HORACE MANN ELEMENTARY SCHOOL
225 NEVADA STREET,
NEWTON, MA 02460

STORMWATER REPORT
Pursuant to Massachusetts Stormwater Handbook and Standards &
City of Newton Stormwater Management and Erosion Control Rules & Regulations

Submitted to:
City of Newton Planning Board

Applicant:
City of Newton
1000 Commonwealth Ave,
Newton, MA 02459

Civil Engineer:
Samiotes Consultants, Inc.
20 A Street
Framingham, MA 01701

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Raymond Design Associates, Inc.
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Landscape Architect:
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Providence, RI 02903

MARCH 25, 2024

HORACE MANN ELEMENTARY SCHOOL
STORMWATER MANAGEMENT NARRATIVE
NEWTON, MA

MARCH 2024

Introduction

Project Description:
The Horace Mann Elementary School site located on Nevada Street in Newton, MA (Zoning District: Existing Building - Single Residence 3 & Playground fields Public Use) is an existing public Elementary School serving the City of Newton. The campus is bordered by residential homes on California Street to the west, Nevada Street to the north and east, and to the south and east of the site there are additional residential homes. The existing site includes asphalt / concrete walkways and asphalt parking areas to the southern and northern corners of the school. A baseball field and grass playfields are located west of the school.

The proposed project consists of an addition to the existing school ad site improvements. The overall square footage of the building is increased with approximately 13,100 sf of new building footprint. Additionally, it includes the creation of new exterior amenities at the back of the school, a new parking layout (incorporating MAAB/ADA compliance), new athletic and recreational areas, supported by new utilities and stormwater management infrastructure improvement.

The stormwater management system for the proposed Horace Mann Elementary School is designed to improve water quality and to mitigate the peak stormwater rates of runoff due to the project.

Soils:
Soils on the site consist of hydrological "A" . The soils resource report and test pit results, conducted on August 15, 2023 are located in the Appendix of this report. According to NRCS Web Soil Survey mapping, the soils in the vicinity of the proposed work consist of Merrimac-Urban Land complex, 0 to 8 percent slopes (626B).

Existing Stormwater Management:
The existing site consists of a mixture of impervious and pervious areas. The impervious areas consist of the buildings, parking lots, access drives, walkways. The pervious areas include the baseball fields, playgrounds, and grassed/ landscaped areas. The existing site utilizes traditional drainage structures consisting of a series of catch basins with a network of piping systems, to handle stormwater runoff. Localized structures around the immediate building and parking areas, such as catch basins, collect stormwater runoff and transport the runoff via reinforced concrete pipes (RCP), which ties to a 12" RCP main within Nevada Street.

Proposed Stormwater Management System:
The proposed stormwater management system consists of deep sump catch basins and WQUs located throughout the site's impervious vehicular areas. The majority of the site's impervious areas runoff are routed via catch basins into water quality units and subsurface infiltration systems prior to out-letting to the municipal main in Nevada Street.

Methodology/ Procedure

Objective:
The objective of the stormwater management for the site is to mitigate any increase in peak storm runoff rates due to the construction of the proposed project while improving water quality and

resiliency. Outlined below are the numerous stormwater best management practices (BMP's) proposed to be used on-site. The proposed building roof runoff is captured via the subsurface infiltration system.

Proposed Stormwater Control Systems:
The following are the proposed Best Management Practices (BMP's) stormwater control system's to be used on the site to mitigate an increase in peak stormwater runoff and improve water quality:

Subsurface Structures (Infiltration Chambers): Subsurface structures are underground systems that capture runoff, and gradually infiltrate it into the groundwater. There are a number of underground infiltration systems that can be installed to enhance groundwater recharge. Subsurface structures are constructed to temporarily detain stormwater while it percolates into the underlying soil. Underground infiltration structures are feasible only where the soil is adequately permeable and the maximum water table and/or elevation is sufficiently low. They can be used to control the quantity, as well as quality, of stormwater runoff if properly designed and constructed. The structures serve as storage chambers for captured stormwater, while the surrounding soil matrix provides treatment.

Deep Sump Catch Basins: A deep sump catch basin (also known as oil and grease or hooded catch basins) acts as underground retention systems designed to remove trash, debris, and coarse sediment from stormwater runoff, and serve as temporary spill containment devices for floatables such as oil and grease that provides pretreatment. A 25% TSS removal is awarded to the deep sump catch basin when used as pre-treatment.

Water Quality Units (WQUs): Water Quality Units are a flow-through structure with a settling or separation unit to remove sediments and other pollutants. They typically use the power of swirling or flowing water to separate floatables and coarser sediments, are typically designed and manufactured by private businesses, and come in different sizes to accommodate different design storms and flow conditions. Since proprietary separators can be placed in almost any location on a site, they are particularly useful when either site constraints prevent the use of other stormwater techniques or as part of a larger treatment train. Generally they are placed below ground and contain inspection and access ports so that they may be inspected and cleaned.

The stormwater management system for the Horace Mann Elementary School campus is designed to mitigate any increase in peak stormwater runoff rates due to the construction of the proposed project. The proposed development will result in an increase of impervious area, therefore the proposed stormwater management system is designed to mitigate the increase in the rate of runoff and improve stormwater quality. As tables 1, 2, & 3 below show the peak rate of runoff is reduced for the proposed site.

Watershed Routing

Below is a summary of the various existing and proposed watersheds with a brief narrative describing the routing. The descriptions of the watersheds are depicted in sketches EX-WS and PR-WS located in the Appendix.

Existing Watersheds:

Ex-Watershed-1: This watershed consists of the a portion of the southern drive entrance. Stormwater flows by gravity to Linwood Avenue depicted as POA-1.

Ex-Watershed-2: This watershed consists of a portion of the southern drive entrance located to the back of the school footprint, parking lot, walkways areas, landscaped areas, baseball field and playground. Stormwater runoff from this watershed is captured by a series of catch basins.

Ex-Watershed-3: This watershed consists of the existing school footprint, northern parking lot, landscape, drive and walkways areas to the northeast of the site. Stormwater runoff from this watershed is captured by a series of catch basins that tie into municipal 12" diameter RCP main within Nevada Street.

Proposed Watersheds:

PR-Watershed-1: This watershed consists of the a portion of the southern drive entrance. Stormwater flows by gravity to Linwood Avenue depicted as POA-1.

PR-Watershed-2: This watershed consists of the baseball field, playground and outdoor areas. Stormwater is routed via of area drains into the proposed rain garden.

PR-Watershed-Building Addition: This watershed consists of the proposed addition footprint. The runoff is routed into the infiltration system #2. Overflows from the infiltration system, ties into the municipal 12" diameter main within Nevada Street.

PR-Watershed-3: This watershed consists of the existing school footprint, landscape, drive and walkways areas to the northeast of the site. Stormwater runoff from this watershed is captured by a series of catch basins that tie into municipal 12" diameter RCP main within Nevada Street (POA-3).

PR-Watershed-3A: This watershed consists of the northern parking lot. The runoff is routed via catch basins into the infiltration system #3. Stormwater that does not re-charge, overflows from the infiltration system, ties into the municipal 12" diameter main within Nevada Street.

PR-Watershed-3B: This watershed consists of a portion of the southern parking lot, drive, walkways, and landscaped areas, tennis court, playground and recreational areas. The runoff is routed via catch basins into the infiltration system #1. Stormwater that does not re-charge, overflows from the infiltration system, ties into the municipal 12" diameter main within Nevada Street.

Results/ Summary

Results of Analysis:
Through the use of the HydroCAD Software, the curve numbers, times of concentrations, and peak discharge rates were determined for both the existing conditions and the proposed conditions. The results of the study shows that both the post-development peak rates of runoff are equal or less than the existing rates.

As shown in Tables 1,2, & 3 the post development peak rates of runoff from the site will be mitigated.

Table 1- POA 1 (Linwood Avenue) Peak Rates of Runoff (cfs)				
	2-year storm	10-year storm	25-year storm	100-year storm
Existing	0.04	0.09	0.13	0.32
Proposed	0.04	0.07	0.10	0.20

Table 2- POA 2 (Ex. CB to West) Peak Rates of Runoff (cfs)				
	2-year storm	10-year storm	25-year storm	100-year storm
Existing	0.42	1.91	3.42	10.70
Proposed	0.00	0.00	0.00	0.11

Table 3- POA 3 (Nevada Street) Peak Rates of Runoff (cfs)				
	2-year storm	10-year storm	25-year storm	100-year storm
Existing	2.57	4.35	5.62	10.41
Proposed	1.99	3.52	4.64	10.33

Stormwater Management Standards

The Department of Environmental Protection has implemented the Stormwater Management Standards as of November 18, 1996 and updated them in April 2008. The standards met are described below and in the Stormwater Management Form as provided by DEP.

Standard #1: Untreated Stormwater

The project is designed so that stormwater conveyances (outfalls/discharges) do not discharge untreated stormwater into, or cause erosion to, wetlands or waters.

Therefore Standard #1 is met.

Standard #2: Post-development peak discharge rates

The proposed project will result in an increase in impervious area. The proposed stormwater management system has been designed so that there is no increase overall in post construction discharge rates from the site. See Tables 1, 2, & 3 above.

Therefore Standard #2 is met.

Standard #3: Recharge to groundwater

Loss of annual recharge to groundwater shall be eliminated or minimized through the use of environmental sensitive site design, stormwater best management practices, and good operation and maintenance. At a minimum, the annual recharge from the post- development site shall approximate the annual recharge from pre-development conditions based on soil type. This Standard is met when the stormwater management system is designed to infiltrate the required recharge volume as determined in accordance with the Massachusetts Stormwater Handbook.

Soil types have been identified based on the information contained in the Soil Report. We have determined that the soils are consistent with Hydrologic soil type "A" which requires runoff to be infiltrated (as listed in the table below) from new impervious areas.

The proposed development will result in an increase in impervious area in the "A" soil areas. To be conservative, the calculations for required recharge volumes are based on the required inches of runoff for the new impervious area per soil area.

Hydrologic Group Volume to Recharge (x Total Impervious Area)	
Hydrologic Group	Volume to Recharge x Total Impervious Area
A	0.60 inches of runoff
B	0.35 inches of runoff
C	0.25 inches of runoff
D	0.10 inches of runoff

Required Recharge Volumes:

"A" Soils

Infiltration Rate: 0.60 inches of runoff
Proposed Site New Impervious Area in "A" Soils: 30,231 sf
30,231 sf x 0.6 x (1/12) = 1,511.55 cf

Total required recharge volume: 1,512 cf

Infiltration System #1 = 5,748 cf
Infiltration System #2 = 3,254 cf

Total provided recharge volume: 9,002 cf

Drawdown Time from Hydrocad (Maximun time 72 hours):
INF-1 =30.00 hours
INF-2 = 28.00 hours

Therefore Standard #3 is met.

Standard #4: TSS removal

The BMP's selected to remove TSS from impervious areas for this include: Catch Basins, Water Quality Units (WQU's), and Subsurface Infiltration Structures.

PR-Watershed-3A

Initial TSS=1.00
Catch Basin: (1.00)(1.00-0.25)=0.75
Water Quality Unit: (0.75)(1.00-0.50)=0.375
Infiltration System: (0.375)(1.00-0.80)=0.075
TSS Removal= 92.5%

PR-Watershed-3B

Initial TSS=1.00
Catch Basin: (1.00)(1.00-0.25)=0.75
Water Quality Unit: (0.75)(1.00-0.50)=0.375
Infiltration System: (0.375)(1.00-0.80)=0.075
TSS Removal= 92.5%

The watershed meet the 80% TSS removal per Massachusetts Stormwater Handbook Standard 4.

Therefore Standard #4 is met.

Water Quality Volume:

The stormwater management system has been sized to treat for the 1" runoff rate (rapid infiltration rate) applied to the total impervious area for the water quality volume, as shown in the calculations provided below. Roof runoff is considered "clean" and has therefore been excluded from this calculation. Where site topography and groundwater elevation precluded the use of infiltration BMPs, proprietary water quality unit are proposed which are specifically designed to address water quality prior to discharge.

Impervious area requiring water quality treatment= 69,086 sf
67,605 sf x 1" x (1'/12") = 5,757.17 cf

Water Quality Volume Required for (1")= 5,757 cf

Total Provided Water Quality Volume provided=9,002 cf

Therefore Standard #4 is met.

Standard #5: Higher potential pollutant loads

The project site does not contain Land Uses with Higher Potential Pollutant Loads.

Therefore Standard #5 is met.

Standard #6: Protection of critical areas

The site is NOT located within critical areas as defined by Critical areas are Outstanding Resource Waters (ORW) as designated in 314 CMR 4.00, Special Resource Waters as designated in 314 CMR 4.00, recharge areas for public water supplies as defined in 310 CMR 22.02 (Zone Is, Zone IIs and Interim Wellhead Protection Areas for groundwater sources and Zone As for surface water sources), bathing beaches as defined in 105 CMR 445.000, cold-water fisheries as defined in 314 CMR 9.02 and 310 CMR 10.04, and shellfish growing areas as defined in 314 CMR 9.02 and 310 CMR 10.04.

Therefore Standard #6 is met.

Standard #7: Redevelopment projects

This project constitutes as a mix of Existing Site, New Construction, and Redevelopment.

Watersheds 3A & BLDG-A watersheds compose the portion of the site that is considered New Construction and all of the Standards will be met.

Watersheds 3B constitute as Redevelopment areas. The project will improve existing conditions and all Standards will be met.

Watersheds 1, 2 & 3 constitute Existing Site. All applicable Standards will be met.

Therefore Standard #7 is met.

Standard #8: Construction Period Pollution Prevention and Erosion and Sedimentation Control

Soil Erosion and Sediment Control Plan:
The objectives of the Soil Erosion and Sediment Control Plan are to control erosion at its source with temporary control structures, minimize the runoff from areas of disturbance, and de-concentrate and distribute stormwater runoff through natural vegetation before discharge to critical zones such as streams or wetlands. Soil erosion control does not begin with the perimeter sediment trap. It begins at the source of the sediment, the disturbed land areas, and extends down to the control structure.

The Soil Erosion and Sediment Control Plan will be enacted in order to protect the resource areas during construction. The erosion control devices will remain in place until all exposed areas have been stabilized with vegetation or impervious surfaces.

The objective of the Soil Erosion & Sediment Control Plan that will be enacted on site is to control the vulnerability of the soil to the erosion process or the capability of moving water to detach soil particles during the construction phase(s).

Therefore Standard #8 is met.

Standard #9: Operation/Maintenance plan

An operation and maintenance plan for both construction and post-development stormwater controls will be developed. The plan will include owner(s); parties responsible for operation and maintenance; schedule for inspection and maintenance; routine and non-routine maintenance tasks.

Therefore Standard #9 is met.

Standard #10: All illicit discharges to the stormwater management system are prohibited

It is not anticipated that there will be any Illicit discharges for the project.

Therefore Standard #10 is met.

Newton Stormwater Management & Erosion Control Rules & Regulations for Redevelopments

Retained Runoff Volume

The stormwater management system has been sized to treat for the 2″ runoff rate applied to the proposed new impervious area for the retained runoff volume, as shown in the calculations provided below.

Total post-construction new impervious area= 30,231 sf
30,231 sf x 2″ x (1′/12″) = 5,038.5 cf

Retained Runoff Volume Required for (2″)= 5,039 cf

Total Provided Retained Runoff Volume provided=9,002 cf

Therefore regulation is met.

Total Phosphorus Reduction

The stormwater management system has been sized to reduce 60% of the total phosphorus load generated from the total post-construction impervious surface areas on the site, as shown in the calculations provided below.

P_{base} =	3.61	lbs/year
P_{DEV} =	3.45	lbs/year
P_{DEVinc} =	-0.16	lbs/year
P_{Sred} =	2.44	lbs/year
P_{NSred} =	0	lbs/year
P_{allow} =	1.81	lbs/year
P_{exp} =	1.01	lbs/year

Phosphorus removal rate=72.1%

Therefore regulation is met.

TABLE OF CONTENTS FOR APPENDICES

APPENDIX 1:
WATERSHED SKETCHES

LEGEND:

EXISTING WATERSHED

EXISTING TC

EWS-1

EWS-2

EWS-3

POA-1

POA-2

POA-3

TP#1 EL=57.1

TP#2 EL=56.3

TP#3 EL=43.8

TP#4 EL=43.8

TP#5 EL=55.8

TP#6 EL=55.9

PROJECT BENCHMARK: CHISELED SQUARE ON CORNER OF CONC PAD ELEVATION=56.67

PROJECT BENCHMARK: NAIL IN UTILITY POLE ELEVATION=56.02

MASSACHUSETTS STATE PLANE COORDINATE SYSTEM (NAD83)

WINCHESTER AVENUE (PUBLIC - 46.00' WIDE)

CALIFORNIA STREET (PUBLIC - 49.50' WIDE)

NEVADA STREET (PUBLIC - 50.00' WIDE)

RIGHT OF WAY

20 10 0 20 40

1 inch = 20feet

RDA

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Architects & Planners

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COMMONWEALTH OF MASSACHUSETTS
STEPHEN R. GARVIN
No. 44712
CIVIL

Horace Mann Elementary School
225 Nevada Street, Newton Massachusetts

EXISTING WATERSHED

Revisions:

No.	Date	Description

Drawing Scale: 1" = 20'

Project No.: 52034.00

Date: 03/25/2024

FOR SITE PLAN APPROVAL

EX-WS

LEGEND:

PROPOSED WATERSHED

PROPOSED TC

MASSACHUSETTS STATE PLANE COORDINATE SYSTEM (NAD83)

PWS-1

PWS-2

PWS-3

PWS-3A

PWS-3B

PWS-BLDG-A

PROPOSED BUILDING ADDITION

POA-1

POA-2

POA-3

TP#1 EL=57.1

TP#2 EL=56.3

TP#3 EL=43.8

TP#4 EL=43.9

TP#5

TP#6

PROJECT BENCHMARK: CHISELED SQUARE ON CORNER OF CONC PAD ELEVATION=56.67

PROJECT BENCHMARK: NAIL IN UTILITY POLE ELEVATION=56.02

RIGHT OF WAY

LINWOOD AVENUE (PUBLIC - 46.00' WIDE)

CALIFORNIA STREET (PUBLIC - 49.50' WIDE)

NEVADA STREET (PUBLIC - 50.00' WIDE)

Horace Mann Elementary School
2 Story Brick
225 Nevada Street

Total Area = 239,660 S.F.±
5.295 Acres±

Lot A
N/F
City of Newton
BK.1971, PG.217
Area = 101,462 S.F.±
2.329 Acres±

Lot B
N/F
City of Newton
BK.1380, PG.49
Area = 129,198 S.F.±
2.966 Acres±

243 Linwood Ave
N/F
George F. Howard Jr. &
Amy Pollack-Howard
BK.59368, PG.375

William J. & Joanne M. Raymond
BK.21598, PG.419

9 Fair Oaks Ave.
N/F
Damon Mann & Lana Tran Tam
BK.71399, PG.559

568 California St.
N/F
Thomas W. & Marilyn A. Frost
BK.12077, PG.232

562 California St.
N/F
Elaine A. Br
BK.21880, I

558 Califor
N/F
Virginia I
BK.80384,

548 Calif
N/
Barbara
BK.3128

542 Califo
N/
Mary A. C
BK.80509

538 California St.
N/F
California Street Corporation
BK.31919, PG.391

20 10 0 20 40

1 inch = 20feet

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REGISTERED PROFESSIONAL ENGINEER

Horace Mann Elementary School
225 Nevada Street, Newton Massachusetts

PROPOSED WATERSHED

Revisions:

No.	Date	Description

Drawing Scale: 1" = 20'

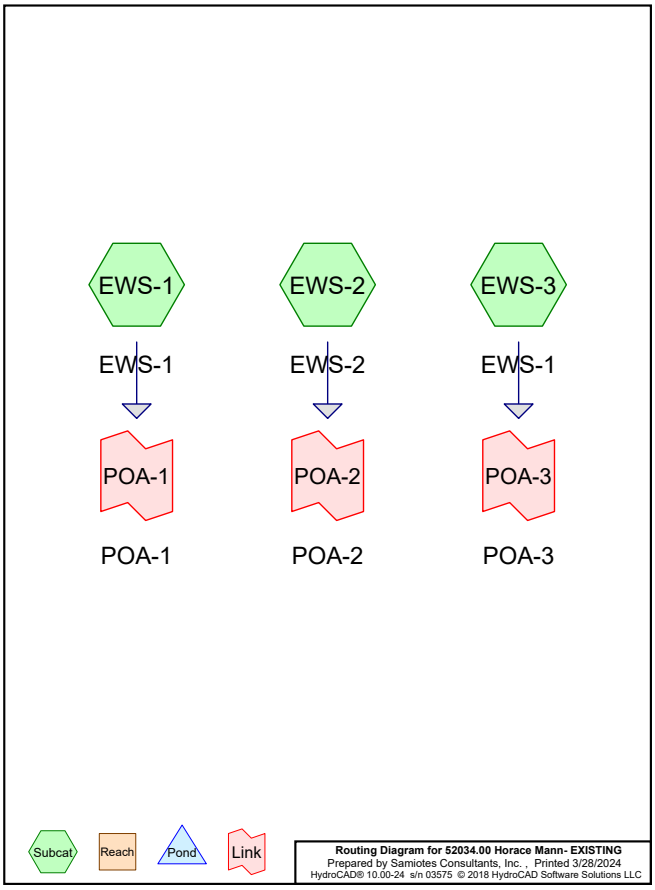
Project No.: 52034.00

Date: 03/25/2024

FOR SITE PLAN APPROVAL

PR-WS

APPENDIX 2:
EXISTING HYDROLOGY REPORT



Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
29,751	68	<50% Grass cover, Poor, HSG A (EWS-2)
107,158	39	>75% Grass cover, Good, HSG A (EWS-1, EWS-2, EWS-3)
3,136	72	Infield, HSG A (EWS-2)
49,179	98	Paved parking, HSG A (EWS-1, EWS-2, EWS-3)
29,708	98	Roofs, HSG A (EWS-2, EWS-3)
11,674	32	Woods/grass comb., Good, HSG A (EWS-2)
230,607	**63**	**TOTAL AREA**

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentEWS-1: EWS-1 Runoff Area=0.058 ac 46.55% Impervious Runoff Depth=0.64"
Tc=6.0 min CN=66 Runoff=0.04 cfs 135 cf

SubcatchmentEWS-2: EWS-2 Runoff Area=3.872 ac 20.07% Impervious Runoff Depth=0.28"
Flow Length=496' Tc=18.1 min CN=56 Runoff=0.42 cfs 3,930 cf

SubcatchmentEWS-3: EWS-1 Runoff Area=1.364 ac 73.83% Impervious Runoff Depth=1.61"
Tc=6.0 min CN=83 Runoff=2.57 cfs 7,968 cf

Link POA-1: POA-1 Inflow=0.04 cfs 135 cf
Primary=0.04 cfs 135 cf

Link POA-2: POA-2 Inflow=0.42 cfs 3,930 cf
Primary=0.42 cfs 3,930 cf

Link POA-3: POA-3 Inflow=2.57 cfs 7,968 cf
Primary=2.57 cfs 7,968 cf

Total Runoff Area = 230,607 sf Runoff Volume = 12,033 cf Average Runoff Depth = 0.63"
65.79% Pervious = 151,719 sf 34.21% Impervious = 78,887 sf

Summary for Subcatchment EWS-1: EWS-1

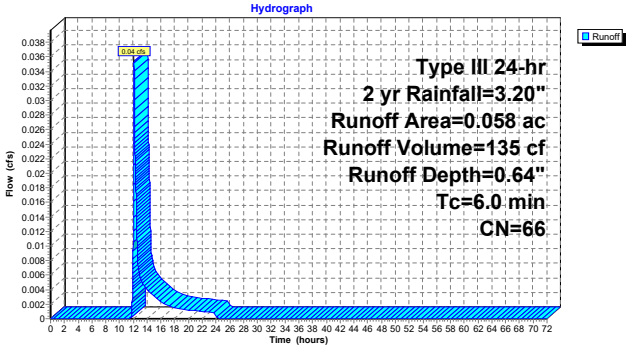
Runoff = 0.04 cfs @ 12.11 hrs, Volume= 135 cf, Depth= 0.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.20"

Area (ac)	CN	Description
0.027	98	Paved parking, HSG A
0.031	39	>75% Grass cover, Good, HSG A
0.058	66	Weighted Average
0.031		53.45% Pervious Area
0.027		46.55% Impervious Area

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

Subcatchment EWS-1: EWS-1



Hydrograph for Subcatchment EWS-1: EWS-1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	52.00	3.20	0.64	0.00
1.00	0.03	0.00	0.00	53.00	3.20	0.64	0.00
2.00	0.06	0.00	0.00	54.00	3.20	0.64	0.00
3.00	0.10	0.00	0.00	55.00	3.20	0.64	0.00
4.00	0.14	0.00	0.00	56.00	3.20	0.64	0.00
5.00	0.18	0.00	0.00	57.00	3.20	0.64	0.00
6.00	0.23	0.00	0.00	58.00	3.20	0.64	0.00
7.00	0.29	0.00	0.00	59.00	3.20	0.64	0.00
8.00	0.36	0.00	0.00	60.00	3.20	0.64	0.00
9.00	0.47	0.00	0.00	61.00	3.20	0.64	0.00
10.00	0.60	0.00	0.00	62.00	3.20	0.64	0.00
11.00	0.80	0.00	0.00	63.00	3.20	0.64	0.00
12.00	1.60	0.06	**0.01**	64.00	3.20	0.64	0.00
13.00	2.40	0.29	**0.01**	65.00	3.20	0.64	0.00
14.00	2.60	0.36	0.00	66.00	3.20	0.64	0.00
15.00	2.73	0.42	0.00	67.00	3.20	0.64	0.00
16.00	2.84	0.47	0.00	68.00	3.20	0.64	0.00
17.00	2.91	0.50	0.00	69.00	3.20	0.64	0.00
18.00	2.97	0.53	0.00	70.00	3.20	0.64	0.00
19.00	3.02	0.55	0.00	71.00	3.20	0.64	0.00
20.00	3.06	0.57	0.00	72.00	3.20	0.64	0.00
21.00	3.10	0.59	0.00				
22.00	3.14	0.61	0.00				
23.00	3.17	0.63	0.00				
24.00	**3.20**	**0.64**	0.00				
25.00	3.20	0.64	0.00				
26.00	3.20	0.64	0.00				
27.00	3.20	0.64	0.00				
28.00	3.20	0.64	0.00				
29.00	3.20	0.64	0.00				
30.00	3.20	0.64	0.00				
31.00	3.20	0.64	0.00				
32.00	3.20	0.64	0.00				
33.00	3.20	0.64	0.00				
34.00	3.20	0.64	0.00				
35.00	3.20	0.64	0.00				
36.00	3.20	0.64	0.00				
37.00	3.20	0.64	0.00				
38.00	3.20	0.64	0.00				
39.00	3.20	0.64	0.00				
40.00	3.20	0.64	0.00				
41.00	3.20	0.64	0.00				
42.00	3.20	0.64	0.00				
43.00	3.20	0.64	0.00				
44.00	3.20	0.64	0.00				
45.00	3.20	0.64	0.00				
46.00	3.20	0.64	0.00				
47.00	3.20	0.64	0.00				
48.00	3.20	0.64	0.00				
49.00	3.20	0.64	0.00				
50.00	3.20	0.64	0.00				
51.00	3.20	0.64	0.00				

Summary for Subcatchment EWS-2: EWS-2

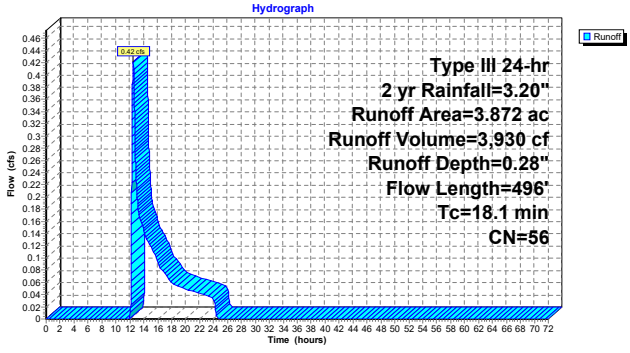
Runoff = 0.42 cfs @ 12.49 hrs, Volume= 3,930 cf, Depth= 0.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.20"

	Area (ac)	CN	Description
	0.711	98	Paved parking, HSG A
	0.066	98	Roofs, HSG A
	2.072	39	>75% Grass cover, Good, HSG A
	0.268	32	Woods/grass comb., Good, HSG A
	0.683	68	<50% Grass cover, Poor, HSG A
*	0.072	72	Infield, HSG A
	3.872	56	Weighted Average
	3.095		79.93% Pervious Area
	0.777		20.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	50	0.0050	0.09		**Sheet Flow, 50 FT SHEET FLOW** Grass: Short n= 0.150 P2= 3.20"
3.5	122	0.0070	0.59		**Shallow Concentrated Flow, 122 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
1.6	171	0.0660	1.80		**Shallow Concentrated Flow, 171 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
1.8	85	0.0120	0.77		**Shallow Concentrated Flow, 85 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
1.0	51	0.0160	0.89		**Shallow Concentrated Flow, 51 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
0.4	17	0.0260	0.81		**Shallow Concentrated Flow, 17 FT SHALLOW WOOD** Woodland Kv= 5.0 fps
18.1	496	Total			

Subcatchment EWS-2: EWS-2



Hydrograph for Subcatchment EWS-2: EWS-2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	52.00	3.20	0.28	0.00
1.00	0.03	0.00	0.00	53.00	3.20	0.28	0.00
2.00	0.06	0.00	0.00	54.00	3.20	0.28	0.00
3.00	0.10	0.00	0.00	55.00	3.20	0.28	0.00
4.00	0.14	0.00	0.00	56.00	3.20	0.28	0.00
5.00	0.18	0.00	0.00	57.00	3.20	0.28	0.00
6.00	0.23	0.00	0.00	58.00	3.20	0.28	0.00
7.00	0.29	0.00	0.00	59.00	3.20	0.28	0.00
8.00	0.36	0.00	0.00	60.00	3.20	0.28	0.00
9.00	0.47	0.00	0.00	61.00	3.20	0.28	0.00
10.00	0.60	0.00	0.00	62.00	3.20	0.28	0.00
11.00	0.80	0.00	0.00	63.00	3.20	0.28	0.00
12.00	1.60	0.00	**0.00**	64.00	3.20	0.28	0.00
13.00	2.40	0.08	**0.21**	65.00	3.20	0.28	0.00
14.00	2.60	0.12	0.15	66.00	3.20	0.28	0.00
15.00	2.73	0.15	0.12	67.00	3.20	0.28	0.00
16.00	2.84	0.18	0.09	68.00	3.20	0.28	0.00
17.00	2.91	0.19	0.07	69.00	3.20	0.28	0.00
18.00	2.97	0.21	0.06	70.00	3.20	0.28	0.00
19.00	3.02	0.23	0.05	71.00	3.20	0.28	0.00
20.00	3.06	0.24	0.05	72.00	3.20	0.28	0.00
21.00	3.10	0.25	0.05				
22.00	3.14	0.26	0.04				
23.00	3.17	0.27	0.04				
24.00	**3.20**	**0.28**	0.03				
25.00	3.20	0.28	0.00				
26.00	3.20	0.28	0.00				
27.00	3.20	0.28	0.00				
28.00	3.20	0.28	0.00				
29.00	3.20	0.28	0.00				
30.00	3.20	0.28	0.00				
31.00	3.20	0.28	0.00				
32.00	3.20	0.28	0.00				
33.00	3.20	0.28	0.00				
34.00	3.20	0.28	0.00				
35.00	3.20	0.28	0.00				
36.00	3.20	0.28	0.00				
37.00	3.20	0.28	0.00				
38.00	3.20	0.28	0.00				
39.00	3.20	0.28	0.00				
40.00	3.20	0.28	0.00				
41.00	3.20	0.28	0.00				
42.00	3.20	0.28	0.00				
43.00	3.20	0.28	0.00				
44.00	3.20	0.28	0.00				
45.00	3.20	0.28	0.00				
46.00	3.20	0.28	0.00				
47.00	3.20	0.28	0.00				
48.00	3.20	0.28	0.00				
49.00	3.20	0.28	0.00				
50.00	3.20	0.28	0.00				
51.00	3.20	0.28	0.00				

Summary for Subcatchment EWS-3: EWS-1

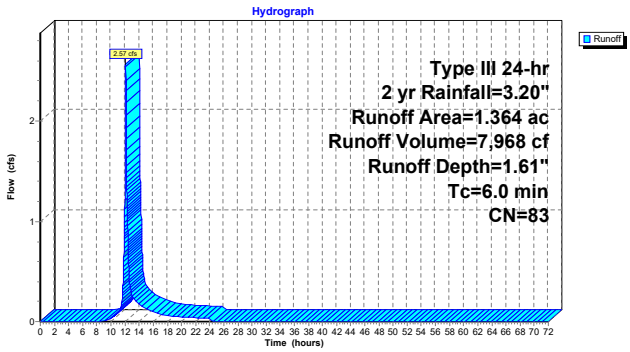
Runoff = 2.57 cfs @ 12.09 hrs, Volume= 7,968 cf, Depth= 1.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.20"

Area (ac)	CN	Description
0.391	98	Paved parking, HSG A
0.616	98	Roofs, HSG A
0.357	39	>75% Grass cover, Good, HSG A
1.364	83	Weighted Average
0.357		26.17% Pervious Area
1.007		73.83% Impervious Area

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

Subcatchment EWS-3: EWS-1



Hydrograph for Subcatchment EWS-3: EWS-1

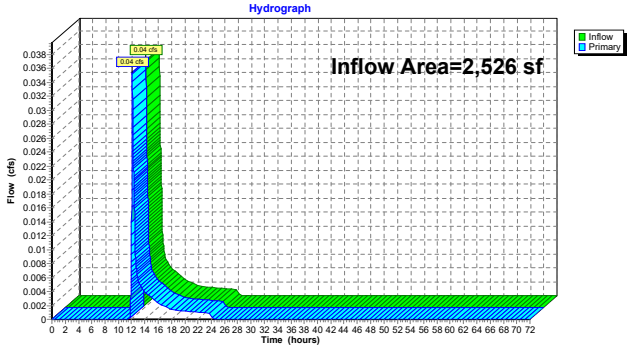
Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	52.00	3.20	1.61	0.00
1.00	0.03	0.00	0.00	53.00	3.20	1.61	0.00
2.00	0.06	0.00	0.00	54.00	3.20	1.61	0.00
3.00	0.10	0.00	0.00	55.00	3.20	1.61	0.00
4.00	0.14	0.00	0.00	56.00	3.20	1.61	0.00
5.00	0.18	0.00	0.00	57.00	3.20	1.61	0.00
6.00	0.23	0.00	0.00	58.00	3.20	1.61	0.00
7.00	0.29	0.00	0.00	59.00	3.20	1.61	0.00
8.00	0.36	0.00	0.00	60.00	3.20	1.61	0.00
9.00	0.47	0.00	0.01	61.00	3.20	1.61	0.00
10.00	0.60	0.02	0.03	62.00	3.20	1.61	0.00
11.00	0.80	0.06	0.09	63.00	3.20	1.61	0.00
12.00	1.60	0.44	**1.46**	64.00	3.20	1.61	0.00
13.00	2.40	0.98	**0.27**	65.00	3.20	1.61	0.00
14.00	2.60	1.13	0.17	66.00	3.20	1.61	0.00
15.00	2.73	1.24	0.13	67.00	3.20	1.61	0.00
16.00	2.84	1.32	0.09	68.00	3.20	1.61	0.00
17.00	2.91	1.37	0.08	69.00	3.20	1.61	0.00
18.00	2.97	1.42	0.06	70.00	3.20	1.61	0.00
19.00	3.02	1.46	0.05	71.00	3.20	1.61	0.00
20.00	3.06	1.50	0.05	72.00	3.20	1.61	0.00
21.00	3.10	1.53	0.04				
22.00	3.14	1.56	0.04				
23.00	3.17	1.59	0.04				
24.00	**3.20**	**1.61**	0.03				
25.00	3.20	1.61	0.00				
26.00	3.20	1.61	0.00				
27.00	3.20	1.61	0.00				
28.00	3.20	1.61	0.00				
29.00	3.20	1.61	0.00				
30.00	3.20	1.61	0.00				
31.00	3.20	1.61	0.00				
32.00	3.20	1.61	0.00				
33.00	3.20	1.61	0.00				
34.00	3.20	1.61	0.00				
35.00	3.20	1.61	0.00				
36.00	3.20	1.61	0.00				
37.00	3.20	1.61	0.00				
38.00	3.20	1.61	0.00				
39.00	3.20	1.61	0.00				
40.00	3.20	1.61	0.00				
41.00	3.20	1.61	0.00				
42.00	3.20	1.61	0.00				
43.00	3.20	1.61	0.00				
44.00	3.20	1.61	0.00				
45.00	3.20	1.61	0.00				
46.00	3.20	1.61	0.00				
47.00	3.20	1.61	0.00				
48.00	3.20	1.61	0.00				
49.00	3.20	1.61	0.00				
50.00	3.20	1.61	0.00				
51.00	3.20	1.61	0.00				

