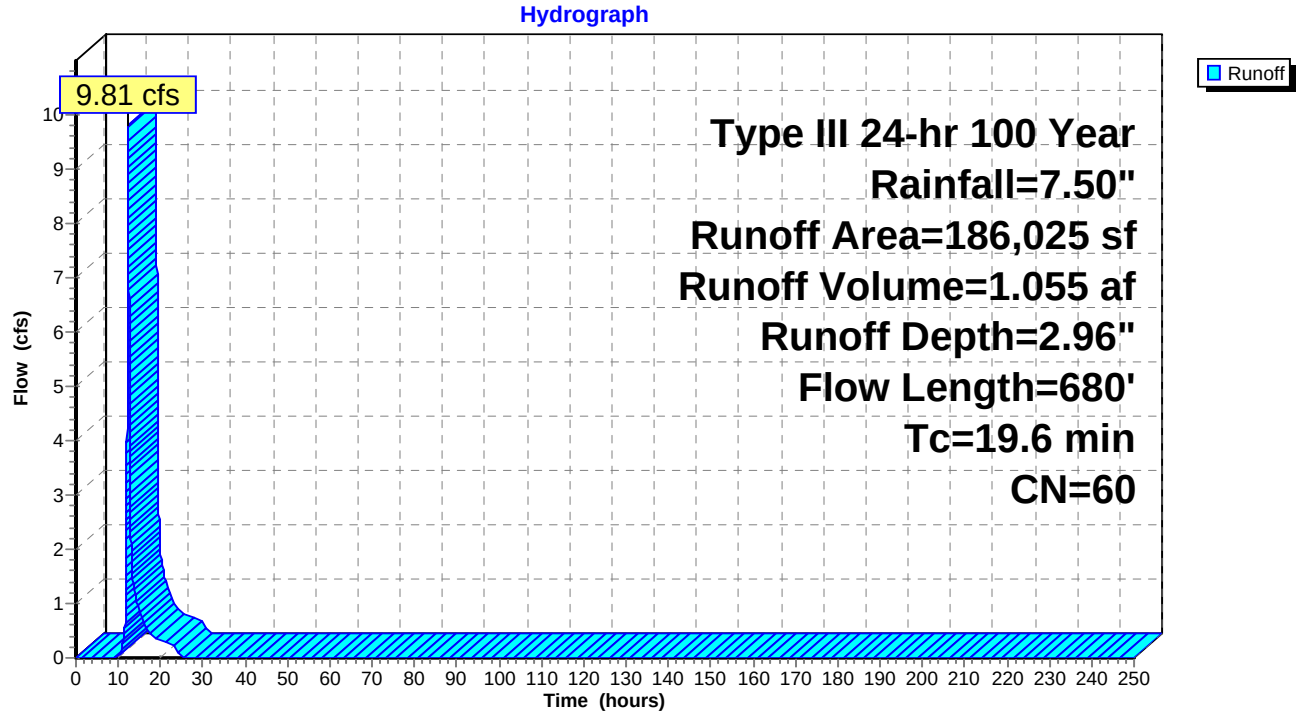
Runoff = 9.81 cfs @ 12.28 hrs, Volume= 1.055 af, Depth= 2.96"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 Year Rainfall=7.50"

Area (sf)	CN	Description
11,012	98	Paved roads w/curbs & sewers
175,013	58	Woods/grass comb., Good, HSG B
186,025	60	Weighted Average
175,013		94.08% Pervious Area
11,012		5.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	100	0.1400	0.18		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
10.2	580	0.0360	0.95		**Shallow Concentrated Flow, 2 to DP-4** Woodland Kv= 5.0 fps
19.6	680	Total			

Subcatchment 4S: Subarea-4



Summary for Subcatchment 5S: Subarea-5

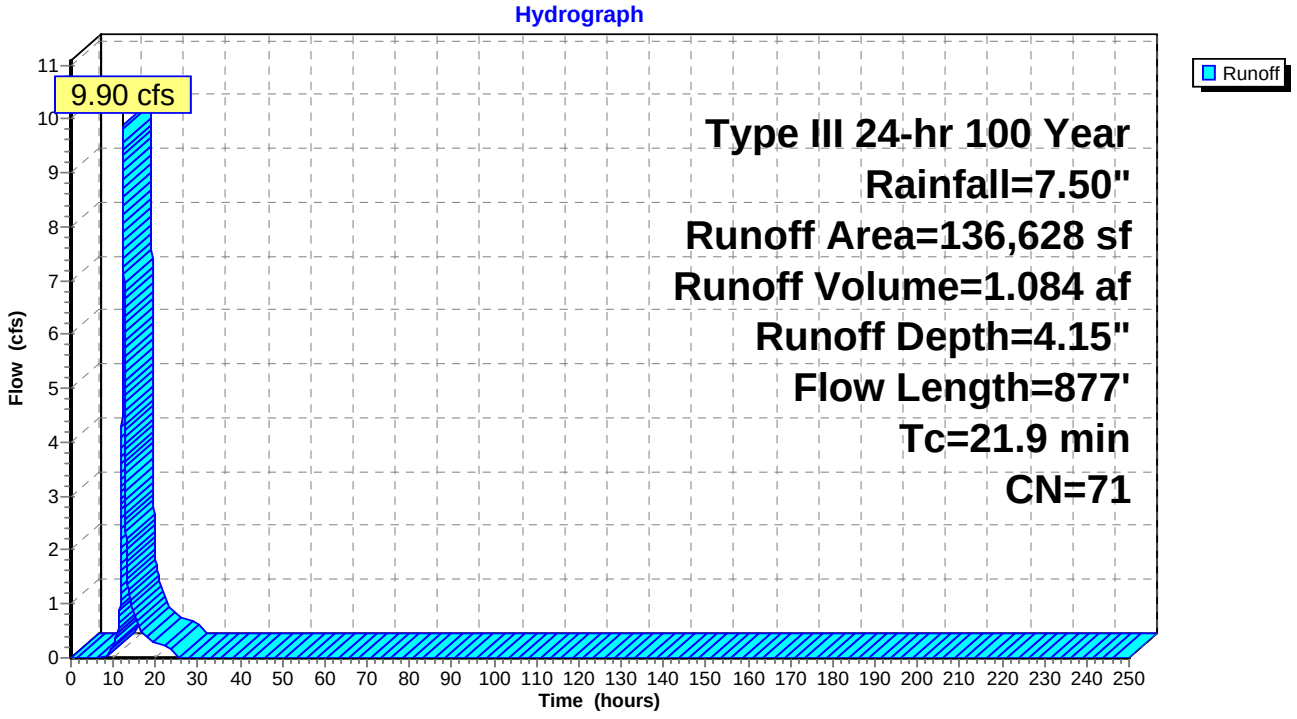
Runoff = 9.90 cfs @ 12.29 hrs, Volume= 1.084 af, Depth= 4.15"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 Year Rainfall=7.50"

Area (sf)	CN	Description
25,055	98	Paved roads w/curbs & sewers
111,573	65	Woods/grass comb., Fair, HSG B
136,628	71	Weighted Average
111,573		81.66% Pervious Area
25,055		18.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	100	0.0550	0.12		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
8.2	777	0.0990	1.57		**Shallow Concentrated Flow, 2 to DP-5** Woodland Kv= 5.0 fps
21.9	877	Total			

Subcatchment 5S: Subarea-5



Summary for Subcatchment 6S: Subarea-6

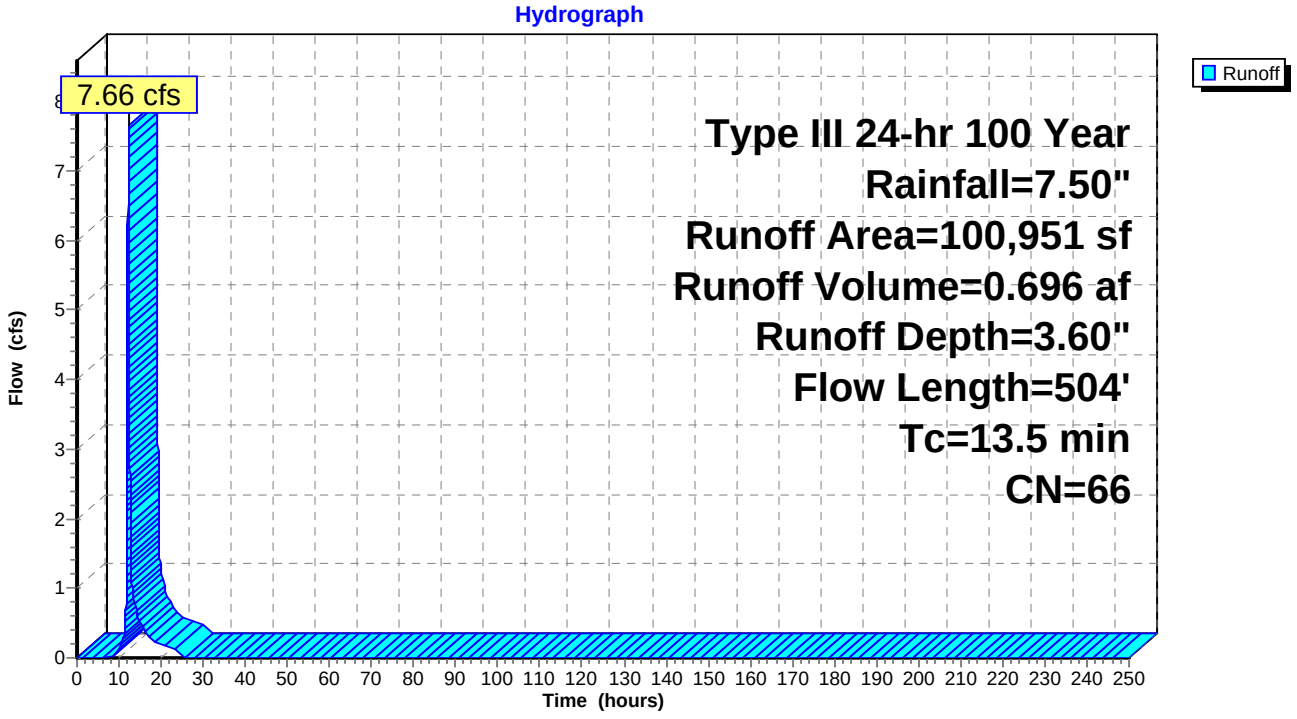
Runoff = 7.66 cfs @ 12.19 hrs, Volume= 0.696 af, Depth= 3.60"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 Year Rainfall=7.50"

Area (sf)	CN	Description
1,957	98	Paved roads w/curbs & sewers
98,994	65	Woods/grass comb., Fair, HSG B
100,951	66	Weighted Average
98,994		98.06% Pervious Area
1,957		1.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	100	0.1300	0.17		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
3.8	404	0.1260	1.77		**Shallow Concentrated Flow, 2 to DP-6** Woodland Kv= 5.0 fps
13.5	504	Total			

Subcatchment 6S: Subarea-6



Summary for Subcatchment 7S: Subarea-7

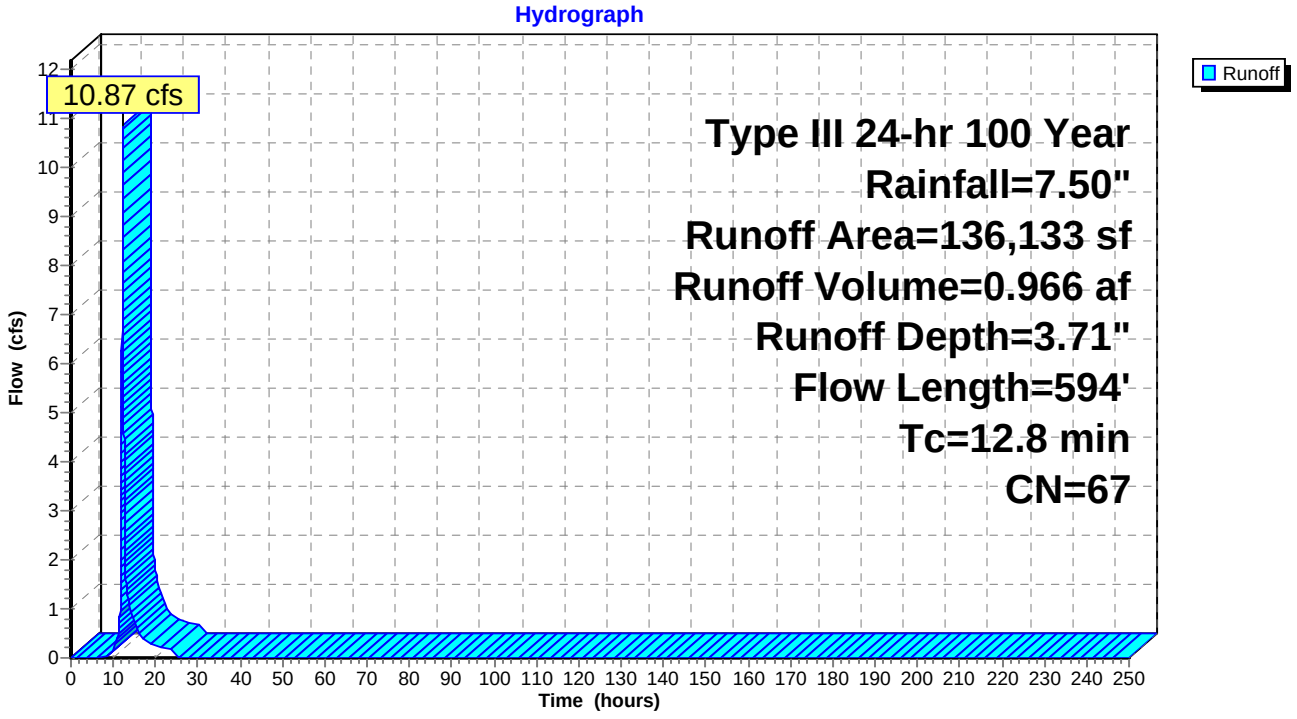
Runoff = 10.87 cfs @ 12.18 hrs, Volume= 0.966 af, Depth= 3.71"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 Year Rainfall=7.50"

Area (sf)	CN	Description
10,223	98	Paved roads w/curbs & sewers
125,910	65	Woods/grass comb., Fair, HSG B
136,133	67	Weighted Average
125,910		92.49% Pervious Area
10,223		7.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	100	0.1600	0.19		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
3.9	494	0.1780	2.11		**Shallow Concentrated Flow, 2 to DP-7** Woodland Kv= 5.0 fps
12.8	594	Total			

Subcatchment 7S: Subarea-7

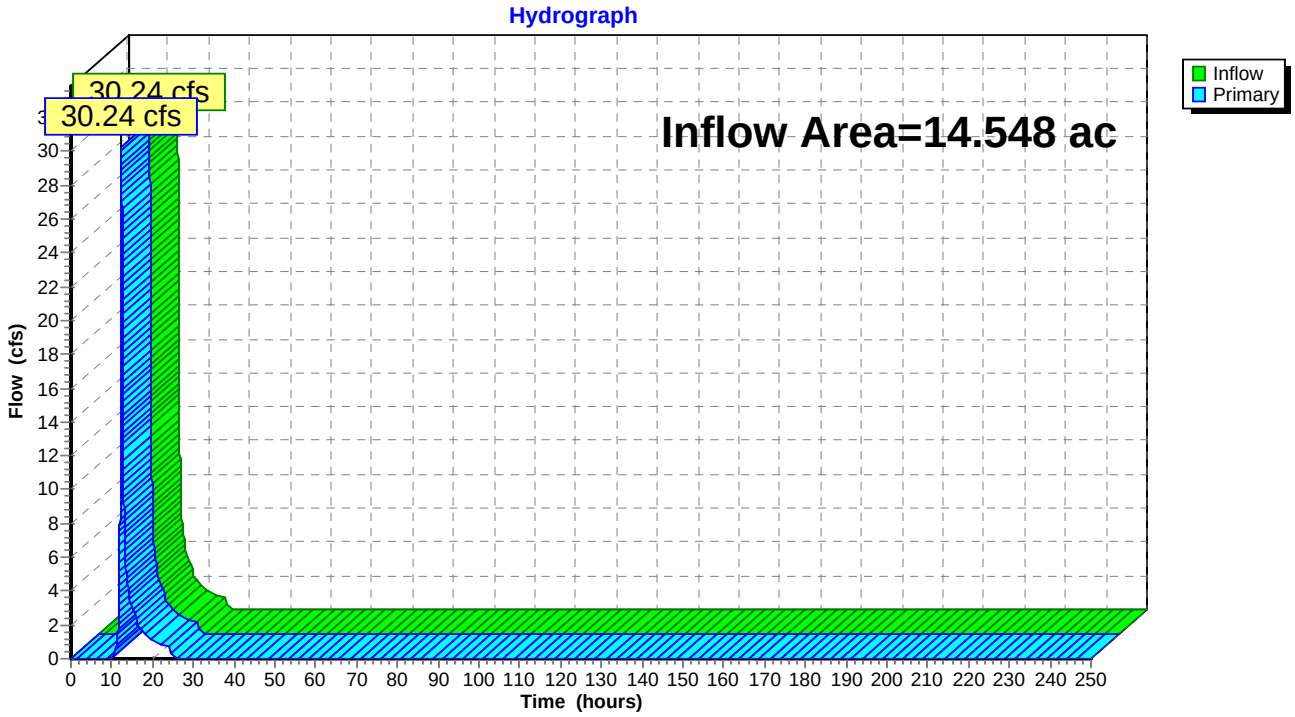


Summary for Link DP-1: DP-1

Inflow Area = 14.548 ac, 3.76% Impervious, Inflow Depth = 2.96" for 100 Year event
Inflow = 30.24 cfs @ 12.36 hrs, Volume= 3.592 af
Primary = 30.24 cfs @ 12.36 hrs, Volume= 3.592 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-1: DP-1

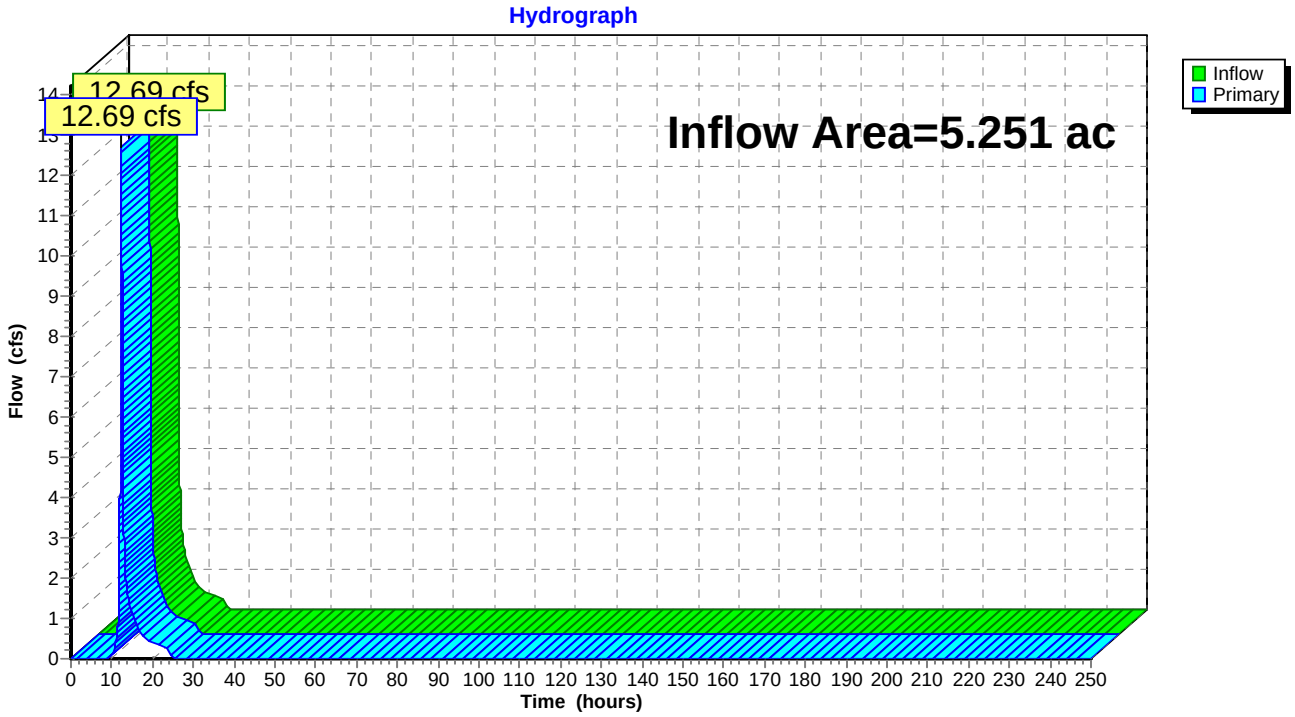


Summary for Link DP-2: DP-2

Inflow Area = 5.251 ac, 10.55% Impervious, Inflow Depth = 3.17" for 100 Year event
Inflow = 12.69 cfs @ 12.30 hrs, Volume= 1.389 af
Primary = 12.69 cfs @ 12.30 hrs, Volume= 1.389 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-2: DP-2

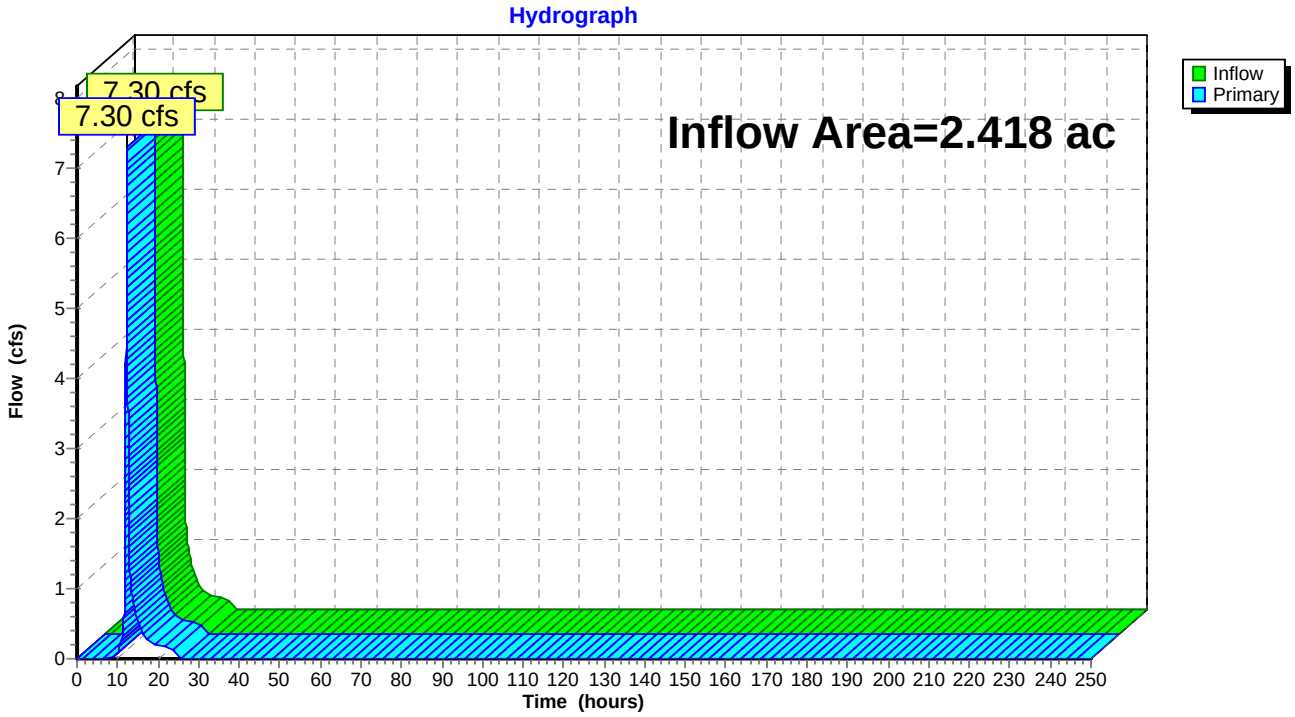


Summary for Link DP-3: DP-3

Inflow Area = 2.418 ac, 2.16% Impervious, Inflow Depth = 3.60" for 100 Year event
Inflow = 7.30 cfs @ 12.24 hrs, Volume= 0.726 af
Primary = 7.30 cfs @ 12.24 hrs, Volume= 0.726 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-3: DP-3

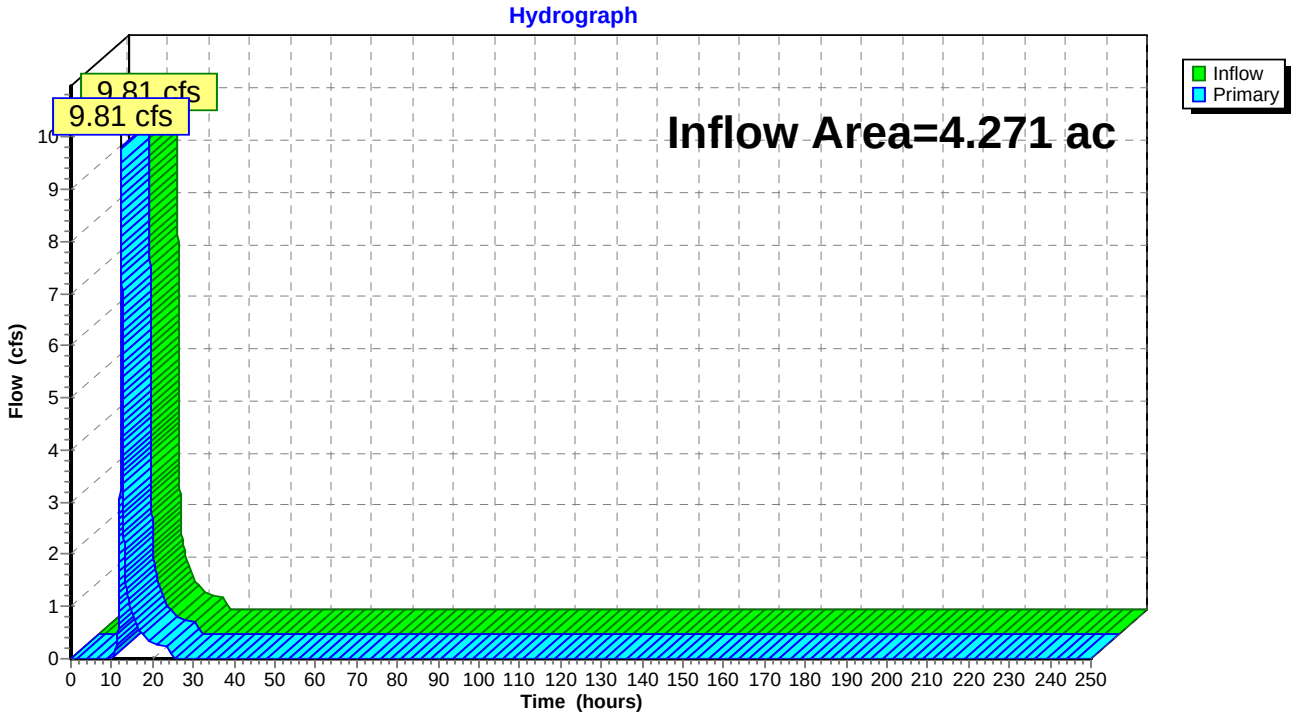


Summary for Link DP-4: DP-4

Inflow Area = 4.271 ac, 5.92% Impervious, Inflow Depth = 2.96" for 100 Year event
Inflow = 9.81 cfs @ 12.28 hrs, Volume= 1.055 af
Primary = 9.81 cfs @ 12.28 hrs, Volume= 1.055 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-4: DP-4

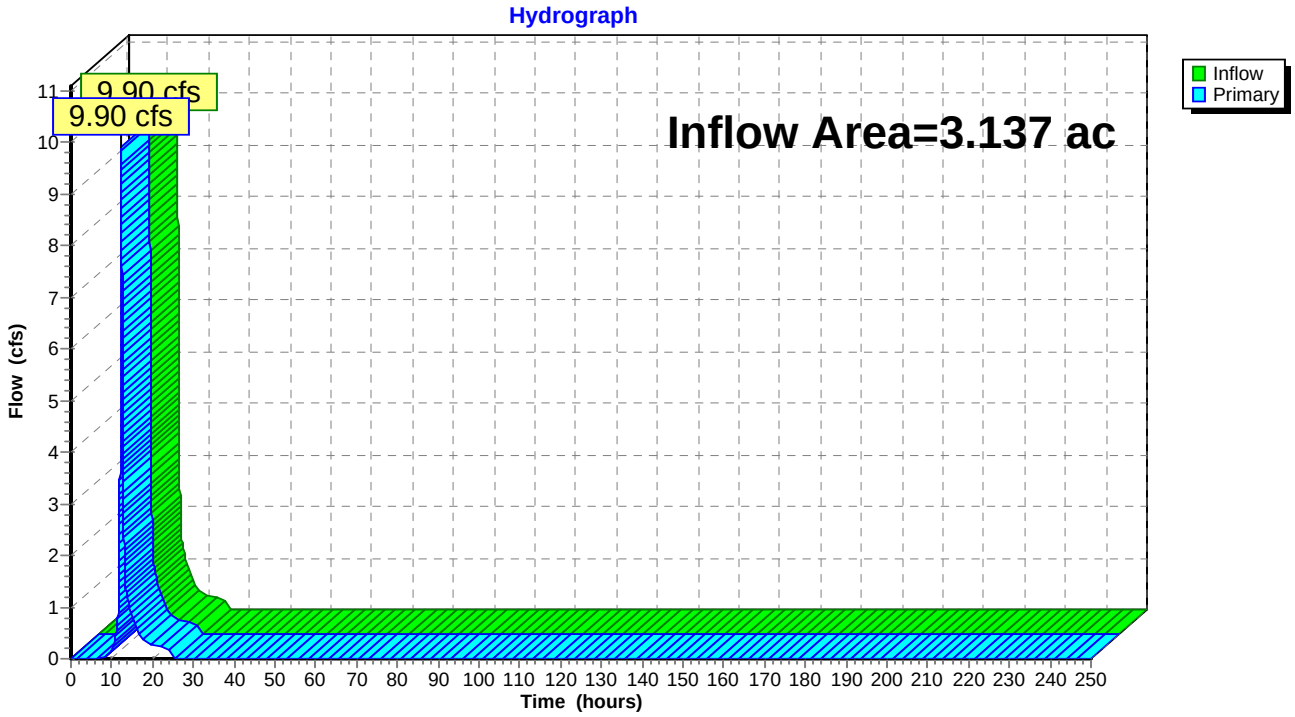


Summary for Link DP-5: DP-5

Inflow Area = 3.137 ac, 18.34% Impervious, Inflow Depth = 4.15" for 100 Year event
Inflow = 9.90 cfs @ 12.29 hrs, Volume= 1.084 af
Primary = 9.90 cfs @ 12.29 hrs, Volume= 1.084 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-5: DP-5

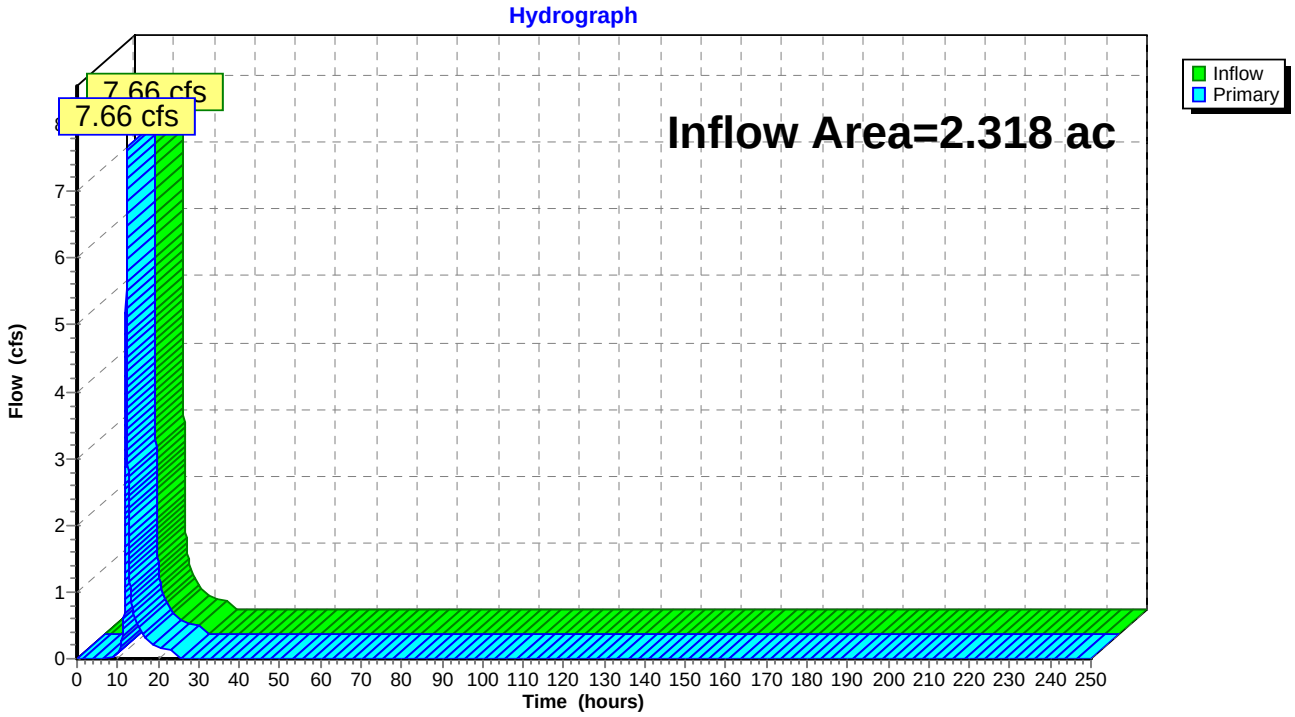


Summary for Link DP-6: DP-6

Inflow Area = 2.318 ac, 1.94% Impervious, Inflow Depth = 3.60" for 100 Year event
Inflow = 7.66 cfs @ 12.19 hrs, Volume= 0.696 af
Primary = 7.66 cfs @ 12.19 hrs, Volume= 0.696 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-6: DP-6

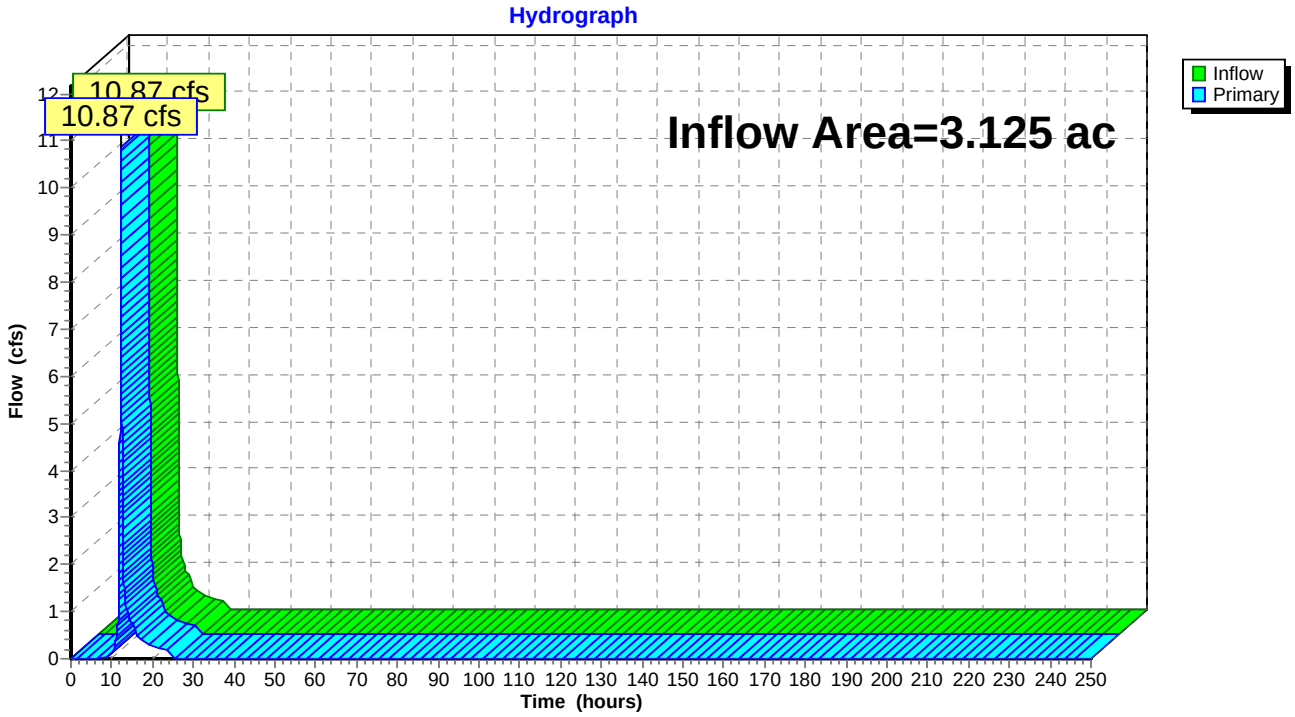


Summary for Link DP-7: DP-7

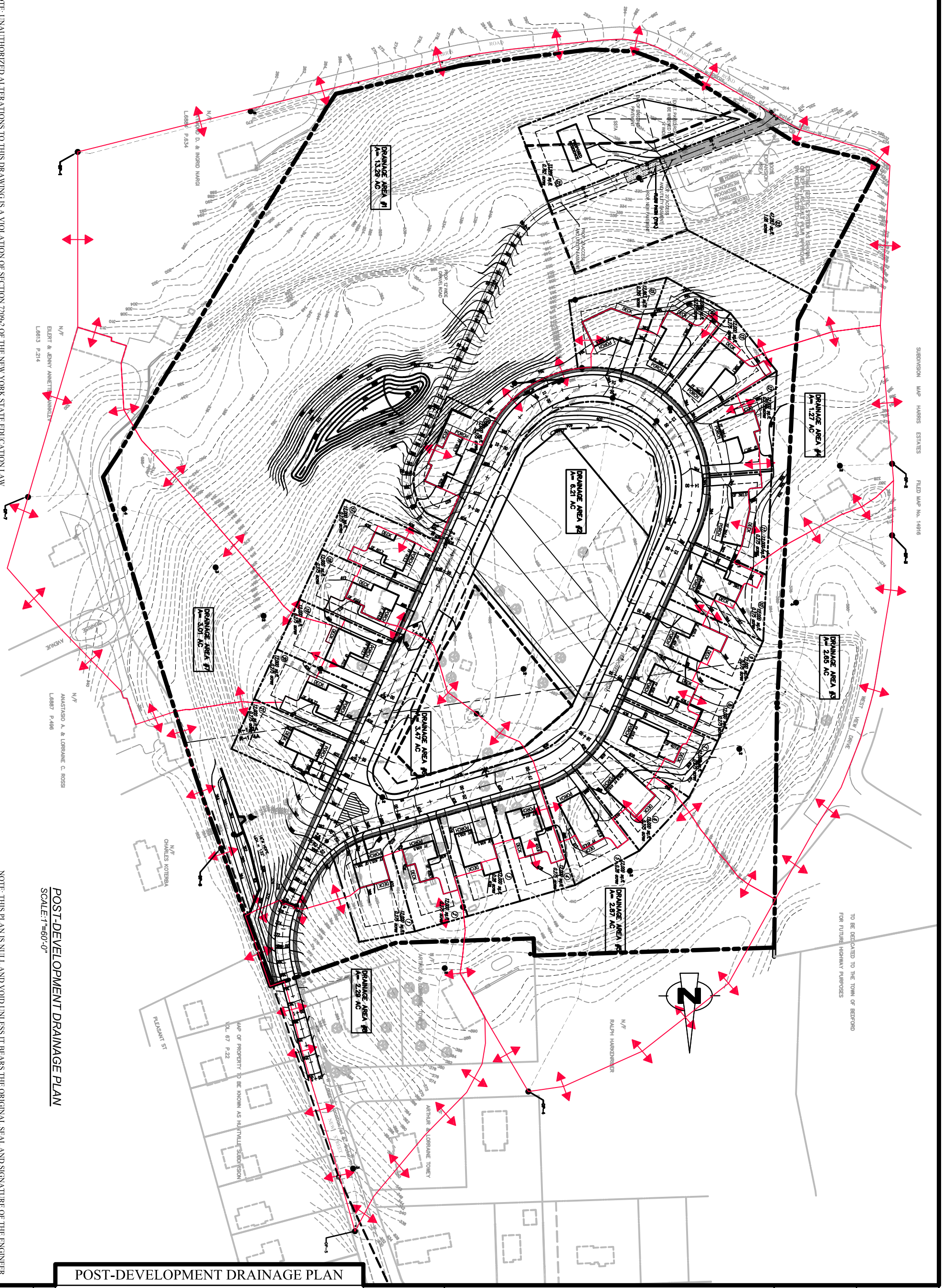
Inflow Area = 3.125 ac, 7.51% Impervious, Inflow Depth = 3.71" for 100 Year event
Inflow = 10.87 cfs @ 12.18 hrs, Volume= 0.966 af
Primary = 10.87 cfs @ 12.18 hrs, Volume= 0.966 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-7: DP-7



NOTE: UNAUTHORIZED ALTERATIONS TO THIS DRAWING IS A VIOLATION OF SECTION 7209-2 OF THE NEW YORK STATE EDUCATION LAW.



NOTE: THIS PLAN IS NULL AND VOID UNLESS IT BEARS THE ORIGINAL SEAL AND SIGNATURE OF THE ENGINEER.

POST-DEVELOPMENT DRAINAGE PLAN
SCALE:1"=60'-0"

POST-DEVELOPMENT DRAINAGE PLAN

PROPOSED CONSERVATION SUBDIVISION

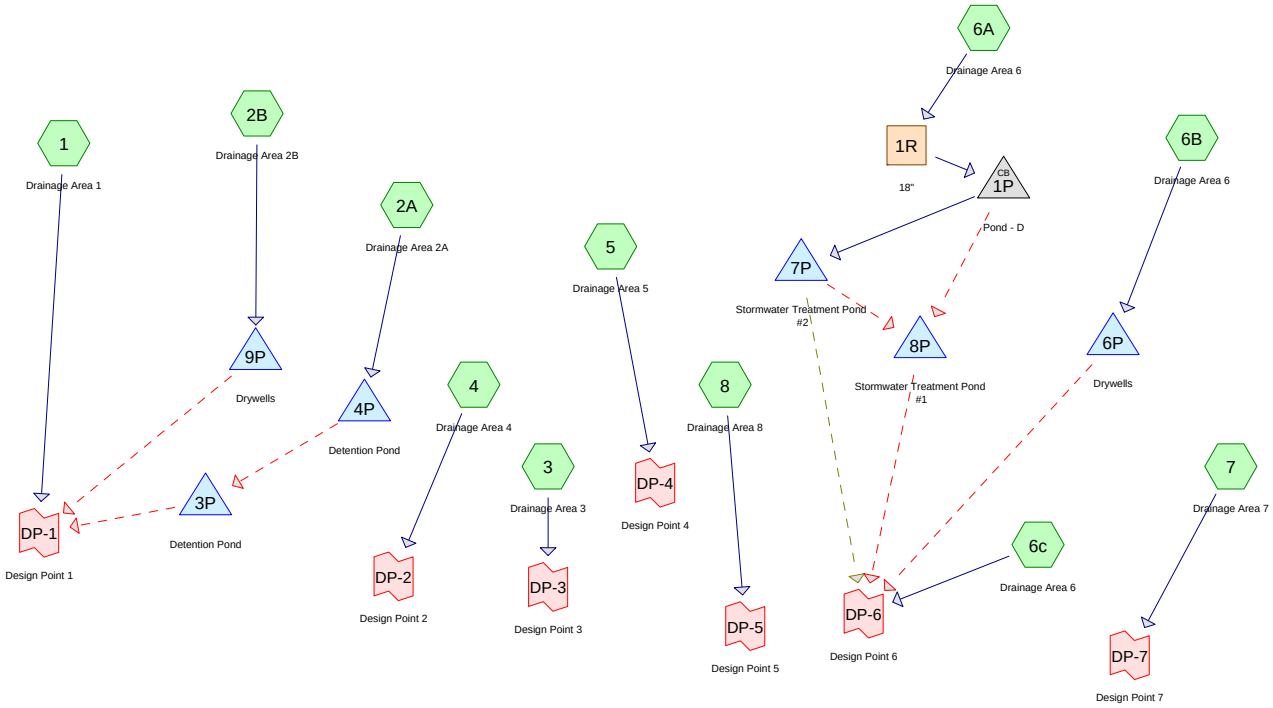
FOR
COSIMO TRIPI
AND
JAMES P. MURPHY AND ADELAIDE V. MURPHY
BEDFORD HARRIS ROAD NEW YORK

SHEET NO. 2 / 2

PETRUCCELLI ENGINEERING
392 COLUMBUS AVENUE
VALHALLA, NEW YORK 10595
914.948.3629
RUDOLPH C. PETRUCCELLI, P.E.

REVISIONS
05-05-10
07-06-10
09-13-10
11-01-10

JOB NO.	2001-27
DATE:	03-04-09
SCALE:	AS NOTED
DRAWN BY:	SP/MJG
CHECKED BY:	R.C.P.



Subcat Reach Pond Link

Drainage Diagram for Post-Development3

Prepared by Petruccelli Engineering, Printed 11/1/2010

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
13.564	55	Woods, Good, HSG B (1, 2A, 5, 6A)
4.624	60	Woods, Fair, HSG B (3, 4, 6c, 7, 8)
8.746	61	>75% Grass cover, Good, HSG B (2A, 3, 4, 5, 6A, 7, 8)
2.770	69	50-75% Grass cover, Fair, HSG B (1)
0.263	82	Dirt roads, HSG B (1)
0.016	98	Paved parking, HSG B (5)
5.103	98	Paved roads w/curbs & sewers (1, 2A, 2B, 3, 4, 6A, 6B, 7, 8)
35.087		**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
29.984	HSG B	1, 2A, 3, 4, 5, 6A, 6c, 7, 8
0.000	HSG C	
0.000	HSG D	
5.103	Other	1, 2A, 2B, 3, 4, 6A, 6B, 7, 8
35.087		**TOTAL AREA**

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Fill (inches)
1	2A	0.00	0.00	25.0	0.0100	0.013	12.0	0.0	0.0
2	2A	0.00	0.00	167.0	0.0120	0.013	12.0	0.0	0.0
3	2A	0.00	0.00	70.0	0.0090	0.025	15.0	0.0	0.0
4	2A	0.00	0.00	140.0	0.1510	0.025	18.0	0.0	0.0
5	2B	0.00	0.00	25.0	0.0100	0.013	12.0	0.0	0.0
6	2B	0.00	0.00	167.0	0.0120	0.013	12.0	0.0	0.0
7	2B	0.00	0.00	70.0	0.0090	0.025	15.0	0.0	0.0
8	2B	0.00	0.00	140.0	0.1510	0.025	18.0	0.0	0.0
9	6A	0.00	0.00	17.0	0.0120	0.012	15.0	0.0	0.0
10	6A	0.00	0.00	132.0	0.0077	0.013	18.0	0.0	0.0
11	6B	0.00	0.00	17.0	0.0120	0.012	15.0	0.0	0.0
12	6B	0.00	0.00	101.0	0.1730	0.013	18.0	0.0	0.0
13	6c	0.00	0.00	17.0	0.0120	0.012	15.0	0.0	0.0
14	6c	0.00	0.00	101.0	0.1730	0.013	18.0	0.0	0.0
15	1R	374.01	366.80	132.0	0.0546	0.013	18.0	0.0	0.0
16	1P	366.80	361.00	6.0	0.9667	0.025	18.0	0.0	0.0
17	8P	361.00	330.00	200.0	0.1550	0.013	24.0	0.0	0.0

Time span=0.00-250.00 hrs, dt=0.01 hrs, 25001 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1: Drainage Area 1 Runoff Area=13.292 ac 3.27% Impervious Runoff Depth=0.26"
Flow Length=1,455' Tc=31.8 min CN=60 Runoff=1.20 cfs 0.293 af

Subcatchment 2A: Drainage Area 2A Runoff Area=5.751 ac 33.25% Impervious Runoff Depth=0.74"
Flow Length=999' Tc=19.1 min CN=73 Runoff=3.05 cfs 0.353 af

Subcatchment 2B: Drainage Area 2B Runoff Area=19,994 sf 100.00% Impervious Runoff Depth=2.57"
Flow Length=999' Tc=19.1 min CN=98 Runoff=0.86 cfs 0.098 af

Subcatchment 3: Drainage Area 3 Runoff Area=115,560 sf 7.97% Impervious Runoff Depth=0.35"
Flow Length=552' Tc=28.6 min CN=63 Runoff=0.41 cfs 0.078 af

Subcatchment 4: Drainage Area 4 Runoff Area=55,457 sf 7.29% Impervious Runoff Depth=0.35"
Flow Length=284' Tc=22.5 min CN=63 Runoff=0.21 cfs 0.037 af

Subcatchment 5: Drainage Area 5 Runoff Area=125,820 sf 0.56% Impervious Runoff Depth=0.17"
Flow Length=497' Tc=33.7 min CN=56 Runoff=0.10 cfs 0.040 af

Subcatchment 6A: Drainage Area 6 Runoff Area=2.937 ac 37.76% Impervious Runoff Depth=0.74"
Flow Length=578' Tc=32.3 min CN=73 Runoff=1.25 cfs 0.180 af

Subcatchment 6B: Drainage Area 6 Runoff Area=10,050 sf 100.00% Impervious Runoff Depth=2.57"
Flow Length=540' Tc=29.9 min CN=98 Runoff=0.36 cfs 0.049 af

Subcatchment 6c: Drainage Area 6 Runoff Area=13,208 sf 0.00% Impervious Runoff Depth=0.26"
Flow Length=540' Tc=29.9 min CN=60 Runoff=0.03 cfs 0.007 af

Subcatchment 7: Drainage Area 7 Runoff Area=3.006 ac 9.68% Impervious Runoff Depth=0.38"
Flow Length=527' Tc=13.4 min CN=64 Runoff=0.66 cfs 0.096 af

Subcatchment 8: Drainage Area 8 Runoff Area=99,910 sf 15.79% Impervious Runoff Depth=0.45"
Flow Length=558' Tc=13.0 min CN=66 Runoff=0.68 cfs 0.086 af

Reach 1R: 18" Avg. Flow Depth=0.23' Max Vel=7.28 fps Inflow=1.25 cfs 0.180 af
18.0" Round Pipe n=0.013 L=132.0' S=0.0546 '/' Capacity=24.55 cfs Outflow=1.25 cfs 0.180 af

Pond 1P: Pond - D Peak Elev=367.37' Inflow=1.25 cfs 0.180 af
Primary=1.25 cfs 0.180 af Secondary=0.00 cfs 0.000 af Outflow=1.25 cfs 0.180 af

Pond 3P: Detention Pond Peak Elev=363.00' Storage=0 cf Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af Secondary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af

Pond 4P: Detention Pond Peak Elev=369.34' Storage=6,164 cf Inflow=3.05 cfs 0.353 af
Primary=0.44 cfs 0.353 af Secondary=0.00 cfs 0.000 af Outflow=0.44 cfs 0.353 af

Pond 6P: Drywells Peak Elev=386.63' Storage=309 cf Inflow=0.36 cfs 0.049 af
Primary=0.18 cfs 0.049 af Secondary=0.00 cfs 0.000 af Outflow=0.18 cfs 0.049 af

Pond 7P: Stormwater Treatment Pond #2 Peak Elev=363.79' Storage=1,109 cf Inflow=1.25 cfs 0.180 af
Primary=0.17 cfs 0.119 af Secondary=1.03 cfs 0.061 af Tertiary=0.00 cfs 0.000 af Outflow=1.20 cfs 0.180 af

Pond 8P: Stormwater Treatment Pond #1 Peak Elev=362.12' Storage=674 cf Inflow=1.03 cfs 0.061 af
Primary=0.21 cfs 0.032 af Secondary=0.49 cfs 0.029 af Outflow=0.70 cfs 0.061 af

Pond 9P: Drywells Peak Elev=387.14' Storage=950 cf Inflow=0.86 cfs 0.098 af
Primary=0.25 cfs 0.098 af Secondary=0.00 cfs 0.000 af Outflow=0.25 cfs 0.098 af

Link DP-1: Design Point 1 Inflow=1.20 cfs 0.293 af
Primary=1.20 cfs 0.293 af

Link DP-2: Design Point 2 Inflow=0.21 cfs 0.037 af
Primary=0.21 cfs 0.037 af

Link DP-3: Design Point 3 Inflow=0.41 cfs 0.078 af
Primary=0.41 cfs 0.078 af

Link DP-4: Design Point 4 Inflow=0.10 cfs 0.040 af
Primary=0.10 cfs 0.040 af

Link DP-5: Design Point 5 Inflow=0.68 cfs 0.086 af
Primary=0.68 cfs 0.086 af

Link DP-6: Design Point 6 Inflow=0.51 cfs 0.036 af
Primary=0.51 cfs 0.036 af

Link DP-7: Design Point 7 Inflow=0.66 cfs 0.096 af
Primary=0.66 cfs 0.096 af

Total Runoff Area = 35.087 ac Runoff Volume = 1.319 af Average Runoff Depth = 0.45"
85.41% Pervious = 29.968 ac 14.59% Impervious = 5.119 ac

Summary for Subcatchment 1: Drainage Area 1

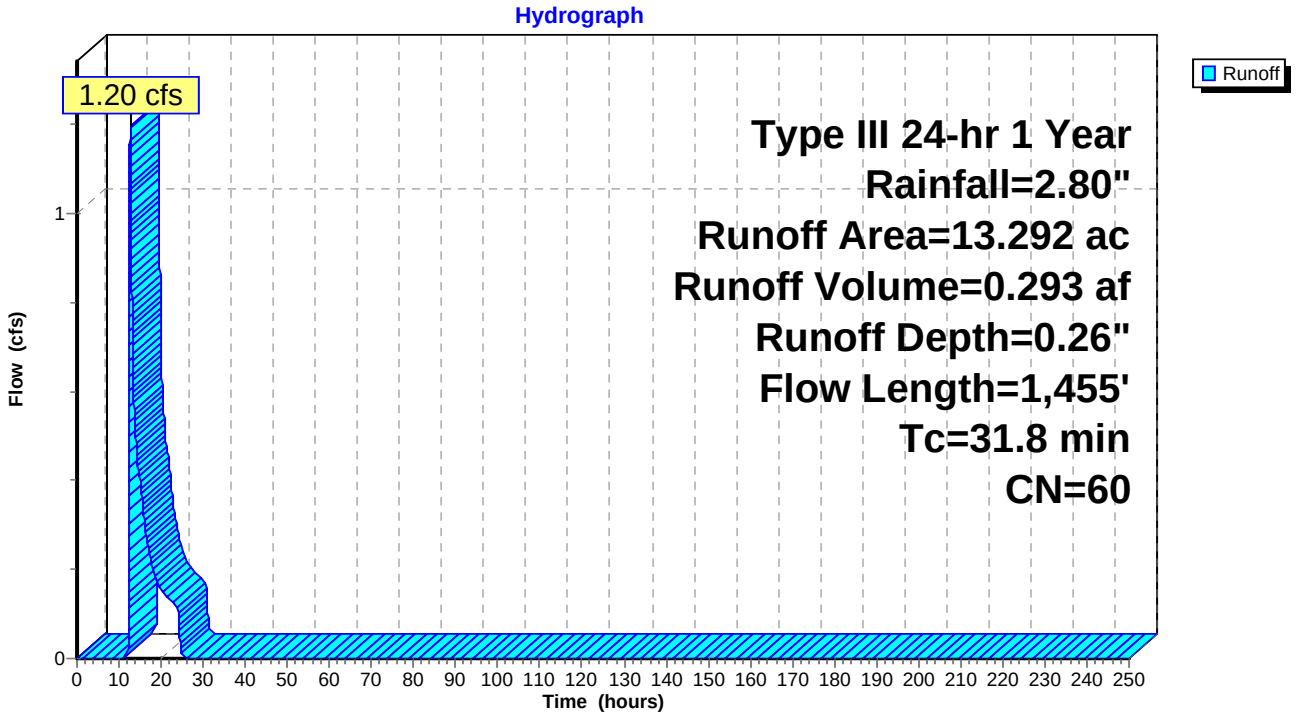
Runoff = 1.20 cfs @ 12.68 hrs, Volume= 0.293 af, Depth= 0.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 Year Rainfall=2.80"

Area (ac)	CN	Description
2.770	69	50-75% Grass cover, Fair, HSG B
0.435	98	Paved roads w/curbs & sewers
9.824	55	Woods, Good, HSG B
0.263	82	Dirt roads, HSG B
13.292	60	Weighted Average
12.857		96.73% Pervious Area
0.435		3.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.9	100	0.0260	0.09		**Sheet Flow, 1 to 2** Grass: Bermuda n= 0.410 P2= 3.50"
1.7	216	0.1830	2.14		**Shallow Concentrated Flow, 2 to 3** Woodland Kv= 5.0 fps
0.3	78	0.0450	4.31		**Shallow Concentrated Flow, 3 to 4** Paved Kv= 20.3 fps
1.2	121	0.1150	1.70		**Shallow Concentrated Flow, 4 to 5** Woodland Kv= 5.0 fps
5.8	679	0.0770	1.94		**Shallow Concentrated Flow, 5 to 6** Short Grass Pasture Kv= 7.0 fps
3.9	261	0.0500	1.12		**Shallow Concentrated Flow, 6 to DP1** Woodland Kv= 5.0 fps
31.8	1,455	Total			

Subcatchment 1: Drainage Area 1



Summary for Subcatchment 2A: Drainage Area 2A

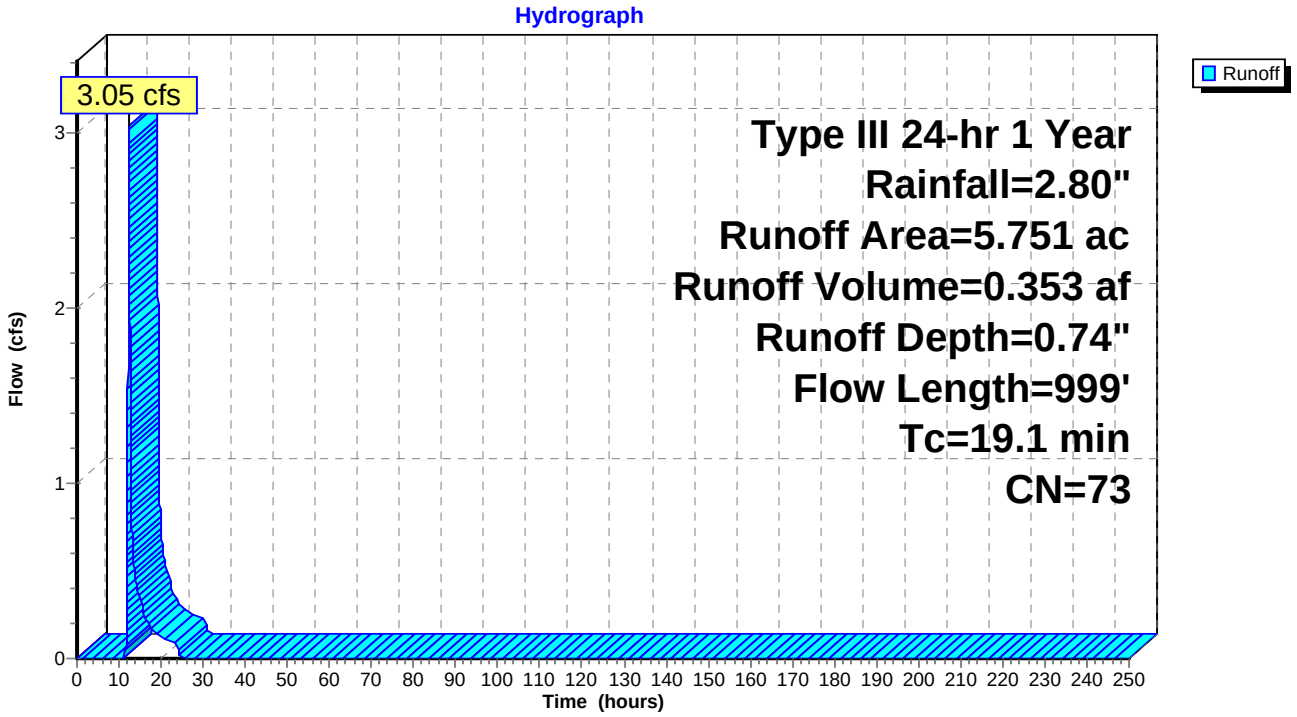
Runoff = 3.05 cfs @ 12.29 hrs, Volume= 0.353 af, Depth= 0.74"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 Year Rainfall=2.80"

Area (ac)	CN	Description
1.912	98	Paved roads w/curbs & sewers
3.319	61	>75% Grass cover, Good, HSG B
0.520	55	Woods, Good, HSG B
5.751	73	Weighted Average
3.839		66.75% Pervious Area
1.912		33.25% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.5	100	0.0900	0.15		**Sheet Flow, 1 to 2** Grass: Bermuda n= 0.410 P2= 3.50"
5.8	423	0.0300	1.21		**Shallow Concentrated Flow, 2 to 3** Short Grass Pasture Kv= 7.0 fps
0.5	74	0.0140	2.40		**Shallow Concentrated Flow, 3 to 4 (Road)** Paved Kv= 20.3 fps
0.1	25	0.0100	4.54	3.56	**Pipe Channel, 4 to 5** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.6	167	0.0120	4.97	3.90	**Pipe Channel, 5 to 6** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.4	70	0.0090	2.60	3.19	**Pipe Channel, 6 to 7** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.025 Corrugated metal
0.2	140	0.1510	12.01	21.23	**Pipe Channel, 7 to 8** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.025 Corrugated metal
19.1	999	Total			

Subcatchment 2A: Drainage Area 2A



Summary for Subcatchment 2B: Drainage Area 2B

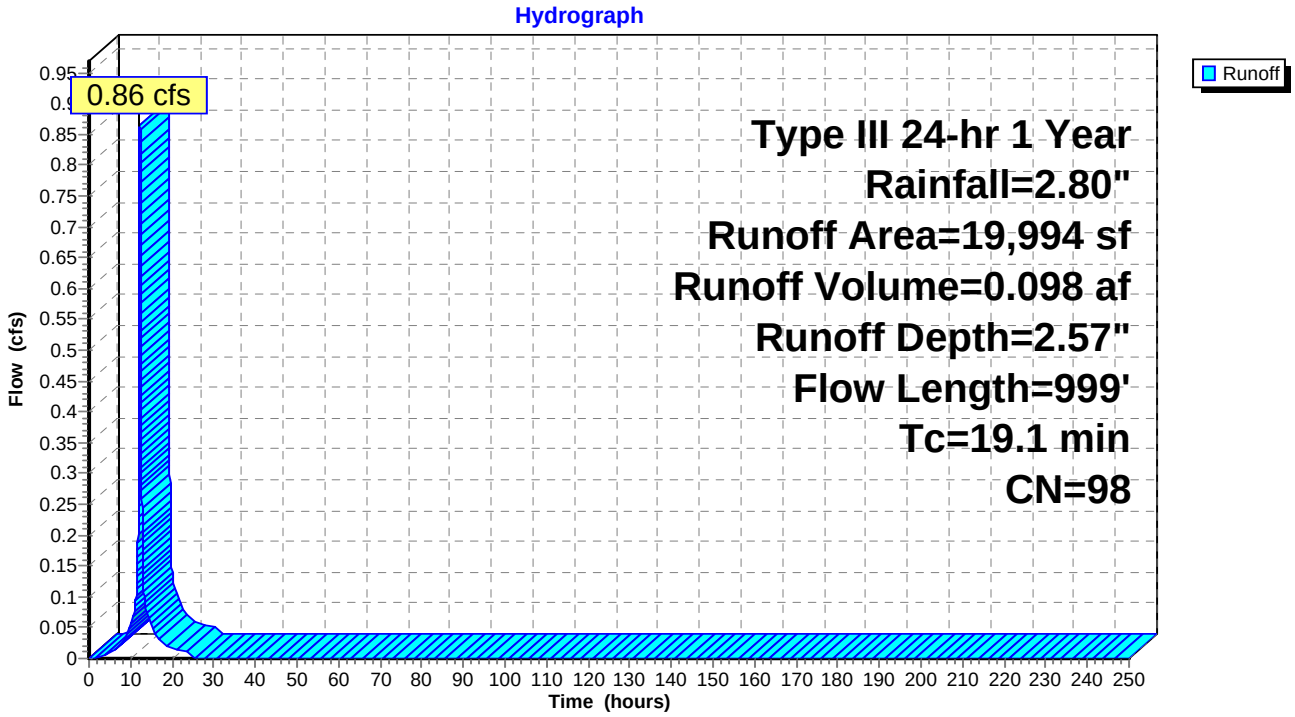
Runoff = 0.86 cfs @ 12.25 hrs, Volume= 0.098 af, Depth= 2.57"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 Year Rainfall=2.80"