Summary for Link POA-1: POA-1

Inflow Area = 2,526 sf, 46.55% Impervious, Inflow Depth = 0.64" for 2 yr event
Inflow = 0.04 cfs @ 12.11 hrs, Volume= 135 cf
Primary = 0.04 cfs @ 12.11 hrs, Volume= 135 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POA-1: POA-1



Hydrograph for Link POA-1: POA-1

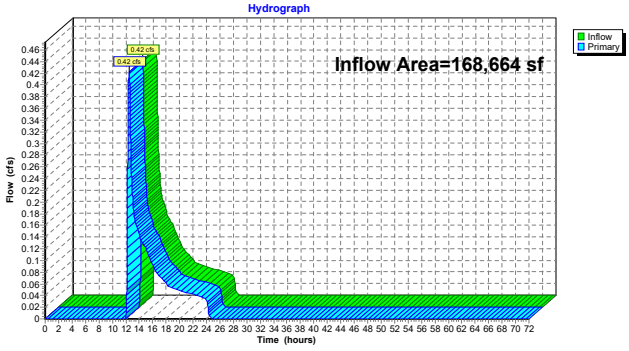
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	52.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00	55.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	56.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	57.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	58.00	0.00	0.00	0.00
7.00	0.00	0.00	0.00	59.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	60.00	0.00	0.00	0.00
9.00	0.00	0.00	0.00	61.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	62.00	0.00	0.00	0.00
11.00	0.00	0.00	0.00	63.00	0.00	0.00	0.00
12.00	**0.01**	0.00	**0.01**	64.00	0.00	0.00	0.00
13.00	**0.01**	0.00	**0.01**	65.00	0.00	0.00	0.00
14.00	0.00	0.00	0.00	66.00	0.00	0.00	0.00
15.00	0.00	0.00	0.00	67.00	0.00	0.00	0.00
16.00	0.00	0.00	0.00	68.00	0.00	0.00	0.00
17.00	0.00	0.00	0.00	69.00	0.00	0.00	0.00
18.00	0.00	0.00	0.00	70.00	0.00	0.00	0.00
19.00	0.00	0.00	0.00	71.00	0.00	0.00	0.00
20.00	0.00	0.00	0.00	72.00	0.00	0.00	0.00
21.00	0.00	0.00	0.00				
22.00	0.00	0.00	0.00				
23.00	0.00	0.00	0.00				
24.00	0.00	0.00	0.00				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.00	0.00	0.00	0.00				

Summary for Link POA-2: POA-2

Inflow Area = 168,664 sf, 20.07% Impervious, Inflow Depth = 0.28" for 2 yr event
Inflow = 0.42 cfs @ 12.49 hrs, Volume= 3,930 cf
Primary = 0.42 cfs @ 12.49 hrs, Volume= 3,930 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POA-2: POA-2



Hydrograph for Link POA-2: POA-2

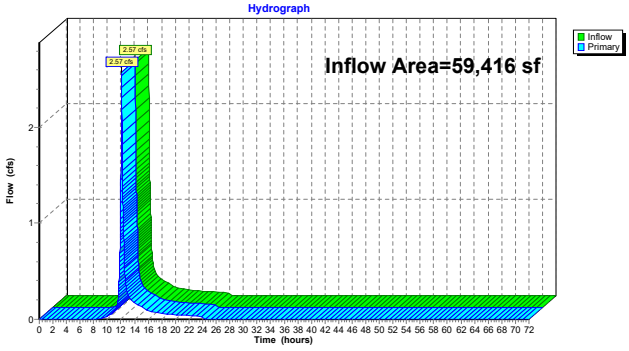
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	52.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00	55.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	56.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	57.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	58.00	0.00	0.00	0.00
7.00	0.00	0.00	0.00	59.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	60.00	0.00	0.00	0.00
9.00	0.00	0.00	0.00	61.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	62.00	0.00	0.00	0.00
11.00	0.00	0.00	0.00	63.00	0.00	0.00	0.00
12.00	**0.00**	0.00	**0.00**	64.00	0.00	0.00	0.00
13.00	**0.21**	0.00	**0.21**	65.00	0.00	0.00	0.00
14.00	0.15	0.00	0.15	66.00	0.00	0.00	0.00
15.00	0.12	0.00	0.12	67.00	0.00	0.00	0.00
16.00	0.09	0.00	0.09	68.00	0.00	0.00	0.00
17.00	0.07	0.00	0.07	69.00	0.00	0.00	0.00
18.00	0.06	0.00	0.06	70.00	0.00	0.00	0.00
19.00	0.05	0.00	0.05	71.00	0.00	0.00	0.00
20.00	0.05	0.00	0.05	72.00	0.00	0.00	0.00
21.00	0.05	0.00	0.05				
22.00	0.04	0.00	0.04				
23.00	0.04	0.00	0.04				
24.00	0.03	0.00	0.03				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.00	0.00	0.00	0.00				

Summary for Link POA-3: POA-3

Inflow Area = 59,416 sf, 73.83% Impervious, Inflow Depth = 1.61" for 2 yr event
Inflow = 2.57 cfs @ 12.09 hrs, Volume= 7,968 cf
Primary = 2.57 cfs @ 12.09 hrs, Volume= 7,968 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POA-3: POA-3



Hydrograph for Link POA-3: POA-3

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	52.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00	55.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	56.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	57.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	58.00	0.00	0.00	0.00
7.00	0.00	0.00	0.00	59.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	60.00	0.00	0.00	0.00
9.00	0.01	0.00	0.01	61.00	0.00	0.00	0.00
10.00	0.03	0.00	0.03	62.00	0.00	0.00	0.00
11.00	0.09	0.00	0.09	63.00	0.00	0.00	0.00
12.00	**1.46**	0.00	**1.46**	64.00	0.00	0.00	0.00
13.00	**0.27**	0.00	**0.27**	65.00	0.00	0.00	0.00
14.00	0.17	0.00	0.17	66.00	0.00	0.00	0.00
15.00	0.13	0.00	0.13	67.00	0.00	0.00	0.00
16.00	0.09	0.00	0.09	68.00	0.00	0.00	0.00
17.00	0.08	0.00	0.08	69.00	0.00	0.00	0.00
18.00	0.06	0.00	0.06	70.00	0.00	0.00	0.00
19.00	0.05	0.00	0.05	71.00	0.00	0.00	0.00
20.00	0.05	0.00	0.05	72.00	0.00	0.00	0.00
21.00	0.04	0.00	0.04				
22.00	0.04	0.00	0.04				
23.00	0.04	0.00	0.04				
24.00	0.03	0.00	0.03				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.00	0.00	0.00	0.00				

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentEWS-1: EWS-1 Runoff Area=0.058 ac 46.55% Impervious Runoff Depth=1.40"
Tc=6.0 min CN=66 Runoff=0.09 cfs 294 cf

SubcatchmentEWS-2: EWS-2 Runoff Area=3.872 ac 20.07% Impervious Runoff Depth=0.80"
Flow Length=496' Tc=18.1 min CN=56 Runoff=1.91 cfs 11,176 cf

SubcatchmentEWS-3: EWS-1 Runoff Area=1.364 ac 73.83% Impervious Runoff Depth=2.73"
Tc=6.0 min CN=83 Runoff=4.35 cfs 13,495 cf

Link POA-1: POA-1 Inflow=0.09 cfs 294 cf
Primary=0.09 cfs 294 cf

Link POA-2: POA-2 Inflow=1.91 cfs 11,176 cf
Primary=1.91 cfs 11,176 cf

Link POA-3: POA-3 Inflow=4.35 cfs 13,495 cf
Primary=4.35 cfs 13,495 cf

Total Runoff Area = 230,607 sf Runoff Volume = 24,966 cf Average Runoff Depth = 1.30"
65.79% Pervious = 151,719 sf 34.21% Impervious = 78,887 sf

Summary for Subcatchment EWS-1: EWS-1

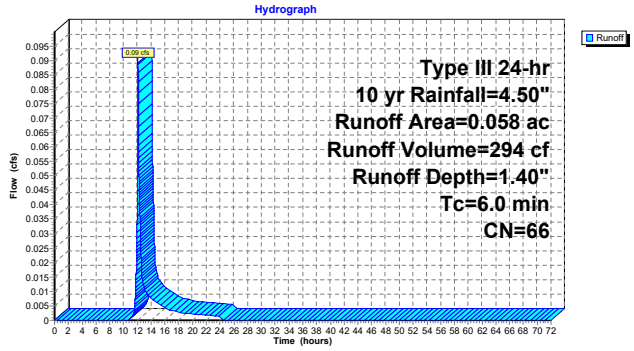
Runoff = 0.09 cfs @ 12.10 hrs, Volume= 294 cf, Depth= 1.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=4.50"

Area (ac)	CN	Description
0.027	98	Paved parking, HSG A
0.031	39	>75% Grass cover, Good, HSG A
0.058	66	Weighted Average
0.031		53.45% Pervious Area
0.027		46.55% Impervious Area

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

Subcatchment EWS-1: EWS-1



Hydrograph for Subcatchment EWS-1: EWS-1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	52.00	4.50	1.40	0.00
1.00	0.04	0.00	0.00	53.00	4.50	1.40	0.00
2.00	0.09	0.00	0.00	54.00	4.50	1.40	0.00
3.00	0.14	0.00	0.00	55.00	4.50	1.40	0.00
4.00	0.19	0.00	0.00	56.00	4.50	1.40	0.00
5.00	0.26	0.00	0.00	57.00	4.50	1.40	0.00
6.00	0.32	0.00	0.00	58.00	4.50	1.40	0.00
7.00	0.41	0.00	0.00	59.00	4.50	1.40	0.00
8.00	0.51	0.00	0.00	60.00	4.50	1.40	0.00
9.00	0.66	0.00	0.00	61.00	4.50	1.40	0.00
10.00	0.85	0.00	0.00	62.00	4.50	1.40	0.00
11.00	1.13	0.00	0.00	63.00	4.50	1.40	0.00
12.00	2.25	0.23	**0.04**	64.00	4.50	1.40	0.00
13.00	3.37	0.73	**0.01**	65.00	4.50	1.40	0.00
14.00	3.65	0.88	0.01	66.00	4.50	1.40	0.00
15.00	3.84	0.99	0.01	67.00	4.50	1.40	0.00
16.00	3.99	1.08	0.00	68.00	4.50	1.40	0.00
17.00	4.09	1.14	0.00	69.00	4.50	1.40	0.00
18.00	4.18	1.19	0.00	70.00	4.50	1.40	0.00
19.00	4.24	1.24	0.00	71.00	4.50	1.40	0.00
20.00	4.31	1.27	0.00	72.00	4.50	1.40	0.00
21.00	4.36	1.31	0.00				
22.00	4.41	1.34	0.00				
23.00	4.46	1.37	0.00				
24.00	**4.50**	**1.40**	0.00				
25.00	4.50	1.40	0.00				
26.00	4.50	1.40	0.00				
27.00	4.50	1.40	0.00				
28.00	4.50	1.40	0.00				
29.00	4.50	1.40	0.00				
30.00	4.50	1.40	0.00				
31.00	4.50	1.40	0.00				
32.00	4.50	1.40	0.00				
33.00	4.50	1.40	0.00				
34.00	4.50	1.40	0.00				
35.00	4.50	1.40	0.00				
36.00	4.50	1.40	0.00				
37.00	4.50	1.40	0.00				
38.00	4.50	1.40	0.00				
39.00	4.50	1.40	0.00				
40.00	4.50	1.40	0.00				
41.00	4.50	1.40	0.00				
42.00	4.50	1.40	0.00				
43.00	4.50	1.40	0.00				
44.00	4.50	1.40	0.00				
45.00	4.50	1.40	0.00				
46.00	4.50	1.40	0.00				
47.00	4.50	1.40	0.00				
48.00	4.50	1.40	0.00				
49.00	4.50	1.40	0.00				
50.00	4.50	1.40	0.00				
51.00	4.50	1.40	0.00				

Summary for Subcatchment EWS-2: EWS-2

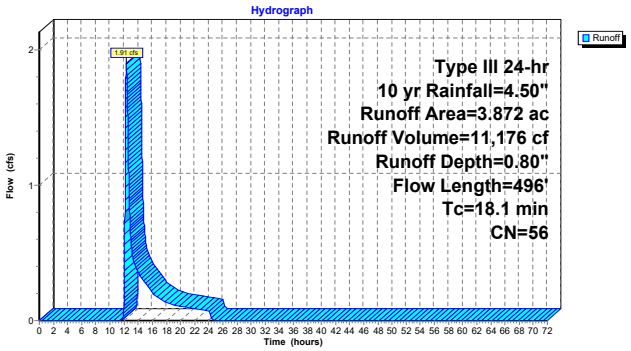
Runoff = 1.91 cfs @ 12.32 hrs, Volume= 11,176 cf, Depth= 0.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=4.50"

	Area (ac)	CN	Description
	0.711	98	Paved parking, HSG A
	0.066	98	Roofs, HSG A
	2.072	39	>75% Grass cover, Good, HSG A
	0.268	32	Woods/grass comb., Good, HSG A
	0.683	68	<50% Grass cover, Poor, HSG A
*	0.072	72	Infield, HSG A
	3.872	56	Weighted Average
	3.095		79.93% Pervious Area
	0.777		20.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	50	0.0050	0.09		**Sheet Flow, 50 FT SHEET FLOW** Grass: Short n= 0.150 P2= 3.20"
3.5	122	0.0070	0.59		**Shallow Concentrated Flow, 122 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
1.6	171	0.0660	1.80		**Shallow Concentrated Flow, 171 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
1.8	85	0.0120	0.77		**Shallow Concentrated Flow, 85 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
1.0	51	0.0160	0.89		**Shallow Concentrated Flow, 51 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
0.4	17	0.0260	0.81		**Shallow Concentrated Flow, 17 FT SHALLOW WOOD** Woodland Kv= 5.0 fps
18.1	496	Total			

Subcatchment EWS-2: EWS-2



Hydrograph for Subcatchment EWS-2: EWS-2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	52.00	4.50	0.80	0.00
1.00	0.04	0.00	0.00	53.00	4.50	0.80	0.00
2.00	0.09	0.00	0.00	54.00	4.50	0.80	0.00
3.00	0.14	0.00	0.00	55.00	4.50	0.80	0.00
4.00	0.19	0.00	0.00	56.00	4.50	0.80	0.00
5.00	0.26	0.00	0.00	57.00	4.50	0.80	0.00
6.00	0.32	0.00	0.00	58.00	4.50	0.80	0.00
7.00	0.41	0.00	0.00	59.00	4.50	0.80	0.00
8.00	0.51	0.00	0.00	60.00	4.50	0.80	0.00
9.00	0.66	0.00	0.00	61.00	4.50	0.80	0.00
10.00	0.85	0.00	0.00	62.00	4.50	0.80	0.00
11.00	1.13	0.00	0.00	63.00	4.50	0.80	0.00
12.00	2.25	0.05	**0.15**	64.00	4.50	0.80	0.00
13.00	3.37	0.34	**0.59**	65.00	4.50	0.80	0.00
14.00	3.65	0.43	0.36	66.00	4.50	0.80	0.00
15.00	3.84	0.51	0.28	67.00	4.50	0.80	0.00
16.00	3.99	0.57	0.21	68.00	4.50	0.80	0.00
17.00	4.09	0.61	0.17	69.00	4.50	0.80	0.00
18.00	4.18	0.65	0.13	70.00	4.50	0.80	0.00
19.00	4.24	0.68	0.12	71.00	4.50	0.80	0.00
20.00	4.31	0.71	0.11	72.00	4.50	0.80	0.00
21.00	4.36	0.73	0.10				
22.00	4.41	0.75	0.09				
23.00	4.46	0.78	0.08				
24.00	**4.50**	**0.80**	0.07				
25.00	4.50	0.80	0.00				
26.00	4.50	0.80	0.00				
27.00	4.50	0.80	0.00				
28.00	4.50	0.80	0.00				
29.00	4.50	0.80	0.00				
30.00	4.50	0.80	0.00				
31.00	4.50	0.80	0.00				
32.00	4.50	0.80	0.00				
33.00	4.50	0.80	0.00				
34.00	4.50	0.80	0.00				
35.00	4.50	0.80	0.00				
36.00	4.50	0.80	0.00				
37.00	4.50	0.80	0.00				
38.00	4.50	0.80	0.00				
39.00	4.50	0.80	0.00				
40.00	4.50	0.80	0.00				
41.00	4.50	0.80	0.00				
42.00	4.50	0.80	0.00				
43.00	4.50	0.80	0.00				
44.00	4.50	0.80	0.00				
45.00	4.50	0.80	0.00				
46.00	4.50	0.80	0.00				
47.00	4.50	0.80	0.00				
48.00	4.50	0.80	0.00				
49.00	4.50	0.80	0.00				
50.00	4.50	0.80	0.00				
51.00	4.50	0.80	0.00				

Summary for Subcatchment EWS-3: EWS-1

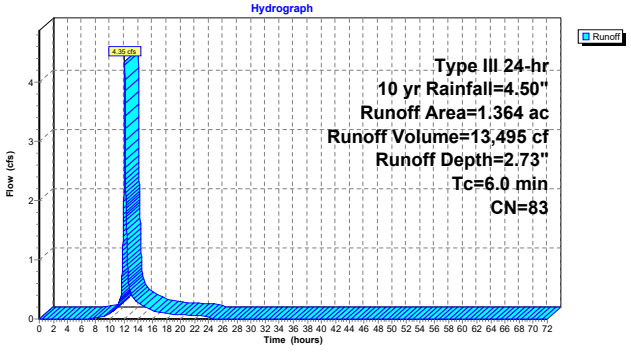
Runoff = 4.35 cfs @ 12.09 hrs, Volume= 13,495 cf, Depth= 2.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=4.50"

Area (ac)	CN	Description
0.391	98	Paved parking, HSG A
0.616	98	Roofs, HSG A
0.357	39	>75% Grass cover, Good, HSG A
1.364	83	Weighted Average
0.357		26.17% Pervious Area
1.007		73.83% Impervious Area

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

Subcatchment EWS-3: EWS-1



Hydrograph for Subcatchment EWS-3: EWS-1

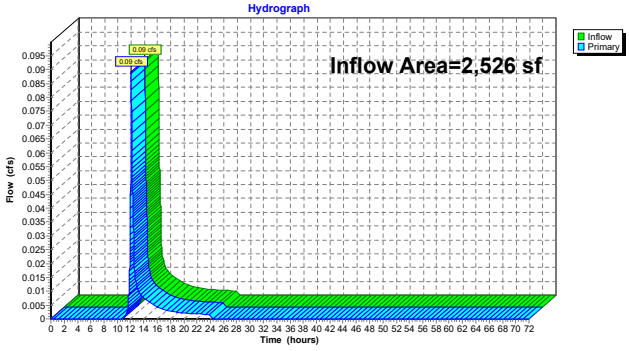
Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	52.00	4.50	2.73	0.00
1.00	0.04	0.00	0.00	53.00	4.50	2.73	0.00
2.00	0.09	0.00	0.00	54.00	4.50	2.73	0.00
3.00	0.14	0.00	0.00	55.00	4.50	2.73	0.00
4.00	0.19	0.00	0.00	56.00	4.50	2.73	0.00
5.00	0.26	0.00	0.00	57.00	4.50	2.73	0.00
6.00	0.32	0.00	0.00	58.00	4.50	2.73	0.00
7.00	0.41	0.00	0.00	59.00	4.50	2.73	0.00
8.00	0.51	0.00	0.01	60.00	4.50	2.73	0.00
9.00	0.66	0.03	0.04	61.00	4.50	2.73	0.00
10.00	0.85	0.08	0.09	62.00	4.50	2.73	0.00
11.00	1.13	0.19	0.19	63.00	4.50	2.73	0.00
12.00	2.25	0.87	**2.55**	64.00	4.50	2.73	0.00
13.00	3.37	1.75	**0.42**	65.00	4.50	2.73	0.00
14.00	3.65	1.98	0.27	66.00	4.50	2.73	0.00
15.00	3.84	2.15	0.21	67.00	4.50	2.73	0.00
16.00	3.99	2.27	0.15	68.00	4.50	2.73	0.00
17.00	4.09	2.37	0.12	69.00	4.50	2.73	0.00
18.00	4.18	2.44	0.09	70.00	4.50	2.73	0.00
19.00	4.24	2.50	0.08	71.00	4.50	2.73	0.00
20.00	4.31	2.55	0.07	72.00	4.50	2.73	0.00
21.00	4.36	2.60	0.07				
22.00	4.41	2.65	0.06				
23.00	4.46	2.69	0.05				
24.00	**4.50**	**2.73**	0.05				
25.00	4.50	2.73	0.00				
26.00	4.50	2.73	0.00				
27.00	4.50	2.73	0.00				
28.00	4.50	2.73	0.00				
29.00	4.50	2.73	0.00				
30.00	4.50	2.73	0.00				
31.00	4.50	2.73	0.00				
32.00	4.50	2.73	0.00				
33.00	4.50	2.73	0.00				
34.00	4.50	2.73	0.00				
35.00	4.50	2.73	0.00				
36.00	4.50	2.73	0.00				
37.00	4.50	2.73	0.00				
38.00	4.50	2.73	0.00				
39.00	4.50	2.73	0.00				
40.00	4.50	2.73	0.00				
41.00	4.50	2.73	0.00				
42.00	4.50	2.73	0.00				
43.00	4.50	2.73	0.00				
44.00	4.50	2.73	0.00				
45.00	4.50	2.73	0.00				
46.00	4.50	2.73	0.00				
47.00	4.50	2.73	0.00				
48.00	4.50	2.73	0.00				
49.00	4.50	2.73	0.00				
50.00	4.50	2.73	0.00				
51.00	4.50	2.73	0.00				

Summary for Link POA-1: POA-1

Inflow Area = 2,526 sf, 46.55% Impervious, Inflow Depth = 1.40" for 10 yr event
Inflow = 0.09 cfs @ 12.10 hrs, Volume= 294 cf
Primary = 0.09 cfs @ 12.10 hrs, Volume= 294 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POA-1: POA-1



Hydrograph for Link POA-1: POA-1

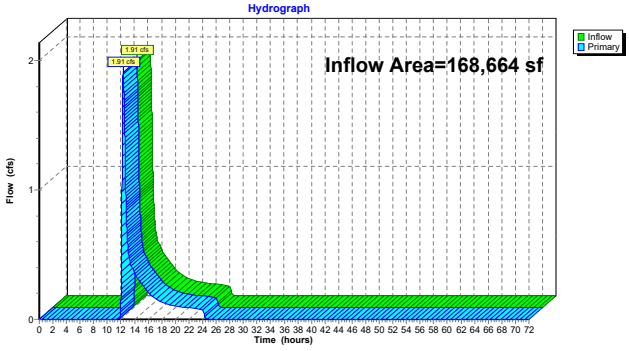
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	52.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00	55.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	56.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	57.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	58.00	0.00	0.00	0.00
7.00	0.00	0.00	0.00	59.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	60.00	0.00	0.00	0.00
9.00	0.00	0.00	0.00	61.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	62.00	0.00	0.00	0.00
11.00	0.00	0.00	0.00	63.00	0.00	0.00	0.00
12.00	**0.04**	0.00	**0.04**	64.00	0.00	0.00	0.00
13.00	**0.01**	0.00	**0.01**	65.00	0.00	0.00	0.00
14.00	0.01	0.00	0.01	66.00	0.00	0.00	0.00
15.00	0.01	0.00	0.01	67.00	0.00	0.00	0.00
16.00	0.00	0.00	0.00	68.00	0.00	0.00	0.00
17.00	0.00	0.00	0.00	69.00	0.00	0.00	0.00
18.00	0.00	0.00	0.00	70.00	0.00	0.00	0.00
19.00	0.00	0.00	0.00	71.00	0.00	0.00	0.00
20.00	0.00	0.00	0.00	72.00	0.00	0.00	0.00
21.00	0.00	0.00	0.00				
22.00	0.00	0.00	0.00				
23.00	0.00	0.00	0.00				
24.00	0.00	0.00	0.00				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.00	0.00	0.00	0.00				

Summary for Link POA-2: POA-2

Inflow Area = 168,664 sf, 20.07% Impervious, Inflow Depth = 0.80" for 10 yr event
Inflow = 1.91 cfs @ 12.32 hrs, Volume= 11,176 cf
Primary = 1.91 cfs @ 12.32 hrs, Volume= 11,176 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POA-2: POA-2



Hydrograph for Link POA-2: POA-2

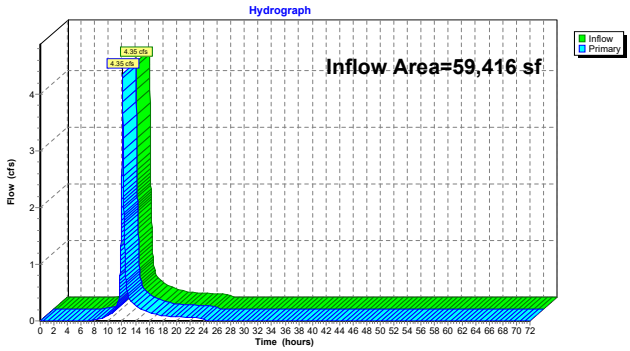
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	52.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00	55.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	56.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	57.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	58.00	0.00	0.00	0.00
7.00	0.00	0.00	0.00	59.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	60.00	0.00	0.00	0.00
9.00	0.00	0.00	0.00	61.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	62.00	0.00	0.00	0.00
11.00	0.00	0.00	0.00	63.00	0.00	0.00	0.00
12.00	**0.15**	0.00	**0.15**	64.00	0.00	0.00	0.00
13.00	**0.59**	0.00	**0.59**	65.00	0.00	0.00	0.00
14.00	0.36	0.00	0.36	66.00	0.00	0.00	0.00
15.00	0.28	0.00	0.28	67.00	0.00	0.00	0.00
16.00	0.21	0.00	0.21	68.00	0.00	0.00	0.00
17.00	0.17	0.00	0.17	69.00	0.00	0.00	0.00
18.00	0.13	0.00	0.13	70.00	0.00	0.00	0.00
19.00	0.12	0.00	0.12	71.00	0.00	0.00	0.00
20.00	0.11	0.00	0.11	72.00	0.00	0.00	0.00
21.00	0.10	0.00	0.10				
22.00	0.09	0.00	0.09				
23.00	0.08	0.00	0.08				
24.00	0.07	0.00	0.07				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.00	0.00	0.00	0.00				

Summary for Link POA-3: POA-3

Inflow Area = 59,416 sf, 73.83% Impervious, Inflow Depth = 2.73" for 10 yr event
Inflow = 4.35 cfs @ 12.09 hrs, Volume= 13,495 cf
Primary = 4.35 cfs @ 12.09 hrs, Volume= 13,495 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POA-3: POA-3



Hydrograph for Link POA-3: POA-3

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	52.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00	55.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	56.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	57.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	58.00	0.00	0.00	0.00
7.00	0.00	0.00	0.00	59.00	0.00	0.00	0.00
8.00	0.01	0.00	0.01	60.00	0.00	0.00	0.00
9.00	0.04	0.00	0.04	61.00	0.00	0.00	0.00
10.00	0.09	0.00	0.09	62.00	0.00	0.00	0.00
11.00	0.19	0.00	0.19	63.00	0.00	0.00	0.00
12.00	**2.55**	0.00	**2.55**	64.00	0.00	0.00	0.00
13.00	**0.42**	0.00	**0.42**	65.00	0.00	0.00	0.00
14.00	0.27	0.00	0.27	66.00	0.00	0.00	0.00
15.00	0.21	0.00	0.21	67.00	0.00	0.00	0.00
16.00	0.15	0.00	0.15	68.00	0.00	0.00	0.00
17.00	0.12	0.00	0.12	69.00	0.00	0.00	0.00
18.00	0.09	0.00	0.09	70.00	0.00	0.00	0.00
19.00	0.08	0.00	0.08	71.00	0.00	0.00	0.00
20.00	0.07	0.00	0.07	72.00	0.00	0.00	0.00
21.00	0.07	0.00	0.07				
22.00	0.06	0.00	0.06				
23.00	0.05	0.00	0.05				
24.00	0.05	0.00	0.05				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.00	0.00	0.00	0.00				

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentEWS-1: EWS-1 Runoff Area=0.058 ac 46.55% Impervious Runoff Depth=2.01"
Tc=6.0 min CN=66 Runoff=0.13 cfs 422 cf

SubcatchmentEWS-2: EWS-2 Runoff Area=3.872 ac 20.07% Impervious Runoff Depth=1.25"
Flow Length=496' Tc=18.1 min CN=56 Runoff=3.42 cfs 17,630 cf

SubcatchmentEWS-3: EWS-1 Runoff Area=1.364 ac 73.83% Impervious Runoff Depth=3.54"
Tc=6.0 min CN=83 Runoff=5.62 cfs 17,519 cf

Link POA-1: POA-1 Inflow=0.13 cfs 422 cf
Primary=0.13 cfs 422 cf

Link POA-2: POA-2 Inflow=3.42 cfs 17,630 cf
Primary=3.42 cfs 17,630 cf

Link POA-3: POA-3 Inflow=5.62 cfs 17,519 cf
Primary=5.62 cfs 17,519 cf

Total Runoff Area = 230,607 sf Runoff Volume = 35,571 cf Average Runoff Depth = 1.85"
65.79% Pervious = 151,719 sf 34.21% Impervious = 78,887 sf

Summary for Subcatchment EWS-1: EWS-1

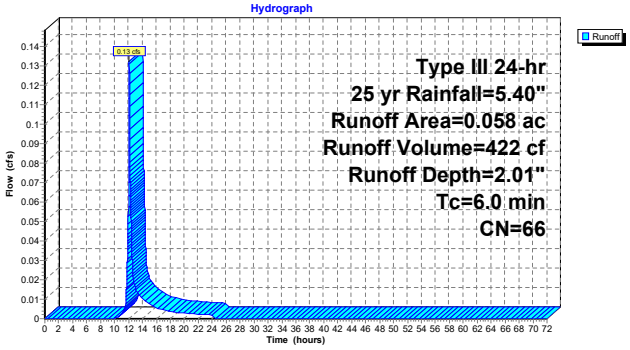
Runoff = 0.13 cfs @ 12.09 hrs, Volume= 422 cf, Depth= 2.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=5.40"

Area (ac)	CN	Description
0.027	98	Paved parking, HSG A
0.031	39	>75% Grass cover, Good, HSG A
0.058	66	Weighted Average
0.031		53.45% Pervious Area
0.027		46.55% Impervious Area

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

Subcatchment EWS-1: EWS-1



Hydrograph for Subcatchment EWS-1: EWS-1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	52.00	5.40	2.01	0.00
1.00	0.05	0.00	0.00	53.00	5.40	2.01	0.00
2.00	0.11	0.00	0.00	54.00	5.40	2.01	0.00
3.00	0.17	0.00	0.00	55.00	5.40	2.01	0.00
4.00	0.23	0.00	0.00	56.00	5.40	2.01	0.00
5.00	0.31	0.00	0.00	57.00	5.40	2.01	0.00
6.00	0.39	0.00	0.00	58.00	5.40	2.01	0.00
7.00	0.49	0.00	0.00	59.00	5.40	2.01	0.00
8.00	0.62	0.00	0.00	60.00	5.40	2.01	0.00
9.00	0.79	0.00	0.00	61.00	5.40	2.01	0.00
10.00	1.02	0.00	0.00	62.00	5.40	2.01	0.00
11.00	1.35	0.02	0.00	63.00	5.40	2.01	0.00
12.00	2.70	0.41	**0.07**	64.00	5.40	2.01	0.00
13.00	4.05	1.12	**0.02**	65.00	5.40	2.01	0.00
14.00	4.38	1.32	0.01	66.00	5.40	2.01	0.00
15.00	4.61	1.47	0.01	67.00	5.40	2.01	0.00
16.00	4.78	1.58	0.01	68.00	5.40	2.01	0.00
17.00	4.91	1.67	0.00	69.00	5.40	2.01	0.00
18.00	5.01	1.74	0.00	70.00	5.40	2.01	0.00
19.00	5.09	1.79	0.00	71.00	5.40	2.01	0.00
20.00	5.17	1.84	0.00	72.00	5.40	2.01	0.00
21.00	5.23	1.89	0.00				
22.00	5.30	1.93	0.00				
23.00	5.35	1.97	0.00				
24.00	**5.40**	**2.01**	0.00				
25.00	5.40	2.01	0.00				
26.00	5.40	2.01	0.00				
27.00	5.40	2.01	0.00				
28.00	5.40	2.01	0.00				
29.00	5.40	2.01	0.00				
30.00	5.40	2.01	0.00				
31.00	5.40	2.01	0.00				
32.00	5.40	2.01	0.00				
33.00	5.40	2.01	0.00				
34.00	5.40	2.01	0.00				
35.00	5.40	2.01	0.00				
36.00	5.40	2.01	0.00				
37.00	5.40	2.01	0.00				
38.00	5.40	2.01	0.00				
39.00	5.40	2.01	0.00				
40.00	5.40	2.01	0.00				
41.00	5.40	2.01	0.00				
42.00	5.40	2.01	0.00				
43.00	5.40	2.01	0.00				
44.00	5.40	2.01	0.00				
45.00	5.40	2.01	0.00				
46.00	5.40	2.01	0.00				
47.00	5.40	2.01	0.00				
48.00	5.40	2.01	0.00				
49.00	5.40	2.01	0.00				
50.00	5.40	2.01	0.00				
51.00	5.40	2.01	0.00				

Summary for Subcatchment EWS-2: EWS-2

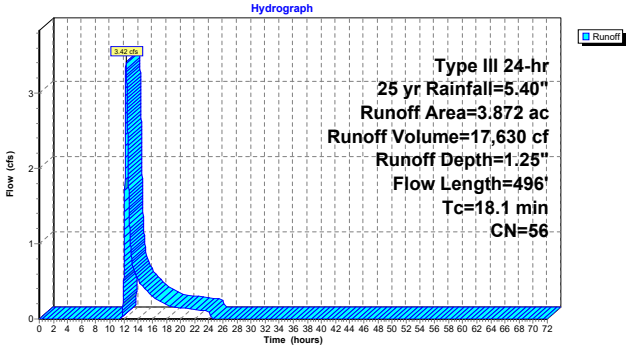
Runoff = 3.42 cfs @ 12.29 hrs, Volume= 17,630 cf, Depth= 1.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=5.40"

	Area (ac)	CN	Description
	0.711	98	Paved parking, HSG A
	0.066	98	Roofs, HSG A
	2.072	39	>75% Grass cover, Good, HSG A
	0.268	32	Woods/grass comb., Good, HSG A
	0.683	68	<50% Grass cover, Poor, HSG A
*	0.072	72	Infield, HSG A
	3.872	56	Weighted Average
	3.095		79.93% Pervious Area
	0.777		20.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	50	0.0050	0.09		**Sheet Flow, 50 FT SHEET FLOW** Grass: Short n= 0.150 P2= 3.20"
3.5	122	0.0070	0.59		**Shallow Concentrated Flow, 122 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
1.6	171	0.0660	1.80		**Shallow Concentrated Flow, 171 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
1.8	85	0.0120	0.77		**Shallow Concentrated Flow, 85 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
1.0	51	0.0160	0.89		**Shallow Concentrated Flow, 51 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
0.4	17	0.0260	0.81		**Shallow Concentrated Flow, 17 FT SHALLOW WOOD** Woodland Kv= 5.0 fps
18.1	496	Total			

Subcatchment EWS-2: EWS-2



Hydrograph for Subcatchment EWS-2: EWS-2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	52.00	5.40	1.25	0.00
1.00	0.05	0.00	0.00	53.00	5.40	1.25	0.00
2.00	0.11	0.00	0.00	54.00	5.40	1.25	0.00
3.00	0.17	0.00	0.00	55.00	5.40	1.25	0.00
4.00	0.23	0.00	0.00	56.00	5.40	1.25	0.00
5.00	0.31	0.00	0.00	57.00	5.40	1.25	0.00
6.00	0.39	0.00	0.00	58.00	5.40	1.25	0.00
7.00	0.49	0.00	0.00	59.00	5.40	1.25	0.00
8.00	0.62	0.00	0.00	60.00	5.40	1.25	0.00
9.00	0.79	0.00	0.00	61.00	5.40	1.25	0.00
10.00	1.02	0.00	0.00	62.00	5.40	1.25	0.00
11.00	1.35	0.00	0.00	63.00	5.40	1.25	0.00
12.00	2.70	0.14	**0.64**	64.00	5.40	1.25	0.00
13.00	4.05	0.59	**0.89**	65.00	5.40	1.25	0.00
14.00	4.38	0.74	0.53	66.00	5.40	1.25	0.00
15.00	4.61	0.85	0.41	67.00	5.40	1.25	0.00
16.00	4.78	0.93	0.30	68.00	5.40	1.25	0.00
17.00	4.91	1.00	0.24	69.00	5.40	1.25	0.00
18.00	5.01	1.05	0.19	70.00	5.40	1.25	0.00
19.00	5.09	1.09	0.16	71.00	5.40	1.25	0.00
20.00	5.17	1.13	0.15	72.00	5.40	1.25	0.00
21.00	5.23	1.16	0.14				
22.00	5.30	1.20	0.13				
23.00	5.35	1.23	0.11				
24.00	**5.40**	**1.25**	0.10				
25.00	5.40	1.25	0.00				
26.00	5.40	1.25	0.00				
27.00	5.40	1.25	0.00				
28.00	5.40	1.25	0.00				
29.00	5.40	1.25	0.00				
30.00	5.40	1.25	0.00				
31.00	5.40	1.25	0.00				
32.00	5.40	1.25	0.00				
33.00	5.40	1.25	0.00				
34.00	5.40	1.25	0.00				
35.00	5.40	1.25	0.00				
36.00	5.40	1.25	0.00				
37.00	5.40	1.25	0.00				
38.00	5.40	1.25	0.00				
39.00	5.40	1.25	0.00				
40.00	5.40	1.25	0.00				
41.00	5.40	1.25	0.00				
42.00	5.40	1.25	0.00				
43.00	5.40	1.25	0.00				
44.00	5.40	1.25	0.00				
45.00	5.40	1.25	0.00				
46.00	5.40	1.25	0.00				
47.00	5.40	1.25	0.00				
48.00	5.40	1.25	0.00				
49.00	5.40	1.25	0.00				
50.00	5.40	1.25	0.00				
51.00	5.40	1.25	0.00				

Summary for Subcatchment EWS-3: EWS-1

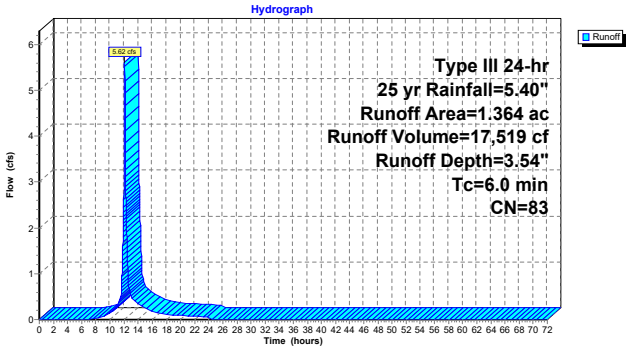
Runoff = 5.62 cfs @ 12.09 hrs, Volume= 17,519 cf, Depth= 3.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=5.40"

Area (ac)	CN	Description
0.391	98	Paved parking, HSG A
0.616	98	Roofs, HSG A
0.357	39	>75% Grass cover, Good, HSG A
1.364	83	Weighted Average
0.357		26.17% Pervious Area
1.007		73.83% Impervious Area

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

Subcatchment EWS-3: EWS-1



Hydrograph for Subcatchment EWS-3: EWS-1

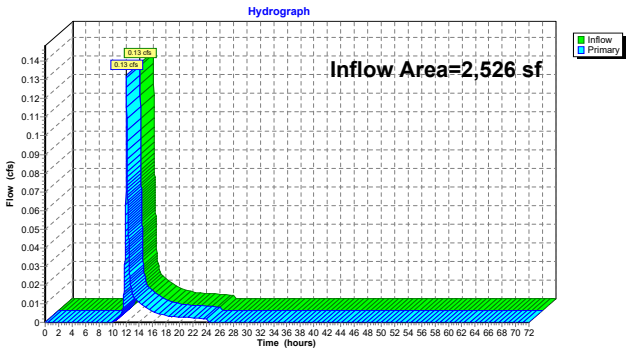
Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	52.00	5.40	3.54	0.00
1.00	0.05	0.00	0.00	53.00	5.40	3.54	0.00
2.00	0.11	0.00	0.00	54.00	5.40	3.54	0.00
3.00	0.17	0.00	0.00	55.00	5.40	3.54	0.00
4.00	0.23	0.00	0.00	56.00	5.40	3.54	0.00
5.00	0.31	0.00	0.00	57.00	5.40	3.54	0.00
6.00	0.39	0.00	0.00	58.00	5.40	3.54	0.00
7.00	0.49	0.00	0.01	59.00	5.40	3.54	0.00
8.00	0.62	0.02	0.03	60.00	5.40	3.54	0.00
9.00	0.79	0.06	0.07	61.00	5.40	3.54	0.00
10.00	1.02	0.14	0.14	62.00	5.40	3.54	0.00
11.00	1.35	0.30	0.27	63.00	5.40	3.54	0.00
12.00	2.70	1.21	**3.35**	64.00	5.40	3.54	0.00
13.00	4.05	2.33	**0.53**	65.00	5.40	3.54	0.00
14.00	4.38	2.62	0.34	66.00	5.40	3.54	0.00
15.00	4.61	2.83	0.26	67.00	5.40	3.54	0.00
16.00	4.78	2.98	0.18	68.00	5.40	3.54	0.00
17.00	4.91	3.09	0.14	69.00	5.40	3.54	0.00
18.00	5.01	3.18	0.11	70.00	5.40	3.54	0.00
19.00	5.09	3.26	0.10	71.00	5.40	3.54	0.00
20.00	5.17	3.33	0.09	72.00	5.40	3.54	0.00
21.00	5.23	3.39	0.08				
22.00	5.30	3.44	0.07				
23.00	5.35	3.49	0.07				
24.00	**5.40**	**3.54**	0.06				
25.00	5.40	3.54	0.00				
26.00	5.40	3.54	0.00				
27.00	5.40	3.54	0.00				
28.00	5.40	3.54	0.00				
29.00	5.40	3.54	0.00				
30.00	5.40	3.54	0.00				
31.00	5.40	3.54	0.00				
32.00	5.40	3.54	0.00				
33.00	5.40	3.54	0.00				
34.00	5.40	3.54	0.00				
35.00	5.40	3.54	0.00				
36.00	5.40	3.54	0.00				
37.00	5.40	3.54	0.00				
38.00	5.40	3.54	0.00				
39.00	5.40	3.54	0.00				
40.00	5.40	3.54	0.00				
41.00	5.40	3.54	0.00				
42.00	5.40	3.54	0.00				
43.00	5.40	3.54	0.00				
44.00	5.40	3.54	0.00				
45.00	5.40	3.54	0.00				
46.00	5.40	3.54	0.00				
47.00	5.40	3.54	0.00				
48.00	5.40	3.54	0.00				
49.00	5.40	3.54	0.00				
50.00	5.40	3.54	0.00				
51.00	5.40	3.54	0.00				

Summary for Link POA-1: POA-1

Inflow Area = 2,526 sf, 46.55% Impervious, Inflow Depth = 2.01" for 25 yr event
Inflow = 0.13 cfs @ 12.09 hrs, Volume= 422 cf
Primary = 0.13 cfs @ 12.09 hrs, Volume= 422 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POA-1: POA-1



Hydrograph for Link POA-1: POA-1

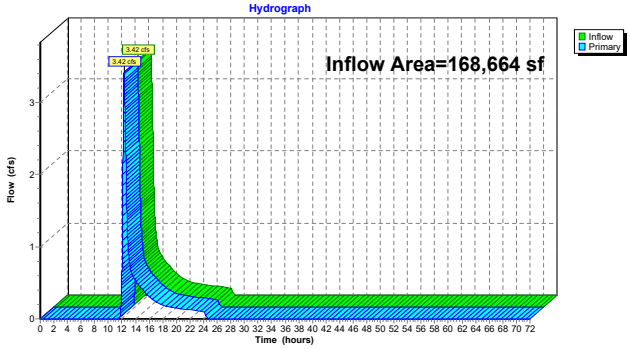
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	52.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00	55.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	56.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	57.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	58.00	0.00	0.00	0.00
7.00	0.00	0.00	0.00	59.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	60.00	0.00	0.00	0.00
9.00	0.00	0.00	0.00	61.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	62.00	0.00	0.00	0.00
11.00	0.00	0.00	0.00	63.00	0.00	0.00	0.00
12.00	**0.07**	0.00	**0.07**	64.00	0.00	0.00	0.00
13.00	**0.02**	0.00	**0.02**	65.00	0.00	0.00	0.00
14.00	0.01	0.00	0.01	66.00	0.00	0.00	0.00
15.00	0.01	0.00	0.01	67.00	0.00	0.00	0.00
16.00	0.01	0.00	0.01	68.00	0.00	0.00	0.00
17.00	0.00	0.00	0.00	69.00	0.00	0.00	0.00
18.00	0.00	0.00	0.00	70.00	0.00	0.00	0.00
19.00	0.00	0.00	0.00	71.00	0.00	0.00	0.00
20.00	0.00	0.00	0.00	72.00	0.00	0.00	0.00
21.00	0.00	0.00	0.00				
22.00	0.00	0.00	0.00				
23.00	0.00	0.00	0.00				
24.00	0.00	0.00	0.00				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.00	0.00	0.00	0.00				

Summary for Link POA-2: POA-2

Inflow Area = 168,664 sf, 20.07% Impervious, Inflow Depth = 1.25" for 25 yr event
Inflow = 3.42 cfs @ 12.29 hrs, Volume= 17,630 cf
Primary = 3.42 cfs @ 12.29 hrs, Volume= 17,630 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POA-2: POA-2



Hydrograph for Link POA-2: POA-2

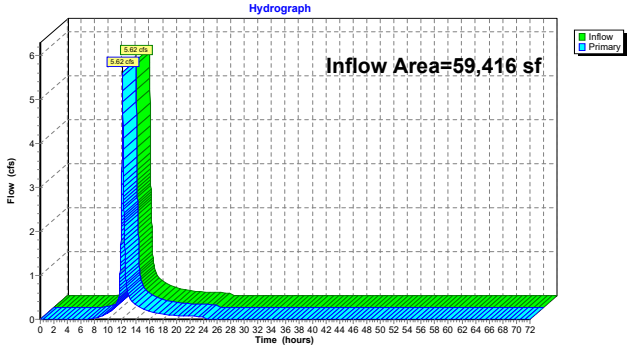
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	52.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00	55.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	56.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	57.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	58.00	0.00	0.00	0.00
7.00	0.00	0.00	0.00	59.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	60.00	0.00	0.00	0.00
9.00	0.00	0.00	0.00	61.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	62.00	0.00	0.00	0.00
11.00	0.00	0.00	0.00	63.00	0.00	0.00	0.00
12.00	**0.64**	0.00	**0.64**	64.00	0.00	0.00	0.00
13.00	**0.89**	0.00	**0.89**	65.00	0.00	0.00	0.00
14.00	0.53	0.00	0.53	66.00	0.00	0.00	0.00
15.00	0.41	0.00	0.41	67.00	0.00	0.00	0.00
16.00	0.30	0.00	0.30	68.00	0.00	0.00	0.00
17.00	0.24	0.00	0.24	69.00	0.00	0.00	0.00
18.00	0.19	0.00	0.19	70.00	0.00	0.00	0.00
19.00	0.16	0.00	0.16	71.00	0.00	0.00	0.00
20.00	0.15	0.00	0.15	72.00	0.00	0.00	0.00
21.00	0.14	0.00	0.14				
22.00	0.13	0.00	0.13				
23.00	0.11	0.00	0.11				
24.00	0.10	0.00	0.10				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.00	0.00	0.00	0.00				

Summary for Link POA-3: POA-3

Inflow Area = 59,416 sf, 73.83% Impervious, Inflow Depth = 3.54" for 25 yr event
Inflow = 5.62 cfs @ 12.09 hrs, Volume= 17,519 cf
Primary = 5.62 cfs @ 12.09 hrs, Volume= 17,519 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POA-3: POA-3



Hydrograph for Link POA-3: POA-3

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	52.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00	55.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	56.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	57.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	58.00	0.00	0.00	0.00
7.00	0.01	0.00	0.01	59.00	0.00	0.00	0.00
8.00	0.03	0.00	0.03	60.00	0.00	0.00	0.00
9.00	0.07	0.00	0.07	61.00	0.00	0.00	0.00
10.00	0.14	0.00	0.14	62.00	0.00	0.00	0.00
11.00	0.27	0.00	0.27	63.00	0.00	0.00	0.00
12.00	**3.35**	0.00	**3.35**	64.00	0.00	0.00	0.00
13.00	**0.53**	0.00	**0.53**	65.00	0.00	0.00	0.00
14.00	0.34	0.00	0.34	66.00	0.00	0.00	0.00
15.00	0.26	0.00	0.26	67.00	0.00	0.00	0.00
16.00	0.18	0.00	0.18	68.00	0.00	0.00	0.00
17.00	0.14	0.00	0.14	69.00	0.00	0.00	0.00
18.00	0.11	0.00	0.11	70.00	0.00	0.00	0.00
19.00	0.10	0.00	0.10	71.00	0.00	0.00	0.00
20.00	0.09	0.00	0.09	72.00	0.00	0.00	0.00
21.00	0.08	0.00	0.08				
22.00	0.07	0.00	0.07				
23.00	0.07	0.00	0.07				
24.00	0.06	0.00	0.06				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.00	0.00	0.00	0.00				

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentEWS-1: EWS-1 Runoff Area=0.058 ac 46.55% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=66 Runoff=0.32 cfs 980 cf

SubcatchmentEWS-2: EWS-2 Runoff Area=3.872 ac 20.07% Impervious Runoff Depth=3.45"
Flow Length=496' Tc=18.1 min CN=56 Runoff=10.70 cfs 48,479 cf

SubcatchmentEWS-3: EWS-1 Runoff Area=1.364 ac 73.83% Impervious Runoff Depth=6.72"
Tc=6.0 min CN=83 Runoff=10.41 cfs 33,297 cf

Link POA-1: POA-1 Inflow=0.32 cfs 980 cf
Primary=0.32 cfs 980 cf

Link POA-2: POA-2 Inflow=10.70 cfs 48,479 cf
Primary=10.70 cfs 48,479 cf

Link POA-3: POA-3 Inflow=10.41 cfs 33,297 cf
Primary=10.41 cfs 33,297 cf

Total Runoff Area = 230,607 sf Runoff Volume = 82,756 cf Average Runoff Depth = 4.31"
65.79% Pervious = 151,719 sf 34.21% Impervious = 78,887 sf

Summary for Subcatchment EWS-1: EWS-1

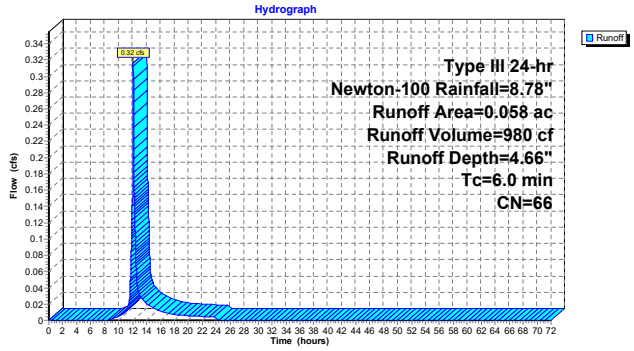
Runoff = 0.32 cfs @ 12.09 hrs, Volume= 980 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr Newton-100 Rainfall=8.78"

Area (ac)	CN	Description
0.027	98	Paved parking, HSG A
0.031	39	>75% Grass cover, Good, HSG A
0.058	66	Weighted Average
0.031		53.45% Pervious Area
0.027		46.55% Impervious Area

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

Subcatchment EWS-1: EWS-1



Hydrograph for Subcatchment EWS-1: EWS-1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	52.00	8.78	4.66	0.00
1.00	0.09	0.00	0.00	53.00	8.78	4.66	0.00
2.00	0.18	0.00	0.00	54.00	8.78	4.66	0.00
3.00	0.27	0.00	0.00	55.00	8.78	4.66	0.00
4.00	0.38	0.00	0.00	56.00	8.78	4.66	0.00
5.00	0.50	0.00	0.00	57.00	8.78	4.66	0.00
6.00	0.63	0.00	0.00	58.00	8.78	4.66	0.00
7.00	0.79	0.00	0.00	59.00	8.78	4.66	0.00
8.00	1.00	0.00	0.00	60.00	8.78	4.66	0.00
9.00	1.28	0.01	0.00	61.00	8.78	4.66	0.00
10.00	1.66	0.07	0.00	62.00	8.78	4.66	0.00
11.00	2.20	0.21	0.01	63.00	8.78	4.66	0.00
12.00	4.39	1.33	**0.18**	64.00	8.78	4.66	0.00
13.00	6.58	2.88	**0.03**	65.00	8.78	4.66	0.00
14.00	7.12	3.30	0.02	66.00	8.78	4.66	0.00
15.00	7.50	3.60	0.02	67.00	8.78	4.66	0.00
16.00	7.78	3.83	0.01	68.00	8.78	4.66	0.00
17.00	7.99	4.00	0.01	69.00	8.78	4.66	0.00
18.00	8.15	4.13	0.01	70.00	8.78	4.66	0.00
19.00	8.28	4.24	0.01	71.00	8.78	4.66	0.00
20.00	8.40	4.34	0.01	72.00	8.78	4.66	0.00
21.00	8.51	4.43	0.01				
22.00	8.61	4.51	0.00				
23.00	8.70	4.59	0.00				
24.00	**8.78**	**4.66**	0.00				
25.00	8.78	4.66	0.00				
26.00	8.78	4.66	0.00				
27.00	8.78	4.66	0.00				
28.00	8.78	4.66	0.00				
29.00	8.78	4.66	0.00				
30.00	8.78	4.66	0.00				
31.00	8.78	4.66	0.00				
32.00	8.78	4.66	0.00				
33.00	8.78	4.66	0.00				
34.00	8.78	4.66	0.00				
35.00	8.78	4.66	0.00				
36.00	8.78	4.66	0.00				
37.00	8.78	4.66	0.00				
38.00	8.78	4.66	0.00				
39.00	8.78	4.66	0.00				
40.00	8.78	4.66	0.00				
41.00	8.78	4.66	0.00				
42.00	8.78	4.66	0.00				
43.00	8.78	4.66	0.00				
44.00	8.78	4.66	0.00				
45.00	8.78	4.66	0.00				
46.00	8.78	4.66	0.00				
47.00	8.78	4.66	0.00				
48.00	8.78	4.66	0.00				
49.00	8.78	4.66	0.00				
50.00	8.78	4.66	0.00				
51.00	8.78	4.66	0.00				

Summary for Subcatchment EWS-2: EWS-2

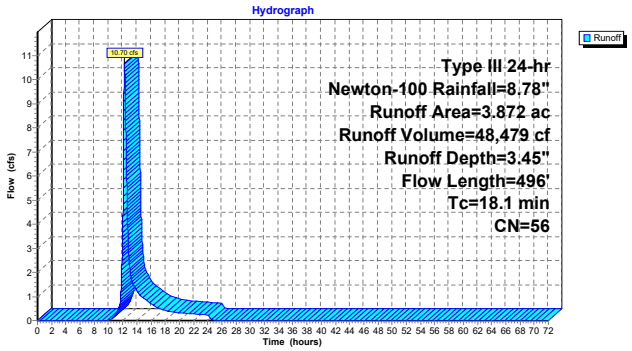
Runoff = 10.70 cfs @ 12.25 hrs, Volume= 48,479 cf, Depth= 3.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr Newton-100 Rainfall=8.78"

	Area (ac)	CN	Description
	0.711	98	Paved parking, HSG A
	0.066	98	Roofs, HSG A
	2.072	39	>75% Grass cover, Good, HSG A
	0.268	32	Woods/grass comb., Good, HSG A
	0.683	68	<50% Grass cover, Poor, HSG A
*	0.072	72	Infield, HSG A
	3.872	56	Weighted Average
	3.095		79.93% Pervious Area
	0.777		20.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	50	0.0050	0.09		**Sheet Flow, 50 FT SHEET FLOW** Grass: Short n= 0.150 P2= 3.20"
3.5	122	0.0070	0.59		**Shallow Concentrated Flow, 122 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
1.6	171	0.0660	1.80		**Shallow Concentrated Flow, 171 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
1.8	85	0.0120	0.77		**Shallow Concentrated Flow, 85 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
1.0	51	0.0160	0.89		**Shallow Concentrated Flow, 51 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
0.4	17	0.0260	0.81		**Shallow Concentrated Flow, 17 FT SHALLOW WOOD** Woodland Kv= 5.0 fps
18.1	496	Total			

Subcatchment EWS-2: EWS-2



Hydrograph for Subcatchment EWS-2: EWS-2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	52.00	8.78	3.45	0.00
1.00	0.09	0.00	0.00	53.00	8.78	3.45	0.00
2.00	0.18	0.00	0.00	54.00	8.78	3.45	0.00
3.00	0.27	0.00	0.00	55.00	8.78	3.45	0.00
4.00	0.38	0.00	0.00	56.00	8.78	3.45	0.00
5.00	0.50	0.00	0.00	57.00	8.78	3.45	0.00
6.00	0.63	0.00	0.00	58.00	8.78	3.45	0.00
7.00	0.79	0.00	0.00	59.00	8.78	3.45	0.00
8.00	1.00	0.00	0.00	60.00	8.78	3.45	0.00
9.00	1.28	0.00	0.00	61.00	8.78	3.45	0.00
10.00	1.66	0.00	0.00	62.00	8.78	3.45	0.00
11.00	2.20	0.05	0.24	63.00	8.78	3.45	0.00
12.00	4.39	0.74	**3.49**	64.00	8.78	3.45	0.00
13.00	6.58	1.95	**2.20**	65.00	8.78	3.45	0.00
14.00	7.12	2.30	1.24	66.00	8.78	3.45	0.00
15.00	7.50	2.55	0.94	67.00	8.78	3.45	0.00
16.00	7.78	2.74	0.69	68.00	8.78	3.45	0.00
17.00	7.99	2.88	0.53	69.00	8.78	3.45	0.00
18.00	8.15	3.00	0.42	70.00	8.78	3.45	0.00
19.00	8.28	3.09	0.36	71.00	8.78	3.45	0.00
20.00	8.40	3.18	0.33	72.00	8.78	3.45	0.00
21.00	8.51	3.26	0.30				
22.00	8.61	3.33	0.27				
23.00	8.70	3.39	0.25				
24.00	**8.78**	**3.45**	0.22				
25.00	8.78	3.45	0.00				
26.00	8.78	3.45	0.00				
27.00	8.78	3.45	0.00				
28.00	8.78	3.45	0.00				
29.00	8.78	3.45	0.00				
30.00	8.78	3.45	0.00				
31.00	8.78	3.45	0.00				
32.00	8.78	3.45	0.00				
33.00	8.78	3.45	0.00				
34.00	8.78	3.45	0.00				
35.00	8.78	3.45	0.00				
36.00	8.78	3.45	0.00				
37.00	8.78	3.45	0.00				
38.00	8.78	3.45	0.00				
39.00	8.78	3.45	0.00				
40.00	8.78	3.45	0.00				
41.00	8.78	3.45	0.00				
42.00	8.78	3.45	0.00				
43.00	8.78	3.45	0.00				
44.00	8.78	3.45	0.00				
45.00	8.78	3.45	0.00				
46.00	8.78	3.45	0.00				
47.00	8.78	3.45	0.00				
48.00	8.78	3.45	0.00				
49.00	8.78	3.45	0.00				
50.00	8.78	3.45	0.00				
51.00	8.78	3.45	0.00				

Summary for Subcatchment EWS-3: EWS-1

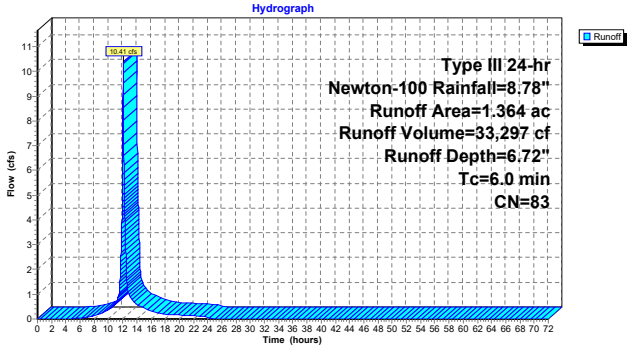
Runoff = 10.41 cfs @ 12.09 hrs, Volume= 33,297 cf, Depth= 6.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr Newton-100 Rainfall=8.78"

Area (ac)	CN	Description
0.391	98	Paved parking, HSG A
0.616	98	Roofs, HSG A
0.357	39	>75% Grass cover, Good, HSG A
1.364	83	Weighted Average
0.357		26.17% Pervious Area
1.007		73.83% Impervious Area

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

Subcatchment EWS-3: EWS-1



Hydrograph for Subcatchment EWS-3: EWS-1

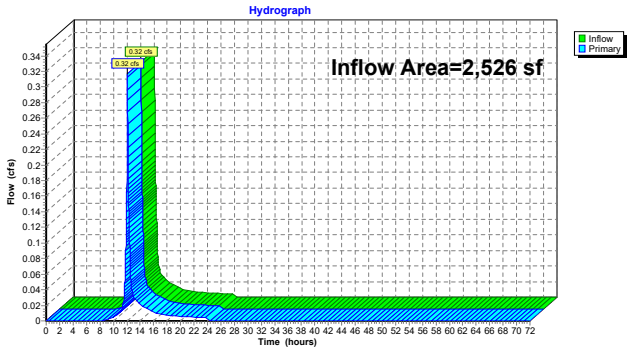
Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	52.00	8.78	6.72	0.00
1.00	0.09	0.00	0.00	53.00	8.78	6.72	0.00
2.00	0.18	0.00	0.00	54.00	8.78	6.72	0.00
3.00	0.27	0.00	0.00	55.00	8.78	6.72	0.00
4.00	0.38	0.00	0.00	56.00	8.78	6.72	0.00
5.00	0.50	0.00	0.01	57.00	8.78	6.72	0.00
6.00	0.63	0.02	0.03	58.00	8.78	6.72	0.00
7.00	0.79	0.06	0.07	59.00	8.78	6.72	0.00
8.00	1.00	0.13	0.12	60.00	8.78	6.72	0.00
9.00	1.28	0.26	0.22	61.00	8.78	6.72	0.00
10.00	1.66	0.47	0.35	62.00	8.78	6.72	0.00
11.00	2.20	0.83	0.60	63.00	8.78	6.72	0.00
12.00	4.39	2.63	**6.36**	64.00	8.78	6.72	0.00
13.00	6.58	4.64	**0.92**	65.00	8.78	6.72	0.00
14.00	7.12	5.14	0.58	66.00	8.78	6.72	0.00
15.00	7.50	5.50	0.44	67.00	8.78	6.72	0.00
16.00	7.78	5.77	0.31	68.00	8.78	6.72	0.00
17.00	7.99	5.96	0.25	69.00	8.78	6.72	0.00
18.00	8.15	6.12	0.19	70.00	8.78	6.72	0.00
19.00	8.28	6.25	0.17	71.00	8.78	6.72	0.00
20.00	8.40	6.36	0.15	72.00	8.78	6.72	0.00
21.00	8.51	6.47	0.14				
22.00	8.61	6.56	0.13				
23.00	8.70	6.65	0.11				
24.00	**8.78**	**6.72**	0.10				
25.00	8.78	6.72	0.00				
26.00	8.78	6.72	0.00				
27.00	8.78	6.72	0.00				
28.00	8.78	6.72	0.00				
29.00	8.78	6.72	0.00				
30.00	8.78	6.72	0.00				
31.00	8.78	6.72	0.00				
32.00	8.78	6.72	0.00				
33.00	8.78	6.72	0.00				
34.00	8.78	6.72	0.00				
35.00	8.78	6.72	0.00				
36.00	8.78	6.72	0.00				
37.00	8.78	6.72	0.00				
38.00	8.78	6.72	0.00				
39.00	8.78	6.72	0.00				
40.00	8.78	6.72	0.00				
41.00	8.78	6.72	0.00				
42.00	8.78	6.72	0.00				
43.00	8.78	6.72	0.00				
44.00	8.78	6.72	0.00				
45.00	8.78	6.72	0.00				
46.00	8.78	6.72	0.00				
47.00	8.78	6.72	0.00				
48.00	8.78	6.72	0.00				
49.00	8.78	6.72	0.00				
50.00	8.78	6.72	0.00				
51.00	8.78	6.72	0.00				

Summary for Link POA-1: POA-1

Inflow Area = 2,526 sf, 46.55% Impervious, Inflow Depth = 4.66" for Newton-100 event
Inflow = 0.32 cfs @ 12.09 hrs, Volume= 980 cf
Primary = 0.32 cfs @ 12.09 hrs, Volume= 980 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POA-1: POA-1



Hydrograph for Link POA-1: POA-1

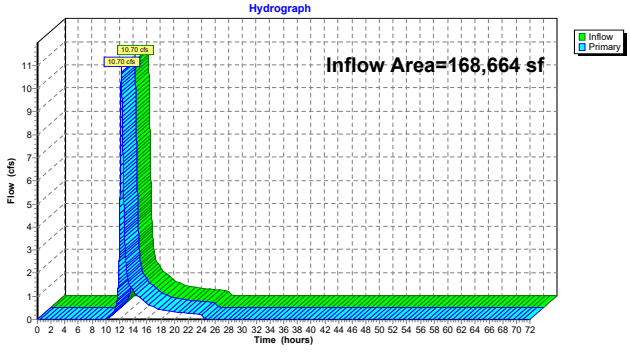
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	52.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00	55.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	56.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	57.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	58.00	0.00	0.00	0.00
7.00	0.00	0.00	0.00	59.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	60.00	0.00	0.00	0.00
9.00	0.00	0.00	0.00	61.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	62.00	0.00	0.00	0.00
11.00	0.01	0.00	0.01	63.00	0.00	0.00	0.00
12.00	**0.18**	0.00	**0.18**	64.00	0.00	0.00	0.00
13.00	**0.03**	0.00	**0.03**	65.00	0.00	0.00	0.00
14.00	0.02	0.00	0.02	66.00	0.00	0.00	0.00
15.00	0.02	0.00	0.02	67.00	0.00	0.00	0.00
16.00	0.01	0.00	0.01	68.00	0.00	0.00	0.00
17.00	0.01	0.00	0.01	69.00	0.00	0.00	0.00
18.00	0.01	0.00	0.01	70.00	0.00	0.00	0.00
19.00	0.01	0.00	0.01	71.00	0.00	0.00	0.00
20.00	0.01	0.00	0.01	72.00	0.00	0.00	0.00
21.00	0.01	0.00	0.01				
22.00	0.00	0.00	0.00				
23.00	0.00	0.00	0.00				
24.00	0.00	0.00	0.00				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.00	0.00	0.00	0.00				

Summary for Link POA-2: POA-2

Inflow Area = 168,664 sf, 20.07% Impervious, Inflow Depth = 3.45" for Newton-100 event
Inflow = 10.70 cfs @ 12.25 hrs, Volume= 48,479 cf
Primary = 10.70 cfs @ 12.25 hrs, Volume= 48,479 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POA-2: POA-2



Hydrograph for Link POA-2: POA-2

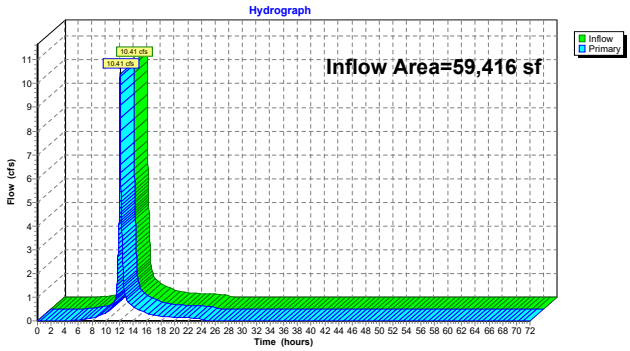
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	52.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00	55.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	56.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	57.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	58.00	0.00	0.00	0.00
7.00	0.00	0.00	0.00	59.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	60.00	0.00	0.00	0.00
9.00	0.00	0.00	0.00	61.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	62.00	0.00	0.00	0.00
11.00	0.24	0.00	0.24	63.00	0.00	0.00	0.00
12.00	**3.49**	0.00	**3.49**	64.00	0.00	0.00	0.00
13.00	**2.20**	0.00	**2.20**	65.00	0.00	0.00	0.00
14.00	1.24	0.00	1.24	66.00	0.00	0.00	0.00
15.00	0.94	0.00	0.94	67.00	0.00	0.00	0.00
16.00	0.69	0.00	0.69	68.00	0.00	0.00	0.00
17.00	0.53	0.00	0.53	69.00	0.00	0.00	0.00
18.00	0.42	0.00	0.42	70.00	0.00	0.00	0.00
19.00	0.36	0.00	0.36	71.00	0.00	0.00	0.00
20.00	0.33	0.00	0.33	72.00	0.00	0.00	0.00
21.00	0.30	0.00	0.30				
22.00	0.27	0.00	0.27				
23.00	0.25	0.00	0.25				
24.00	0.22	0.00	0.22				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.00	0.00	0.00	0.00				

Summary for Link POA-3: POA-3

Inflow Area = 59,416 sf, 73.83% Impervious, Inflow Depth = 6.72" for Newton-100 event
Inflow = 10.41 cfs @ 12.09 hrs, Volume= 33,297 cf
Primary = 10.41 cfs @ 12.09 hrs, Volume= 33,297 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

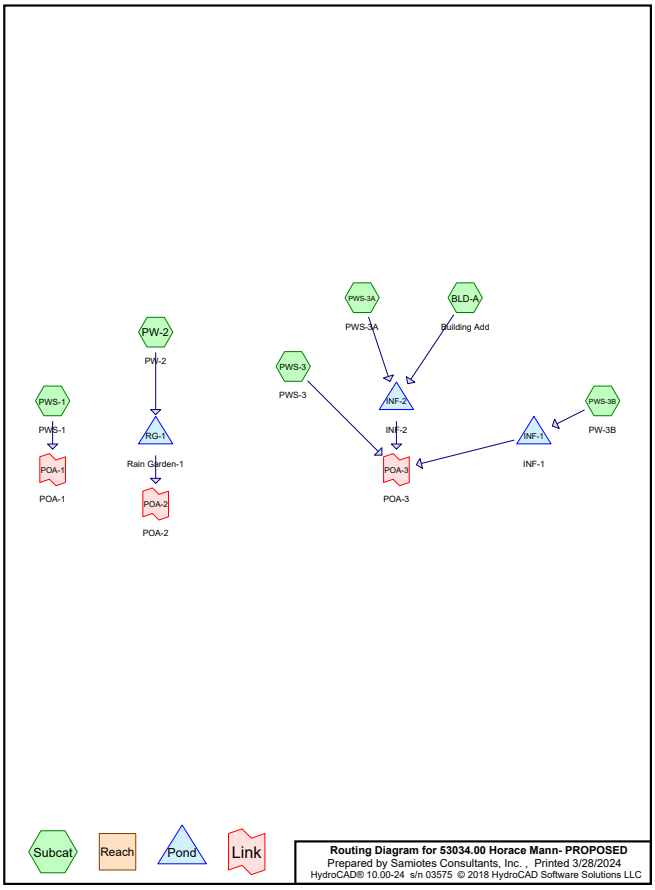
Link POA-3: POA-3



Hydrograph for Link POA-3: POA-3

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	52.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00	55.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	56.00	0.00	0.00	0.00
5.00	0.01	0.00	0.01	57.00	0.00	0.00	0.00
6.00	0.03	0.00	0.03	58.00	0.00	0.00	0.00
7.00	0.07	0.00	0.07	59.00	0.00	0.00	0.00
8.00	0.12	0.00	0.12	60.00	0.00	0.00	0.00
9.00	0.22	0.00	0.22	61.00	0.00	0.00	0.00
10.00	0.35	0.00	0.35	62.00	0.00	0.00	0.00
11.00	0.60	0.00	0.60	63.00	0.00	0.00	0.00
12.00	**6.36**	0.00	**6.36**	64.00	0.00	0.00	0.00
13.00	**0.92**	0.00	**0.92**	65.00	0.00	0.00	0.00
14.00	0.58	0.00	0.58	66.00	0.00	0.00	0.00
15.00	0.44	0.00	0.44	67.00	0.00	0.00	0.00
16.00	0.31	0.00	0.31	68.00	0.00	0.00	0.00
17.00	0.25	0.00	0.25	69.00	0.00	0.00	0.00
18.00	0.19	0.00	0.19	70.00	0.00	0.00	0.00
19.00	0.17	0.00	0.17	71.00	0.00	0.00	0.00
20.00	0.15	0.00	0.15	72.00	0.00	0.00	0.00
21.00	0.14	0.00	0.14				
22.00	0.13	0.00	0.13				
23.00	0.11	0.00	0.11				
24.00	0.10	0.00	0.10				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.00	0.00	0.00	0.00				

APPENDIX 3:
PROPOSED HYDROLOGY REPORT



Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
108,682	39	>75% Grass cover, Good, HSG A (PW-2, PWS-1, PWS-3, PWS-3A, PWS-3B)
5,576	72	Infield, HSG A (PWS-3B)
69,086	98	Paved parking, HSG A (PW-2, PWS-1, PWS-3, PWS-3A, PWS-3B)
40,032	98	Roofs, HSG A (BLD-A, PWS-3, PWS-3A)
7,231	32	Woods/grass comb., Good, HSG A (PW-2, PWS-3B)
230,607	**67**	**TOTAL AREA**

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentBLD-A: Building Add Runoff Area=0.279 ac 100.00% Impervious Runoff Depth=2.97"
Tc=6.0 min CN=98 Runoff=0.87 cfs 3,005 cf

SubcatchmentPW-2: PW-2 Runoff Area=1.487 ac 7.40% Impervious Runoff Depth=0.02"
Flow Length=293' Tc=17.8 min CN=43 Runoff=0.00 cfs 118 cf

SubcatchmentPWS-1: PWS-1 Runoff Area=0.030 ac 63.33% Impervious Runoff Depth=1.15"
Tc=6.0 min CN=76 Runoff=0.04 cfs 125 cf