Area (sf)	CN	Description
19,994	98	Paved roads w/curbs & sewers
19,994		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.5	100	0.0900	0.15		**Sheet Flow, 1 to 2** Grass: Bermuda n= 0.410 P2= 3.50"
5.8	423	0.0300	1.21		**Shallow Concentrated Flow, 2 to 3** Short Grass Pasture Kv= 7.0 fps
0.5	74	0.0140	2.40		**Shallow Concentrated Flow, 3 to 4 (Road)** Paved Kv= 20.3 fps
0.1	25	0.0100	4.54	3.56	**Pipe Channel, 4 to 5** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.6	167	0.0120	4.97	3.90	**Pipe Channel, 5 to 6** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.4	70	0.0090	2.60	3.19	**Pipe Channel, 6 to 7** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.025 Corrugated metal
0.2	140	0.1510	12.01	21.23	**Pipe Channel, 7 to 8** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.025 Corrugated metal
19.1	999	Total			

Subcatchment 2B: Drainage Area 2B



Summary for Subcatchment 3: Drainage Area 3

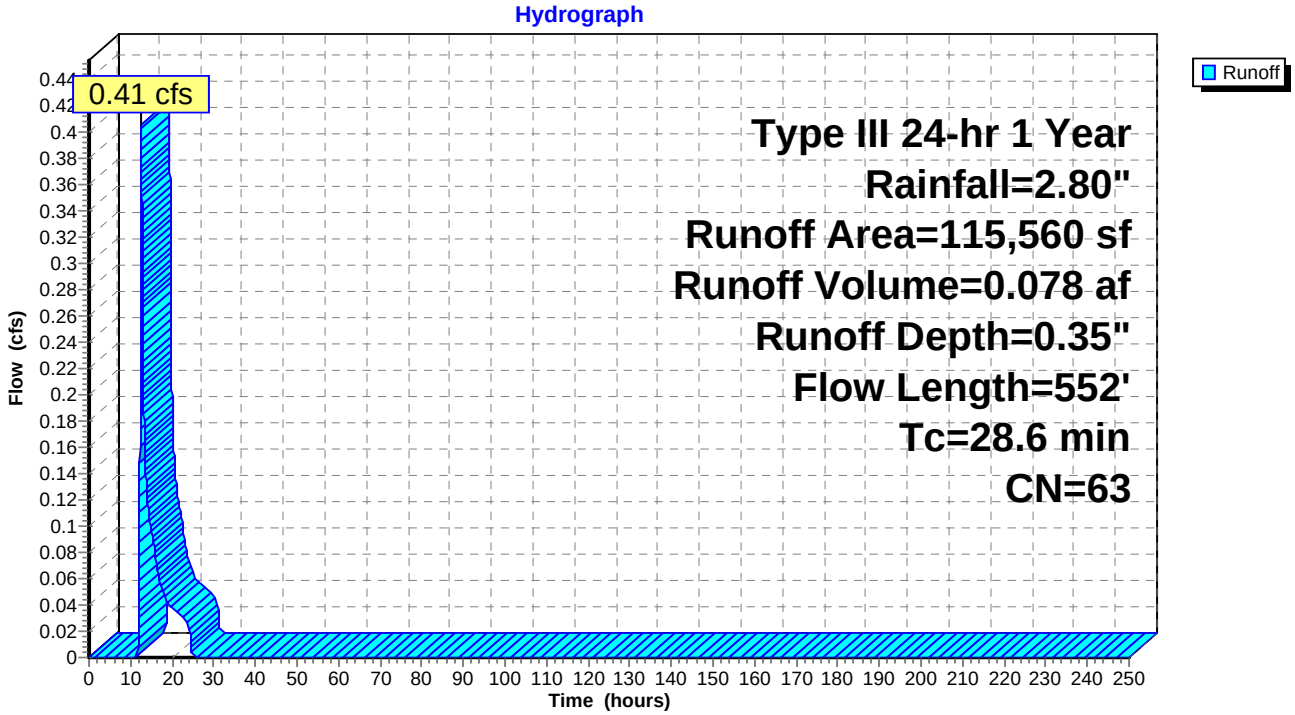
Runoff = 0.41 cfs @ 12.55 hrs, Volume= 0.078 af, Depth= 0.35"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 Year Rainfall=2.80"

Area (sf)	CN	Description
49,852	61	>75% Grass cover, Good, HSG B
56,494	60	Woods, Fair, HSG B
9,214	98	Paved roads w/curbs & sewers
115,560	63	Weighted Average
106,346		92.03% Pervious Area
9,214		7.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.4	118	0.0320	0.10		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
2.5	87	0.0140	0.59		**Shallow Concentrated Flow, 2 to 3** Woodland Kv= 5.0 fps
1.2	159	0.1940	2.20		**Shallow Concentrated Flow, 3 to 4** Woodland Kv= 5.0 fps
5.5	188	0.0130	0.57		**Shallow Concentrated Flow, 4 to DP 3** Woodland Kv= 5.0 fps
28.6	552	Total			

Subcatchment 3: Drainage Area 3



Summary for Subcatchment 4: Drainage Area 4

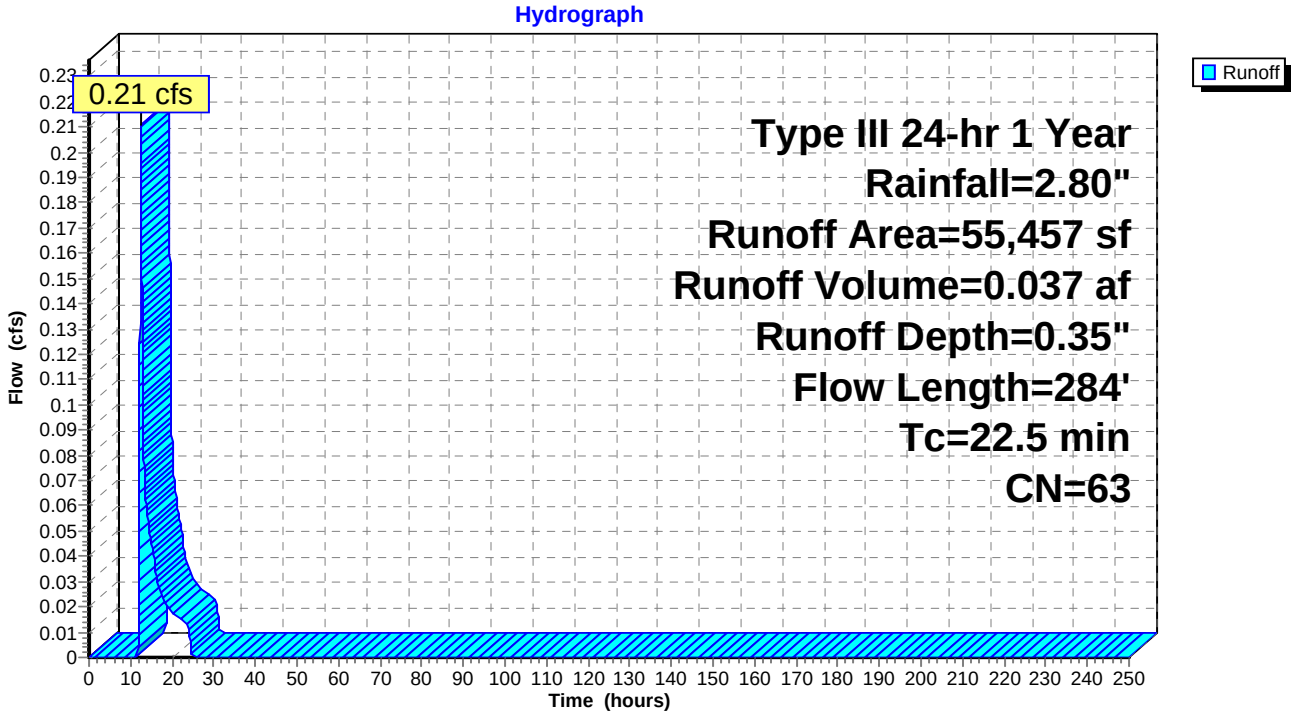
Runoff = 0.21 cfs @ 12.47 hrs, Volume= 0.037 af, Depth= 0.35"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 Year Rainfall=2.80"

Area (sf)	CN	Description
31,781	60	Woods, Fair, HSG B
4,042	98	Paved roads w/curbs & sewers
19,634	61	>75% Grass cover, Good, HSG B
55,457	63	Weighted Average
51,415		92.71% Pervious Area
4,042		7.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.9	207	0.0860	0.16		**Sheet Flow, 1 to 2** Grass: Bermuda n= 0.410 P2= 3.50"
1.6	77	0.0130	0.80		**Shallow Concentrated Flow, 2 to DP 4** Short Grass Pasture Kv= 7.0 fps
22.5	284	Total			

Subcatchment 4: Drainage Area 4



Summary for Subcatchment 5: Drainage Area 5

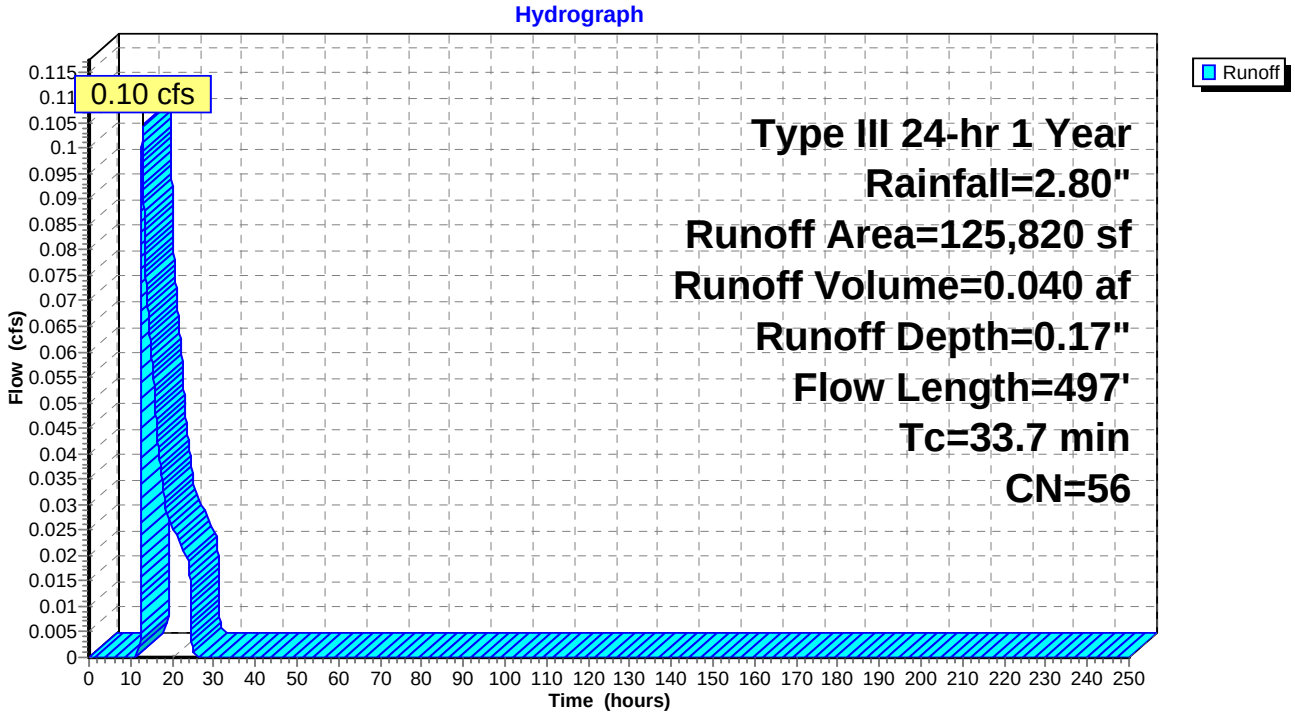
Runoff = 0.10 cfs @ 12.84 hrs, Volume= 0.040 af, Depth= 0.17"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 Year Rainfall=2.80"

Area (sf)	CN	Description
23,735	61	>75% Grass cover, Good, HSG B
101,385	55	Woods, Good, HSG B
700	98	Paved parking, HSG B
125,820	56	Weighted Average
125,120		99.44% Pervious Area
700		0.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.9	135	0.0150	0.08		**Sheet Flow, 1 to 2** Grass: Bermuda n= 0.410 P2= 3.50"
3.8	362	0.1020	1.60		**Shallow Concentrated Flow, 2 to DP 4** Woodland Kv= 5.0 fps
33.7	497	Total			

Subcatchment 5: Drainage Area 5



Summary for Subcatchment 6A: Drainage Area 6

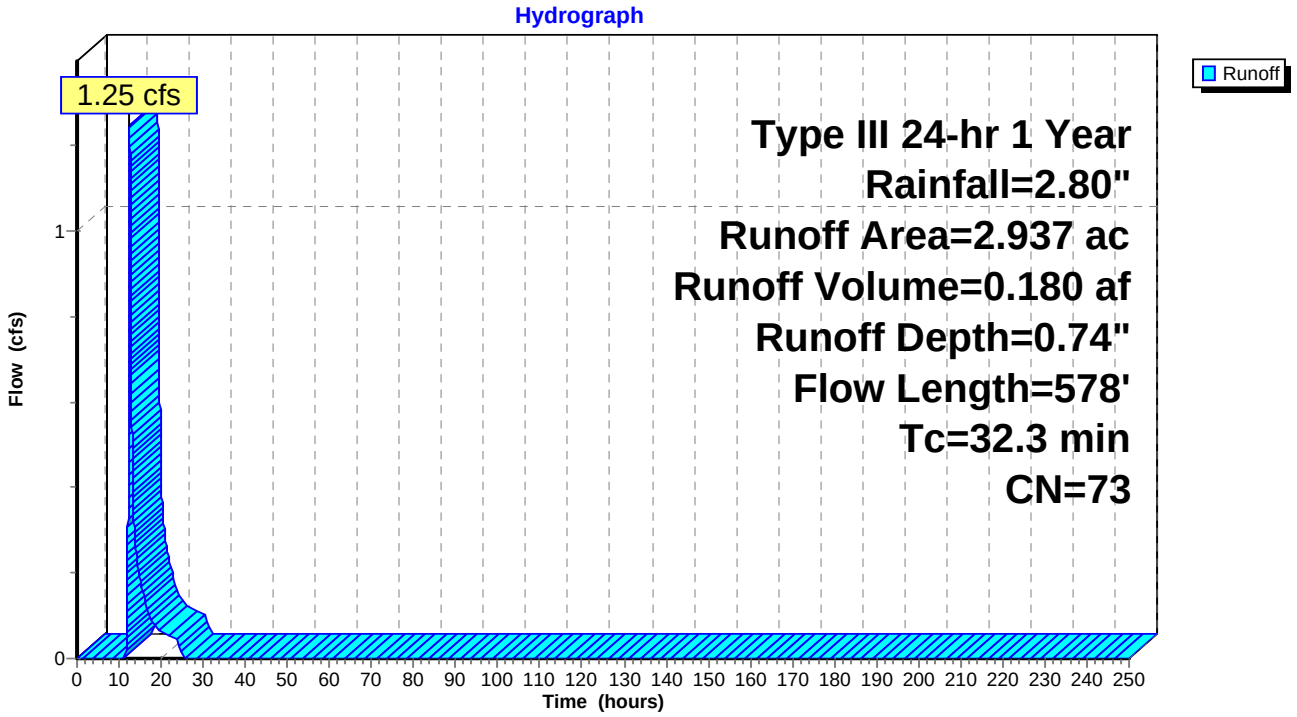
Runoff = 1.25 cfs @ 12.52 hrs, Volume= 0.180 af, Depth= 0.74"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 Year Rainfall=2.80"

Area (ac)	CN	Description
0.893	55	Woods, Good, HSG B
1.109	98	Paved roads w/curbs & sewers
0.935	61	>75% Grass cover, Good, HSG B
2.937	73	Weighted Average
1.828		62.24% Pervious Area
1.109		37.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.6	185	0.0600	0.14		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
0.5	214	0.1180	6.97		**Shallow Concentrated Flow, 2 to 3** Paved Kv= 20.3 fps
0.0	17	0.0120	6.25	7.67	**Pipe Channel, 3 to 4 (Catchbasins)** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 HDPE
0.4	132	0.0077	5.22	9.22	**Pipe Channel, 4 to 5 (18" Culvert)** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 HDPE
9.8	30	0.0120	0.05		**Sheet Flow, 5 to DP 6** Grass: Bermuda n= 0.410 P2= 3.50"
32.3	578	Total			

Subcatchment 6A: Drainage Area 6



Summary for Subcatchment 6B: Drainage Area 6

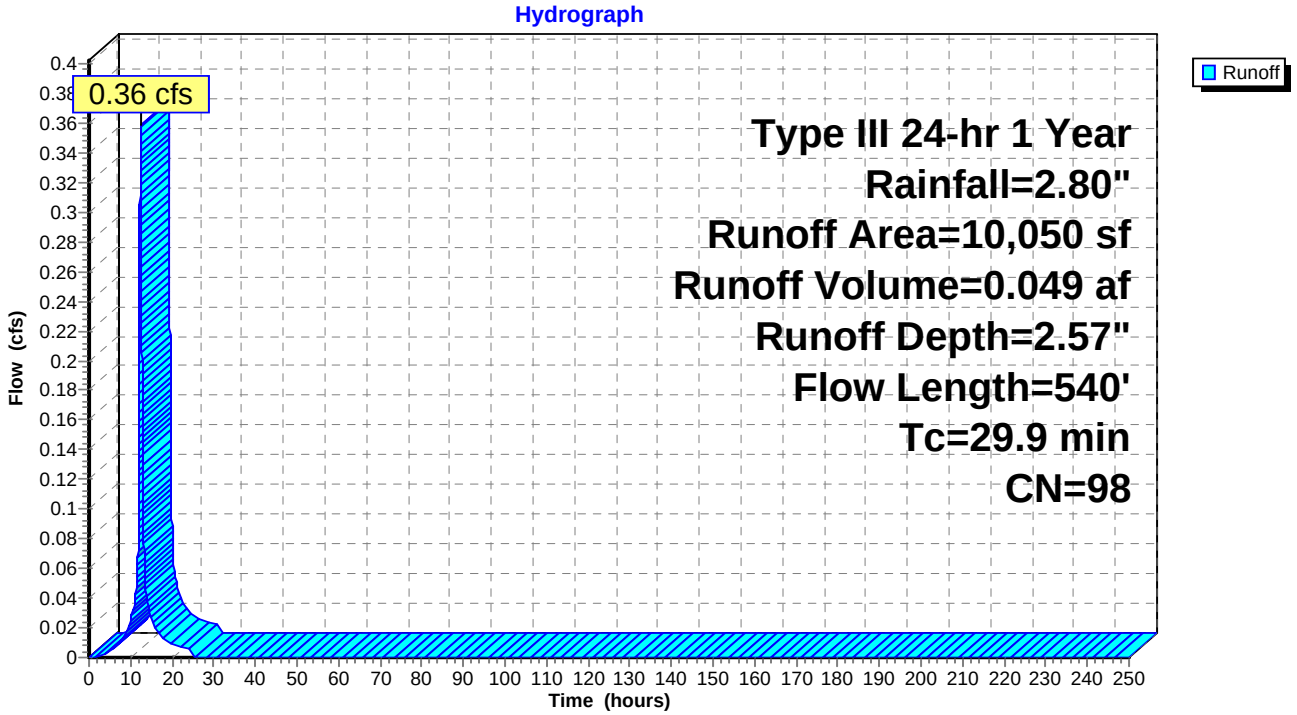
Runoff = 0.36 cfs @ 12.39 hrs, Volume= 0.049 af, Depth= 2.57"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 Year Rainfall=2.80"

Area (sf)	CN	Description
10,050	98	Paved roads w/curbs & sewers
10,050		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.6	185	0.0600	0.14		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
0.5	214	0.1180	6.97		**Shallow Concentrated Flow, 2 to 3** Paved Kv= 20.3 fps
0.0	17	0.0120	6.25	7.67	**Pipe Channel, 3 to 4 (Catchbasins)** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 HDPE
0.1	101	0.1730	24.72	43.69	**Pipe Channel, 4 to 5 (18" Culvert)** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 HDPE
7.7	23	0.0130	0.05		**Sheet Flow, 5 to DP 6** Grass: Bermuda n= 0.410 P2= 3.50"
29.9	540	Total			

Subcatchment 6B: Drainage Area 6



Summary for Subcatchment 6c: Drainage Area 6

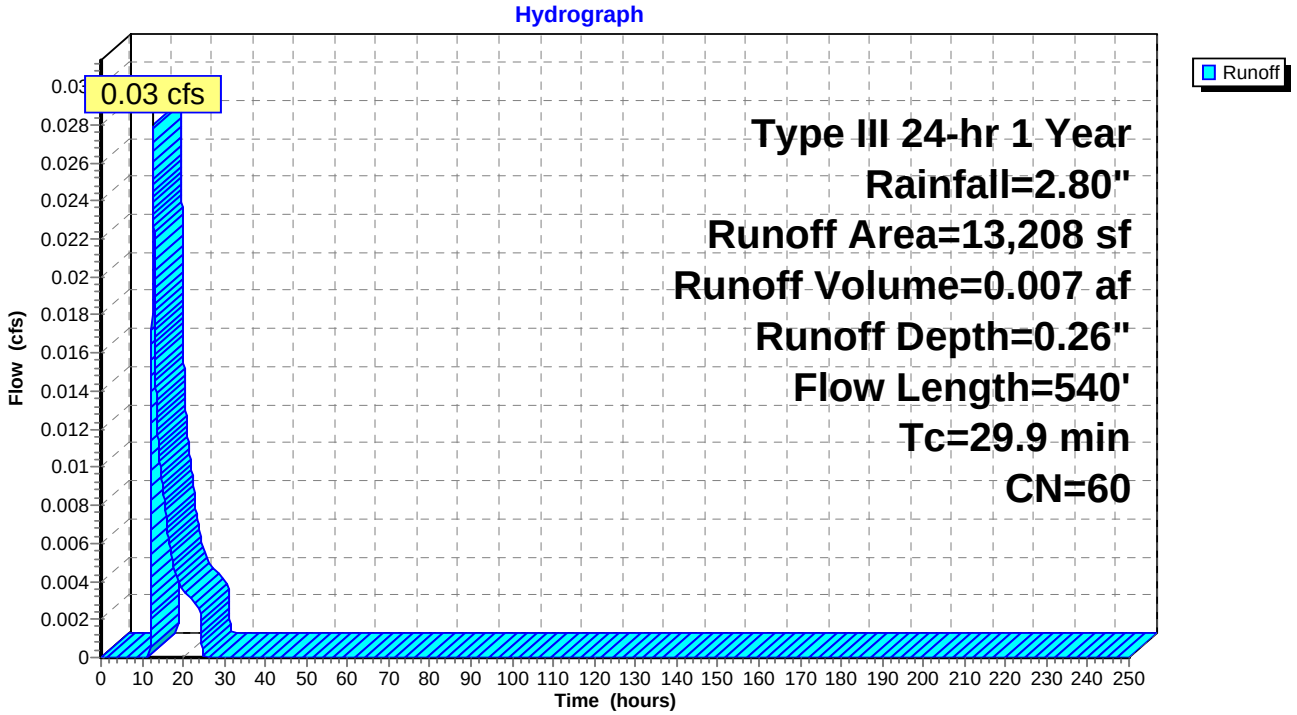
Runoff = 0.03 cfs @ 12.65 hrs, Volume= 0.007 af, Depth= 0.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 Year Rainfall=2.80"

Area (sf)	CN	Description
13,208	60	Woods, Fair, HSG B
13,208		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.6	185	0.0600	0.14		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
0.5	214	0.1180	6.97		**Shallow Concentrated Flow, 2 to 3** Paved Kv= 20.3 fps
0.0	17	0.0120	6.25	7.67	**Pipe Channel, 3 to 4 (Catchbasins)** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 HDPE
0.1	101	0.1730	24.72	43.69	**Pipe Channel, 4 to 5 (18" Culvert)** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 HDPE
7.7	23	0.0130	0.05		**Sheet Flow, 5 to DP 6** Grass: Bermuda n= 0.410 P2= 3.50"
29.9	540	Total			

Subcatchment 6c: Drainage Area 6



Summary for Subcatchment 7: Drainage Area 7

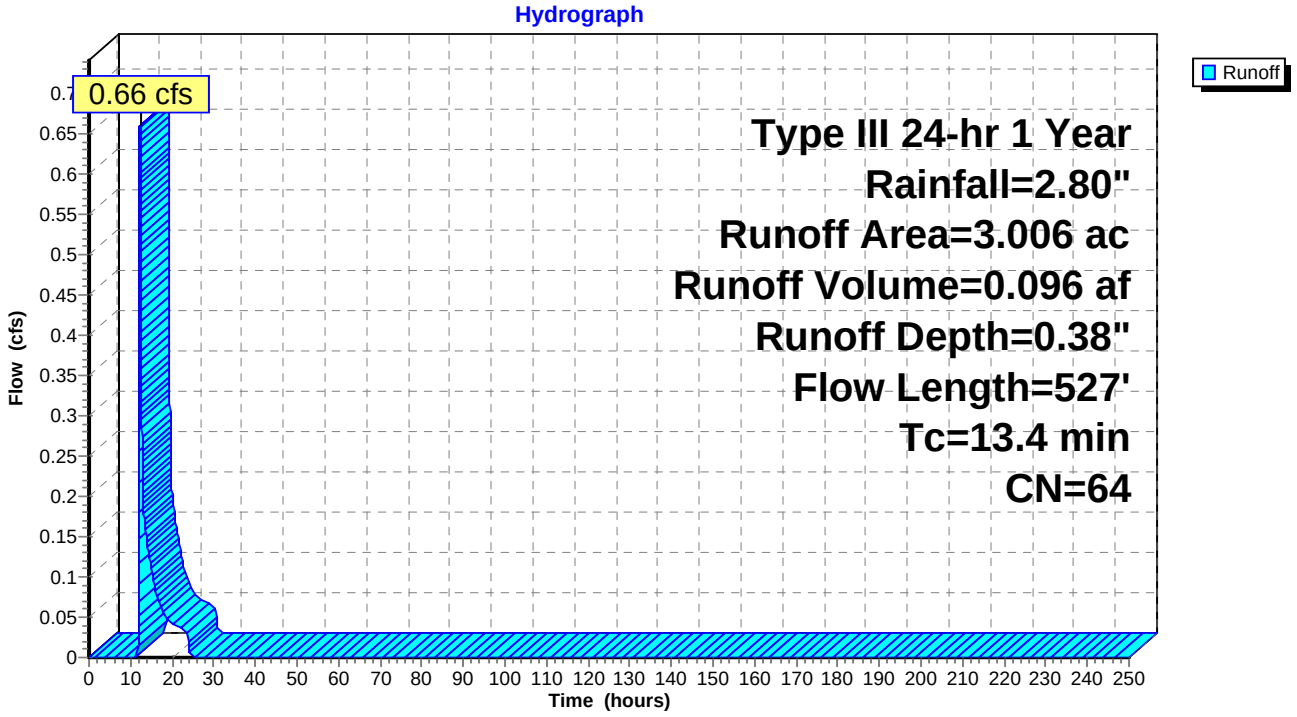
Runoff = 0.66 cfs @ 12.26 hrs, Volume= 0.096 af, Depth= 0.38"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 Year Rainfall=2.80"

Area (ac)	CN	Description
1.340	60	Woods, Fair, HSG B
0.291	98	Paved roads w/curbs & sewers
1.375	61	>75% Grass cover, Good, HSG B
3.006	64	Weighted Average
2.715		90.32% Pervious Area
0.291		9.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.1	117	0.1620	0.19		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
0.7	100	0.2300	2.40		**Shallow Concentrated Flow, 2 to 3** Woodland Kv= 5.0 fps
1.2	164	0.2010	2.24		**Shallow Concentrated Flow, 3 to 4** Woodland Kv= 5.0 fps
1.4	146	0.1230	1.75		**Shallow Concentrated Flow, 3 to DP 7** Woodland Kv= 5.0 fps
13.4	527	Total			

Subcatchment 7: Drainage Area 7



Summary for Subcatchment 8: Drainage Area 8

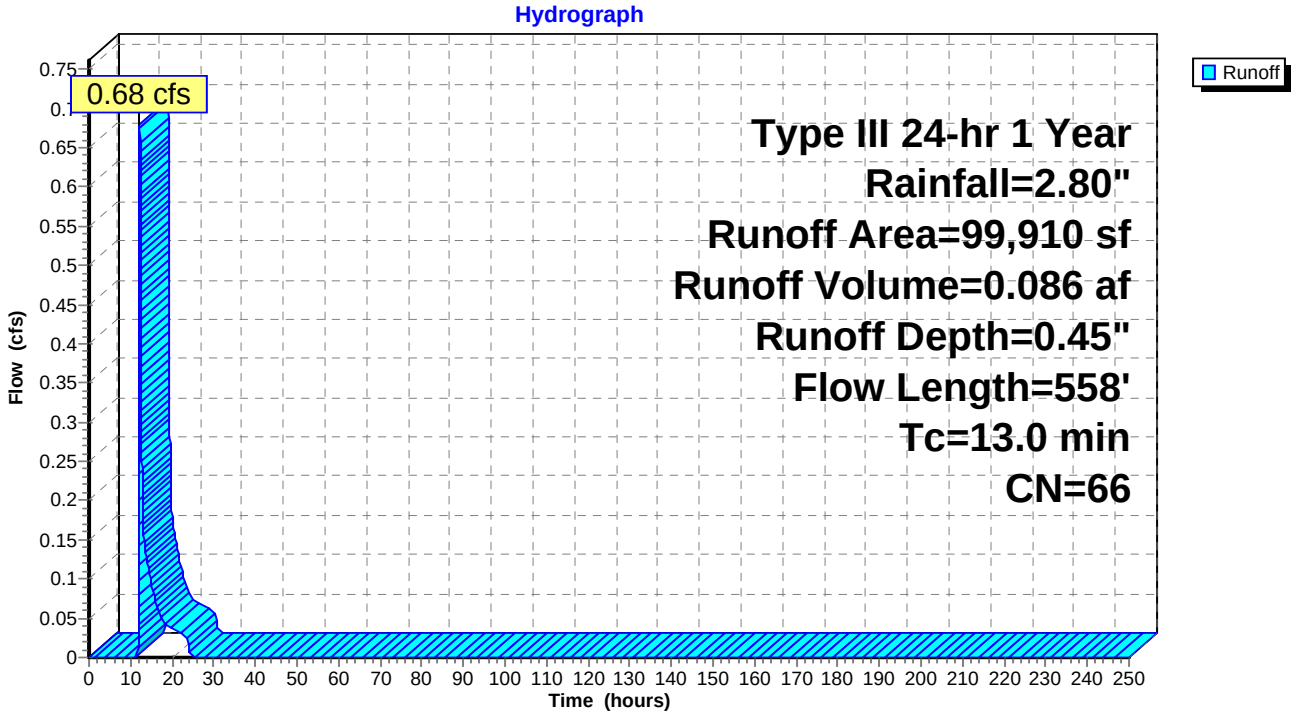
Runoff = 0.68 cfs @ 12.23 hrs, Volume= 0.086 af, Depth= 0.45"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 Year Rainfall=2.80"

Area (sf)	CN	Description
41,570	60	Woods, Fair, HSG B
15,772	98	Paved roads w/curbs & sewers
42,568	61	>75% Grass cover, Good, HSG B
99,910	66	Weighted Average
84,138		84.21% Pervious Area
15,772		15.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	100	0.1300	0.17		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
3.1	362	0.1550	1.97		**Shallow Concentrated Flow, 2 to 3** Woodland Kv= 5.0 fps
0.2	96	0.1150	6.88		**Shallow Concentrated Flow, 3 to DP 8** Paved Kv= 20.3 fps
13.0	558	Total			

Subcatchment 8: Drainage Area 8



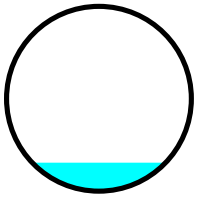
Summary for Reach 1R: 18"

Inflow Area = 2.937 ac, 37.76% Impervious, Inflow Depth = 0.74" for 1 Year event
Inflow = 1.25 cfs @ 12.52 hrs, Volume= 0.180 af
Outflow = 1.25 cfs @ 12.52 hrs, Volume= 0.180 af, Atten= 0%, Lag= 0.1 min

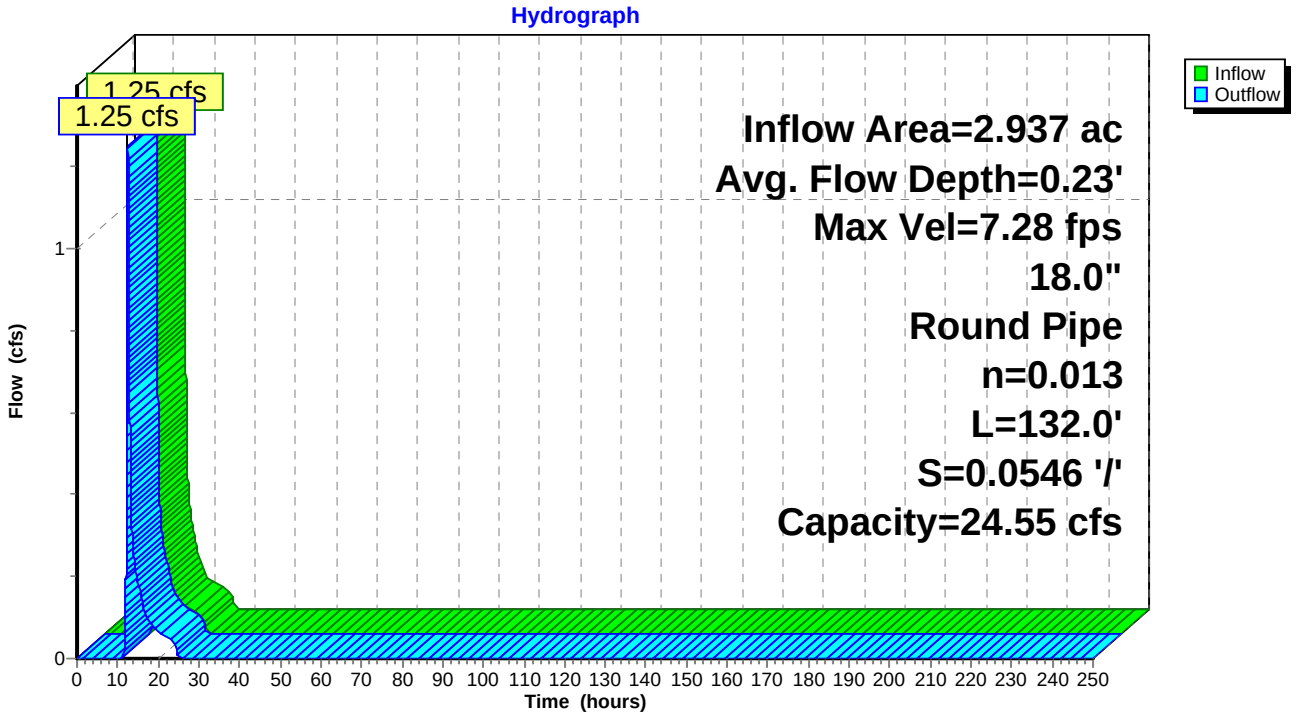
Routing by Stor-Ind method, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Max. Velocity= 7.28 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 3.38 fps, Avg. Travel Time= 0.7 min

Peak Storage= 23 cf @ 12.52 hrs
Average Depth at Peak Storage= 0.23'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 24.55 cfs

18.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 132.0' Slope= 0.0546 '/'
Inlet Invert= 374.01', Outlet Invert= 366.80'



Reach 1R: 18"



Summary for Pond 1P: Pond - D

Inflow Area = 2.937 ac, 37.76% Impervious, Inflow Depth = 0.74" for 1 Year event
Inflow = 1.25 cfs @ 12.52 hrs, Volume= 0.180 af
Outflow = 1.25 cfs @ 12.52 hrs, Volume= 0.180 af, Atten= 0%, Lag= 0.0 min
Primary = 1.25 cfs @ 12.52 hrs, Volume= 0.180 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

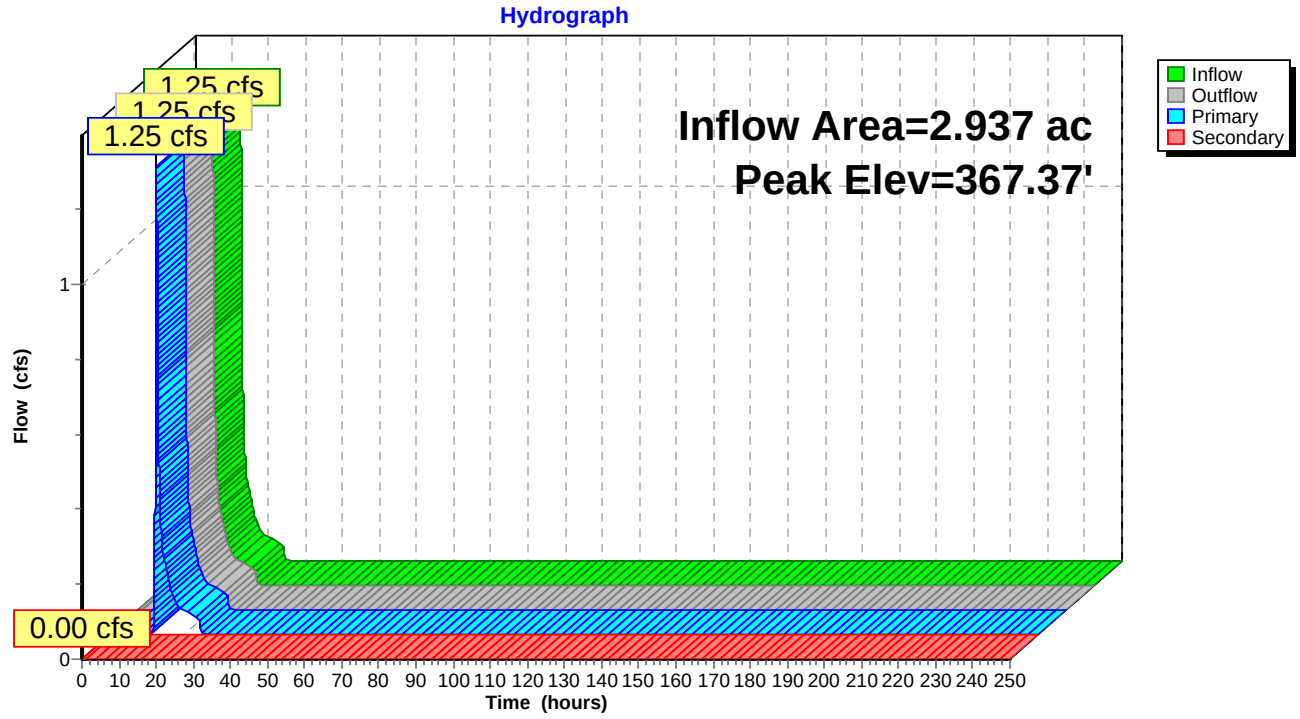
Routing by Stor-Ind method, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Peak Elev= 367.37' @ 12.52 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	366.80'	**18.0" Round Culvert** L= 6.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 366.80' / 361.00' S= 0.9667 '/' Cc= 0.900 n= 0.025 Corrugated metal
#2	Secondary	371.19'	**57.0" W x 57.0" H Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=1.24 cfs @ 12.52 hrs HW=367.37' (Free Discharge)
└**1=Culvert** (Inlet Controls 1.24 cfs @ 2.03 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=366.80' (Free Discharge)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 1P: Pond - D



Summary for Pond 3P: Detention Pond

Inflow	=	0.00 cfs @	0.00 hrs, Volume=	0.000 af
Outflow	=	0.00 cfs @	0.00 hrs, Volume=	0.000 af, Atten= 0%, Lag= 0.0 min
Primary	=	0.00 cfs @	0.00 hrs, Volume=	0.000 af
Secondary	=	0.00 cfs @	0.00 hrs, Volume=	0.000 af

Routing by Stor-Ind method, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Peak Elev= 363.00' @ 0.00 hrs Surf.Area= 0 sf Storage= 0 cf

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

Volume	Invert	Avail.Storage	Storage Description
#1	363.00'	39,443 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

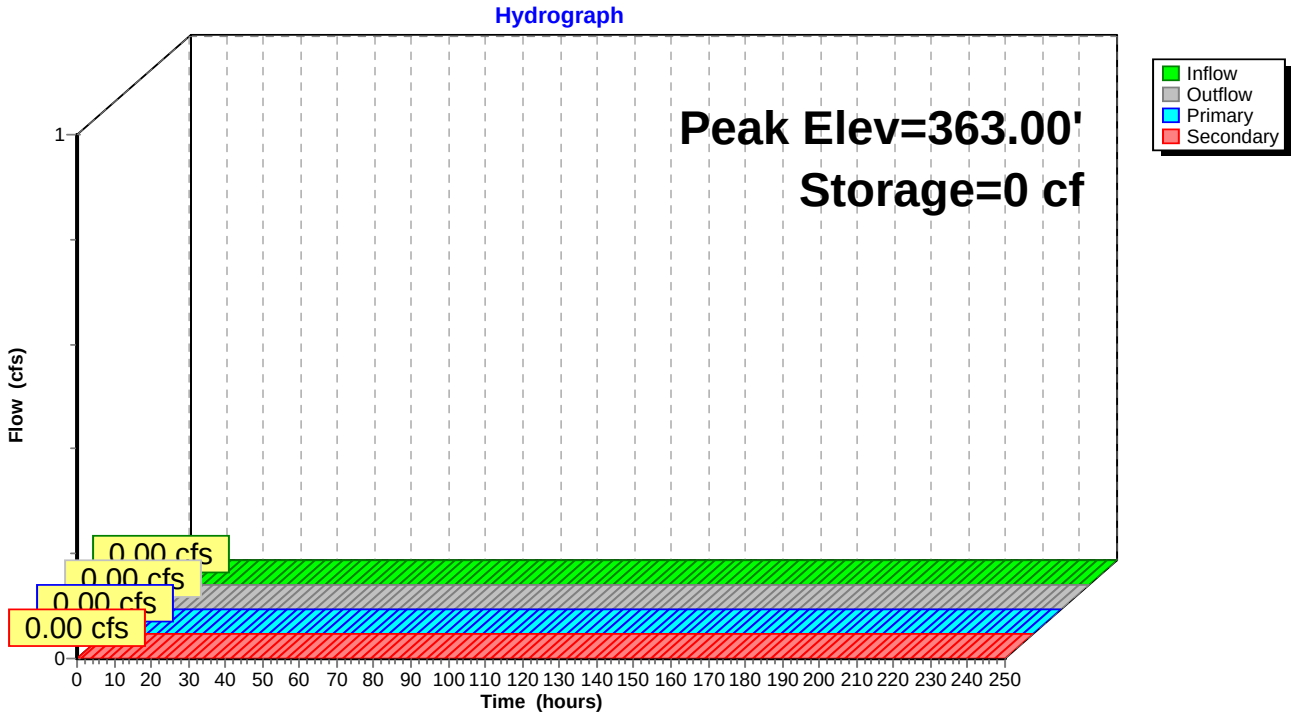
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
363.00	0	0	0
364.00	1,137	569	569
366.00	2,172	3,309	3,878
368.00	3,441	5,613	9,491
370.00	5,233	8,674	18,165
372.00	7,184	12,417	30,582
373.00	7,500	7,342	37,924
373.20	7,700	1,520	39,443

Device	Routing	Invert	Outlet Devices
#1	Primary	363.00'	**10.000 in/hr Exfiltration over Surface area**
#2	Secondary	373.00'	**208.0' long x 10.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=363.00' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=363.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 3P: Detention Pond



Summary for Pond 4P: Detention Pond

Inflow Area = 5.751 ac, 33.25% Impervious, Inflow Depth = 0.74" for 1 Year event
Inflow = 3.05 cfs @ 12.29 hrs, Volume= 0.353 af
Outflow = 0.44 cfs @ 14.06 hrs, Volume= 0.353 af, Atten= 86%, Lag= 106.3 min
Primary = 0.44 cfs @ 14.06 hrs, Volume= 0.353 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Peak Elev= 369.34' @ 14.06 hrs Surf.Area= 1,886 sf Storage= 6,164 cf

Plug-Flow detention time= 184.5 min calculated for 0.353 af (100% of inflow)
Center-of-Mass det. time= 184.5 min (1,071.3 - 886.9)

Volume	Invert	Avail.Storage	Storage Description
#1	363.00'	12,557 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

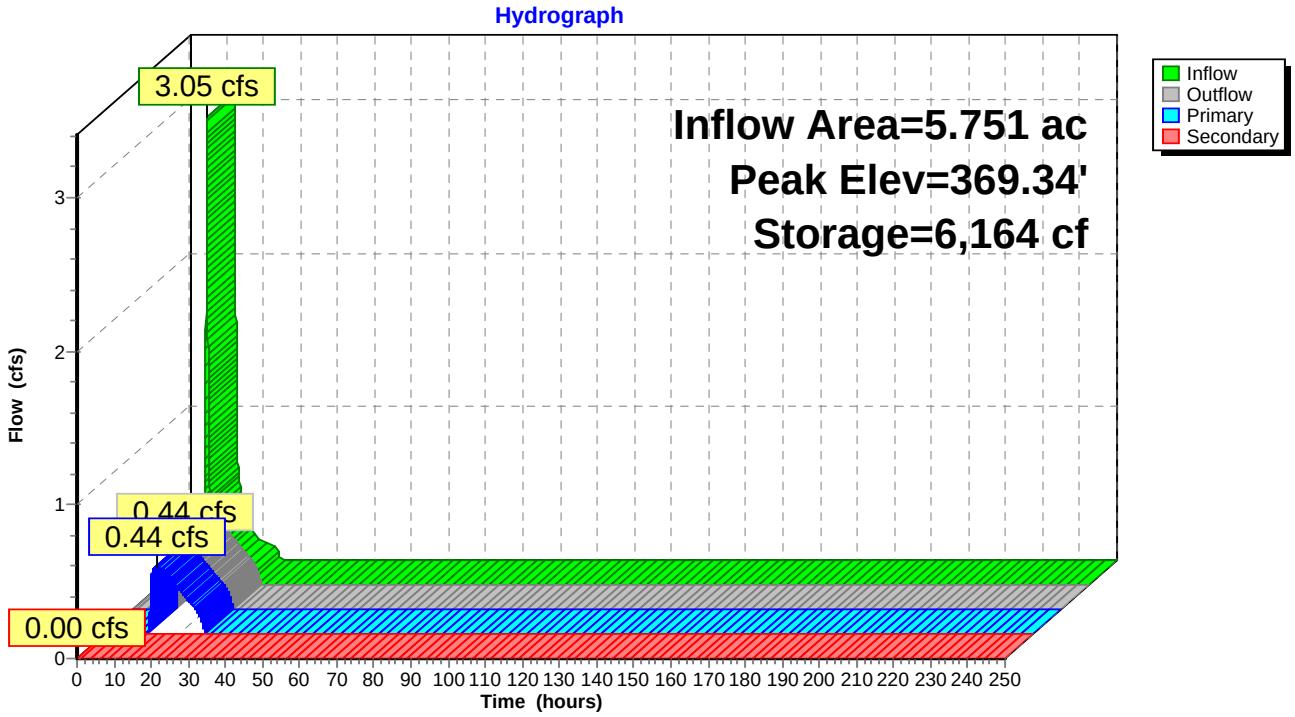
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
363.00	0	0	0
364.00	448	224	224
366.00	893	1,341	1,565
368.00	1,459	2,352	3,917
370.00	2,095	3,554	7,471
372.00	2,739	4,834	12,305
372.09	2,850	252	12,557

Device	Routing	Invert	Outlet Devices
#1	Primary	363.00'	**10.000 in/hr Exfiltration over Surface area**
#2	Device 3	372.00'	**54.0' long x 1.5' 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 Coef. (English) 2.62 2.64 2.64 2.68 2.75 2.86 2.92 3.07 3.07 3.03 3.28 3.32
#3	Secondary	371.00'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 1.00 Width (feet) 2.00 2.00

Primary OutFlow Max=0.44 cfs @ 14.06 hrs HW=369.34' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.44 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=363.00' (Free Discharge)
└**3=Custom Weir/Orifice** (Controls 0.00 cfs)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 4P: Detention Pond



Summary for Pond 6P: Drywells

Inflow Area = 0.231 ac,100.00% Impervious, Inflow Depth = 2.57" for 1 Year event
Inflow = 0.36 cfs @ 12.39 hrs, Volume= 0.049 af
Outflow = 0.18 cfs @ 12.79 hrs, Volume= 0.049 af, Atten= 49%, Lag= 23.9 min
Primary = 0.18 cfs @ 12.79 hrs, Volume= 0.049 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Peak Elev= 386.63' @ 12.79 hrs Surf.Area= 1,218 sf Storage= 309 cf

Plug-Flow detention time= 10.6 min calculated for 0.049 af (100% of inflow)
Center-of-Mass det. time= 10.6 min (792.1 - 781.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	386.00'	1,291 cf	**27.68'W x 44.00'L x 4.83'H Field A** 5,883 cf Overall - 2,655 cf Embedded = 3,227 cf x 40.0% Voids
#2A	387.00'	2,058 cf	**Dry_Well 1000 Gallon** x 16 Inside #1 Inside= 62.0"W x 30.0"H => 12.86 sf x 10.00'L = 128.6 cf Outside= 68.0"W x 34.0"H => 15.81 sf x 10.50'L = 166.0 cf
		3,349 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	386.00'	**6.000 in/hr Exfiltration over Wetted area**
#2	Secondary	393.00'	**24.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=0.18 cfs @ 12.79 hrs HW=386.63' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.18 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=386.00' (Free Discharge)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 6P: Drywells - Chamber Wizard Field A

Chamber Model = Dry_Well 1000 Gallon
Inside= 62.0"W x 30.0"H => 12.86 sf x 10.00'L = 128.6 cf
Outside= 68.0"W x 34.0"H => 15.81 sf x 10.50'L = 166.0 cf

68.0" Wide + 12.0" Spacing = 80.0" C-C

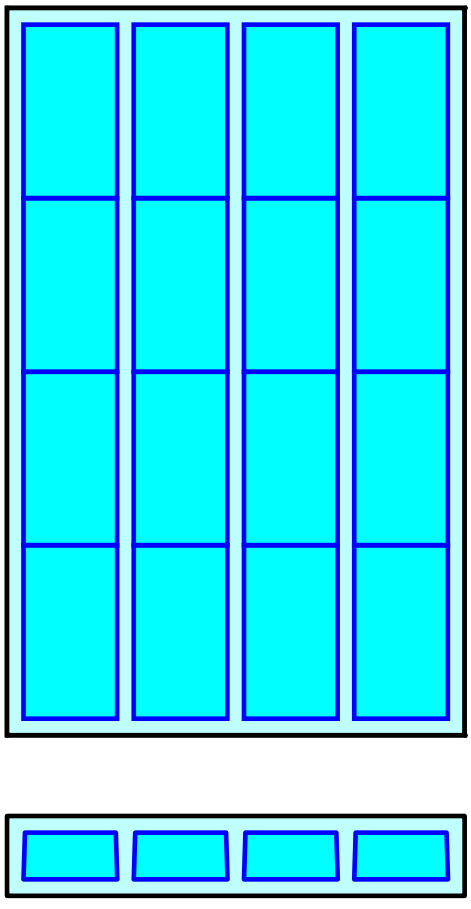
4 Chambers/Row x 10.50' Long = 42.00' + 12.0" End Stone x 2 = 44.00' Base Length
4 Rows x 68.0" Wide + 12.0" Spacing x 3 + 12.0" Side Stone x 2 = 27.68' Base Width
12.0" Base + 34.0" Chamber Height + 12.0" Cover = 4.83' Field Height

16 Chambers x 128.6 cf = 2,058.4 cf Chamber Storage
16 Chambers x 166.0 cf = 2,655.4 cf Displacement

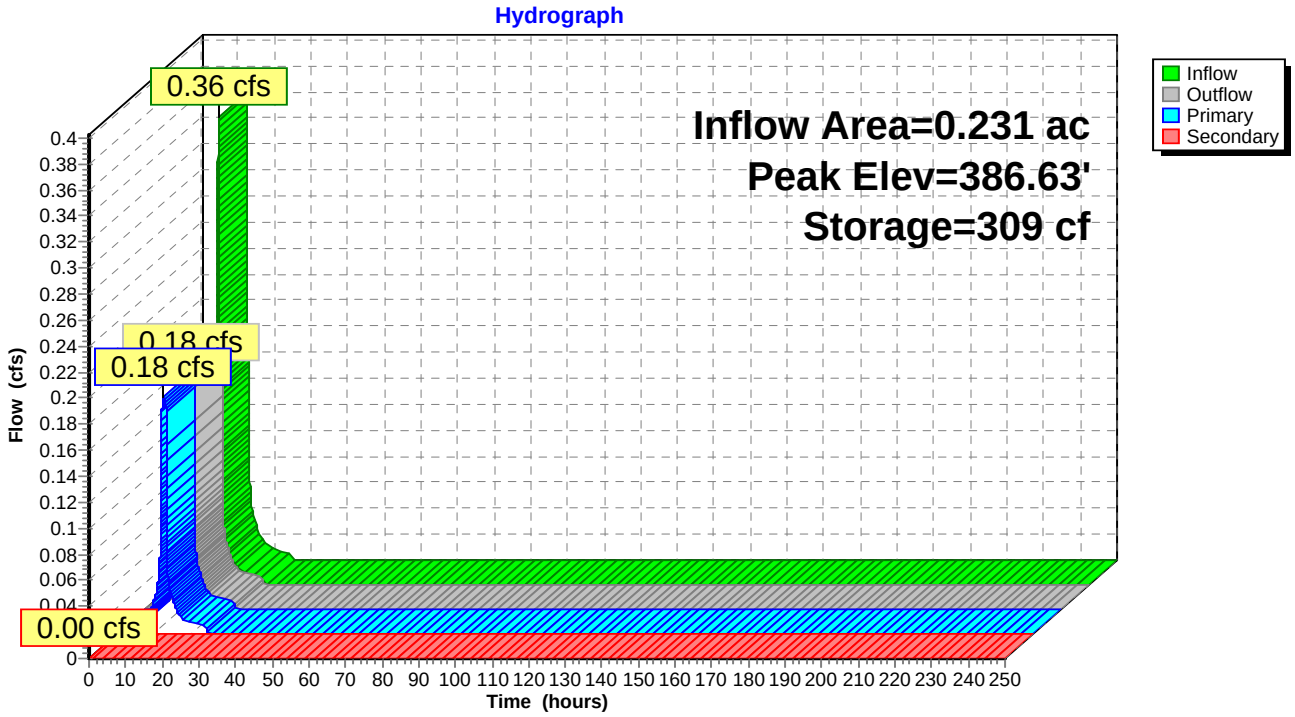
5,882.6 cf Field - 2,655.4 cf Chambers = 3,227.2 cf Stone x 40.0% Voids = 1,290.9 cf Stone Storage

Stone + Chamber Storage = 3,349.3 cf = 0.077 af

16 Chambers
217.9 cy Field
119.5 cy Stone



Pond 6P: Drywells



Summary for Pond 7P: Stormwater Treatment Pond #2

Inflow Area = 2.937 ac, 37.76% Impervious, Inflow Depth = 0.74" for 1 Year event
Inflow = 1.25 cfs @ 12.52 hrs, Volume= 0.180 af
Outflow = 1.20 cfs @ 12.60 hrs, Volume= 0.180 af, Atten= 4%, Lag= 4.8 min
Primary = 0.17 cfs @ 12.60 hrs, Volume= 0.119 af
Secondary = 1.03 cfs @ 12.60 hrs, Volume= 0.061 af
Tertiary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Peak Elev= 363.79' @ 12.60 hrs Surf.Area= 715 sf Storage= 1,109 cf

Plug-Flow detention time= 55.0 min calculated for 0.180 af (100% of inflow)
Center-of-Mass det. time= 55.0 min (954.6 - 899.6)

Volume	Invert	Avail.Storage	Storage Description
#1	361.00'	2,605 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
361.00	100	0	0
362.00	300	200	200
364.00	763	1,063	1,263
365.00	1,132	948	2,211
365.30	1,500	395	2,605

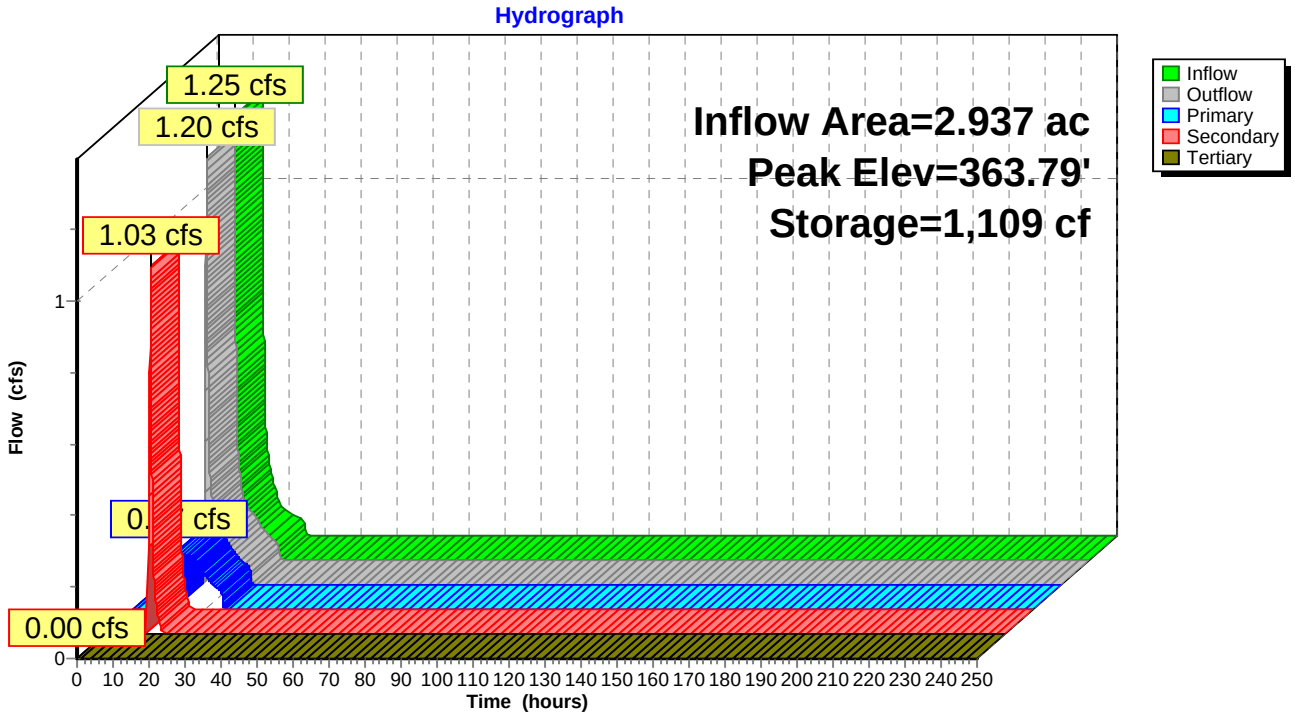
Device	Routing	Invert	Outlet Devices
#1	Primary	361.00'	**10.000 in/hr Exfiltration over Surface area**
#2	Secondary	363.50'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 1.50 Width (feet) 2.00 2.00
#3	Tertiary	365.10'	**93.0' long x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 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 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Primary OutFlow Max=0.17 cfs @ 12.60 hrs HW=363.79' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.17 cfs)

Secondary OutFlow Max=1.03 cfs @ 12.60 hrs HW=363.79' (Free Discharge)
└**2=Custom Weir/Orifice** (Weir Controls 1.03 cfs @ 1.77 fps)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=361.00' (Free Discharge)
└**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 7P: Stormwater Treatment Pond #2



Summary for Pond 8P: Stormwater Treatment Pond #1

Inflow	=	1.03 cfs @	12.60 hrs, Volume=	0.061 af
Outflow	=	0.70 cfs @	12.86 hrs, Volume=	0.061 af, Atten= 33%, Lag= 15.6 min
Primary	=	0.21 cfs @	12.86 hrs, Volume=	0.032 af
Secondary	=	0.49 cfs @	12.86 hrs, Volume=	0.029 af

Routing by Stor-Ind method, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Peak Elev= 362.12' @ 12.86 hrs Surf.Area= 897 sf Storage= 674 cf

Plug-Flow detention time= 17.9 min calculated for 0.061 af (100% of inflow)
Center-of-Mass det. time= 17.9 min (805.2 - 787.3)

Volume	Invert	Avail.Storage	Storage Description
#1	361.00'	5,867 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

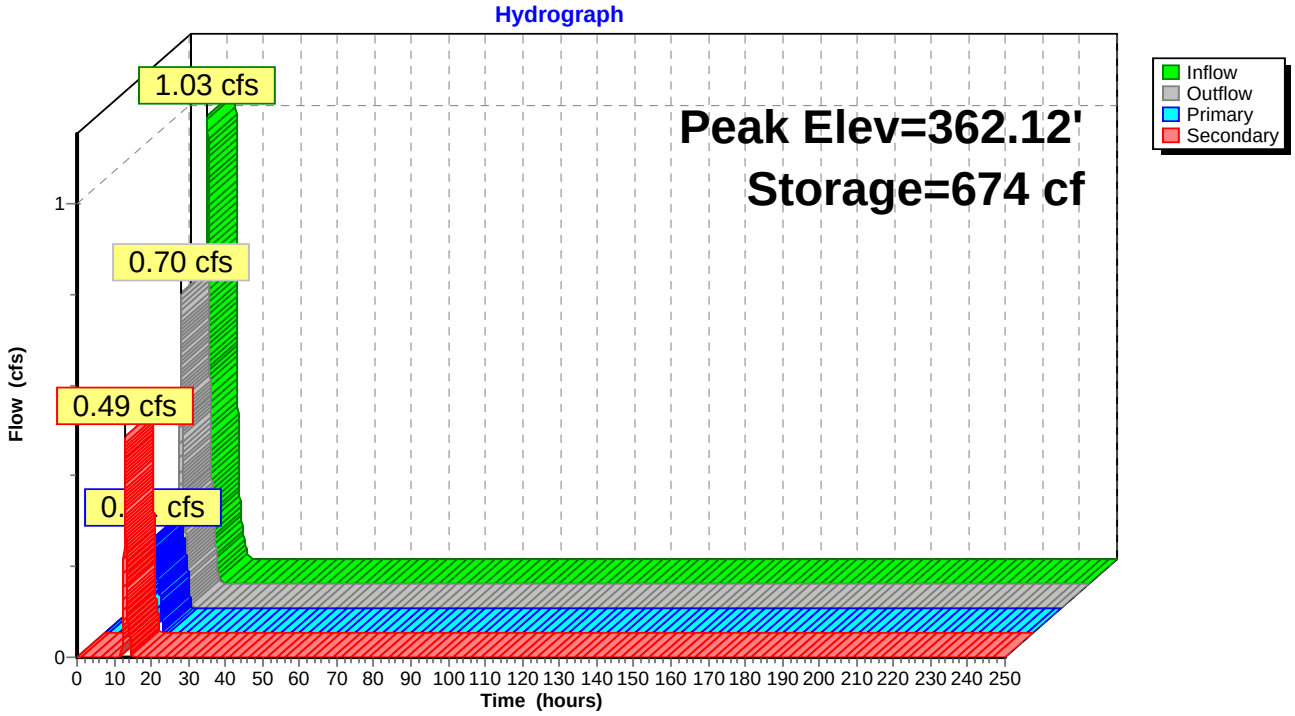
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
361.00	300	0	0
362.00	842	571	571
364.00	1,772	2,614	3,185
365.00	2,163	1,968	5,153
365.30	2,600	714	5,867