SubcatchmentPWS-3: PWS-3 Runoff Area=1.220 ac 70.33% Impervious Runoff Depth=1.40"
Tc=6.0 min CN=80 Runoff=1.99 cfs 6,209 cf

SubcatchmentPWS-3A: PWS-3A Runoff Area=0.238 ac 94.54% Impervious Runoff Depth=2.64"
Flow Length=109' Tc=6.0 min CN=95 Runoff=0.70 cfs 2,285 cf

SubcatchmentPWS-3B: PW-3B Runoff Area=2.040 ac 49.71% Impervious Runoff Depth=0.83"
Flow Length=311' Tc=16.4 min CN=70 Runoff=1.28 cfs 6,132 cf

Pond INF-1: INF-1 Peak Elev=51.41' Storage=1,701 cf Inflow=1.28 cfs 6,132 cf
Discarded=0.27 cfs 6,132 cf Primary=0.00 cfs 0 cf Outflow=0.27 cfs 6,132 cf

Pond INF-2: INF-2 Peak Elev=52.06' Storage=1,998 cf Inflow=1.56 cfs 5,290 cf
Discarded=0.13 cfs 5,290 cf Primary=0.00 cfs 0 cf Outflow=0.13 cfs 5,290 cf

Pond RG-1: Rain Garden-1 Peak Elev=41.08' Storage=3 cf Inflow=0.00 cfs 118 cf
Discarded=0.00 cfs 118 cf Primary=0.00 cfs 0 cf Outflow=0.00 cfs 118 cf

Link POA-1: POA-1 Inflow=0.04 cfs 125 cf
Primary=0.04 cfs 125 cf

Link POA-2: POA-2 Inflow=0.00 cfs 0 cf
Primary=0.00 cfs 0 cf

Link POA-3: POA-3 Inflow=1.99 cfs 6,209 cf
Primary=1.99 cfs 6,209 cf

Total Runoff Area = 230,607 sf Runoff Volume = 17,874 cf Average Runoff Depth = 0.93"
52.68% Pervious = 121,489 sf 47.32% Impervious = 109,118 sf

Summary for Subcatchment BLD-A: Building Add

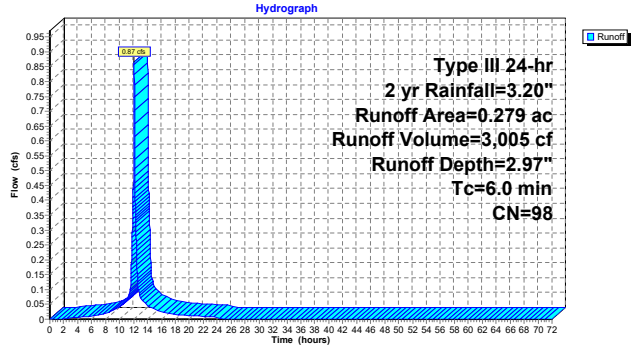
Runoff = 0.87 cfs @ 12.08 hrs, Volume= 3,005 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.20"

Area (ac)	CN	Description
0.279	98	Roofs, HSG A
0.279		100.00% Impervious Area

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

Subcatchment BLD-A: Building Add



Hydrograph for Subcatchment BLD-A: Building Add

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	52.00	3.20	2.97	0.00
1.00	0.03	0.00	0.00	53.00	3.20	2.97	0.00
2.00	0.06	0.00	0.00	54.00	3.20	2.97	0.00
3.00	0.10	0.01	0.00	55.00	3.20	2.97	0.00
4.00	0.14	0.03	0.01	56.00	3.20	2.97	0.00
5.00	0.18	0.06	0.01	57.00	3.20	2.97	0.00
6.00	0.23	0.09	0.01	58.00	3.20	2.97	0.00
7.00	0.29	0.14	0.01	59.00	3.20	2.97	0.00
8.00	0.36	0.20	0.02	60.00	3.20	2.97	0.00
9.00	0.47	0.29	0.03	61.00	3.20	2.97	0.00
10.00	0.60	0.41	0.04	62.00	3.20	2.97	0.00
11.00	0.80	0.60	0.06	63.00	3.20	2.97	0.00
12.00	1.60	1.38	**0.54**	64.00	3.20	2.97	0.00
13.00	2.40	2.17	**0.07**	65.00	3.20	2.97	0.00
14.00	2.60	2.37	0.05	66.00	3.20	2.97	0.00
15.00	2.73	2.50	0.03	67.00	3.20	2.97	0.00
16.00	2.84	2.60	0.02	68.00	3.20	2.97	0.00
17.00	2.91	2.68	0.02	69.00	3.20	2.97	0.00
18.00	2.97	2.74	0.01	70.00	3.20	2.97	0.00
19.00	3.02	2.79	0.01	71.00	3.20	2.97	0.00
20.00	3.06	2.83	0.01	72.00	3.20	2.97	0.00
21.00	3.10	2.87	0.01				
22.00	3.14	2.91	0.01				
23.00	3.17	2.94	0.01				
24.00	**3.20**	**2.97**	0.01				
25.00	3.20	2.97	0.00				
26.00	3.20	2.97	0.00				
27.00	3.20	2.97	0.00				
28.00	3.20	2.97	0.00				
29.00	3.20	2.97	0.00				
30.00	3.20	2.97	0.00				
31.00	3.20	2.97	0.00				
32.00	3.20	2.97	0.00				
33.00	3.20	2.97	0.00				
34.00	3.20	2.97	0.00				
35.00	3.20	2.97	0.00				
36.00	3.20	2.97	0.00				
37.00	3.20	2.97	0.00				
38.00	3.20	2.97	0.00				
39.00	3.20	2.97	0.00				
40.00	3.20	2.97	0.00				
41.00	3.20	2.97	0.00				
42.00	3.20	2.97	0.00				
43.00	3.20	2.97	0.00				
44.00	3.20	2.97	0.00				
45.00	3.20	2.97	0.00				
46.00	3.20	2.97	0.00				
47.00	3.20	2.97	0.00				
48.00	3.20	2.97	0.00				
49.00	3.20	2.97	0.00				
50.00	3.20	2.97	0.00				
51.00	3.20	2.97	0.00				

Summary for Subcatchment PW-2: PW-2

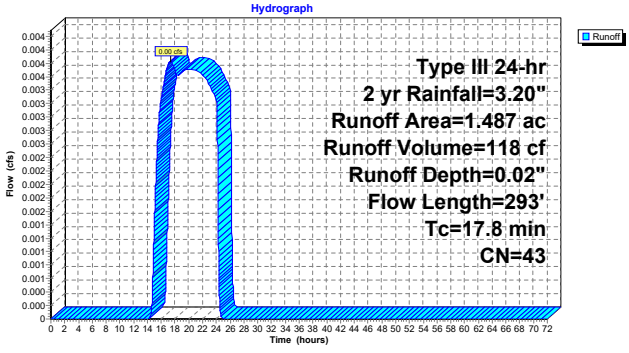
Runoff = 0.00 cfs @ 17.35 hrs, Volume= 118 cf, Depth= 0.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.20"

Area (ac)	CN	Description
0.110	98	Paved parking, HSG A
1.244	39	>75% Grass cover, Good, HSG A
0.133	32	Woods/grass comb., Good, HSG A
1.487	43	Weighted Average
1.377		92.60% Pervious Area
0.110		7.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.1	50	0.0020	0.06		**Sheet Flow, 50 FT SHEET FLOW** Grass: Short n= 0.150 P2= 3.20"
1.4	72	0.0150	0.86		**Shallow Concentrated Flow, 72 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
0.3	52	0.1700	2.89		**Shallow Concentrated Flow, 52 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
0.9	72	0.0360	1.33		**Shallow Concentrated Flow, 72 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
1.1	47	0.0110	0.73		**Shallow Concentrated Flow, 47 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
17.8	293	Total			

Subcatchment PW-2: PW-2



Hydrograph for Subcatchment PW-2: PW-2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	52.00	3.20	0.02	0.00
1.00	0.03	0.00	0.00	53.00	3.20	0.02	0.00
2.00	0.06	0.00	0.00	54.00	3.20	0.02	0.00
3.00	0.10	0.00	0.00	55.00	3.20	0.02	0.00
4.00	0.14	0.00	0.00	56.00	3.20	0.02	0.00
5.00	0.18	0.00	0.00	57.00	3.20	0.02	0.00
6.00	0.23	0.00	0.00	58.00	3.20	0.02	0.00
7.00	0.29	0.00	0.00	59.00	3.20	0.02	0.00
8.00	0.36	0.00	0.00	60.00	3.20	0.02	0.00
9.00	0.47	0.00	0.00	61.00	3.20	0.02	0.00
10.00	0.60	0.00	0.00	62.00	3.20	0.02	0.00
11.00	0.80	0.00	0.00	63.00	3.20	0.02	0.00
12.00	1.60	0.00	0.00	64.00	3.20	0.02	0.00
13.00	2.40	0.00	0.00	65.00	3.20	0.02	0.00
14.00	2.60	0.00	0.00	66.00	3.20	0.02	0.00
15.00	2.73	0.00	0.00	67.00	3.20	0.02	0.00
16.00	2.84	0.00	0.00	68.00	3.20	0.02	0.00
17.00	2.91	0.00	**0.00**	69.00	3.20	0.02	0.00
18.00	2.97	0.01	**0.00**	70.00	3.20	0.02	0.00
19.00	3.02	0.01	0.00	71.00	3.20	0.02	0.00
20.00	3.06	0.01	0.00	72.00	3.20	0.02	0.00
21.00	3.10	0.01	0.00				
22.00	3.14	0.02	0.00				
23.00	3.17	0.02	0.00				
24.00	**3.20**	**0.02**	0.00				
25.00	3.20	0.02	0.00				
26.00	3.20	0.02	0.00				
27.00	3.20	0.02	0.00				
28.00	3.20	0.02	0.00				
29.00	3.20	0.02	0.00				
30.00	3.20	0.02	0.00				
31.00	3.20	0.02	0.00				
32.00	3.20	0.02	0.00				
33.00	3.20	0.02	0.00				
34.00	3.20	0.02	0.00				
35.00	3.20	0.02	0.00				
36.00	3.20	0.02	0.00				
37.00	3.20	0.02	0.00				
38.00	3.20	0.02	0.00				
39.00	3.20	0.02	0.00				
40.00	3.20	0.02	0.00				
41.00	3.20	0.02	0.00				
42.00	3.20	0.02	0.00				
43.00	3.20	0.02	0.00				
44.00	3.20	0.02	0.00				
45.00	3.20	0.02	0.00				
46.00	3.20	0.02	0.00				
47.00	3.20	0.02	0.00				
48.00	3.20	0.02	0.00				
49.00	3.20	0.02	0.00				
50.00	3.20	0.02	0.00				
51.00	3.20	0.02	0.00				

Summary for Subcatchment PWS-1: PWS-1

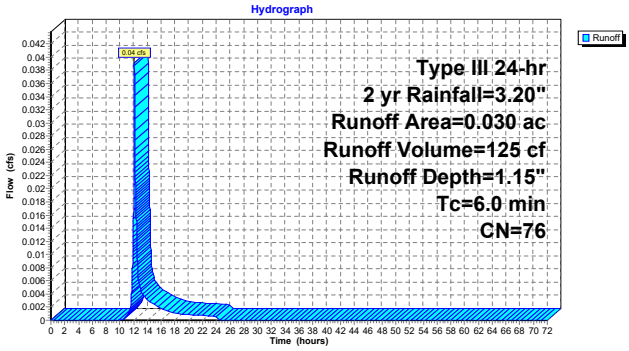
Runoff = 0.04 cfs @ 12.09 hrs, Volume= 125 cf, Depth= 1.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.20"

Area (ac)	CN	Description
0.019	98	Paved parking, HSG A
0.011	39	>75% Grass cover, Good, HSG A
0.030	76	Weighted Average
0.011		36.67% Pervious Area
0.019		63.33% Impervious Area

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

Subcatchment PWS-1: PWS-1



Hydrograph for Subcatchment PWS-1: PWS-1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	52.00	3.20	1.15	0.00
1.00	0.03	0.00	0.00	53.00	3.20	1.15	0.00
2.00	0.06	0.00	0.00	54.00	3.20	1.15	0.00
3.00	0.10	0.00	0.00	55.00	3.20	1.15	0.00
4.00	0.14	0.00	0.00	56.00	3.20	1.15	0.00
5.00	0.18	0.00	0.00	57.00	3.20	1.15	0.00
6.00	0.23	0.00	0.00	58.00	3.20	1.15	0.00
7.00	0.29	0.00	0.00	59.00	3.20	1.15	0.00
8.00	0.36	0.00	0.00	60.00	3.20	1.15	0.00
9.00	0.47	0.00	0.00	61.00	3.20	1.15	0.00
10.00	0.60	0.00	0.00	62.00	3.20	1.15	0.00
11.00	0.80	0.01	0.00	63.00	3.20	1.15	0.00
12.00	1.60	0.23	**0.02**	64.00	3.20	1.15	0.00
13.00	2.40	0.63	**0.00**	65.00	3.20	1.15	0.00
14.00	2.60	0.75	0.00	66.00	3.20	1.15	0.00
15.00	2.73	0.84	0.00	67.00	3.20	1.15	0.00
16.00	2.84	0.91	0.00	68.00	3.20	1.15	0.00
17.00	2.91	0.96	0.00	69.00	3.20	1.15	0.00
18.00	2.97	0.99	0.00	70.00	3.20	1.15	0.00
19.00	3.02	1.03	0.00	71.00	3.20	1.15	0.00
20.00	3.06	1.06	0.00	72.00	3.20	1.15	0.00
21.00	3.10	1.08	0.00				
22.00	3.14	1.11	0.00				
23.00	3.17	1.13	0.00				
24.00	**3.20**	**1.15**	0.00				
25.00	3.20	1.15	0.00				
26.00	3.20	1.15	0.00				
27.00	3.20	1.15	0.00				
28.00	3.20	1.15	0.00				
29.00	3.20	1.15	0.00				
30.00	3.20	1.15	0.00				
31.00	3.20	1.15	0.00				
32.00	3.20	1.15	0.00				
33.00	3.20	1.15	0.00				
34.00	3.20	1.15	0.00				
35.00	3.20	1.15	0.00				
36.00	3.20	1.15	0.00				
37.00	3.20	1.15	0.00				
38.00	3.20	1.15	0.00				
39.00	3.20	1.15	0.00				
40.00	3.20	1.15	0.00				
41.00	3.20	1.15	0.00				
42.00	3.20	1.15	0.00				
43.00	3.20	1.15	0.00				
44.00	3.20	1.15	0.00				
45.00	3.20	1.15	0.00				
46.00	3.20	1.15	0.00				
47.00	3.20	1.15	0.00				
48.00	3.20	1.15	0.00				
49.00	3.20	1.15	0.00				
50.00	3.20	1.15	0.00				
51.00	3.20	1.15	0.00				

Summary for Subcatchment PWS-3: PWS-3

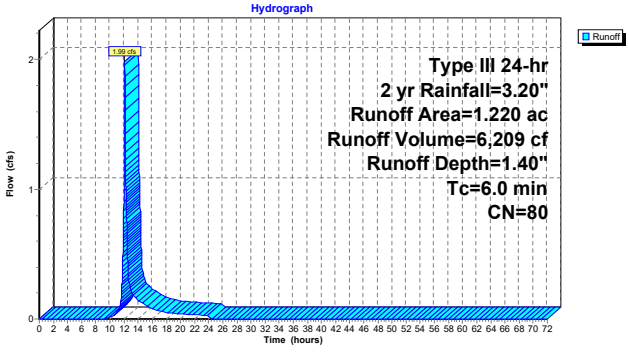
Runoff = 1.99 cfs @ 12.09 hrs, Volume= 6,209 cf, Depth= 1.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.20"

Area (ac)	CN	Description
0.242	98	Paved parking, HSG A
0.616	98	Roofs, HSG A
0.362	39	>75% Grass cover, Good, HSG A
1.220	80	Weighted Average
0.362		29.67% Pervious Area
0.858		70.33% Impervious Area

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

Subcatchment PWS-3: PWS-3



Hydrograph for Subcatchment PWS-3: PWS-3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	52.00	3.20	1.40	0.00
1.00	0.03	0.00	0.00	53.00	3.20	1.40	0.00
2.00	0.06	0.00	0.00	54.00	3.20	1.40	0.00
3.00	0.10	0.00	0.00	55.00	3.20	1.40	0.00
4.00	0.14	0.00	0.00	56.00	3.20	1.40	0.00
5.00	0.18	0.00	0.00	57.00	3.20	1.40	0.00
6.00	0.23	0.00	0.00	58.00	3.20	1.40	0.00
7.00	0.29	0.00	0.00	59.00	3.20	1.40	0.00
8.00	0.36	0.00	0.00	60.00	3.20	1.40	0.00
9.00	0.47	0.00	0.00	61.00	3.20	1.40	0.00
10.00	0.60	0.00	0.01	62.00	3.20	1.40	0.00
11.00	0.80	0.03	0.05	63.00	3.20	1.40	0.00
12.00	1.60	0.34	**1.09**	64.00	3.20	1.40	0.00
13.00	2.40	0.82	**0.22**	65.00	3.20	1.40	0.00
14.00	2.60	0.96	0.14	66.00	3.20	1.40	0.00
15.00	2.73	1.05	0.11	67.00	3.20	1.40	0.00
16.00	2.84	1.13	0.08	68.00	3.20	1.40	0.00
17.00	2.91	1.18	0.06	69.00	3.20	1.40	0.00
18.00	2.97	1.23	0.05	70.00	3.20	1.40	0.00
19.00	3.02	1.26	0.04	71.00	3.20	1.40	0.00
20.00	3.06	1.30	0.04	72.00	3.20	1.40	0.00
21.00	3.10	1.33	0.04				
22.00	3.14	1.35	0.03				
23.00	3.17	1.38	0.03				
24.00	**3.20**	**1.40**	0.03				
25.00	3.20	1.40	0.00				
26.00	3.20	1.40	0.00				
27.00	3.20	1.40	0.00				
28.00	3.20	1.40	0.00				
29.00	3.20	1.40	0.00				
30.00	3.20	1.40	0.00				
31.00	3.20	1.40	0.00				
32.00	3.20	1.40	0.00				
33.00	3.20	1.40	0.00				
34.00	3.20	1.40	0.00				
35.00	3.20	1.40	0.00				
36.00	3.20	1.40	0.00				
37.00	3.20	1.40	0.00				
38.00	3.20	1.40	0.00				
39.00	3.20	1.40	0.00				
40.00	3.20	1.40	0.00				
41.00	3.20	1.40	0.00				
42.00	3.20	1.40	0.00				
43.00	3.20	1.40	0.00				
44.00	3.20	1.40	0.00				
45.00	3.20	1.40	0.00				
46.00	3.20	1.40	0.00				
47.00	3.20	1.40	0.00				
48.00	3.20	1.40	0.00				
49.00	3.20	1.40	0.00				
50.00	3.20	1.40	0.00				
51.00	3.20	1.40	0.00				

Summary for Subcatchment PWS-3A: PWS-3A

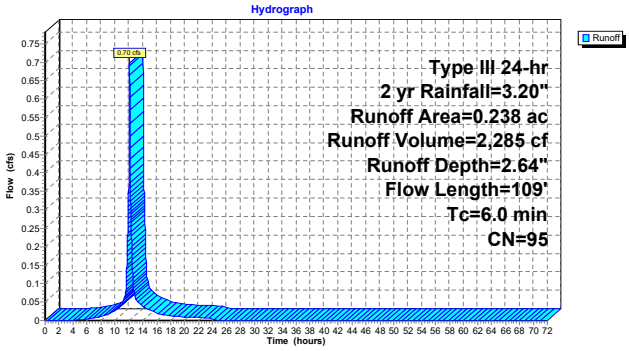
Runoff = 0.70 cfs @ 12.08 hrs, Volume= 2,285 cf, Depth= 2.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.20"

Area (ac)	CN	Description
0.201	98	Paved parking, HSG A
0.024	98	Roofs, HSG A
0.013	39	>75% Grass cover, Good, HSG A
0.238	95	Weighted Average
0.013		5.46% Pervious Area
0.225		94.54% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.1	34	0.0120	0.11		**Sheet Flow, 3 FT SHEET FLOW** Grass: Short n= 0.150 P2= 3.20"
0.4	17	0.0100	0.73		**Sheet Flow, 17 FT SHEET FLOW** Smooth surfaces n= 0.011 P2= 3.20"
0.2	27	0.0100	2.03		**Shallow Concentrated Flow, 27 FT SHALLOW GRASS** Paved Kv= 20.3 fps
0.3	31	0.0100	2.03		**Shallow Concentrated Flow, 31 FT SHALLOW PAVE** Paved Kv= 20.3 fps
6.0	109	Total			

Subcatchment PWS-3A: PWS-3A



Hydrograph for Subcatchment PWS-3A: PWS-3A

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	52.00	3.20	2.64	0.00
1.00	0.03	0.00	0.00	53.00	3.20	2.64	0.00
2.00	0.06	0.00	0.00	54.00	3.20	2.64	0.00
3.00	0.10	0.00	0.00	55.00	3.20	2.64	0.00
4.00	0.14	0.00	0.00	56.00	3.20	2.64	0.00
5.00	0.18	0.01	0.00	57.00	3.20	2.64	0.00
6.00	0.23	0.02	0.00	58.00	3.20	2.64	0.00
7.00	0.29	0.05	0.01	59.00	3.20	2.64	0.00
8.00	0.36	0.09	0.01	60.00	3.20	2.64	0.00
9.00	0.47	0.15	0.02	61.00	3.20	2.64	0.00
10.00	0.60	0.24	0.03	62.00	3.20	2.64	0.00
11.00	0.80	0.40	0.04	63.00	3.20	2.64	0.00
12.00	1.60	1.11	**0.43**	64.00	3.20	2.64	0.00
13.00	2.40	1.87	**0.06**	65.00	3.20	2.64	0.00
14.00	2.60	2.06	0.04	66.00	3.20	2.64	0.00
15.00	2.73	2.19	0.03	67.00	3.20	2.64	0.00
16.00	2.84	2.29	0.02	68.00	3.20	2.64	0.00
17.00	2.91	2.36	0.02	69.00	3.20	2.64	0.00
18.00	2.97	2.42	0.01	70.00	3.20	2.64	0.00
19.00	3.02	2.47	0.01	71.00	3.20	2.64	0.00
20.00	3.06	2.51	0.01	72.00	3.20	2.64	0.00
21.00	3.10	2.55	0.01				
22.00	3.14	2.58	0.01				
23.00	3.17	2.62	0.01				
24.00	**3.20**	**2.64**	0.01				
25.00	3.20	2.64	0.00				
26.00	3.20	2.64	0.00				
27.00	3.20	2.64	0.00				
28.00	3.20	2.64	0.00				
29.00	3.20	2.64	0.00				
30.00	3.20	2.64	0.00				
31.00	3.20	2.64	0.00				
32.00	3.20	2.64	0.00				
33.00	3.20	2.64	0.00				
34.00	3.20	2.64	0.00				
35.00	3.20	2.64	0.00				
36.00	3.20	2.64	0.00				
37.00	3.20	2.64	0.00				
38.00	3.20	2.64	0.00				
39.00	3.20	2.64	0.00				
40.00	3.20	2.64	0.00				
41.00	3.20	2.64	0.00				
42.00	3.20	2.64	0.00				
43.00	3.20	2.64	0.00				
44.00	3.20	2.64	0.00				
45.00	3.20	2.64	0.00				
46.00	3.20	2.64	0.00				
47.00	3.20	2.64	0.00				
48.00	3.20	2.64	0.00				
49.00	3.20	2.64	0.00				
50.00	3.20	2.64	0.00				
51.00	3.20	2.64	0.00				

Summary for Subcatchment PWS-3B: PW-3B

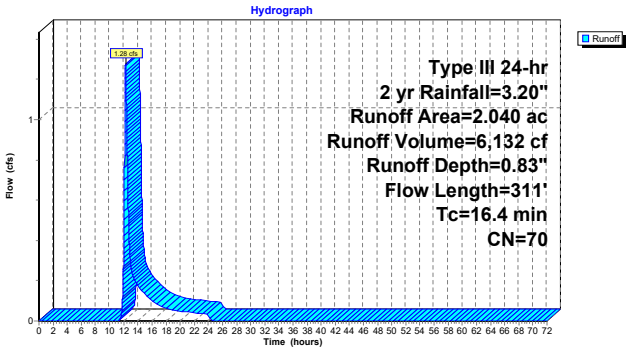
Runoff = 1.28 cfs @ 12.26 hrs, Volume= 6,132 cf, Depth= 0.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.20"

Area (ac)	CN	Description
1.014	98	Paved parking, HSG A
0.865	39	>75% Grass cover, Good, HSG A
0.033	32	Woods/grass comb., Good, HSG A
* 0.128	72	Infield, HSG A
2.040	70	Weighted Average
1.026		50.29% Pervious Area
1.014		49.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.7	50	0.0040	0.08		**Sheet Flow, 50 FT SHEET FLOW** Grass: Short n= 0.150 P2= 3.20"
1.9	61	0.0060	0.54		**Shallow Concentrated Flow, 61 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
0.1	8	0.0060	1.57		**Shallow Concentrated Flow, 8 FT SHALLOW WALKWAY** Paved Kv= 20.3 fps
1.4	52	0.0080	0.63		**Shallow Concentrated Flow, 52 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
2.1	120	0.0190	0.96		**Shallow Concentrated Flow, 120 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
0.2	20	0.0420	1.43		**Shallow Concentrated Flow, 20 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
16.4	311	Total			

Subcatchment PWS-3B: PW-3B



Hydrograph for Subcatchment PWS-3B: PW-3B

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	52.00	3.20	0.83	0.00
1.00	0.03	0.00	0.00	53.00	3.20	0.83	0.00
2.00	0.06	0.00	0.00	54.00	3.20	0.83	0.00
3.00	0.10	0.00	0.00	55.00	3.20	0.83	0.00
4.00	0.14	0.00	0.00	56.00	3.20	0.83	0.00
5.00	0.18	0.00	0.00	57.00	3.20	0.83	0.00
6.00	0.23	0.00	0.00	58.00	3.20	0.83	0.00
7.00	0.29	0.00	0.00	59.00	3.20	0.83	0.00
8.00	0.36	0.00	0.00	60.00	3.20	0.83	0.00
9.00	0.47	0.00	0.00	61.00	3.20	0.83	0.00
10.00	0.60	0.00	0.00	62.00	3.20	0.83	0.00
11.00	0.80	0.00	0.00	63.00	3.20	0.83	0.00
12.00	1.60	0.11	**0.31**	64.00	3.20	0.83	0.00
13.00	2.40	0.41	**0.29**	65.00	3.20	0.83	0.00
14.00	2.60	0.50	0.18	66.00	3.20	0.83	0.00
15.00	2.73	0.57	0.14	67.00	3.20	0.83	0.00
16.00	2.84	0.62	0.10	68.00	3.20	0.83	0.00
17.00	2.91	0.67	0.08	69.00	3.20	0.83	0.00
18.00	2.97	0.70	0.06	70.00	3.20	0.83	0.00
19.00	3.02	0.72	0.05	71.00	3.20	0.83	0.00
20.00	3.06	0.75	0.05	72.00	3.20	0.83	0.00
21.00	3.10	0.77	0.05				
22.00	3.14	0.79	0.04				
23.00	3.17	0.81	0.04				
24.00	**3.20**	**0.83**	0.03				
25.00	3.20	0.83	0.00				
26.00	3.20	0.83	0.00				
27.00	3.20	0.83	0.00				
28.00	3.20	0.83	0.00				
29.00	3.20	0.83	0.00				
30.00	3.20	0.83	0.00				
31.00	3.20	0.83	0.00				
32.00	3.20	0.83	0.00				
33.00	3.20	0.83	0.00				
34.00	3.20	0.83	0.00				
35.00	3.20	0.83	0.00				
36.00	3.20	0.83	0.00				
37.00	3.20	0.83	0.00				
38.00	3.20	0.83	0.00				
39.00	3.20	0.83	0.00				
40.00	3.20	0.83	0.00				
41.00	3.20	0.83	0.00				
42.00	3.20	0.83	0.00				
43.00	3.20	0.83	0.00				
44.00	3.20	0.83	0.00				
45.00	3.20	0.83	0.00				
46.00	3.20	0.83	0.00				
47.00	3.20	0.83	0.00				
48.00	3.20	0.83	0.00				
49.00	3.20	0.83	0.00				
50.00	3.20	0.83	0.00				
51.00	3.20	0.83	0.00				

Summary for Pond INF-1: INF-1

Inflow Area = 88,862 sf, 49.71% Impervious, Inflow Depth = 0.83" for 2 yr event
Inflow = 1.28 cfs @ 12.26 hrs, Volume= 6,132 cf
Outflow = 0.27 cfs @ 12.04 hrs, Volume= 6,132 cf, Atten= 79%, Lag= 0.0 min
Discarded = 0.27 cfs @ 12.04 hrs, Volume= 6,132 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 51.41' @ 13.06 hrs Surf.Area= 4,906 sf Storage= 1,701 cf

Plug-Flow detention time= 49.7 min calculated for 6,132 cf (100% of inflow)
Center-of-Mass det. time= 49.7 min (935.1 - 885.4)

Volume	Invert	Avail.Storage	Storage Description
#1	50.73'	4,571 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 17,858 cf Overall - 6,430 cf Embedded = 11,428 cf x 40.0% Voids
#2	51.23'	6,430 cf	**Cultec R-330XLHD** x 122 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 6 rows
		11,001 cf	Total Available Storage

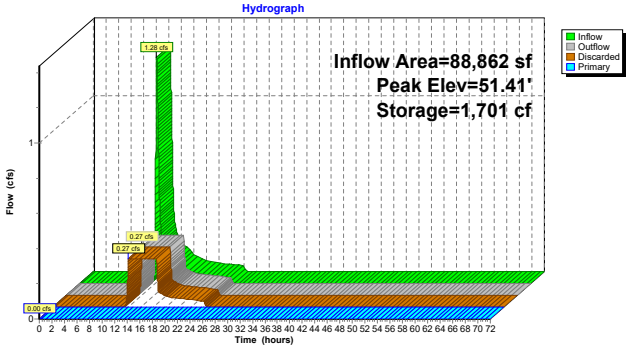
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.73	4,906	0	0
54.37	4,906	17,858	17,858

Device	Routing	Invert	Outlet Devices
#1	Discarded	50.73'	**2.410 in/hr Exfiltration over Surface area**
#2	Primary	52.89'	**10.0" Round Culvert-1** L= 55.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.89' / 52.22' S= 0.0122 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf
#3	Primary	52.45'	**12.0" Round Culvert-2** L= 45.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.45' / 52.22' S= 0.0051 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Discarded OutFlow Max=0.27 cfs @ 12.04 hrs HW=50.77' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.27 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=50.73' (Free Discharge)
└**2=Culvert-1** (Controls 0.00 cfs)
└**3=Culvert-2** (Controls 0.00 cfs)

Pond INF-1: INF-1



Hydrograph for Pond INF-1: INF-1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	50.73	0.00	0.00	**0.00**
2.00	0.00	0	50.73	0.00	0.00	0.00
4.00	0.00	0	50.73	0.00	0.00	0.00
6.00	0.00	0	50.73	0.00	0.00	0.00
8.00	0.00	0	50.73	0.00	0.00	0.00
10.00	0.00	0	50.73	0.00	0.00	0.00
12.00	**0.31**	**56**	**50.76**	**0.21**	**0.21**	0.00
14.00	**0.18**	**1,488**	**51.36**	**0.27**	**0.27**	0.00
16.00	0.10	496	50.98	0.27	0.27	0.00
18.00	0.06	17	50.74	0.06	0.06	0.00
20.00	0.05	13	50.74	0.05	0.05	0.00
22.00	0.04	11	50.74	0.04	0.04	0.00
24.00	0.03	9	50.73	0.03	0.03	0.00
26.00	0.00	0	50.73	0.00	0.00	0.00
28.00	0.00	0	50.73	0.00	0.00	0.00
30.00	0.00	0	50.73	0.00	0.00	0.00
32.00	0.00	0	50.73	0.00	0.00	0.00
34.00	0.00	0	50.73	0.00	0.00	0.00
36.00	0.00	0	50.73	0.00	0.00	0.00
38.00	0.00	0	50.73	0.00	0.00	0.00
40.00	0.00	0	50.73	0.00	0.00	0.00
42.00	0.00	0	50.73	0.00	0.00	0.00
44.00	0.00	0	50.73	0.00	0.00	0.00
46.00	0.00	0	50.73	0.00	0.00	0.00
48.00	0.00	0	50.73	0.00	0.00	0.00
50.00	0.00	0	50.73	0.00	0.00	0.00
52.00	0.00	0	50.73	0.00	0.00	0.00
54.00	0.00	0	50.73	0.00	0.00	0.00
56.00	0.00	0	50.73	0.00	0.00	0.00
58.00	0.00	0	50.73	0.00	0.00	0.00
60.00	0.00	0	50.73	0.00	0.00	0.00
62.00	0.00	0	50.73	0.00	0.00	0.00
64.00	0.00	0	50.73	0.00	0.00	0.00
66.00	0.00	0	50.73	0.00	0.00	0.00
68.00	0.00	0	50.73	0.00	0.00	0.00
70.00	0.00	0	50.73	0.00	0.00	0.00
72.00	0.00	0	50.73	0.00	0.00	0.00

Summary for Pond INF-2: INF-2

Inflow Area = 22,521 sf, 97.49% Impervious, Inflow Depth = 2.82" for 2 yr event
Inflow = 1.56 cfs @ 12.08 hrs, Volume= 5,290 cf
Outflow = 0.13 cfs @ 11.29 hrs, Volume= 5,290 cf, Atten= 92%, Lag= 0.0 min
Discarded = 0.13 cfs @ 11.29 hrs, Volume= 5,290 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 4
Peak Elev= 52.06' @ 13.05 hrs Surf.Area= 2,248 sf Storage= 1,998 cf

Plug-Flow detention time= 120.0 min calculated for 5,290 cf (100% of inflow)
Center-of-Mass det. time= 120.0 min (887.0 - 767.0)

Volume	Invert	Avail.Storage	Storage Description
#1	50.54'	2,311 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 8,632 cf Overall - 2,854 cf Embedded = 5,779 cf x 40.0% Voids
#2	51.36'	2,854 cf	**Cultec R-330XLHD** x 53 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 8 rows
		5,165 cf	Total Available Storage

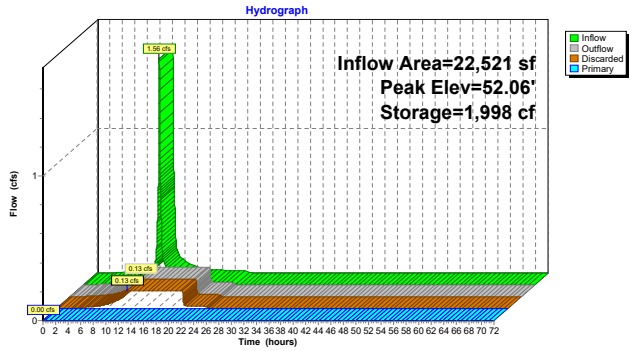
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.54	2,248	0	0
54.38	2,248	8,632	8,632

Device	Routing	Invert	Outlet Devices
#1	Discarded	50.54'	**2.410 in/hr Exfiltration over Surface area**
#2	Primary	53.00'	**8.0" Round Culvert-2** L= 22.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 53.00' / 52.69' S= 0.0141 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf
#3	Primary	52.80'	**8.0" Round Culvert-1** L= 21.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.80' / 52.69' S= 0.0052 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf

Discarded OutFlow Max=0.13 cfs @ 11.29 hrs HW=50.58' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.13 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=50.54' (Free Discharge)
└**2=Culvert-2** (Controls 0.00 cfs)
└**3=Culvert-1** (Controls 0.00 cfs)

Pond INF-2: INF-2



Hydrograph for Pond INF-2: INF-2

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	50.54	0.00	0.00	**0.00**
2.00	0.00	0	50.54	0.00	0.00	0.00
4.00	0.01	2	50.54	0.01	0.01	0.00
6.00	0.01	4	50.54	0.01	0.01	0.00
8.00	0.03	8	50.55	0.03	0.03	0.00
10.00	0.07	18	50.56	**0.07**	**0.07**	0.00
12.00	**0.98**	**592**	**51.20**	**0.13**	**0.13**	0.00
14.00	**0.08**	**1,920**	**52.02**	0.13	0.13	0.00
16.00	0.04	1,473	51.77	0.13	0.13	0.00
18.00	0.03	825	51.41	0.13	0.13	0.00
20.00	0.02	96	50.65	0.13	0.13	0.00
22.00	0.02	5	50.55	0.02	0.02	0.00
24.00	0.01	4	50.54	0.01	0.01	0.00
26.00	0.00	0	50.54	0.00	0.00	0.00
28.00	0.00	0	50.54	0.00	0.00	0.00
30.00	0.00	0	50.54	0.00	0.00	0.00
32.00	0.00	0	50.54	0.00	0.00	0.00
34.00	0.00	0	50.54	0.00	0.00	0.00
36.00	0.00	0	50.54	0.00	0.00	0.00
38.00	0.00	0	50.54	0.00	0.00	0.00
40.00	0.00	0	50.54	0.00	0.00	0.00
42.00	0.00	0	50.54	0.00	0.00	0.00
44.00	0.00	0	50.54	0.00	0.00	0.00
46.00	0.00	0	50.54	0.00	0.00	0.00
48.00	0.00	0	50.54	0.00	0.00	0.00
50.00	0.00	0	50.54	0.00	0.00	0.00
52.00	0.00	0	50.54	0.00	0.00	0.00
54.00	0.00	0	50.54	0.00	0.00	0.00
56.00	0.00	0	50.54	0.00	0.00	0.00
58.00	0.00	0	50.54	0.00	0.00	0.00
60.00	0.00	0	50.54	0.00	0.00	0.00
62.00	0.00	0	50.54	0.00	0.00	0.00
64.00	0.00	0	50.54	0.00	0.00	0.00
66.00	0.00	0	50.54	0.00	0.00	0.00
68.00	0.00	0	50.54	0.00	0.00	0.00
70.00	0.00	0	50.54	0.00	0.00	0.00
72.00	0.00	0	50.54	0.00	0.00	0.00

Summary for Pond RG-1: Rain Garden-1

Inflow Area = 64,774 sf, 7.40% Impervious, Inflow Depth = 0.02" for 2 yr event
Inflow = 0.00 cfs @ 17.35 hrs, Volume= 118 cf
Outflow = 0.00 cfs @ 17.78 hrs, Volume= 118 cf, Atten= 2%, Lag= 26.3 min
Discarded = 0.00 cfs @ 17.78 hrs, Volume= 118 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 41.08' @ 17.78 hrs Surf.Area= 67 sf Storage= 3 cf

Plug-Flow detention time= 12.0 min calculated for 118 cf (100% of inflow)
Center-of-Mass det. time= 12.0 min (1,193.0 - 1,181.0)

Volume	Invert	Avail.Storage	Storage Description
#1	41.00'	6,454 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

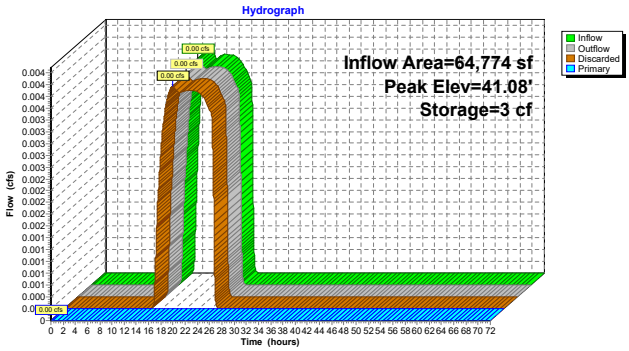
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
41.00	0	0	0
42.00	796	398	398
43.00	1,579	1,188	1,586
44.00	2,420	2,000	3,585
45.00	3,318	2,869	6,454

Device	Routing	Invert	Outlet Devices
#1	Discarded	41.00'	**2.410 in/hr Exfiltration over Surface area**
#2	Primary	44.50'	**8.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Discarded OutFlow Max=0.00 cfs @ 17.78 hrs HW=41.08' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=41.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond RG-1: Rain Garden-1



Hydrograph for Pond RG-1: Rain Garden-1

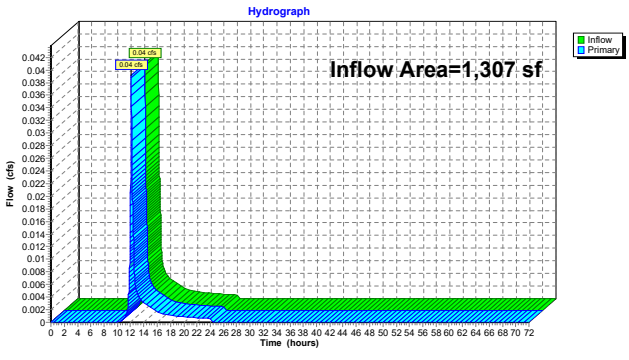
Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	41.00	0.00	0.00	**0.00**
2.00	0.00	0	41.00	0.00	0.00	0.00
4.00	0.00	0	41.00	0.00	0.00	0.00
6.00	0.00	0	41.00	0.00	0.00	0.00
8.00	0.00	0	41.00	0.00	0.00	0.00
10.00	0.00	0	41.00	0.00	0.00	0.00
12.00	0.00	0	41.00	0.00	0.00	0.00
14.00	0.00	0	41.00	0.00	0.00	0.00
16.00	**0.00**	**2**	**41.07**	**0.00**	**0.00**	0.00
18.00	**0.00**	**3**	**41.08**	**0.00**	**0.00**	0.00
20.00	0.00	3	41.08	0.00	0.00	0.00
22.00	0.00	3	41.08	0.00	0.00	0.00
24.00	0.00	2	41.07	0.00	0.00	0.00
26.00	0.00	0	41.00	0.00	0.00	0.00
28.00	0.00	0	41.00	0.00	0.00	0.00
30.00	0.00	0	41.00	0.00	0.00	0.00
32.00	0.00	0	41.00	0.00	0.00	0.00
34.00	0.00	0	41.00	0.00	0.00	0.00
36.00	0.00	0	41.00	0.00	0.00	0.00
38.00	0.00	0	41.00	0.00	0.00	0.00
40.00	0.00	0	41.00	0.00	0.00	0.00
42.00	0.00	0	41.00	0.00	0.00	0.00
44.00	0.00	0	41.00	0.00	0.00	0.00
46.00	0.00	0	41.00	0.00	0.00	0.00
48.00	0.00	0	41.00	0.00	0.00	0.00
50.00	0.00	0	41.00	0.00	0.00	0.00
52.00	0.00	0	41.00	0.00	0.00	0.00
54.00	0.00	0	41.00	0.00	0.00	0.00
56.00	0.00	0	41.00	0.00	0.00	0.00
58.00	0.00	0	41.00	0.00	0.00	0.00
60.00	0.00	0	41.00	0.00	0.00	0.00
62.00	0.00	0	41.00	0.00	0.00	0.00
64.00	0.00	0	41.00	0.00	0.00	0.00
66.00	0.00	0	41.00	0.00	0.00	0.00
68.00	0.00	0	41.00	0.00	0.00	0.00
70.00	0.00	0	41.00	0.00	0.00	0.00
72.00	0.00	0	41.00	0.00	0.00	0.00

Summary for Link POA-1: POA-1

Inflow Area = 1,307 sf, 63.33% Impervious, Inflow Depth = 1.15" for 2 yr event
Inflow = 0.04 cfs @ 12.09 hrs, Volume= 125 cf
Primary = 0.04 cfs @ 12.09 hrs, Volume= 125 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POA-1: POA-1



Hydrograph for Link POA-1: POA-1

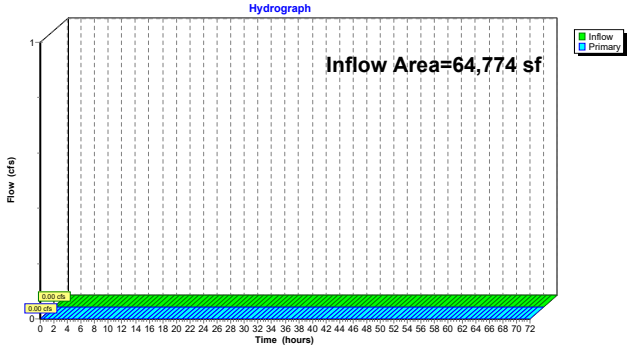
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	52.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00	55.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	56.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	57.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	58.00	0.00	0.00	0.00
7.00	0.00	0.00	0.00	59.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	60.00	0.00	0.00	0.00
9.00	0.00	0.00	0.00	61.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	62.00	0.00	0.00	0.00
11.00	0.00	0.00	0.00	63.00	0.00	0.00	0.00
12.00	**0.02**	0.00	**0.02**	64.00	0.00	0.00	0.00
13.00	**0.00**	0.00	**0.00**	65.00	0.00	0.00	0.00
14.00	0.00	0.00	0.00	66.00	0.00	0.00	0.00
15.00	0.00	0.00	0.00	67.00	0.00	0.00	0.00
16.00	0.00	0.00	0.00	68.00	0.00	0.00	0.00
17.00	0.00	0.00	0.00	69.00	0.00	0.00	0.00
18.00	0.00	0.00	0.00	70.00	0.00	0.00	0.00
19.00	0.00	0.00	0.00	71.00	0.00	0.00	0.00
20.00	0.00	0.00	0.00	72.00	0.00	0.00	0.00
21.00	0.00	0.00	0.00				
22.00	0.00	0.00	0.00				
23.00	0.00	0.00	0.00				
24.00	0.00	0.00	0.00				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.00	0.00	0.00	0.00				

Summary for Link POA-2: POA-2

Inflow Area = 64,774 sf, 7.40% Impervious, Inflow Depth = 0.00" for 2 yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POA-2: POA-2



Hydrograph for Link POA-2: POA-2

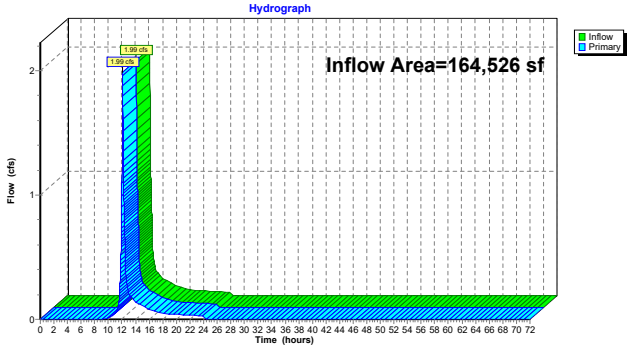
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	**0.00**	**0.00**	**0.00**	52.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00	55.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	56.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	57.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	58.00	0.00	0.00	0.00
7.00	0.00	0.00	0.00	59.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	60.00	0.00	0.00	0.00
9.00	0.00	0.00	0.00	61.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	62.00	0.00	0.00	0.00
11.00	0.00	0.00	0.00	63.00	0.00	0.00	0.00
12.00	0.00	0.00	0.00	64.00	0.00	0.00	0.00
13.00	0.00	0.00	0.00	65.00	0.00	0.00	0.00
14.00	0.00	0.00	0.00	66.00	0.00	0.00	0.00
15.00	0.00	0.00	0.00	67.00	0.00	0.00	0.00
16.00	0.00	0.00	0.00	68.00	0.00	0.00	0.00
17.00	0.00	0.00	0.00	69.00	0.00	0.00	0.00
18.00	0.00	0.00	0.00	70.00	0.00	0.00	0.00
19.00	0.00	0.00	0.00	71.00	0.00	0.00	0.00
20.00	0.00	0.00	0.00	72.00	0.00	0.00	0.00
21.00	0.00	0.00	0.00				
22.00	0.00	0.00	0.00				
23.00	0.00	0.00	0.00				
24.00	0.00	0.00	0.00				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.00	0.00	0.00	0.00				

Summary for Link POA-3: POA-3

Inflow Area = 164,526 sf, 62.91% Impervious, Inflow Depth = 0.45" for 2 yr event
Inflow = 1.99 cfs @ 12.09 hrs, Volume= 6,209 cf
Primary = 1.99 cfs @ 12.09 hrs, Volume= 6,209 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POA-3: POA-3



Hydrograph for Link POA-3: POA-3

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	52.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00	55.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	56.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	57.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	58.00	0.00	0.00	0.00
7.00	0.00	0.00	0.00	59.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	60.00	0.00	0.00	0.00
9.00	0.00	0.00	0.00	61.00	0.00	0.00	0.00
10.00	0.01	0.00	0.01	62.00	0.00	0.00	0.00
11.00	0.05	0.00	0.05	63.00	0.00	0.00	0.00
12.00	**1.09**	0.00	**1.09**	64.00	0.00	0.00	0.00
13.00	**0.22**	0.00	**0.22**	65.00	0.00	0.00	0.00
14.00	0.14	0.00	0.14	66.00	0.00	0.00	0.00
15.00	0.11	0.00	0.11	67.00	0.00	0.00	0.00
16.00	0.08	0.00	0.08	68.00	0.00	0.00	0.00
17.00	0.06	0.00	0.06	69.00	0.00	0.00	0.00
18.00	0.05	0.00	0.05	70.00	0.00	0.00	0.00
19.00	0.04	0.00	0.04	71.00	0.00	0.00	0.00
20.00	0.04	0.00	0.04	72.00	0.00	0.00	0.00
21.00	0.04	0.00	0.04				
22.00	0.03	0.00	0.03				
23.00	0.03	0.00	0.03				
24.00	0.03	0.00	0.03				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.00	0.00	0.00	0.00				

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentBLD-A: Building Add Runoff Area=0.279 ac 100.00% Impervious Runoff Depth=4.26"
Tc=6.0 min CN=98 Runoff=1.23 cfs 4,318 cf

SubcatchmentPW-2: PW-2 Runoff Area=1.487 ac 7.40% Impervious Runoff Depth=0.23"
Flow Length=293' Tc=17.8 min CN=43 Runoff=0.07 cfs 1,222 cf

SubcatchmentPWS-1: PWS-1 Runoff Area=0.030 ac 63.33% Impervious Runoff Depth=2.13"
Tc=6.0 min CN=76 Runoff=0.07 cfs 232 cf

SubcatchmentPWS-3: PWS-3 Runoff Area=1.220 ac 70.33% Impervious Runoff Depth=2.46"
Tc=6.0 min CN=80 Runoff=3.52 cfs 10,901 cf

SubcatchmentPWS-3A: PWS-3A Runoff Area=0.238 ac 94.54% Impervious Runoff Depth=3.92"
Flow Length=109' Tc=6.0 min CN=95 Runoff=1.01 cfs 3,391 cf

SubcatchmentPWS-3B: PW-3B Runoff Area=2.040 ac 49.71% Impervious Runoff Depth=1.67"
Flow Length=311' Tc=16.4 min CN=70 Runoff=2.82 cfs 12,394 cf

Pond INF-1: INF-1 Peak Elev=52.35' Storage=5,374 cf Inflow=2.82 cfs 12,394 cf
Discarded=0.27 cfs 12,394 cf Primary=0.00 cfs 0 cf Outflow=0.27 cfs 12,394 cf

Pond INF-2: INF-2 Peak Elev=52.85' Storage=3,329 cf Inflow=2.24 cfs 7,709 cf
Discarded=0.13 cfs 7,686 cf Primary=0.01 cfs 23 cf Outflow=0.13 cfs 7,709 cf

Pond RG-1: Rain Garden-1 Peak Elev=41.79' Storage=247 cf Inflow=0.07 cfs 1,222 cf
Discarded=0.04 cfs 1,222 cf Primary=0.00 cfs 0 cf Outflow=0.04 cfs 1,222 cf

Link POA-1: POA-1 Inflow=0.07 cfs 232 cf
Primary=0.07 cfs 232 cf

Link POA-2: POA-2 Inflow=0.00 cfs 0 cf
Primary=0.00 cfs 0 cf

Link POA-3: POA-3 Inflow=3.52 cfs 10,924 cf
Primary=3.52 cfs 10,924 cf

Total Runoff Area = 230,607 sf Runoff Volume = 32,458 cf Average Runoff Depth = 1.69"
52.68% Pervious = 121,489 sf 47.32% Impervious = 109,118 sf

Summary for Subcatchment BLD-A: Building Add

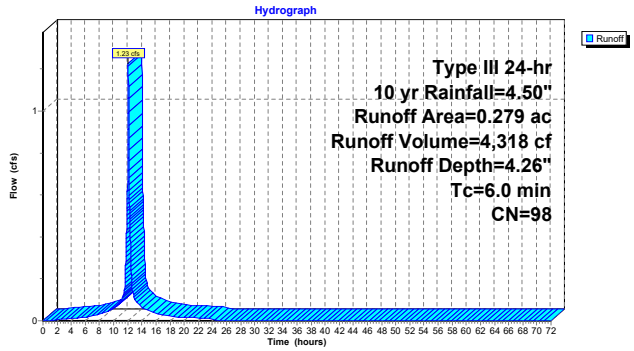
Runoff = 1.23 cfs @ 12.08 hrs, Volume= 4,318 cf, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=4.50"

Area (ac)	CN	Description
0.279	98	Roofs, HSG A
0.279		100.00% Impervious Area

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

Subcatchment BLD-A: Building Add



Hydrograph for Subcatchment BLD-A: Building Add

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	52.00	4.50	4.26	0.00
1.00	0.04	0.00	0.00	53.00	4.50	4.26	0.00
2.00	0.09	0.01	0.00	54.00	4.50	4.26	0.00
3.00	0.14	0.03	0.01	55.00	4.50	4.26	0.00
4.00	0.19	0.07	0.01	56.00	4.50	4.26	0.00
5.00	0.26	0.11	0.01	57.00	4.50	4.26	0.00
6.00	0.32	0.16	0.02	58.00	4.50	4.26	0.00
7.00	0.41	0.24	0.02	59.00	4.50	4.26	0.00
8.00	0.51	0.33	0.03	60.00	4.50	4.26	0.00
9.00	0.66	0.46	0.04	61.00	4.50	4.26	0.00
10.00	0.85	0.65	0.06	62.00	4.50	4.26	0.00
11.00	1.13	0.91	0.09	63.00	4.50	4.26	0.00
12.00	2.25	2.02	**0.77**	64.00	4.50	4.26	0.00
13.00	3.37	3.14	**0.10**	65.00	4.50	4.26	0.00
14.00	3.65	3.42	0.06	66.00	4.50	4.26	0.00
15.00	3.84	3.61	0.05	67.00	4.50	4.26	0.00
16.00	3.99	3.75	0.03	68.00	4.50	4.26	0.00
17.00	4.09	3.86	0.03	69.00	4.50	4.26	0.00
18.00	4.18	3.94	0.02	70.00	4.50	4.26	0.00
19.00	4.24	4.01	0.02	71.00	4.50	4.26	0.00
20.00	4.31	4.07	0.02	72.00	4.50	4.26	0.00
21.00	4.36	4.13	0.02				
22.00	4.41	4.18	0.01				
23.00	4.46	4.22	0.01				
24.00	**4.50**	**4.26**	0.01				
25.00	4.50	4.26	0.00				
26.00	4.50	4.26	0.00				
27.00	4.50	4.26	0.00				
28.00	4.50	4.26	0.00				
29.00	4.50	4.26	0.00				
30.00	4.50	4.26	0.00				
31.00	4.50	4.26	0.00				
32.00	4.50	4.26	0.00				
33.00	4.50	4.26	0.00				
34.00	4.50	4.26	0.00				
35.00	4.50	4.26	0.00				
36.00	4.50	4.26	0.00				
37.00	4.50	4.26	0.00				
38.00	4.50	4.26	0.00				
39.00	4.50	4.26	0.00				
40.00	4.50	4.26	0.00				
41.00	4.50	4.26	0.00				
42.00	4.50	4.26	0.00				
43.00	4.50	4.26	0.00				
44.00	4.50	4.26	0.00				
45.00	4.50	4.26	0.00				
46.00	4.50	4.26	0.00				
47.00	4.50	4.26	0.00				
48.00	4.50	4.26	0.00				
49.00	4.50	4.26	0.00				
50.00	4.50	4.26	0.00				
51.00	4.50	4.26	0.00				

Summary for Subcatchment PW-2: PW-2

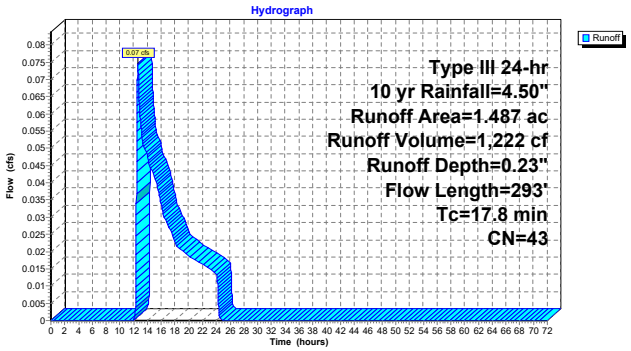
Runoff = 0.07 cfs @ 12.60 hrs, Volume= 1,222 cf, Depth= 0.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=4.50"

Area (ac)	CN	Description
0.110	98	Paved parking, HSG A
1.244	39	>75% Grass cover, Good, HSG A
0.133	32	Woods/grass comb., Good, HSG A
1.487	43	Weighted Average
1.377		92.60% Pervious Area
0.110		7.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.1	50	0.0020	0.06		**Sheet Flow, 50 FT SHEET FLOW** Grass: Short n= 0.150 P2= 3.20"
1.4	72	0.0150	0.86		**Shallow Concentrated Flow, 72 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
0.3	52	0.1700	2.89		**Shallow Concentrated Flow, 52 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
0.9	72	0.0360	1.33		**Shallow Concentrated Flow, 72 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
1.1	47	0.0110	0.73		**Shallow Concentrated Flow, 47 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
17.8	293	Total			

Subcatchment PW-2: PW-2



Hydrograph for Subcatchment PW-2: PW-2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	52.00	4.50	0.23	0.00
1.00	0.04	0.00	0.00	53.00	4.50	0.23	0.00
2.00	0.09	0.00	0.00	54.00	4.50	0.23	0.00
3.00	0.14	0.00	0.00	55.00	4.50	0.23	0.00
4.00	0.19	0.00	0.00	56.00	4.50	0.23	0.00
5.00	0.26	0.00	0.00	57.00	4.50	0.23	0.00
6.00	0.32	0.00	0.00	58.00	4.50	0.23	0.00
7.00	0.41	0.00	0.00	59.00	4.50	0.23	0.00
8.00	0.51	0.00	0.00	60.00	4.50	0.23	0.00
9.00	0.66	0.00	0.00	61.00	4.50	0.23	0.00
10.00	0.85	0.00	0.00	62.00	4.50	0.23	0.00
11.00	1.13	0.00	0.00	63.00	4.50	0.23	0.00
12.00	2.25	0.00	**0.00**	64.00	4.50	0.23	0.00
13.00	3.37	0.04	**0.06**	65.00	4.50	0.23	0.00
14.00	3.65	0.07	0.05	66.00	4.50	0.23	0.00
15.00	3.84	0.10	0.04	67.00	4.50	0.23	0.00
16.00	3.99	0.12	0.03	68.00	4.50	0.23	0.00
17.00	4.09	0.14	0.03	69.00	4.50	0.23	0.00
18.00	4.18	0.16	0.02	70.00	4.50	0.23	0.00
19.00	4.24	0.17	0.02	71.00	4.50	0.23	0.00
20.00	4.31	0.18	0.02	72.00	4.50	0.23	0.00
21.00	4.36	0.20	0.02				
22.00	4.41	0.21	0.02				
23.00	4.46	0.22	0.02				
24.00	**4.50**	**0.23**	0.01				
25.00	4.50	0.23	0.00				
26.00	4.50	0.23	0.00				
27.00	4.50	0.23	0.00				
28.00	4.50	0.23	0.00				
29.00	4.50	0.23	0.00				
30.00	4.50	0.23	0.00				
31.00	4.50	0.23	0.00				
32.00	4.50	0.23	0.00				
33.00	4.50	0.23	0.00				
34.00	4.50	0.23	0.00				
35.00	4.50	0.23	0.00				
36.00	4.50	0.23	0.00				
37.00	4.50	0.23	0.00				
38.00	4.50	0.23	0.00				
39.00	4.50	0.23	0.00				
40.00	4.50	0.23	0.00				
41.00	4.50	0.23	0.00				
42.00	4.50	0.23	0.00				
43.00	4.50	0.23	0.00				
44.00	4.50	0.23	0.00				
45.00	4.50	0.23	0.00				
46.00	4.50	0.23	0.00				
47.00	4.50	0.23	0.00				
48.00	4.50	0.23	0.00				
49.00	4.50	0.23	0.00				
50.00	4.50	0.23	0.00				
51.00	4.50	0.23	0.00				

Summary for Subcatchment PWS-1: PWS-1

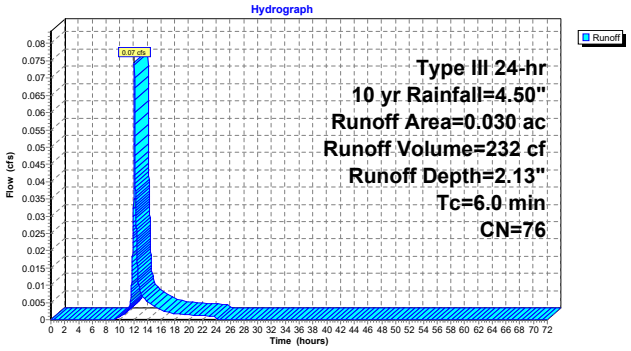
Runoff = 0.07 cfs @ 12.09 hrs, Volume= 232 cf, Depth= 2.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=4.50"

Area (ac)	CN	Description
0.019	98	Paved parking, HSG A
0.011	39	>75% Grass cover, Good, HSG A
0.030	76	Weighted Average
0.011		36.67% Pervious Area
0.019		63.33% Impervious Area

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

Subcatchment PWS-1: PWS-1



Hydrograph for Subcatchment PWS-1: PWS-1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	52.00	4.50	2.13	0.00
1.00	0.04	0.00	0.00	53.00	4.50	2.13	0.00
2.00	0.09	0.00	0.00	54.00	4.50	2.13	0.00
3.00	0.14	0.00	0.00	55.00	4.50	2.13	0.00
4.00	0.19	0.00	0.00	56.00	4.50	2.13	0.00
5.00	0.26	0.00	0.00	57.00	4.50	2.13	0.00
6.00	0.32	0.00	0.00	58.00	4.50	2.13	0.00
7.00	0.41	0.00	0.00	59.00	4.50	2.13	0.00
8.00	0.51	0.00	0.00	60.00	4.50	2.13	0.00
9.00	0.66	0.00	0.00	61.00	4.50	2.13	0.00
10.00	0.85	0.01	0.00	62.00	4.50	2.13	0.00
11.00	1.13	0.07	0.00	63.00	4.50	2.13	0.00
12.00	2.25	0.55	**0.04**	64.00	4.50	2.13	0.00
13.00	3.37	1.28	**0.01**	65.00	4.50	2.13	0.00
14.00	3.65	1.47	0.01	66.00	4.50	2.13	0.00
15.00	3.84	1.62	0.00	67.00	4.50	2.13	0.00
16.00	3.99	1.73	0.00	68.00	4.50	2.13	0.00
17.00	4.09	1.81	0.00	69.00	4.50	2.13	0.00
18.00	4.18	1.87	0.00	70.00	4.50	2.13	0.00
19.00	4.24	1.93	0.00	71.00	4.50	2.13	0.00
20.00	4.31	1.98	0.00	72.00	4.50	2.13	0.00
21.00	4.36	2.02	0.00				
22.00	4.41	2.06	0.00				
23.00	4.46	2.10	0.00				
24.00	**4.50**	**2.13**	0.00				
25.00	4.50	2.13	0.00				
26.00	4.50	2.13	0.00				
27.00	4.50	2.13	0.00				
28.00	4.50	2.13	0.00				
29.00	4.50	2.13	0.00				
30.00	4.50	2.13	0.00				
31.00	4.50	2.13	0.00				
32.00	4.50	2.13	0.00				
33.00	4.50	2.13	0.00				
34.00	4.50	2.13	0.00				
35.00	4.50	2.13	0.00				
36.00	4.50	2.13	0.00				
37.00	4.50	2.13	0.00				
38.00	4.50	2.13	0.00				
39.00	4.50	2.13	0.00				
40.00	4.50	2.13	0.00				
41.00	4.50	2.13	0.00				
42.00	4.50	2.13	0.00				
43.00	4.50	2.13	0.00				
44.00	4.50	2.13	0.00				
45.00	4.50	2.13	0.00				
46.00	4.50	2.13	0.00				
47.00	4.50	2.13	0.00				
48.00	4.50	2.13	0.00				
49.00	4.50	2.13	0.00				
50.00	4.50	2.13	0.00				
51.00	4.50	2.13	0.00				

Summary for Subcatchment PWS-3: PWS-3

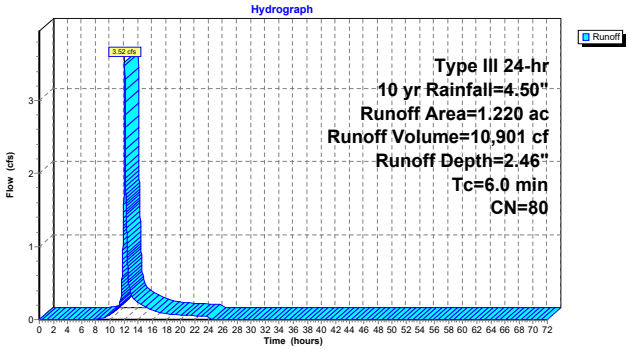
Runoff = 3.52 cfs @ 12.09 hrs, Volume= 10,901 cf, Depth= 2.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=4.50"

Area (ac)	CN	Description
0.242	98	Paved parking, HSG A
0.616	98	Roofs, HSG A
0.362	39	>75% Grass cover, Good, HSG A
1.220	80	Weighted Average
0.362		29.67% Pervious Area
0.858		70.33% Impervious Area

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

Subcatchment PWS-3: PWS-3



Hydrograph for Subcatchment PWS-3: PWS-3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	52.00	4.50	2.46	0.00
1.00	0.04	0.00	0.00	53.00	4.50	2.46	0.00
2.00	0.09	0.00	0.00	54.00	4.50	2.46	0.00
3.00	0.14	0.00	0.00	55.00	4.50	2.46	0.00
4.00	0.19	0.00	0.00	56.00	4.50	2.46	0.00
5.00	0.26	0.00	0.00	57.00	4.50	2.46	0.00
6.00	0.32	0.00	0.00	58.00	4.50	2.46	0.00
7.00	0.41	0.00	0.00	59.00	4.50	2.46	0.00
8.00	0.51	0.00	0.00	60.00	4.50	2.46	0.00
9.00	0.66	0.01	0.02	61.00	4.50	2.46	0.00
10.00	0.85	0.04	0.06	62.00	4.50	2.46	0.00
11.00	1.13	0.13	0.14	63.00	4.50	2.46	0.00
12.00	2.25	0.72	**2.03**	64.00	4.50	2.46	0.00
13.00	3.37	1.54	**0.35**	65.00	4.50	2.46	0.00
14.00	3.65	1.76	0.23	66.00	4.50	2.46	0.00
15.00	3.84	1.91	0.17	67.00	4.50	2.46	0.00
16.00	3.99	2.03	0.12	68.00	4.50	2.46	0.00
17.00	4.09	2.12	0.10	69.00	4.50	2.46	0.00
18.00	4.18	2.19	0.08	70.00	4.50	2.46	0.00
19.00	4.24	2.25	0.07	71.00	4.50	2.46	0.00
20.00	4.31	2.30	0.06	72.00	4.50	2.46	0.00
21.00	4.36	2.34	0.06				
22.00	4.41	2.39	0.05				
23.00	4.46	2.43	0.05				
24.00	**4.50**	**2.46**	0.04				
25.00	4.50	2.46	0.00				
26.00	4.50	2.46	0.00				
27.00	4.50	2.46	0.00				
28.00	4.50	2.46	0.00				
29.00	4.50	2.46	0.00				
30.00	4.50	2.46	0.00				
31.00	4.50	2.46	0.00				
32.00	4.50	2.46	0.00				
33.00	4.50	2.46	0.00				
34.00	4.50	2.46	0.00				
35.00	4.50	2.46	0.00				
36.00	4.50	2.46	0.00				
37.00	4.50	2.46	0.00				
38.00	4.50	2.46	0.00				
39.00	4.50	2.46	0.00				
40.00	4.50	2.46	0.00				
41.00	4.50	2.46	0.00				
42.00	4.50	2.46	0.00				
43.00	4.50	2.46	0.00				
44.00	4.50	2.46	0.00				
45.00	4.50	2.46	0.00				
46.00	4.50	2.46	0.00				
47.00	4.50	2.46	0.00				
48.00	4.50	2.46	0.00				
49.00	4.50	2.46	0.00				
50.00	4.50	2.46	0.00				
51.00	4.50	2.46	0.00				

Summary for Subcatchment PWS-3A: PWS-3A

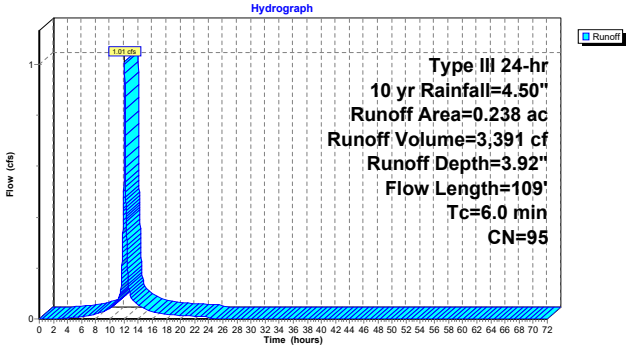
Runoff = 1.01 cfs @ 12.08 hrs, Volume= 3,391 cf, Depth= 3.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=4.50"

Area (ac)	CN	Description
0.201	98	Paved parking, HSG A
0.024	98	Roofs, HSG A
0.013	39	>75% Grass cover, Good, HSG A
0.238	95	Weighted Average
0.013		5.46% Pervious Area
0.225		94.54% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.1	34	0.0120	0.11		**Sheet Flow, 3 FT SHEET FLOW** Grass: Short n= 0.150 P2= 3.20"
0.4	17	0.0100	0.73		**Sheet Flow, 17 FT SHEET FLOW** Smooth surfaces n= 0.011 P2= 3.20"
0.2	27	0.0100	2.03		**Shallow Concentrated Flow, 27 FT SHALLOW GRASS** Paved Kv= 20.3 fps
0.3	31	0.0100	2.03		**Shallow Concentrated Flow, 31 FT SHALLOW PAVE** Paved Kv= 20.3 fps
6.0	109	Total			

Subcatchment PWS-3A: PWS-3A



Hydrograph for Subcatchment PWS-3A: PWS-3A

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	52.00	4.50	3.92	0.00
1.00	0.04	0.00	0.00	53.00	4.50	3.92	0.00
2.00	0.09	0.00	0.00	54.00	4.50	3.92	0.00
3.00	0.14	0.00	0.00	55.00	4.50	3.92	0.00
4.00	0.19	0.01	0.00	56.00	4.50	3.92	0.00
5.00	0.26	0.03	0.01	57.00	4.50	3.92	0.00
6.00	0.32	0.06	0.01	58.00	4.50	3.92	0.00
7.00	0.41	0.11	0.01	59.00	4.50	3.92	0.00
8.00	0.51	0.18	0.02	60.00	4.50	3.92	0.00
9.00	0.66	0.28	0.03	61.00	4.50	3.92	0.00
10.00	0.85	0.44	0.04	62.00	4.50	3.92	0.00
11.00	1.13	0.67	0.07	63.00	4.50	3.92	0.00
12.00	2.25	1.72	**0.63**	64.00	4.50	3.92	0.00
13.00	3.37	2.82	**0.09**	65.00	4.50	3.92	0.00
14.00	3.65	3.09	0.05	66.00	4.50	3.92	0.00
15.00	3.84	3.28	0.04	67.00	4.50	3.92	0.00
16.00	3.99	3.42	0.03	68.00	4.50	3.92	0.00
17.00	4.09	3.52	0.02	69.00	4.50	3.92	0.00
18.00	4.18	3.60	0.02	70.00	4.50	3.92	0.00
19.00	4.24	3.67	0.02	71.00	4.50	3.92	0.00
20.00	4.31	3.73	0.01	72.00	4.50	3.92	0.00
21.00	4.36	3.79	0.01				
22.00	4.41	3.84	0.01				
23.00	4.46	3.88	0.01				
24.00	**4.50**	**3.92**	0.01				
25.00	4.50	3.92	0.00				
26.00	4.50	3.92	0.00				
27.00	4.50	3.92	0.00				
28.00	4.50	3.92	0.00				
29.00	4.50	3.92	0.00				
30.00	4.50	3.92	0.00				
31.00	4.50	3.92	0.00				
32.00	4.50	3.92	0.00				
33.00	4.50	3.92	0.00				
34.00	4.50	3.92	0.00				
35.00	4.50	3.92	0.00				
36.00	4.50	3.92	0.00				
37.00	4.50	3.92	0.00				
38.00	4.50	3.92	0.00				
39.00	4.50	3.92	0.00				
40.00	4.50	3.92	0.00				
41.00	4.50	3.92	0.00				
42.00	4.50	3.92	0.00				
43.00	4.50	3.92	0.00				
44.00	4.50	3.92	0.00				
45.00	4.50	3.92	0.00				
46.00	4.50	3.92	0.00				
47.00	4.50	3.92	0.00				
48.00	4.50	3.92	0.00				
49.00	4.50	3.92	0.00				
50.00	4.50	3.92	0.00				
51.00	4.50	3.92	0.00				