Device	Routing	Invert	Outlet Devices
#1	Secondary	361.00'	**24.0" Round Culvert** L= 200.0' CMP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 361.00' / 330.00' S= 0.1550 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior
#2	Device 1	361.10'	**2.0" Vert. Orifice/Grate (0 yr)** C= 0.600
#3	Device 1	361.70'	**6.0" Vert. Orifice/Grate (1yr)** C= 0.600
#4	Device 1	362.30'	**7.0" Vert. Orifice/Grate(2yr)** C= 0.600
#5	Device 1	363.40'	**9.0" Vert. Orifice/Grate(10yr)** C= 0.600
#6	Device 1	364.70'	**57.0" x 57.0" Horiz. Top of Riser (100yr)** C= 0.600 Limited to weir flow at low heads
#7	Device 1	365.00'	**14.5' long x 2.0' breadth Broad-Crested Rectangular Weir (14.5)** 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32
#8	Device 1	365.20'	**100.0' long x 3.0' 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 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32
#9	Primary	361.00'	**10.000 in/hr Exfiltration over Surface area**

Primary OutFlow Max=0.21 cfs @ 12.86 hrs HW=362.12' (Free Discharge)
└**9=Exfiltration** (Exfiltration Controls 0.21 cfs)

Secondary OutFlow Max=0.49 cfs @ 12.86 hrs HW=362.12' (Free Discharge)
└**1=Culvert** (Passes 0.49 cfs of 6.51 cfs potential flow)
  ├**2=Orifice/Grate (0 yr)** (Orifice Controls 0.10 cfs @ 4.66 fps)
  ├**3=Orifice/Grate (1yr)** (Orifice Controls 0.39 cfs @ 2.20 fps)
  ├**4=Orifice/Grate(2yr)** (Controls 0.00 cfs)
  ├**5=Orifice/Grate(10yr)** (Controls 0.00 cfs)
  ├**6=Top of Riser (100yr)** (Controls 0.00 cfs)
  ├**7=Broad-Crested Rectangular Weir (14.5)** (Controls 0.00 cfs)
  └**8=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 8P: Stormwater Treatment Pond #1



Summary for Pond 9P: Drywells

Inflow Area = 0.459 ac,100.00% Impervious, Inflow Depth = 2.57" for 1 Year event
Inflow = 0.86 cfs @ 12.25 hrs, Volume= 0.098 af
Outflow = 0.25 cfs @ 11.93 hrs, Volume= 0.098 af, Atten= 71%, Lag= 0.0 min
Primary = 0.25 cfs @ 11.93 hrs, Volume= 0.098 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Peak Elev= 387.14' @ 12.73 hrs Surf.Area= 1,834 sf Storage= 950 cf

Plug-Flow detention time= 20.9 min calculated for 0.098 af (100% of inflow)
Center-of-Mass det. time= 20.9 min (792.4 - 771.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	386.00'	1,685 cf	**41.69'W x 44.00'L x 4.83'H Field A** 8,860 cf Overall - 4,647 cf Embedded = 4,213 cf x 40.0% Voids
#2A	387.00'	3,602 cf	**Dry_Well 1000 Gallon** x 28 Inside #1 Inside= 62.0"W x 30.0"H => 12.86 sf x 10.00'L = 128.6 cf Outside= 68.0"W x 34.0"H => 15.81 sf x 10.50'L = 166.0 cf
		5,287 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	386.00'	**6.000 in/hr Exfiltration over Surface area**
#2	Secondary	392.00'	**24.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=0.25 cfs @ 11.93 hrs HW=386.08' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.25 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=386.00' (Free Discharge)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 9P: Drywells - Chamber Wizard Field A

Chamber Model = Dry_Well 1000 Gallon
Inside= 62.0"W x 30.0"H => 12.86 sf x 10.00'L = 128.6 cf
Outside= 68.0"W x 34.0"H => 15.81 sf x 10.50'L = 166.0 cf

68.0" Wide + 0.0" Spacing = 68.0" C-C

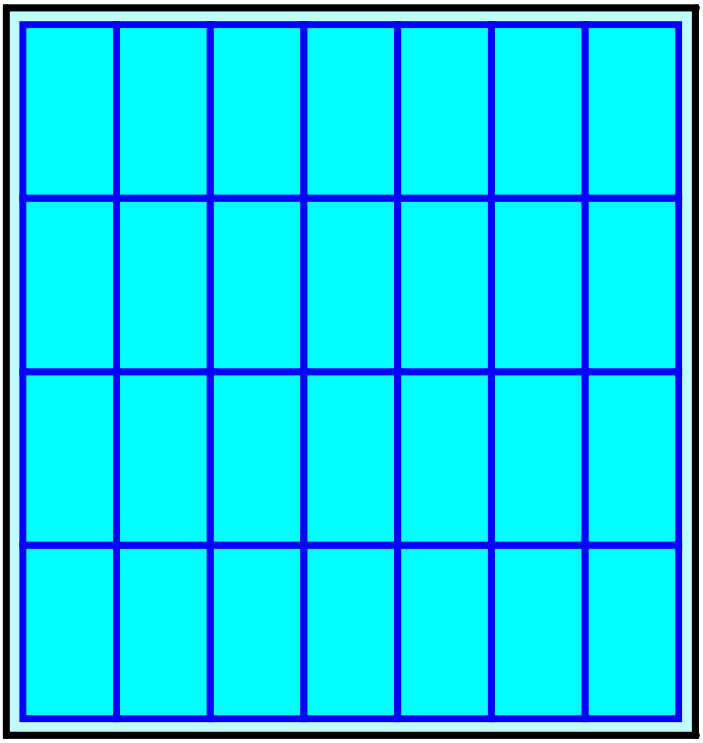
4 Chambers/Row x 10.50' Long = 42.00' + 12.0" End Stone x 2 = 44.00' Base Length
7 Rows x 68.0" Wide + 12.0" Side Stone x 2 = 41.69' Base Width
12.0" Base + 34.0" Chamber Height + 12.0" Cover = 4.83' Field Height

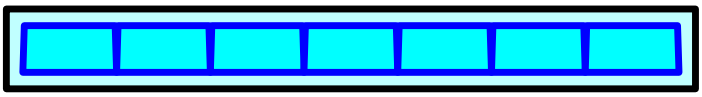
28 Chambers x 128.6 cf = 3,602.2 cf Chamber Storage
28 Chambers x 166.0 cf = 4,646.9 cf Displacement

8,860.0 cf Field - 4,646.9 cf Chambers = 4,213.1 cf Stone x 40.0% Voids = 1,685.2 cf Stone Storage

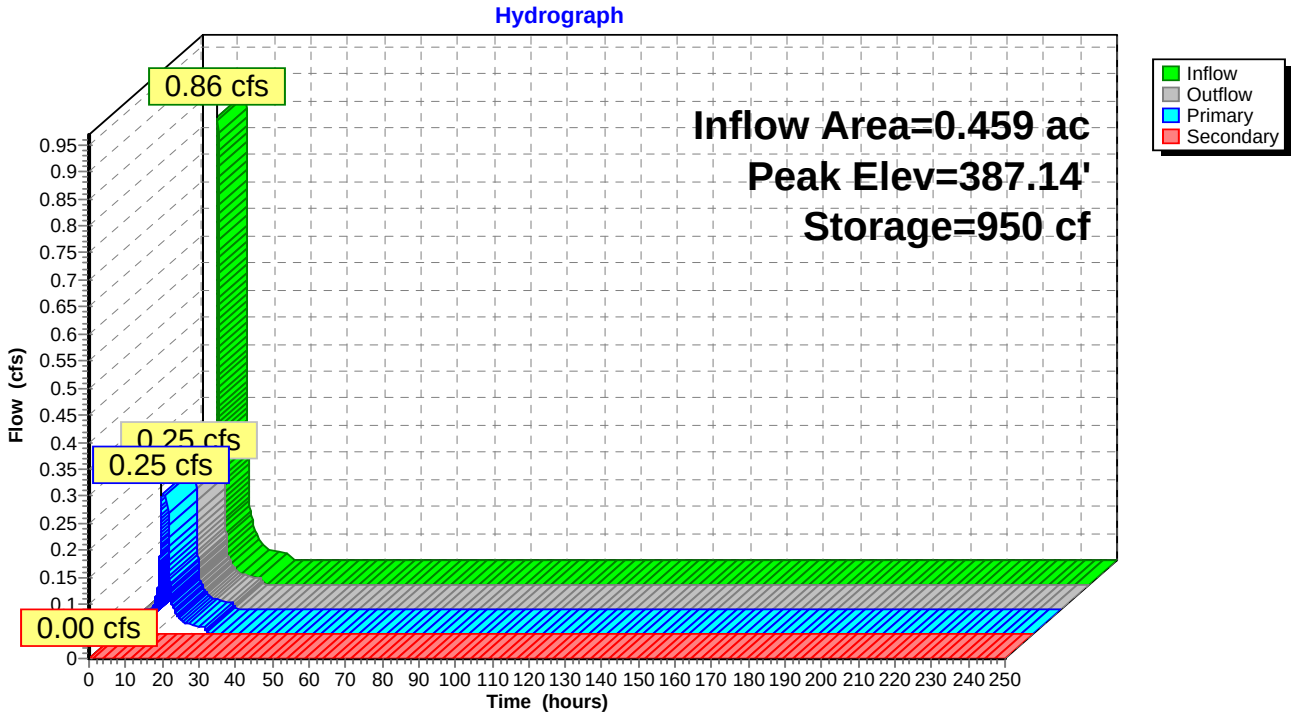
Stone + Chamber Storage = 5,287.4 cf = 0.121 af

28 Chambers
328.1 cy Field
156.0 cy Stone





Pond 9P: Drywells

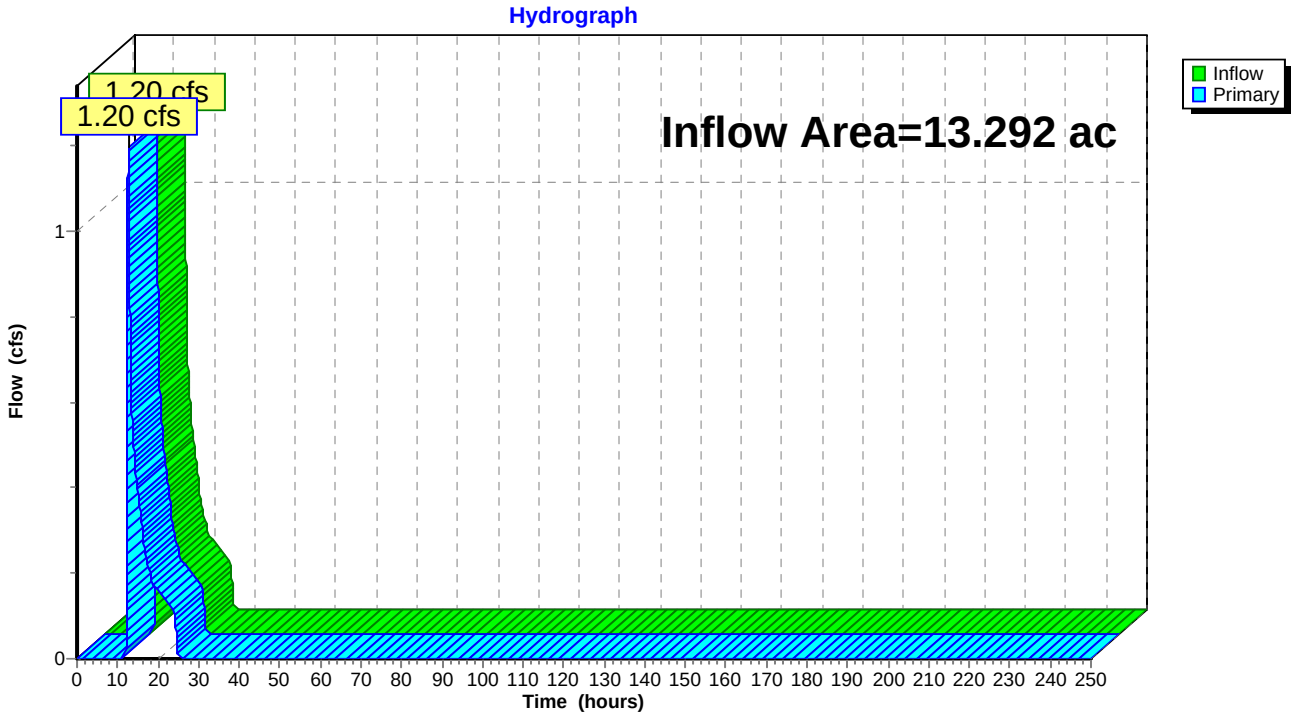


Summary for Link DP-1: Design Point 1

Inflow Area = 13.292 ac, 3.27% Impervious, Inflow Depth = 0.26" for 1 Year event
Inflow = 1.20 cfs @ 12.68 hrs, Volume= 0.293 af
Primary = 1.20 cfs @ 12.68 hrs, Volume= 0.293 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-1: Design Point 1

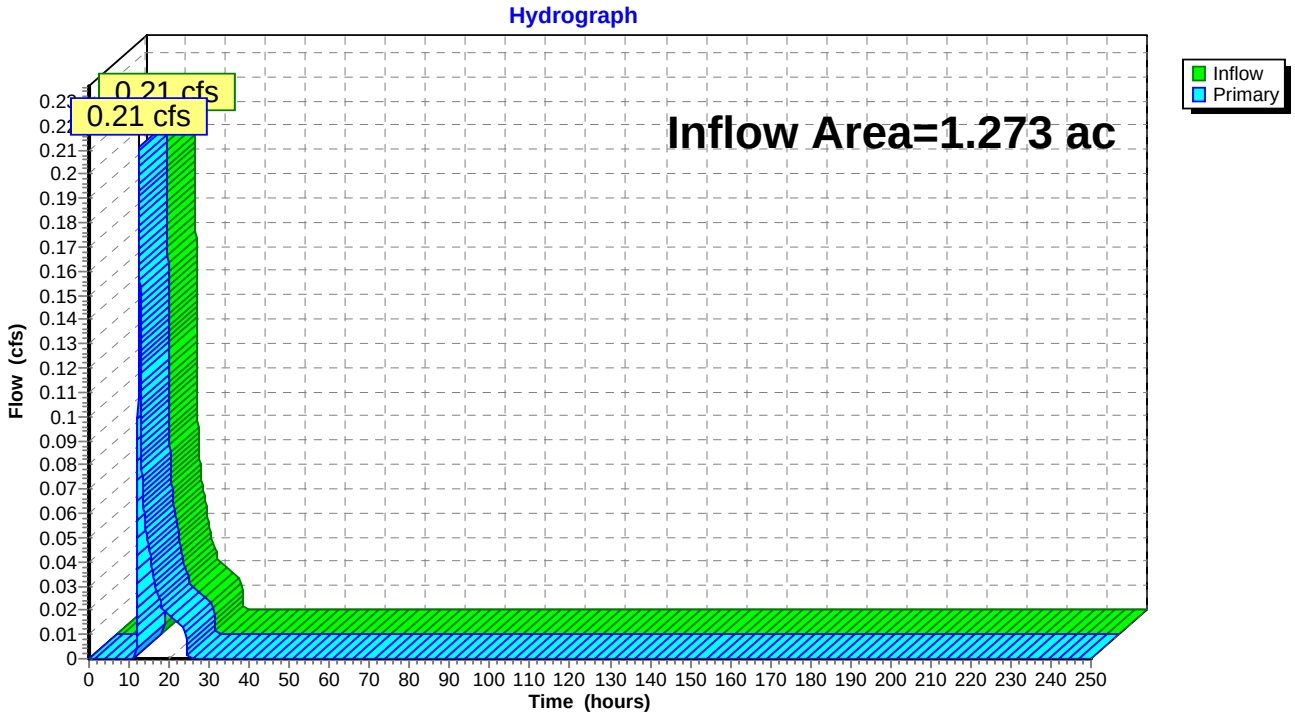


Summary for Link DP-2: Design Point 2

Inflow Area = 1.273 ac, 7.29% Impervious, Inflow Depth = 0.35" for 1 Year event
Inflow = 0.21 cfs @ 12.47 hrs, Volume= 0.037 af
Primary = 0.21 cfs @ 12.47 hrs, Volume= 0.037 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-2: Design Point 2

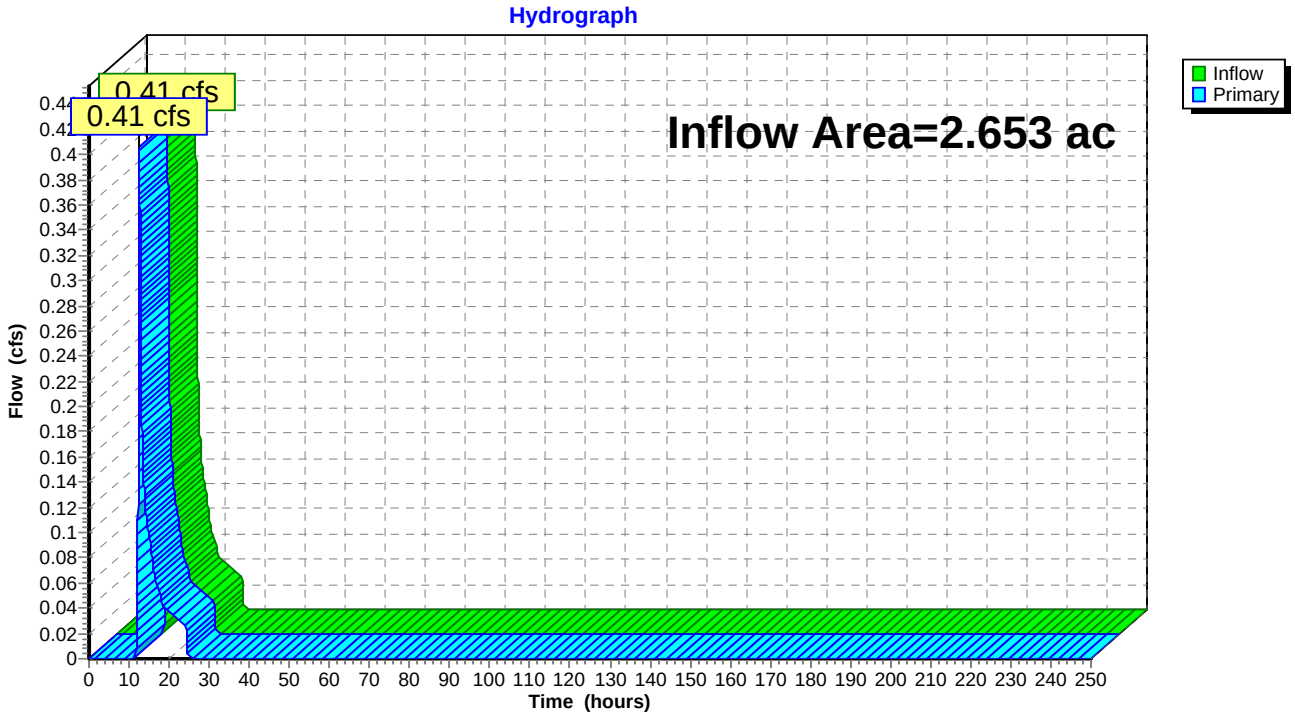


Summary for Link DP-3: Design Point 3

Inflow Area = 2.653 ac, 7.97% Impervious, Inflow Depth = 0.35" for 1 Year event
Inflow = 0.41 cfs @ 12.55 hrs, Volume= 0.078 af
Primary = 0.41 cfs @ 12.55 hrs, Volume= 0.078 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-3: Design Point 3

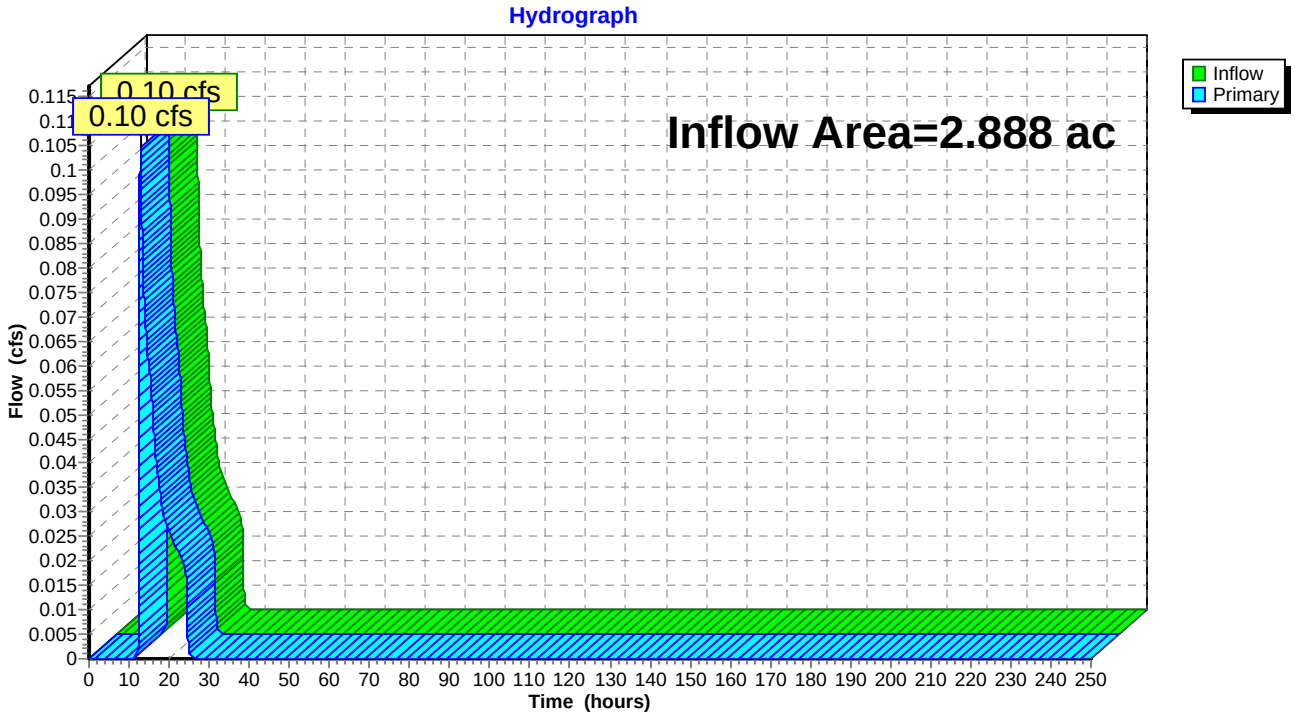


Summary for Link DP-4: Design Point 4

Inflow Area = 2.888 ac, 0.56% Impervious, Inflow Depth = 0.17" for 1 Year event
Inflow = 0.10 cfs @ 12.84 hrs, Volume= 0.040 af
Primary = 0.10 cfs @ 12.84 hrs, Volume= 0.040 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-4: Design Point 4

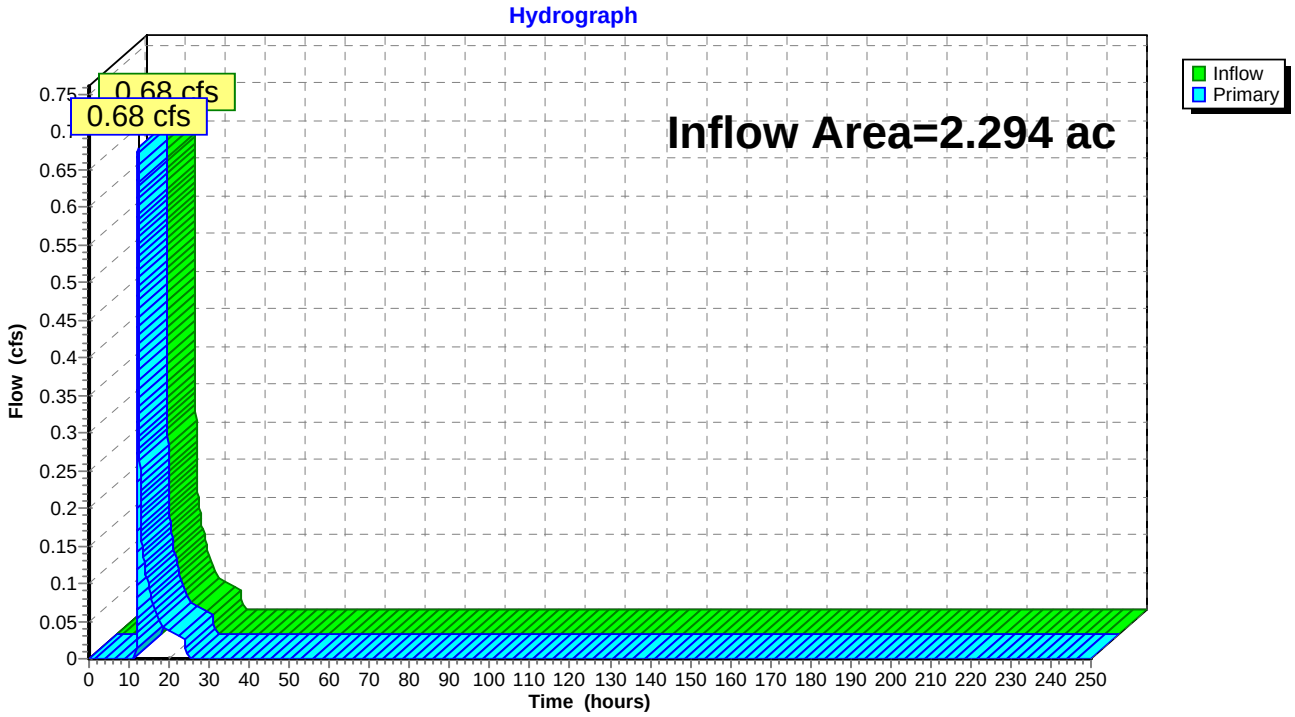


Summary for Link DP-5: Design Point 5

Inflow Area = 2.294 ac, 15.79% Impervious, Inflow Depth = 0.45" for 1 Year event
Inflow = 0.68 cfs @ 12.23 hrs, Volume= 0.086 af
Primary = 0.68 cfs @ 12.23 hrs, Volume= 0.086 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-5: Design Point 5

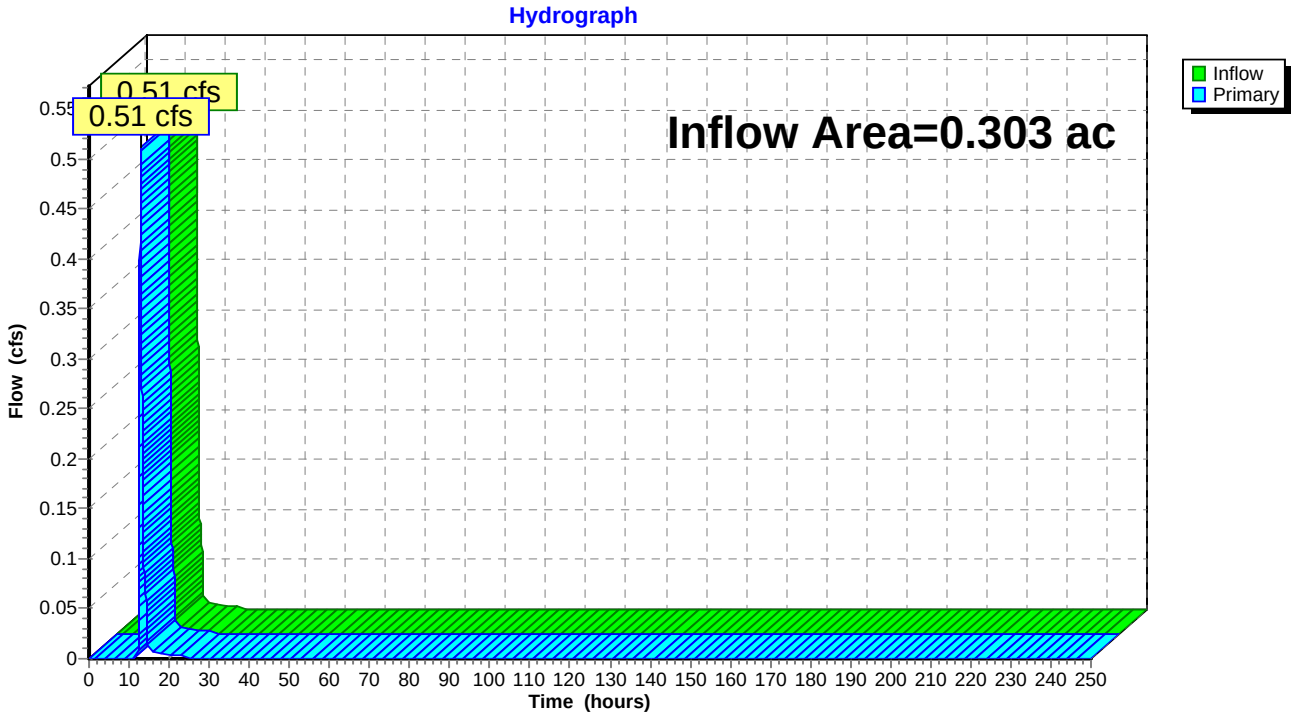


Summary for Link DP-6: Design Point 6

Inflow Area = 0.303 ac, 0.00% Impervious, Inflow Depth = 1.41" for 1 Year event
Inflow = 0.51 cfs @ 12.86 hrs, Volume= 0.036 af
Primary = 0.51 cfs @ 12.86 hrs, Volume= 0.036 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-6: Design Point 6

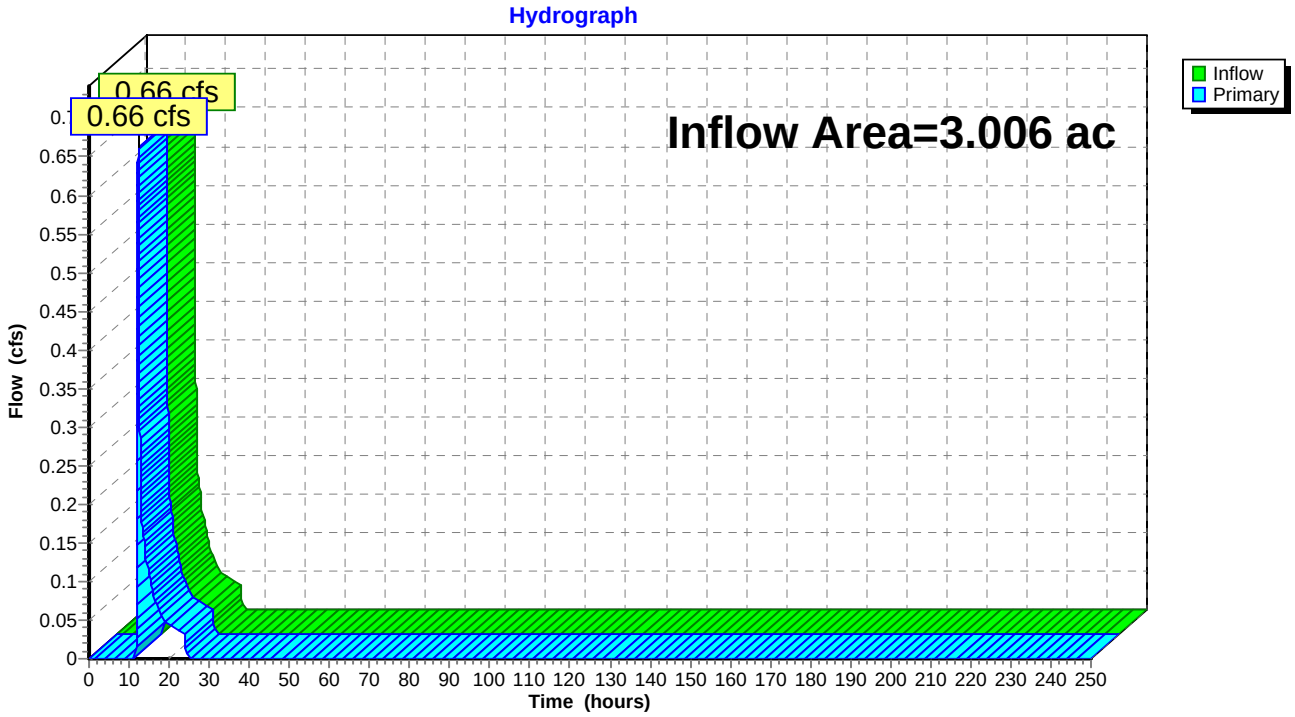


Summary for Link DP-7: Design Point 7

Inflow Area = 3.006 ac, 9.68% Impervious, Inflow Depth = 0.38" for 1 Year event
Inflow = 0.66 cfs @ 12.26 hrs, Volume= 0.096 af
Primary = 0.66 cfs @ 12.26 hrs, Volume= 0.096 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-7: Design Point 7



Time span=0.00-250.00 hrs, dt=0.01 hrs, 25001 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1: Drainage Area 1 Runoff Area=13.292 ac 3.27% Impervious Runoff Depth=0.53"
Flow Length=1,455' Tc=31.8 min CN=60 Runoff=3.27 cfs 0.589 af

Subcatchment 2A: Drainage Area 2A Runoff Area=5.751 ac 33.25% Impervious Runoff Depth=1.18"
Flow Length=999' Tc=19.1 min CN=73 Runoff=5.18 cfs 0.565 af

Subcatchment 2B: Drainage Area 2B Runoff Area=19,994 sf 100.00% Impervious Runoff Depth=3.27"
Flow Length=999' Tc=19.1 min CN=98 Runoff=1.09 cfs 0.125 af

Subcatchment 3: Drainage Area 3 Runoff Area=115,560 sf 7.97% Impervious Runoff Depth=0.66"
Flow Length=552' Tc=28.6 min CN=63 Runoff=0.94 cfs 0.146 af

Subcatchment 4: Drainage Area 4 Runoff Area=55,457 sf 7.29% Impervious Runoff Depth=0.66"
Flow Length=284' Tc=22.5 min CN=63 Runoff=0.50 cfs 0.070 af

Subcatchment 5: Drainage Area 5 Runoff Area=125,820 sf 0.56% Impervious Runoff Depth=0.38"
Flow Length=497' Tc=33.7 min CN=56 Runoff=0.40 cfs 0.091 af

Subcatchment 6A: Drainage Area 6 Runoff Area=2.937 ac 37.76% Impervious Runoff Depth=1.18"
Flow Length=578' Tc=32.3 min CN=73 Runoff=2.11 cfs 0.289 af

Subcatchment 6B: Drainage Area 6 Runoff Area=10,050 sf 100.00% Impervious Runoff Depth=3.27"
Flow Length=540' Tc=29.9 min CN=98 Runoff=0.45 cfs 0.063 af

Subcatchment 6c: Drainage Area 6 Runoff Area=13,208 sf 0.00% Impervious Runoff Depth=0.53"
Flow Length=540' Tc=29.9 min CN=60 Runoff=0.08 cfs 0.013 af

Subcatchment 7: Drainage Area 7 Runoff Area=3.006 ac 9.68% Impervious Runoff Depth=0.71"
Flow Length=527' Tc=13.4 min CN=64 Runoff=1.57 cfs 0.177 af

Subcatchment 8: Drainage Area 8 Runoff Area=99,910 sf 15.79% Impervious Runoff Depth=0.80"
Flow Length=558' Tc=13.0 min CN=66 Runoff=1.45 cfs 0.153 af

Reach 1R: 18" Avg. Flow Depth=0.30' Max Vel=8.50 fps Inflow=2.11 cfs 0.289 af
18.0" Round Pipe n=0.013 L=132.0' S=0.0546 '/' Capacity=24.55 cfs Outflow=2.11 cfs 0.289 af

Pond 1P: Pond - D Peak Elev=367.56' Inflow=2.11 cfs 0.289 af
Primary=2.11 cfs 0.289 af Secondary=0.00 cfs 0.000 af Outflow=2.11 cfs 0.289 af

Pond 3P: Detention Pond Peak Elev=363.00' Storage=0 cf Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af Secondary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af

Pond 4P: Detention Pond Peak Elev=371.59' Storage=11,206 cf Inflow=5.18 cfs 0.565 af
Primary=0.60 cfs 0.565 af Secondary=0.00 cfs 0.000 af Outflow=0.60 cfs 0.565 af

Pond 6P: Drywells Peak Elev=387.01' Storage=496 cf Inflow=0.45 cfs 0.063 af
Primary=0.19 cfs 0.063 af Secondary=0.00 cfs 0.000 af Outflow=0.19 cfs 0.063 af

Pond 7P: Stormwater Treatment Pond #2 Peak Elev=363.94' Storage=1,219 cf Inflow=2.11 cfs 0.289 af
Primary=0.17 cfs 0.144 af Secondary=1.93 cfs 0.144 af Tertiary=0.00 cfs 0.000 af Outflow=2.10 cfs 0.289 af

Pond 8P: Stormwater Treatment Pond #1 Peak Elev=362.66' Storage=1,231 cf Inflow=1.93 cfs 0.144 af
Primary=0.27 cfs 0.054 af Secondary=1.28 cfs 0.090 af Outflow=1.55 cfs 0.144 af

Pond 9P: Drywells Peak Elev=387.44' Storage=1,403 cf Inflow=1.09 cfs 0.125 af
Primary=0.25 cfs 0.125 af Secondary=0.00 cfs 0.000 af Outflow=0.25 cfs 0.125 af

Link DP-1: Design Point 1 Inflow=3.27 cfs 0.589 af
Primary=3.27 cfs 0.589 af

Link DP-2: Design Point 2 Inflow=0.50 cfs 0.070 af
Primary=0.50 cfs 0.070 af

Link DP-3: Design Point 3 Inflow=0.94 cfs 0.146 af
Primary=0.94 cfs 0.146 af

Link DP-4: Design Point 4 Inflow=0.40 cfs 0.091 af
Primary=0.40 cfs 0.091 af

Link DP-5: Design Point 5 Inflow=1.45 cfs 0.153 af
Primary=1.45 cfs 0.153 af

Link DP-6: Design Point 6 Inflow=1.35 cfs 0.103 af
Primary=1.35 cfs 0.103 af

Link DP-7: Design Point 7 Inflow=1.57 cfs 0.177 af
Primary=1.57 cfs 0.177 af

Total Runoff Area = 35.087 ac Runoff Volume = 2.281 af Average Runoff Depth = 0.78"
85.41% Pervious = 29.968 ac 14.59% Impervious = 5.119 ac

Summary for Subcatchment 1: Drainage Area 1

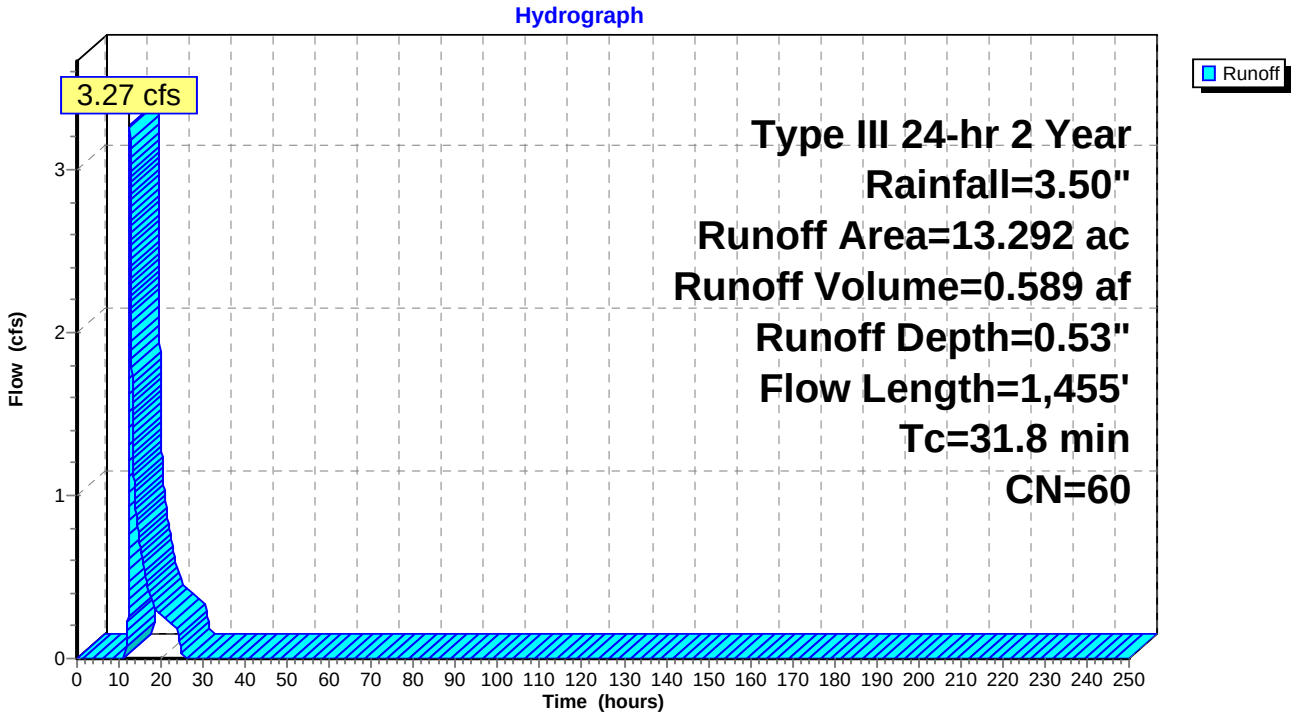
Runoff = 3.27 cfs @ 12.58 hrs, Volume= 0.589 af, Depth= 0.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.50"

Area (ac)	CN	Description
2.770	69	50-75% Grass cover, Fair, HSG B
0.435	98	Paved roads w/curbs & sewers
9.824	55	Woods, Good, HSG B
0.263	82	Dirt roads, HSG B
13.292	60	Weighted Average
12.857		96.73% Pervious Area
0.435		3.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.9	100	0.0260	0.09		**Sheet Flow, 1 to 2** Grass: Bermuda n= 0.410 P2= 3.50"
1.7	216	0.1830	2.14		**Shallow Concentrated Flow, 2 to 3** Woodland Kv= 5.0 fps
0.3	78	0.0450	4.31		**Shallow Concentrated Flow, 3 to 4** Paved Kv= 20.3 fps
1.2	121	0.1150	1.70		**Shallow Concentrated Flow, 4 to 5** Woodland Kv= 5.0 fps
5.8	679	0.0770	1.94		**Shallow Concentrated Flow, 5 to 6** Short Grass Pasture Kv= 7.0 fps
3.9	261	0.0500	1.12		**Shallow Concentrated Flow, 6 to DP1** Woodland Kv= 5.0 fps
31.8	1,455	Total			

Subcatchment 1: Drainage Area 1



Summary for Subcatchment 2A: Drainage Area 2A

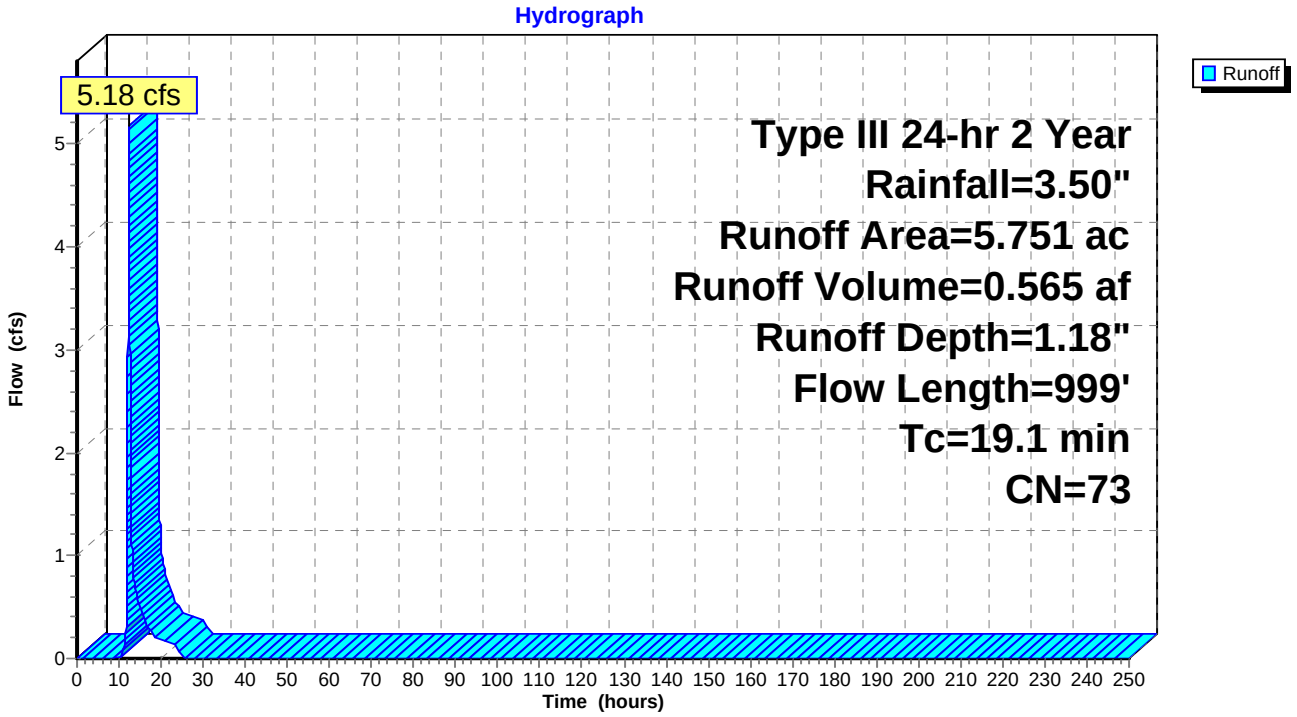
Runoff = 5.18 cfs @ 12.29 hrs, Volume= 0.565 af, Depth= 1.18"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.50"

Area (ac)	CN	Description
1.912	98	Paved roads w/curbs & sewers
3.319	61	>75% Grass cover, Good, HSG B
0.520	55	Woods, Good, HSG B
5.751	73	Weighted Average
3.839		66.75% Pervious Area
1.912		33.25% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.5	100	0.0900	0.15		**Sheet Flow, 1 to 2** Grass: Bermuda n= 0.410 P2= 3.50"
5.8	423	0.0300	1.21		**Shallow Concentrated Flow, 2 to 3** Short Grass Pasture Kv= 7.0 fps
0.5	74	0.0140	2.40		**Shallow Concentrated Flow, 3 to 4 (Road)** Paved Kv= 20.3 fps
0.1	25	0.0100	4.54	3.56	**Pipe Channel, 4 to 5** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.6	167	0.0120	4.97	3.90	**Pipe Channel, 5 to 6** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.4	70	0.0090	2.60	3.19	**Pipe Channel, 6 to 7** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.025 Corrugated metal
0.2	140	0.1510	12.01	21.23	**Pipe Channel, 7 to 8** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.025 Corrugated metal
19.1	999	Total			

Subcatchment 2A: Drainage Area 2A



Summary for Subcatchment 2B: Drainage Area 2B

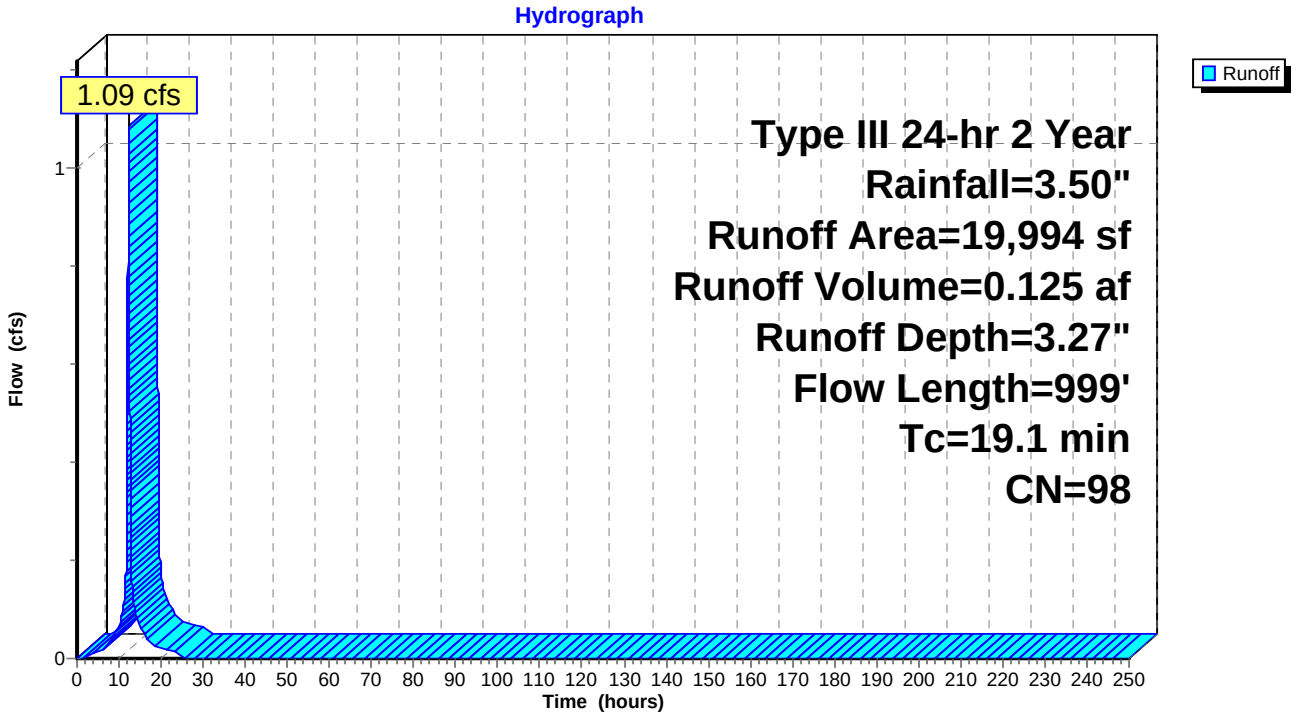
Runoff = 1.09 cfs @ 12.25 hrs, Volume= 0.125 af, Depth= 3.27"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.50"

Area (sf)	CN	Description
19,994	98	Paved roads w/curbs & sewers
19,994		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.5	100	0.0900	0.15		**Sheet Flow, 1 to 2** Grass: Bermuda n= 0.410 P2= 3.50"
5.8	423	0.0300	1.21		**Shallow Concentrated Flow, 2 to 3** Short Grass Pasture Kv= 7.0 fps
0.5	74	0.0140	2.40		**Shallow Concentrated Flow, 3 to 4 (Road)** Paved Kv= 20.3 fps
0.1	25	0.0100	4.54	3.56	**Pipe Channel, 4 to 5** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.6	167	0.0120	4.97	3.90	**Pipe Channel, 5 to 6** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.4	70	0.0090	2.60	3.19	**Pipe Channel, 6 to 7** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.025 Corrugated metal
0.2	140	0.1510	12.01	21.23	**Pipe Channel, 7 to 8** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.025 Corrugated metal
19.1	999	Total			

Subcatchment 2B: Drainage Area 2B



Summary for Subcatchment 3: Drainage Area 3

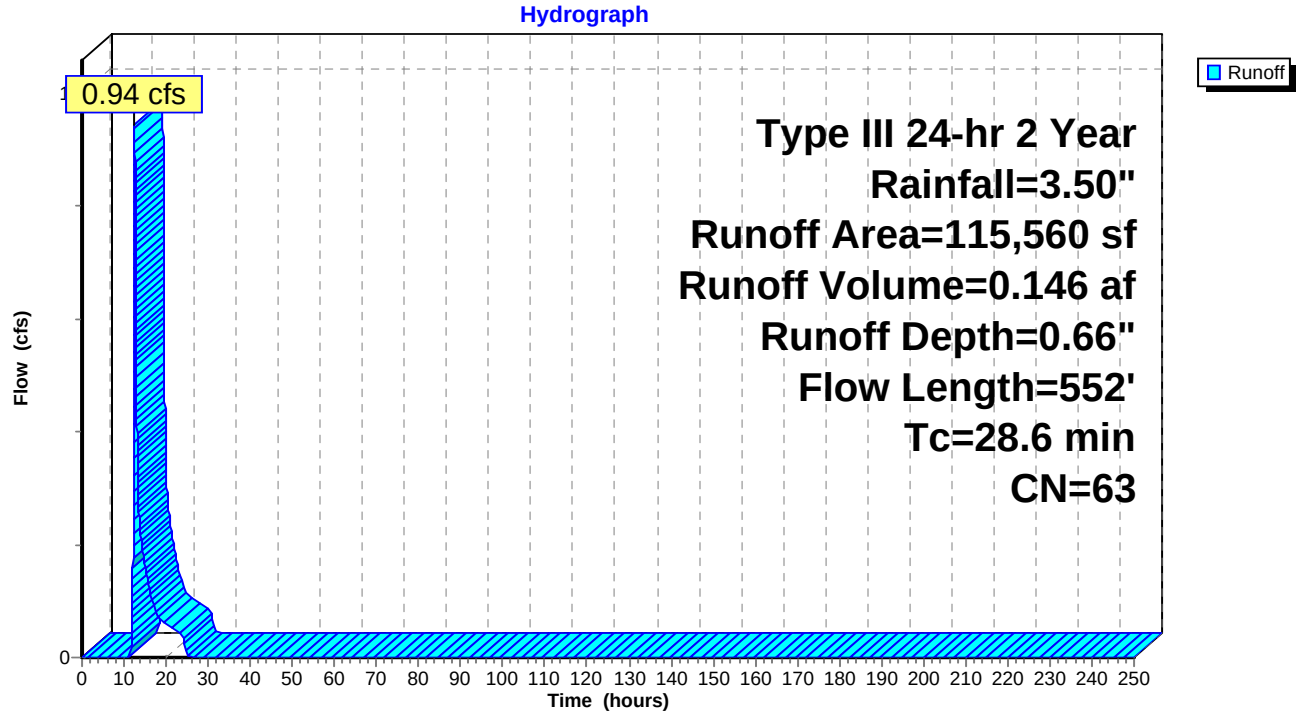
Runoff = 0.94 cfs @ 12.49 hrs, Volume= 0.146 af, Depth= 0.66"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.50"

Area (sf)	CN	Description
49,852	61	>75% Grass cover, Good, HSG B
56,494	60	Woods, Fair, HSG B
9,214	98	Paved roads w/curbs & sewers
115,560	63	Weighted Average
106,346		92.03% Pervious Area
9,214		7.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.4	118	0.0320	0.10		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
2.5	87	0.0140	0.59		**Shallow Concentrated Flow, 2 to 3** Woodland Kv= 5.0 fps
1.2	159	0.1940	2.20		**Shallow Concentrated Flow, 3 to 4** Woodland Kv= 5.0 fps
5.5	188	0.0130	0.57		**Shallow Concentrated Flow, 4 to DP 3** Woodland Kv= 5.0 fps
28.6	552	Total			

Subcatchment 3: Drainage Area 3



Summary for Subcatchment 4: Drainage Area 4

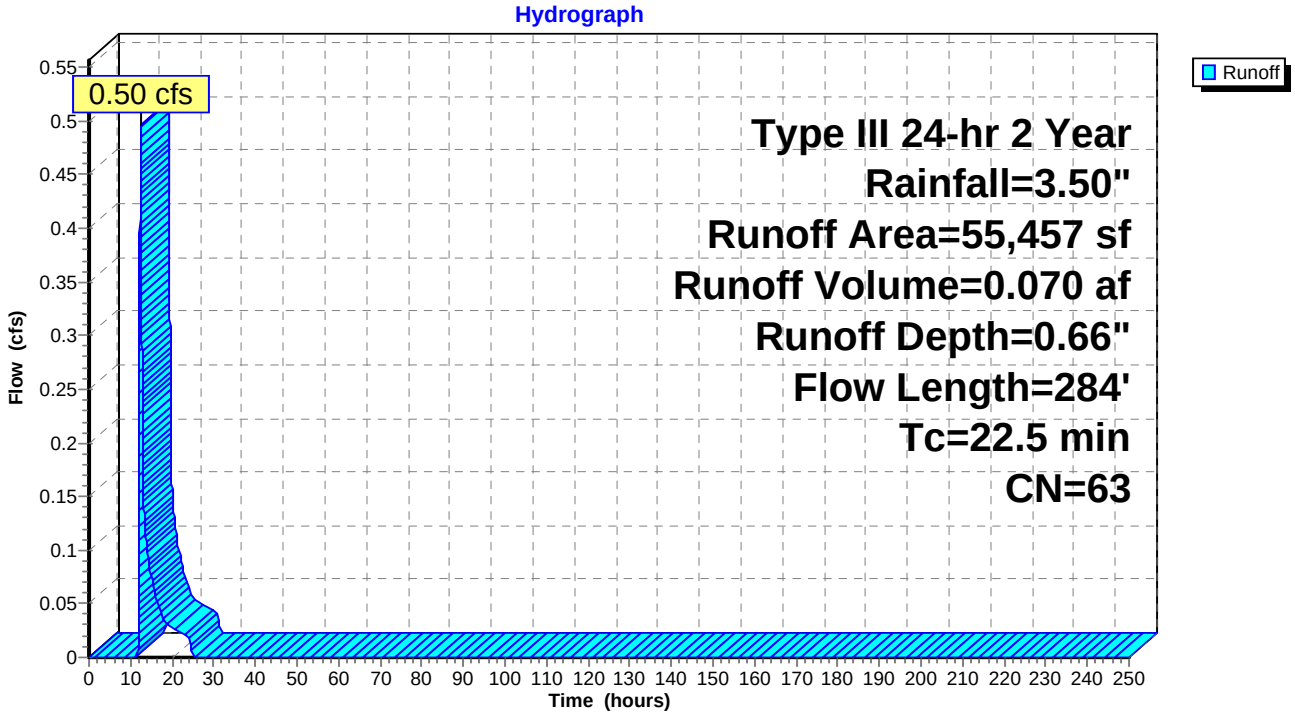
Runoff = 0.50 cfs @ 12.38 hrs, Volume= 0.070 af, Depth= 0.66"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.50"

Area (sf)	CN	Description
31,781	60	Woods, Fair, HSG B
4,042	98	Paved roads w/curbs & sewers
19,634	61	>75% Grass cover, Good, HSG B
55,457	63	Weighted Average
51,415		92.71% Pervious Area
4,042		7.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.9	207	0.0860	0.16		**Sheet Flow, 1 to 2** Grass: Bermuda n= 0.410 P2= 3.50"
1.6	77	0.0130	0.80		**Shallow Concentrated Flow, 2 to DP 4** Short Grass Pasture Kv= 7.0 fps
22.5	284	Total			

Subcatchment 4: Drainage Area 4



Summary for Subcatchment 5: Drainage Area 5

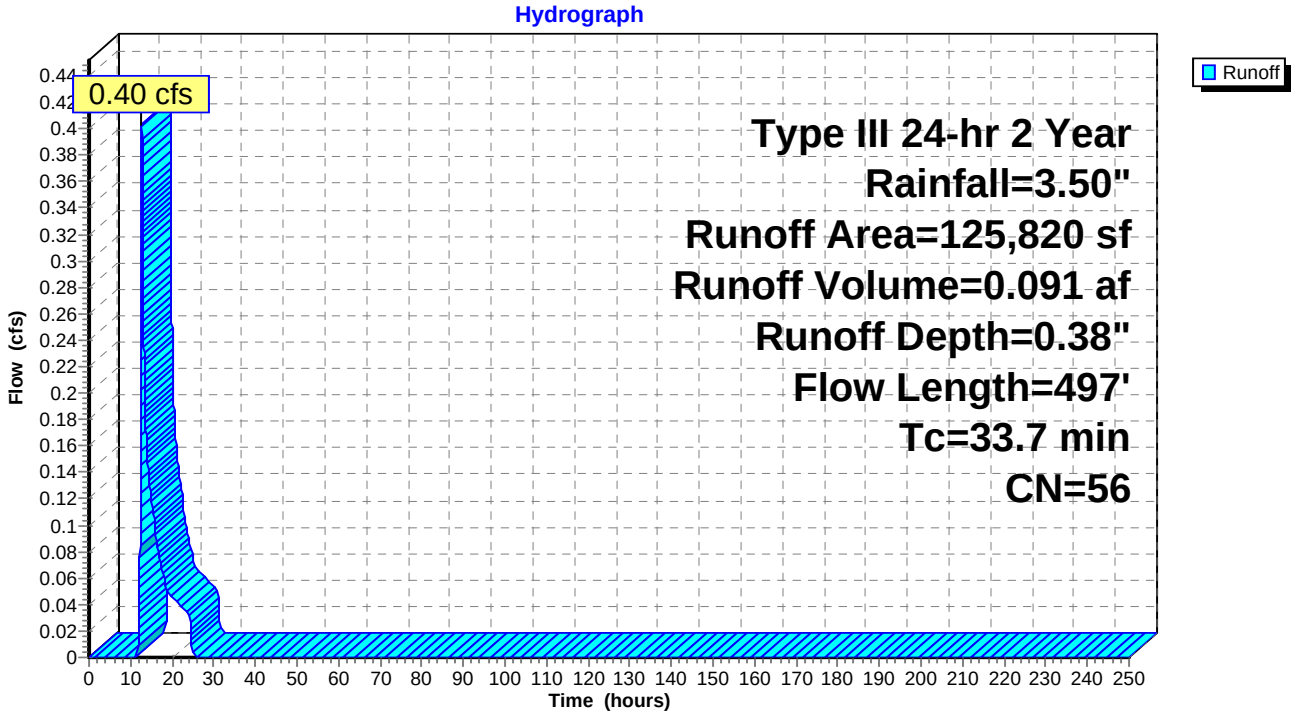
Runoff = 0.40 cfs @ 12.66 hrs, Volume= 0.091 af, Depth= 0.38"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.50"

Area (sf)	CN	Description
23,735	61	>75% Grass cover, Good, HSG B
101,385	55	Woods, Good, HSG B
700	98	Paved parking, HSG B
125,820	56	Weighted Average
125,120		99.44% Pervious Area
700		0.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.9	135	0.0150	0.08		**Sheet Flow, 1 to 2** Grass: Bermuda n= 0.410 P2= 3.50"
3.8	362	0.1020	1.60		**Shallow Concentrated Flow, 2 to DP 4** Woodland Kv= 5.0 fps
33.7	497	Total			