Summary for Subcatchment PWS-3B: PW-3B

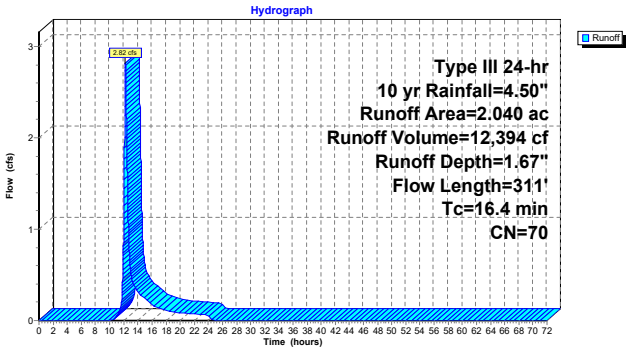
Runoff = 2.82 cfs @ 12.23 hrs, Volume= 12,394 cf, Depth= 1.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=4.50"

	Area (ac)	CN	Description
	1.014	98	Paved parking, HSG A
	0.865	39	>75% Grass cover, Good, HSG A
	0.033	32	Woods/grass comb., Good, HSG A
*	0.128	72	Infield, HSG A
	2.040	70	Weighted Average
	1.026		50.29% Pervious Area
	1.014		49.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.7	50	0.0040	0.08		**Sheet Flow, 50 FT SHEET FLOW** Grass: Short n= 0.150 P2= 3.20"
1.9	61	0.0060	0.54		**Shallow Concentrated Flow, 61 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
0.1	8	0.0060	1.57		**Shallow Concentrated Flow, 8 FT SHALLOW WALKWAY** Paved Kv= 20.3 fps
1.4	52	0.0080	0.63		**Shallow Concentrated Flow, 52 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
2.1	120	0.0190	0.96		**Shallow Concentrated Flow, 120 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
0.2	20	0.0420	1.43		**Shallow Concentrated Flow, 20 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
16.4	311	Total			

Subcatchment PWS-3B: PW-3B



Hydrograph for Subcatchment PWS-3B: PW-3B

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	52.00	4.50	1.67	0.00
1.00	0.04	0.00	0.00	53.00	4.50	1.67	0.00
2.00	0.09	0.00	0.00	54.00	4.50	1.67	0.00
3.00	0.14	0.00	0.00	55.00	4.50	1.67	0.00
4.00	0.19	0.00	0.00	56.00	4.50	1.67	0.00
5.00	0.26	0.00	0.00	57.00	4.50	1.67	0.00
6.00	0.32	0.00	0.00	58.00	4.50	1.67	0.00
7.00	0.41	0.00	0.00	59.00	4.50	1.67	0.00
8.00	0.51	0.00	0.00	60.00	4.50	1.67	0.00
9.00	0.66	0.00	0.00	61.00	4.50	1.67	0.00
10.00	0.85	0.00	0.00	62.00	4.50	1.67	0.00
11.00	1.13	0.02	0.05	63.00	4.50	1.67	0.00
12.00	2.25	0.34	**0.94**	64.00	4.50	1.67	0.00
13.00	3.37	0.93	**0.54**	65.00	4.50	1.67	0.00
14.00	3.65	1.10	0.32	66.00	4.50	1.67	0.00
15.00	3.84	1.23	0.24	67.00	4.50	1.67	0.00
16.00	3.99	1.32	0.18	68.00	4.50	1.67	0.00
17.00	4.09	1.39	0.14	69.00	4.50	1.67	0.00
18.00	4.18	1.45	0.11	70.00	4.50	1.67	0.00
19.00	4.24	1.50	0.09	71.00	4.50	1.67	0.00
20.00	4.31	1.54	0.09	72.00	4.50	1.67	0.00
21.00	4.36	1.58	0.08				
22.00	4.41	1.61	0.07				
23.00	4.46	1.64	0.06				
24.00	**4.50**	**1.67**	0.06				
25.00	4.50	1.67	0.00				
26.00	4.50	1.67	0.00				
27.00	4.50	1.67	0.00				
28.00	4.50	1.67	0.00				
29.00	4.50	1.67	0.00				
30.00	4.50	1.67	0.00				
31.00	4.50	1.67	0.00				
32.00	4.50	1.67	0.00				
33.00	4.50	1.67	0.00				
34.00	4.50	1.67	0.00				
35.00	4.50	1.67	0.00				
36.00	4.50	1.67	0.00				
37.00	4.50	1.67	0.00				
38.00	4.50	1.67	0.00				
39.00	4.50	1.67	0.00				
40.00	4.50	1.67	0.00				
41.00	4.50	1.67	0.00				
42.00	4.50	1.67	0.00				
43.00	4.50	1.67	0.00				
44.00	4.50	1.67	0.00				
45.00	4.50	1.67	0.00				
46.00	4.50	1.67	0.00				
47.00	4.50	1.67	0.00				
48.00	4.50	1.67	0.00				
49.00	4.50	1.67	0.00				
50.00	4.50	1.67	0.00				
51.00	4.50	1.67	0.00				

Summary for Pond INF-1: INF-1

Inflow Area = 88,862 sf, 49.71% Impervious, Inflow Depth = 1.67" for 10 yr event
Inflow = 2.82 cfs @ 12.23 hrs, Volume= 12,394 cf
Outflow = 0.27 cfs @ 11.80 hrs, Volume= 12,394 cf, Atten= 90%, Lag= 0.0 min
Discarded = 0.27 cfs @ 11.80 hrs, Volume= 12,394 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 52.35' @ 14.49 hrs Surf.Area= 4,906 sf Storage= 5,374 cf

Plug-Flow detention time= 199.4 min calculated for 12,393 cf (100% of inflow)
Center-of-Mass det. time= 199.4 min (1,062.6 - 863.2)

Volume	Invert	Avail.Storage	Storage Description
#1	50.73'	4,571 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 17,858 cf Overall - 6,430 cf Embedded = 11,428 cf x 40.0% Voids
#2	51.23'	6,430 cf	**Cultec R-330XLHD** x 122 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 6 rows
		11,001 cf	Total Available Storage

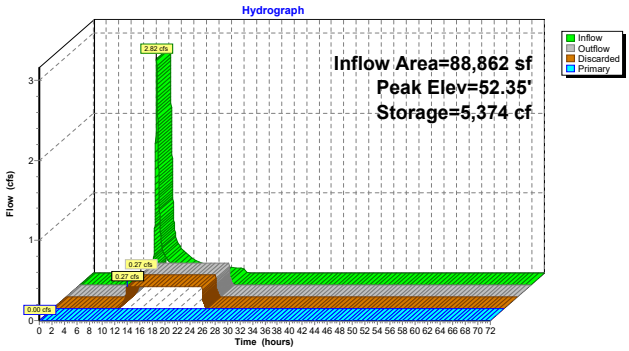
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.73	4,906	0	0
54.37	4,906	17,858	17,858

Device	Routing	Invert	Outlet Devices
#1	Discarded	50.73'	**2.410 in/hr Exfiltration over Surface area**
#2	Primary	52.89'	**10.0" Round Culvert-1** L= 55.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.89' / 52.22' S= 0.0122 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf
#3	Primary	52.45'	**12.0" Round Culvert-2** L= 45.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.45' / 52.22' S= 0.0051 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Discarded OutFlow Max=0.27 cfs @ 11.80 hrs HW=50.77' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.27 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=50.73' (Free Discharge)
├**2=Culvert-1** (Controls 0.00 cfs)
└**3=Culvert-2** (Controls 0.00 cfs)

Pond INF-1: INF-1



Hydrograph for Pond INF-1: INF-1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	50.73	0.00	0.00	**0.00**
2.00	0.00	0	50.73	0.00	0.00	0.00
4.00	0.00	0	50.73	0.00	0.00	0.00
6.00	0.00	0	50.73	0.00	0.00	0.00
8.00	0.00	0	50.73	0.00	0.00	0.00
10.00	0.00	0	50.73	**0.00**	**0.00**	0.00
12.00	**0.94**	317	50.89	**0.27**	**0.27**	0.00
14.00	**0.32**	**5,339**	**52.34**	0.27	0.27	0.00
16.00	0.18	**5,118**	**52.28**	0.27	0.27	0.00
18.00	0.11	4,150	52.03	0.27	0.27	0.00
20.00	0.09	2,864	51.70	0.27	0.27	0.00
22.00	0.07	1,457	51.35	0.27	0.27	0.00
24.00	0.06	22	50.74	0.08	0.08	0.00
26.00	0.00	0	50.73	0.00	0.00	0.00
28.00	0.00	0	50.73	0.00	0.00	0.00
30.00	0.00	0	50.73	0.00	0.00	0.00
32.00	0.00	0	50.73	0.00	0.00	0.00
34.00	0.00	0	50.73	0.00	0.00	0.00
36.00	0.00	0	50.73	0.00	0.00	0.00
38.00	0.00	0	50.73	0.00	0.00	0.00
40.00	0.00	0	50.73	0.00	0.00	0.00
42.00	0.00	0	50.73	0.00	0.00	0.00
44.00	0.00	0	50.73	0.00	0.00	0.00
46.00	0.00	0	50.73	0.00	0.00	0.00
48.00	0.00	0	50.73	0.00	0.00	0.00
50.00	0.00	0	50.73	0.00	0.00	0.00
52.00	0.00	0	50.73	0.00	0.00	0.00
54.00	0.00	0	50.73	0.00	0.00	0.00
56.00	0.00	0	50.73	0.00	0.00	0.00
58.00	0.00	0	50.73	0.00	0.00	0.00
60.00	0.00	0	50.73	0.00	0.00	0.00
62.00	0.00	0	50.73	0.00	0.00	0.00
64.00	0.00	0	50.73	0.00	0.00	0.00
66.00	0.00	0	50.73	0.00	0.00	0.00
68.00	0.00	0	50.73	0.00	0.00	0.00
70.00	0.00	0	50.73	0.00	0.00	0.00
72.00	0.00	0	50.73	0.00	0.00	0.00

Summary for Pond INF-2: INF-2

Inflow Area = 22,521 sf, 97.49% Impervious, Inflow Depth = 4.11" for 10 yr event
Inflow = 2.24 cfs @ 12.08 hrs, Volume= 7,709 cf
Outflow = 0.13 cfs @ 13.78 hrs, Volume= 7,709 cf, Atten= 94%, Lag= 101.9 min
Discarded = 0.13 cfs @ 10.57 hrs, Volume= 7,686 cf
Primary = 0.01 cfs @ 13.78 hrs, Volume= 23 cf

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 4
Peak Elev= 52.85' @ 13.78 hrs Surf.Area= 2,248 sf Storage= 3,329 cf

Plug-Flow detention time= 215.5 min calculated for 7,709 cf (100% of inflow)
Center-of-Mass det. time= 215.5 min (974.7 - 759.2)

Volume	Invert	Avail.Storage	Storage Description
#1	50.54'	2,311 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 8,632 cf Overall - 2,854 cf Embedded = 5,779 cf x 40.0% Voids
#2	51.36'	2,854 cf	**Cultec R-330XLHD** x 53 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 8 rows
		5,165 cf	Total Available Storage

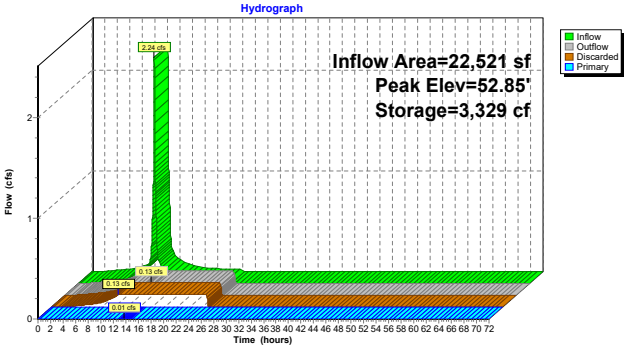
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.54	2,248	0	0
54.38	2,248	8,632	8,632

Device	Routing	Invert	Outlet Devices
#1	Discarded	50.54'	**2.410 in/hr Exfiltration over Surface area**
#2	Primary	53.00'	**8.0" Round Culvert-2** L= 22.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 53.00' / 52.69' S= 0.0141 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf
#3	Primary	52.80'	**8.0" Round Culvert-1** L= 21.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.80' / 52.69' S= 0.0052 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf

Discarded OutFlow Max=0.13 cfs @ 10.57 hrs HW=50.58' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.13 cfs)

Primary OutFlow Max=0.01 cfs @ 13.78 hrs HW=52.85' (Free Discharge)
├**2=Culvert-2** (Controls 0.00 cfs)
└**3=Culvert-1** (Barrel Controls 0.01 cfs @ 0.82 fps)

Pond INF-2: INF-2



Hydrograph for Pond INF-2: INF-2

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	50.54	0.00	0.00	0.00
2.00	0.00	1	50.54	0.00	0.00	0.00
4.00	0.01	4	50.54	0.01	0.01	0.00
6.00	0.02	7	50.55	0.02	0.02	0.00
8.00	0.05	13	50.55	0.05	0.05	0.00
10.00	0.10	27	50.57	0.10	**0.10**	0.00
12.00	**1.40**	**1,062**	**51.54**	**0.13**	**0.13**	**0.00**
14.00	**0.12**	**3,325**	**52.84**	**0.13**	0.13	**0.01**
16.00	0.06	3,060	52.68	0.13	0.13	0.00
18.00	0.04	2,517	52.36	0.13	0.13	0.00
20.00	0.03	1,860	51.99	0.13	0.13	0.00
22.00	0.03	1,158	51.59	0.13	0.13	0.00
24.00	0.02	418	51.01	0.13	0.13	0.00
26.00	0.00	0	50.54	0.00	0.00	0.00
28.00	0.00	0	50.54	0.00	0.00	0.00
30.00	0.00	0	50.54	0.00	0.00	0.00
32.00	0.00	0	50.54	0.00	0.00	0.00
34.00	0.00	0	50.54	0.00	0.00	0.00
36.00	0.00	0	50.54	0.00	0.00	0.00
38.00	0.00	0	50.54	0.00	0.00	0.00
40.00	0.00	0	50.54	0.00	0.00	0.00
42.00	0.00	0	50.54	0.00	0.00	0.00
44.00	0.00	0	50.54	0.00	0.00	0.00
46.00	0.00	0	50.54	0.00	0.00	0.00
48.00	0.00	0	50.54	0.00	0.00	0.00
50.00	0.00	0	50.54	0.00	0.00	0.00
52.00	0.00	0	50.54	0.00	0.00	0.00
54.00	0.00	0	50.54	0.00	0.00	0.00
56.00	0.00	0	50.54	0.00	0.00	0.00
58.00	0.00	0	50.54	0.00	0.00	0.00
60.00	0.00	0	50.54	0.00	0.00	0.00
62.00	0.00	0	50.54	0.00	0.00	0.00
64.00	0.00	0	50.54	0.00	0.00	0.00
66.00	0.00	0	50.54	0.00	0.00	0.00
68.00	0.00	0	50.54	0.00	0.00	0.00
70.00	0.00	0	50.54	0.00	0.00	0.00
72.00	0.00	0	50.54	0.00	0.00	0.00

Summary for Pond RG-1: Rain Garden-1

Inflow Area = 64,774 sf, 7.40% Impervious, Inflow Depth = 0.23" for 10 yr event
Inflow = 0.07 cfs @ 12.60 hrs, Volume= 1,222 cf
Outflow = 0.04 cfs @ 15.86 hrs, Volume= 1,222 cf, Atten= 53%, Lag= 195.3 min
Discarded = 0.04 cfs @ 15.86 hrs, Volume= 1,222 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 41.79' @ 15.86 hrs Surf.Area= 628 sf Storage= 247 cf

Plug-Flow detention time= 93.2 min calculated for 1,221 cf (100% of inflow)
Center-of-Mass det. time= 93.2 min (1,095.0 - 1,001.8)

Volume	Invert	Avail.Storage	Storage Description
#1	41.00'	6,454 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

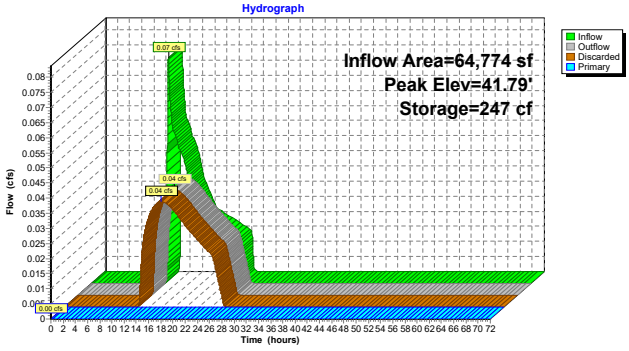
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
41.00	0	0	0
42.00	796	398	398
43.00	1,579	1,188	1,586
44.00	2,420	2,000	3,585
45.00	3,318	2,869	6,454

Device	Routing	Invert	Outlet Devices
#1	Discarded	41.00'	**2.410 in/hr Exfiltration over Surface area**
#2	Primary	44.50'	**8.0' long x 6.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50
			Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Discarded OutFlow Max=0.04 cfs @ 15.86 hrs HW=41.79' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.04 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=41.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond RG-1: Rain Garden-1



Hydrograph for Pond RG-1: Rain Garden-1

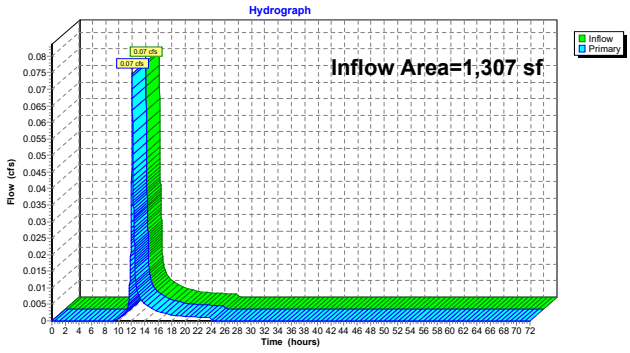
Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	41.00	0.00	0.00	**0.00**
2.00	0.00	0	41.00	0.00	0.00	0.00
4.00	0.00	0	41.00	0.00	0.00	0.00
6.00	0.00	0	41.00	0.00	0.00	0.00
8.00	0.00	0	41.00	0.00	0.00	0.00
10.00	0.00	0	41.00	0.00	0.00	0.00
12.00	**0.00**	0	41.00	0.00	0.00	0.00
14.00	**0.05**	**194**	**41.70**	**0.03**	**0.03**	0.00
16.00	0.03	**247**	**41.79**	**0.03**	**0.03**	0.00
18.00	0.02	204	41.72	0.03	0.03	0.00
20.00	0.02	141	41.59	0.03	0.03	0.00
22.00	0.02	95	41.49	0.02	0.02	0.00
24.00	0.01	62	41.39	0.02	0.02	0.00
26.00	0.00	1	41.04	0.00	0.00	0.00
28.00	0.00	0	41.00	0.00	0.00	0.00
30.00	0.00	0	41.00	0.00	0.00	0.00
32.00	0.00	0	41.00	0.00	0.00	0.00
34.00	0.00	0	41.00	0.00	0.00	0.00
36.00	0.00	0	41.00	0.00	0.00	0.00
38.00	0.00	0	41.00	0.00	0.00	0.00
40.00	0.00	0	41.00	0.00	0.00	0.00
42.00	0.00	0	41.00	0.00	0.00	0.00
44.00	0.00	0	41.00	0.00	0.00	0.00
46.00	0.00	0	41.00	0.00	0.00	0.00
48.00	0.00	0	41.00	0.00	0.00	0.00
50.00	0.00	0	41.00	0.00	0.00	0.00
52.00	0.00	0	41.00	0.00	0.00	0.00
54.00	0.00	0	41.00	0.00	0.00	0.00
56.00	0.00	0	41.00	0.00	0.00	0.00
58.00	0.00	0	41.00	0.00	0.00	0.00
60.00	0.00	0	41.00	0.00	0.00	0.00
62.00	0.00	0	41.00	0.00	0.00	0.00
64.00	0.00	0	41.00	0.00	0.00	0.00
66.00	0.00	0	41.00	0.00	0.00	0.00
68.00	0.00	0	41.00	0.00	0.00	0.00
70.00	0.00	0	41.00	0.00	0.00	0.00
72.00	0.00	0	41.00	0.00	0.00	0.00

Summary for Link POA-1: POA-1

Inflow Area = 1,307 sf, 63.33% Impervious, Inflow Depth = 2.13" for 10 yr event
Inflow = 0.07 cfs @ 12.09 hrs, Volume= 232 cf
Primary = 0.07 cfs @ 12.09 hrs, Volume= 232 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POA-1: POA-1



Hydrograph for Link POA-1: POA-1

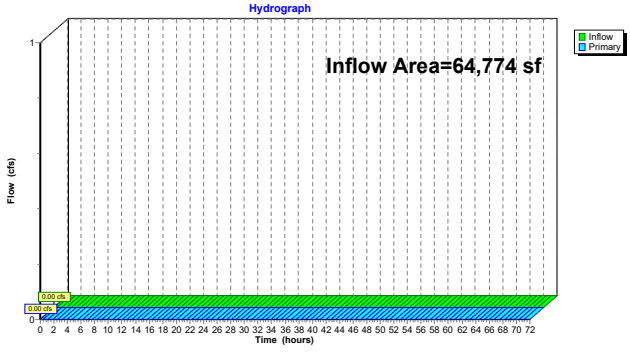
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	52.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00	55.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	56.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	57.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	58.00	0.00	0.00	0.00
7.00	0.00	0.00	0.00	59.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	60.00	0.00	0.00	0.00
9.00	0.00	0.00	0.00	61.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	62.00	0.00	0.00	0.00
11.00	0.00	0.00	0.00	63.00	0.00	0.00	0.00
12.00	**0.04**	0.00	**0.04**	64.00	0.00	0.00	0.00
13.00	**0.01**	0.00	**0.01**	65.00	0.00	0.00	0.00
14.00	0.01	0.00	0.01	66.00	0.00	0.00	0.00
15.00	0.00	0.00	0.00	67.00	0.00	0.00	0.00
16.00	0.00	0.00	0.00	68.00	0.00	0.00	0.00
17.00	0.00	0.00	0.00	69.00	0.00	0.00	0.00
18.00	0.00	0.00	0.00	70.00	0.00	0.00	0.00
19.00	0.00	0.00	0.00	71.00	0.00	0.00	0.00
20.00	0.00	0.00	0.00	72.00	0.00	0.00	0.00
21.00	0.00	0.00	0.00				
22.00	0.00	0.00	0.00				
23.00	0.00	0.00	0.00				
24.00	0.00	0.00	0.00				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.00	0.00	0.00	0.00				

Summary for Link POA-2: POA-2

Inflow Area = 64,774 sf, 7.40% Impervious, Inflow Depth = 0.00" for 10 yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POA-2: POA-2



Hydrograph for Link POA-2: POA-2

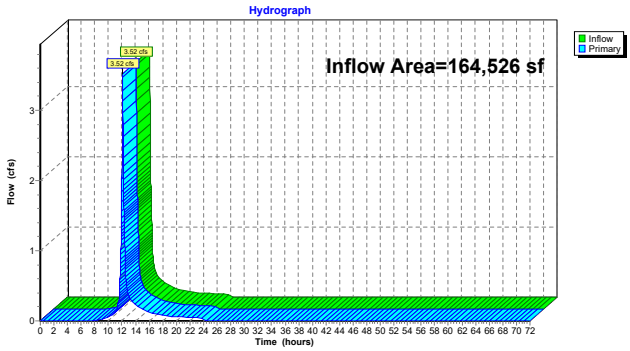
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	**0.00**	**0.00**	**0.00**	52.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00	55.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	56.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	57.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	58.00	0.00	0.00	0.00
7.00	0.00	0.00	0.00	59.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	60.00	0.00	0.00	0.00
9.00	0.00	0.00	0.00	61.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	62.00	0.00	0.00	0.00
11.00	0.00	0.00	0.00	63.00	0.00	0.00	0.00
12.00	0.00	0.00	0.00	64.00	0.00	0.00	0.00
13.00	0.00	0.00	0.00	65.00	0.00	0.00	0.00
14.00	0.00	0.00	0.00	66.00	0.00	0.00	0.00
15.00	0.00	0.00	0.00	67.00	0.00	0.00	0.00
16.00	0.00	0.00	0.00	68.00	0.00	0.00	0.00
17.00	0.00	0.00	0.00	69.00	0.00	0.00	0.00
18.00	0.00	0.00	0.00	70.00	0.00	0.00	0.00
19.00	0.00	0.00	0.00	71.00	0.00	0.00	0.00
20.00	0.00	0.00	0.00	72.00	0.00	0.00	0.00
21.00	0.00	0.00	0.00				
22.00	0.00	0.00	0.00				
23.00	0.00	0.00	0.00				
24.00	0.00	0.00	0.00				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.00	0.00	0.00	0.00				

Summary for Link POA-3: POA-3

Inflow Area = 164,526 sf, 62.91% Impervious, Inflow Depth = 0.80" for 10 yr event
Inflow = 3.52 cfs @ 12.09 hrs, Volume= 10,924 cf
Primary = 3.52 cfs @ 12.09 hrs, Volume= 10,924 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POA-3: POA-3



Hydrograph for Link POA-3: POA-3

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	52.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00	55.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	56.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	57.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	58.00	0.00	0.00	0.00
7.00	0.00	0.00	0.00	59.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	60.00	0.00	0.00	0.00
9.00	0.02	0.00	0.02	61.00	0.00	0.00	0.00
10.00	0.06	0.00	0.06	62.00	0.00	0.00	0.00
11.00	0.14	0.00	0.14	63.00	0.00	0.00	0.00
12.00	**2.03**	0.00	**2.03**	64.00	0.00	0.00	0.00
13.00	**0.35**	0.00	**0.35**	65.00	0.00	0.00	0.00
14.00	0.23	0.00	0.23	66.00	0.00	0.00	0.00
15.00	0.17	0.00	0.17	67.00	0.00	0.00	0.00
16.00	0.12	0.00	0.12	68.00	0.00	0.00	0.00
17.00	0.10	0.00	0.10	69.00	0.00	0.00	0.00
18.00	0.08	0.00	0.08	70.00	0.00	0.00	0.00
19.00	0.07	0.00	0.07	71.00	0.00	0.00	0.00
20.00	0.06	0.00	0.06	72.00	0.00	0.00	0.00
21.00	0.06	0.00	0.06				
22.00	0.05	0.00	0.05				
23.00	0.05	0.00	0.05				
24.00	0.04	0.00	0.04				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.00	0.00	0.00	0.00				

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentBLD-A: Building Add Runoff Area=0.279 ac 100.00% Impervious Runoff Depth=5.16"
Tc=6.0 min CN=98 Runoff=1.48 cfs 5,229 cf

SubcatchmentPW-2: PW-2 Runoff Area=1.487 ac 7.40% Impervious Runoff Depth=0.47"
Flow Length=293' Tc=17.8 min CN=43 Runoff=0.27 cfs 2,548 cf

SubcatchmentPWS-1: PWS-1 Runoff Area=0.030 ac 63.33% Impervious Runoff Depth=2.87"
Tc=6.0 min CN=76 Runoff=0.10 cfs 312 cf

SubcatchmentPWS-3: PWS-3 Runoff Area=1.220 ac 70.33% Impervious Runoff Depth=3.24"
Tc=6.0 min CN=80 Runoff=4.64 cfs 14,369 cf

SubcatchmentPWS-3A: PWS-3A Runoff Area=0.238 ac 94.54% Impervious Runoff Depth=4.82"
Flow Length=109' Tc=6.0 min CN=95 Runoff=1.23 cfs 4,161 cf

SubcatchmentPWS-3B: PW-3B Runoff Area=2.040 ac 49.71% Impervious Runoff Depth=2.34"
Flow Length=311' Tc=16.4 min CN=70 Runoff=4.03 cfs 17,310 cf

Pond INF-1: INF-1 Peak Elev=52.81' Storage=7,072 cf Inflow=4.03 cfs 17,310 cf
Discarded=0.27 cfs 14,635 cf Primary=0.42 cfs 2,675 cf Outflow=0.69 cfs 17,310 cf

Pond INF-2: INF-2 Peak Elev=53.13' Storage=3,770 cf Inflow=2.70 cfs 9,389 cf
Discarded=0.13 cfs 8,362 cf Primary=0.29 cfs 1,028 cf Outflow=0.42 cfs 9,389 cf

Pond RG-1: Rain Garden-1 Peak Elev=42.42' Storage=800 cf Inflow=0.27 cfs 2,548 cf
Discarded=0.06 cfs 2,548 cf Primary=0.00 cfs 0 cf Outflow=0.06 cfs 2,548 cf

Link POA-1: POA-1 Inflow=0.10 cfs 312 cf
Primary=0.10 cfs 312 cf

Link POA-2: POA-2 Inflow=0.00 cfs 0 cf
Primary=0.00 cfs 0 cf

Link POA-3: POA-3 Inflow=4.64 cfs 18,072 cf
Primary=4.64 cfs 18,072 cf

Total Runoff Area = 230,607 sf Runoff Volume = 43,929 cf Average Runoff Depth = 2.29"
52.68% Pervious = 121,489 sf 47.32% Impervious = 109,118 sf

Summary for Subcatchment BLD-A: Building Add

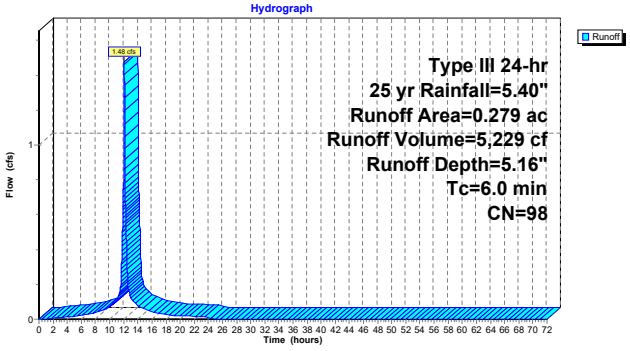
Runoff = 1.48 cfs @ 12.08 hrs, Volume= 5,229 cf, Depth= 5.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=5.40"

Area (ac)	CN	Description
0.279	98	Roofs, HSG A
0.279		100.00% Impervious Area

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

Subcatchment BLD-A: Building Add



Hydrograph for Subcatchment BLD-A: Building Add

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	52.00	5.40	5.16	0.00
1.00	0.05	0.00	0.00	53.00	5.40	5.16	0.00
2.00	0.11	0.02	0.01	54.00	5.40	5.16	0.00
3.00	0.17	0.05	0.01	55.00	5.40	5.16	0.00
4.00	0.23	0.09	0.01	56.00	5.40	5.16	0.00
5.00	0.31	0.15	0.02	57.00	5.40	5.16	0.00
6.00	0.39	0.22	0.02	58.00	5.40	5.16	0.00
7.00	0.49	0.31	0.03	59.00	5.40	5.16	0.00
8.00	0.62	0.42	0.04	60.00	5.40	5.16	0.00
9.00	0.79	0.59	0.05	61.00	5.40	5.16	0.00
10.00	1.02	0.81	0.07	62.00	5.40	5.16	0.00
11.00	1.35	1.13	0.11	63.00	5.40	5.16	0.00
12.00	2.70	2.47	**0.93**	64.00	5.40	5.16	0.00
13.00	4.05	3.81	**0.12**	65.00	5.40	5.16	0.00
14.00	4.38	4.14	0.08	66.00	5.40	5.16	0.00
15.00	4.61	4.38	0.06	67.00	5.40	5.16	0.00
16.00	4.78	4.55	0.04	68.00	5.40	5.16	0.00
17.00	4.91	4.67	0.03	69.00	5.40	5.16	0.00
18.00	5.01	4.77	0.02	70.00	5.40	5.16	0.00
19.00	5.09	4.86	0.02	71.00	5.40	5.16	0.00
20.00	5.17	4.93	0.02	72.00	5.40	5.16	0.00
21.00	5.23	5.00	0.02				
22.00	5.30	5.06	0.02				
23.00	5.35	5.11	0.01				
24.00	**5.40**	**5.16**	0.01				
25.00	5.40	5.16	0.00				
26.00	5.40	5.16	0.00				
27.00	5.40	5.16	0.00				
28.00	5.40	5.16	0.00				
29.00	5.40	5.16	0.00				
30.00	5.40	5.16	0.00				
31.00	5.40	5.16	0.00				
32.00	5.40	5.16	0.00				
33.00	5.40	5.16	0.00				
34.00	5.40	5.16	0.00				
35.00	5.40	5.16	0.00				
36.00	5.40	5.16	0.00				
37.00	5.40	5.16	0.00				
38.00	5.40	5.16	0.00				
39.00	5.40	5.16	0.00				
40.00	5.40	5.16	0.00				
41.00	5.40	5.16	0.00				
42.00	5.40	5.16	0.00				
43.00	5.40	5.16	0.00				
44.00	5.40	5.16	0.00				
45.00	5.40	5.16	0.00				
46.00	5.40	5.16	0.00				
47.00	5.40	5.16	0.00				
48.00	5.40	5.16	0.00				
49.00	5.40	5.16	0.00				
50.00	5.40	5.16	0.00				
51.00	5.40	5.16	0.00				

Summary for Subcatchment PW-2: PW-2

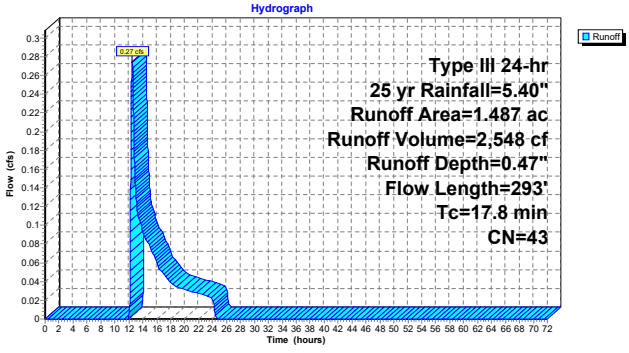
Runoff = 0.27 cfs @ 12.48 hrs, Volume= 2,548 cf, Depth= 0.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=5.40"

Area (ac)	CN	Description
0.110	98	Paved parking, HSG A
1.244	39	>75% Grass cover, Good, HSG A
0.133	32	Woods/grass comb., Good, HSG A
1.487	43	Weighted Average
1.377		92.60% Pervious Area
0.110		7.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.1	50	0.0020	0.06		**Sheet Flow, 50 FT SHEET FLOW** Grass: Short n= 0.150 P2= 3.20"
1.4	72	0.0150	0.86		**Shallow Concentrated Flow, 72 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
0.3	52	0.1700	2.89		**Shallow Concentrated Flow, 52 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
0.9	72	0.0360	1.33		**Shallow Concentrated Flow, 72 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
1.1	47	0.0110	0.73		**Shallow Concentrated Flow, 47 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
17.8	293	Total			

Subcatchment PW-2: PW-2



Hydrograph for Subcatchment PW-2: PW-2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	52.00	5.40	0.47	0.00
1.00	0.05	0.00	0.00	53.00	5.40	0.47	0.00
2.00	0.11	0.00	0.00	54.00	5.40	0.47	0.00
3.00	0.17	0.00	0.00	55.00	5.40	0.47	0.00
4.00	0.23	0.00	0.00	56.00	5.40	0.47	0.00
5.00	0.31	0.00	0.00	57.00	5.40	0.47	0.00
6.00	0.39	0.00	0.00	58.00	5.40	0.47	0.00
7.00	0.49	0.00	0.00	59.00	5.40	0.47	0.00
8.00	0.62	0.00	0.00	60.00	5.40	0.47	0.00
9.00	0.79	0.00	0.00	61.00	5.40	0.47	0.00
10.00	1.02	0.00	0.00	62.00	5.40	0.47	0.00
11.00	1.35	0.00	0.00	63.00	5.40	0.47	0.00
12.00	2.70	0.00	**0.00**	64.00	5.40	0.47	0.00
13.00	4.05	0.13	**0.14**	65.00	5.40	0.47	0.00
14.00	4.38	0.20	0.09	66.00	5.40	0.47	0.00
15.00	4.61	0.25	0.08	67.00	5.40	0.47	0.00
16.00	4.78	0.30	0.06	68.00	5.40	0.47	0.00
17.00	4.91	0.33	0.05	69.00	5.40	0.47	0.00
18.00	5.01	0.36	0.04	70.00	5.40	0.47	0.00
19.00	5.09	0.38	0.03	71.00	5.40	0.47	0.00
20.00	5.17	0.40	0.03	72.00	5.40	0.47	0.00
21.00	5.23	0.42	0.03				
22.00	5.30	0.44	0.03				
23.00	5.35	0.46	0.02				
24.00	**5.40**	**0.47**	0.02				
25.00	5.40	0.47	0.00				
26.00	5.40	0.47	0.00				
27.00	5.40	0.47	0.00				
28.00	5.40	0.47	0.00				
29.00	5.40	0.47	0.00				
30.00	5.40	0.47	0.00				
31.00	5.40	0.47	0.00				
32.00	5.40	0.47	0.00				
33.00	5.40	0.47	0.00				
34.00	5.40	0.47	0.00				
35.00	5.40	0.47	0.00				
36.00	5.40	0.47	0.00				
37.00	5.40	0.47	0.00				
38.00	5.40	0.47	0.00				
39.00	5.40	0.47	0.00				
40.00	5.40	0.47	0.00				
41.00	5.40	0.47	0.00				
42.00	5.40	0.47	0.00				
43.00	5.40	0.47	0.00				
44.00	5.40	0.47	0.00				
45.00	5.40	0.47	0.00				
46.00	5.40	0.47	0.00				
47.00	5.40	0.47	0.00				
48.00	5.40	0.47	0.00				
49.00	5.40	0.47	0.00				
50.00	5.40	0.47	0.00				
51.00	5.40	0.47	0.00				