Subcatchment 5: Drainage Area 5



Summary for Subcatchment 6A: Drainage Area 6

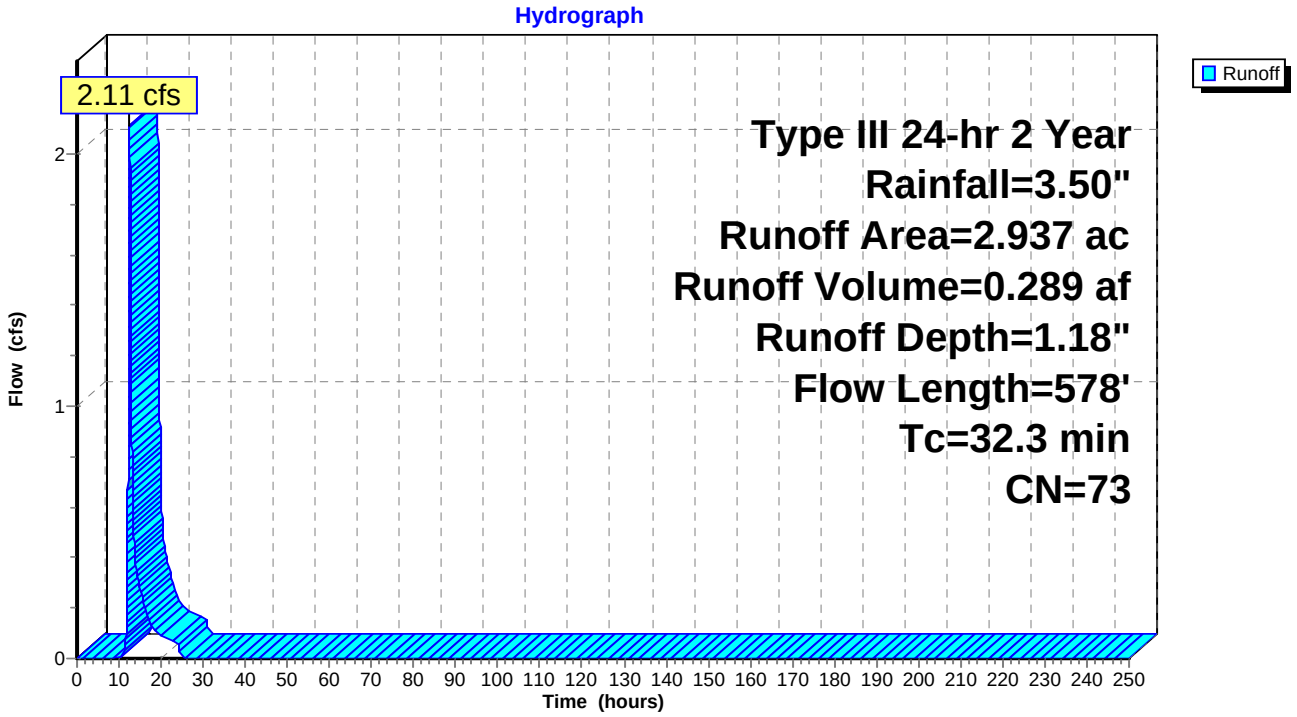
Runoff = 2.11 cfs @ 12.49 hrs, Volume= 0.289 af, Depth= 1.18"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.50"

Area (ac)	CN	Description
0.893	55	Woods, Good, HSG B
1.109	98	Paved roads w/curbs & sewers
0.935	61	>75% Grass cover, Good, HSG B
2.937	73	Weighted Average
1.828		62.24% Pervious Area
1.109		37.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.6	185	0.0600	0.14		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
0.5	214	0.1180	6.97		**Shallow Concentrated Flow, 2 to 3** Paved Kv= 20.3 fps
0.0	17	0.0120	6.25	7.67	**Pipe Channel, 3 to 4 (Catchbasins)** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 HDPE
0.4	132	0.0077	5.22	9.22	**Pipe Channel, 4 to 5 (18" Culvert)** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 HDPE
9.8	30	0.0120	0.05		**Sheet Flow, 5 to DP 6** Grass: Bermuda n= 0.410 P2= 3.50"
32.3	578	Total			

Subcatchment 6A: Drainage Area 6



Summary for Subcatchment 6B: Drainage Area 6

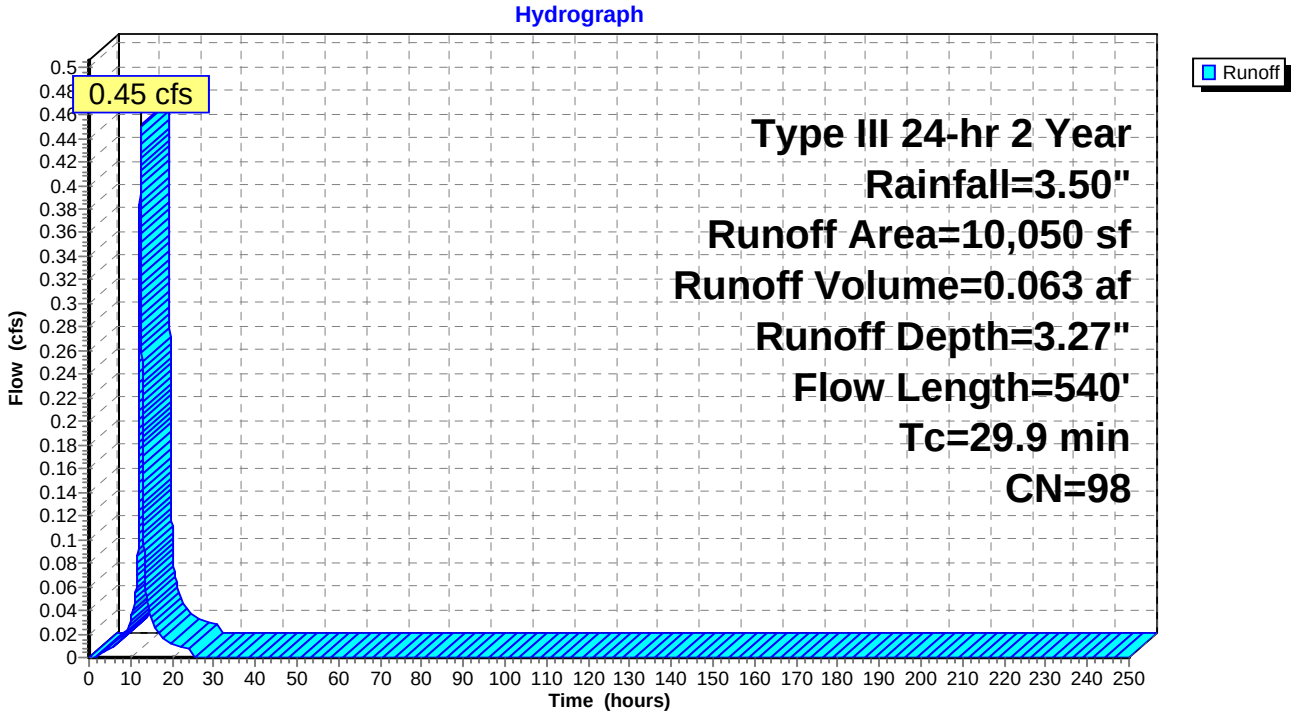
Runoff = 0.45 cfs @ 12.39 hrs, Volume= 0.063 af, Depth= 3.27"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.50"

Area (sf)	CN	Description
10,050	98	Paved roads w/curbs & sewers
10,050		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.6	185	0.0600	0.14		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
0.5	214	0.1180	6.97		**Shallow Concentrated Flow, 2 to 3** Paved Kv= 20.3 fps
0.0	17	0.0120	6.25	7.67	**Pipe Channel, 3 to 4 (Catchbasins)** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 HDPE
0.1	101	0.1730	24.72	43.69	**Pipe Channel, 4 to 5 (18" Culvert)** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 HDPE
7.7	23	0.0130	0.05		**Sheet Flow, 5 to DP 6** Grass: Bermuda n= 0.410 P2= 3.50"
29.9	540	Total			

Subcatchment 6B: Drainage Area 6



Summary for Subcatchment 6c: Drainage Area 6

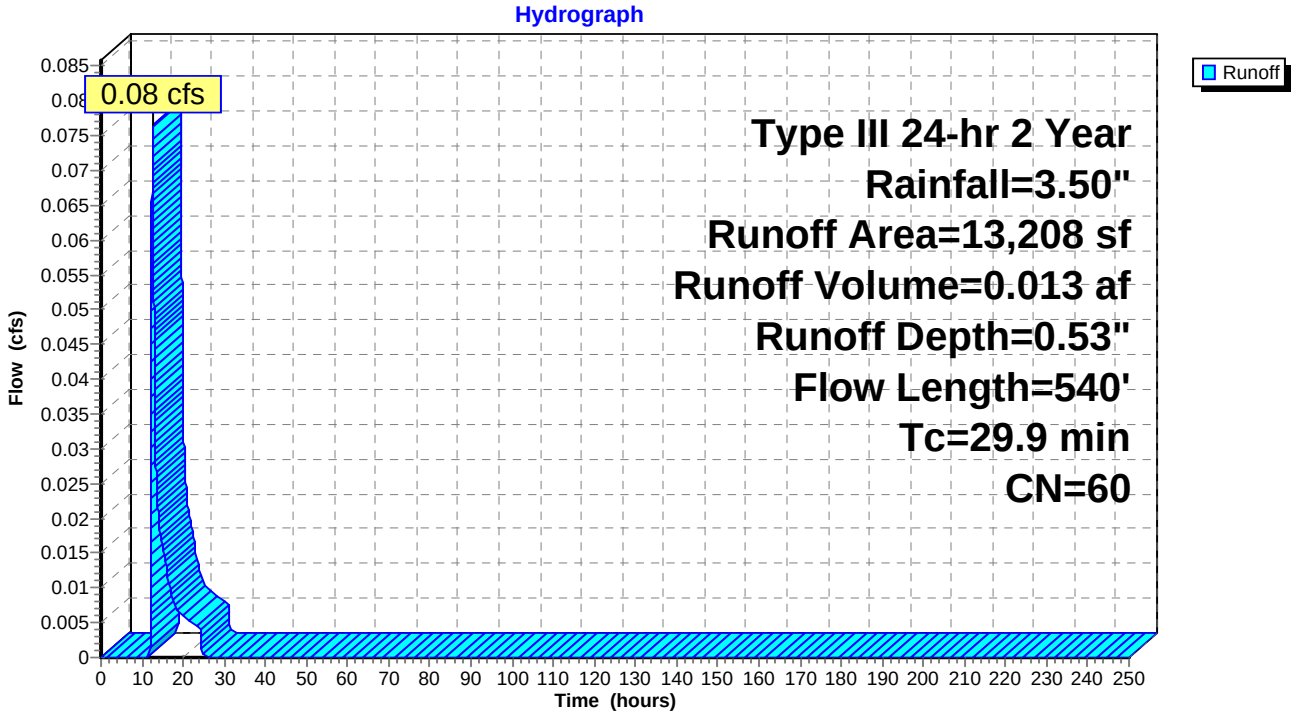
Runoff = 0.08 cfs @ 12.53 hrs, Volume= 0.013 af, Depth= 0.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.50"

Area (sf)	CN	Description
13,208	60	Woods, Fair, HSG B
13,208		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.6	185	0.0600	0.14		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
0.5	214	0.1180	6.97		**Shallow Concentrated Flow, 2 to 3** Paved Kv= 20.3 fps
0.0	17	0.0120	6.25	7.67	**Pipe Channel, 3 to 4 (Catchbasins)** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 HDPE
0.1	101	0.1730	24.72	43.69	**Pipe Channel, 4 to 5 (18" Culvert)** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 HDPE
7.7	23	0.0130	0.05		**Sheet Flow, 5 to DP 6** Grass: Bermuda n= 0.410 P2= 3.50"
29.9	540	Total			

Subcatchment 6c: Drainage Area 6



Summary for Subcatchment 7: Drainage Area 7

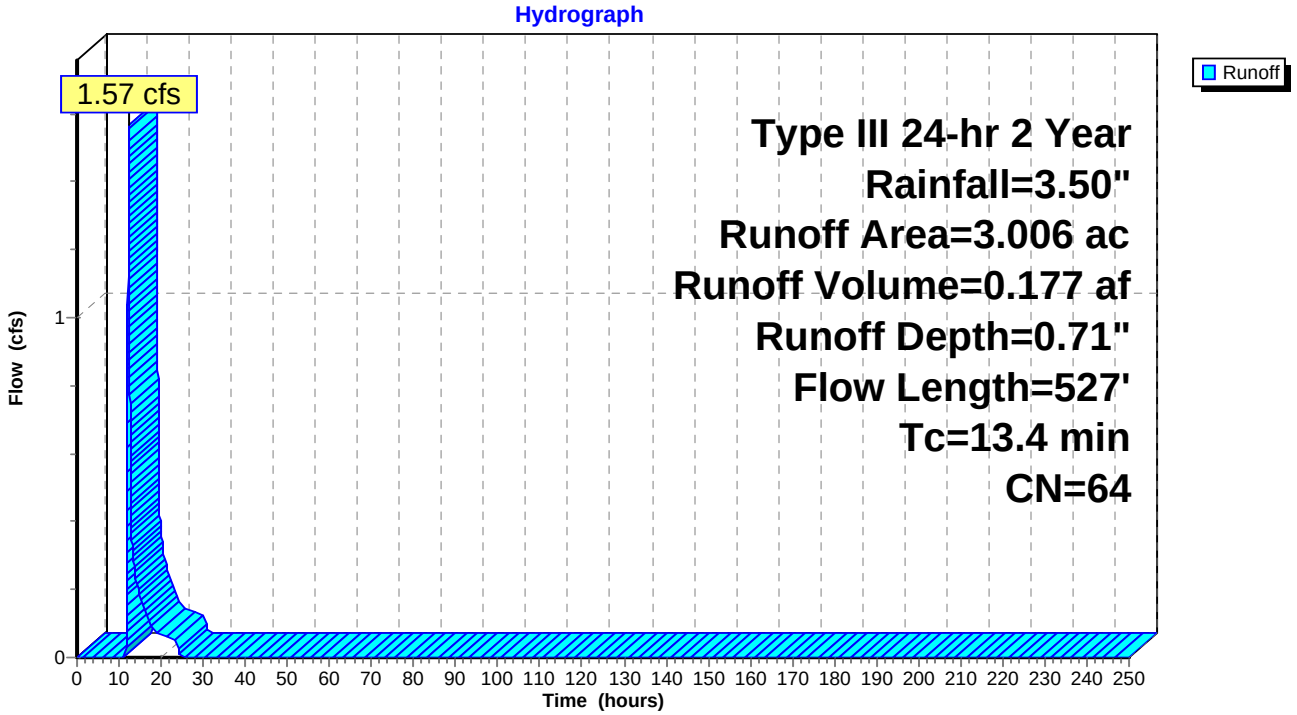
Runoff = 1.57 cfs @ 12.22 hrs, Volume= 0.177 af, Depth= 0.71"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.50"

Area (ac)	CN	Description
1.340	60	Woods, Fair, HSG B
0.291	98	Paved roads w/curbs & sewers
1.375	61	>75% Grass cover, Good, HSG B
3.006	64	Weighted Average
2.715		90.32% Pervious Area
0.291		9.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.1	117	0.1620	0.19		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
0.7	100	0.2300	2.40		**Shallow Concentrated Flow, 2 to 3** Woodland Kv= 5.0 fps
1.2	164	0.2010	2.24		**Shallow Concentrated Flow, 3 to 4** Woodland Kv= 5.0 fps
1.4	146	0.1230	1.75		**Shallow Concentrated Flow, 3 to DP 7** Woodland Kv= 5.0 fps
13.4	527	Total			

Subcatchment 7: Drainage Area 7



Summary for Subcatchment 8: Drainage Area 8

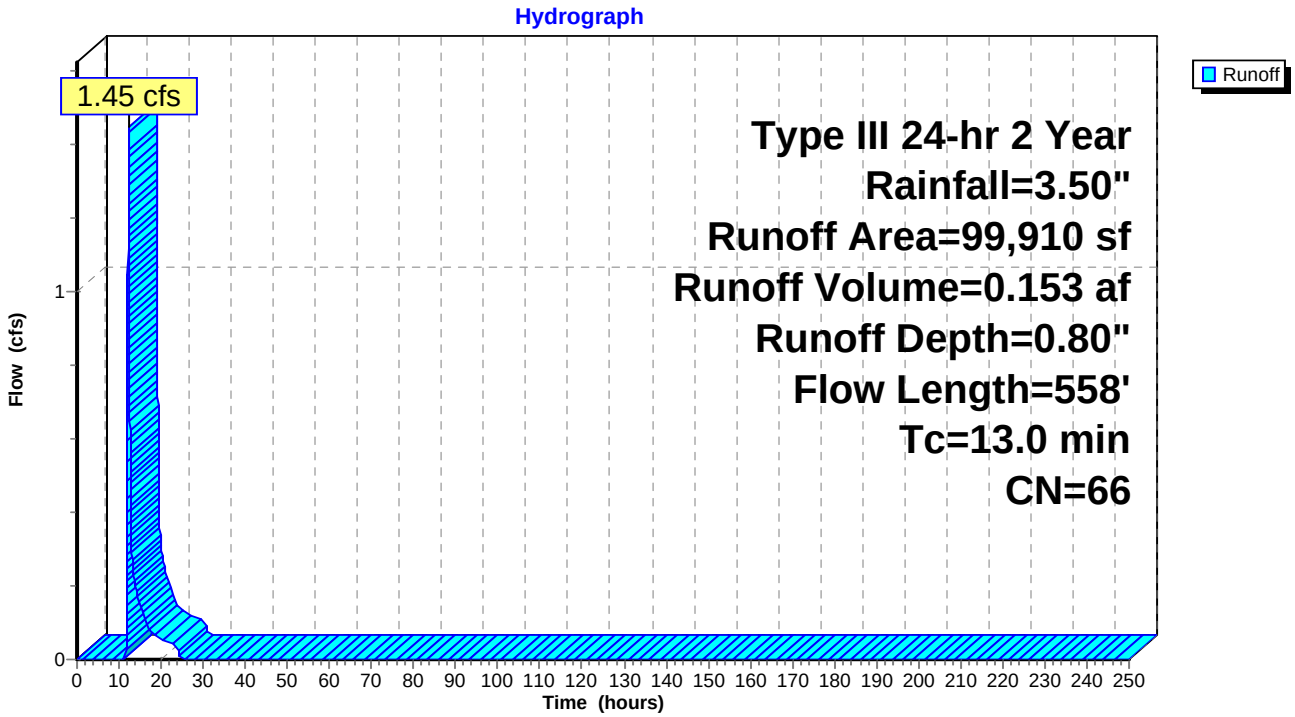
Runoff = 1.45 cfs @ 12.21 hrs, Volume= 0.153 af, Depth= 0.80"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.50"

Area (sf)	CN	Description
41,570	60	Woods, Fair, HSG B
15,772	98	Paved roads w/curbs & sewers
42,568	61	>75% Grass cover, Good, HSG B
99,910	66	Weighted Average
84,138		84.21% Pervious Area
15,772		15.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	100	0.1300	0.17		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
3.1	362	0.1550	1.97		**Shallow Concentrated Flow, 2 to 3** Woodland Kv= 5.0 fps
0.2	96	0.1150	6.88		**Shallow Concentrated Flow, 3 to DP 8** Paved Kv= 20.3 fps
13.0	558	Total			

Subcatchment 8: Drainage Area 8



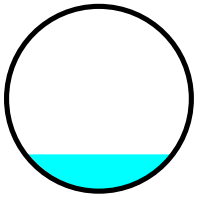
Summary for Reach 1R: 18"

Inflow Area = 2.937 ac, 37.76% Impervious, Inflow Depth = 1.18" for 2 Year event
Inflow = 2.11 cfs @ 12.49 hrs, Volume= 0.289 af
Outflow = 2.11 cfs @ 12.49 hrs, Volume= 0.289 af, Atten= 0%, Lag= 0.1 min

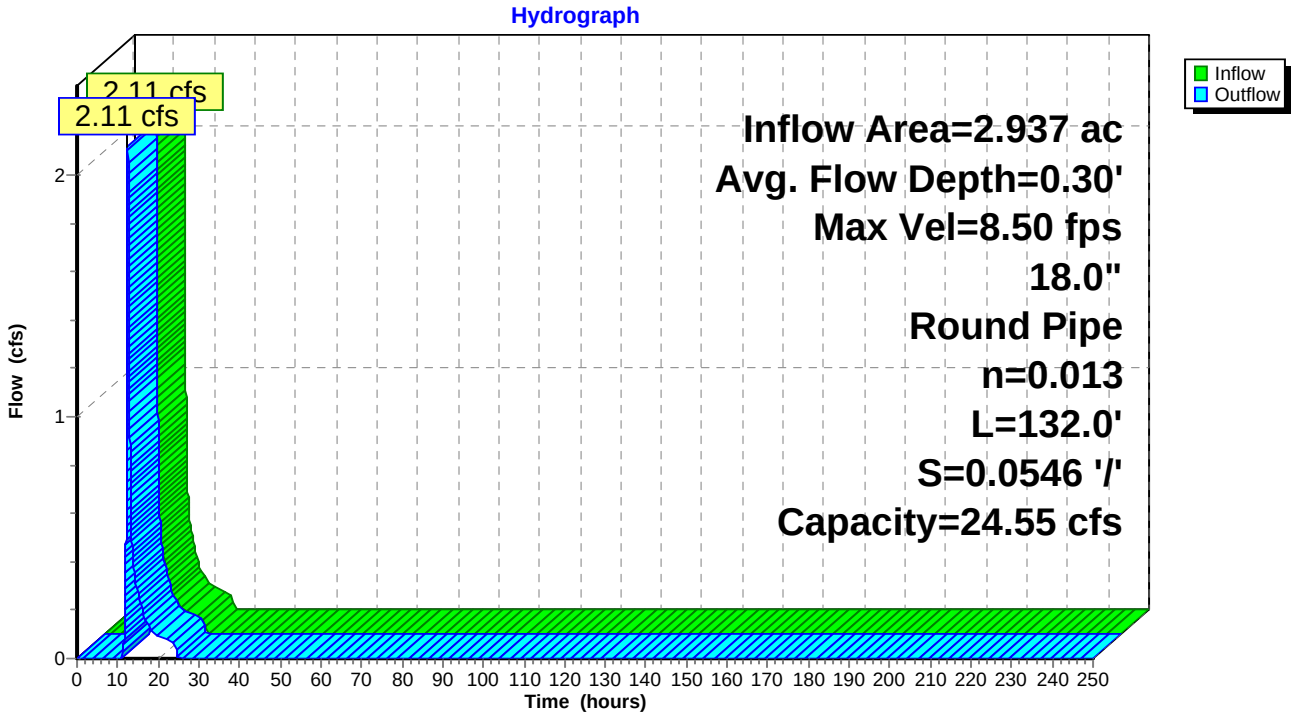
Routing by Stor-Ind method, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Max. Velocity= 8.50 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 3.75 fps, Avg. Travel Time= 0.6 min

Peak Storage= 33 cf @ 12.49 hrs
Average Depth at Peak Storage= 0.30'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 24.55 cfs

18.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 132.0' Slope= 0.0546 '/'
Inlet Invert= 374.01', Outlet Invert= 366.80'



Reach 1R: 18"



Summary for Pond 1P: Pond - D

Inflow Area = 2.937 ac, 37.76% Impervious, Inflow Depth = 1.18" for 2 Year event
Inflow = 2.11 cfs @ 12.49 hrs, Volume= 0.289 af
Outflow = 2.11 cfs @ 12.49 hrs, Volume= 0.289 af, Atten= 0%, Lag= 0.0 min
Primary = 2.11 cfs @ 12.49 hrs, Volume= 0.289 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

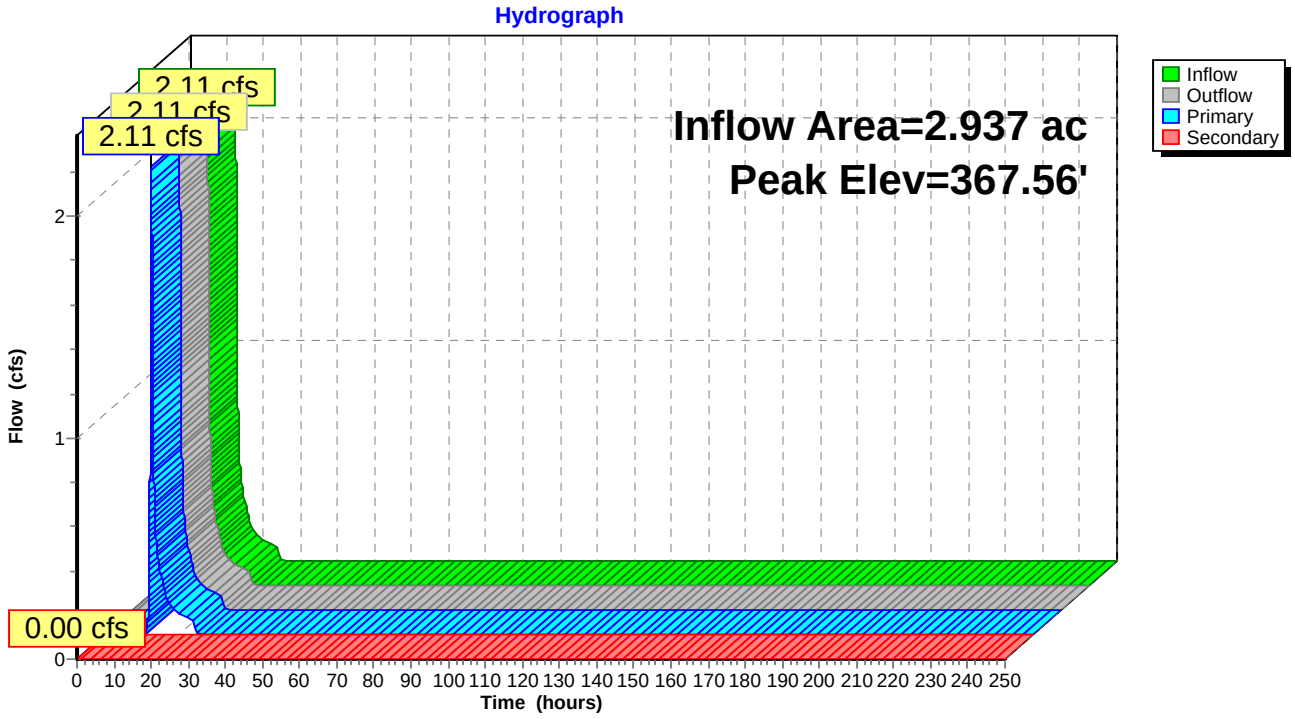
Routing by Stor-Ind method, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Peak Elev= 367.56' @ 12.49 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	366.80'	**18.0" Round Culvert** L= 6.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 366.80' / 361.00' S= 0.9667 '/' Cc= 0.900 n= 0.025 Corrugated metal
#2	Secondary	371.19'	**57.0" W x 57.0" H Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=2.11 cfs @ 12.49 hrs HW=367.56' (Free Discharge)
└**1=Culvert** (Inlet Controls 2.11 cfs @ 2.34 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=366.80' (Free Discharge)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 1P: Pond - D



Summary for Pond 3P: Detention Pond

Inflow	=	0.00 cfs @	0.00 hrs, Volume=	0.000 af
Outflow	=	0.00 cfs @	0.00 hrs, Volume=	0.000 af, Atten= 0%, Lag= 0.0 min
Primary	=	0.00 cfs @	0.00 hrs, Volume=	0.000 af
Secondary	=	0.00 cfs @	0.00 hrs, Volume=	0.000 af

Routing by Stor-Ind method, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Peak Elev= 363.00' @ 0.00 hrs Surf.Area= 0 sf Storage= 0 cf

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

Volume	Invert	Avail.Storage	Storage Description
#1	363.00'	39,443 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

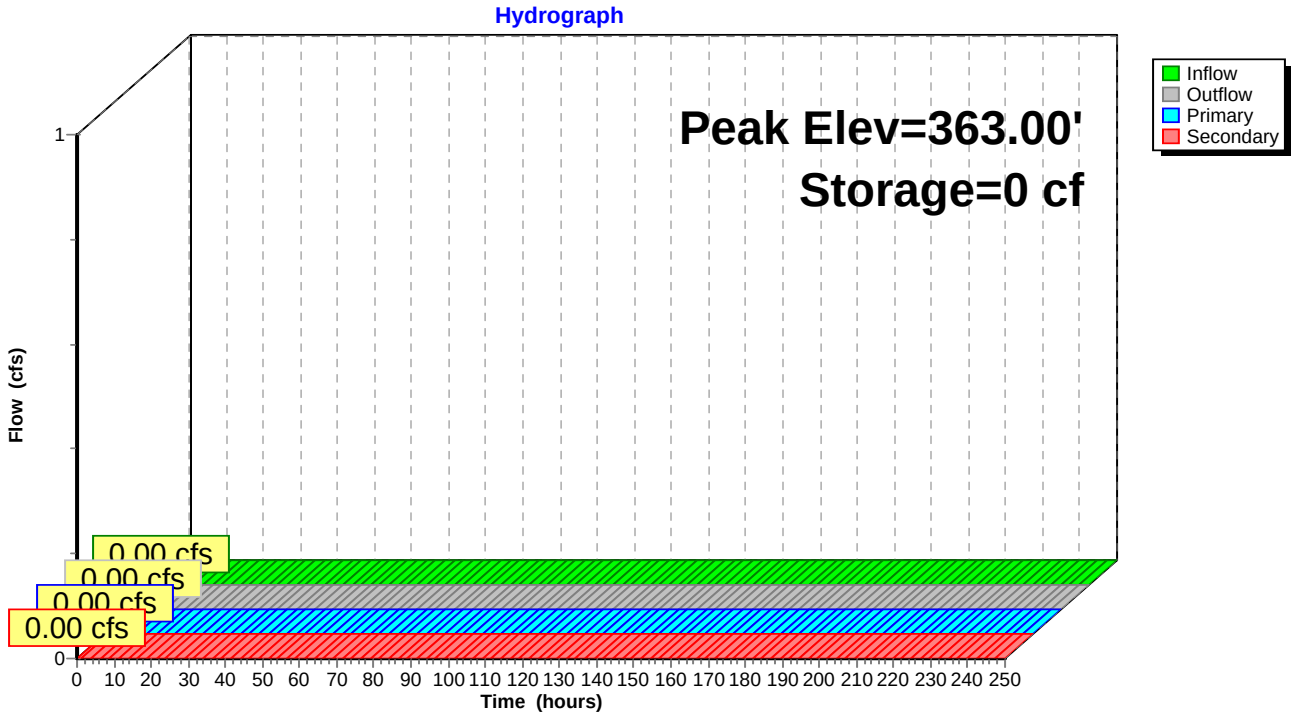
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
363.00	0	0	0
364.00	1,137	569	569
366.00	2,172	3,309	3,878
368.00	3,441	5,613	9,491
370.00	5,233	8,674	18,165
372.00	7,184	12,417	30,582
373.00	7,500	7,342	37,924
373.20	7,700	1,520	39,443

Device	Routing	Invert	Outlet Devices
#1	Primary	363.00'	**10.000 in/hr Exfiltration over Surface area**
#2	Secondary	373.00'	**208.0' long x 10.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=363.00' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=363.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 3P: Detention Pond



Summary for Pond 4P: Detention Pond

Inflow Area = 5.751 ac, 33.25% Impervious, Inflow Depth = 1.18" for 2 Year event
Inflow = 5.18 cfs @ 12.29 hrs, Volume= 0.565 af
Outflow = 0.60 cfs @ 14.26 hrs, Volume= 0.565 af, Atten= 88%, Lag= 118.5 min
Primary = 0.60 cfs @ 14.26 hrs, Volume= 0.565 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Peak Elev= 371.59' @ 14.26 hrs Surf.Area= 2,607 sf Storage= 11,206 cf

Plug-Flow detention time= 243.3 min calculated for 0.565 af (100% of inflow)
Center-of-Mass det. time= 243.3 min (1,115.1 - 871.8)

Volume	Invert	Avail.Storage	Storage Description
#1	363.00'	12,557 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

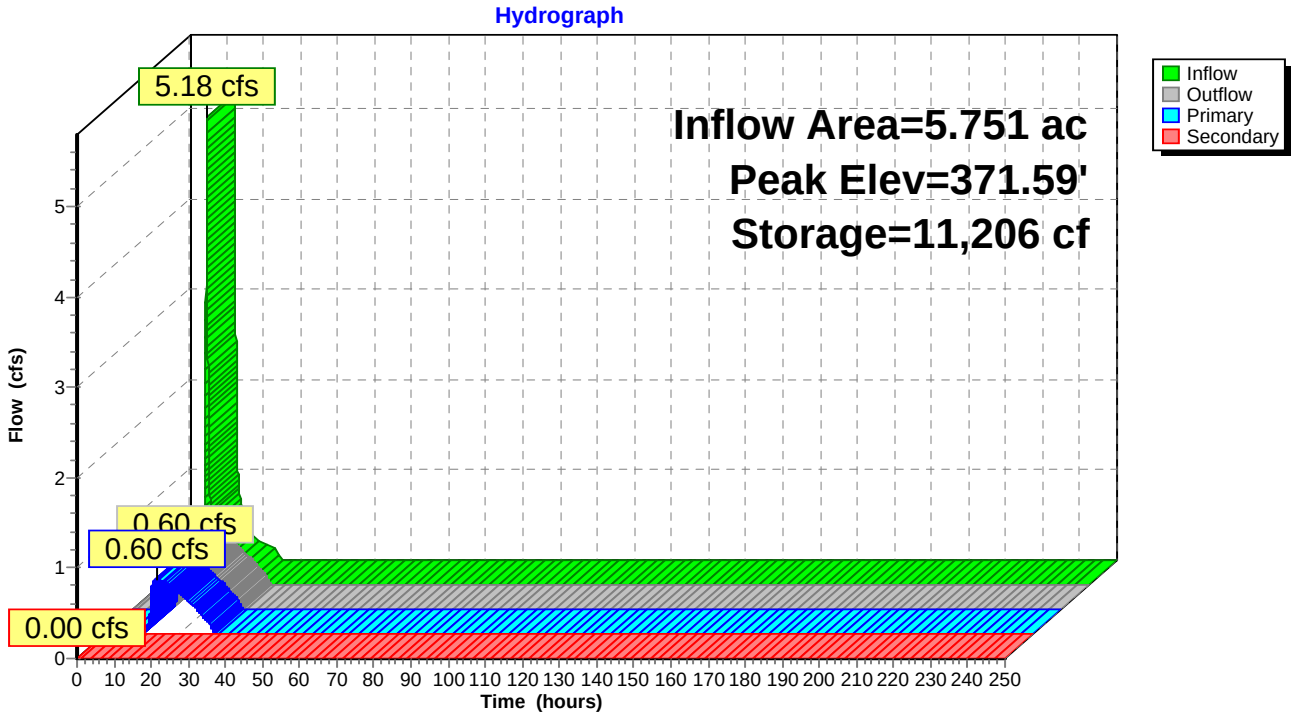
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
363.00	0	0	0
364.00	448	224	224
366.00	893	1,341	1,565
368.00	1,459	2,352	3,917
370.00	2,095	3,554	7,471
372.00	2,739	4,834	12,305
372.09	2,850	252	12,557

Device	Routing	Invert	Outlet Devices
#1	Primary	363.00'	**10.000 in/hr Exfiltration over Surface area**
#2	Device 3	372.00'	**54.0' long x 1.5' 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 Coef. (English) 2.62 2.64 2.64 2.68 2.75 2.86 2.92 3.07 3.07 3.03 3.28 3.32
#3	Secondary	371.00'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 1.00 Width (feet) 2.00 2.00

Primary OutFlow Max=0.60 cfs @ 14.26 hrs HW=371.59' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.60 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=363.00' (Free Discharge)
└**3=Custom Weir/Orifice** (Controls 0.00 cfs)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 4P: Detention Pond



Summary for Pond 6P: Drywells

Inflow Area = 0.231 ac,100.00% Impervious, Inflow Depth = 3.27" for 2 Year event
Inflow = 0.45 cfs @ 12.39 hrs, Volume= 0.063 af
Outflow = 0.19 cfs @ 12.86 hrs, Volume= 0.063 af, Atten= 58%, Lag= 28.4 min
Primary = 0.19 cfs @ 12.86 hrs, Volume= 0.063 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Peak Elev= 387.01' @ 12.86 hrs Surf.Area= 1,218 sf Storage= 496 cf

Plug-Flow detention time= 15.7 min calculated for 0.063 af (100% of inflow)
Center-of-Mass det. time= 15.7 min (792.4 - 776.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	386.00'	1,291 cf	**27.68'W x 44.00'L x 4.83'H Field A** 5,883 cf Overall - 2,655 cf Embedded = 3,227 cf x 40.0% Voids
#2A	387.00'	2,058 cf	**Dry_Well 1000 Gallon** x 16 Inside #1 Inside= 62.0"W x 30.0"H => 12.86 sf x 10.00'L = 128.6 cf Outside= 68.0"W x 34.0"H => 15.81 sf x 10.50'L = 166.0 cf
		3,349 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	386.00'	**6.000 in/hr Exfiltration over Wetted area**
#2	Secondary	393.00'	**24.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=0.19 cfs @ 12.86 hrs HW=387.01' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.19 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=386.00' (Free Discharge)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 6P: Drywells - Chamber Wizard Field A

Chamber Model = Dry_Well 1000 Gallon
Inside= 62.0"W x 30.0"H => 12.86 sf x 10.00'L = 128.6 cf
Outside= 68.0"W x 34.0"H => 15.81 sf x 10.50'L = 166.0 cf

68.0" Wide + 12.0" Spacing = 80.0" C-C

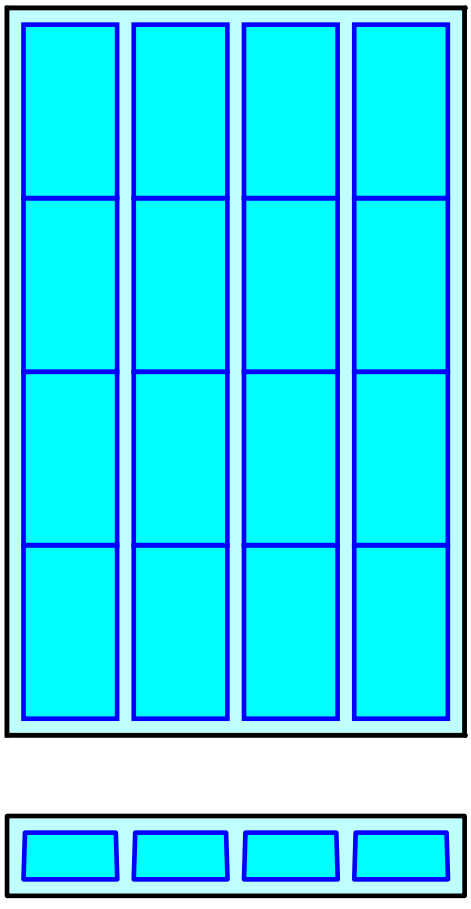
4 Chambers/Row x 10.50' Long = 42.00' + 12.0" End Stone x 2 = 44.00' Base Length
4 Rows x 68.0" Wide + 12.0" Spacing x 3 + 12.0" Side Stone x 2 = 27.68' Base Width
12.0" Base + 34.0" Chamber Height + 12.0" Cover = 4.83' Field Height

16 Chambers x 128.6 cf = 2,058.4 cf Chamber Storage
16 Chambers x 166.0 cf = 2,655.4 cf Displacement

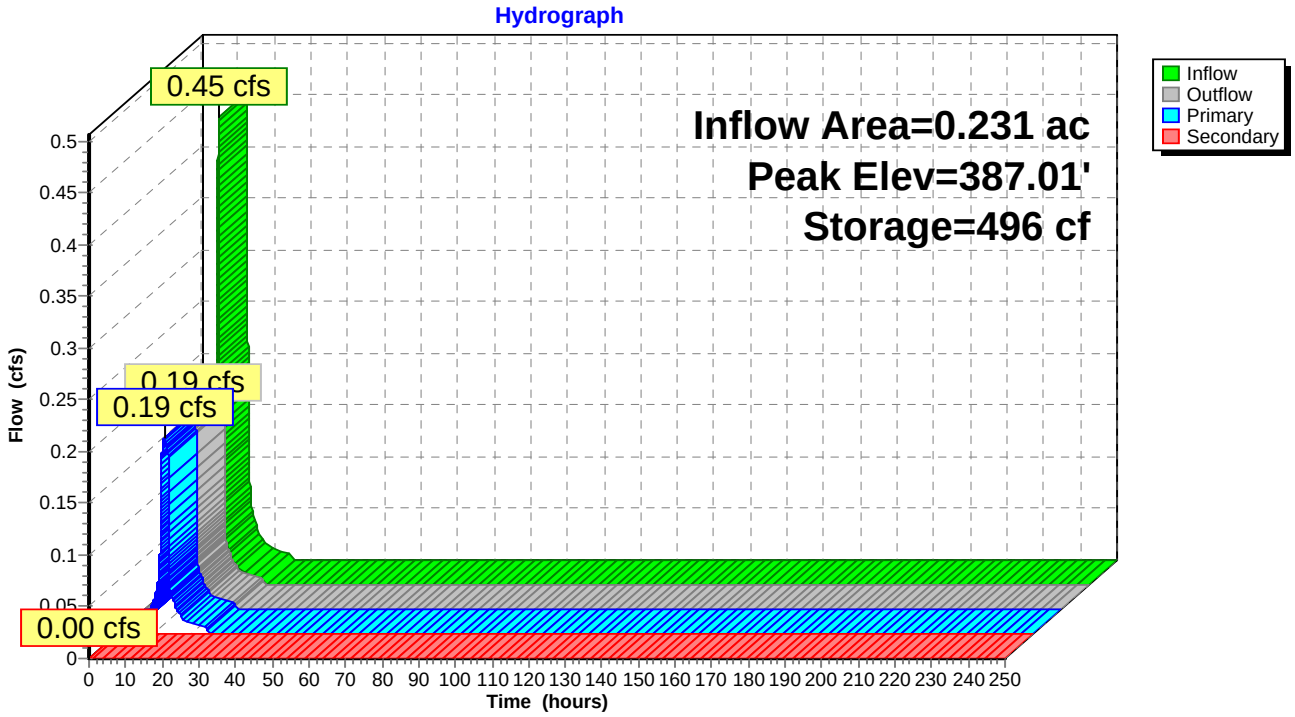
5,882.6 cf Field - 2,655.4 cf Chambers = 3,227.2 cf Stone x 40.0% Voids = 1,290.9 cf Stone Storage

Stone + Chamber Storage = 3,349.3 cf = 0.077 af

16 Chambers
217.9 cy Field
119.5 cy Stone



Pond 6P: Drywells



Summary for Pond 7P: Stormwater Treatment Pond #2

Inflow Area = 2.937 ac, 37.76% Impervious, Inflow Depth = 1.18" for 2 Year event
Inflow = 2.11 cfs @ 12.49 hrs, Volume= 0.289 af
Outflow = 2.10 cfs @ 12.53 hrs, Volume= 0.289 af, Atten= 1%, Lag= 2.1 min
Primary = 0.17 cfs @ 12.53 hrs, Volume= 0.144 af
Secondary = 1.93 cfs @ 12.53 hrs, Volume= 0.144 af
Tertiary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Peak Elev= 363.94' @ 12.53 hrs Surf.Area= 750 sf Storage= 1,219 cf

Plug-Flow detention time= 44.4 min calculated for 0.289 af (100% of inflow)
Center-of-Mass det. time= 44.4 min (929.0 - 884.5)

Volume	Invert	Avail.Storage	Storage Description
#1	361.00'	2,605 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
361.00	100	0	0
362.00	300	200	200
364.00	763	1,063	1,263
365.00	1,132	948	2,211
365.30	1,500	395	2,605

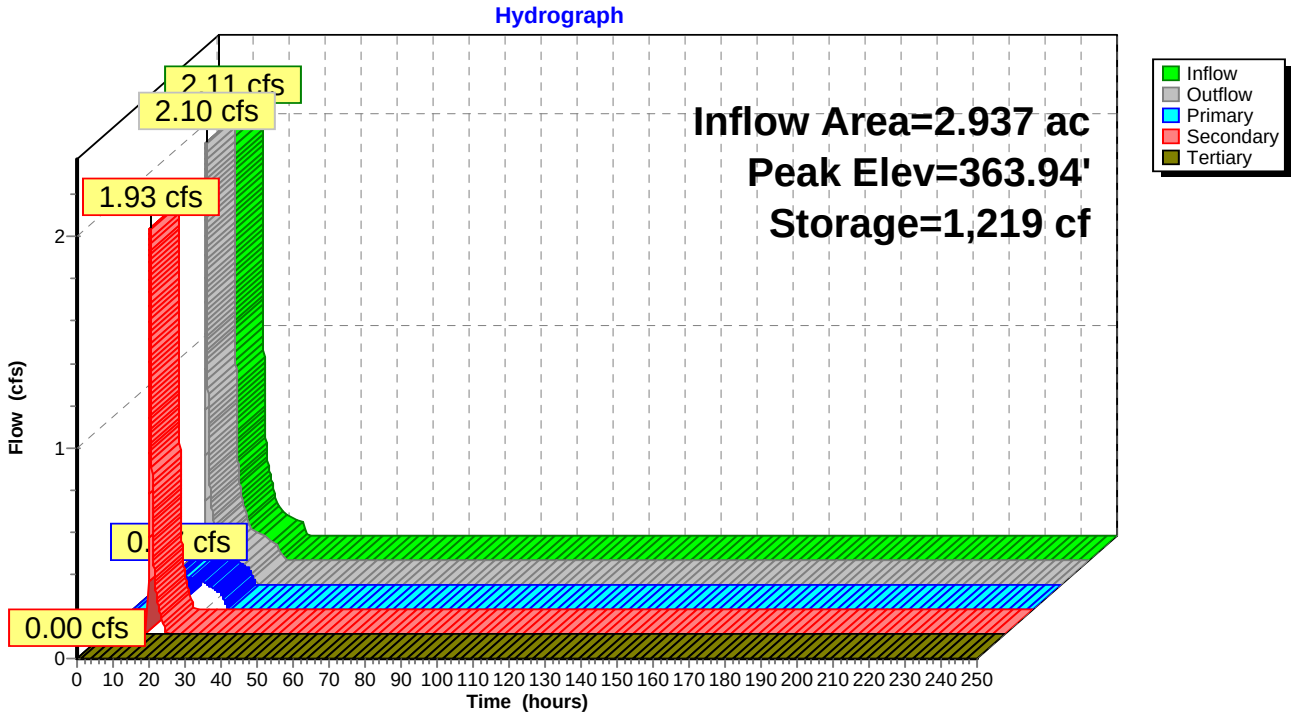
Device	Routing	Invert	Outlet Devices
#1	Primary	361.00'	**10.000 in/hr Exfiltration over Surface area**
#2	Secondary	363.50'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 1.50 Width (feet) 2.00 2.00
#3	Tertiary	365.10'	**93.0' long x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 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 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Primary OutFlow Max=0.17 cfs @ 12.53 hrs HW=363.94' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.17 cfs)

Secondary OutFlow Max=1.92 cfs @ 12.53 hrs HW=363.94' (Free Discharge)
└**2=Custom Weir/Orifice** (Weir Controls 1.92 cfs @ 2.18 fps)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=361.00' (Free Discharge)
└**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 7P: Stormwater Treatment Pond #2



Summary for Pond 8P: Stormwater Treatment Pond #1

Inflow	=	1.93 cfs @	12.53 hrs, Volume=	0.144 af
Outflow	=	1.55 cfs @	12.73 hrs, Volume=	0.144 af, Atten= 20%, Lag= 12.2 min
Primary	=	0.27 cfs @	12.73 hrs, Volume=	0.054 af
Secondary	=	1.28 cfs @	12.73 hrs, Volume=	0.090 af

Routing by Stor-Ind method, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Peak Elev= 362.66' @ 12.73 hrs Surf.Area= 1,150 sf Storage= 1,231 cf

Plug-Flow detention time= 16.2 min calculated for 0.144 af (100% of inflow)
Center-of-Mass det. time= 16.2 min (807.9 - 791.7)

Volume	Invert	Avail.Storage	Storage Description
#1	361.00'	5,867 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

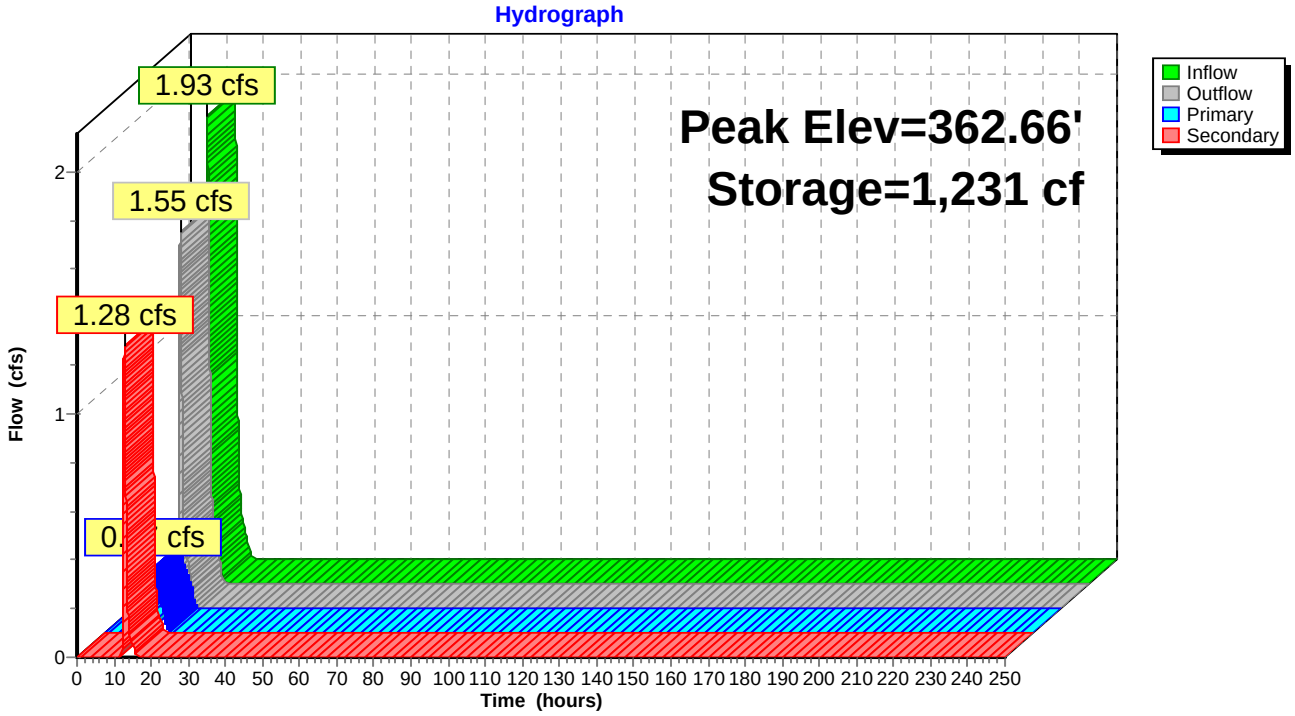
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
361.00	300	0	0
362.00	842	571	571
364.00	1,772	2,614	3,185
365.00	2,163	1,968	5,153
365.30	2,600	714	5,867

Device	Routing	Invert	Outlet Devices
#1	Secondary	361.00'	**24.0" Round Culvert** L= 200.0' CMP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 361.00' / 330.00' S= 0.1550 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior
#2	Device 1	361.10'	**2.0" Vert. Orifice/Grate (0 yr)** C= 0.600
#3	Device 1	361.70'	**6.0" Vert. Orifice/Grate (1yr)** C= 0.600
#4	Device 1	362.30'	**7.0" Vert. Orifice/Grate(2yr)** C= 0.600
#5	Device 1	363.40'	**9.0" Vert. Orifice/Grate(10yr)** C= 0.600
#6	Device 1	364.70'	**57.0" x 57.0" Horiz. Top of Riser (100yr)** C= 0.600 Limited to weir flow at low heads
#7	Device 1	365.00'	**14.5' long x 2.0' breadth Broad-Crested Rectangular Weir (14.5)** 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32
#8	Device 1	365.20'	**100.0' long x 3.0' 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 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32
#9	Primary	361.00'	**10.000 in/hr Exfiltration over Surface area**

Primary OutFlow Max=0.27 cfs @ 12.73 hrs HW=362.66' (Free Discharge)
└─**9=Exfiltration** (Exfiltration Controls 0.27 cfs)

Secondary OutFlow Max=1.28 cfs @ 12.73 hrs HW=362.66' (Free Discharge)
└─**1=Culvert** (Passes 1.28 cfs of 12.25 cfs potential flow)
  ├─**2=Orifice/Grate (0 yr)** (Orifice Controls 0.13 cfs @ 5.86 fps)
  ├─**3=Orifice/Grate (1yr)** (Orifice Controls 0.80 cfs @ 4.06 fps)
  ├─**4=Orifice/Grate(2yr)** (Orifice Controls 0.36 cfs @ 2.05 fps)
  ├─**5=Orifice/Grate(10yr)** (Controls 0.00 cfs)
  ├─**6=Top of Riser (100yr)** (Controls 0.00 cfs)
  ├─**7=Broad-Crested Rectangular Weir (14.5)** (Controls 0.00 cfs)
  └─**8=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 8P: Stormwater Treatment Pond #1



Summary for Pond 9P: Drywells

Inflow Area = 0.459 ac,100.00% Impervious, Inflow Depth = 3.27" for 2 Year event
Inflow = 1.09 cfs @ 12.25 hrs, Volume= 0.125 af
Outflow = 0.25 cfs @ 11.86 hrs, Volume= 0.125 af, Atten= 77%, Lag= 0.0 min
Primary = 0.25 cfs @ 11.86 hrs, Volume= 0.125 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Peak Elev= 387.44' @ 12.81 hrs Surf.Area= 1,834 sf Storage= 1,403 cf

Plug-Flow detention time= 32.1 min calculated for 0.125 af (100% of inflow)
Center-of-Mass det. time= 32.1 min (798.8 - 766.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	386.00'	1,685 cf	**41.69'W x 44.00'L x 4.83'H Field A** 8,860 cf Overall - 4,647 cf Embedded = 4,213 cf x 40.0% Voids
#2A	387.00'	3,602 cf	**Dry_Well 1000 Gallon** x 28 Inside #1 Inside= 62.0"W x 30.0"H => 12.86 sf x 10.00'L = 128.6 cf Outside= 68.0"W x 34.0"H => 15.81 sf x 10.50'L = 166.0 cf
		5,287 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	386.00'	**6.000 in/hr Exfiltration over Surface area**
#2	Secondary	392.00'	**24.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=0.25 cfs @ 11.86 hrs HW=386.08' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.25 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=386.00' (Free Discharge)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 9P: Drywells - Chamber Wizard Field A

Chamber Model = Dry_Well 1000 Gallon
Inside= 62.0"W x 30.0"H => 12.86 sf x 10.00'L = 128.6 cf
Outside= 68.0"W x 34.0"H => 15.81 sf x 10.50'L = 166.0 cf

68.0" Wide + 0.0" Spacing = 68.0" C-C

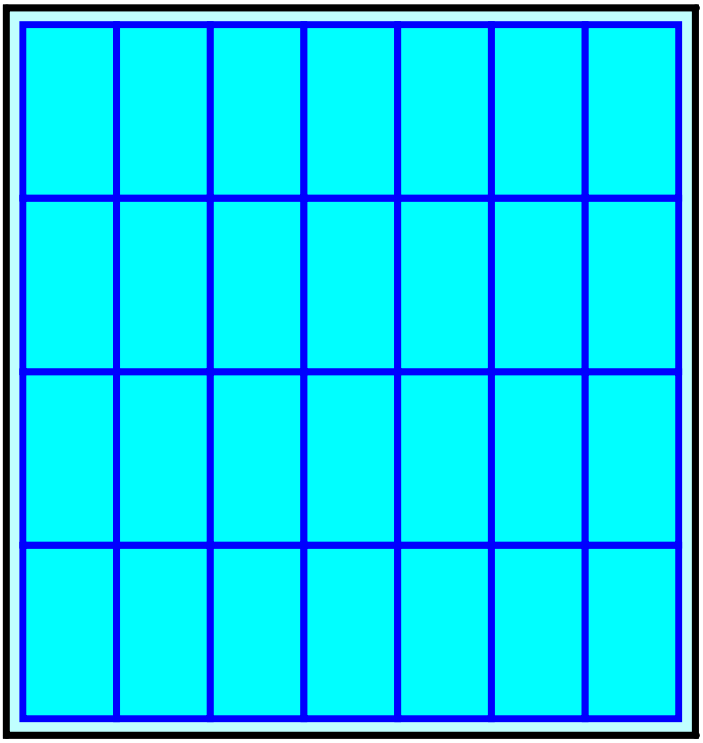
4 Chambers/Row x 10.50' Long = 42.00' + 12.0" End Stone x 2 = 44.00' Base Length
7 Rows x 68.0" Wide + 12.0" Side Stone x 2 = 41.69' Base Width
12.0" Base + 34.0" Chamber Height + 12.0" Cover = 4.83' Field Height

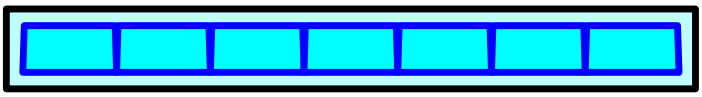
28 Chambers x 128.6 cf = 3,602.2 cf Chamber Storage
28 Chambers x 166.0 cf = 4,646.9 cf Displacement

8,860.0 cf Field - 4,646.9 cf Chambers = 4,213.1 cf Stone x 40.0% Voids = 1,685.2 cf Stone Storage

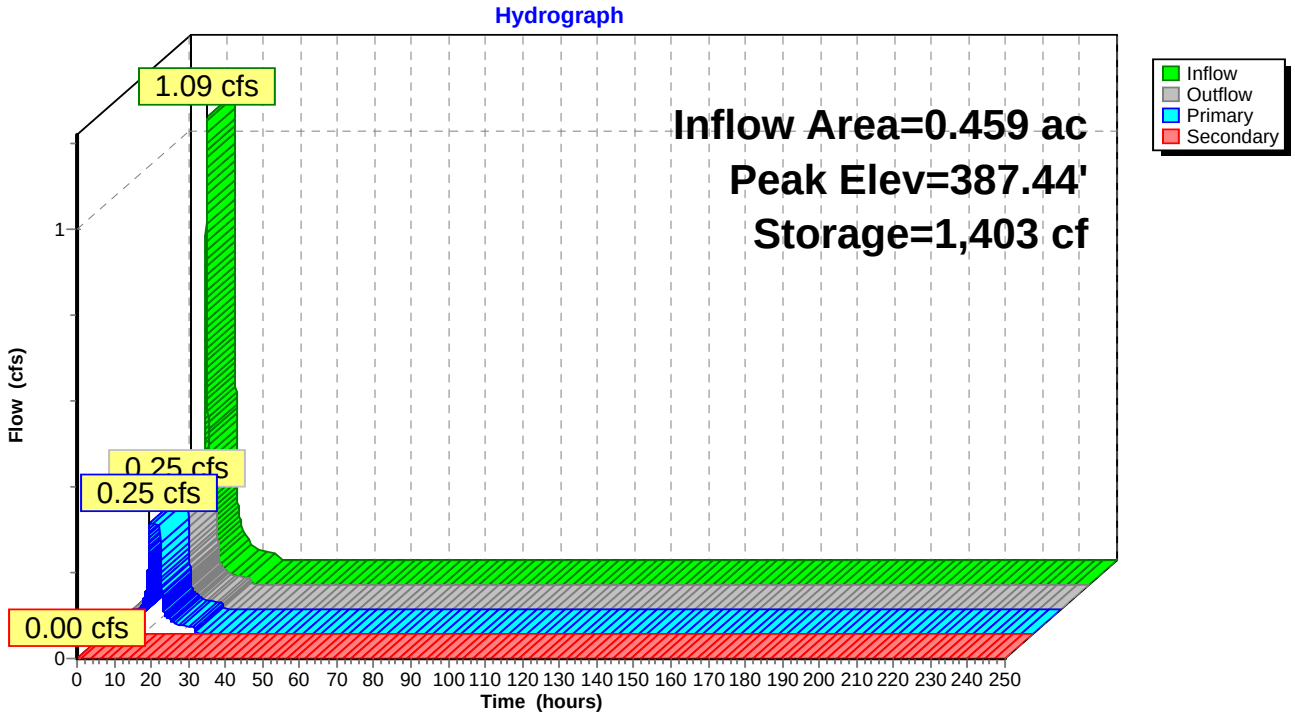
Stone + Chamber Storage = 5,287.4 cf = 0.121 af

28 Chambers
328.1 cy Field
156.0 cy Stone





Pond 9P: Drywells

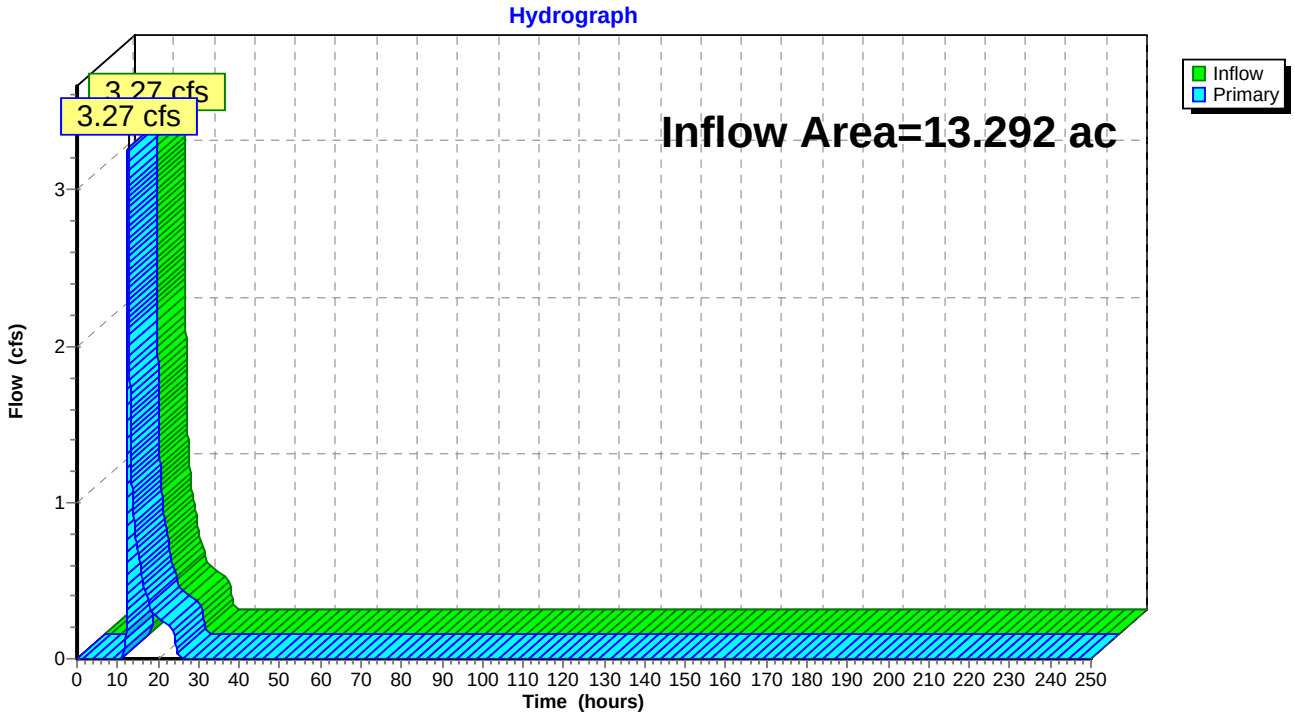


Summary for Link DP-1: Design Point 1

Inflow Area = 13.292 ac, 3.27% Impervious, Inflow Depth = 0.53" for 2 Year event
Inflow = 3.27 cfs @ 12.58 hrs, Volume= 0.589 af
Primary = 3.27 cfs @ 12.58 hrs, Volume= 0.589 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-1: Design Point 1

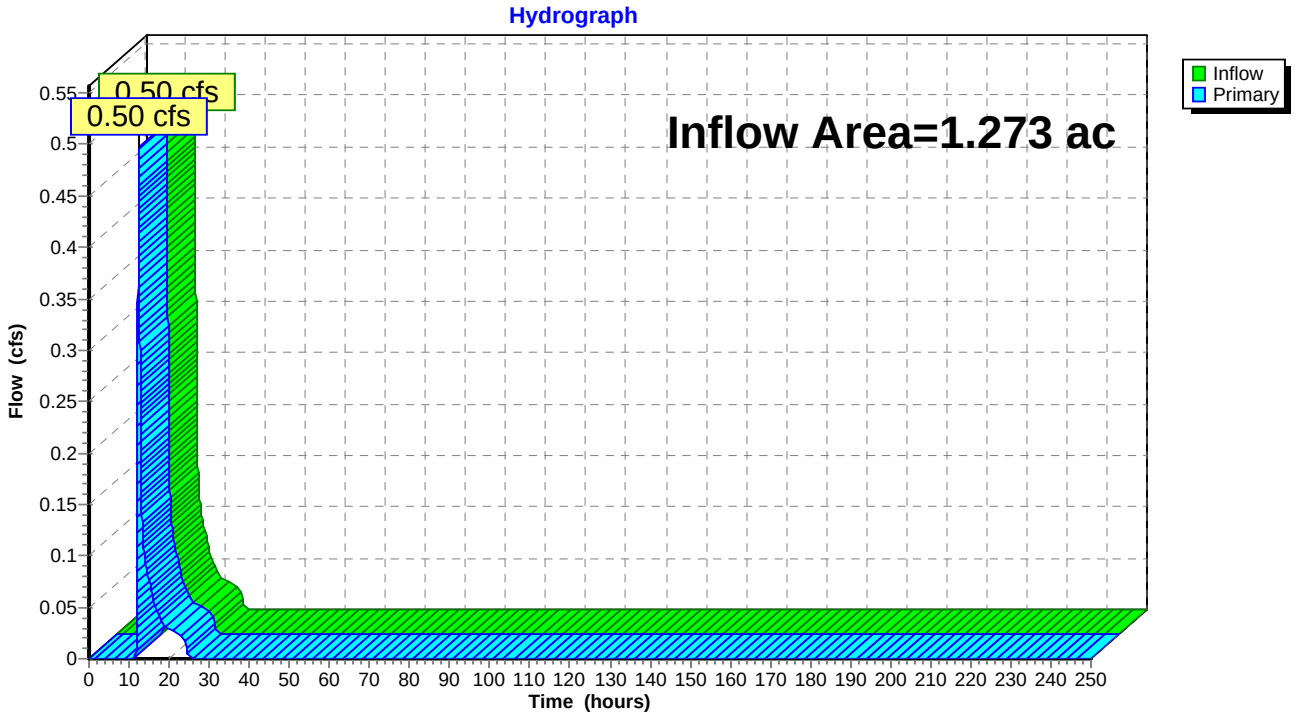


Summary for Link DP-2: Design Point 2

Inflow Area = 1.273 ac, 7.29% Impervious, Inflow Depth = 0.66" for 2 Year event
Inflow = 0.50 cfs @ 12.38 hrs, Volume= 0.070 af
Primary = 0.50 cfs @ 12.38 hrs, Volume= 0.070 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-2: Design Point 2

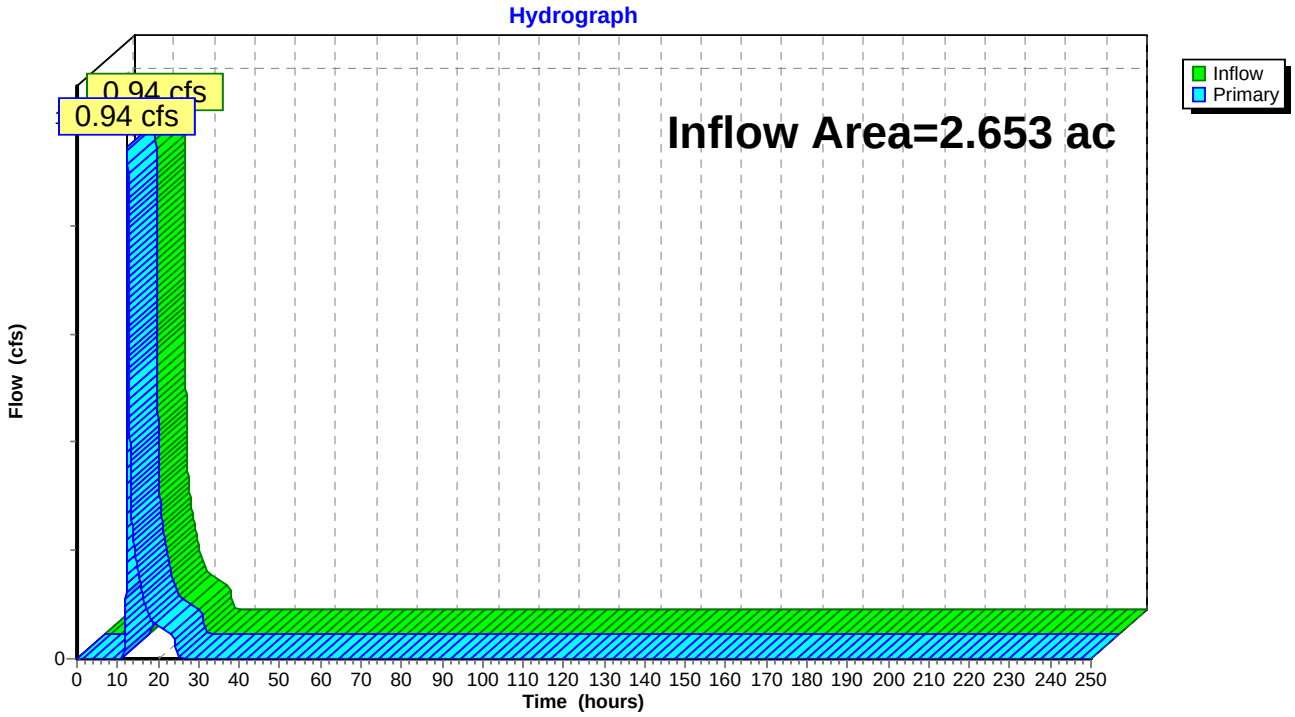


Summary for Link DP-3: Design Point 3

Inflow Area = 2.653 ac, 7.97% Impervious, Inflow Depth = 0.66" for 2 Year event
Inflow = 0.94 cfs @ 12.49 hrs, Volume= 0.146 af
Primary = 0.94 cfs @ 12.49 hrs, Volume= 0.146 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-3: Design Point 3

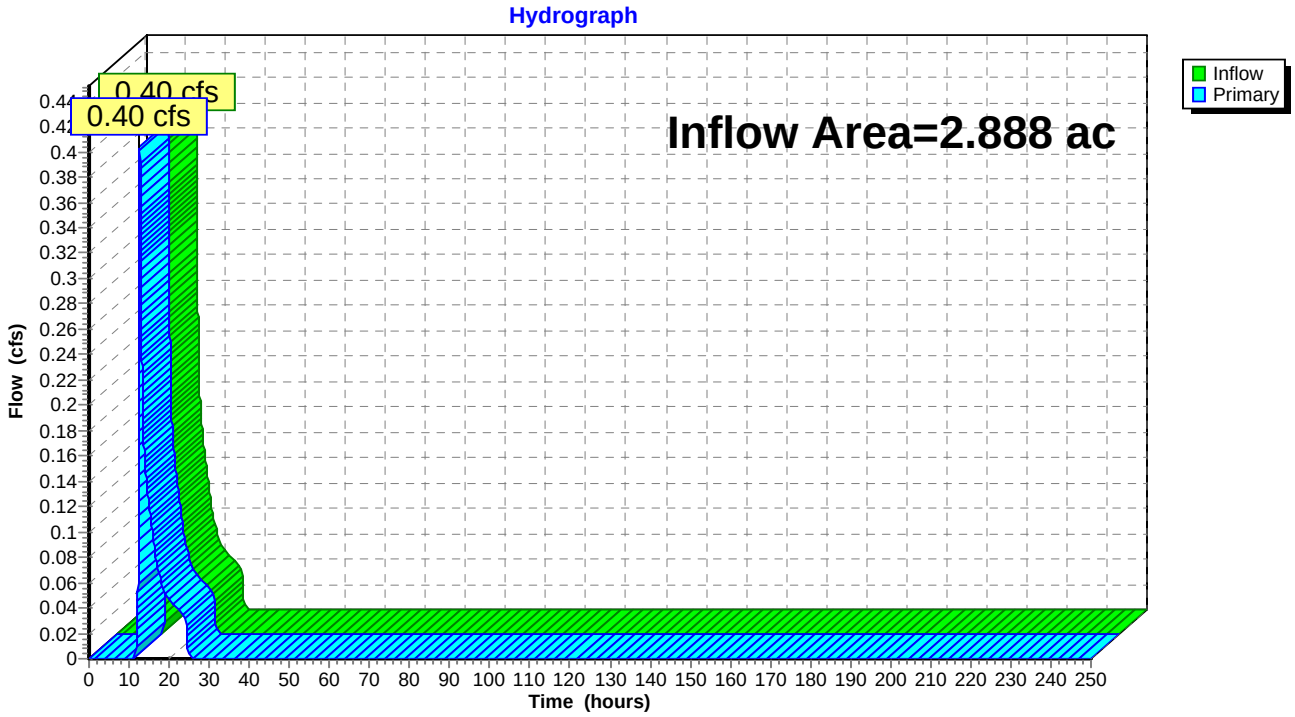


Summary for Link DP-4: Design Point 4

Inflow Area = 2.888 ac, 0.56% Impervious, Inflow Depth = 0.38" for 2 Year event
Inflow = 0.40 cfs @ 12.66 hrs, Volume= 0.091 af
Primary = 0.40 cfs @ 12.66 hrs, Volume= 0.091 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-4: Design Point 4

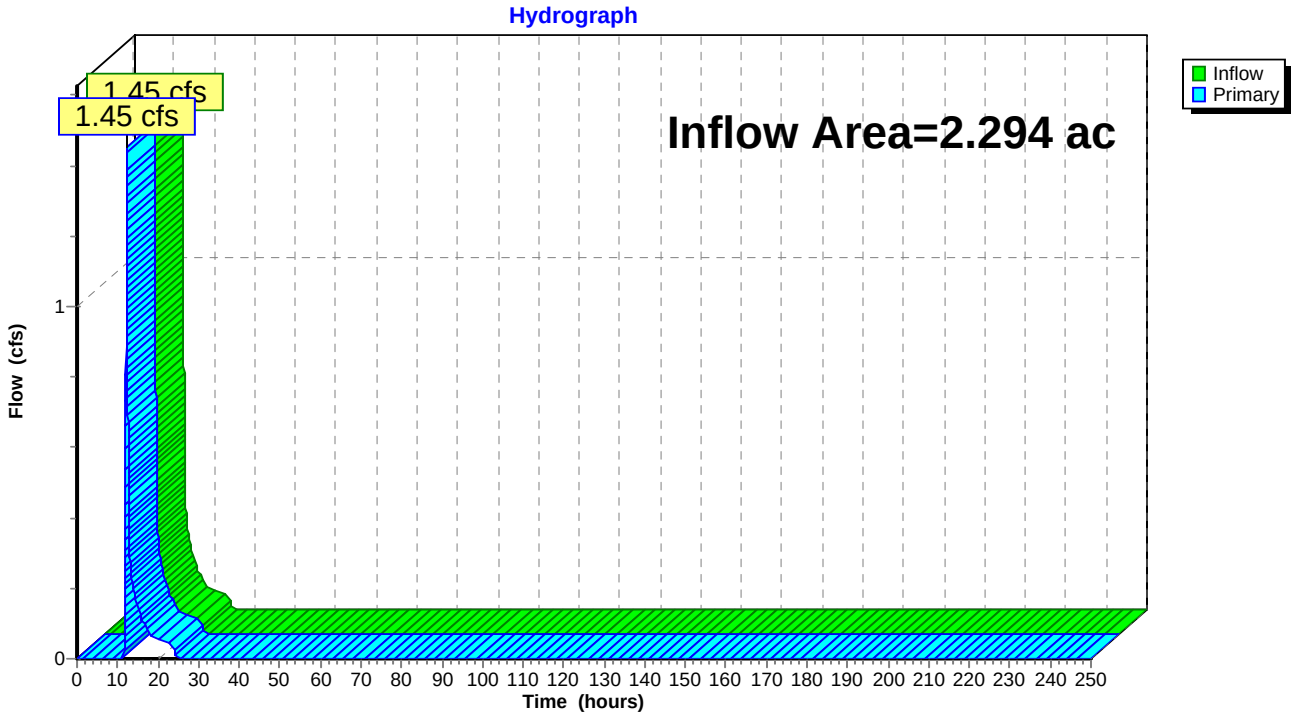


Summary for Link DP-5: Design Point 5

Inflow Area = 2.294 ac, 15.79% Impervious, Inflow Depth = 0.80" for 2 Year event
Inflow = 1.45 cfs @ 12.21 hrs, Volume= 0.153 af
Primary = 1.45 cfs @ 12.21 hrs, Volume= 0.153 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-5: Design Point 5

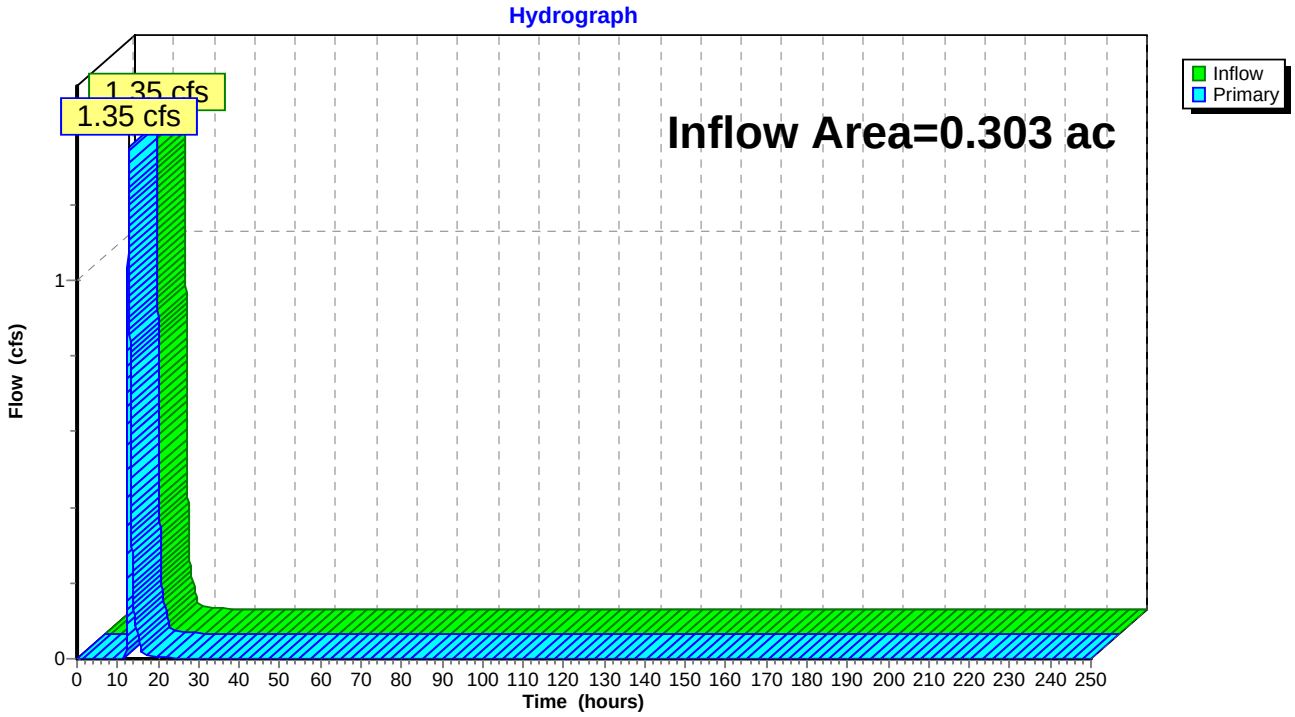


Summary for Link DP-6: Design Point 6

Inflow Area = 0.303 ac, 0.00% Impervious, Inflow Depth = 4.09" for 2 Year event
Inflow = 1.35 cfs @ 12.72 hrs, Volume= 0.103 af
Primary = 1.35 cfs @ 12.72 hrs, Volume= 0.103 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-6: Design Point 6

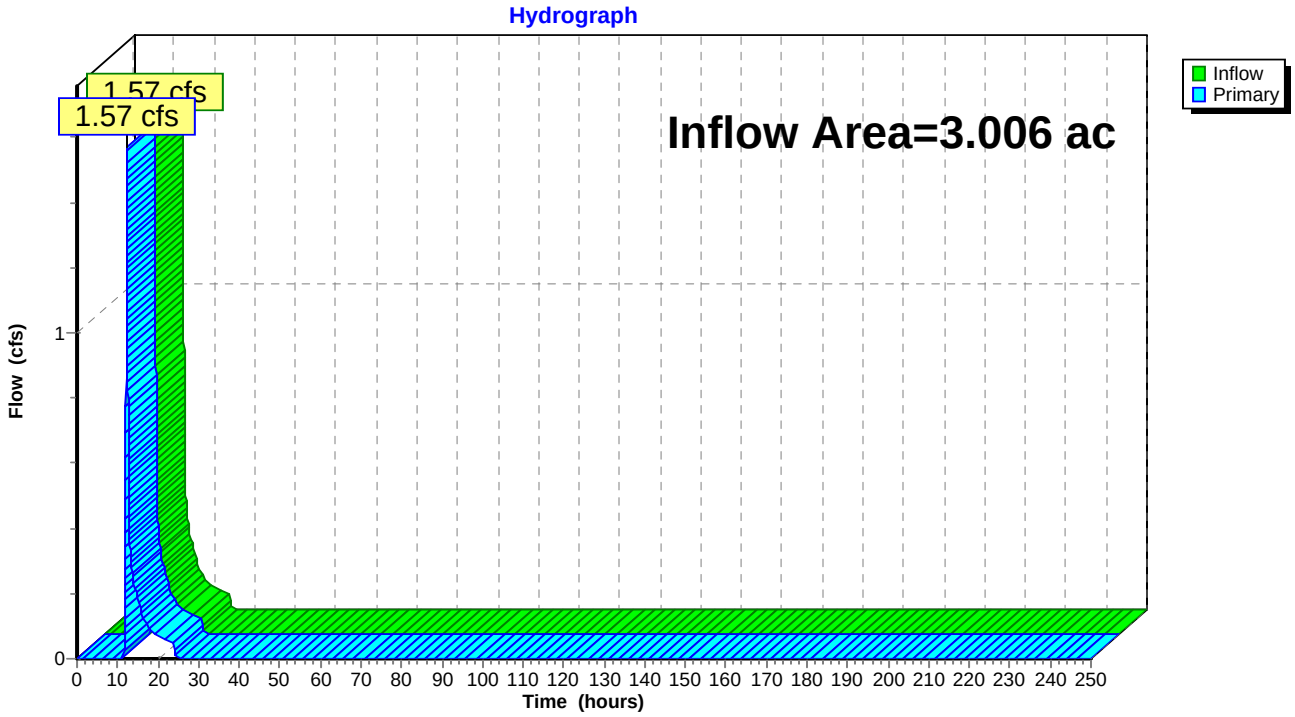


Summary for Link DP-7: Design Point 7

Inflow Area = 3.006 ac, 9.68% Impervious, Inflow Depth = 0.71" for 2 Year event
Inflow = 1.57 cfs @ 12.22 hrs, Volume= 0.177 af
Primary = 1.57 cfs @ 12.22 hrs, Volume= 0.177 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-7: Design Point 7



Time span=0.00-250.00 hrs, dt=0.01 hrs, 25001 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1: Drainage Area 1 Runoff Area=13.292 ac 3.27% Impervious Runoff Depth=1.30"
Flow Length=1,455' Tc=31.8 min CN=60 Runoff=10.00 cfs 1.441 af

Subcatchment 2A: Drainage Area 2A Runoff Area=5.751 ac 33.25% Impervious Runoff Depth=2.28"
Flow Length=999' Tc=19.1 min CN=73 Runoff=10.45 cfs 1.093 af

Subcatchment 2B: Drainage Area 2B Runoff Area=19,994 sf 100.00% Impervious Runoff Depth=4.76"
Flow Length=999' Tc=19.1 min CN=98 Runoff=1.56 cfs 0.182 af

Subcatchment 3: Drainage Area 3 Runoff Area=115,560 sf 7.97% Impervious Runoff Depth=1.51"
Flow Length=552' Tc=28.6 min CN=63 Runoff=2.52 cfs 0.334 af

Subcatchment 4: Drainage Area 4 Runoff Area=55,457 sf 7.29% Impervious Runoff Depth=1.51"
Flow Length=284' Tc=22.5 min CN=63 Runoff=1.34 cfs 0.160 af

Subcatchment 5: Drainage Area 5 Runoff Area=125,820 sf 0.56% Impervious Runoff Depth=1.04"
Flow Length=497' Tc=33.7 min CN=56 Runoff=1.58 cfs 0.251 af

Subcatchment 6A: Drainage Area 6 Runoff Area=2.937 ac 37.76% Impervious Runoff Depth=2.28"
Flow Length=578' Tc=32.3 min CN=73 Runoff=4.26 cfs 0.558 af

Subcatchment 6B: Drainage Area 6 Runoff Area=10,050 sf 100.00% Impervious Runoff Depth=4.76"
Flow Length=540' Tc=29.9 min CN=98 Runoff=0.65 cfs 0.092 af

Subcatchment 6c: Drainage Area 6 Runoff Area=13,208 sf 0.00% Impervious Runoff Depth=1.30"
Flow Length=540' Tc=29.9 min CN=60 Runoff=0.23 cfs 0.033 af

Subcatchment 7: Drainage Area 7 Runoff Area=3.006 ac 9.68% Impervious Runoff Depth=1.58"
Flow Length=527' Tc=13.4 min CN=64 Runoff=4.11 cfs 0.396 af

Subcatchment 8: Drainage Area 8 Runoff Area=99,910 sf 15.79% Impervious Runoff Depth=1.73"
Flow Length=558' Tc=13.0 min CN=66 Runoff=3.53 cfs 0.330 af

Reach 1R: 18" Avg. Flow Depth=0.42' Max Vel=10.42 fps Inflow=4.26 cfs 0.558 af
18.0" Round Pipe n=0.013 L=132.0' S=0.0546 '/' Capacity=24.55 cfs Outflow=4.26 cfs 0.558 af

Pond 1P: Pond - D Peak Elev=367.96' Inflow=4.26 cfs 0.558 af
Primary=4.26 cfs 0.558 af Secondary=0.00 cfs 0.000 af Outflow=4.26 cfs 0.558 af

Pond 3P: Detention Pond Peak Elev=368.03' Storage=9,596 cf Inflow=13.96 cfs 0.355 af
Primary=0.80 cfs 0.355 af Secondary=0.00 cfs 0.000 af Outflow=0.80 cfs 0.355 af

Pond 4P: Detention Pond Peak Elev=373.53' Storage=12,557 cf Inflow=10.45 cfs 1.093 af
Primary=0.66 cfs 0.738 af Secondary=13.96 cfs 0.355 af Outflow=14.62 cfs 1.093 af

Pond 6P: Drywells Peak Elev=387.49' Storage=951 cf Inflow=0.65 cfs 0.092 af
Primary=0.20 cfs 0.092 af Secondary=0.00 cfs 0.000 af Outflow=0.20 cfs 0.092 af

Pond 7P: Stormwater Treatment Pond #2 Peak Elev=364.22' Storage=1,443 cf Inflow=4.26 cfs 0.558 af
Primary=0.20 cfs 0.185 af Secondary=4.03 cfs 0.373 af Tertiary=0.00 cfs 0.000 af Outflow=4.23 cfs 0.558 af

Pond 8P: Stormwater Treatment Pond #1 Peak Elev=363.67' Storage=2,623 cf Inflow=4.03 cfs 0.373 af
Primary=0.37 cfs 0.100 af Secondary=2.99 cfs 0.273 af Outflow=3.37 cfs 0.373 af

Pond 9P: Drywells Peak Elev=388.13' Storage=2,457 cf Inflow=1.56 cfs 0.182 af
Primary=0.25 cfs 0.182 af Secondary=0.00 cfs 0.000 af Outflow=0.25 cfs 0.182 af

Link DP-1: Design Point 1 Inflow=10.00 cfs 1.441 af
Primary=10.00 cfs 1.441 af

Link DP-2: Design Point 2 Inflow=1.34 cfs 0.160 af
Primary=1.34 cfs 0.160 af

Link DP-3: Design Point 3 Inflow=2.52 cfs 0.334 af
Primary=2.52 cfs 0.334 af

Link DP-4: Design Point 4 Inflow=1.58 cfs 0.251 af
Primary=1.58 cfs 0.251 af

Link DP-5: Design Point 5 Inflow=3.53 cfs 0.330 af
Primary=3.53 cfs 0.330 af

Link DP-6: Design Point 6 Inflow=3.18 cfs 0.306 af
Primary=3.18 cfs 0.306 af

Link DP-7: Design Point 7 Inflow=4.11 cfs 0.396 af
Primary=4.11 cfs 0.396 af

Total Runoff Area = 35.087 ac Runoff Volume = 4.869 af Average Runoff Depth = 1.67"
85.41% Pervious = 29.968 ac 14.59% Impervious = 5.119 ac

Summary for Subcatchment 1: Drainage Area 1

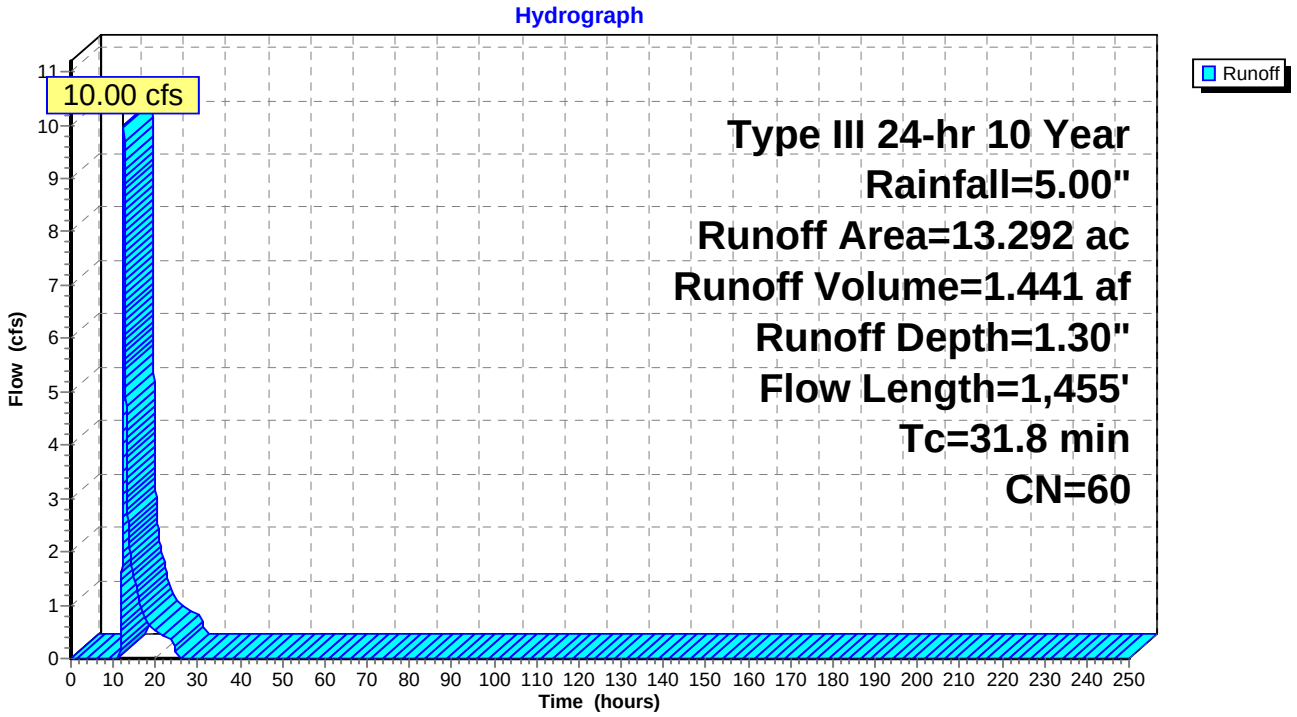
Runoff = 10.00 cfs @ 12.50 hrs, Volume= 1.441 af, Depth= 1.30"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Year Rainfall=5.00"

Area (ac)	CN	Description
2.770	69	50-75% Grass cover, Fair, HSG B
0.435	98	Paved roads w/curbs & sewers
9.824	55	Woods, Good, HSG B
0.263	82	Dirt roads, HSG B
13.292	60	Weighted Average
12.857		96.73% Pervious Area
0.435		3.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.9	100	0.0260	0.09		**Sheet Flow, 1 to 2** Grass: Bermuda n= 0.410 P2= 3.50"
1.7	216	0.1830	2.14		**Shallow Concentrated Flow, 2 to 3** Woodland Kv= 5.0 fps
0.3	78	0.0450	4.31		**Shallow Concentrated Flow, 3 to 4** Paved Kv= 20.3 fps
1.2	121	0.1150	1.70		**Shallow Concentrated Flow, 4 to 5** Woodland Kv= 5.0 fps
5.8	679	0.0770	1.94		**Shallow Concentrated Flow, 5 to 6** Short Grass Pasture Kv= 7.0 fps
3.9	261	0.0500	1.12		**Shallow Concentrated Flow, 6 to DP1** Woodland Kv= 5.0 fps
31.8	1,455	Total			

Subcatchment 1: Drainage Area 1



Summary for Subcatchment 2A: Drainage Area 2A

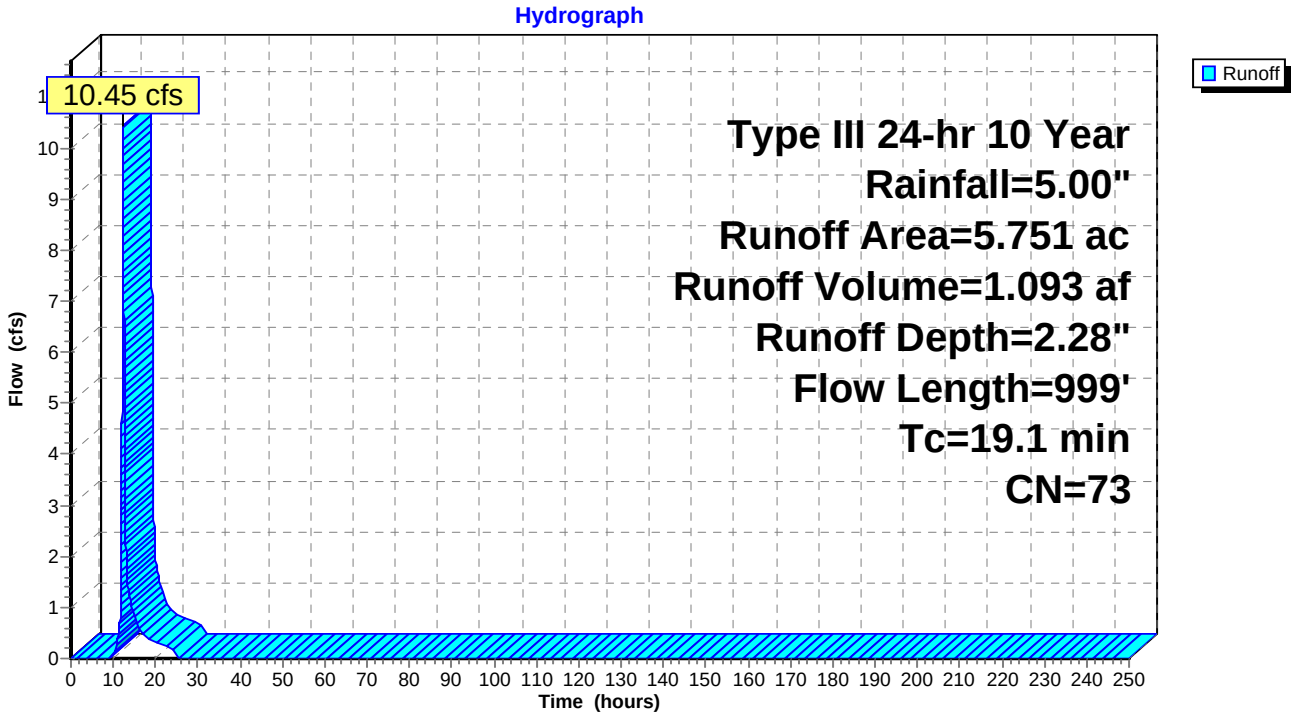
Runoff = 10.45 cfs @ 12.27 hrs, Volume= 1.093 af, Depth= 2.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Year Rainfall=5.00"

Area (ac)	CN	Description
1.912	98	Paved roads w/curbs & sewers
3.319	61	>75% Grass cover, Good, HSG B
0.520	55	Woods, Good, HSG B
5.751	73	Weighted Average
3.839		66.75% Pervious Area
1.912		33.25% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.5	100	0.0900	0.15		**Sheet Flow, 1 to 2** Grass: Bermuda n= 0.410 P2= 3.50"
5.8	423	0.0300	1.21		**Shallow Concentrated Flow, 2 to 3** Short Grass Pasture Kv= 7.0 fps
0.5	74	0.0140	2.40		**Shallow Concentrated Flow, 3 to 4 (Road)** Paved Kv= 20.3 fps
0.1	25	0.0100	4.54	3.56	**Pipe Channel, 4 to 5** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.6	167	0.0120	4.97	3.90	**Pipe Channel, 5 to 6** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.4	70	0.0090	2.60	3.19	**Pipe Channel, 6 to 7** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.025 Corrugated metal
0.2	140	0.1510	12.01	21.23	**Pipe Channel, 7 to 8** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.025 Corrugated metal
19.1	999	Total			

Subcatchment 2A: Drainage Area 2A



Summary for Subcatchment 2B: Drainage Area 2B

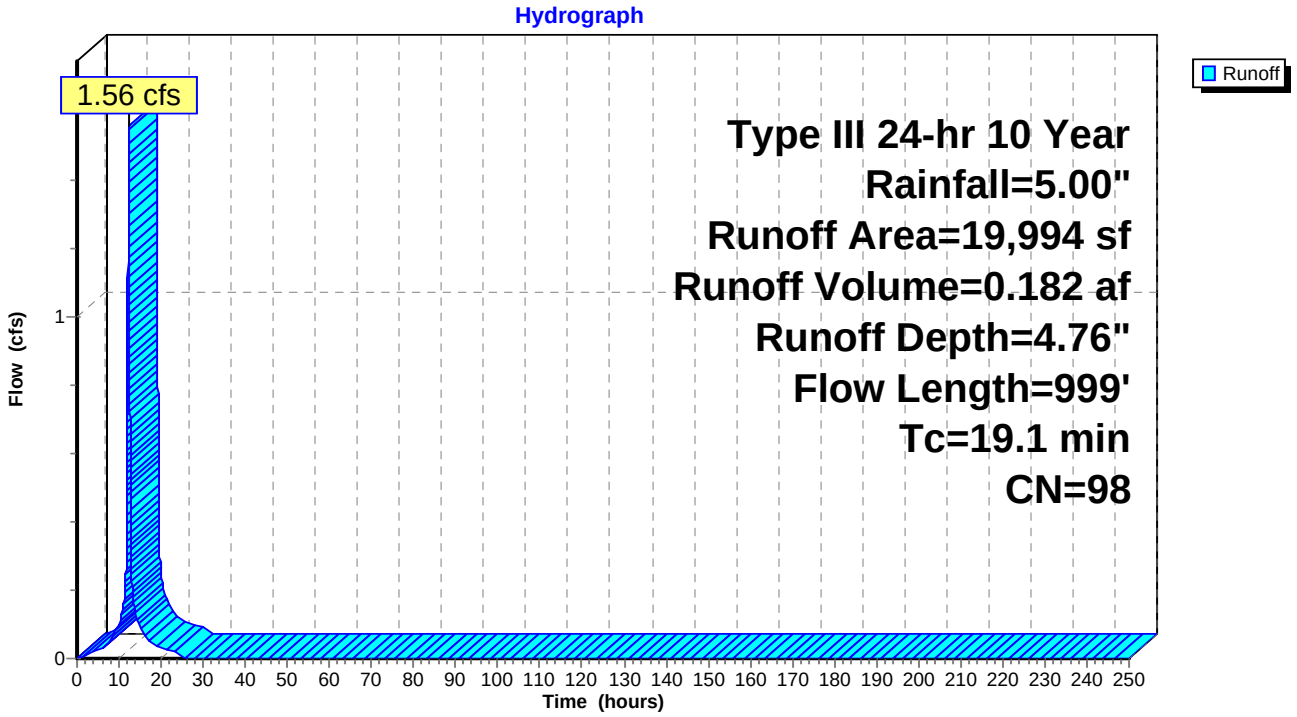
Runoff = 1.56 cfs @ 12.25 hrs, Volume= 0.182 af, Depth= 4.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Year Rainfall=5.00"

Area (sf)	CN	Description
19,994	98	Paved roads w/curbs & sewers
19,994		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.5	100	0.0900	0.15		**Sheet Flow, 1 to 2** Grass: Bermuda n= 0.410 P2= 3.50"
5.8	423	0.0300	1.21		**Shallow Concentrated Flow, 2 to 3** Short Grass Pasture Kv= 7.0 fps
0.5	74	0.0140	2.40		**Shallow Concentrated Flow, 3 to 4 (Road)** Paved Kv= 20.3 fps
0.1	25	0.0100	4.54	3.56	**Pipe Channel, 4 to 5** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.6	167	0.0120	4.97	3.90	**Pipe Channel, 5 to 6** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.4	70	0.0090	2.60	3.19	**Pipe Channel, 6 to 7** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.025 Corrugated metal
0.2	140	0.1510	12.01	21.23	**Pipe Channel, 7 to 8** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.025 Corrugated metal
19.1	999	Total			

Subcatchment 2B: Drainage Area 2B



Summary for Subcatchment 3: Drainage Area 3

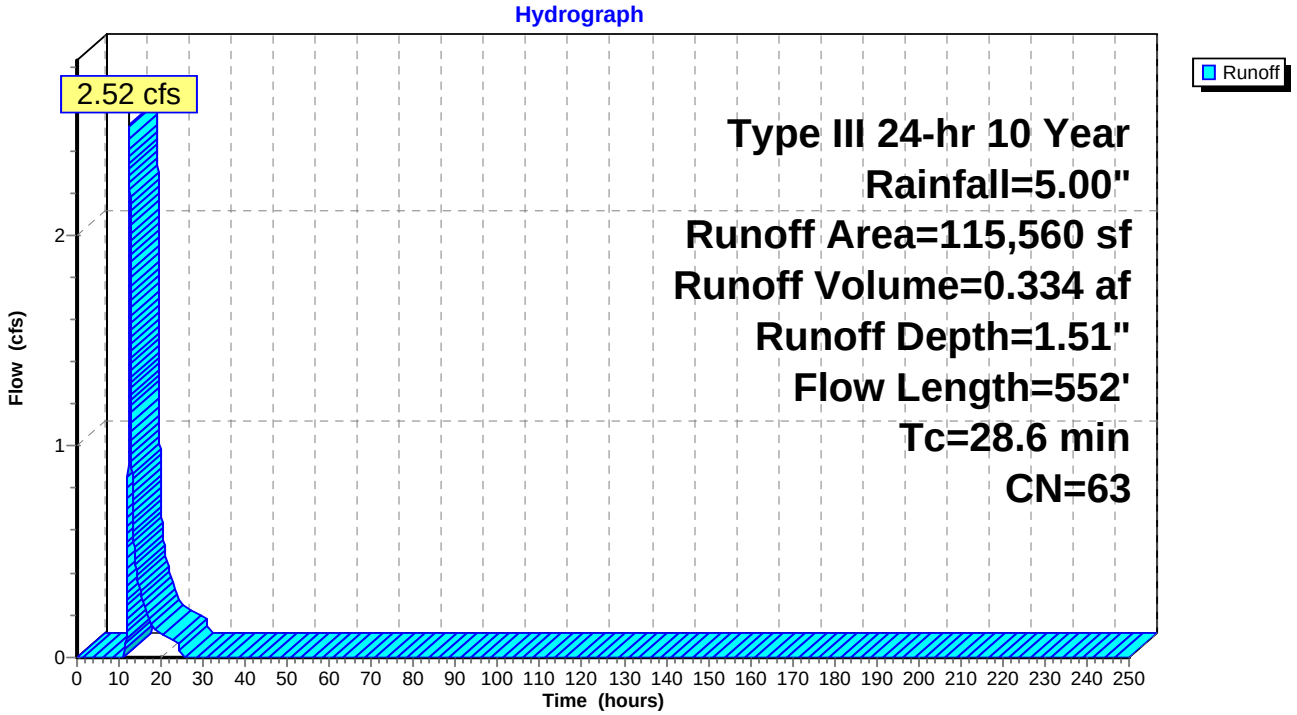
Runoff = 2.52 cfs @ 12.43 hrs, Volume= 0.334 af, Depth= 1.51"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Year Rainfall=5.00"

Area (sf)	CN	Description
49,852	61	>75% Grass cover, Good, HSG B
56,494	60	Woods, Fair, HSG B
9,214	98	Paved roads w/curbs & sewers
115,560	63	Weighted Average
106,346		92.03% Pervious Area
9,214		7.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.4	118	0.0320	0.10		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
2.5	87	0.0140	0.59		**Shallow Concentrated Flow, 2 to 3** Woodland Kv= 5.0 fps
1.2	159	0.1940	2.20		**Shallow Concentrated Flow, 3 to 4** Woodland Kv= 5.0 fps
5.5	188	0.0130	0.57		**Shallow Concentrated Flow, 4 to DP 3** Woodland Kv= 5.0 fps
28.6	552	Total			

Subcatchment 3: Drainage Area 3



Summary for Subcatchment 4: Drainage Area 4

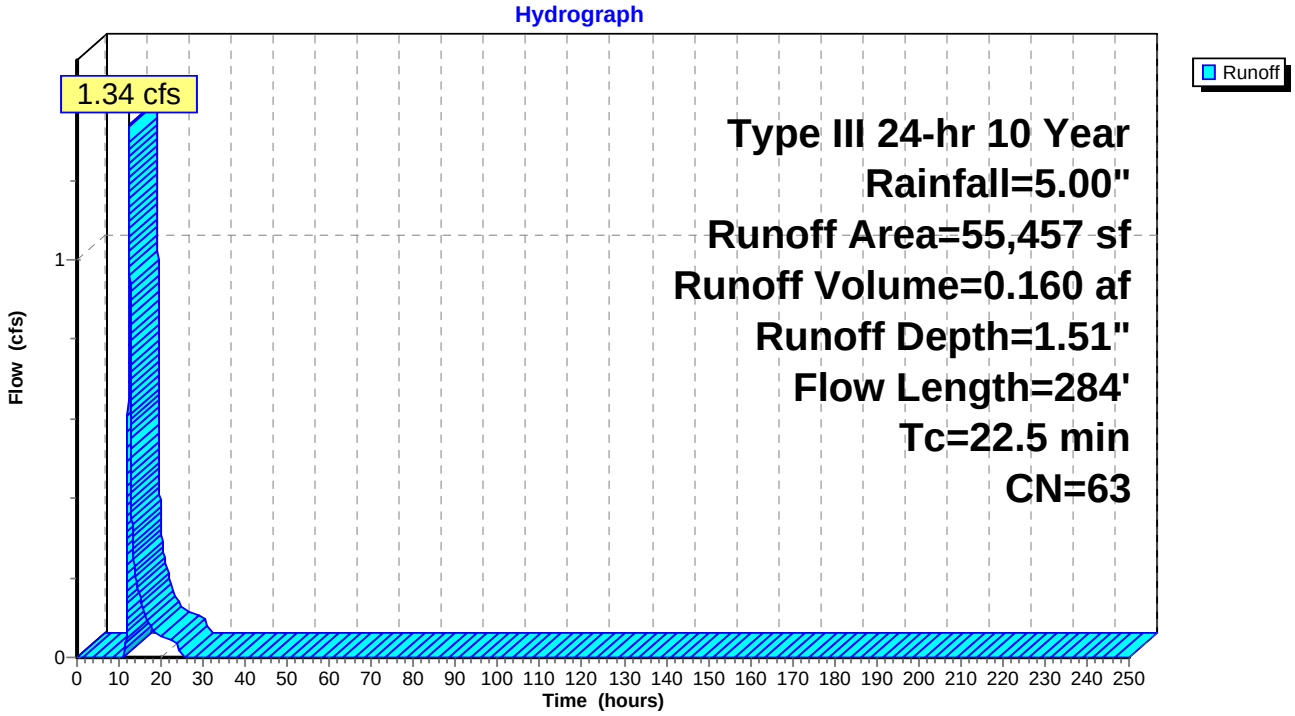
Runoff = 1.34 cfs @ 12.34 hrs, Volume= 0.160 af, Depth= 1.51"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Year Rainfall=5.00"

Area (sf)	CN	Description
31,781	60	Woods, Fair, HSG B
4,042	98	Paved roads w/curbs & sewers
19,634	61	>75% Grass cover, Good, HSG B
55,457	63	Weighted Average
51,415		92.71% Pervious Area
4,042		7.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.9	207	0.0860	0.16		**Sheet Flow, 1 to 2** Grass: Bermuda n= 0.410 P2= 3.50"
1.6	77	0.0130	0.80		**Shallow Concentrated Flow, 2 to DP 4** Short Grass Pasture Kv= 7.0 fps
22.5	284	Total			

Subcatchment 4: Drainage Area 4



Summary for Subcatchment 5: Drainage Area 5

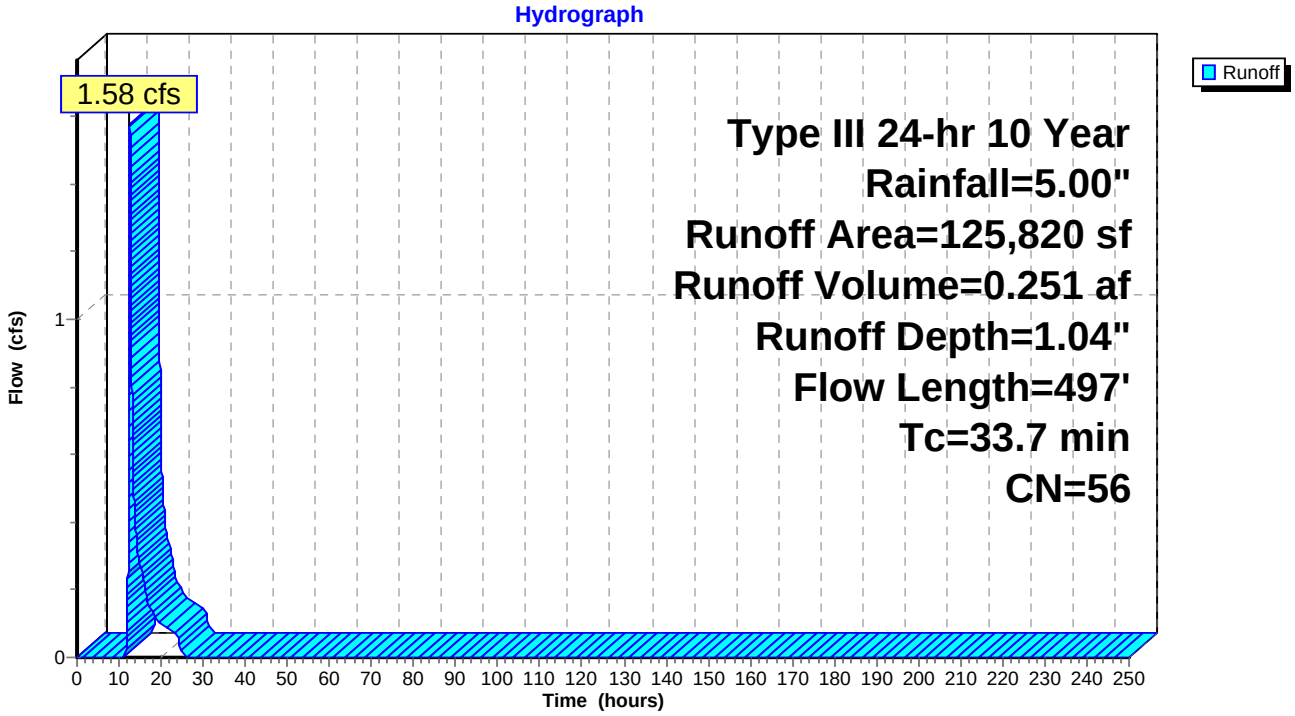
Runoff = 1.58 cfs @ 12.55 hrs, Volume= 0.251 af, Depth= 1.04"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Year Rainfall=5.00"

Area (sf)	CN	Description
23,735	61	>75% Grass cover, Good, HSG B
101,385	55	Woods, Good, HSG B
700	98	Paved parking, HSG B
125,820	56	Weighted Average
125,120		99.44% Pervious Area
700		0.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.9	135	0.0150	0.08		**Sheet Flow, 1 to 2** Grass: Bermuda n= 0.410 P2= 3.50"
3.8	362	0.1020	1.60		**Shallow Concentrated Flow, 2 to DP 4** Woodland Kv= 5.0 fps
33.7	497	Total			

Subcatchment 5: Drainage Area 5



Summary for Subcatchment 6A: Drainage Area 6

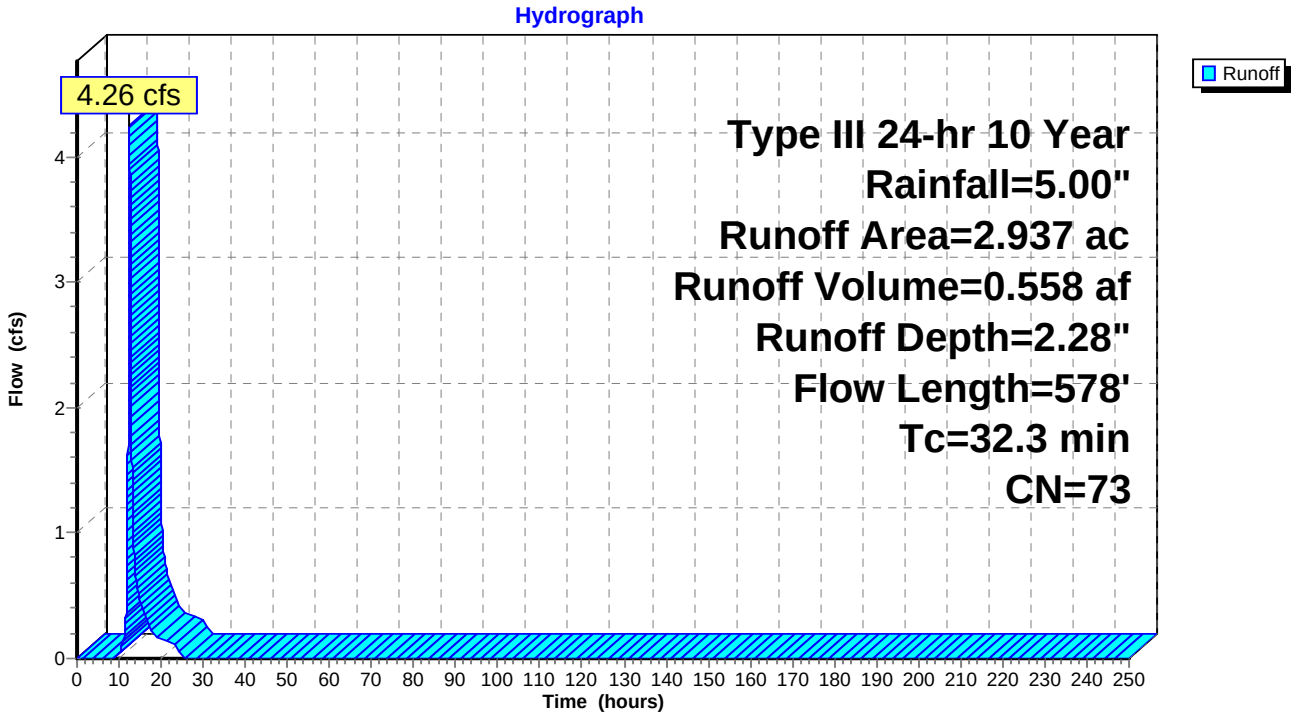
Runoff = 4.26 cfs @ 12.46 hrs, Volume= 0.558 af, Depth= 2.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Year Rainfall=5.00"

Area (ac)	CN	Description
0.893	55	Woods, Good, HSG B
1.109	98	Paved roads w/curbs & sewers
0.935	61	>75% Grass cover, Good, HSG B
2.937	73	Weighted Average
1.828		62.24% Pervious Area
1.109		37.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.6	185	0.0600	0.14		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
0.5	214	0.1180	6.97		**Shallow Concentrated Flow, 2 to 3** Paved Kv= 20.3 fps
0.0	17	0.0120	6.25	7.67	**Pipe Channel, 3 to 4 (Catchbasins)** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 HDPE
0.4	132	0.0077	5.22	9.22	**Pipe Channel, 4 to 5 (18" Culvert)** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 HDPE
9.8	30	0.0120	0.05		**Sheet Flow, 5 to DP 6** Grass: Bermuda n= 0.410 P2= 3.50"
32.3	578	Total			

Subcatchment 6A: Drainage Area 6



Summary for Subcatchment 6B: Drainage Area 6

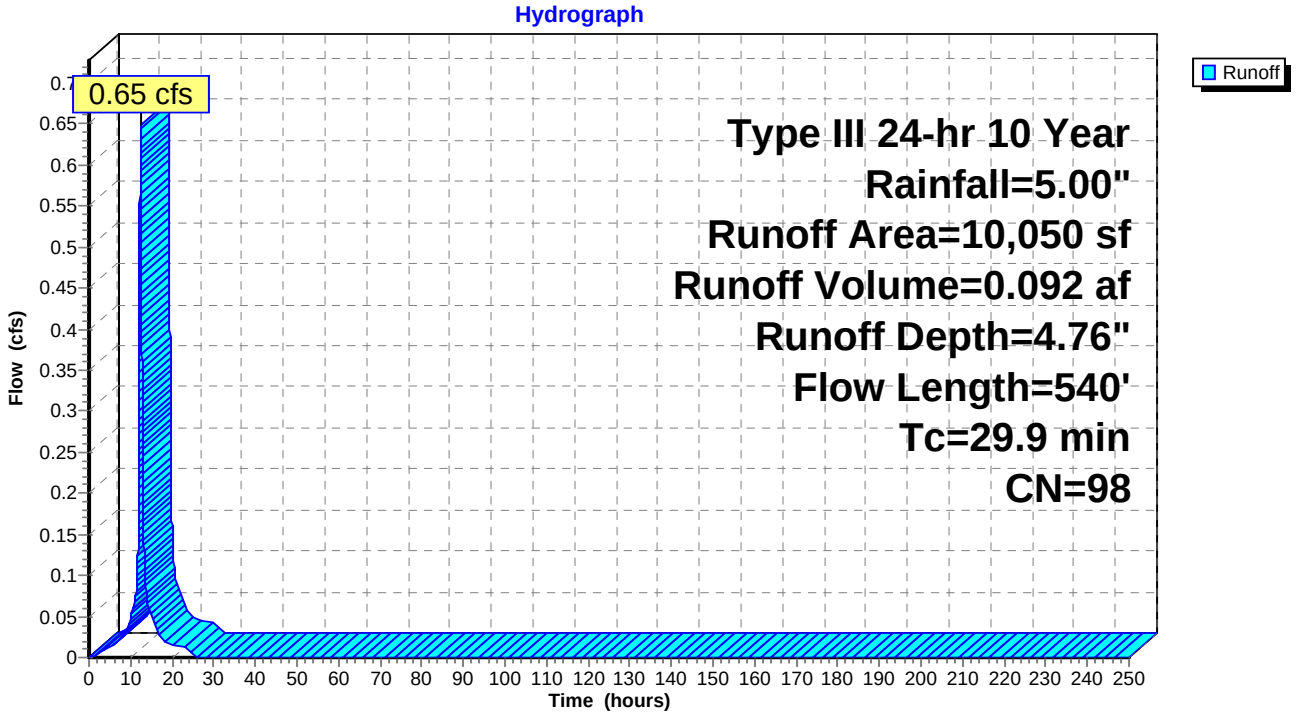
Runoff = 0.65 cfs @ 12.39 hrs, Volume= 0.092 af, Depth= 4.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Year Rainfall=5.00"

Area (sf)	CN	Description
10,050	98	Paved roads w/curbs & sewers
10,050		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.6	185	0.0600	0.14		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
0.5	214	0.1180	6.97		**Shallow Concentrated Flow, 2 to 3** Paved Kv= 20.3 fps
0.0	17	0.0120	6.25	7.67	**Pipe Channel, 3 to 4 (Catchbasins)** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 HDPE
0.1	101	0.1730	24.72	43.69	**Pipe Channel, 4 to 5 (18" Culvert)** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 HDPE
7.7	23	0.0130	0.05		**Sheet Flow, 5 to DP 6** Grass: Bermuda n= 0.410 P2= 3.50"
29.9	540	Total			

Subcatchment 6B: Drainage Area 6



Summary for Subcatchment 6c: Drainage Area 6

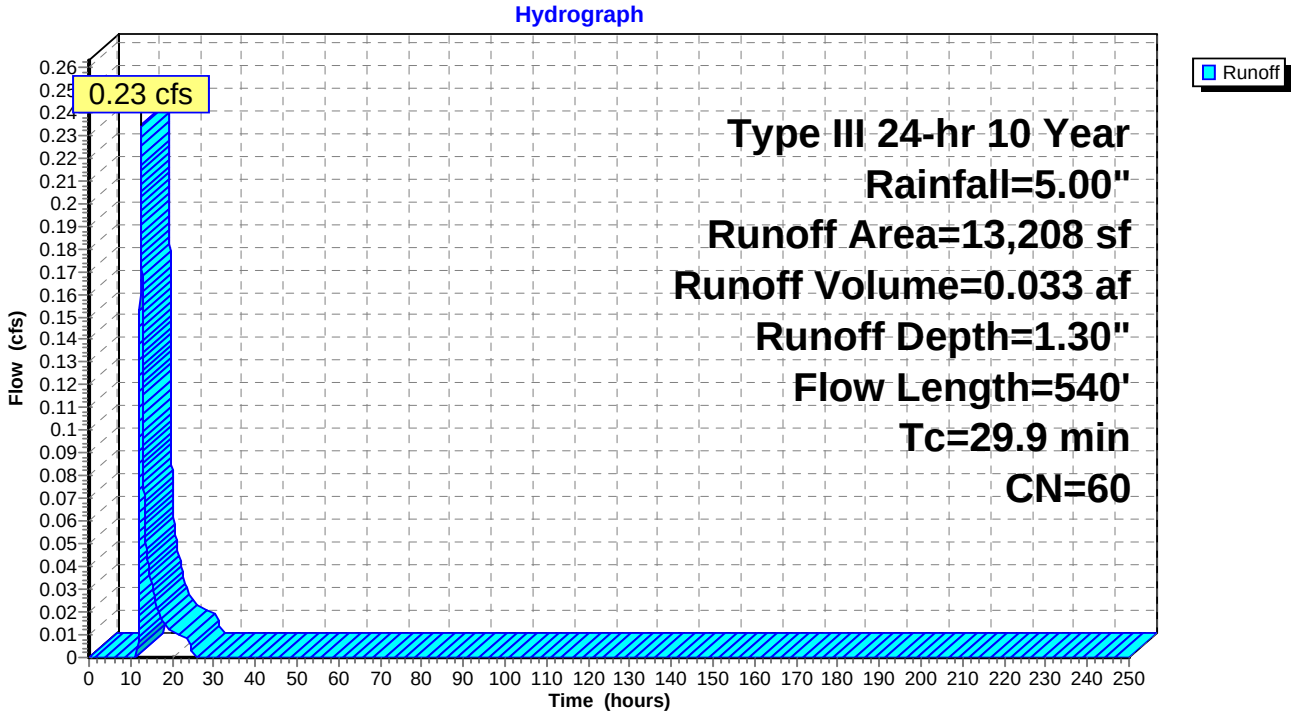
Runoff = 0.23 cfs @ 12.46 hrs, Volume= 0.033 af, Depth= 1.30"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Year Rainfall=5.00"

Area (sf)	CN	Description
13,208	60	Woods, Fair, HSG B
13,208		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.6	185	0.0600	0.14		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
0.5	214	0.1180	6.97		**Shallow Concentrated Flow, 2 to 3** Paved Kv= 20.3 fps
0.0	17	0.0120	6.25	7.67	**Pipe Channel, 3 to 4 (Catchbasins)** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 HDPE
0.1	101	0.1730	24.72	43.69	**Pipe Channel, 4 to 5 (18" Culvert)** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 HDPE
7.7	23	0.0130	0.05		**Sheet Flow, 5 to DP 6** Grass: Bermuda n= 0.410 P2= 3.50"
29.9	540	Total			

Subcatchment 6c: Drainage Area 6



Summary for Subcatchment 7: Drainage Area 7

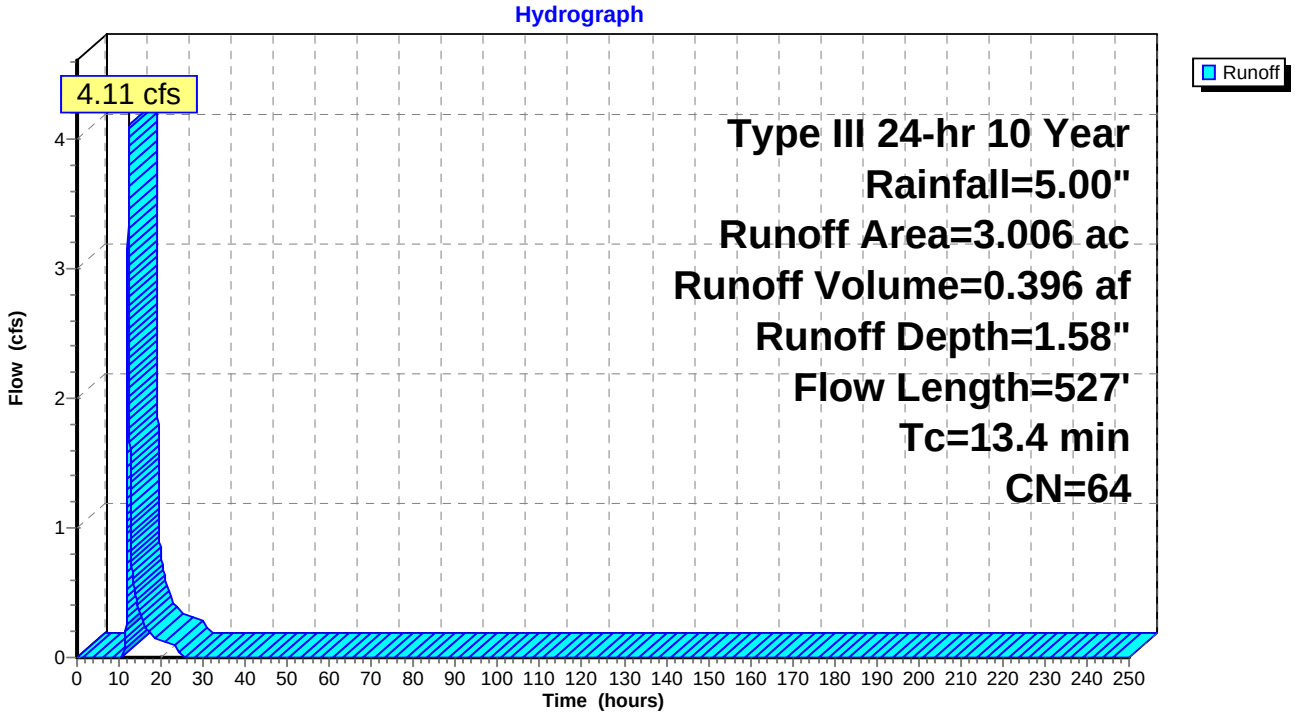
Runoff = 4.11 cfs @ 12.20 hrs, Volume= 0.396 af, Depth= 1.58"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Year Rainfall=5.00"