Summary for Subcatchment PWS-1: PWS-1

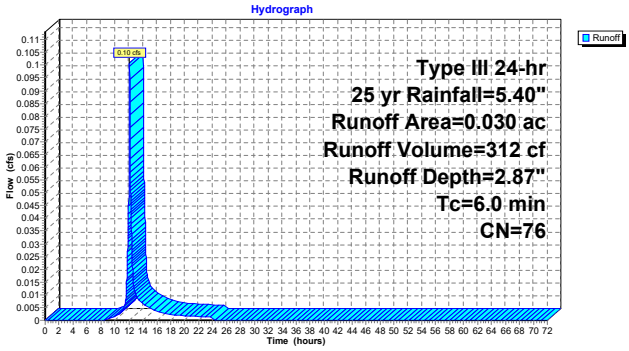
Runoff = 0.10 cfs @ 12.09 hrs, Volume= 312 cf, Depth= 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=5.40"

Area (ac)	CN	Description
0.019	98	Paved parking, HSG A
0.011	39	>75% Grass cover, Good, HSG A
0.030	76	Weighted Average
0.011		36.67% Pervious Area
0.019		63.33% Impervious Area

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

Subcatchment PWS-1: PWS-1



Hydrograph for Subcatchment PWS-1: PWS-1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	52.00	5.40	2.87	0.00
1.00	0.05	0.00	0.00	53.00	5.40	2.87	0.00
2.00	0.11	0.00	0.00	54.00	5.40	2.87	0.00
3.00	0.17	0.00	0.00	55.00	5.40	2.87	0.00
4.00	0.23	0.00	0.00	56.00	5.40	2.87	0.00
5.00	0.31	0.00	0.00	57.00	5.40	2.87	0.00
6.00	0.39	0.00	0.00	58.00	5.40	2.87	0.00
7.00	0.49	0.00	0.00	59.00	5.40	2.87	0.00
8.00	0.62	0.00	0.00	60.00	5.40	2.87	0.00
9.00	0.79	0.01	0.00	61.00	5.40	2.87	0.00
10.00	1.02	0.04	0.00	62.00	5.40	2.87	0.00
11.00	1.35	0.13	0.00	63.00	5.40	2.87	0.00
12.00	2.70	0.82	**0.06**	64.00	5.40	2.87	0.00
13.00	4.05	1.78	**0.01**	65.00	5.40	2.87	0.00
14.00	4.38	2.03	0.01	66.00	5.40	2.87	0.00
15.00	4.61	2.22	0.01	67.00	5.40	2.87	0.00
16.00	4.78	2.36	0.00	68.00	5.40	2.87	0.00
17.00	4.91	2.46	0.00	69.00	5.40	2.87	0.00
18.00	5.01	2.54	0.00	70.00	5.40	2.87	0.00
19.00	5.09	2.61	0.00	71.00	5.40	2.87	0.00
20.00	5.17	2.67	0.00	72.00	5.40	2.87	0.00
21.00	5.23	2.73	0.00				
22.00	5.30	2.78	0.00				
23.00	5.35	2.83	0.00				
24.00	**5.40**	**2.87**	0.00				
25.00	5.40	2.87	0.00				
26.00	5.40	2.87	0.00				
27.00	5.40	2.87	0.00				
28.00	5.40	2.87	0.00				
29.00	5.40	2.87	0.00				
30.00	5.40	2.87	0.00				
31.00	5.40	2.87	0.00				
32.00	5.40	2.87	0.00				
33.00	5.40	2.87	0.00				
34.00	5.40	2.87	0.00				
35.00	5.40	2.87	0.00				
36.00	5.40	2.87	0.00				
37.00	5.40	2.87	0.00				
38.00	5.40	2.87	0.00				
39.00	5.40	2.87	0.00				
40.00	5.40	2.87	0.00				
41.00	5.40	2.87	0.00				
42.00	5.40	2.87	0.00				
43.00	5.40	2.87	0.00				
44.00	5.40	2.87	0.00				
45.00	5.40	2.87	0.00				
46.00	5.40	2.87	0.00				
47.00	5.40	2.87	0.00				
48.00	5.40	2.87	0.00				
49.00	5.40	2.87	0.00				
50.00	5.40	2.87	0.00				
51.00	5.40	2.87	0.00				

Summary for Subcatchment PWS-3: PWS-3

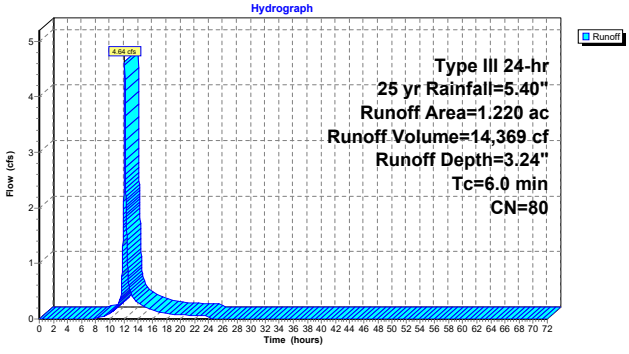
Runoff = 4.64 cfs @ 12.09 hrs, Volume= 14,369 cf, Depth= 3.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=5.40"

Area (ac)	CN	Description
0.242	98	Paved parking, HSG A
0.616	98	Roofs, HSG A
0.362	39	>75% Grass cover, Good, HSG A
1.220	80	Weighted Average
0.362		29.67% Pervious Area
0.858		70.33% Impervious Area

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

Subcatchment PWS-3: PWS-3



Hydrograph for Subcatchment PWS-3: PWS-3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	52.00	5.40	3.24	0.00
1.00	0.05	0.00	0.00	53.00	5.40	3.24	0.00
2.00	0.11	0.00	0.00	54.00	5.40	3.24	0.00
3.00	0.17	0.00	0.00	55.00	5.40	3.24	0.00
4.00	0.23	0.00	0.00	56.00	5.40	3.24	0.00
5.00	0.31	0.00	0.00	57.00	5.40	3.24	0.00
6.00	0.39	0.00	0.00	58.00	5.40	3.24	0.00
7.00	0.49	0.00	0.00	59.00	5.40	3.24	0.00
8.00	0.62	0.01	0.01	60.00	5.40	3.24	0.00
9.00	0.79	0.03	0.04	61.00	5.40	3.24	0.00
10.00	1.02	0.09	0.10	62.00	5.40	3.24	0.00
11.00	1.35	0.22	0.20	63.00	5.40	3.24	0.00
12.00	2.70	1.03	**2.72**	64.00	5.40	3.24	0.00
13.00	4.05	2.08	**0.45**	65.00	5.40	3.24	0.00
14.00	4.38	2.36	0.29	66.00	5.40	3.24	0.00
15.00	4.61	2.56	0.22	67.00	5.40	3.24	0.00
16.00	4.78	2.71	0.16	68.00	5.40	3.24	0.00
17.00	4.91	2.82	0.12	69.00	5.40	3.24	0.00
18.00	5.01	2.90	0.10	70.00	5.40	3.24	0.00
19.00	5.09	2.97	0.09	71.00	5.40	3.24	0.00
20.00	5.17	3.04	0.08	72.00	5.40	3.24	0.00
21.00	5.23	3.10	0.07				
22.00	5.30	3.15	0.06				
23.00	5.35	3.20	0.06				
24.00	**5.40**	**3.24**	0.05				
25.00	5.40	3.24	0.00				
26.00	5.40	3.24	0.00				
27.00	5.40	3.24	0.00				
28.00	5.40	3.24	0.00				
29.00	5.40	3.24	0.00				
30.00	5.40	3.24	0.00				
31.00	5.40	3.24	0.00				
32.00	5.40	3.24	0.00				
33.00	5.40	3.24	0.00				
34.00	5.40	3.24	0.00				
35.00	5.40	3.24	0.00				
36.00	5.40	3.24	0.00				
37.00	5.40	3.24	0.00				
38.00	5.40	3.24	0.00				
39.00	5.40	3.24	0.00				
40.00	5.40	3.24	0.00				
41.00	5.40	3.24	0.00				
42.00	5.40	3.24	0.00				
43.00	5.40	3.24	0.00				
44.00	5.40	3.24	0.00				
45.00	5.40	3.24	0.00				
46.00	5.40	3.24	0.00				
47.00	5.40	3.24	0.00				
48.00	5.40	3.24	0.00				
49.00	5.40	3.24	0.00				
50.00	5.40	3.24	0.00				
51.00	5.40	3.24	0.00				

Summary for Subcatchment PWS-3A: PWS-3A

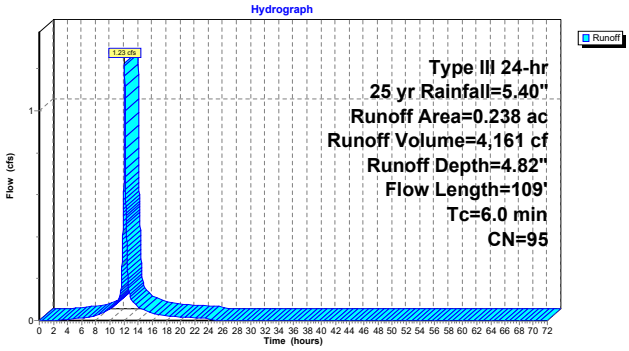
Runoff = 1.23 cfs @ 12.08 hrs, Volume= 4,161 cf, Depth= 4.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=5.40"

Area (ac)	CN	Description
0.201	98	Paved parking, HSG A
0.024	98	Roofs, HSG A
0.013	39	>75% Grass cover, Good, HSG A
0.238	95	Weighted Average
0.013		5.46% Pervious Area
0.225		94.54% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.1	34	0.0120	0.11		**Sheet Flow, 3 FT SHEET FLOW** Grass: Short n= 0.150 P2= 3.20"
0.4	17	0.0100	0.73		**Sheet Flow, 17 FT SHEET FLOW** Smooth surfaces n= 0.011 P2= 3.20"
0.2	27	0.0100	2.03		**Shallow Concentrated Flow, 27 FT SHALLOW GRASS** Paved Kv= 20.3 fps
0.3	31	0.0100	2.03		**Shallow Concentrated Flow, 31 FT SHALLOW PAVE** Paved Kv= 20.3 fps
6.0	109	Total			

Subcatchment PWS-3A: PWS-3A



Hydrograph for Subcatchment PWS-3A: PWS-3A

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	52.00	5.40	4.82	0.00
1.00	0.05	0.00	0.00	53.00	5.40	4.82	0.00
2.00	0.11	0.00	0.00	54.00	5.40	4.82	0.00
3.00	0.17	0.01	0.00	55.00	5.40	4.82	0.00
4.00	0.23	0.02	0.01	56.00	5.40	4.82	0.00
5.00	0.31	0.06	0.01	57.00	5.40	4.82	0.00
6.00	0.39	0.10	0.01	58.00	5.40	4.82	0.00
7.00	0.49	0.16	0.02	59.00	5.40	4.82	0.00
8.00	0.62	0.25	0.02	60.00	5.40	4.82	0.00
9.00	0.79	0.38	0.04	61.00	5.40	4.82	0.00
10.00	1.02	0.58	0.05	62.00	5.40	4.82	0.00
11.00	1.35	0.87	0.08	63.00	5.40	4.82	0.00
12.00	2.70	2.16	**0.77**	64.00	5.40	4.82	0.00
13.00	4.05	3.48	**0.10**	65.00	5.40	4.82	0.00
14.00	4.38	3.81	0.07	66.00	5.40	4.82	0.00
15.00	4.61	4.04	0.05	67.00	5.40	4.82	0.00
16.00	4.78	4.21	0.03	68.00	5.40	4.82	0.00
17.00	4.91	4.33	0.03	69.00	5.40	4.82	0.00
18.00	5.01	4.43	0.02	70.00	5.40	4.82	0.00
19.00	5.09	4.51	0.02	71.00	5.40	4.82	0.00
20.00	5.17	4.59	0.02	72.00	5.40	4.82	0.00
21.00	5.23	4.65	0.02				
22.00	5.30	4.71	0.01				
23.00	5.35	4.77	0.01				
24.00	**5.40**	**4.82**	0.01				
25.00	5.40	4.82	0.00				
26.00	5.40	4.82	0.00				
27.00	5.40	4.82	0.00				
28.00	5.40	4.82	0.00				
29.00	5.40	4.82	0.00				
30.00	5.40	4.82	0.00				
31.00	5.40	4.82	0.00				
32.00	5.40	4.82	0.00				
33.00	5.40	4.82	0.00				
34.00	5.40	4.82	0.00				
35.00	5.40	4.82	0.00				
36.00	5.40	4.82	0.00				
37.00	5.40	4.82	0.00				
38.00	5.40	4.82	0.00				
39.00	5.40	4.82	0.00				
40.00	5.40	4.82	0.00				
41.00	5.40	4.82	0.00				
42.00	5.40	4.82	0.00				
43.00	5.40	4.82	0.00				
44.00	5.40	4.82	0.00				
45.00	5.40	4.82	0.00				
46.00	5.40	4.82	0.00				
47.00	5.40	4.82	0.00				
48.00	5.40	4.82	0.00				
49.00	5.40	4.82	0.00				
50.00	5.40	4.82	0.00				
51.00	5.40	4.82	0.00				

Summary for Subcatchment PWS-3B: PW-3B

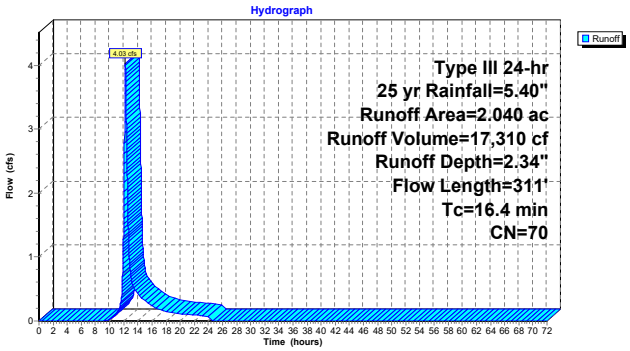
Runoff = 4.03 cfs @ 12.23 hrs, Volume= 17,310 cf, Depth= 2.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=5.40"

Area (ac)	CN	Description
1.014	98	Paved parking, HSG A
0.865	39	>75% Grass cover, Good, HSG A
0.033	32	Woods/grass comb., Good, HSG A
* 0.128	72	Infield, HSG A
2.040	70	Weighted Average
1.026		50.29% Pervious Area
1.014		49.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.7	50	0.0040	0.08		**Sheet Flow, 50 FT SHEET FLOW** Grass: Short n= 0.150 P2= 3.20"
1.9	61	0.0060	0.54		**Shallow Concentrated Flow, 61 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
0.1	8	0.0060	1.57		**Shallow Concentrated Flow, 8 FT SHALLOW WALKWAY** Paved Kv= 20.3 fps
1.4	52	0.0080	0.63		**Shallow Concentrated Flow, 52 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
2.1	120	0.0190	0.96		**Shallow Concentrated Flow, 120 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
0.2	20	0.0420	1.43		**Shallow Concentrated Flow, 20 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
16.4	311	Total			

Subcatchment PWS-3B: PW-3B



Hydrograph for Subcatchment PWS-3B: PW-3B

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	52.00	5.40	2.34	0.00
1.00	0.05	0.00	0.00	53.00	5.40	2.34	0.00
2.00	0.11	0.00	0.00	54.00	5.40	2.34	0.00
3.00	0.17	0.00	0.00	55.00	5.40	2.34	0.00
4.00	0.23	0.00	0.00	56.00	5.40	2.34	0.00
5.00	0.31	0.00	0.00	57.00	5.40	2.34	0.00
6.00	0.39	0.00	0.00	58.00	5.40	2.34	0.00
7.00	0.49	0.00	0.00	59.00	5.40	2.34	0.00
8.00	0.62	0.00	0.00	60.00	5.40	2.34	0.00
9.00	0.79	0.00	0.00	61.00	5.40	2.34	0.00
10.00	1.02	0.01	0.02	62.00	5.40	2.34	0.00
11.00	1.35	0.05	0.12	63.00	5.40	2.34	0.00
12.00	2.70	0.55	**1.45**	64.00	5.40	2.34	0.00
13.00	4.05	1.36	**0.73**	65.00	5.40	2.34	0.00
14.00	4.38	1.59	0.42	66.00	5.40	2.34	0.00
15.00	4.61	1.75	0.32	67.00	5.40	2.34	0.00
16.00	4.78	1.88	0.23	68.00	5.40	2.34	0.00
17.00	4.91	1.97	0.18	69.00	5.40	2.34	0.00
18.00	5.01	2.04	0.14	70.00	5.40	2.34	0.00
19.00	5.09	2.11	0.12	71.00	5.40	2.34	0.00
20.00	5.17	2.16	0.11	72.00	5.40	2.34	0.00
21.00	5.23	2.21	0.10				
22.00	5.30	2.26	0.09				
23.00	5.35	2.30	0.08				
24.00	**5.40**	**2.34**	0.07				
25.00	5.40	2.34	0.00				
26.00	5.40	2.34	0.00				
27.00	5.40	2.34	0.00				
28.00	5.40	2.34	0.00				
29.00	5.40	2.34	0.00				
30.00	5.40	2.34	0.00				
31.00	5.40	2.34	0.00				
32.00	5.40	2.34	0.00				
33.00	5.40	2.34	0.00				
34.00	5.40	2.34	0.00				
35.00	5.40	2.34	0.00				
36.00	5.40	2.34	0.00				
37.00	5.40	2.34	0.00				
38.00	5.40	2.34	0.00				
39.00	5.40	2.34	0.00				
40.00	5.40	2.34	0.00				
41.00	5.40	2.34	0.00				
42.00	5.40	2.34	0.00				
43.00	5.40	2.34	0.00				
44.00	5.40	2.34	0.00				
45.00	5.40	2.34	0.00				
46.00	5.40	2.34	0.00				
47.00	5.40	2.34	0.00				
48.00	5.40	2.34	0.00				
49.00	5.40	2.34	0.00				
50.00	5.40	2.34	0.00				
51.00	5.40	2.34	0.00				

Summary for Pond INF-1: INF-1

Inflow Area = 88,862 sf, 49.71% Impervious, Inflow Depth = 2.34" for 25 yr event
Inflow = 4.03 cfs @ 12.23 hrs, Volume= 17,310 cf
Outflow = 0.69 cfs @ 13.05 hrs, Volume= 17,310 cf, Atten= 83%, Lag= 48.9 min
Discarded = 0.27 cfs @ 11.63 hrs, Volume= 14,635 cf
Primary = 0.42 cfs @ 13.05 hrs, Volume= 2,675 cf

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 52.81' @ 13.05 hrs Surf.Area= 4,906 sf Storage= 7,072 cf

Plug-Flow detention time= 209.5 min calculated for 17,308 cf (100% of inflow)
Center-of-Mass det. time= 209.5 min (1,062.7 - 853.2)

Volume	Invert	Avail.Storage	Storage Description
#1	50.73'	4,571 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 17,858 cf Overall - 6,430 cf Embedded = 11,428 cf x 40.0% Voids
#2	51.23'	6,430 cf	**Cultec R-330XLHD** x 122 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 6 rows
		11,001 cf	Total Available Storage

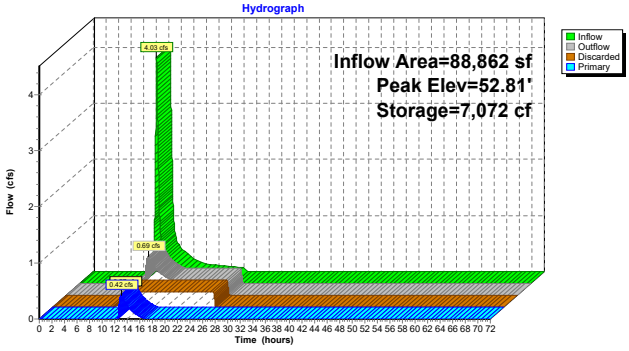
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.73	4,906	0	0
54.37	4,906	17,858	17,858

Device	Routing	Invert	Outlet Devices
#1	Discarded	50.73'	**2.410 in/hr Exfiltration over Surface area**
#2	Primary	52.89'	**10.0" Round Culvert-1** L= 55.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.89' / 52.22' S= 0.0122 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf
#3	Primary	52.45'	**12.0" Round Culvert-2** L= 45.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.45' / 52.22' S= 0.0051 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Discarded OutFlow Max=0.27 cfs @ 11.63 hrs HW=50.77' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.27 cfs)

Primary OutFlow Max=0.42 cfs @ 13.05 hrs HW=52.81' (Free Discharge)
└**2=Culvert-1** (Controls 0.00 cfs)
└**3=Culvert-2** (Inlet Controls 0.42 cfs @ 1.62 fps)

Pond INF-1: INF-1



Hydrograph for Pond INF-1: INF-1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	50.73	0.00	0.00	0.00
2.00	0.00	0	50.73	0.00	0.00	0.00
4.00	0.00	0	50.73	0.00	0.00	0.00
6.00	0.00	0	50.73	0.00	0.00	0.00
8.00	0.00	0	50.73	0.00	0.00	0.00
10.00	0.02	5	50.73	0.02	**0.02**	0.00
12.00	**1.45**	**679**	**51.08**	**0.27**	**0.27**	**0.00**
14.00	**0.42**	**6,756**	**52.72**	**0.52**	0.27	**0.25**
16.00	0.23	6,168	52.56	0.32	0.27	0.04
18.00	0.14	5,440	52.37	0.27	0.27	0.00
20.00	0.11	4,361	52.09	0.27	0.27	0.00
22.00	0.09	3,124	51.77	0.27	0.27	0.00
24.00	0.07	1,757	51.42	0.27	0.27	0.00
26.00	0.00	3	50.73	0.01	0.01	0.00
28.00	0.00	0	50.73	0.00	0.00	0.00
30.00	0.00	0	50.73	0.00	0.00	0.00
32.00	0.00	0	50.73	0.00	0.00	0.00
34.00	0.00	0	50.73	0.00	0.00	0.00
36.00	0.00	0	50.73	0.00	0.00	0.00
38.00	0.00	0	50.73	0.00	0.00	0.00
40.00	0.00	0	50.73	0.00	0.00	0.00
42.00	0.00	0	50.73	0.00	0.00	0.00
44.00	0.00	0	50.73	0.00	0.00	0.00
46.00	0.00	0	50.73	0.00	0.00	0.00
48.00	0.00	0	50.73	0.00	0.00	0.00
50.00	0.00	0	50.73	0.00	0.00	0.00
52.00	0.00	0	50.73	0.00	0.00	0.00
54.00	0.00	0	50.73	0.00	0.00	0.00
56.00	0.00	0	50.73	0.00	0.00	0.00
58.00	0.00	0	50.73	0.00	0.00	0.00
60.00	0.00	0	50.73	0.00	0.00	0.00
62.00	0.00	0	50.73	0.00	0.00	0.00
64.00	0.00	0	50.73	0.00	0.00	0.00
66.00	0.00	0	50.73	0.00	0.00	0.00
68.00	0.00	0	50.73	0.00	0.00	0.00
70.00	0.00	0	50.73	0.00	0.00	0.00
72.00	0.00	0	50.73	0.00	0.00	0.00

Summary for Pond INF-2: INF-2

Inflow Area = 22,521 sf, 97.49% Impervious, Inflow Depth = 5.00" for 25 yr event
Inflow = 2.70 cfs @ 12.08 hrs, Volume= 9,389 cf
Outflow = 0.42 cfs @ 12.56 hrs, Volume= 9,389 cf, Atten= 85%, Lag= 28.7 min
Discarded = 0.13 cfs @ 10.11 hrs, Volume= 8,362 cf
Primary = 0.29 cfs @ 12.56 hrs, Volume= 1,028 cf

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 4
Peak Elev= 53.13' @ 12.56 hrs Surf.Area= 2,248 sf Storage= 3,770 cf

Plug-Flow detention time= 203.7 min calculated for 9,388 cf (100% of inflow)
Center-of-Mass det. time= 203.6 min (959.0 - 755.4)

Volume	Invert	Avail.Storage	Storage Description
#1	50.54'	2,311 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 8,632 cf Overall - 2,854 cf Embedded = 5,779 cf x 40.0% Voids
#2	51.36'	2,854 cf	**Cultec R-330XLHD** x 53 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 8 rows
		5,165 cf	Total Available Storage

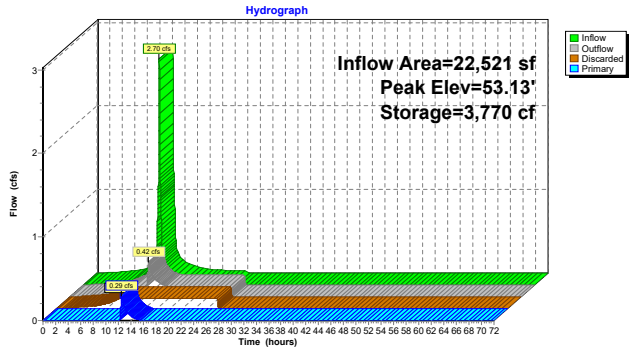
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.54	2,248	0	0
54.38	2,248	8,632	8,632

Device	Routing	Invert	Outlet Devices
#1	Discarded	50.54'	**2.410 in/hr Exfiltration over Surface area**
#2	Primary	53.00'	**8.0" Round Culvert-2** L= 22.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 53.00' / 52.69' S= 0.0141 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf
#3	Primary	52.80'	**8.0" Round Culvert-1** L= 21.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.80' / 52.69' S= 0.0052 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf

Discarded OutFlow Max=0.13 cfs @ 10.11 hrs HW=50.58' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.13 cfs)

Primary OutFlow Max=0.29 cfs @ 12.56 hrs HW=53.13' (Free Discharge)
↑**2=Culvert-2** (Inlet Controls 0.04 cfs @ 0.96 fps)
↑**3=Culvert-1** (Barrel Controls 0.24 cfs @ 2.10 fps)

Pond INF-2: INF-2



Hydrograph for Pond INF-2: INF-2

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	50.54	0.00	0.00	0.00
2.00	0.01	2	50.54	0.01	0.01	0.00
4.00	0.02	5	50.55	0.02	0.02	0.00
6.00	0.03	9	50.55	0.03	0.03	0.00
8.00	0.06	16	50.56	0.06	0.06	0.00
10.00	0.12	33	50.58	0.12	**0.12**	0.00
12.00	**1.70**	**1,454**	**51.76**	**0.13**	**0.13**	**0.00**
14.00	**0.14**	**3,489**	**52.95**	**0.18**	0.13	**0.06**
16.00	0.08	3,231	52.79	0.13	0.13	0.00
18.00	0.05	2,761	52.51	0.13	0.13	0.00
20.00	0.04	2,154	52.15	0.13	0.13	0.00
22.00	0.03	1,492	51.78	0.13	0.13	0.00
24.00	0.02	786	51.39	0.13	0.13	0.00
26.00	0.00	1	50.54	0.00	0.00	0.00
28.00	0.00	0	50.54	0.00	0.00	0.00
30.00	0.00	0	50.54	0.00	0.00	0.00
32.00	0.00	0	50.54	0.00	0.00	0.00
34.00	0.00	0	50.54	0.00	0.00	0.00
36.00	0.00	0	50.54	0.00	0.00	0.00
38.00	0.00	0	50.54	0.00	0.00	0.00
40.00	0.00	0	50.54	0.00	0.00	0.00
42.00	0.00	0	50.54	0.00	0.00	0.00
44.00	0.00	0	50.54	0.00	0.00	0.00
46.00	0.00	0	50.54	0.00	0.00	0.00
48.00	0.00	0	50.54	0.00	0.00	0.00
50.00	0.00	0	50.54	0.00	0.00	0.00
52.00	0.00	0	50.54	0.00	0.00	0.00
54.00	0.00	0	50.54	0.00	0.00	0.00
56.00	0.00	0	50.54	0.00	0.00	0.00
58.00	0.00	0	50.54	0.00	0.00	0.00
60.00	0.00	0	50.54	0.00	0.00	0.00
62.00	0.00	0	50.54	0.00	0.00	0.00
64.00	0.00	0	50.54	0.00	0.00	0.00
66.00	0.00	0	50.54	0.00	0.00	0.00
68.00	0.00	0	50.54	0.00	0.00	0.00
70.00	0.00	0	50.54	0.00	0.00	0.00
72.00	0.00	0	50.54	0.00	0.00	0.00

Summary for Pond RG-1: Rain Garden-1

Inflow Area = 64,774 sf, 7.40% Impervious, Inflow Depth = 0.47" for 25 yr event
Inflow = 0.27 cfs @ 12.48 hrs, Volume= 2,548 cf
Outflow = 0.06 cfs @ 15.86 hrs, Volume= 2,548 cf, Atten= 77%, Lag= 202.5 min
Discarded = 0.06 cfs @ 15.86 hrs, Volume= 2,548 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 42.42' @ 15.86 hrs Surf.Area= 1,124 sf Storage= 800 cf

Plug-Flow detention time= 171.3 min calculated for 2,548 cf (100% of inflow)
Center-of-Mass det. time= 171.3 min (1,129.5 - 958.1)

Volume	Invert	Avail.Storage	Storage Description
#1	41.00'	6,454 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

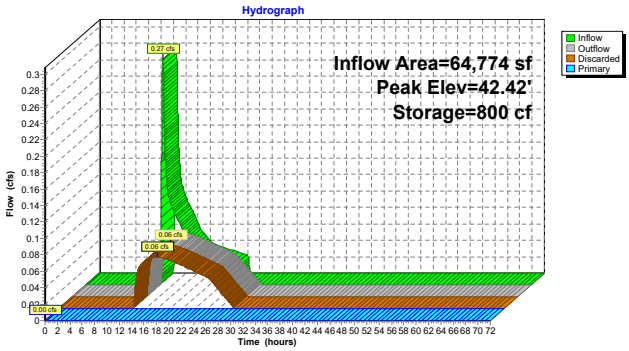
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
41.00	0	0	0
42.00	796	398	398
43.00	1,579	1,188	1,586
44.00	2,420	2,000	3,585
45.00	3,318	2,869	6,454

Device	Routing	Invert	Outlet Devices
#1	Discarded	41.00'	**2.410 in/hr Exfiltration over Surface area**
#2	Primary	44.50'	**8.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Discarded OutFlow Max=0.06 cfs @ 15.86 hrs HW=42.42' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.06 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=41.00' (Free Discharge)
↑**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond RG-1: Rain Garden-1



Hydrograph for Pond RG-1: Rain Garden-1

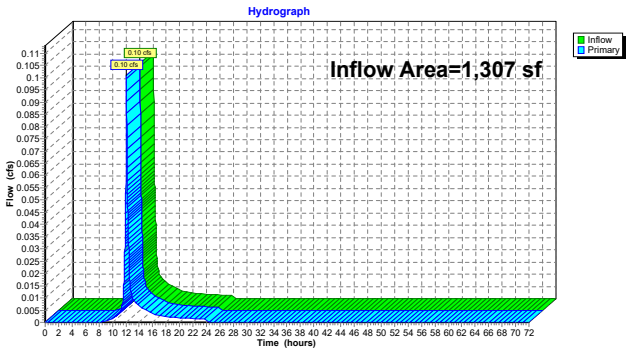
Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	41.00	0.00	0.00	**0.00**
2.00	0.00	0	41.00	0.00	0.00	0.00
4.00	0.00	0	41.00	0.00	0.00	0.00
6.00	0.00	0	41.00	0.00	0.00	0.00
8.00	0.00	0	41.00	0.00	0.00	0.00
10.00	0.00	0	41.00	0.00	0.00	0.00
12.00	**0.00**	0	41.00	0.00	0.00	0.00
14.00	**0.09**	**687**	**42.31**	**0.06**	**0.06**	0.00
16.00	0.06	**799**	**42.42**	**0.06**	**0.06**	0.00
18.00	0.04	707	42.33	0.06	0.06	0.00
20.00	0.03	555	42.18	0.05	0.05	0.00
22.00	0.03	415	42.02	0.05	0.05	0.00
24.00	0.02	293	41.86	0.04	0.04	0.00
26.00	0.00	95	41.49	0.02	0.02	0.00
28.00	0.00	3	41.09	0.00	0.00	0.00
30.00	0.00	0	41.00	0.00	0.00	0.00
32.00	0.00	0	41.00	0.00	0.00	0.00
34.00	0.00	0	41.00	0.00	0.00	0.00
36.00	0.00	0	41.00	0.00	0.00	0.00
38.00	0.00	0	41.00	0.00	0.00	0.00
40.00	0.00	0	41.00	0.00	0.00	0.00
42.00	0.00	0	41.00	0.00	0.00	0.00
44.00	0.00	0	41.00	0.00	0.00	0.00
46.00	0.00	0	41.00	0.00	0.00	0.00
48.00	0.00	0	41.00	0.00	0.00	0.00
50.00	0.00	0	41.00	0.00	0.00	0.00
52.00	0.00	0	41.00	0.00	0.00	0.00
54.00	0.00	0	41.00	0.00	0.00	0.00
56.00	0.00	0	41.00	0.00	0.00	0.00
58.00	0.00	0	41.00	0.00	0.00	0.00
60.00	0.00	0	41.00	0.00	0.00	0.00
62.00	0.00	0	41.00	0.00	0.00	0.00
64.00	0.00	0	41.00	0.00	0.00	0.00
66.00	0.00	0	41.00	0.00	0.00	0.00
68.00	0.00	0	41.00	0.00	0.00	0.00
70.00	0.00	0	41.00	0.00	0.00	0.00
72.00	0.00	0	41.00	0.00	0.00	0.00

Summary for Link POA-1: POA-1

Inflow Area = 1,307 sf, 63.33% Impervious, Inflow Depth = 2.87" for 25 yr event
Inflow = 0.10 cfs @ 12.09 hrs, Volume= 312 cf
Primary = 0.10 cfs @ 12.09 hrs, Volume= 312 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POA-1: POA-1



Hydrograph for Link POA-1: POA-1

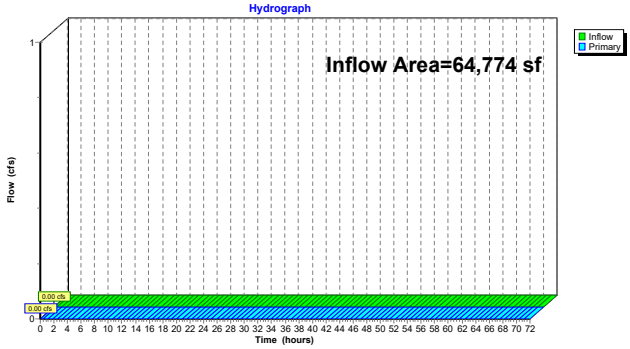
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	52.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00	55.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	56.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	57.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	58.00	0.00	0.00	0.00
7.00	0.00	0.00	0.00	59.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	60.00	0.00	0.00	0.00
9.00	0.00	0.00	0.00	61.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	62.00	0.00	0.00	0.00
11.00	0.00	0.00	0.00	63.00	0.00	0.00	0.00
12.00	**0.06**	0.00	**0.06**	64.00	0.00	0.00	0.00
13.00	**0.01**	0.00	**0.01**	65.00	0.00	0.00	0.00
14.00	0.01	0.00	0.01	66.00	0.00	0.00	0.00
15.00	0.01	0.00	0.01	67.00	0.00	0.00	0.00
16.00	0.00	0.00	0.00	68.00	0.00	0.00	0.00
17.00	0.00	0.00	0.00	69.00	0.00	0.00	0.00
18.00	0.00	0.00	0.00	70.00	0.00	0.00	0.00
19.00	0.00	0.00	0.00	71.00	0.00	0.00	0.00
20.00	0.00	0.00	0.00	72.00	0.00	0.00	0.00
21.00	0.00	0.00	0.00				
22.00	0.00	0.00	0.00				
23.00	0.00	0.00	0.00				
24.00	0.00	0.00	0.00				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.00	0.00	0.00	0.00				

Summary for Link POA-2: POA-2

Inflow Area = 64,774 sf, 7.40% Impervious, Inflow Depth = 0.00" for 25 yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POA-2: POA-2



Hydrograph for Link POA-2: POA-2

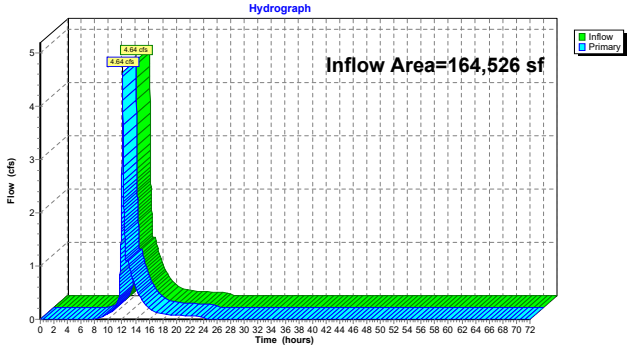
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	**0.00**	**0.00**	**0.00**	52.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00	55.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	56.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	57.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	58.00	0.00	0.00	0.00
7.00	0.00	0.00	0.00	59.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	60.00	0.00	0.00	0.00
9.00	0.00	0.00	0.00	61.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	62.00	0.00	0.00	0.00
11.00	0.00	0.00	0.00	63.00	0.00	0.00	0.00
12.00	0.00	0.00	0.00	64.00	0.00	0.00	0.00
13.00	0.00	0.00	0.00	65.00	0.00	0.00	0.00
14.00	0.00	0.00	0.00	66.00	0.00	0.00	0.00
15.00	0.00	0.00	0.00	67.00	0.00	0.00	0.00
16.00	0.00	0.00	0.00	68.00	0.00	0.00	0.00
17.00	0.00	0.00	0.00	69.00	0.00	0.00	0.00
18.00	0.00	0.00	0.00	70.00	0.00	0.00	0.00
19.00	0.00	0.00	0.00	71.00	0.00	0.00	0.00
20.00	0.00	0.00	0.00	72.00	0.00	0.00	0.00
21.00	0.00	0.00	0.00				
22.00	0.00	0.00	0.00				
23.00	0.00	0.00	0.00				
24.00	0.00	0.00	0.00				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.00	0.00	0.00	0.00				

Summary for Link POA-3: POA-3

Inflow Area = 164,526 sf, 62.91% Impervious, Inflow Depth = 1.32" for 25 yr event
Inflow = 4.64 cfs @ 12.09 hrs, Volume= 18,072 cf
Primary = 4.64 cfs @ 12.09 hrs, Volume= 18,072 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POA-3: POA-3



Hydrograph for Link POA-3: POA-3

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	52.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00	55.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	56.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	57.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	58.00	0.00	0.00	0.00
7.00	0.00	0.00	0.00	59.00	0.00	0.00	0.00
8.00	0.01	0.00	0.01	60.00	0.00	0.00	0.00
9.00	0.04	0.00	0.04	61.00	0.00	0.00	0.00
10.00	0.10	0.00	0.10	62.00	0.00	0.00	0.00
11.00	0.20	0.00	0.20	63.00	0.00	0.00	0.00
12.00	**2.72**	0.00	**2.72**	64.00	0.00	0.00	0.00
13.00	**1.04**	0.00	**1.04**	65.00	0.00	0.00	0.00
14.00	0.59	0.00	0.59	66.00	0.00	0.00	0.00
15.00	0.35	0.00	0.35	67.00	0.00	0.00	0.00
16.00	0.20	0.00	0.20	68.00	0.00	0.00	0.00
17.00	0.13	0.00	0.13	69.00	0.00	0.00	0.00
18.00	0.10	0.00	0.10	70.00	0.00	0.00	0.00
19.00	0.09	0.00	0.09	71.00	0.00	0.00	0.00
20.00	0.08	0.00	0.08	72.00	0.00	0.00	0.00
21.00	0.07	0.00	0.07				
22.00	0.06	0.00	0.06				
23.00	0.06	0.00	0.06				
24.00	0.05	0.00	0.05				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.00	0.00	0.00	0.00				

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentBLD-A: Building Add Runoff Area=0.279 ac 100.00% Impervious Runoff Depth=8.54"
Tc=6.0 min CN=98 Runoff=2.41 cfs 8,649 cf

SubcatchmentPW-2: PW-2 Runoff Area=1.487 ac 7.40% Impervious Runoff Depth=1.94"
Flow Length=293' Tc=17.8 min CN=43 Runoff=2.00 cfs 10,460 cf

SubcatchmentPWS-1: PWS-1 Runoff Area=0.030 ac 63.33% Impervious Runoff Depth=5.87"
Tc=6.0 min CN=76 Runoff=0.20 cfs 640 cf

SubcatchmentPWS-3: PWS-3 Runoff Area=1.220 ac 70.33% Impervious Runoff Depth=6.36"
Tc=6.0 min CN=80 Runoff=8.91 cfs 28,165 cf

SubcatchmentPWS-3A: PWS-3A Runoff Area=0.238 ac 94.54% Impervious Runoff Depth=8.18"
Flow Length=109' Tc=6.0 min CN=95 Runoff=2.03 cfs 7,066 cf

SubcatchmentPWS-3B: PW-3B Runoff Area=2.040 ac 49.71% Impervious Runoff Depth=5.14"
Flow Length=311' Tc=16.4 min CN=70 Runoff=9.00 cfs 38,075 cf

Pond INF-1: INF-1 Peak Elev=54.21' Storage=10,683 cf Inflow=9.00 cfs 38,075 cf
Discarded=0.27 cfs 18,905 cf Primary=5.32 cfs 19,170 cf Outflow=5.59 cfs 38,074 cf

Pond INF-2: INF-2 Peak Elev=54.00' Storage=4,826 cf Inflow=4.44 cfs 15,715 cf
Discarded=0.13 cfs 10,100 cf Primary=2.32 cfs 5,615 cf Outflow=2.45 cfs 15,715 cf

Pond RG-1: Rain Garden-1 Peak Elev=44.53' Storage=4,993 cf Inflow=2.00 cfs 10,460 cf
Discarded=0.16 cfs 9,899 cf Primary=0.11 cfs 560 cf Outflow=0.27 cfs 10,460 cf

Link POA-1: POA-1 Inflow=0.20 cfs 640 cf
Primary=0.20 cfs 640 cf

Link POA-2: POA-2 Inflow=0.11 cfs 560 cf
Primary=0.11 cfs 560 cf

Link POA-3: POA-3 Inflow=10.33 cfs 52,949 cf
Primary=10.33 cfs 52,949 cf

Total Runoff Area = 230,607 sf Runoff Volume = 93,053 cf Average Runoff Depth = 4.84"
52.68% Pervious = 121,489 sf 47.32% Impervious = 109,118 sf

Summary for Subcatchment BLD-A: Building Add

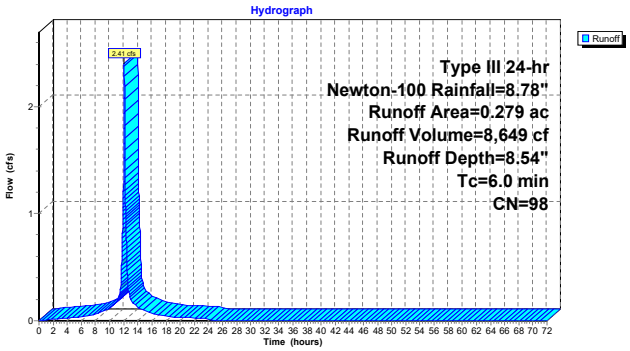
Runoff = 2.41 cfs @ 12.08 hrs, Volume= 8,649 cf, Depth= 8.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr Newton-100 Rainfall=8.78"

Area (ac)	CN	Description
0.279	98	Roofs, HSG A
0.279		100.00% Impervious Area

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

Subcatchment BLD-A: Building Add



Hydrograph for Subcatchment BLD-A: Building Add

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	52.00	8.78	8.54	0.00
1.00	0.09	0.01	0.01	53.00	8.78	8.54	0.00
2.00	0.18	0.05	0.02	54.00	8.78	8.54	0.00
3.00	0.27	0.12	0.02	55.00	8.78	8.54	0.00
4.00	0.38	0.21	0.03	56.00	8.78	8.54	0.00
5.00	0.50	0.32	0.03	57.00	8.78	8.54	0.00
6.00	0.63	0.44	0.04	58.00	8.78	8.54	0.00
7.00	0.79	0.59	0.05	59.00	8.78	8.54	0.00
8.00	1.00	0.79	0.06	60.00	8.78	8.54	0.00
9.00	1.28	1.06	0.09	61.00	8.78	8.54	0.00
10.00	1.66	1.44	0.12	62.00	8.78	8.54	0.00
11.00	2.20	1.97	0.17	63.00	8.78	8.54	0.00
12.00	4.39	4.15	**1.52**	64.00	8.78	8.54	0.00
13.00	6.58	6.35	**0.20**	65.00	8.78	8.54	0.00
14.00	7.12	6.88	0.13	66.00	8.78	8.54	0.00
15.00	7.50	7.26	0.10	67.00	8.78	8.54	0.00
16.00	7.78	7.54	0.07	68.00	8.78	8.54	0.00
17.00	7.99	7.75	0.05	69.00	8.78	8.54	0.00
18.00	8.15	7.91	0.04	70.00	8.78	8.54	0.00
19.00	8.28	8.04	0.04	71.00	8.78	8.54	0.00
20.00	8.40	8.16	0.03	72.00	8.78	8.54	0.00
21.00	8.51	8.27	0.03				
22.00	8.61	8.37	0.03				
23.00	8.70	8.46	0.02				
24.00	**8.78**	**8.54**	0.02				
25.00	8.78	8.54	0.00				
26.00	8.78	8.54	0.00				
27.00	8.78	8.54	0.00				
28.00	8.78	8.54	0.00				
29.00	8.78	8.54	0.00				
30.00	8.78	8.54	0.00				
31.00	8.78	8.54	0.00				
32.00	8.78	8.54	0.00				
33.00	8.78	8.54	0.00				
34.00	8.78	8.54	0.00				
35.00	8.78	8.54	0.00				
36.00	8.78	8.54	0.00				
37.00	8.78	8.54	0.00				
38.00	8.78	8.54	0.00				
39.00	8.78	8.54	0.00				
40.00	8.78	8.54	0.00				
41.00	8.78	8.54	0.00				
42.00	8.78	8.54	0.00				
43.00	8.78	8.54	0.00				
44.00	8.78	8.54	0.00				
45.00	8.78	8.54	0.00				
46.00	8.78	8.54	0.00				
47.00	8.78	8.54	0.00				
48.00	8.78	8.54	0.00				
49.00	8.78	8.54	0.00				
50.00	8.78	8.54	0.00				
51.00	8.78	8.54	0.00				

Summary for Subcatchment PW-2: PW-2

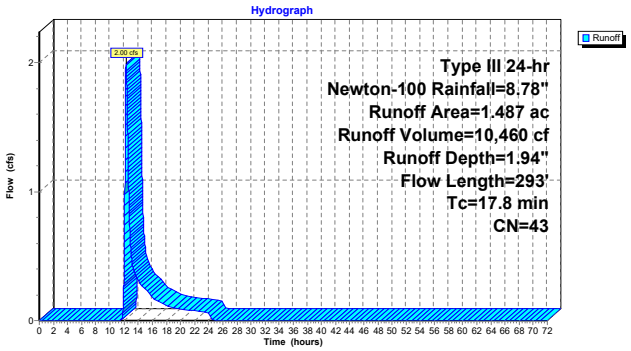
Runoff = 2.00 cfs @ 12.28 hrs, Volume= 10,460 cf, Depth= 1.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr Newton-100 Rainfall=8.78"

Area (ac)	CN	Description
0.110	98	Paved parking, HSG A
1.244	39	>75% Grass cover, Good, HSG A
0.133	32	Woods/grass comb., Good, HSG A
1.487	43	Weighted Average
1.377		92.60% Pervious Area
0.110		7.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.1	50	0.0020	0.06		**Sheet Flow, 50 FT SHEET FLOW** Grass: Short n= 0.150 P2= 3.20"
1.4	72	0.0150	0.86		**Shallow Concentrated Flow, 72 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
0.3	52	0.1700	2.89		**Shallow Concentrated Flow, 52 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
0.9	72	0.0360	1.33		**Shallow Concentrated Flow, 72 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
1.1	47	0.0110	0.73		**Shallow Concentrated Flow, 47 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
17.8	293	Total			

Subcatchment PW-2: PW-2



Hydrograph for Subcatchment PW-2: PW-2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	52.00	8.78	1.94	0.00
1.00	0.09	0.00	0.00	53.00	8.78	1.94	0.00
2.00	0.18	0.00	0.00	54.00	8.78	1.94	0.00
3.00	0.27	0.00	0.00	55.00	8.78	1.94	0.00
4.00	0.38	0.00	0.00	56.00	8.78	1.94	0.00
5.00	0.50	0.00	0.00	57.00	8.78	1.94	0.00
6.00	0.63	0.00	0.00	58.00	8.78	1.94	0.00
7.00	0.79	0.00	0.00	59.00	8.78	1.94	0.00
8.00	1.00	0.00	0.00	60.00	8.78	1.94	0.00
9.00	1.28	0.00	0.00	61.00	8.78	1.94	0.00
10.00	1.66	0.00	0.00	62.00	8.78	1.94	0.00
11.00	2.20	0.00	0.00	63.00	8.78	1.94	0.00
12.00	4.39	0.20	**0.34**	64.00	8.78	1.94	0.00
13.00	6.58	0.90	**0.53**	65.00	8.78	1.94	0.00
14.00	7.12	1.13	0.32	66.00	8.78	1.94	0.00
15.00	7.50	1.30	0.25	67.00	8.78	1.94	0.00
16.00	7.78	1.43	0.18	68.00	8.78	1.94	0.00
17.00	7.99	1.53	0.14	69.00	8.78	1.94	0.00
18.00	8.15	1.61	0.11	70.00	8.78	1.94	0.00
19.00	8.28	1.68	0.10	71.00	8.78	1.94	0.00
20.00	8.40	1.74	0.09	72.00	8.78	1.94	0.00
21.00	8.51	1.80	0.08				
22.00	8.61	1.85	0.08				
23.00	8.70	1.90	0.07				
24.00	**8.78**	**1.94**	0.06				
25.00	8.78	1.94	0.00				
26.00	8.78	1.94	0.00				
27.00	8.78	1.94	0.00				
28.00	8.78	1.94	0.00				
29.00	8.78	1.94	0.00				
30.00	8.78	1.94	0.00				
31.00	8.78	1.94	0.00				
32.00	8.78	1.94	0.00				
33.00	8.78	1.94	0.00				
34.00	8.78	1.94	0.00				
35.00	8.78	1.94	0.00				
36.00	8.78	1.94	0.00				
37.00	8.78	1.94	0.00				
38.00	8.78	1.94	0.00				
39.00	8.78	1.94	0.00				
40.00	8.78	1.94	0.00				
41.00	8.78	1.94	0.00				
42.00	8.78	1.94	0.00				
43.00	8.78	1.94	0.00				
44.00	8.78	1.94	0.00				
45.00	8.78	1.94	0.00				
46.00	8.78	1.94	0.00				
47.00	8.78	1.94	0.00				
48.00	8.78	1.94	0.00				
49.00	8.78	1.94	0.00				
50.00	8.78	1.94	0.00				
51.00	8.78	1.94	0.00				

Summary for Subcatchment PWS-1: PWS-1

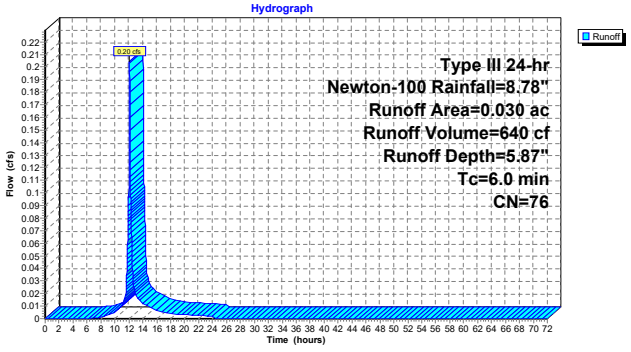
Runoff = 0.20 cfs @ 12.09 hrs, Volume= 640 cf, Depth= 5.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr Newton-100 Rainfall=8.78"

Area (ac)	CN	Description
0.019	98	Paved parking, HSG A
0.011	39	>75% Grass cover, Good, HSG A
0.030	76	Weighted Average
0.011		36.67% Pervious Area
0.019		63.33% Impervious Area

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

Subcatchment PWS-1: PWS-1



Hydrograph for Subcatchment PWS-1: PWS-1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	52.00	8.78	5.87	0.00
1.00	0.09	0.00	0.00	53.00	8.78	5.87	0.00
2.00	0.18	0.00	0.00	54.00	8.78	5.87	0.00
3.00	0.27	0.00	0.00	55.00	8.78	5.87	0.00
4.00	0.38	0.00	0.00	56.00	8.78	5.87	0.00
5.00	0.50	0.00	0.00	57.00	8.78	5.87	0.00
6.00	0.63	0.00	0.00	58.00	8.78	5.87	0.00
7.00	0.79	0.01	0.00	59.00	8.78	5.87	0.00
8.00	1.00	0.04	0.00	60.00	8.78	5.87	0.00
9.00	1.28	0.11	0.00	61.00	8.78	5.87	0.00
10.00	1.66	0.25	0.01	62.00	8.78	5.87	0.00
11.00	2.20	0.52	0.01	63.00	8.78	5.87	0.00
12.00	4.39	2.04	**0.12**	64.00	8.78	5.87	0.00
13.00	6.58	3.89	**0.02**	65.00	8.78	5.87	0.00
14.00	7.12	4.36	0.01	66.00	8.78	5.87	0.00
15.00	7.50	4.71	0.01	67.00	8.78	5.87	0.00
16.00	7.78	4.96	0.01	68.00	8.78	5.87	0.00
17.00	7.99	5.14	0.01	69.00	8.78	5.87	0.00
18.00	8.15	5.29	0.00	70.00	8.78	5.87	0.00
19.00	8.28	5.41	0.00	71.00	8.78	5.87	0.00
20.00	8.40	5.53	0.00	72.00	8.78	5.87	0.00
21.00	8.51	5.63	0.00				
22.00	8.61	5.72	0.00				
23.00	8.70	5.80	0.00				
24.00	**8.78**	**5.87**	0.00				
25.00	8.78	5.87	0.00				
26.00	8.78	5.87	0.00				
27.00	8.78	5.87	0.00				
28.00	8.78	5.87	0.00				
29.00	8.78	5.87	0.00				
30.00	8.78	5.87	0.00				
31.00	8.78	5.87	0.00				
32.00	8.78	5.87	0.00				
33.00	8.78	5.87	0.00				
34.00	8.78	5.87	0.00				
35.00	8.78	5.87	0.00				
36.00	8.78	5.87	0.00				
37.00	8.78	5.87	0.00				
38.00	8.78	5.87	0.00				
39.00	8.78	5.87	0.00				
40.00	8.78	5.87	0.00				
41.00	8.78	5.87	0.00				
42.00	8.78	5.87	0.00				
43.00	8.78	5.87	0.00				
44.00	8.78	5.87	0.00				
45.00	8.78	5.87	0.00				
46.00	8.78	5.87	0.00				
47.00	8.78	5.87	0.00				
48.00	8.78	5.87	0.00				
49.00	8.78	5.87	0.00				
50.00	8.78	5.87	0.00				
51.00	8.78	5.87	0.00				

Summary for Subcatchment PWS-3: PWS-3

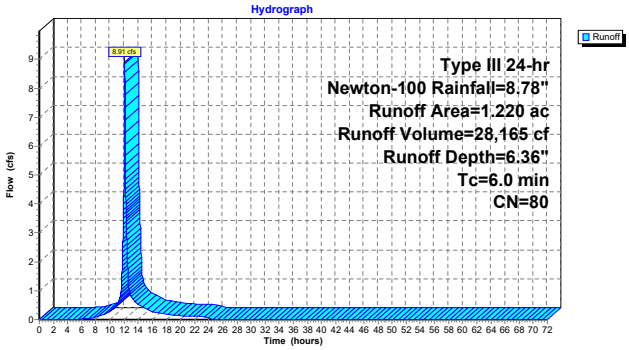
Runoff = 8.91 cfs @ 12.09 hrs, Volume= 28,165 cf, Depth= 6.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr Newton-100 Rainfall=8.78"

Area (ac)	CN	Description
0.242	98	Paved parking, HSG A
0.616	98	Roofs, HSG A
0.362	39	>75% Grass cover, Good, HSG A
1.220	80	Weighted Average
0.362		29.67% Pervious Area
0.858		70.33% Impervious Area

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

Subcatchment PWS-3: PWS-3



Hydrograph for Subcatchment PWS-3: PWS-3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	52.00	8.78	6.36	0.00
1.00	0.09	0.00	0.00	53.00	8.78	6.36	0.00
2.00	0.18	0.00	0.00	54.00	8.78	6.36	0.00
3.00	0.27	0.00	0.00	55.00	8.78	6.36	0.00
4.00	0.38	0.00	0.00	56.00	8.78	6.36	0.00
5.00	0.50	0.00	0.00	57.00	8.78	6.36	0.00
6.00	0.63	0.01	0.02	58.00	8.78	6.36	0.00
7.00	0.79	0.03	0.04	59.00	8.78	6.36	0.00
8.00	1.00	0.08	0.08	60.00	8.78	6.36	0.00
9.00	1.28	0.19	0.16	61.00	8.78	6.36	0.00
10.00	1.66	0.37	0.27	62.00	8.78	6.36	0.00
11.00	2.20	0.68	0.49	63.00	8.78	6.36	0.00
12.00	4.39	2.37	**5.40**	64.00	8.78	6.36	0.00
13.00	6.58	4.31	**0.80**	65.00	8.78	6.36	0.00
14.00	7.12	4.81	0.51	66.00	8.78	6.36	0.00
15.00	7.50	5.16	0.39	67.00	8.78	6.36	0.00
16.00	7.78	5.42	0.27	68.00	8.78	6.36	0.00
17.00	7.99	5.61	0.22	69.00	8.78	6.36	0.00
18.00	8.15	5.76	0.17	70.00	8.78	6.36	0.00
19.00	8.28	5.89	0.15	71.00	8.78	6.36	0.00
20.00	8.40	6.00	0.13	72.00	8.78	6.36	0.00
21.00	8.51	6.11	0.12				
22.00	8.61	6.20	0.11				
23.00	8.70	6.28	0.10				
24.00	**8.78**	**6.36**	0.09				
25.00	8.78	6.36	0.00				
26.00	8.78	6.36	0.00				
27.00	8.78	6.36	0.00				
28.00	8.78	6.36	0.00				
29.00	8.78	6.36	0.00				
30.00	8.78	6.36	0.00				
31.00	8.78	6.36	0.00				
32.00	8.78	6.36	0.00				
33.00	8.78	6.36	0.00				
34.00	8.78	6.36	0.00				
35.00	8.78	6.36	0.00				
36.00	8.78	6.36	0.00				
37.00	8.78	6.36	0.00				
38.00	8.78	6.36	0.00				
39.00	8.78	6.36	0.00				
40.00	8.78	6.36	0.00				
41.00	8.78	6.36	0.00				
42.00	8.78	6.36	0.00				
43.00	8.78	6.36	0.00				
44.00	8.78	6.36	0.00				
45.00	8.78	6.36	0.00				
46.00	8.78	6.36	0.00				
47.00	8.78	6.36	0.00				
48.00	8.78	6.36	0.00				
49.00	8.78	6.36	0.00				
50.00	8.78	6.36	0.00				
51.00	8.78	6.36	0.00				

Summary for Subcatchment PWS-3A: PWS-3A

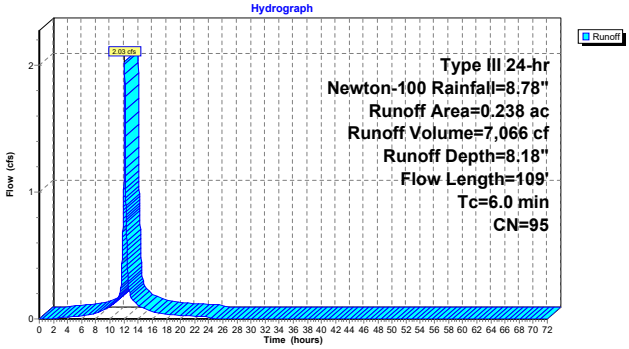
Runoff = 2.03 cfs @ 12.08 hrs, Volume= 7,066 cf, Depth= 8.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr Newton-100 Rainfall=8.78"

Area (ac)	CN	Description
0.201	98	Paved parking, HSG A
0.024	98	Roofs, HSG A
0.013	39	>75% Grass cover, Good, HSG A
0.238	95	Weighted Average
0.013		5.46% Pervious Area
0.225		94.54% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.1	34	0.0120	0.11		**Sheet Flow, 3 FT SHEET FLOW** Grass: Short n= 0.150 P2= 3.20"
0.4	17	0.0100	0.73		**Sheet Flow, 17 FT SHEET FLOW** Smooth surfaces n= 0.011 P2= 3.20"
0.2	27	0.0100	2.03		**Shallow Concentrated Flow, 27 FT SHALLOW GRASS** Paved Kv= 20.3 fps
0.3	31	0.0100	2.03		**Shallow Concentrated Flow, 31 FT SHALLOW PAVE** Paved Kv= 20.3 fps
6.0	109	Total			

Subcatchment PWS-3A: PWS-3A



Hydrograph for Subcatchment PWS-3A: PWS-3A

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	52.00	8.78	8.18	0.00
1.00	0.09	0.00	0.00	53.00	8.78	8.18	0.00
2.00	0.18	0.01	0.00	54.00	8.78	8.18	0.00
3.00	0.27	0.04	0.01	55.00	8.78	8.18	0.00
4.00	0.38	0.09	0.02	56.00	8.78	8.18	0.00
5.00	0.50	0.17	0.02	57.00	8.78	8.18	0.00
6.00	0.63	0.26	0.02	58.00	8.78	8.18	0.00
7.00	0.79	0.39	0.03	59.00	8.78	8.18	0.00
8.00	1.00	0.56	0.05	60.00	8.78	8.18	0.00
9.00	1.28	0.81	0.07	61.00	8.78	8.18	0.00
10.00	1.66	1.16	0.09	62.00	8.78	8.18	0.00
11.00	2.20	1.67	0.14	63.00	8.78	8.18	0.00
12.00	4.39	3.82	**1.28**	64.00	8.78	8.18	0.00
13.00	6.58	5.99	**0.17**	65.00	8.78	8.18	0.00
14.00	7.12	6.53	0.11	66.00	8.78	8.18	0.00
15.00	7.50	6.90	0.08	67.00	8.78	8.18	0.00
16.00	7.78	7.18	0.06	68.00	8.78	8.18	0.00
17.00	7.99	7.39	0.05	69.00	8.78	8.18	0.00
18.00	8.15	7.55	0.03	70.00	8.78	8.18	0.00
19.00	8.28	7.68	0.03	71.00	8.78	8.18	0.00
20.00	8.40	7.80	0.03	72.00	8.78	8.18	0.00
21.00	8.51	7.91	0.03				
22.00	8.61	8.01	0.02				
23.00	8.70	8.10	0.02				
24.00	**8.78**	**8.18**	0.02				
25.00	8.78	8.18	0.00				
26.00	8.78	8.18	0.00				
27.00	8.78	8.18	0.00				
28.00	8.78	8.18	0.00				
29.00	8.78	8.18	0.00				
30.00	8.78	8.18	0.00				
31.00	8.78	8.18	0.00				
32.00	8.78	8.18	0.00				
33.00	8.78	8.18	0.00				
34.00	8.78	8.18	0.00				
35.00	8.78	8.18	0.00				
36.00	8.78	8.18	0.00				
37.00	8.78	8.18	0.00				
38.00	8.78	8.18	0.00				
39.00	8.78	8.18	0.00				
40.00	8.78	8.18	0.00				
41.00	8.78	8.18	0.00				
42.00	8.78	8.18	0.00				
43.00	8.78	8.18	0.00				
44.00	8.78	8.18	0.00				
45.00	8.78	8.18	0.00				
46.00	8.78	8.18	0.00				
47.00	8.78	8.18	0.00				
48.00	8.78	8.18	0.00				
49.00	8.78	8.18	0.00				
50.00	8.78	8.18	0.00				
51.00	8.78	8.18	0.00				

Summary for Subcatchment PWS-3B: PW-3B

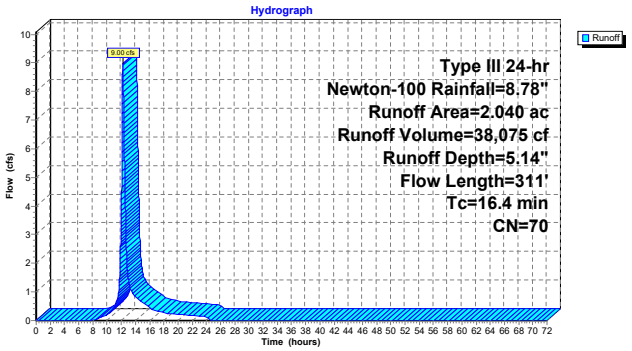
Runoff = 9.00 cfs @ 12.23 hrs, Volume= 38,075 cf, Depth= 5.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr Newton-100 Rainfall=8.78"

	Area (ac)	CN	Description
	1.014	98	Paved parking, HSG A
	0.865	39	>75% Grass cover, Good, HSG A
	0.033	32	Woods/grass comb., Good, HSG A
*	0.128	72	Infield, HSG A
	2.040	70	Weighted Average
	1.026		50.29% Pervious Area
	1.014		49.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.7	50	0.0040	0.08		**Sheet Flow, 50 FT SHEET FLOW** Grass: Short n= 0.150 P2= 3.20"
1.9	61	0.0060	0.54		**Shallow Concentrated Flow, 61 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
0.1	8	0.0060	1.57		**Shallow Concentrated Flow, 8 FT SHALLOW WALKWAY** Paved Kv= 20.3 fps
1.4	52	0.0080	0.63		**Shallow Concentrated Flow, 52 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
2.1	120	0.0190	0.96		**Shallow Concentrated Flow, 120 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
0.2	20	0.0420	1.43		**Shallow Concentrated Flow, 20 FT SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
16.4	311	Total			

Subcatchment PWS-3B: PW-3B



Hydrograph for Subcatchment PWS-3B: PW-3B

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	52.00	8.78	5.14	0.00
1.00	0.09	0.00	0.00	53.00	8.78	5.14	0.00
2.00	0.18	0.00	0.00	54.00	8.78	5.14	0.00
3.00	0.27	0.00	0.00	55.00	8.78	5.14	0.00
4.00	0.38	0.00	0.00	56.00	8.78	5.14	0.00
5.00	0.50	0.00	0.00	57.00	8.78	5.14	0.00
6.00	0.63	0.00	0.00	58.00	8.78	5.14	0.00
7.00	0.79	0.00	0.00	59.00	8.78	5.14	0.00
8.00	1.00	0.00	0.02	60.00	8.78	5.14	0.00
9.00	1.28	0.04	0.09	61.00	8.78	5.14	0.00
10.00	1.66	0.13	0.22	62.00	8.78	5.14	0.00
11.00	2.20	0.32	0.47	63.00	8.78	5.14	0.00
12.00	4.39	1.60	**3.69**	64.00	8.78	5.14	0.00
13.00	6.58	3.28	**1.46**	65.00	8.78	5.14	0.00
14.00	7.12	3.72	0.83	66.00	8.78	5.14	0.00
15.00	7.50	4.04	0.62	67.00	8.78	5.14	0.00
16.00	7.78	4.28	0.44	68.00	8.78	5.14	0.00
17.00	7.99	4.45	0.35	69.00	8.78	5.14	0.00
18.00	8.15	4.59	0.27	70.00	8.78	5.14	0.00
19.00	8.28	4.71	0.23	71.00	8.78	5.14	0.00
20.00	8.40	4.81	0.21	72.00	8.78	5.14	0.00
21.00	8.51	4.91	0.19				
22.00	8.61	4.99	0.17				
23.00	8.70	5.07	0.16				
24.00	**8.78**	**5.14**	0.14				
25.00	8.78	5.14	0.00				
26.00	8.78	5.14	0.00				
27.00	8.78	5.14	0.00				
28.00	8.78	5.14	0.00				
29.00	8.78	5.14	0.00				
30.00	8.78	5.14	0.00				
31.00	8.78	5.14	0.00				
32.00	8.78	5.14	0.00				
33.00	8.78	5.14	0.00				
34.00	8.78	5.14	0.00				
35.00	8.78	5.14	0.00				
36.00	8.78	5.14	0.00				
37.00	8.78	5.14	0.00				
38.00	8.78	5.14	0.00				
39.00	8.78	5.14	0.00				
40.00	8.78	5.14	0.00				
41.00	8.78	5.14	0.00				
42.00	8.78	5.14	0.00				
43.00	8.78	5.14	0.00				
44.00	8.78	5.14	0.00				
45.00	8.78	5.14	0.00				
46.00	8.78	5.14	0.00				
47.00	8.78	5.14	0.00				
48.00	8.78	5.14	0.00				
49.00	8.78	5.14	0.00				
50.00	8.78	5.14	0.00				
51.00	8.78	5.14	0.00				

Summary for Pond INF-1: INF-1

Inflow Area = 88,862 sf, 49.71% Impervious, Inflow Depth = 5.14" for Newton-100 event
Inflow = 9.00 cfs @ 12.23 hrs, Volume= 38,075 cf
Outflow = 5.59 cfs @ 12.46 hrs, Volume= 38,074 cf, Atten= 38%, Lag= 13.8 min
Discarded = 0.27 cfs @ 10.39 hrs, Volume= 18,905 cf
Primary = 5.32 cfs @ 12.46 hrs, Volume= 19,170 cf

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 54.21' @ 12.46 hrs Surf.Area= 4,906 sf Storage= 10,683 cf

Plug-Flow detention time= 138.7 min calculated for 38,069 cf (100% of inflow)
Center-of-Mass det. time= 138.7 min (969.1 - 830.4)

Volume	Invert	Avail.Storage	Storage Description
#1	50.73'	4,571 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 17,858 cf Overall - 6,430 cf Embedded = 11,428 cf x 40.0% Voids
#2	51.23'	6,430 cf	**Cultec R-330XLHD** x 122 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 6 rows
		11,001 cf	Total Available Storage

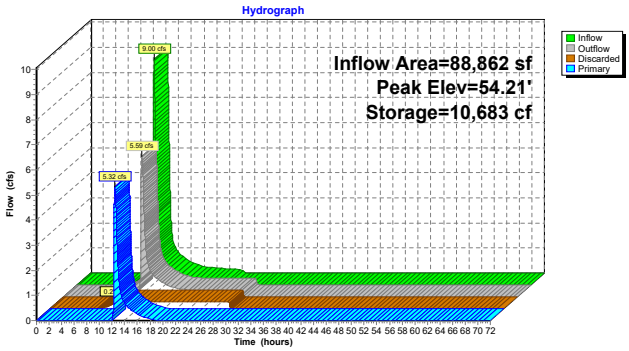
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.73	4,906	0	0
54.37	4,906	17,858	17,858

Device	Routing	Invert	Outlet Devices
#1	Discarded	50.73'	**2.410 in/hr Exfiltration over Surface area**
#2	Primary	52.89'	**10.0" Round Culvert-1** L= 55.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.89' / 52.22' S= 0.0122 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf
#3	Primary	52.45'	**12.0" Round Culvert-2** L= 45.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.45' / 52.22' S= 0.0051 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Discarded OutFlow Max=0.27 cfs @ 10.39 hrs HW=50.77' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.27 cfs)

Primary OutFlow Max=5.32 cfs @ 12.46 hrs HW=54.21' (Free Discharge)
├**2=Culvert-1** (Inlet Controls 1.97 cfs @ 3.61 fps)
└**3=Culvert-2** (Inlet Controls 3.35 cfs @ 4.26 fps)

Pond INF-1: INF-1



Hydrograph for Pond INF-1: INF-1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	50.73	0.00	0.00	0.00
2.00	0.00	0	50.73	0.00	0.00	0.00
4.00	0.00	0	50.73	0.00	0.00	0.00
6.00	0.00	0	50.73	0.00	0.00	0.00
8.00	0.02	4	50.73	0.01	0.01	0.00
10.00	0.22	54	50.76	0.21	**0.21**	0.00
12.00	**3.69**	**3,434**	**51.85**	**0.27**	**0.27**	**0.00**
14.00	**0.83**	**7,457**	**52.92**	**0.96**	0.27	**0.68**
16.00	0.44	6,782	52.73	0.53	0.27	0.26
18.00	0.27	6,258	52.59	0.34	0.27	0.06
20.00	0.21	5,801	52.46	0.27	0.27	0.00
22.00	0.17	5,208	52.31	0.27	0.27	0.00
24.00	0.14	4,364	52.09	0.27	0.27	0.00
26.00	0.00	2,519	51.62	0.27	0.27	0.00
28.00	0.00	548	51.01	0.27	0.27	0.00
30.00	0.00	0	50.73	0.00	0.00	0.00
32.00	0.00	0	50.73	0.00	0.00	0.00
34.00	0.00	0	50.73	0.00	0.00	0.00
36.00	0.00	0	50.73	0.00	0.00	0.00
38.00	0.00	0	50.73	0.00	0.00	0.00
40.00	0.00	0	50.73	0.00	0.00	0.00
42.00	0.00	0	50.73	0.00	0.00	0.00
44.00	0.00	0	50.73	0.00	0.00	0.00
46.00	0.00	0	50.73	0.00	0.00	0.00
48.00	0.00	0	50.73	0.00	0.00	0.00
50.00	0.00	0	50.73	0.00	0.00	0.00
52.00	0.00	0	50.73	0.00	0.00	0.00
54.00	0.00	0	50.73	0.00	0.00	0.00
56.00	0.00	0	50.73	0.00	0.00	0.00
58.00	0.00	0	50.73	0.00	0.00	0.00
60.00	0.00	0	50.73	0.00	0.00	0.00
62.00	0.00	0	50.73	0.00	0.00	0.00
64.00	0.00	0	50.73	0.00	0.00	0.00
66.00	0.00	0	50.73	0.00	0.00	0.00
68.00	0.00	0	50.73	0.00	0.00	0.00
70.00	0.00	0	50.73	0.00	0.00	0.00
72.00	0.00	0	50.73	0.00	0.00	0.00

Summary for Pond INF-2: INF-2