Area (ac)	CN	Description
1.340	60	Woods, Fair, HSG B
0.291	98	Paved roads w/curbs & sewers
1.375	61	>75% Grass cover, Good, HSG B
3.006	64	Weighted Average
2.715		90.32% Pervious Area
0.291		9.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.1	117	0.1620	0.19		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
0.7	100	0.2300	2.40		**Shallow Concentrated Flow, 2 to 3** Woodland Kv= 5.0 fps
1.2	164	0.2010	2.24		**Shallow Concentrated Flow, 3 to 4** Woodland Kv= 5.0 fps
1.4	146	0.1230	1.75		**Shallow Concentrated Flow, 3 to DP 7** Woodland Kv= 5.0 fps
13.4	527	Total			

Subcatchment 7: Drainage Area 7



Summary for Subcatchment 8: Drainage Area 8

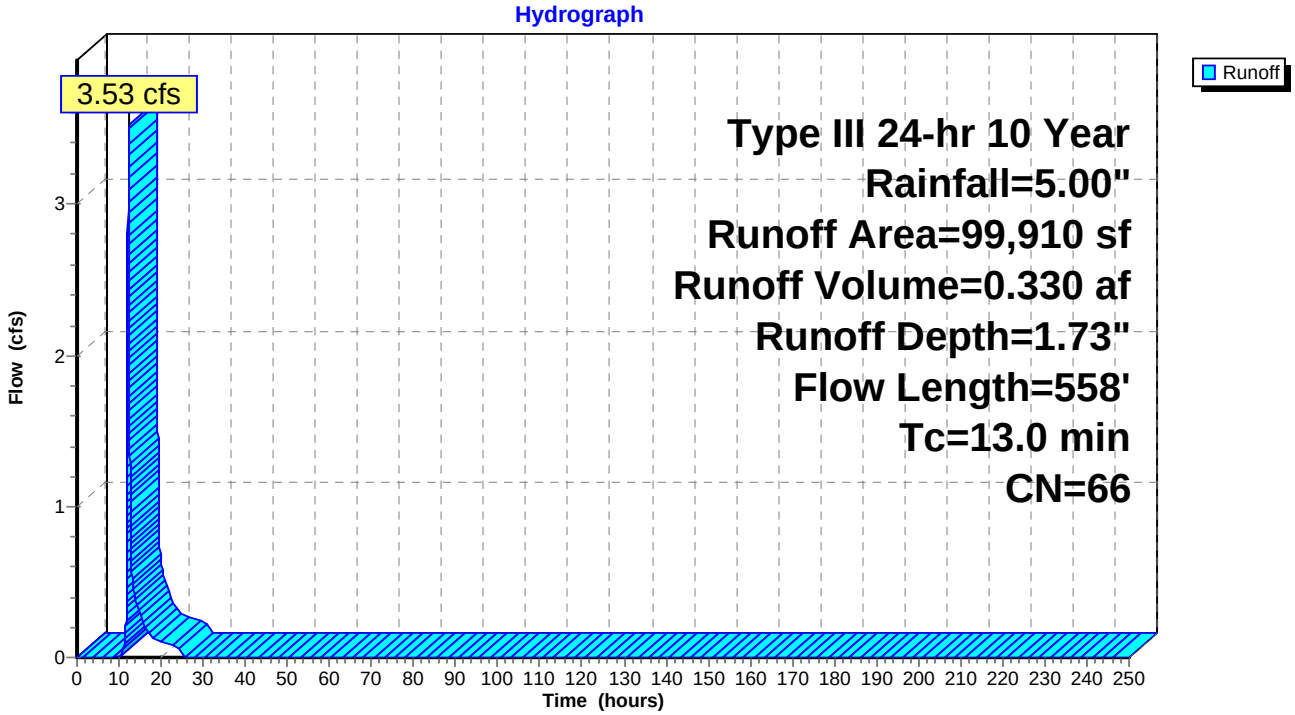
Runoff = 3.53 cfs @ 12.19 hrs, Volume= 0.330 af, Depth= 1.73"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Year Rainfall=5.00"

Area (sf)	CN	Description
41,570	60	Woods, Fair, HSG B
15,772	98	Paved roads w/curbs & sewers
42,568	61	>75% Grass cover, Good, HSG B
99,910	66	Weighted Average
84,138		84.21% Pervious Area
15,772		15.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	100	0.1300	0.17		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
3.1	362	0.1550	1.97		**Shallow Concentrated Flow, 2 to 3** Woodland Kv= 5.0 fps
0.2	96	0.1150	6.88		**Shallow Concentrated Flow, 3 to DP 8** Paved Kv= 20.3 fps
13.0	558	Total			

Subcatchment 8: Drainage Area 8



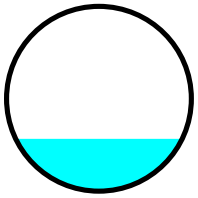
Summary for Reach 1R: 18"

Inflow Area = 2.937 ac, 37.76% Impervious, Inflow Depth = 2.28" for 10 Year event
Inflow = 4.26 cfs @ 12.46 hrs, Volume= 0.558 af
Outflow = 4.26 cfs @ 12.46 hrs, Volume= 0.558 af, Atten= 0%, Lag= 0.2 min

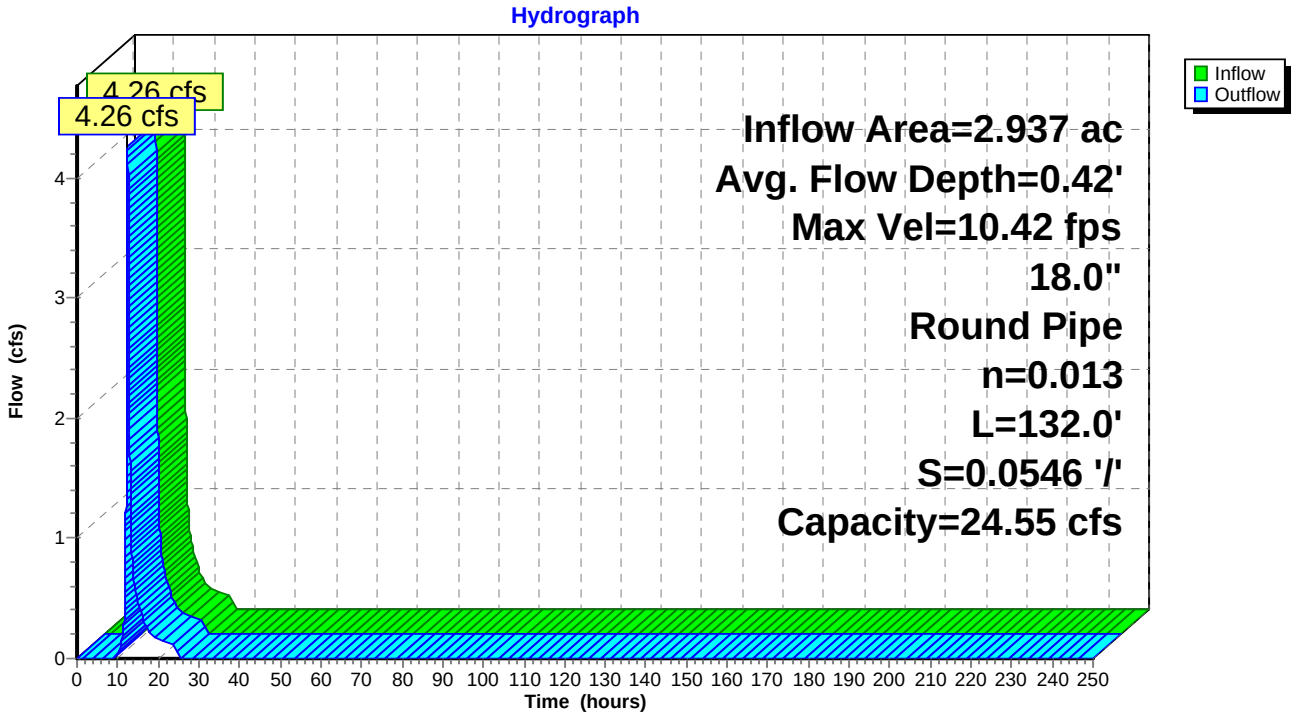
Routing by Stor-Ind method, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Max. Velocity= 10.42 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 4.36 fps, Avg. Travel Time= 0.5 min

Peak Storage= 54 cf @ 12.46 hrs
Average Depth at Peak Storage= 0.42'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 24.55 cfs

18.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 132.0' Slope= 0.0546 '/'
Inlet Invert= 374.01', Outlet Invert= 366.80'



Reach 1R: 18"



Summary for Pond 1P: Pond - D

Inflow Area = 2.937 ac, 37.76% Impervious, Inflow Depth = 2.28" for 10 Year event
Inflow = 4.26 cfs @ 12.46 hrs, Volume= 0.558 af
Outflow = 4.26 cfs @ 12.46 hrs, Volume= 0.558 af, Atten= 0%, Lag= 0.0 min
Primary = 4.26 cfs @ 12.46 hrs, Volume= 0.558 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

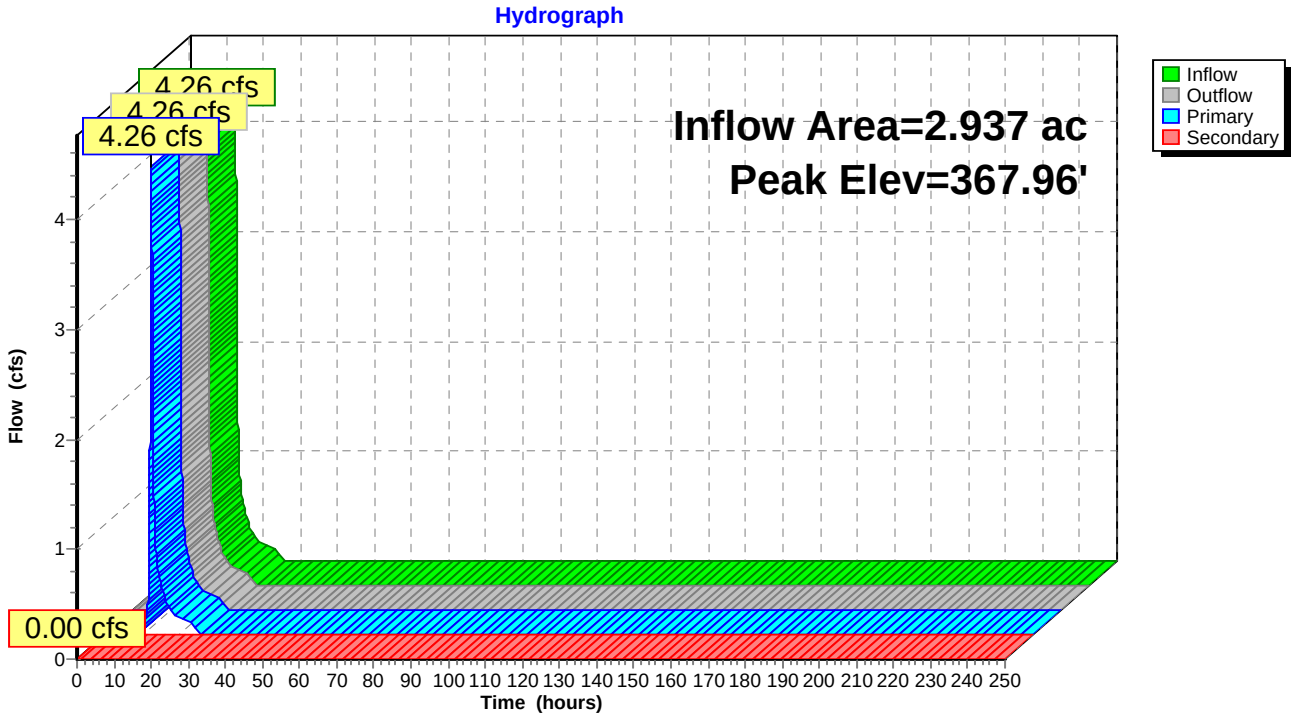
Routing by Stor-Ind method, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Peak Elev= 367.96' @ 12.46 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	366.80'	**18.0" Round Culvert** L= 6.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 366.80' / 361.00' S= 0.9667 '/' Cc= 0.900 n= 0.025 Corrugated metal
#2	Secondary	371.19'	**57.0" W x 57.0" H Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=4.26 cfs @ 12.46 hrs HW=367.96' (Free Discharge)
└**1=Culvert** (Inlet Controls 4.26 cfs @ 2.90 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=366.80' (Free Discharge)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 1P: Pond - D



Summary for Pond 3P: Detention Pond

Inflow	=	13.96 cfs @	12.35 hrs, Volume=	0.355 af
Outflow	=	0.80 cfs @	13.45 hrs, Volume=	0.355 af, Atten= 94%, Lag= 65.9 min
Primary	=	0.80 cfs @	13.45 hrs, Volume=	0.355 af
Secondary	=	0.00 cfs @	0.00 hrs, Volume=	0.000 af

Routing by Stor-Ind method, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Peak Elev= 368.03' @ 13.45 hrs Surf.Area= 3,468 sf Storage= 9,596 cf

Plug-Flow detention time= 152.3 min calculated for 0.355 af (100% of inflow)
Center-of-Mass det. time= 152.3 min (931.0 - 778.6)

Volume	Invert	Avail.Storage	Storage Description
#1	363.00'	39,443 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

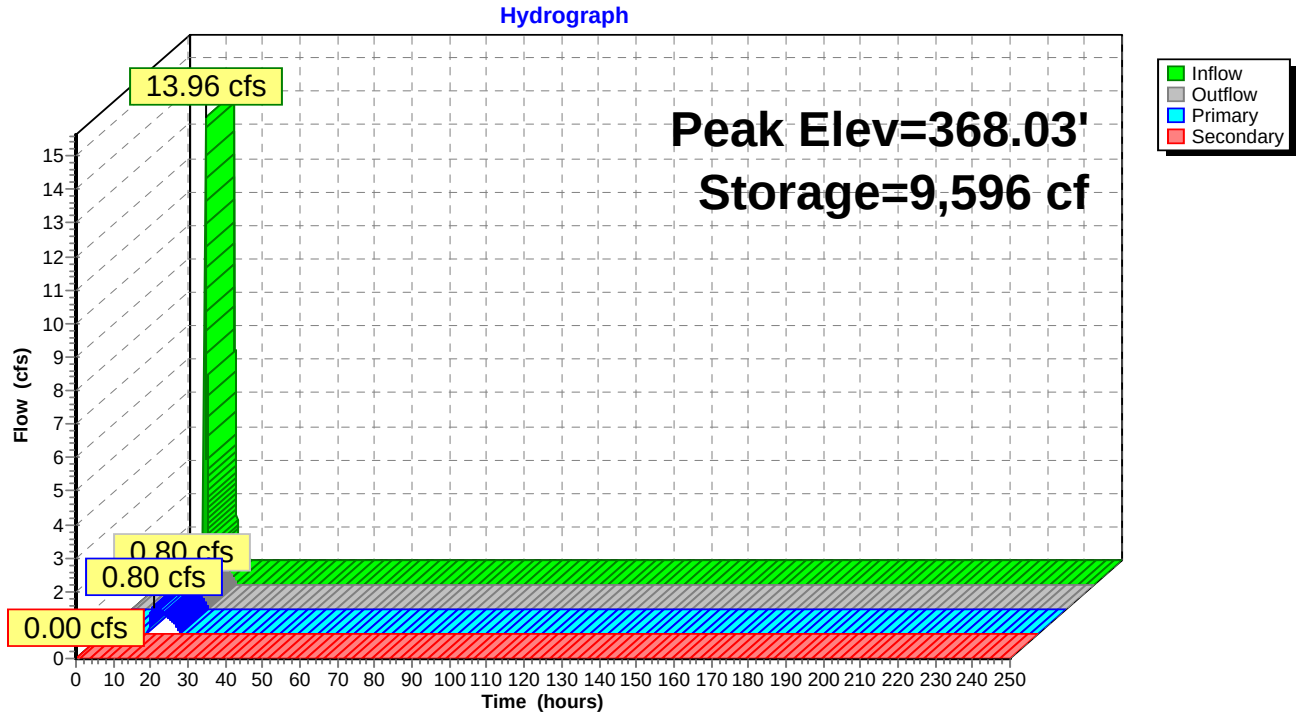
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
363.00	0	0	0
364.00	1,137	569	569
366.00	2,172	3,309	3,878
368.00	3,441	5,613	9,491
370.00	5,233	8,674	18,165
372.00	7,184	12,417	30,582
373.00	7,500	7,342	37,924
373.20	7,700	1,520	39,443

Device	Routing	Invert	Outlet Devices
#1	Primary	363.00'	**10.000 in/hr Exfiltration over Surface area**
#2	Secondary	373.00'	**208.0' long x 10.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.80 cfs @ 13.45 hrs HW=368.03' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.80 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=363.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 3P: Detention Pond



Summary for Pond 4P: Detention Pond

Inflow Area = 5.751 ac, 33.25% Impervious, Inflow Depth = 2.28" for 10 Year event
Inflow = 10.45 cfs @ 12.27 hrs, Volume= 1.093 af
Outflow = 14.62 cfs @ 12.35 hrs, Volume= 1.093 af, Atten= 0%, Lag= 4.7 min
Primary = 0.66 cfs @ 12.35 hrs, Volume= 0.738 af
Secondary = 13.96 cfs @ 12.35 hrs, Volume= 0.355 af

Routing by Stor-Ind method, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Peak Elev= 373.53' @ 12.35 hrs Surf.Area= 2,850 sf Storage= 12,557 cf

Plug-Flow detention time= 179.2 min calculated for 1.093 af (100% of inflow)
Center-of-Mass det. time= 179.2 min (1,031.3 - 852.1)

Volume	Invert	Avail.Storage	Storage Description
#1	363.00'	12,557 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

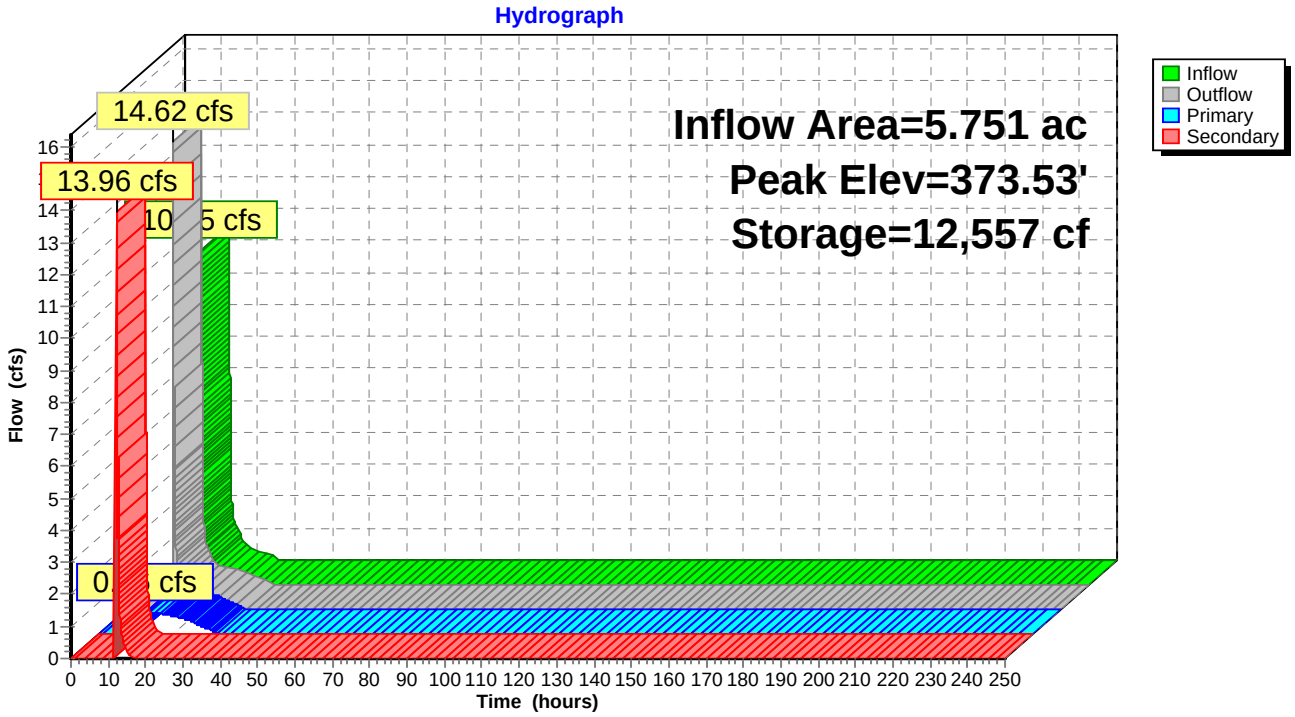
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
363.00	0	0	0
364.00	448	224	224
366.00	893	1,341	1,565
368.00	1,459	2,352	3,917
370.00	2,095	3,554	7,471
372.00	2,739	4,834	12,305
372.09	2,850	252	12,557

Device	Routing	Invert	Outlet Devices
#1	Primary	363.00'	**10.000 in/hr Exfiltration over Surface area**
#2	Device 3	372.00'	**54.0' long x 1.5' 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 Coef. (English) 2.62 2.64 2.64 2.68 2.75 2.86 2.92 3.07 3.07 3.03 3.28 3.32
#3	Secondary	371.00'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 1.00 Width (feet) 2.00 2.00

Primary OutFlow Max=0.66 cfs @ 12.35 hrs HW=373.53' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.66 cfs)

Secondary OutFlow Max=13.96 cfs @ 12.35 hrs HW=373.53' (Free Discharge)
└**3=Custom Weir/Orifice** (Orifice Controls 13.96 cfs @ 6.98 fps)
└**2=Broad-Crested Rectangular Weir** (Passes 13.96 cfs of 308.61 cfs potential flow)

Pond 4P: Detention Pond



Summary for Pond 6P: Drywells

Inflow Area = 0.231 ac,100.00% Impervious, Inflow Depth = 4.76" for 10 Year event
Inflow = 0.65 cfs @ 12.39 hrs, Volume= 0.092 af
Outflow = 0.20 cfs @ 13.00 hrs, Volume= 0.092 af, Atten= 69%, Lag= 36.4 min
Primary = 0.20 cfs @ 13.00 hrs, Volume= 0.092 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Peak Elev= 387.49' @ 13.00 hrs Surf.Area= 1,218 sf Storage= 951 cf

Plug-Flow detention time= 29.2 min calculated for 0.092 af (100% of inflow)
Center-of-Mass det. time= 29.2 min (799.4 - 770.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	386.00'	1,291 cf	**27.68'W x 44.00'L x 4.83'H Field A** 5,883 cf Overall - 2,655 cf Embedded = 3,227 cf x 40.0% Voids
#2A	387.00'	2,058 cf	**Dry_Well 1000 Gallon** x 16 Inside #1 Inside= 62.0"W x 30.0"H => 12.86 sf x 10.00'L = 128.6 cf Outside= 68.0"W x 34.0"H => 15.81 sf x 10.50'L = 166.0 cf
		3,349 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	386.00'	**6.000 in/hr Exfiltration over Wetted area**
#2	Secondary	393.00'	**24.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=0.20 cfs @ 13.00 hrs HW=387.49' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.20 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=386.00' (Free Discharge)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 6P: Drywells - Chamber Wizard Field A

Chamber Model = Dry_Well 1000 Gallon
Inside= 62.0"W x 30.0"H => 12.86 sf x 10.00'L = 128.6 cf
Outside= 68.0"W x 34.0"H => 15.81 sf x 10.50'L = 166.0 cf

68.0" Wide + 12.0" Spacing = 80.0" C-C

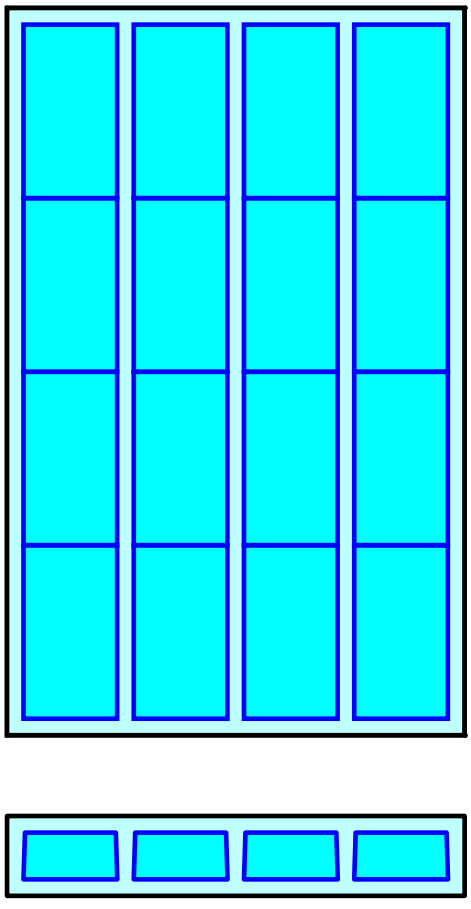
4 Chambers/Row x 10.50' Long = 42.00' + 12.0" End Stone x 2 = 44.00' Base Length
4 Rows x 68.0" Wide + 12.0" Spacing x 3 + 12.0" Side Stone x 2 = 27.68' Base Width
12.0" Base + 34.0" Chamber Height + 12.0" Cover = 4.83' Field Height

16 Chambers x 128.6 cf = 2,058.4 cf Chamber Storage
16 Chambers x 166.0 cf = 2,655.4 cf Displacement

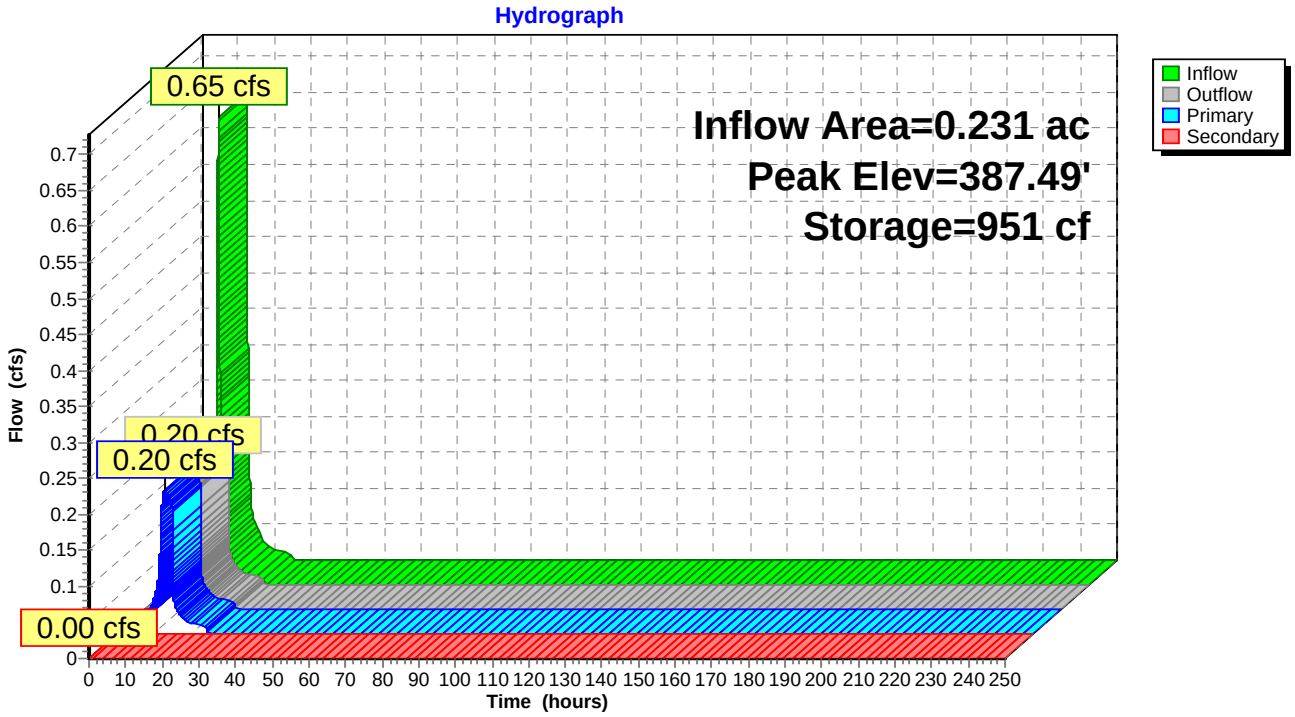
5,882.6 cf Field - 2,655.4 cf Chambers = 3,227.2 cf Stone x 40.0% Voids = 1,290.9 cf Stone Storage

Stone + Chamber Storage = 3,349.3 cf = 0.077 af

16 Chambers
217.9 cy Field
119.5 cy Stone



Pond 6P: Drywells



Summary for Pond 7P: Stormwater Treatment Pond #2

Inflow Area = 2.937 ac, 37.76% Impervious, Inflow Depth = 2.28" for 10 Year event
Inflow = 4.26 cfs @ 12.46 hrs, Volume= 0.558 af
Outflow = 4.23 cfs @ 12.49 hrs, Volume= 0.558 af, Atten= 1%, Lag= 2.0 min
Primary = 0.20 cfs @ 12.49 hrs, Volume= 0.185 af
Secondary = 4.03 cfs @ 12.49 hrs, Volume= 0.373 af
Tertiary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Peak Elev= 364.22' @ 12.49 hrs Surf.Area= 846 sf Storage= 1,443 cf

Plug-Flow detention time= 32.0 min calculated for 0.558 af (100% of inflow)
Center-of-Mass det. time= 32.0 min (896.8 - 864.7)

Volume	Invert	Avail.Storage	Storage Description
#1	361.00'	2,605 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
361.00	100	0	0
362.00	300	200	200
364.00	763	1,063	1,263
365.00	1,132	948	2,211
365.30	1,500	395	2,605

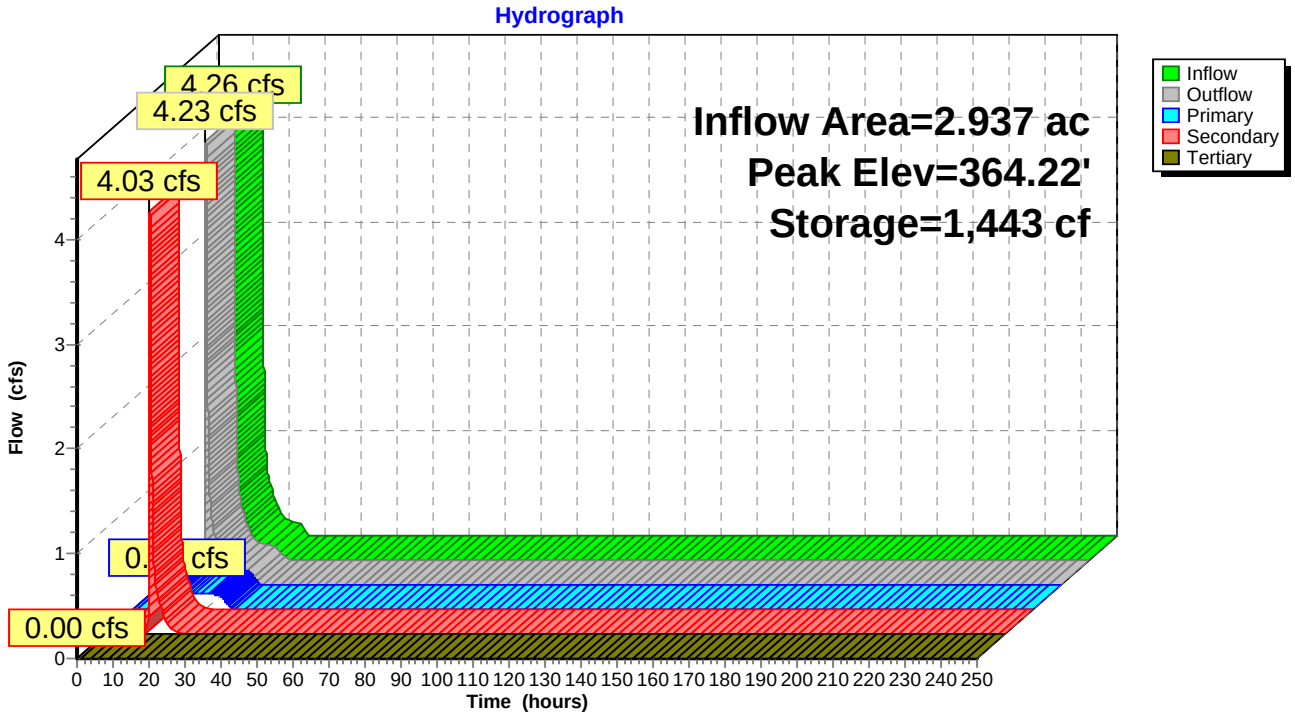
Device	Routing	Invert	Outlet Devices
#1	Primary	361.00'	**10.000 in/hr Exfiltration over Surface area**
#2	Secondary	363.50'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 1.50 Width (feet) 2.00 2.00
#3	Tertiary	365.10'	**93.0' long x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 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 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Primary OutFlow Max=0.20 cfs @ 12.49 hrs HW=364.22' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.20 cfs)

Secondary OutFlow Max=4.03 cfs @ 12.49 hrs HW=364.22' (Free Discharge)
↑—**2=Custom Weir/Orifice** (Weir Controls 4.03 cfs @ 2.79 fps)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=361.00' (Free Discharge)
↑—**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 7P: Stormwater Treatment Pond #2



Summary for Pond 8P: Stormwater Treatment Pond #1

Inflow	=	4.03 cfs @	12.49 hrs, Volume=	0.373 af
Outflow	=	3.37 cfs @	12.68 hrs, Volume=	0.373 af, Atten= 17%, Lag= 11.3 min
Primary	=	0.37 cfs @	12.68 hrs, Volume=	0.100 af
Secondary	=	2.99 cfs @	12.68 hrs, Volume=	0.273 af

Routing by Stor-Ind method, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Peak Elev= 363.67' @ 12.68 hrs Surf.Area= 1,618 sf Storage= 2,623 cf

Plug-Flow detention time= 15.0 min calculated for 0.373 af (100% of inflow)
Center-of-Mass det. time= 15.0 min (815.7 - 800.8)

Volume	Invert	Avail.Storage	Storage Description
#1	361.00'	5,867 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

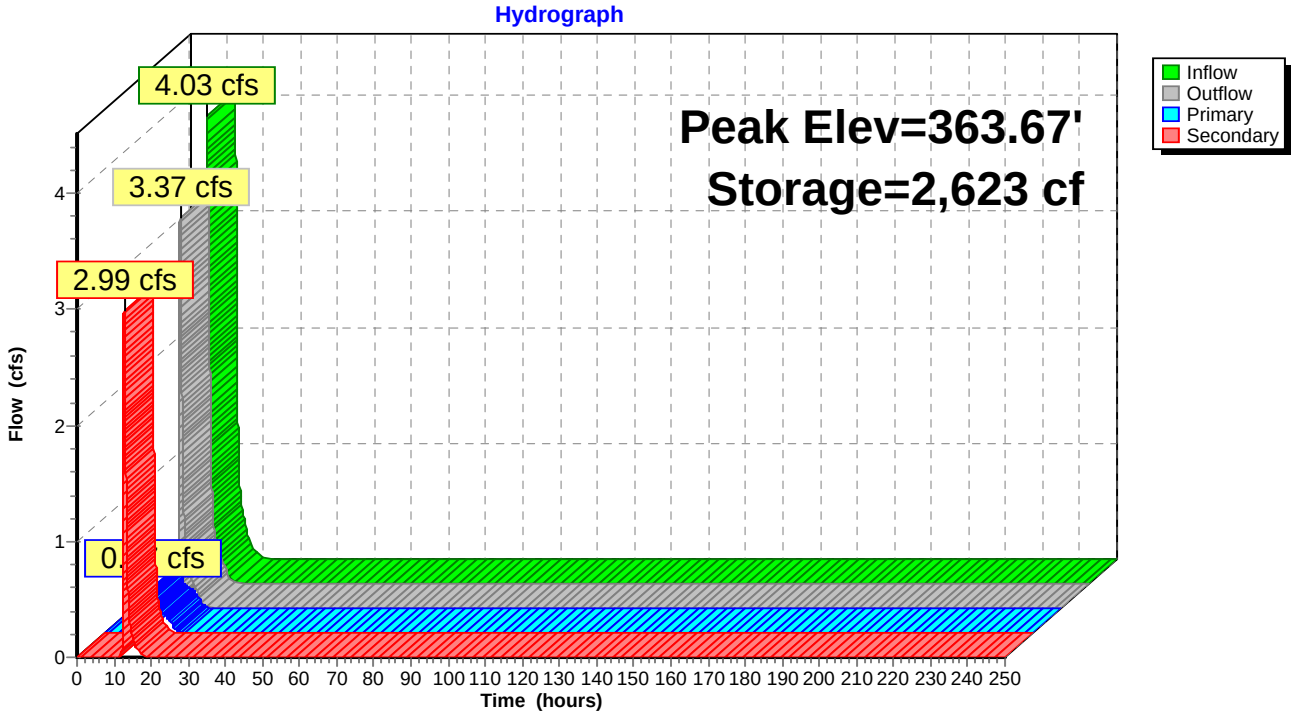
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
361.00	300	0	0
362.00	842	571	571
364.00	1,772	2,614	3,185
365.00	2,163	1,968	5,153
365.30	2,600	714	5,867

Device	Routing	Invert	Outlet Devices
#1	Secondary	361.00'	**24.0" Round Culvert** L= 200.0' CMP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 361.00' / 330.00' S= 0.1550 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior
#2	Device 1	361.10'	**2.0" Vert. Orifice/Grate (0 yr)** C= 0.600
#3	Device 1	361.70'	**6.0" Vert. Orifice/Grate (1yr)** C= 0.600
#4	Device 1	362.30'	**7.0" Vert. Orifice/Grate(2yr)** C= 0.600
#5	Device 1	363.40'	**9.0" Vert. Orifice/Grate(10yr)** C= 0.600
#6	Device 1	364.70'	**57.0" x 57.0" Horiz. Top of Riser (100yr)** C= 0.600 Limited to weir flow at low heads
#7	Device 1	365.00'	**14.5' long x 2.0' breadth Broad-Crested Rectangular Weir (14.5)** 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32
#8	Device 1	365.20'	**100.0' long x 3.0' 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 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32
#9	Primary	361.00'	**10.000 in/hr Exfiltration over Surface area**

Primary OutFlow Max=0.37 cfs @ 12.68 hrs HW=363.67' (Free Discharge)
└─**9=Exfiltration** (Exfiltration Controls 0.37 cfs)

Secondary OutFlow Max=2.99 cfs @ 12.68 hrs HW=363.67' (Free Discharge)
└─**1=Culvert** (Passes 2.99 cfs of 19.54 cfs potential flow)
  ├─**2=Orifice/Grate (0 yr)** (Orifice Controls 0.17 cfs @ 7.59 fps)
  ├─**3=Orifice/Grate (1yr)** (Orifice Controls 1.24 cfs @ 6.31 fps)
  ├─**4=Orifice/Grate(2yr)** (Orifice Controls 1.34 cfs @ 5.00 fps)
  ├─**5=Orifice/Grate(10yr)** (Orifice Controls 0.25 cfs @ 1.76 fps)
  ├─**6=Top of Riser (100yr)** (Controls 0.00 cfs)
  ├─**7=Broad-Crested Rectangular Weir (14.5)** (Controls 0.00 cfs)
  └─**8=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 8P: Stormwater Treatment Pond #1



Summary for Pond 9P: Drywells

Inflow Area = 0.459 ac,100.00% Impervious, Inflow Depth = 4.76" for 10 Year event
Inflow = 1.56 cfs @ 12.25 hrs, Volume= 0.182 af
Outflow = 0.25 cfs @ 11.72 hrs, Volume= 0.182 af, Atten= 84%, Lag= 0.0 min
Primary = 0.25 cfs @ 11.72 hrs, Volume= 0.182 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Peak Elev= 388.13' @ 12.99 hrs Surf.Area= 1,834 sf Storage= 2,457 cf

Plug-Flow detention time= 61.9 min calculated for 0.182 af (100% of inflow)
Center-of-Mass det. time= 61.9 min (822.1 - 760.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	386.00'	1,685 cf	**41.69'W x 44.00'L x 4.83'H Field A** 8,860 cf Overall - 4,647 cf Embedded = 4,213 cf x 40.0% Voids
#2A	387.00'	3,602 cf	**Dry_Well 1000 Gallon** x 28 Inside #1 Inside= 62.0"W x 30.0"H => 12.86 sf x 10.00'L = 128.6 cf Outside= 68.0"W x 34.0"H => 15.81 sf x 10.50'L = 166.0 cf
		5,287 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	386.00'	**6.000 in/hr Exfiltration over Surface area**
#2	Secondary	392.00'	**24.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=0.25 cfs @ 11.72 hrs HW=386.08' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.25 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=386.00' (Free Discharge)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 9P: Drywells - Chamber Wizard Field A

Chamber Model = Dry_Well 1000 Gallon
Inside= 62.0"W x 30.0"H => 12.86 sf x 10.00'L = 128.6 cf
Outside= 68.0"W x 34.0"H => 15.81 sf x 10.50'L = 166.0 cf

68.0" Wide + 0.0" Spacing = 68.0" C-C

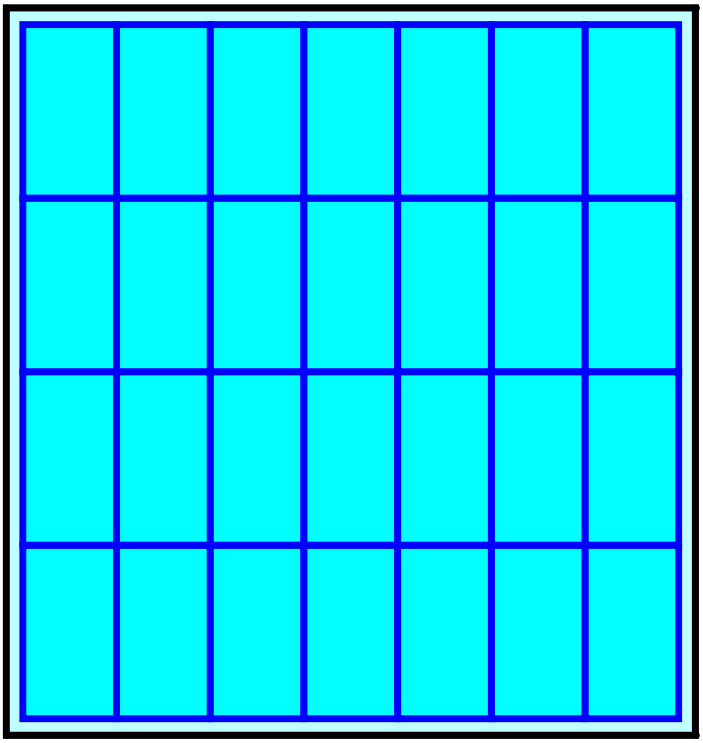
4 Chambers/Row x 10.50' Long = 42.00' + 12.0" End Stone x 2 = 44.00' Base Length
7 Rows x 68.0" Wide + 12.0" Side Stone x 2 = 41.69' Base Width
12.0" Base + 34.0" Chamber Height + 12.0" Cover = 4.83' Field Height

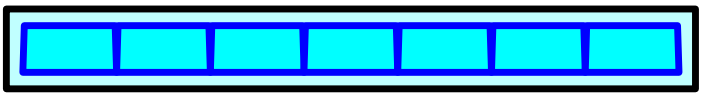
28 Chambers x 128.6 cf = 3,602.2 cf Chamber Storage
28 Chambers x 166.0 cf = 4,646.9 cf Displacement

8,860.0 cf Field - 4,646.9 cf Chambers = 4,213.1 cf Stone x 40.0% Voids = 1,685.2 cf Stone Storage

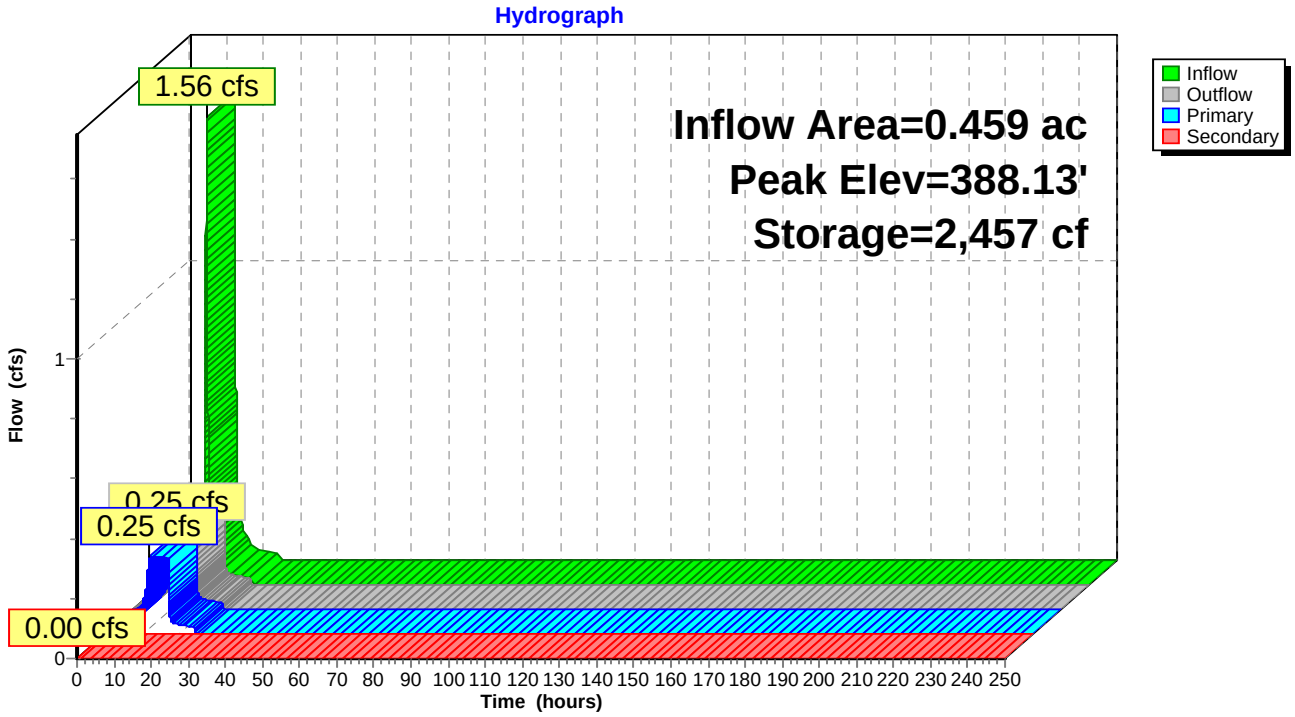
Stone + Chamber Storage = 5,287.4 cf = 0.121 af

28 Chambers
328.1 cy Field
156.0 cy Stone





Pond 9P: Drywells

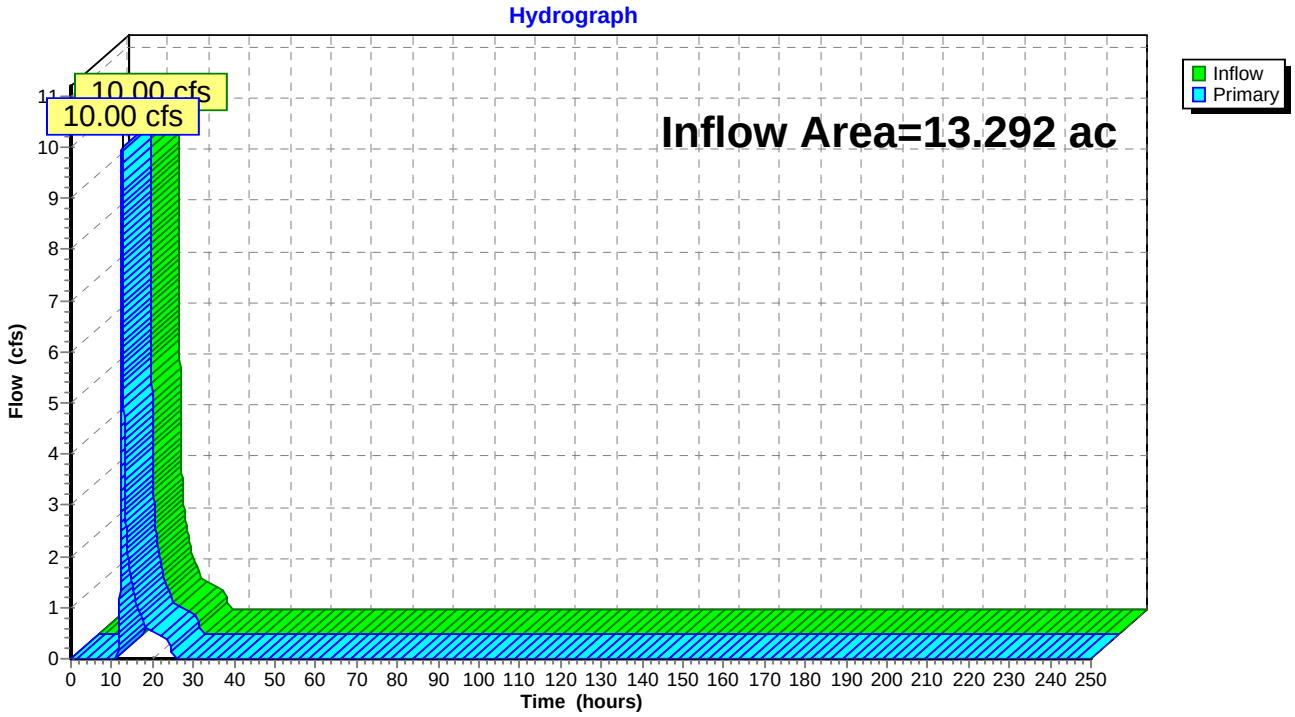


Summary for Link DP-1: Design Point 1

Inflow Area = 13.292 ac, 3.27% Impervious, Inflow Depth = 1.30" for 10 Year event
Inflow = 10.00 cfs @ 12.50 hrs, Volume= 1.441 af
Primary = 10.00 cfs @ 12.50 hrs, Volume= 1.441 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-1: Design Point 1

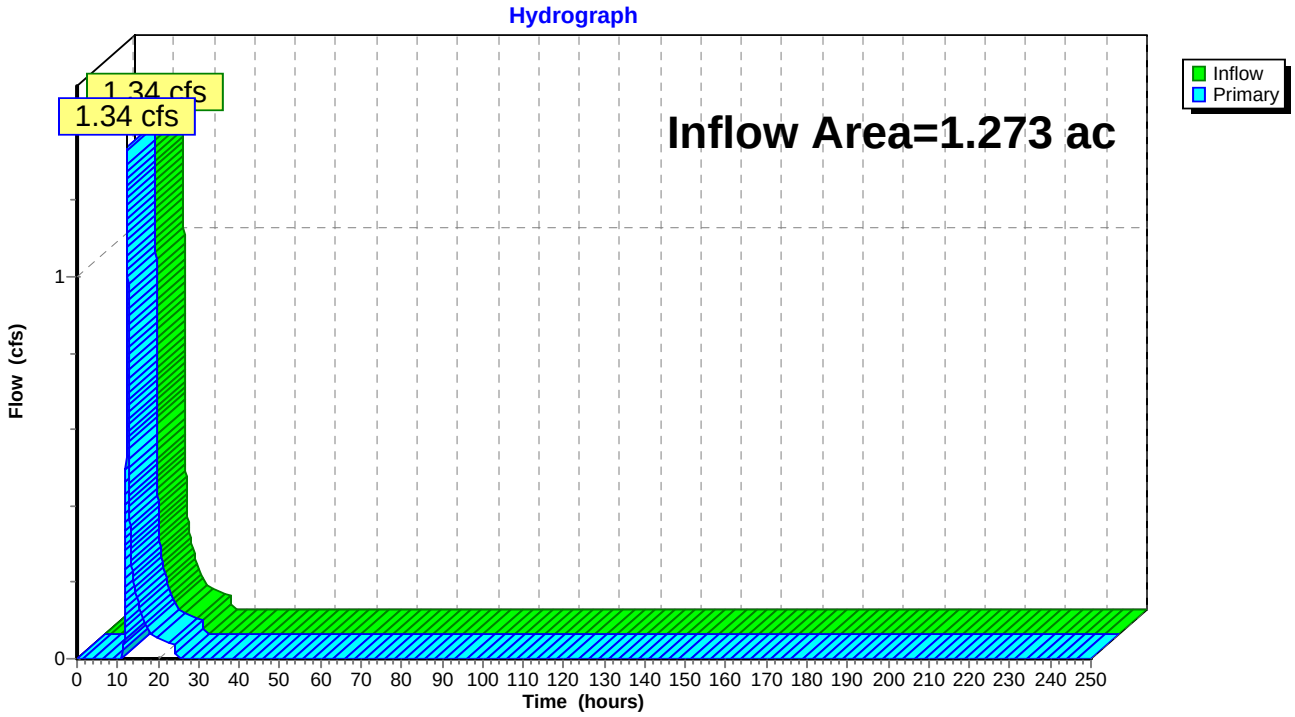


Summary for Link DP-2: Design Point 2

Inflow Area = 1.273 ac, 7.29% Impervious, Inflow Depth = 1.51" for 10 Year event
Inflow = 1.34 cfs @ 12.34 hrs, Volume= 0.160 af
Primary = 1.34 cfs @ 12.34 hrs, Volume= 0.160 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-2: Design Point 2

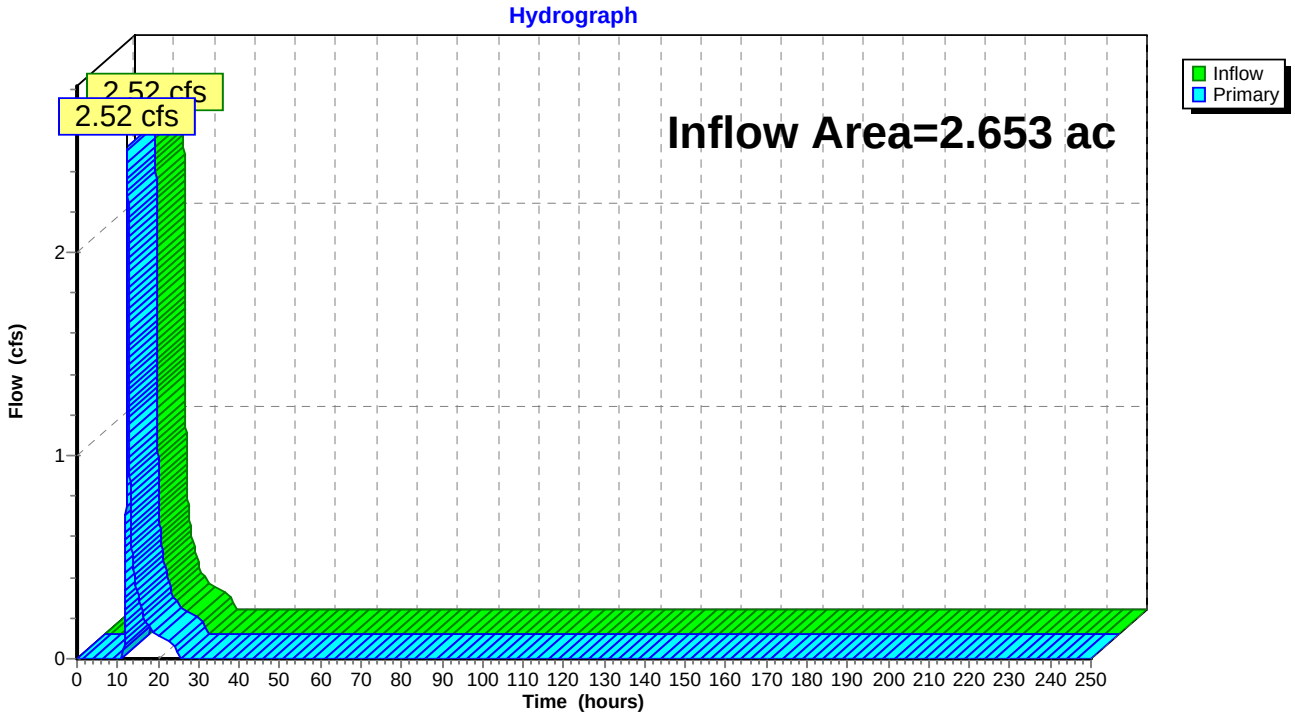


Summary for Link DP-3: Design Point 3

Inflow Area = 2.653 ac, 7.97% Impervious, Inflow Depth = 1.51" for 10 Year event
Inflow = 2.52 cfs @ 12.43 hrs, Volume= 0.334 af
Primary = 2.52 cfs @ 12.43 hrs, Volume= 0.334 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-3: Design Point 3

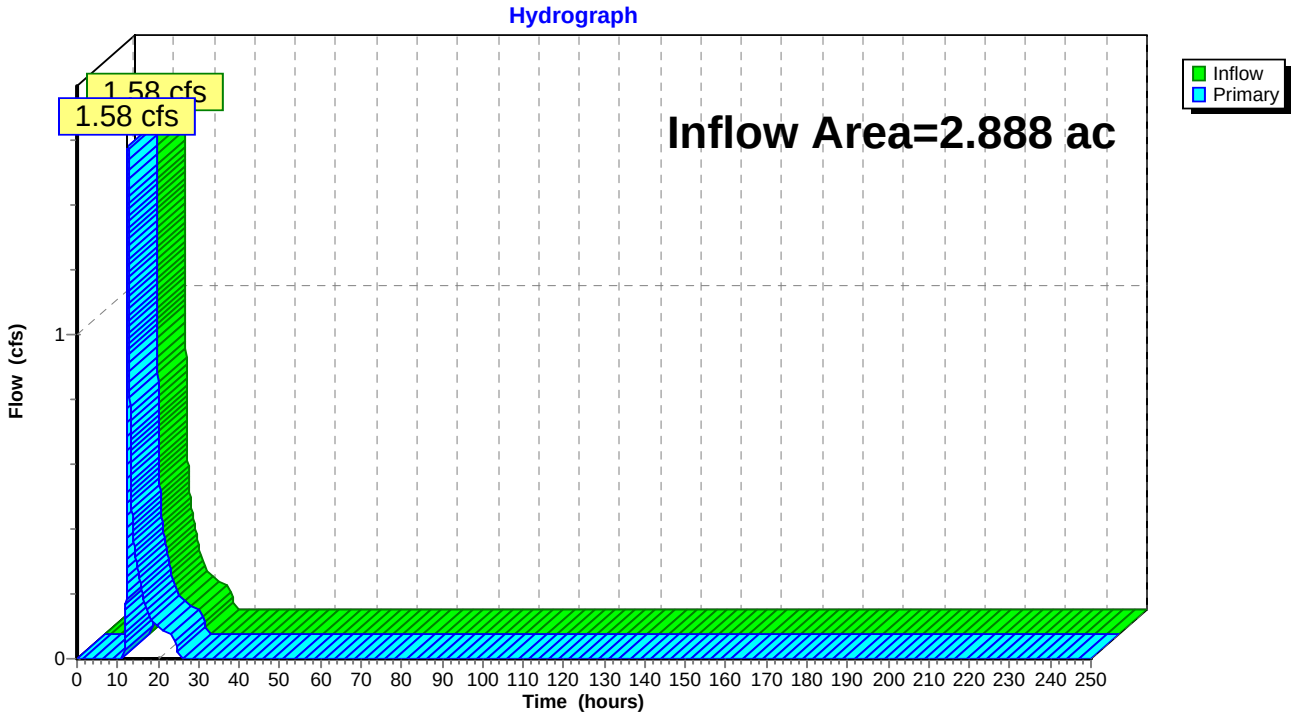


Summary for Link DP-4: Design Point 4

Inflow Area = 2.888 ac, 0.56% Impervious, Inflow Depth = 1.04" for 10 Year event
Inflow = 1.58 cfs @ 12.55 hrs, Volume= 0.251 af
Primary = 1.58 cfs @ 12.55 hrs, Volume= 0.251 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-4: Design Point 4

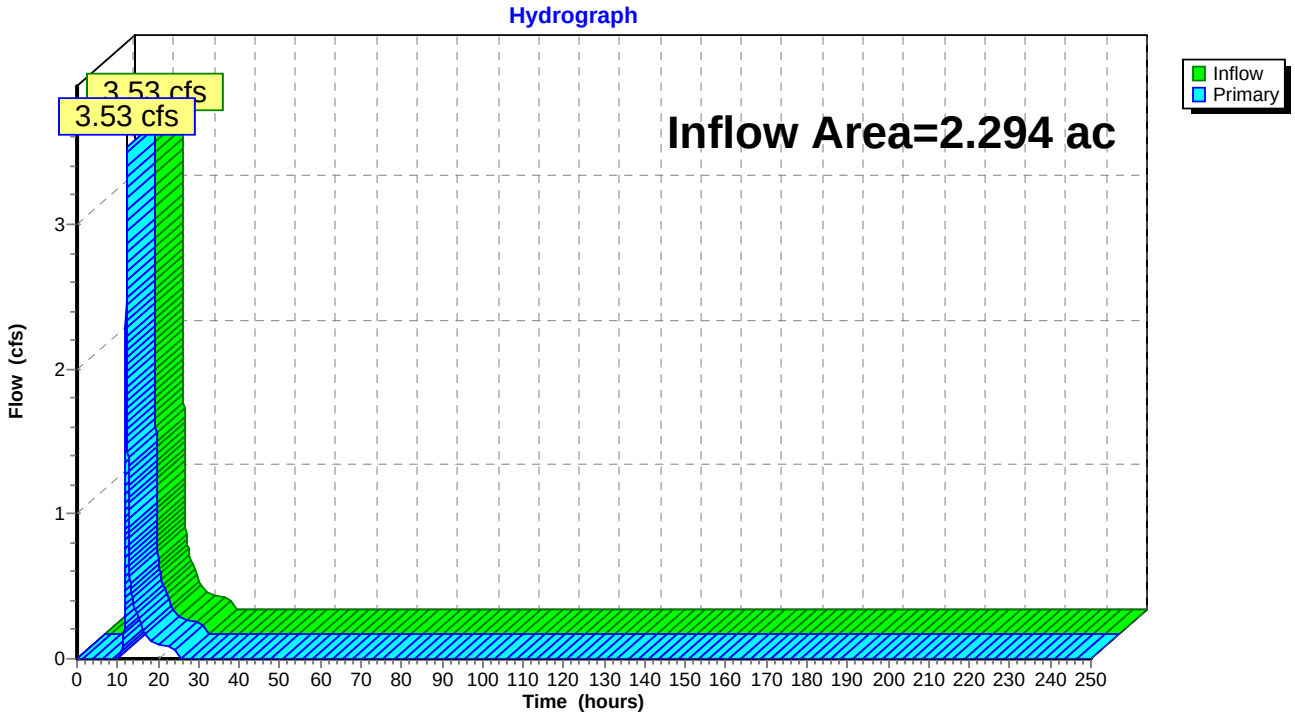


Summary for Link DP-5: Design Point 5

Inflow Area = 2.294 ac, 15.79% Impervious, Inflow Depth = 1.73" for 10 Year event
Inflow = 3.53 cfs @ 12.19 hrs, Volume= 0.330 af
Primary = 3.53 cfs @ 12.19 hrs, Volume= 0.330 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-5: Design Point 5

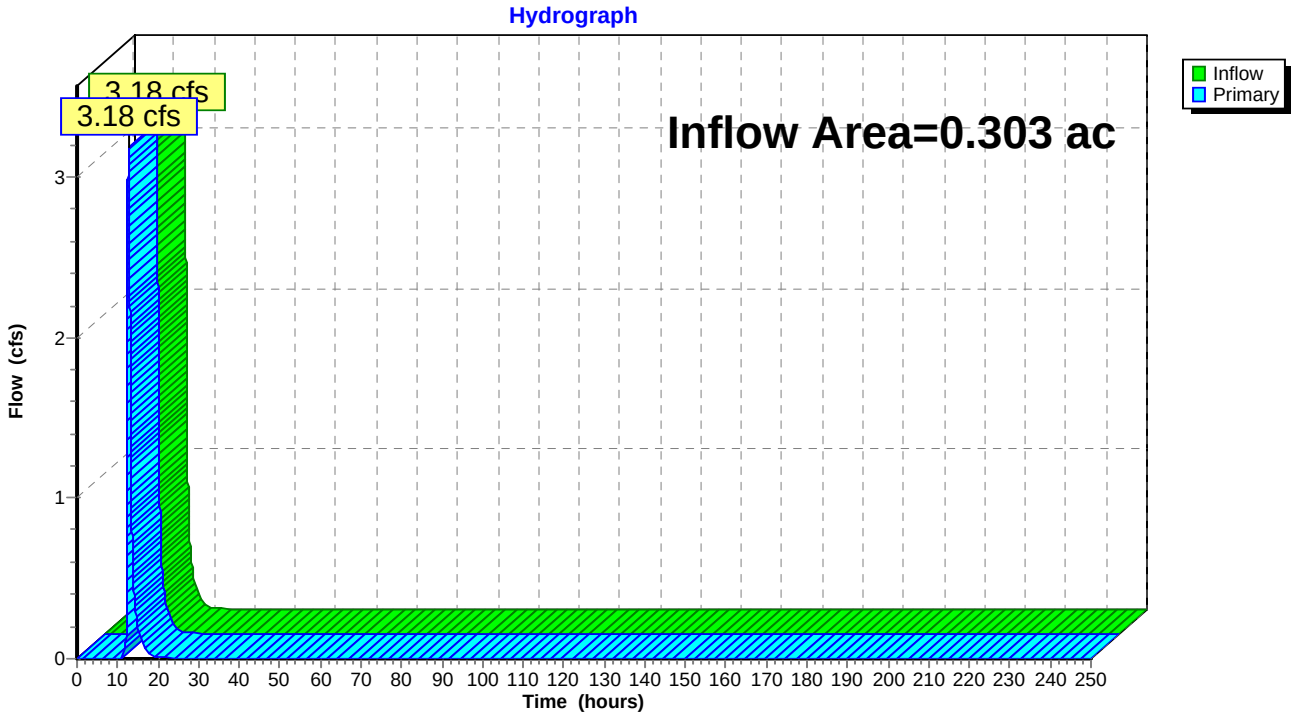


Summary for Link DP-6: Design Point 6

Inflow Area = 0.303 ac, 0.00% Impervious, Inflow Depth = 12.11" for 10 Year event
Inflow = 3.18 cfs @ 12.67 hrs, Volume= 0.306 af
Primary = 3.18 cfs @ 12.67 hrs, Volume= 0.306 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-6: Design Point 6

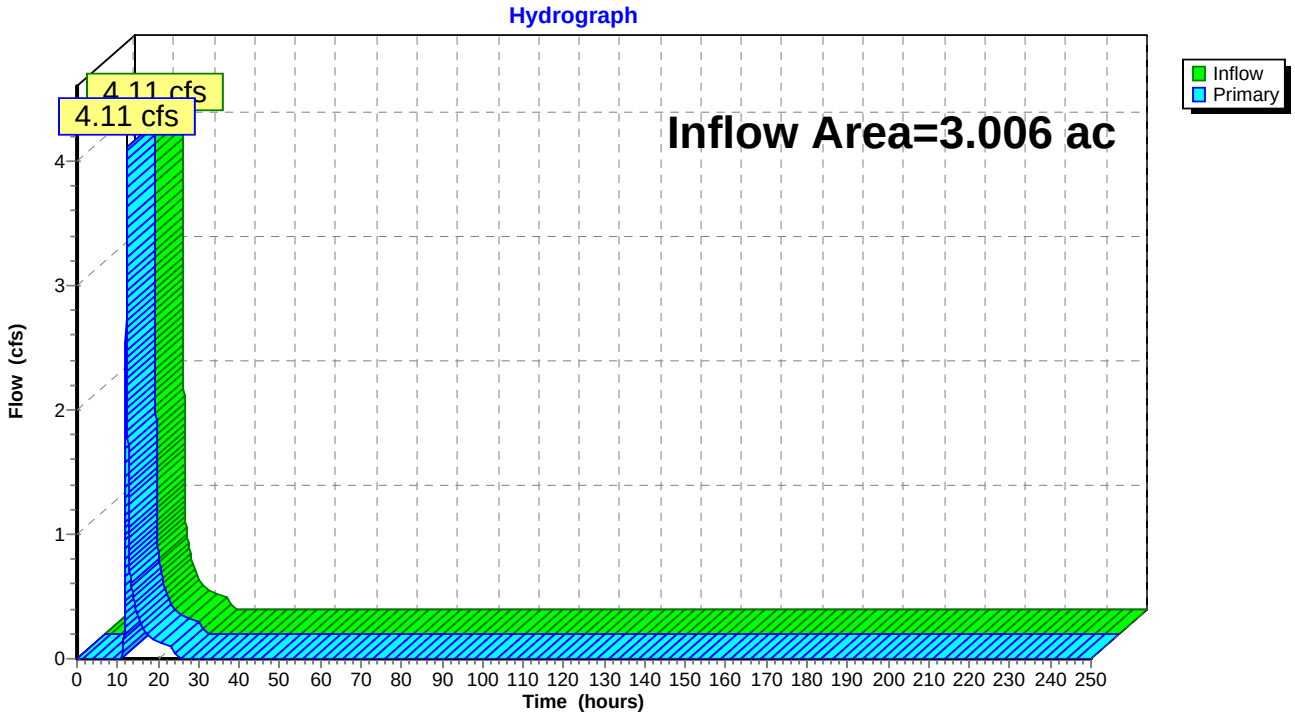


Summary for Link DP-7: Design Point 7

Inflow Area = 3.006 ac, 9.68% Impervious, Inflow Depth = 1.58" for 10 Year event
Inflow = 4.11 cfs @ 12.20 hrs, Volume= 0.396 af
Primary = 4.11 cfs @ 12.20 hrs, Volume= 0.396 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-7: Design Point 7



Time span=0.00-250.00 hrs, dt=0.01 hrs, 25001 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1: Drainage Area 1 Runoff Area=13.292 ac 3.27% Impervious Runoff Depth=2.96"
Flow Length=1,455' Tc=31.8 min CN=60 Runoff=24.82 cfs 3.282 af

Subcatchment 2A: Drainage Area 2A Runoff Area=5.751 ac 33.25% Impervious Runoff Depth=4.37"
Flow Length=999' Tc=19.1 min CN=73 Runoff=20.23 cfs 2.094 af

Subcatchment 2B: Drainage Area 2B Runoff Area=19,994 sf 100.00% Impervious Runoff Depth=7.26"
Flow Length=999' Tc=19.1 min CN=98 Runoff=2.35 cfs 0.278 af

Subcatchment 3: Drainage Area 3 Runoff Area=115,560 sf 7.97% Impervious Runoff Depth=3.28"
Flow Length=552' Tc=28.6 min CN=63 Runoff=5.81 cfs 0.725 af

Subcatchment 4: Drainage Area 4 Runoff Area=55,457 sf 7.29% Impervious Runoff Depth=3.28"
Flow Length=284' Tc=22.5 min CN=63 Runoff=3.10 cfs 0.348 af

Subcatchment 5: Drainage Area 5 Runoff Area=125,820 sf 0.56% Impervious Runoff Depth=2.55"
Flow Length=497' Tc=33.7 min CN=56 Runoff=4.41 cfs 0.614 af

Subcatchment 6A: Drainage Area 6 Runoff Area=2.937 ac 37.76% Impervious Runoff Depth=4.37"
Flow Length=578' Tc=32.3 min CN=73 Runoff=8.24 cfs 1.069 af

Subcatchment 6B: Drainage Area 6 Runoff Area=10,050 sf 100.00% Impervious Runoff Depth=7.26"
Flow Length=540' Tc=29.9 min CN=98 Runoff=0.98 cfs 0.140 af

Subcatchment 6c: Drainage Area 6 Runoff Area=13,208 sf 0.00% Impervious Runoff Depth=2.96"
Flow Length=540' Tc=29.9 min CN=60 Runoff=0.58 cfs 0.075 af

Subcatchment 7: Drainage Area 7 Runoff Area=3.006 ac 9.68% Impervious Runoff Depth=3.39"
Flow Length=527' Tc=13.4 min CN=64 Runoff=9.33 cfs 0.848 af

Subcatchment 8: Drainage Area 8 Runoff Area=99,910 sf 15.79% Impervious Runoff Depth=3.60"
Flow Length=558' Tc=13.0 min CN=66 Runoff=7.69 cfs 0.688 af

Reach 1R: 18" Avg. Flow Depth=0.60' Max Vel=12.52 fps Inflow=8.24 cfs 1.069 af
18.0" Round Pipe n=0.013 L=132.0' S=0.0546 '/' Capacity=24.55 cfs Outflow=8.24 cfs 1.069 af

Pond 1P: Pond - D Peak Elev=369.05' Inflow=8.24 cfs 1.069 af
Primary=8.24 cfs 1.069 af Secondary=0.00 cfs 0.000 af Outflow=8.24 cfs 1.069 af

Pond 3P: Detention Pond Peak Elev=372.43' Storage=33,702 cf Inflow=24.06 cfs 1.187 af
Primary=1.69 cfs 1.187 af Secondary=0.00 cfs 0.000 af Outflow=1.69 cfs 1.187 af

Pond 4P: Detention Pond Peak Elev=377.50' Storage=12,557 cf Inflow=20.23 cfs 2.094 af
Primary=0.66 cfs 0.907 af Secondary=24.06 cfs 1.187 af Outflow=24.72 cfs 2.094 af

Pond 6P: Drywells Peak Elev=388.40' Storage=1,796 cf Inflow=0.98 cfs 0.140 af
Primary=0.22 cfs 0.140 af Secondary=0.00 cfs 0.000 af Outflow=0.22 cfs 0.140 af

Pond 7P: Stormwater Treatment Pond #2 Peak Elev=364.64' Storage=1,826 cf Inflow=8.24 cfs 1.069 af
Primary=0.23 cfs 0.219 af Secondary=7.96 cfs 0.851 af Tertiary=0.00 cfs 0.000 af Outflow=8.19 cfs 1.069 af

Pond 8P: Stormwater Treatment Pond #1 Peak Elev=364.77' Storage=4,670 cf Inflow=7.96 cfs 0.851 af
Primary=0.48 cfs 0.183 af Secondary=7.05 cfs 0.668 af Outflow=7.53 cfs 0.851 af

Pond 9P: Drywells Peak Elev=389.44' Storage=4,437 cf Inflow=2.35 cfs 0.278 af
Primary=0.25 cfs 0.278 af Secondary=0.00 cfs 0.000 af Outflow=0.25 cfs 0.278 af

Link DP-1: Design Point 1 Inflow=24.82 cfs 3.282 af
Primary=24.82 cfs 3.282 af

Link DP-2: Design Point 2 Inflow=3.10 cfs 0.348 af
Primary=3.10 cfs 0.348 af

Link DP-3: Design Point 3 Inflow=5.81 cfs 0.725 af
Primary=5.81 cfs 0.725 af

Link DP-4: Design Point 4 Inflow=4.41 cfs 0.614 af
Primary=4.41 cfs 0.614 af

Link DP-5: Design Point 5 Inflow=7.69 cfs 0.688 af
Primary=7.69 cfs 0.688 af

Link DP-6: Design Point 6 Inflow=7.58 cfs 0.743 af
Primary=7.58 cfs 0.743 af

Link DP-7: Design Point 7 Inflow=9.33 cfs 0.848 af
Primary=9.33 cfs 0.848 af

Total Runoff Area = 35.087 ac Runoff Volume = 10.162 af Average Runoff Depth = 3.48"
85.41% Pervious = 29.968 ac 14.59% Impervious = 5.119 ac

Summary for Subcatchment 1: Drainage Area 1

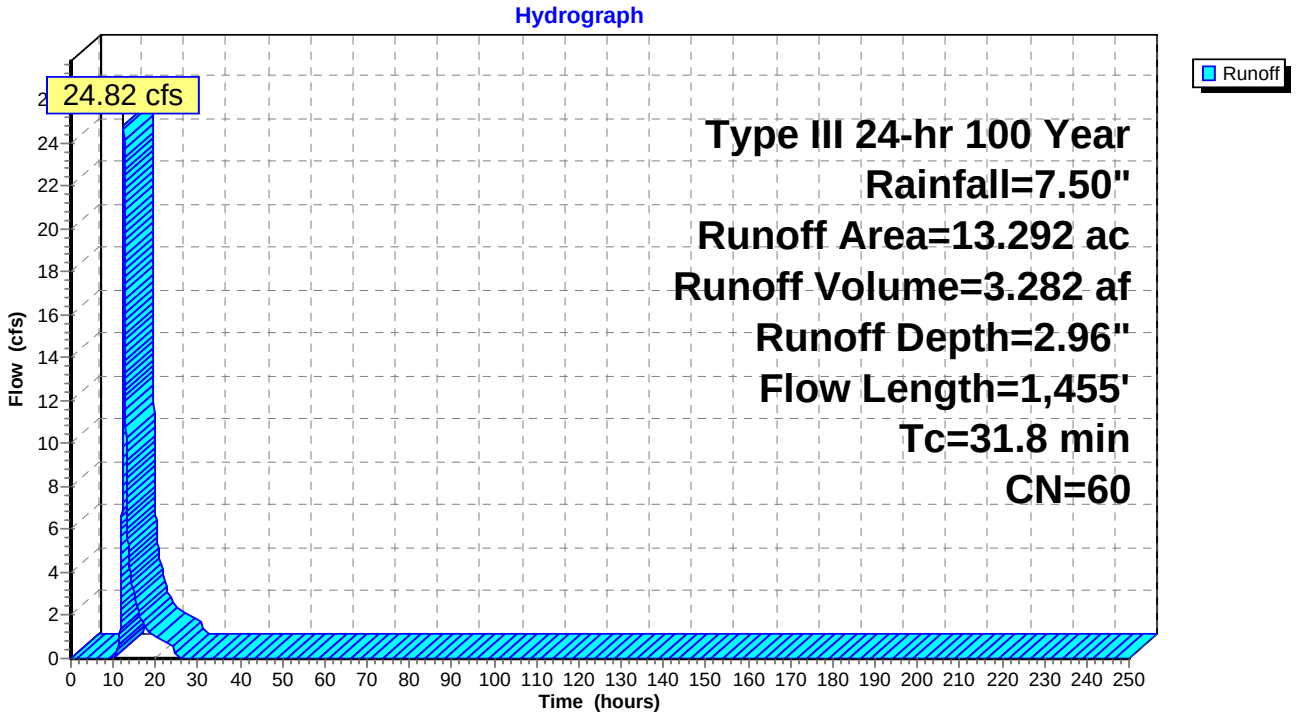
Runoff = 24.82 cfs @ 12.47 hrs, Volume= 3.282 af, Depth= 2.96"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 Year Rainfall=7.50"

Area (ac)	CN	Description
2.770	69	50-75% Grass cover, Fair, HSG B
0.435	98	Paved roads w/curbs & sewers
9.824	55	Woods, Good, HSG B
0.263	82	Dirt roads, HSG B
13.292	60	Weighted Average
12.857		96.73% Pervious Area
0.435		3.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.9	100	0.0260	0.09		**Sheet Flow, 1 to 2** Grass: Bermuda n= 0.410 P2= 3.50"
1.7	216	0.1830	2.14		**Shallow Concentrated Flow, 2 to 3** Woodland Kv= 5.0 fps
0.3	78	0.0450	4.31		**Shallow Concentrated Flow, 3 to 4** Paved Kv= 20.3 fps
1.2	121	0.1150	1.70		**Shallow Concentrated Flow, 4 to 5** Woodland Kv= 5.0 fps
5.8	679	0.0770	1.94		**Shallow Concentrated Flow, 5 to 6** Short Grass Pasture Kv= 7.0 fps
3.9	261	0.0500	1.12		**Shallow Concentrated Flow, 6 to DP1** Woodland Kv= 5.0 fps
31.8	1,455	Total			

Subcatchment 1: Drainage Area 1



Summary for Subcatchment 2A: Drainage Area 2A

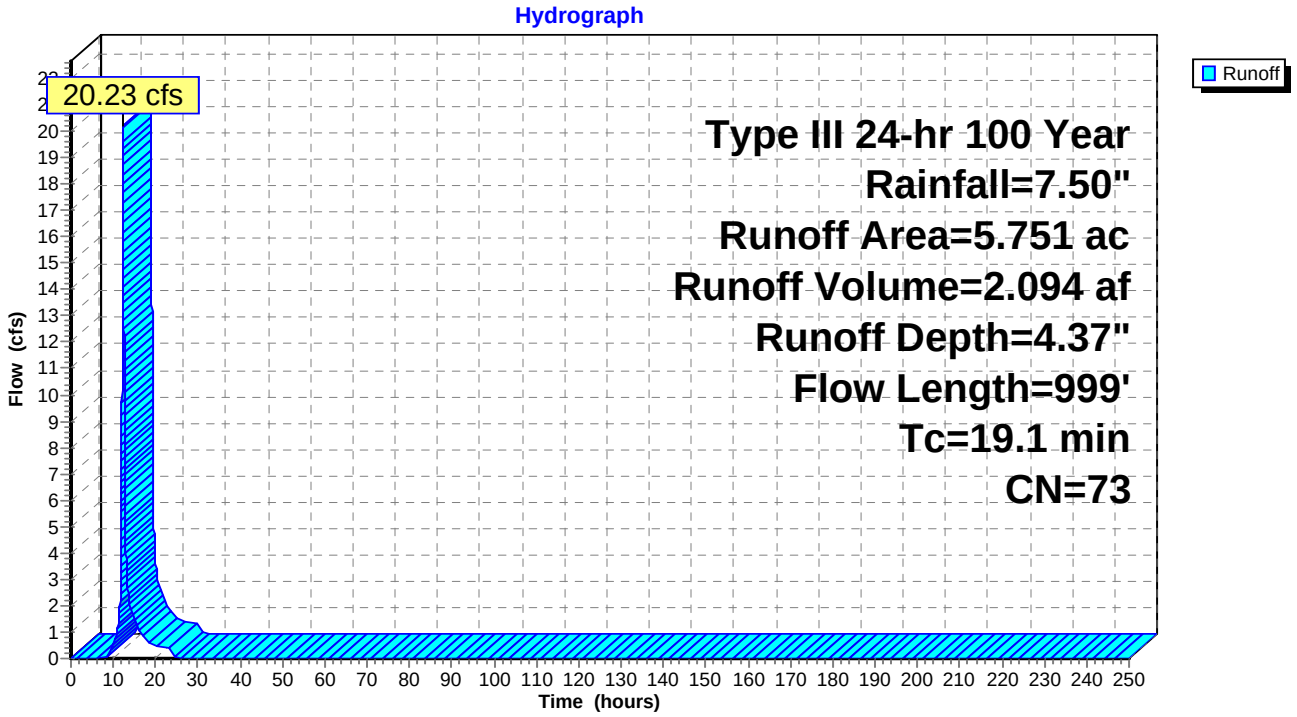
Runoff = 20.23 cfs @ 12.26 hrs, Volume= 2.094 af, Depth= 4.37"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 Year Rainfall=7.50"

Area (ac)	CN	Description
1.912	98	Paved roads w/curbs & sewers
3.319	61	>75% Grass cover, Good, HSG B
0.520	55	Woods, Good, HSG B
5.751	73	Weighted Average
3.839		66.75% Pervious Area
1.912		33.25% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.5	100	0.0900	0.15		**Sheet Flow, 1 to 2** Grass: Bermuda n= 0.410 P2= 3.50"
5.8	423	0.0300	1.21		**Shallow Concentrated Flow, 2 to 3** Short Grass Pasture Kv= 7.0 fps
0.5	74	0.0140	2.40		**Shallow Concentrated Flow, 3 to 4 (Road)** Paved Kv= 20.3 fps
0.1	25	0.0100	4.54	3.56	**Pipe Channel, 4 to 5** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.6	167	0.0120	4.97	3.90	**Pipe Channel, 5 to 6** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.4	70	0.0090	2.60	3.19	**Pipe Channel, 6 to 7** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.025 Corrugated metal
0.2	140	0.1510	12.01	21.23	**Pipe Channel, 7 to 8** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.025 Corrugated metal
19.1	999	Total			

Subcatchment 2A: Drainage Area 2A



Summary for Subcatchment 2B: Drainage Area 2B

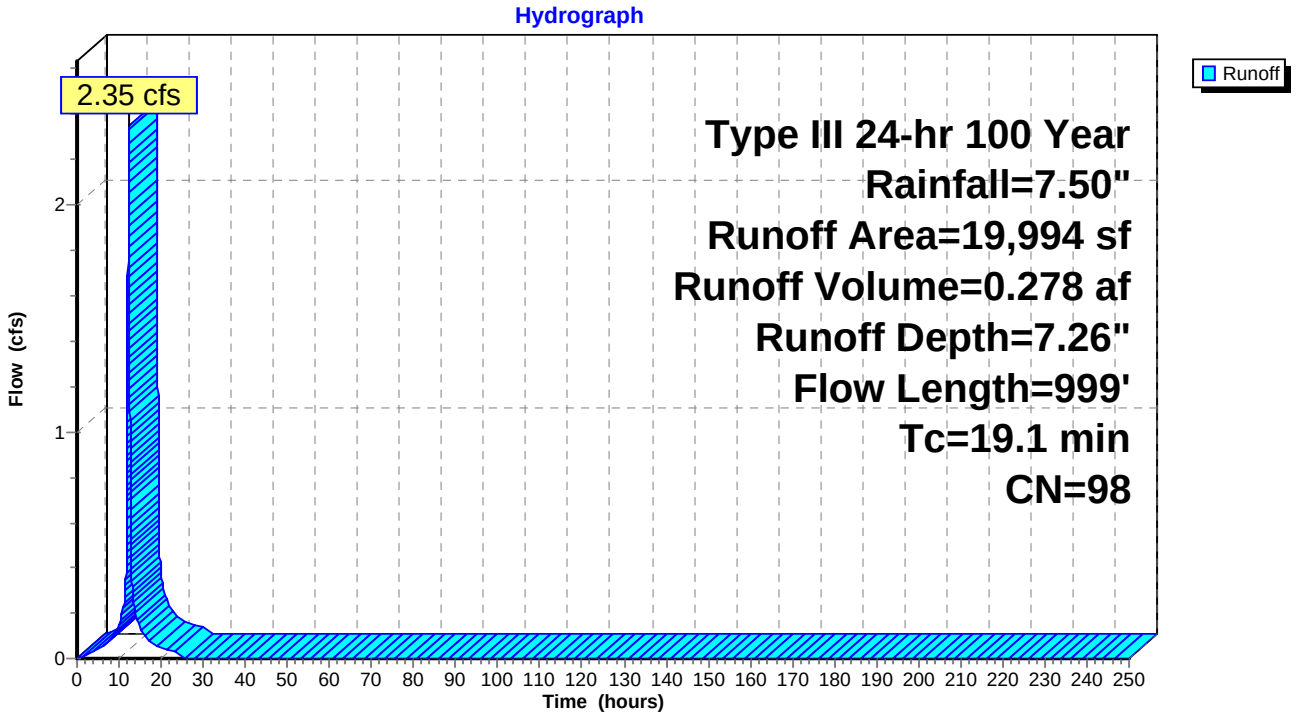
Runoff = 2.35 cfs @ 12.25 hrs, Volume= 0.278 af, Depth= 7.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 Year Rainfall=7.50"

Area (sf)	CN	Description
19,994	98	Paved roads w/curbs & sewers
19,994		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.5	100	0.0900	0.15		**Sheet Flow, 1 to 2** Grass: Bermuda n= 0.410 P2= 3.50"
5.8	423	0.0300	1.21		**Shallow Concentrated Flow, 2 to 3** Short Grass Pasture Kv= 7.0 fps
0.5	74	0.0140	2.40		**Shallow Concentrated Flow, 3 to 4 (Road)** Paved Kv= 20.3 fps
0.1	25	0.0100	4.54	3.56	**Pipe Channel, 4 to 5** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.6	167	0.0120	4.97	3.90	**Pipe Channel, 5 to 6** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.4	70	0.0090	2.60	3.19	**Pipe Channel, 6 to 7** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.025 Corrugated metal
0.2	140	0.1510	12.01	21.23	**Pipe Channel, 7 to 8** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.025 Corrugated metal
19.1	999	Total			

Subcatchment 2B: Drainage Area 2B



Summary for Subcatchment 3: Drainage Area 3

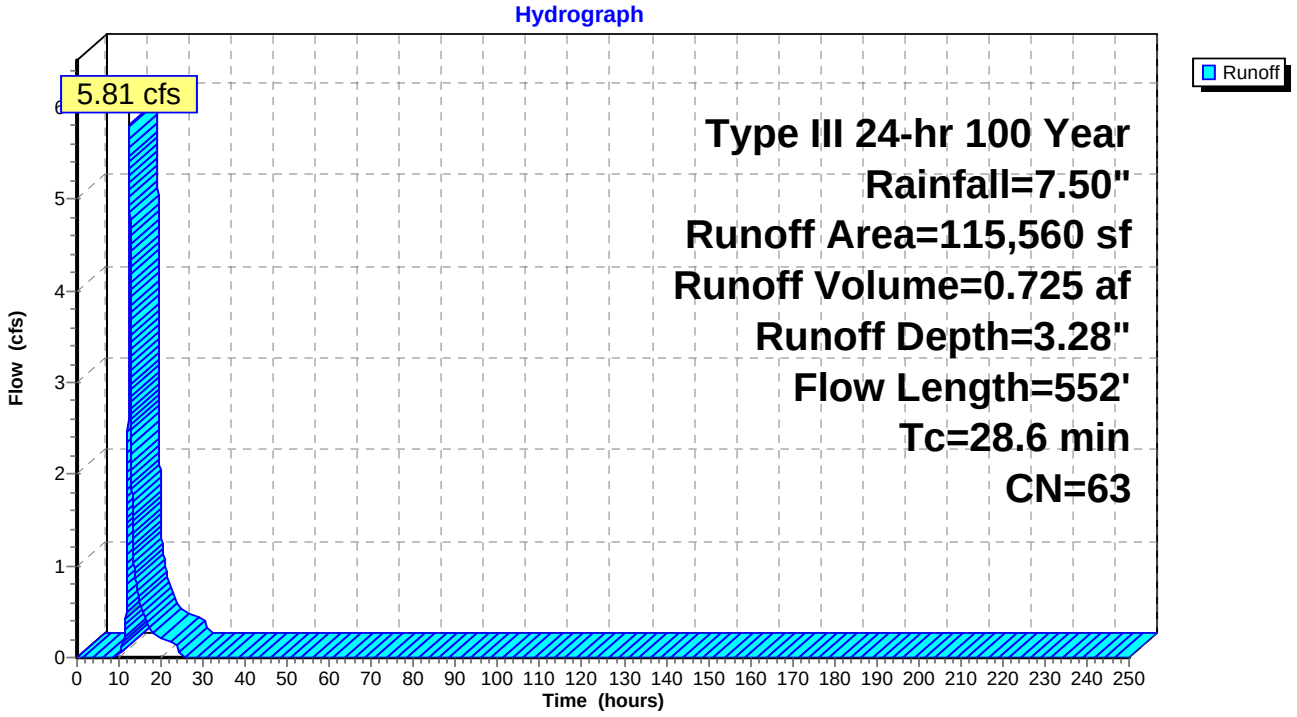
Runoff = 5.81 cfs @ 12.42 hrs, Volume= 0.725 af, Depth= 3.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 Year Rainfall=7.50"

Area (sf)	CN	Description
49,852	61	>75% Grass cover, Good, HSG B
56,494	60	Woods, Fair, HSG B
9,214	98	Paved roads w/curbs & sewers
115,560	63	Weighted Average
106,346		92.03% Pervious Area
9,214		7.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.4	118	0.0320	0.10		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
2.5	87	0.0140	0.59		**Shallow Concentrated Flow, 2 to 3** Woodland Kv= 5.0 fps
1.2	159	0.1940	2.20		**Shallow Concentrated Flow, 3 to 4** Woodland Kv= 5.0 fps
5.5	188	0.0130	0.57		**Shallow Concentrated Flow, 4 to DP 3** Woodland Kv= 5.0 fps
28.6	552	Total			

Subcatchment 3: Drainage Area 3



Summary for Subcatchment 4: Drainage Area 4

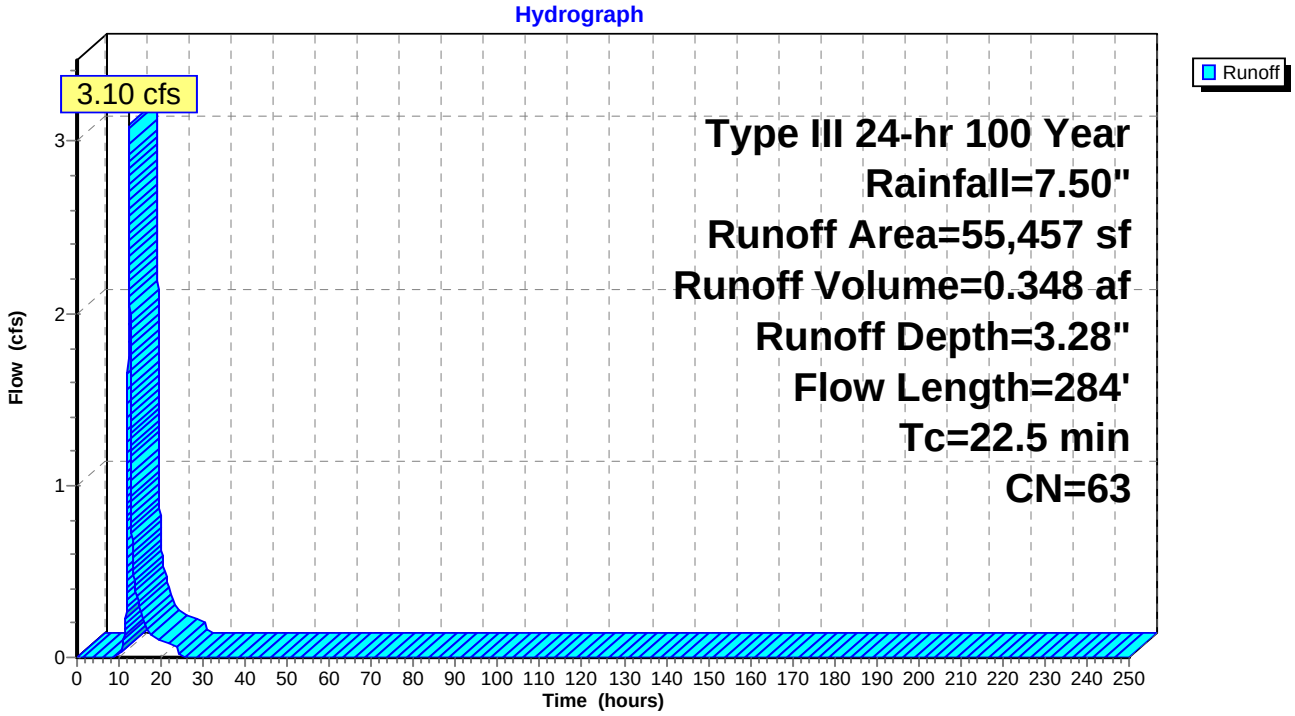
Runoff = 3.10 cfs @ 12.32 hrs, Volume= 0.348 af, Depth= 3.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 Year Rainfall=7.50"

Area (sf)	CN	Description
31,781	60	Woods, Fair, HSG B
4,042	98	Paved roads w/curbs & sewers
19,634	61	>75% Grass cover, Good, HSG B
55,457	63	Weighted Average
51,415		92.71% Pervious Area
4,042		7.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.9	207	0.0860	0.16		**Sheet Flow, 1 to 2** Grass: Bermuda n= 0.410 P2= 3.50"
1.6	77	0.0130	0.80		**Shallow Concentrated Flow, 2 to DP 4** Short Grass Pasture Kv= 7.0 fps
22.5	284	Total			

Subcatchment 4: Drainage Area 4



Summary for Subcatchment 5: Drainage Area 5

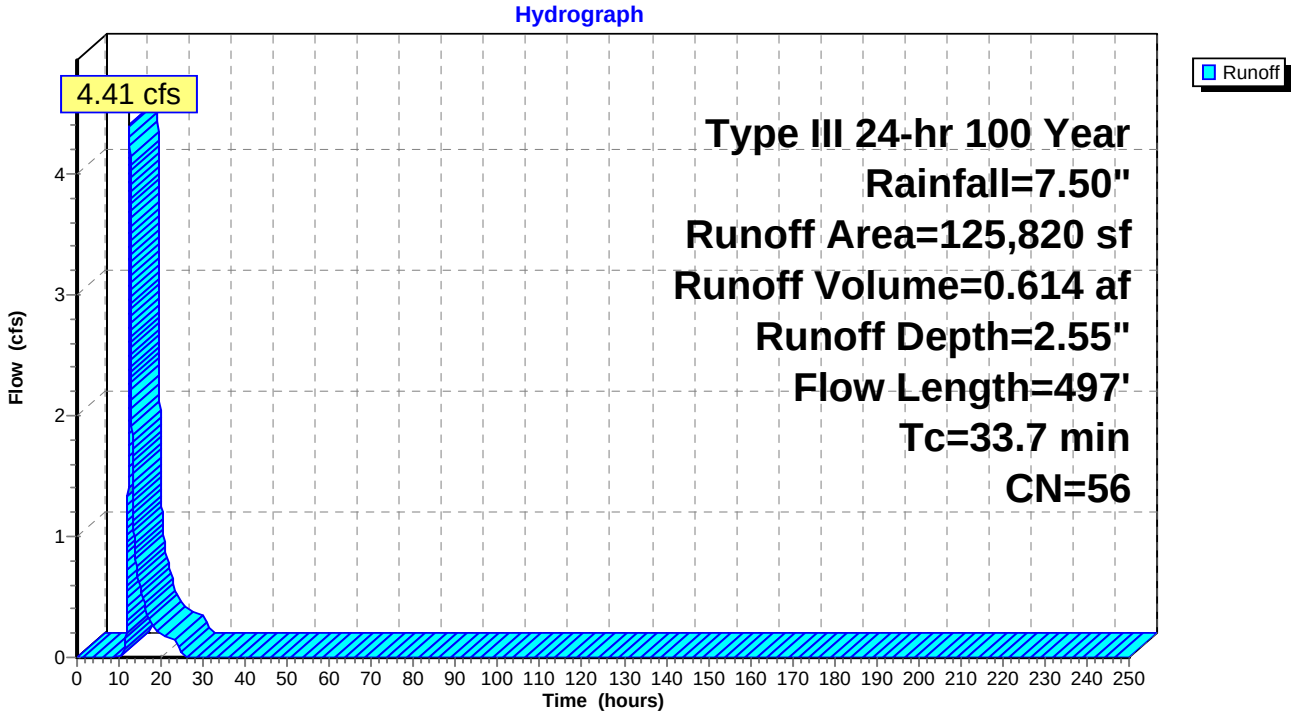
Runoff = 4.41 cfs @ 12.51 hrs, Volume= 0.614 af, Depth= 2.55"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 Year Rainfall=7.50"

Area (sf)	CN	Description
23,735	61	>75% Grass cover, Good, HSG B
101,385	55	Woods, Good, HSG B
700	98	Paved parking, HSG B
125,820	56	Weighted Average
125,120		99.44% Pervious Area
700		0.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.9	135	0.0150	0.08		**Sheet Flow, 1 to 2** Grass: Bermuda n= 0.410 P2= 3.50"
3.8	362	0.1020	1.60		**Shallow Concentrated Flow, 2 to DP 4** Woodland Kv= 5.0 fps
33.7	497	Total			

Subcatchment 5: Drainage Area 5



Summary for Subcatchment 6A: Drainage Area 6

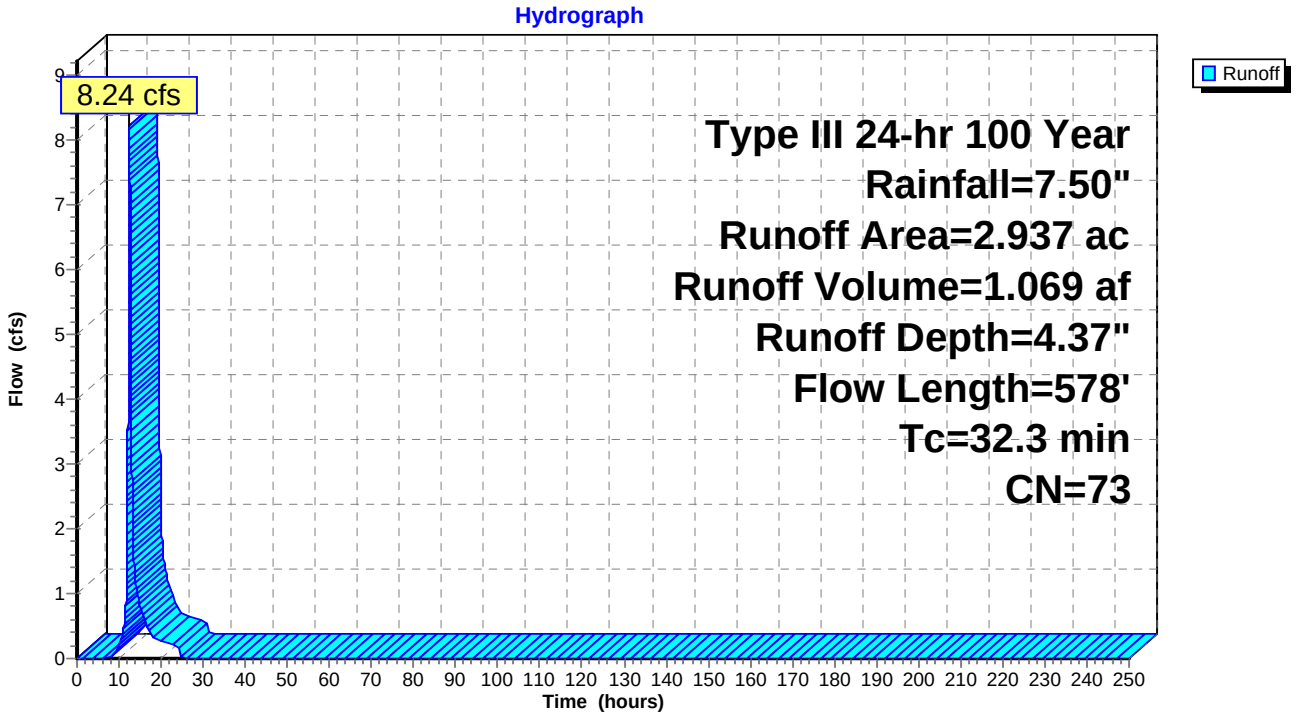
Runoff = 8.24 cfs @ 12.45 hrs, Volume= 1.069 af, Depth= 4.37"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 Year Rainfall=7.50"

Area (ac)	CN	Description
0.893	55	Woods, Good, HSG B
1.109	98	Paved roads w/curbs & sewers
0.935	61	>75% Grass cover, Good, HSG B
2.937	73	Weighted Average
1.828		62.24% Pervious Area
1.109		37.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.6	185	0.0600	0.14		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
0.5	214	0.1180	6.97		**Shallow Concentrated Flow, 2 to 3** Paved Kv= 20.3 fps
0.0	17	0.0120	6.25	7.67	**Pipe Channel, 3 to 4 (Catchbasins)** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 HDPE
0.4	132	0.0077	5.22	9.22	**Pipe Channel, 4 to 5 (18" Culvert)** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 HDPE
9.8	30	0.0120	0.05		**Sheet Flow, 5 to DP 6** Grass: Bermuda n= 0.410 P2= 3.50"
32.3	578	Total			

Subcatchment 6A: Drainage Area 6



Summary for Subcatchment 6B: Drainage Area 6

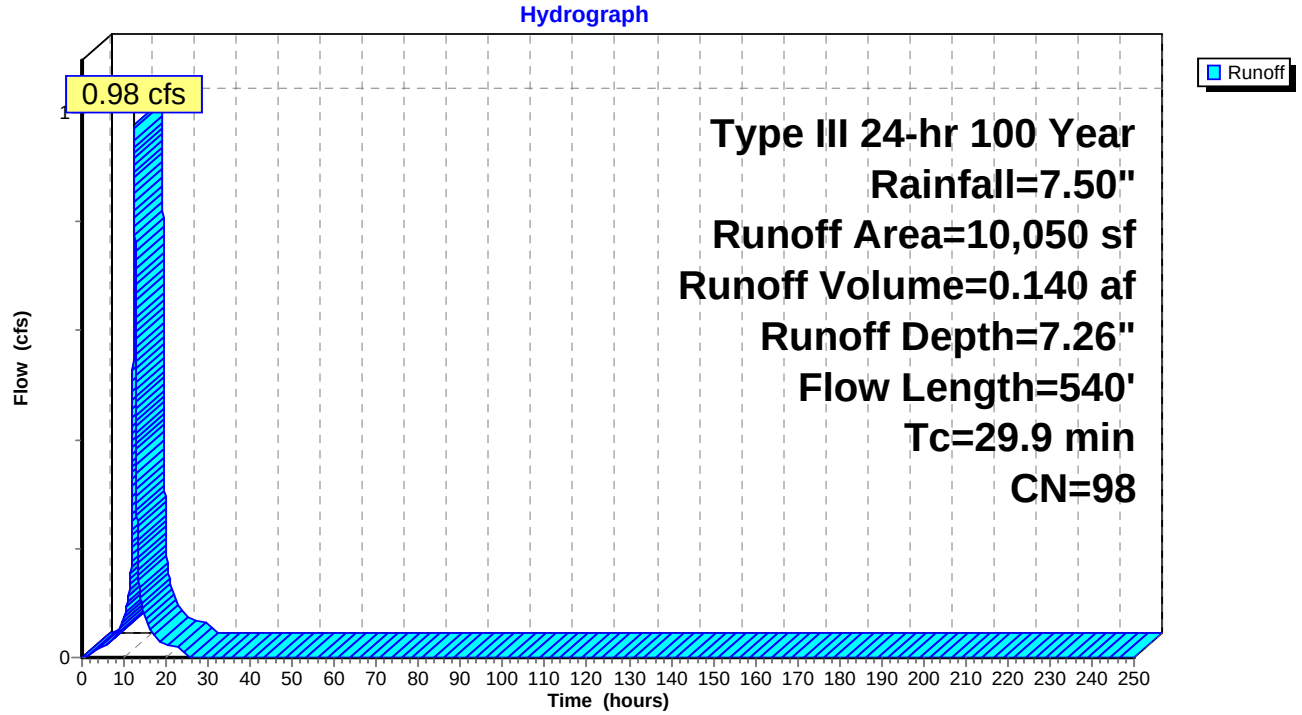
Runoff = 0.98 cfs @ 12.39 hrs, Volume= 0.140 af, Depth= 7.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 Year Rainfall=7.50"

Area (sf)	CN	Description
10,050	98	Paved roads w/curbs & sewers
10,050		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.6	185	0.0600	0.14		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
0.5	214	0.1180	6.97		**Shallow Concentrated Flow, 2 to 3** Paved Kv= 20.3 fps
0.0	17	0.0120	6.25	7.67	**Pipe Channel, 3 to 4 (Catchbasins)** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 HDPE
0.1	101	0.1730	24.72	43.69	**Pipe Channel, 4 to 5 (18" Culvert)** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 HDPE
7.7	23	0.0130	0.05		**Sheet Flow, 5 to DP 6** Grass: Bermuda n= 0.410 P2= 3.50"
29.9	540	Total			

Subcatchment 6B: Drainage Area 6



Summary for Subcatchment 6c: Drainage Area 6

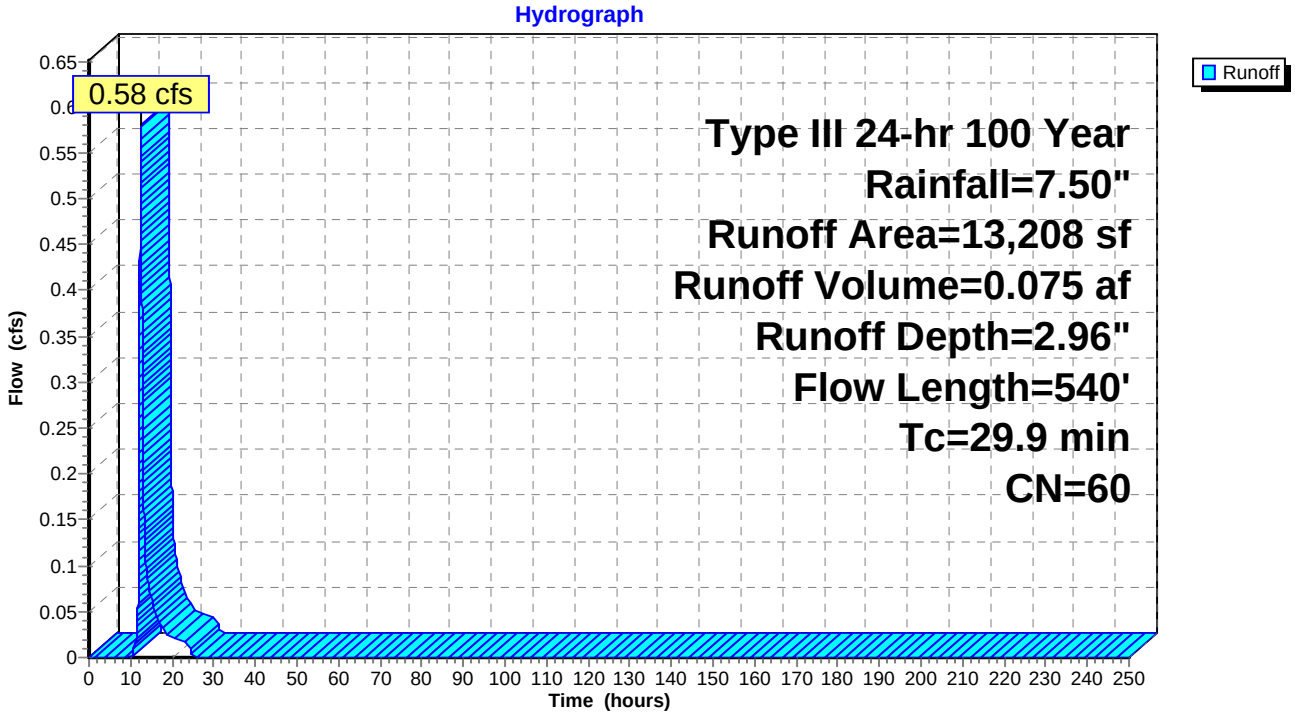
Runoff = 0.58 cfs @ 12.45 hrs, Volume= 0.075 af, Depth= 2.96"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 Year Rainfall=7.50"

Area (sf)	CN	Description
13,208	60	Woods, Fair, HSG B
13,208		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.6	185	0.0600	0.14		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
0.5	214	0.1180	6.97		**Shallow Concentrated Flow, 2 to 3** Paved Kv= 20.3 fps
0.0	17	0.0120	6.25	7.67	**Pipe Channel, 3 to 4 (Catchbasins)** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 HDPE
0.1	101	0.1730	24.72	43.69	**Pipe Channel, 4 to 5 (18" Culvert)** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 HDPE
7.7	23	0.0130	0.05		**Sheet Flow, 5 to DP 6** Grass: Bermuda n= 0.410 P2= 3.50"
29.9	540	Total			

Subcatchment 6c: Drainage Area 6



Summary for Subcatchment 7: Drainage Area 7

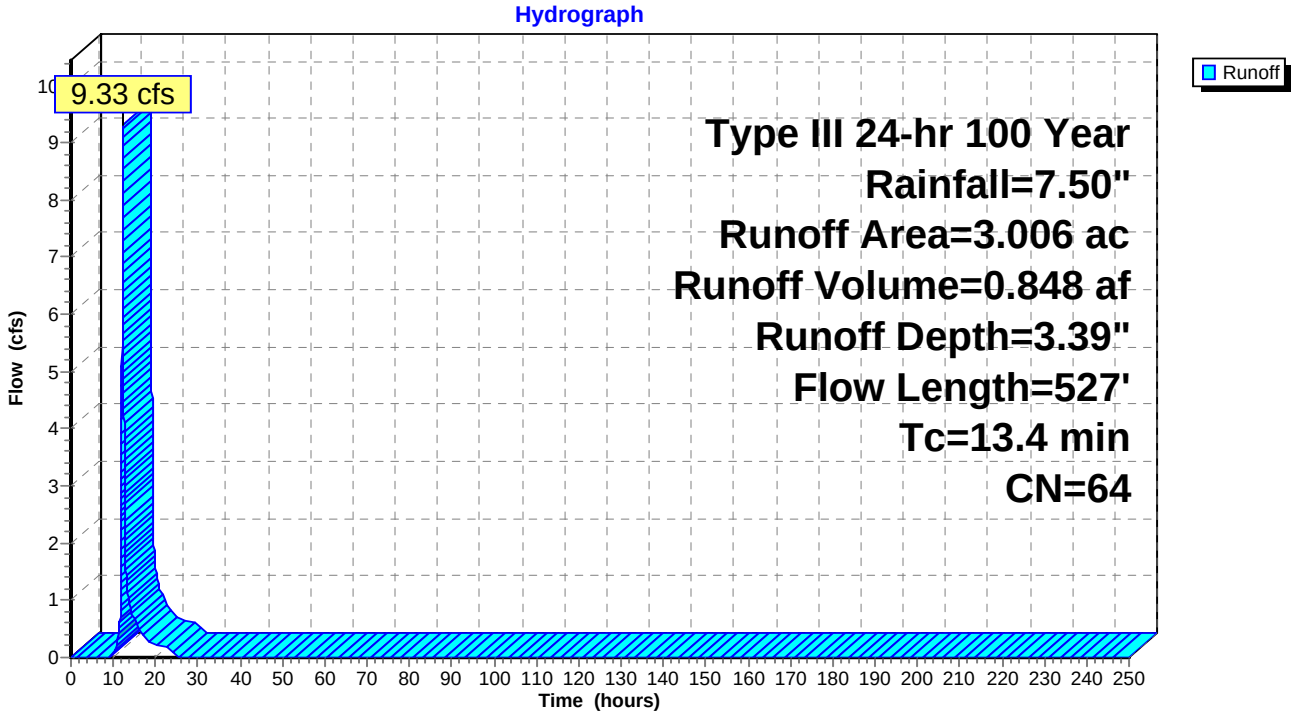
Runoff = 9.33 cfs @ 12.19 hrs, Volume= 0.848 af, Depth= 3.39"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 Year Rainfall=7.50"

Area (ac)	CN	Description
1.340	60	Woods, Fair, HSG B
0.291	98	Paved roads w/curbs & sewers
1.375	61	>75% Grass cover, Good, HSG B
3.006	64	Weighted Average
2.715		90.32% Pervious Area
0.291		9.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.1	117	0.1620	0.19		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
0.7	100	0.2300	2.40		**Shallow Concentrated Flow, 2 to 3** Woodland Kv= 5.0 fps
1.2	164	0.2010	2.24		**Shallow Concentrated Flow, 3 to 4** Woodland Kv= 5.0 fps
1.4	146	0.1230	1.75		**Shallow Concentrated Flow, 3 to DP 7** Woodland Kv= 5.0 fps
13.4	527	Total			

Subcatchment 7: Drainage Area 7



Summary for Subcatchment 8: Drainage Area 8

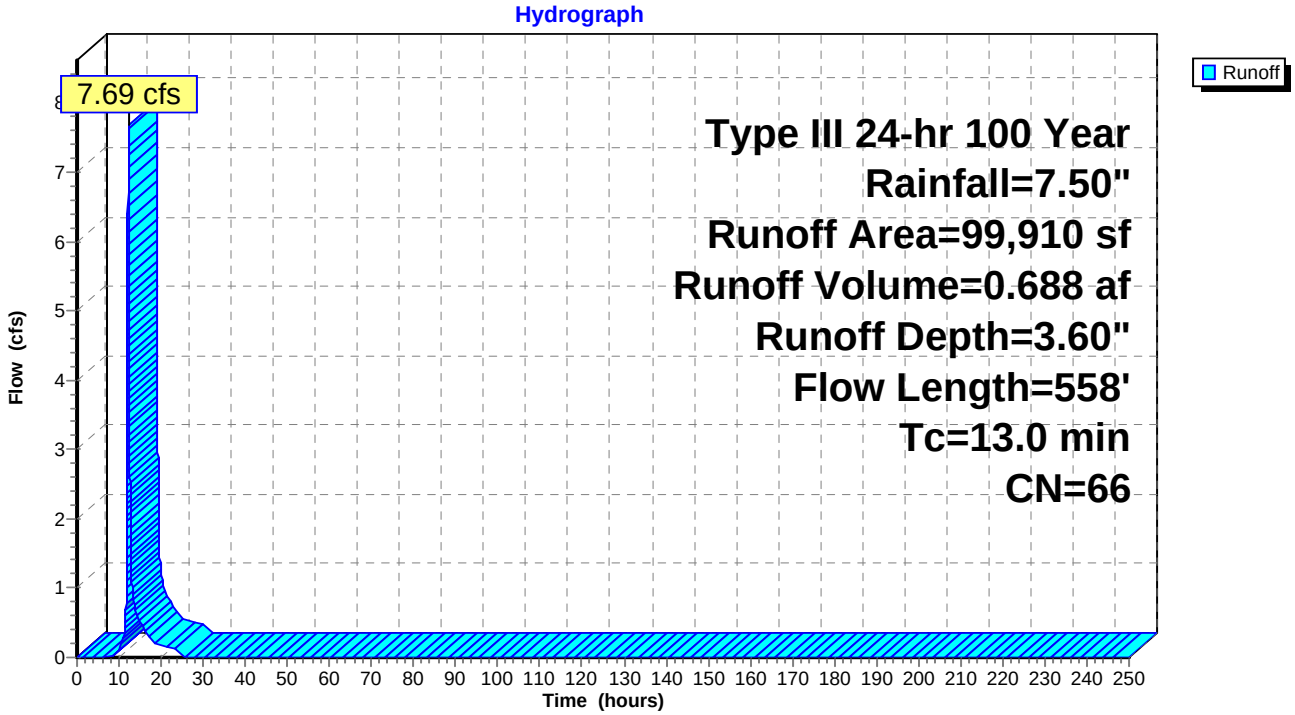
Runoff = 7.69 cfs @ 12.18 hrs, Volume= 0.688 af, Depth= 3.60"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 Year Rainfall=7.50"

Area (sf)	CN	Description
41,570	60	Woods, Fair, HSG B
15,772	98	Paved roads w/curbs & sewers
42,568	61	>75% Grass cover, Good, HSG B
99,910	66	Weighted Average
84,138		84.21% Pervious Area
15,772		15.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	100	0.1300	0.17		**Sheet Flow, 1 to 2** Woods: Light underbrush n= 0.400 P2= 3.50"
3.1	362	0.1550	1.97		**Shallow Concentrated Flow, 2 to 3** Woodland Kv= 5.0 fps
0.2	96	0.1150	6.88		**Shallow Concentrated Flow, 3 to DP 8** Paved Kv= 20.3 fps
13.0	558	Total			

Subcatchment 8: Drainage Area 8



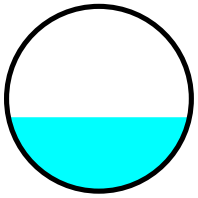
Summary for Reach 1R: 18"

Inflow Area = 2.937 ac, 37.76% Impervious, Inflow Depth = 4.37" for 100 Year event
Inflow = 8.24 cfs @ 12.45 hrs, Volume= 1.069 af
Outflow = 8.24 cfs @ 12.45 hrs, Volume= 1.069 af, Atten= 0%, Lag= 0.2 min

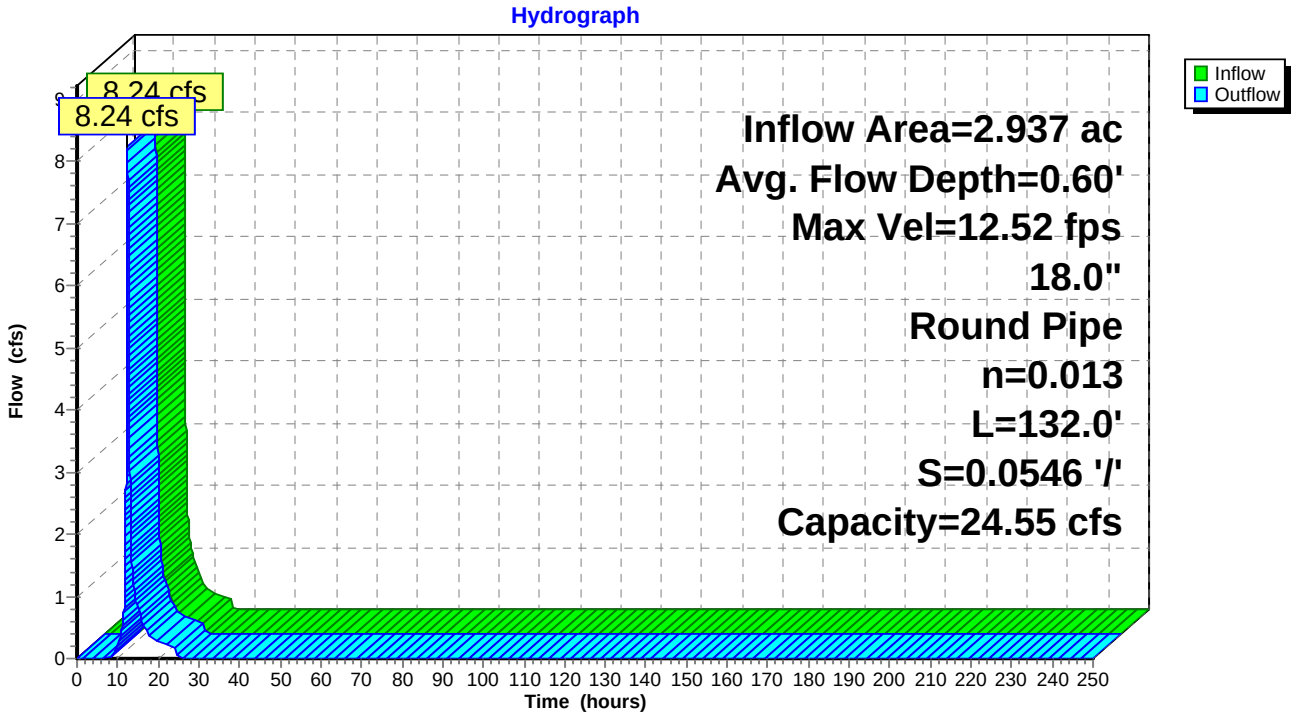
Routing by Stor-Ind method, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Max. Velocity= 12.52 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 5.05 fps, Avg. Travel Time= 0.4 min

Peak Storage= 87 cf @ 12.45 hrs
Average Depth at Peak Storage= 0.60'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 24.55 cfs

18.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 132.0' Slope= 0.0546 '/'
Inlet Invert= 374.01', Outlet Invert= 366.80'



Reach 1R: 18"



Summary for Pond 1P: Pond - D

Inflow Area = 2.937 ac, 37.76% Impervious, Inflow Depth = 4.37" for 100 Year event
Inflow = 8.24 cfs @ 12.45 hrs, Volume= 1.069 af
Outflow = 8.24 cfs @ 12.45 hrs, Volume= 1.069 af, Atten= 0%, Lag= 0.0 min
Primary = 8.24 cfs @ 12.45 hrs, Volume= 1.069 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

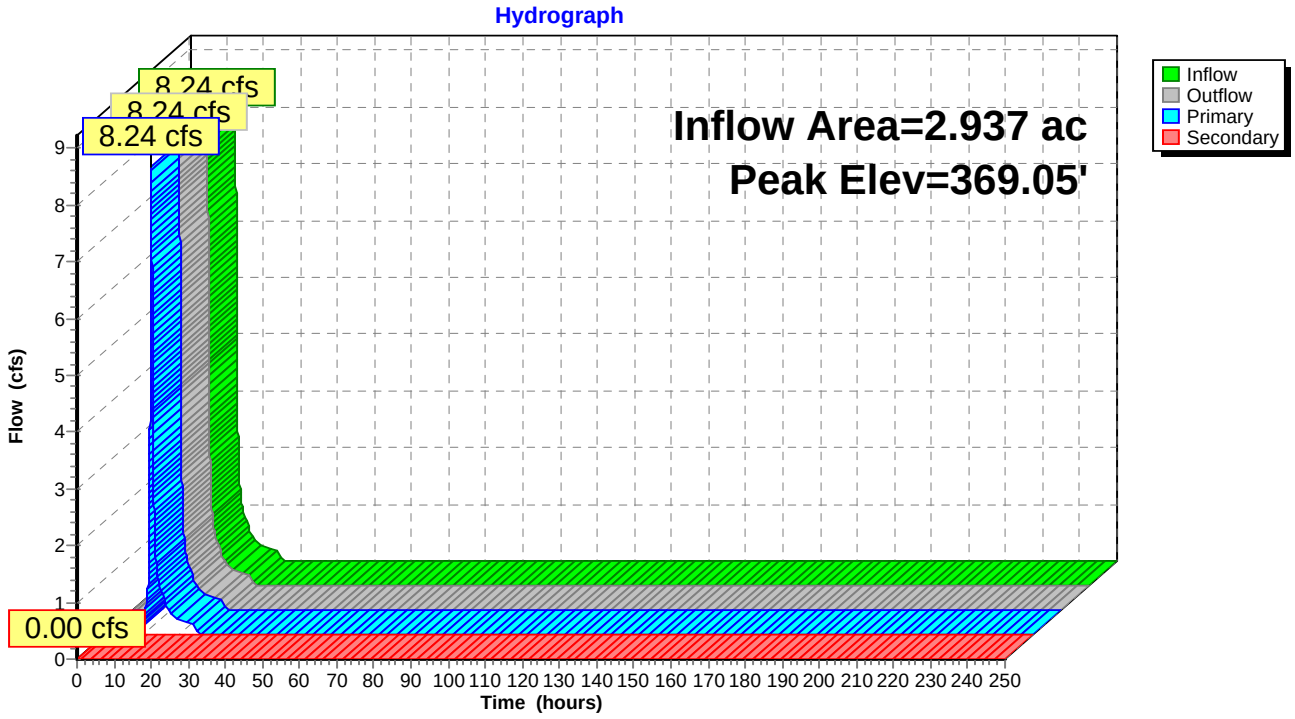
Routing by Stor-Ind method, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Peak Elev= 369.05' @ 12.45 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	366.80'	**18.0" Round Culvert** L= 6.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 366.80' / 361.00' S= 0.9667 '/' Cc= 0.900 n= 0.025 Corrugated metal
#2	Secondary	371.19'	**57.0" W x 57.0" H Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=8.23 cfs @ 12.45 hrs HW=369.05' (Free Discharge)
└**1=Culvert** (Inlet Controls 8.23 cfs @ 4.66 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=366.80' (Free Discharge)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 1P: Pond - D



Summary for Pond 3P: Detention Pond

Inflow	=	24.06 cfs @	12.26 hrs,	Volume=	1.187 af
Outflow	=	1.69 cfs @	13.64 hrs,	Volume=	1.187 af, Atten= 93%, Lag= 82.5 min
Primary	=	1.69 cfs @	13.64 hrs,	Volume=	1.187 af
Secondary	=	0.00 cfs @	0.00 hrs,	Volume=	0.000 af

Routing by Stor-Ind method, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Peak Elev= 372.43' @ 13.64 hrs Surf.Area= 7,320 sf Storage= 33,702 cf

Plug-Flow detention time= 255.3 min calculated for 1.187 af (100% of inflow)
Center-of-Mass det. time= 255.3 min (1,033.8 - 778.5)

Volume	Invert	Avail.Storage	Storage Description
#1	363.00'	39,443 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

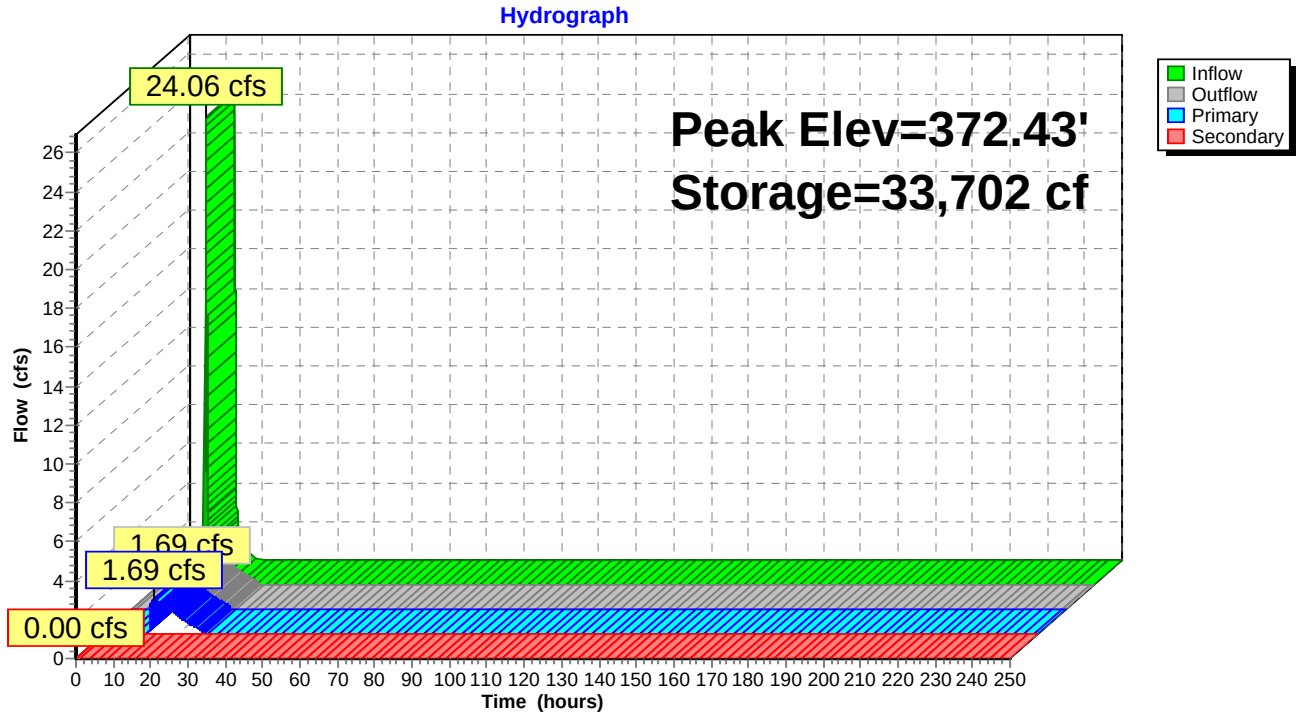
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
363.00	0	0	0
364.00	1,137	569	569
366.00	2,172	3,309	3,878
368.00	3,441	5,613	9,491
370.00	5,233	8,674	18,165
372.00	7,184	12,417	30,582
373.00	7,500	7,342	37,924
373.20	7,700	1,520	39,443

Device	Routing	Invert	Outlet Devices
#1	Primary	363.00'	**10.000 in/hr Exfiltration over Surface area**
#2	Secondary	373.00'	**208.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=1.69 cfs @ 13.64 hrs HW=372.43' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 1.69 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=363.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 3P: Detention Pond



Summary for Pond 4P: Detention Pond

Inflow Area = 5.751 ac, 33.25% Impervious, Inflow Depth = 4.37" for 100 Year event
Inflow = 20.23 cfs @ 12.26 hrs, Volume= 2.094 af
Outflow = 24.72 cfs @ 12.26 hrs, Volume= 2.094 af, Atten= 0%, Lag= 0.1 min
Primary = 0.66 cfs @ 12.08 hrs, Volume= 0.907 af
Secondary = 24.06 cfs @ 12.26 hrs, Volume= 1.187 af

Routing by Stor-Ind method, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Peak Elev= 377.50' @ 12.26 hrs Surf.Area= 2,850 sf Storage= 12,557 cf

Plug-Flow detention time= 119.1 min calculated for 2.094 af (100% of inflow)
Center-of-Mass det. time= 119.2 min (952.5 - 833.3)

Volume	Invert	Avail.Storage	Storage Description
#1	363.00'	12,557 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

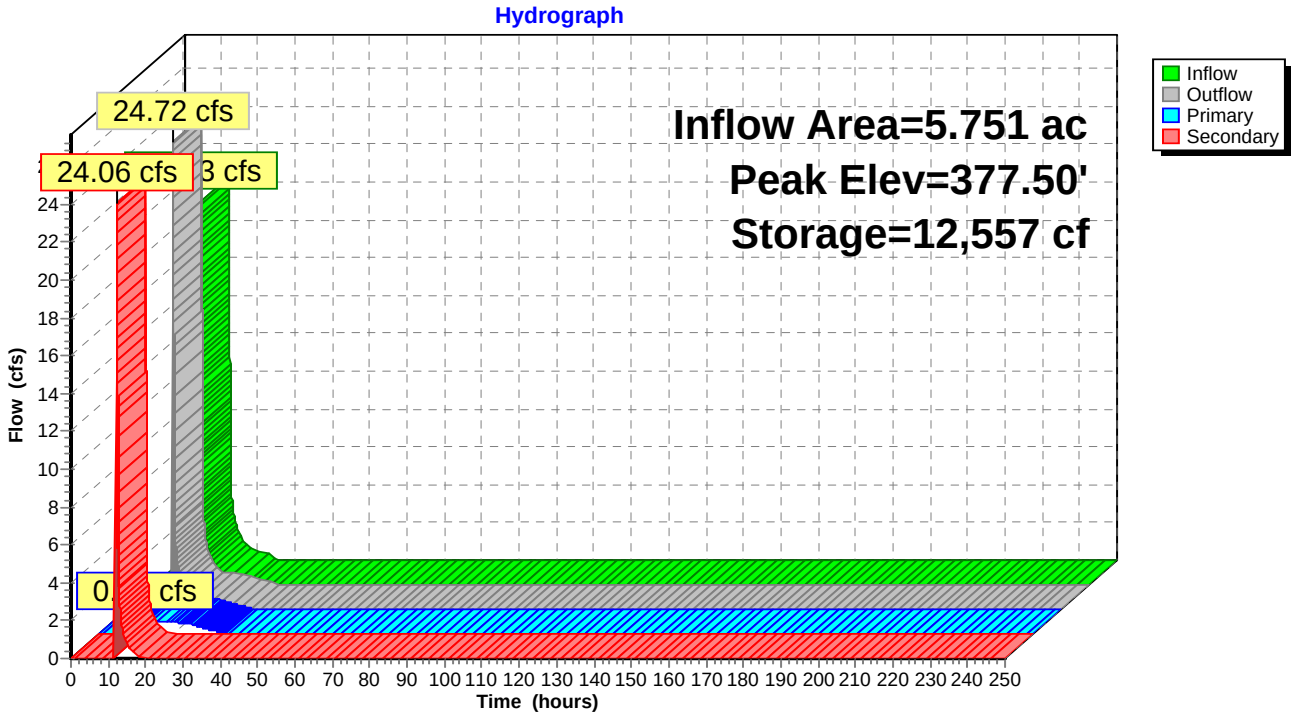
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
363.00	0	0	0
364.00	448	224	224
366.00	893	1,341	1,565
368.00	1,459	2,352	3,917
370.00	2,095	3,554	7,471
372.00	2,739	4,834	12,305
372.09	2,850	252	12,557

Device	Routing	Invert	Outlet Devices
#1	Primary	363.00'	**10.000 in/hr Exfiltration over Surface area**
#2	Device 3	372.00'	**54.0' long x 1.5' 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 Coef. (English) 2.62 2.64 2.64 2.68 2.75 2.86 2.92 3.07 3.07 3.03 3.28 3.32
#3	Secondary	371.00'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 1.00 Width (feet) 2.00 2.00

Primary OutFlow Max=0.66 cfs @ 12.08 hrs HW=373.88' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.66 cfs)

Secondary OutFlow Max=24.05 cfs @ 12.26 hrs HW=377.50' (Free Discharge)
└**3=Custom Weir/Orifice** (Orifice Controls 24.05 cfs @ 12.03 fps)
└**2=Broad-Crested Rectangular Weir** (Passes 24.05 cfs of 2,310.99 cfs potential flow)

Pond 4P: Detention Pond



Summary for Pond 6P: Drywells

Inflow Area = 0.231 ac,100.00% Impervious, Inflow Depth = 7.26" for 100 Year event
Inflow = 0.98 cfs @ 12.39 hrs, Volume= 0.140 af
Outflow = 0.22 cfs @ 13.17 hrs, Volume= 0.140 af, Atten= 78%, Lag= 46.6 min
Primary = 0.22 cfs @ 13.17 hrs, Volume= 0.140 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Peak Elev= 388.40' @ 13.17 hrs Surf.Area= 1,218 sf Storage= 1,796 cf

Plug-Flow detention time= 55.7 min calculated for 0.140 af (100% of inflow)
Center-of-Mass det. time= 55.7 min (819.9 - 764.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	386.00'	1,291 cf	**27.68'W x 44.00'L x 4.83'H Field A** 5,883 cf Overall - 2,655 cf Embedded = 3,227 cf x 40.0% Voids
#2A	387.00'	2,058 cf	**Dry_Well 1000 Gallon** x 16 Inside #1 Inside= 62.0"W x 30.0"H => 12.86 sf x 10.00'L = 128.6 cf Outside= 68.0"W x 34.0"H => 15.81 sf x 10.50'L = 166.0 cf
		3,349 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	386.00'	**6.000 in/hr Exfiltration over Wetted area**
#2	Secondary	393.00'	**24.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=0.22 cfs @ 13.17 hrs HW=388.40' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.22 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=386.00' (Free Discharge)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 6P: Drywells - Chamber Wizard Field A

Chamber Model = Dry_Well 1000 Gallon
Inside= 62.0"W x 30.0"H => 12.86 sf x 10.00'L = 128.6 cf
Outside= 68.0"W x 34.0"H => 15.81 sf x 10.50'L = 166.0 cf

68.0" Wide + 12.0" Spacing = 80.0" C-C

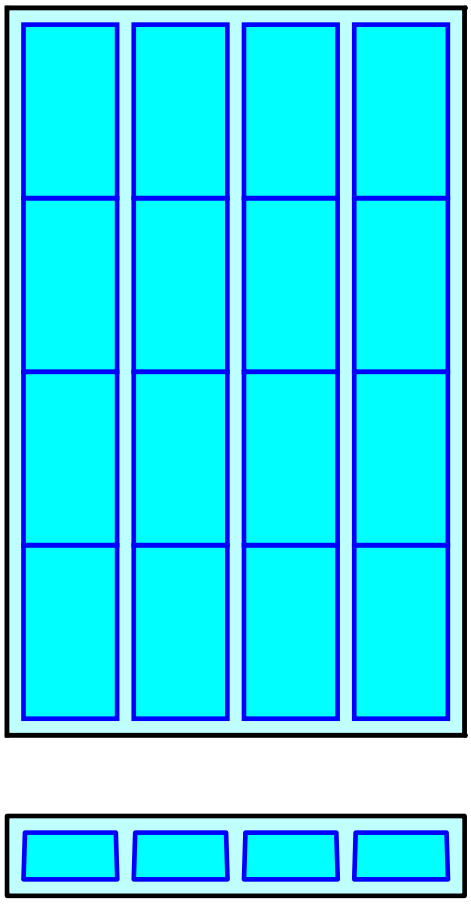
4 Chambers/Row x 10.50' Long = 42.00' + 12.0" End Stone x 2 = 44.00' Base Length
4 Rows x 68.0" Wide + 12.0" Spacing x 3 + 12.0" Side Stone x 2 = 27.68' Base Width
12.0" Base + 34.0" Chamber Height + 12.0" Cover = 4.83' Field Height

16 Chambers x 128.6 cf = 2,058.4 cf Chamber Storage
16 Chambers x 166.0 cf = 2,655.4 cf Displacement

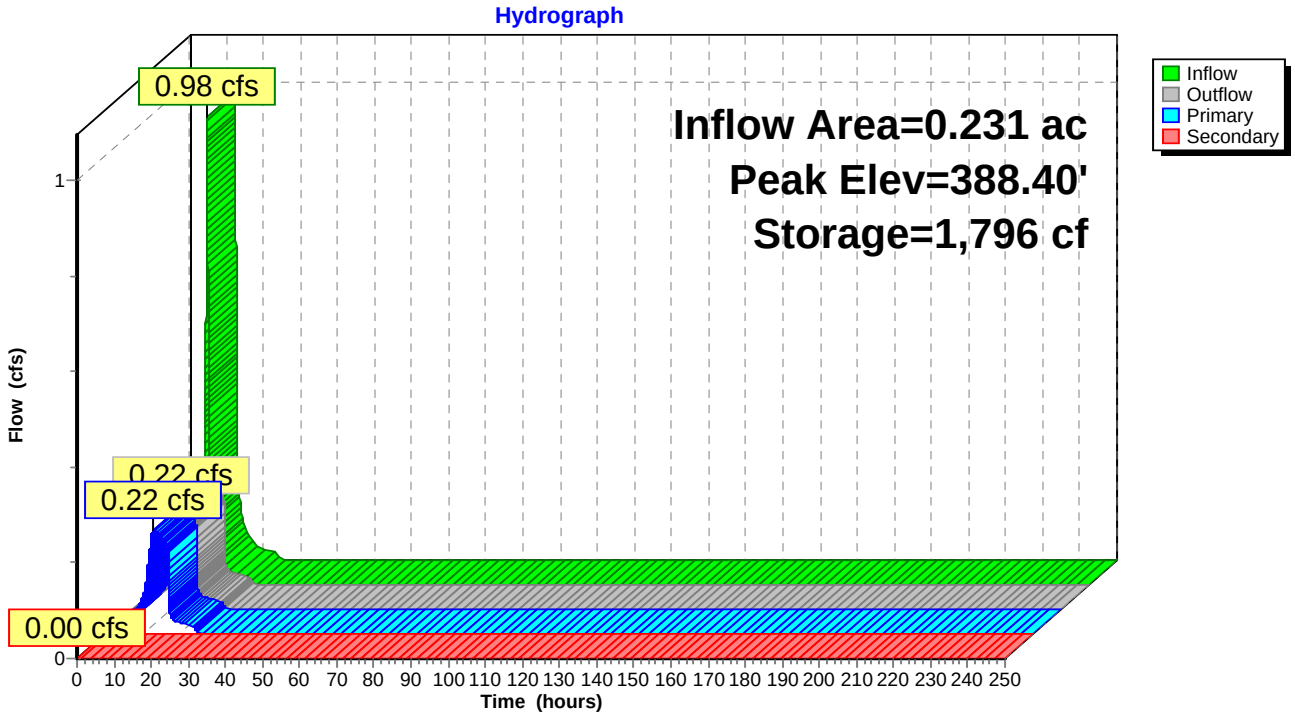
5,882.6 cf Field - 2,655.4 cf Chambers = 3,227.2 cf Stone x 40.0% Voids = 1,290.9 cf Stone Storage

Stone + Chamber Storage = 3,349.3 cf = 0.077 af

16 Chambers
217.9 cy Field
119.5 cy Stone



Pond 6P: Drywells



Summary for Pond 7P: Stormwater Treatment Pond #2

Inflow Area = 2.937 ac, 37.76% Impervious, Inflow Depth = 4.37" for 100 Year event
Inflow = 8.24 cfs @ 12.45 hrs, Volume= 1.069 af
Outflow = 8.19 cfs @ 12.48 hrs, Volume= 1.069 af, Atten= 1%, Lag= 1.3 min
Primary = 0.23 cfs @ 12.48 hrs, Volume= 0.219 af
Secondary = 7.96 cfs @ 12.48 hrs, Volume= 0.851 af
Tertiary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Peak Elev= 364.64' @ 12.48 hrs Surf.Area= 999 sf Storage= 1,826 cf

Plug-Flow detention time= 20.6 min calculated for 1.069 af (100% of inflow)
Center-of-Mass det. time= 20.6 min (866.4 - 845.9)

Volume	Invert	Avail.Storage	Storage Description
#1	361.00'	2,605 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
361.00	100	0	0
362.00	300	200	200
364.00	763	1,063	1,263
365.00	1,132	948	2,211
365.30	1,500	395	2,605

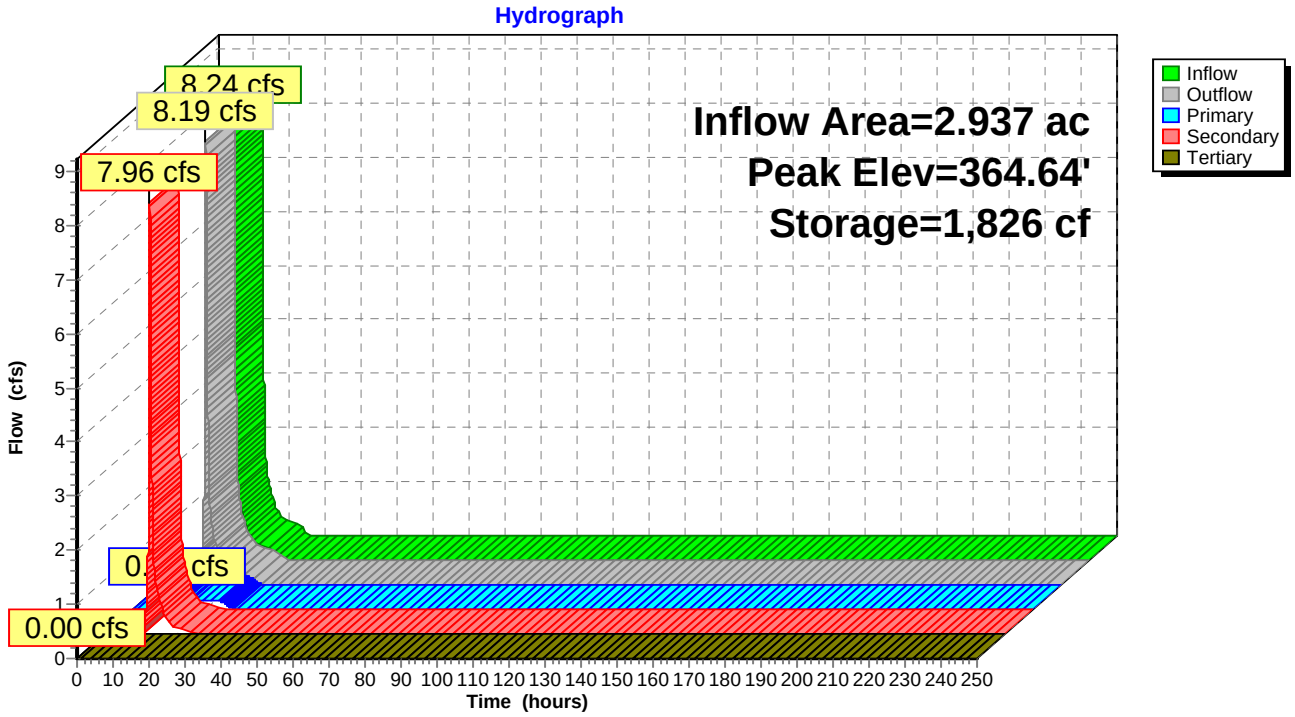
Device	Routing	Invert	Outlet Devices
#1	Primary	361.00'	**10.000 in/hr Exfiltration over Surface area**
#2	Secondary	363.50'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 1.50 Width (feet) 2.00 2.00
#3	Tertiary	365.10'	**93.0' long x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 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 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Primary OutFlow Max=0.23 cfs @ 12.48 hrs HW=364.64' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.23 cfs)

Secondary OutFlow Max=7.96 cfs @ 12.48 hrs HW=364.64' (Free Discharge)
└**2=Custom Weir/Orifice** (Weir Controls 7.96 cfs @ 3.49 fps)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=361.00' (Free Discharge)
└**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 7P: Stormwater Treatment Pond #2



Summary for Pond 8P: Stormwater Treatment Pond #1

Inflow	=	7.96 cfs @	12.48 hrs, Volume=	0.851 af
Outflow	=	7.53 cfs @	12.58 hrs, Volume=	0.851 af, Atten= 5%, Lag= 6.0 min
Primary	=	0.48 cfs @	12.58 hrs, Volume=	0.183 af
Secondary	=	7.05 cfs @	12.58 hrs, Volume=	0.668 af

Routing by Stor-Ind method, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Peak Elev= 364.77' @ 12.58 hrs Surf.Area= 2,074 sf Storage= 4,670 cf

Plug-Flow detention time= 13.7 min calculated for 0.851 af (100% of inflow)
Center-of-Mass det. time= 13.7 min (829.6 - 815.9)

Volume	Invert	Avail.Storage	Storage Description
#1	361.00'	5,867 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

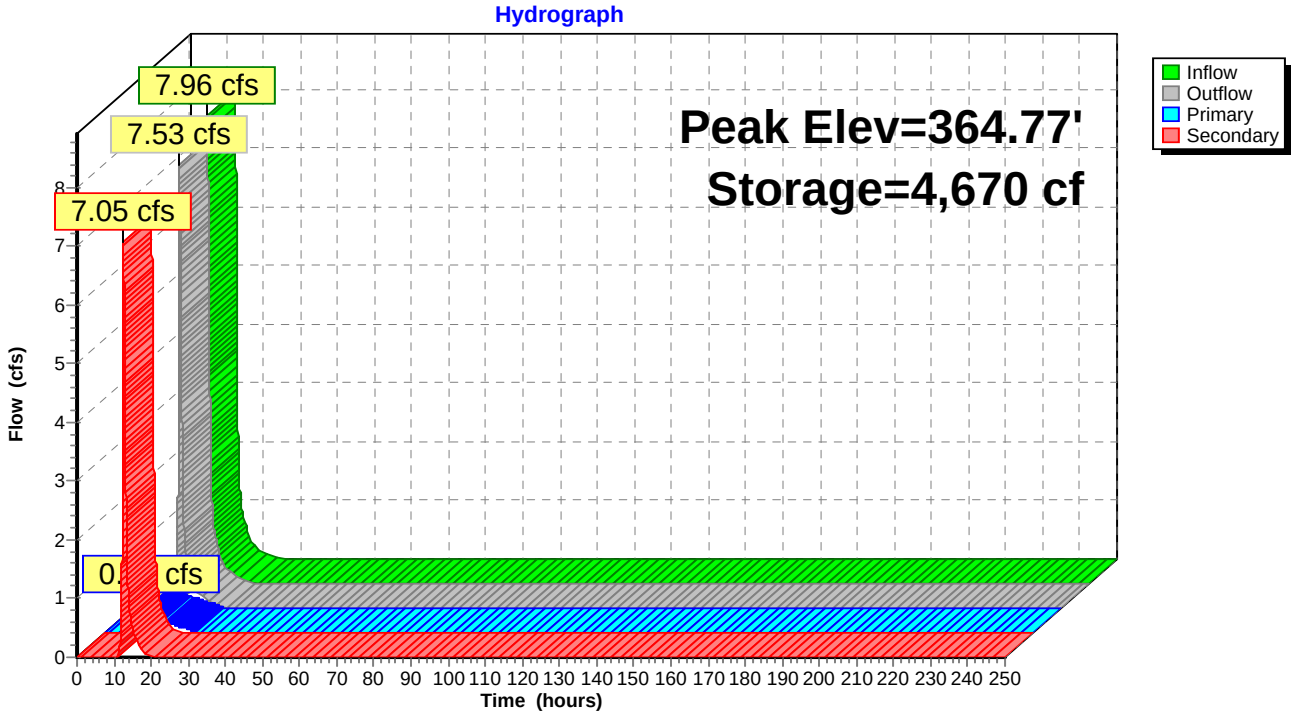
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
361.00	300	0	0
362.00	842	571	571
364.00	1,772	2,614	3,185
365.00	2,163	1,968	5,153
365.30	2,600	714	5,867

Device	Routing	Invert	Outlet Devices
#1	Secondary	361.00'	**24.0" Round Culvert** L= 200.0' CMP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 361.00' / 330.00' S= 0.1550 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior
#2	Device 1	361.10'	**2.0" Vert. Orifice/Grate (0 yr)** C= 0.600
#3	Device 1	361.70'	**6.0" Vert. Orifice/Grate (1yr)** C= 0.600
#4	Device 1	362.30'	**7.0" Vert. Orifice/Grate(2yr)** C= 0.600
#5	Device 1	363.40'	**9.0" Vert. Orifice/Grate(10yr)** C= 0.600
#6	Device 1	364.70'	**57.0" x 57.0" Horiz. Top of Riser (100yr)** C= 0.600 Limited to weir flow at low heads
#7	Device 1	365.00'	**14.5' long x 2.0' breadth Broad-Crested Rectangular Weir (14.5)** 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32
#8	Device 1	365.20'	**100.0' long x 3.0' 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 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32
#9	Primary	361.00'	**10.000 in/hr Exfiltration over Surface area**

Primary OutFlow Max=0.48 cfs @ 12.58 hrs HW=364.77' (Free Discharge)
└**9=Exfiltration** (Exfiltration Controls 0.48 cfs)

Secondary OutFlow Max=7.01 cfs @ 12.58 hrs HW=364.77' (Free Discharge)
└**1=Culvert** (Passes 7.01 cfs of 25.19 cfs potential flow)
- **2=Orifice/Grate (0 yr)** (Orifice Controls 0.20 cfs @ 9.12 fps)
- **3=Orifice/Grate (1yr)** (Orifice Controls 1.59 cfs @ 8.09 fps)
- **4=Orifice/Grate(2yr)** (Orifice Controls 1.90 cfs @ 7.11 fps)
- **5=Orifice/Grate(10yr)** (Orifice Controls 2.12 cfs @ 4.81 fps)
- **6=Top of Riser (100yr)** (Weir Controls 1.20 cfs @ 0.88 fps)
- **7=Broad-Crested Rectangular Weir (14.5)** (Controls 0.00 cfs)
- **8=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 8P: Stormwater Treatment Pond #1



Summary for Pond 9P: Drywells

Inflow Area = 0.459 ac,100.00% Impervious, Inflow Depth = 7.26" for 100 Year event
Inflow = 2.35 cfs @ 12.25 hrs, Volume= 0.278 af
Outflow = 0.25 cfs @ 11.31 hrs, Volume= 0.278 af, Atten= 89%, Lag= 0.0 min
Primary = 0.25 cfs @ 11.31 hrs, Volume= 0.278 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs
Peak Elev= 389.44' @ 13.37 hrs Surf.Area= 1,834 sf Storage= 4,437 cf

Plug-Flow detention time= 125.5 min calculated for 0.278 af (100% of inflow)
Center-of-Mass det. time= 125.5 min (879.7 - 754.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	386.00'	1,685 cf	**41.69'W x 44.00'L x 4.83'H Field A** 8,860 cf Overall - 4,647 cf Embedded = 4,213 cf x 40.0% Voids
#2A	387.00'	3,602 cf	**Dry_Well 1000 Gallon** x 28 Inside #1 Inside= 62.0"W x 30.0"H => 12.86 sf x 10.00'L = 128.6 cf Outside= 68.0"W x 34.0"H => 15.81 sf x 10.50'L = 166.0 cf
		5,287 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	386.00'	**6.000 in/hr Exfiltration over Surface area**
#2	Secondary	392.00'	**24.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=0.25 cfs @ 11.31 hrs HW=386.08' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.25 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=386.00' (Free Discharge)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 9P: Drywells - Chamber Wizard Field A

Chamber Model = Dry_Well 1000 Gallon
Inside= 62.0"W x 30.0"H => 12.86 sf x 10.00'L = 128.6 cf
Outside= 68.0"W x 34.0"H => 15.81 sf x 10.50'L = 166.0 cf

68.0" Wide + 0.0" Spacing = 68.0" C-C

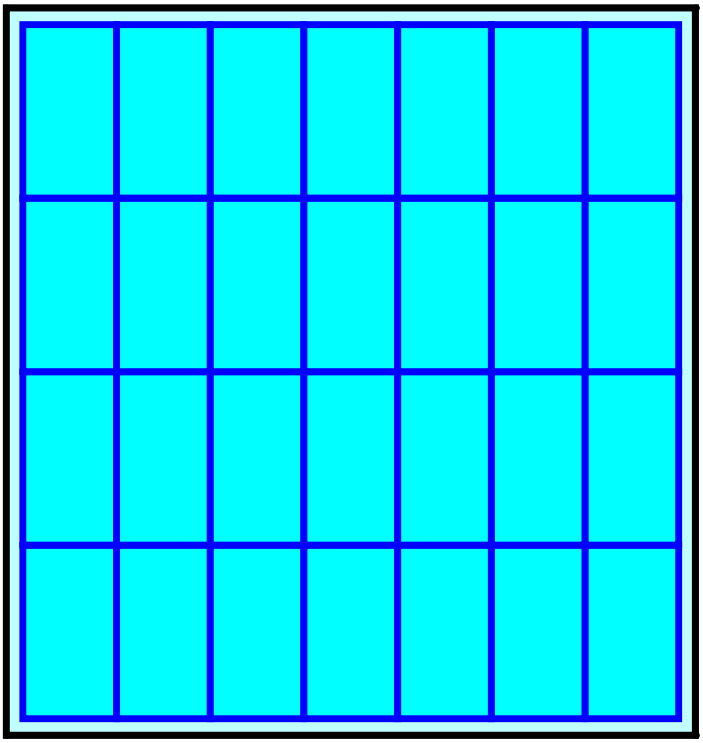
4 Chambers/Row x 10.50' Long = 42.00' + 12.0" End Stone x 2 = 44.00' Base Length
7 Rows x 68.0" Wide + 12.0" Side Stone x 2 = 41.69' Base Width
12.0" Base + 34.0" Chamber Height + 12.0" Cover = 4.83' Field Height

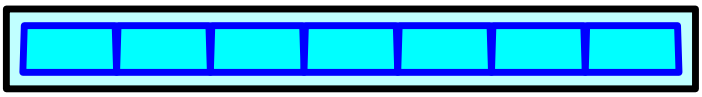
28 Chambers x 128.6 cf = 3,602.2 cf Chamber Storage
28 Chambers x 166.0 cf = 4,646.9 cf Displacement

8,860.0 cf Field - 4,646.9 cf Chambers = 4,213.1 cf Stone x 40.0% Voids = 1,685.2 cf Stone Storage

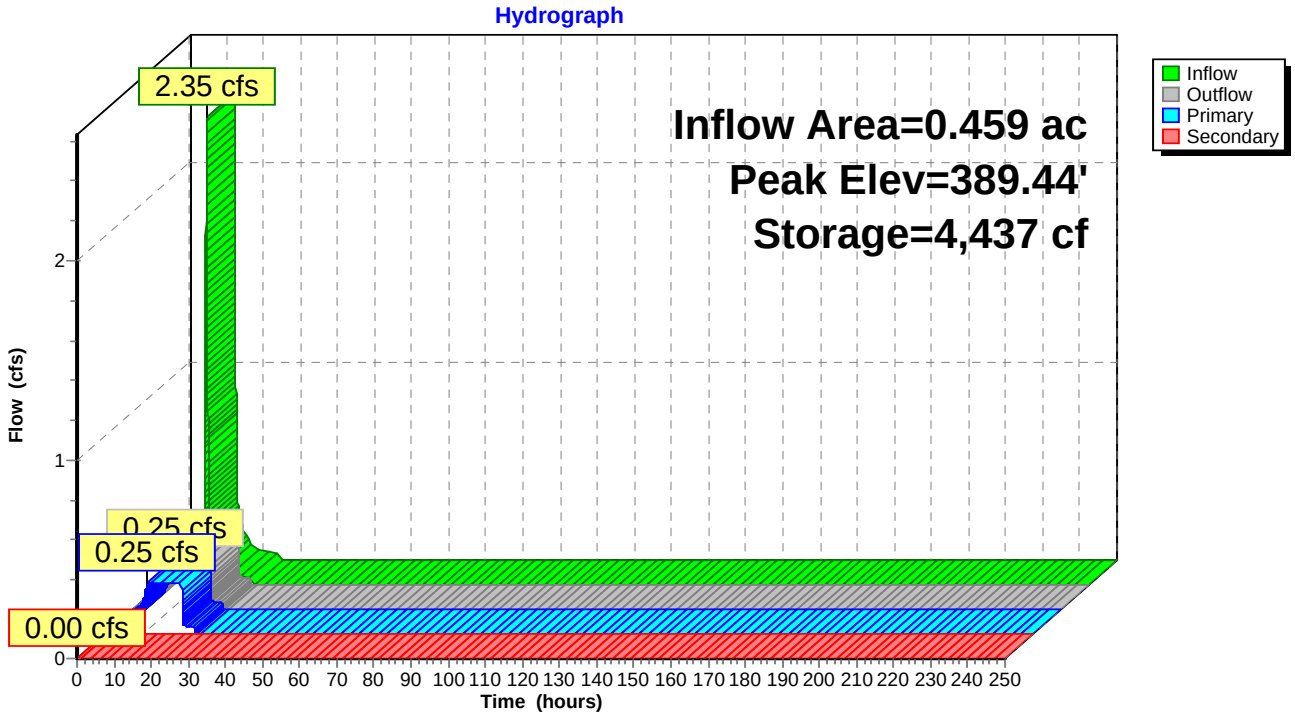
Stone + Chamber Storage = 5,287.4 cf = 0.121 af

28 Chambers
328.1 cy Field
156.0 cy Stone





Pond 9P: Drywells

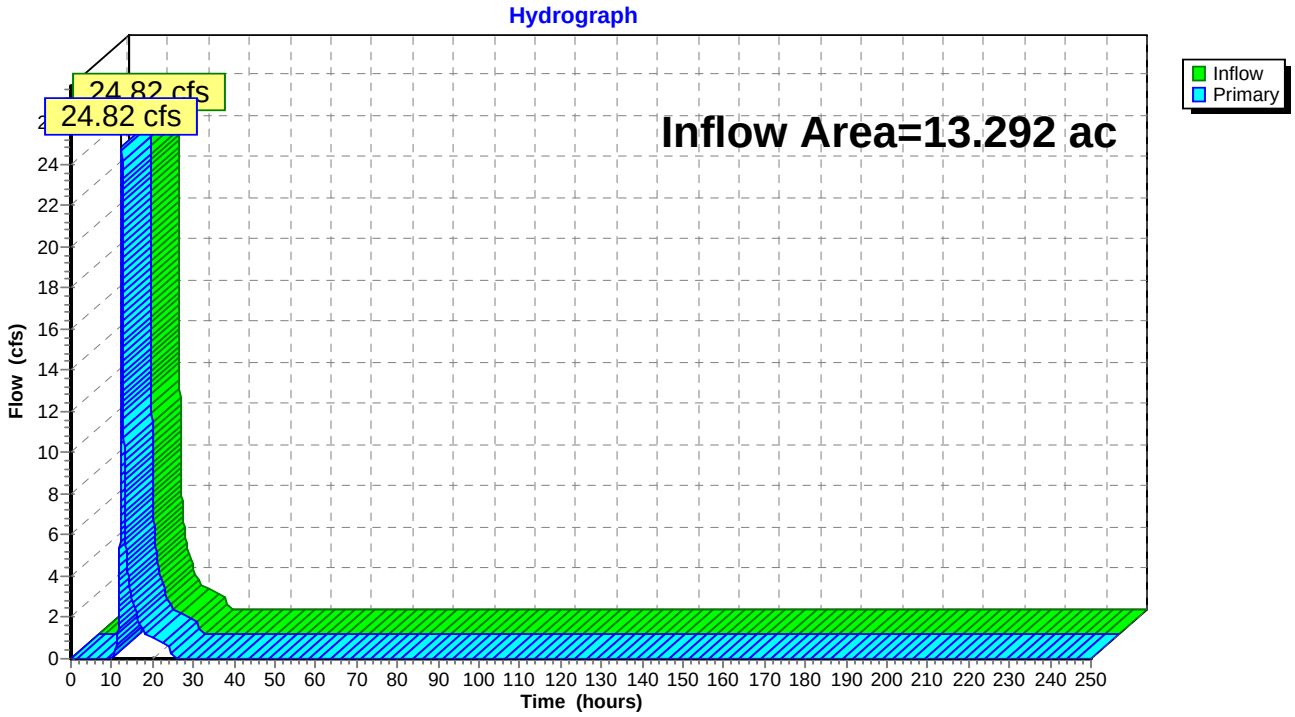


Summary for Link DP-1: Design Point 1

Inflow Area = 13.292 ac, 3.27% Impervious, Inflow Depth = 2.96" for 100 Year event
Inflow = 24.82 cfs @ 12.47 hrs, Volume= 3.282 af
Primary = 24.82 cfs @ 12.47 hrs, Volume= 3.282 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-1: Design Point 1

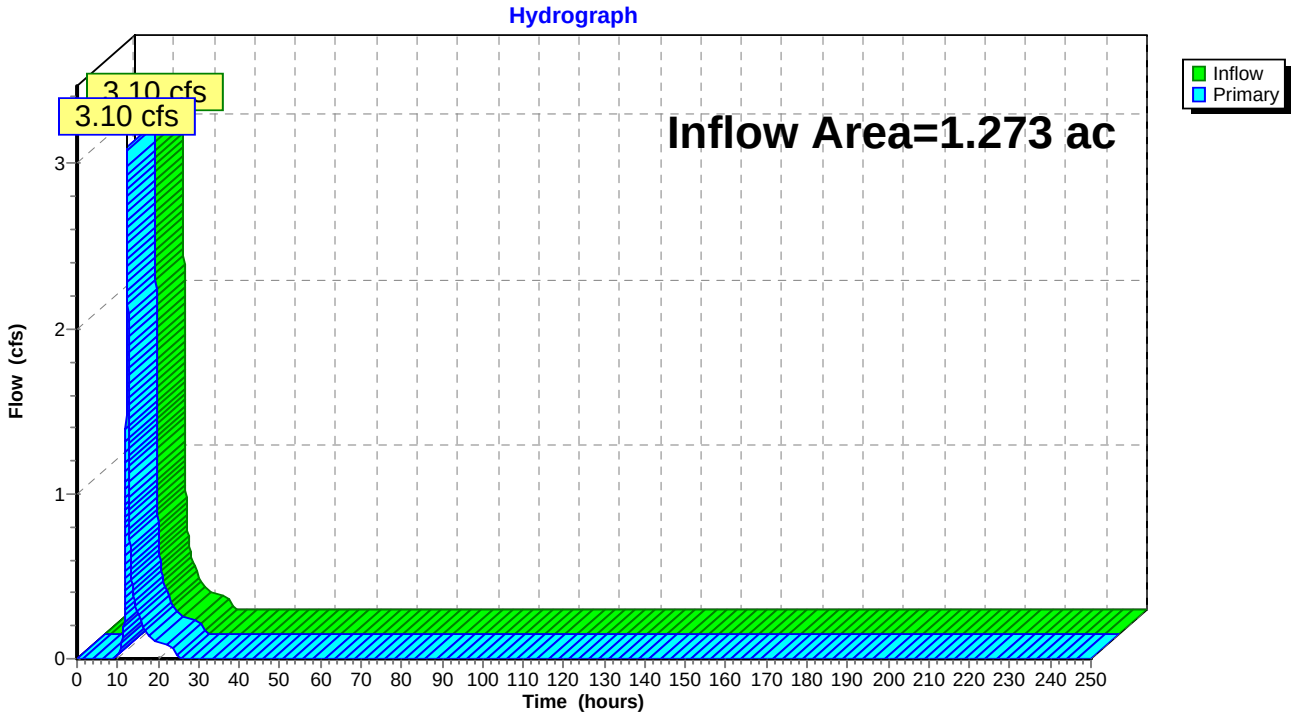


Summary for Link DP-2: Design Point 2

Inflow Area = 1.273 ac, 7.29% Impervious, Inflow Depth = 3.28" for 100 Year event
Inflow = 3.10 cfs @ 12.32 hrs, Volume= 0.348 af
Primary = 3.10 cfs @ 12.32 hrs, Volume= 0.348 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-2: Design Point 2

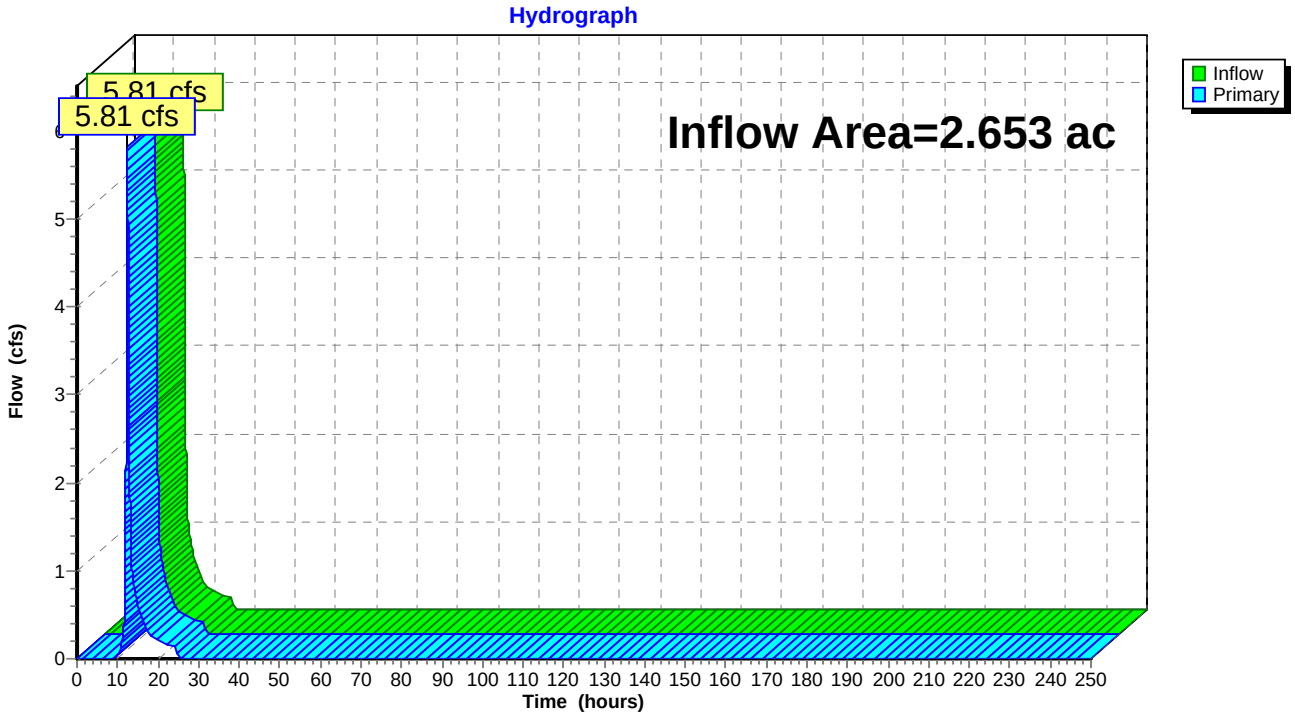


Summary for Link DP-3: Design Point 3

Inflow Area = 2.653 ac, 7.97% Impervious, Inflow Depth = 3.28" for 100 Year event
Inflow = 5.81 cfs @ 12.42 hrs, Volume= 0.725 af
Primary = 5.81 cfs @ 12.42 hrs, Volume= 0.725 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-3: Design Point 3

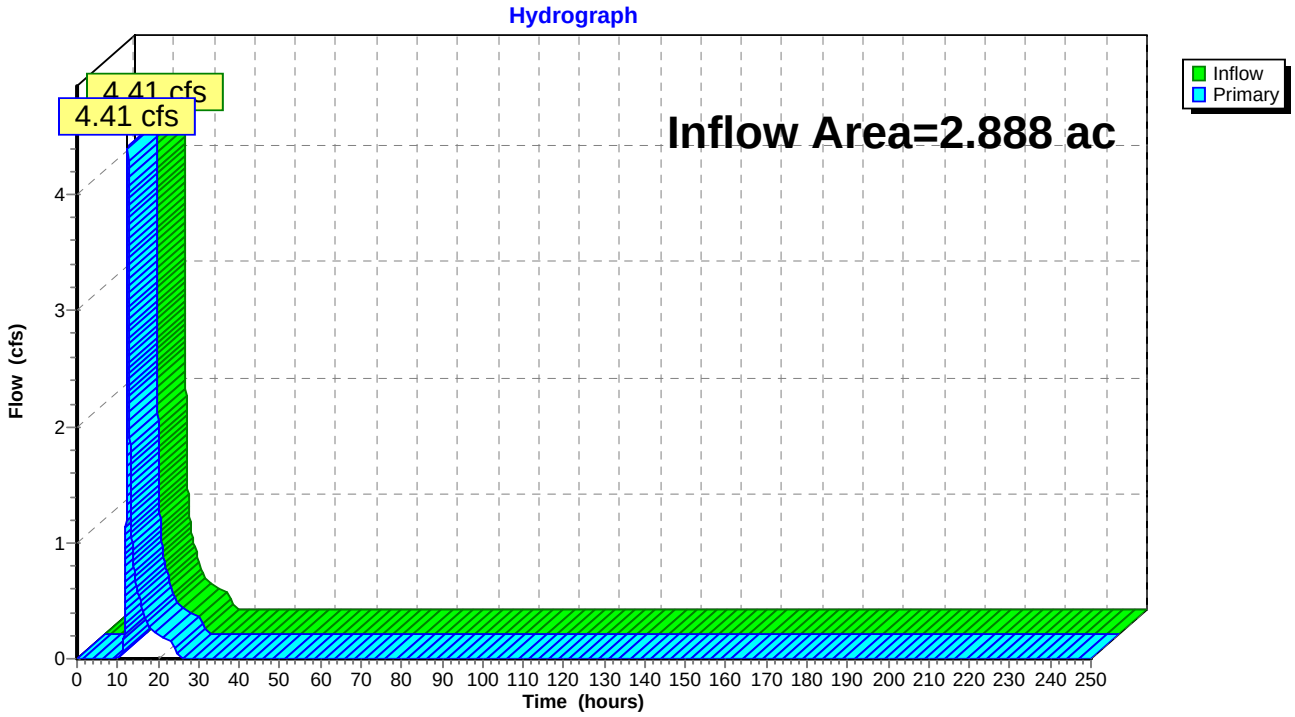


Summary for Link DP-4: Design Point 4

Inflow Area = 2.888 ac, 0.56% Impervious, Inflow Depth = 2.55" for 100 Year event
Inflow = 4.41 cfs @ 12.51 hrs, Volume= 0.614 af
Primary = 4.41 cfs @ 12.51 hrs, Volume= 0.614 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-4: Design Point 4

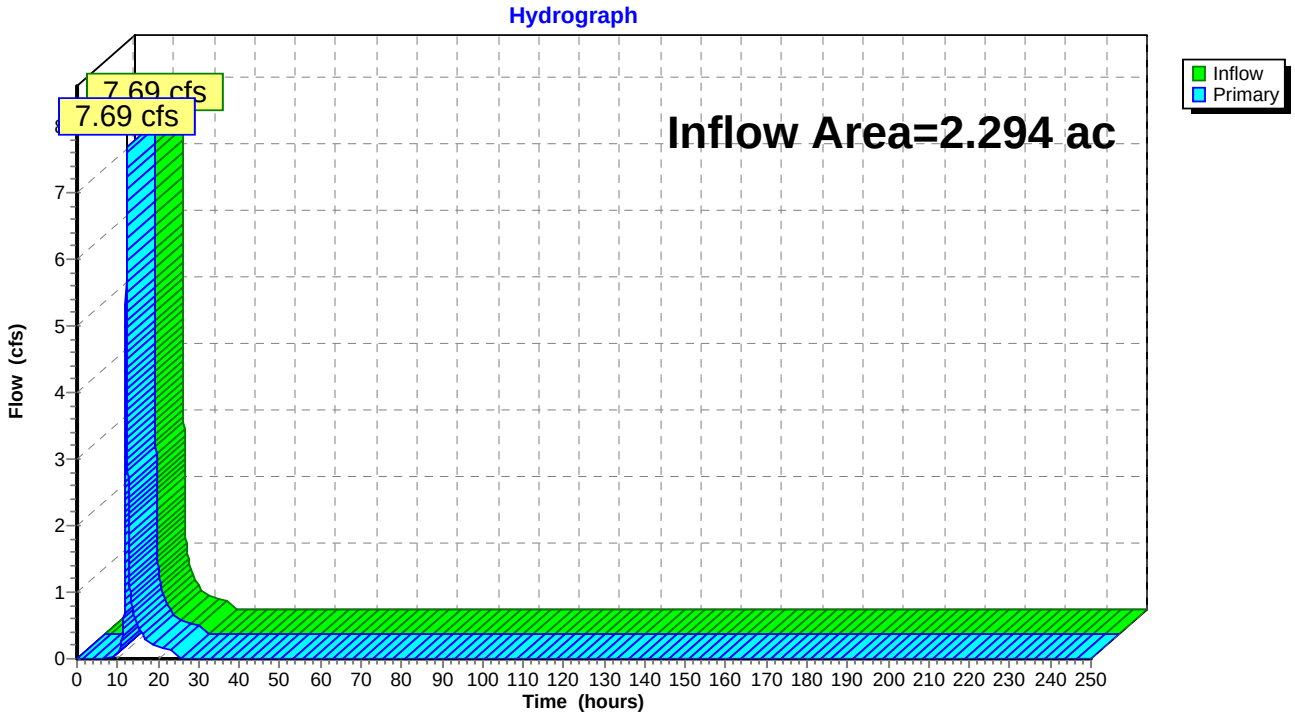


Summary for Link DP-5: Design Point 5

Inflow Area = 2.294 ac, 15.79% Impervious, Inflow Depth = 3.60" for 100 Year event
Inflow = 7.69 cfs @ 12.18 hrs, Volume= 0.688 af
Primary = 7.69 cfs @ 12.18 hrs, Volume= 0.688 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-5: Design Point 5

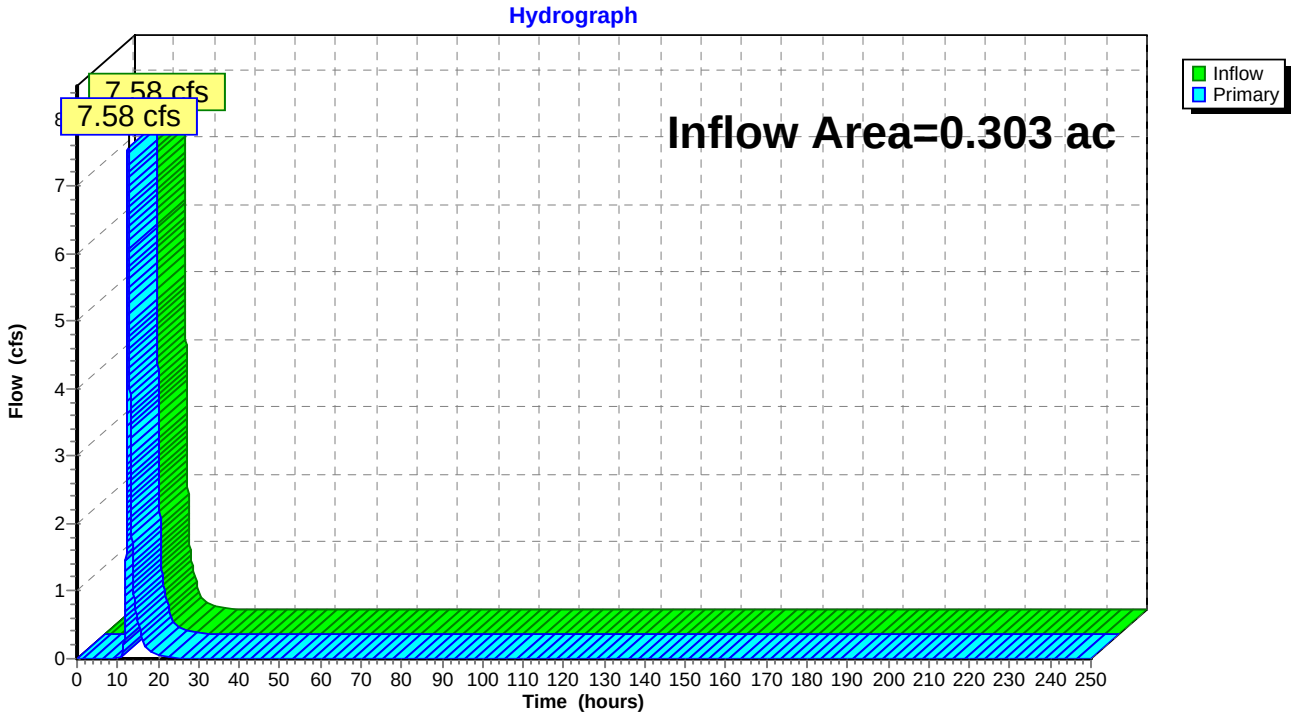


Summary for Link DP-6: Design Point 6

Inflow Area = 0.303 ac, 0.00% Impervious, Inflow Depth = 29.39" for 100 Year event
Inflow = 7.58 cfs @ 12.57 hrs, Volume= 0.743 af
Primary = 7.58 cfs @ 12.57 hrs, Volume= 0.743 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-6: Design Point 6

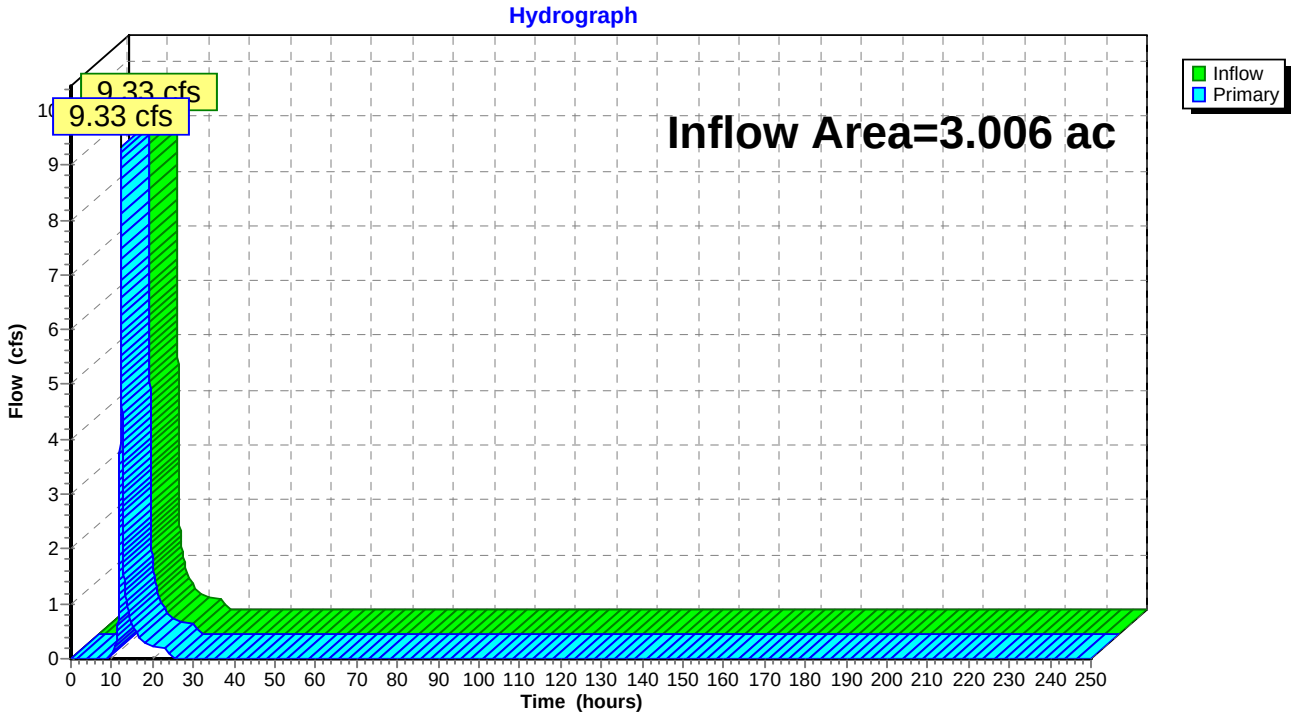


Summary for Link DP-7: Design Point 7

Inflow Area = 3.006 ac, 9.68% Impervious, Inflow Depth = 3.39" for 100 Year event
Inflow = 9.33 cfs @ 12.19 hrs, Volume= 0.848 af
Primary = 9.33 cfs @ 12.19 hrs, Volume= 0.848 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-250.00 hrs, dt= 0.01 hrs

Link DP-7: Design Point 7



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APPENDIX D

- OPERATOR AND CONTRACTOR CERTIFICATIONS

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TRIPI CONSERVATION SUBDIVISION

HARRIS ROAD

TOWN OF BEDFORD

WESTCHESTER COUNTY, NEW YORK

OPERATOR CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that false statements made herein are punishable as a class A misdemeanor pursuant to sections 210.45 of the Penal Law.

_____

Operator

_____

Signature

_____

Print Name

_____

Title

_____

Date

_____

Address

_____

Telephone Number

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APPENDIX E

- MAINTENANCE AND INSPECTION REPORTS AND CONSTRUCTION CHECKLIST

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Stormwater/Wetland Pond Construction Inspection Checklist

Project:
Location:
Site Status:

Date:

Time:

Inspector:

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
Pre-Construction/Materials and Equipment		
Pre-construction meeting		
Pipe and appurtenances on-site prior to construction and dimensions checked		
1. Material (including protective coating, if specified)		
2. Diameter		
3. Dimensions of metal riser or pre-cast concrete outlet structure		
4. Required dimensions between water control structures (orifices, weirs, etc.) are in accordance with approved plans		
5. Barrel stub for prefabricated pipe structures at proper angle for design barrel slope		
6. Number and dimensions of prefabricated anti-seep collars		
7. Watertight connectors and gaskets		
8. Outlet drain valve		
Project benchmark near pond site		
Equipment for temporary de-watering		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
2. Subgrade Preparation		
Area beneath embankment stripped of all vegetation, topsoil, and organic matter		
3. Pipe Spillway Installation		
Method of installation detailed on plans		
A. Bed preparation		
Installation trench excavated with specified side slopes		
Stable, uniform, dry subgrade of relatively impervious material (If subgrade is wet, contractor shall have defined steps before proceeding with installation)		
Invert at proper elevation and grade		
B. Pipe placement		
Metal / plastic pipe		
1. Watertight connectors and gaskets properly installed		
2. Anti-seep collars properly spaced and having watertight connections to pipe		
3. Backfill placed and tamped by hand under “haunches” of pipe		
4. Remaining backfill placed in max. 8 inch lifts using small power tamping equipment until 2 feet cover over pipe is reached		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
3. Pipe Spillway Installation		
Concrete pipe		
1. Pipe set on blocks or concrete slab for pouring of low cradle		
2. Pipe installed with rubber gasket joints with no spalling in gasket interface area		
3. Excavation for lower half of anti-seep collar(s) with reinforcing steel set		
4. Entire area where anti-seep collar(s) will come in contact with pipe coated with mastic or other approved waterproof sealant		
5. Low cradle and bottom half of anti-seep collar installed as monolithic pour and of an approved mix		
6. Upper half of anti-seep collar(s) formed with reinforcing steel set		
7. Concrete for collar of an approved mix and vibrated into place (protected from freezing while curing, if necessary)		
8. Forms stripped and collar inspected for honeycomb prior to backfilling. Parge if necessary.		
C. Backfilling		
Fill placed in maximum 8 inch lifts		
Backfill taken minimum 2 feet above top of anti-seep collar elevation before traversing with heavy equipment		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
4. Riser / Outlet Structure Installation		
Riser located within embankment		
A. Metal riser		
Riser base excavated or formed on stable subgrade to design dimensions		
Set on blocks to design elevations and plumbed		
Reinforcing bars placed at right angles and projecting into sides of riser		
Concrete poured so as to fill inside of riser to invert of barrel		
B. Pre-cast concrete structure		
Dry and stable subgrade		
Riser base set to design elevation		
If more than one section, no spalling in gasket interface area; gasket or approved caulking material placed securely		
Watertight and structurally sound collar or gasket joint where structure connects to pipe spillway		
C. Poured concrete structure		
Footing excavated or formed on stable subgrade, to design dimensions with reinforcing steel set		
Structure formed to design dimensions, with reinforcing steel set as per plan		
Concrete of an approved mix and vibrated into place (protected from freezing while curing, if necessary)		
Forms stripped & inspected for “honeycomb” prior to backfilling; parge if necessary		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
5. Embankment Construction		
Fill material		
Compaction		
Embankment		
1. Fill placed in specified lifts and compacted with appropriate equipment		
2. Constructed to design cross-section, side slopes and top width		
3. Constructed to design elevation plus allowance for settlement		
6. Impounded Area Construction		
Excavated / graded to design contours and side slopes		
Inlet pipes have adequate outfall protection		
Forebay(s)		
Pond benches		
7. Earth Emergency Spillway Construction		
Spillway located in cut or structurally stabilized with riprap, gabions, concrete, etc.		
Excavated to proper cross-section, side slopes and bottom width		
Entrance channel, crest, and exit channel constructed to design grades and elevations		

CONSTRUCTION SEQUENCE	SATISFACTORY / UNSATISFACTORY	COMMENTS
8. Outlet Protection		
A. End section		
Securely in place and properly backfilled		
B. Endwall		
Footing excavated or formed on stable subgrade, to design dimensions and reinforcing steel set, if specified		
Endwall formed to design dimensions with reinforcing steel set as per plan		
Concrete of an approved mix and vibrated into place (protected from freezing, if necessary)		
Forms stripped and structure inspected for "honeycomb" prior to backfilling; parge if necessary		
C. Riprap apron / channel		
Apron / channel excavated to design cross-section with proper transition to existing ground		
Filter fabric in place		
Stone sized as per plan and uniformly place at the thickness specified		
9. Vegetative Stabilization		
Approved seed mixture or sod		
Proper surface preparation and required soil amendments		
Excelsior mat or other stabilization, as per plan		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
10. Miscellaneous		
Drain for ponds having a permanent pool		
Trash rack / anti-vortex device secured to outlet structure		
Trash protection for low flow pipes, orifices, etc.		
Fencing (when required)		
Access road		
Set aside for clean-out maintenance		
11. Stormwater Wetlands		
Adequate water balance		
Variety of depth zones present		
Approved pondscaping plan in place Reinforcement budget for additional plantings		
Plants and materials ordered 6 months prior to construction		
Construction planned to allow for adequate planting and establishment of plant community (April-June planting window)		
Wetland buffer area preserved to maximum extent possible		

Comments:

Actions to be Taken:

Infiltration Trench Construction Inspection Checklist

Project:
Location:
Site Status:

Date:

Time:

Inspector:

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
1. Pre-Construction		
Pre-construction meeting		
Runoff diverted		
Soil permeability tested		
Groundwater / bedrock sufficient at depth		
2. Excavation		
Size and location		
Side slopes stable		
Excavation does not compact subsoils		
3. Filter Fabric Placement		
Fabric specifications		
Placed on bottom, sides, and top		

CONSTRUCTION SEQUENCE	SATISFACTORY / UNSATISFACTORY	COMMENTS
4. Aggregate Material		
Size as specified		
Clean / washed material		
Placed properly		
5. Observation Well		
Pipe size		
Removable cap / footplate		
Initial depth =_____feet		
6. Final Inspection		
Pretreatment facility in place		
Contributing watershed stabilized prior to flow diversion		
Outlet		

Comments:

Actions to be Taken:

Infiltration Basin Construction Inspection Checklist

Project:
Location:
Site Status:

Date:

Time:

Inspector:

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
1. Pre-Construction		
Runoff diverted		
Soil permeability tested		
Groundwater / bedrock depth		
2. Excavation		
Size and location		
Side slopes stable		
Excavation does not compact subsoils		
3. Embankment		
Barrel		
Anti-seep collar or Filter diaphragm		
Fill material		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
4. Final Excavation		
Drainage area stabilized		
Sediment removed from facility		
Basin floor tilled		
Facility stabilized		
5. Final Inspection		
Pretreatment facility in place		
Inlets / outlets		
Contributing watershed stabilized before flow is routed to the factility		

Comments:

Actions to be Taken: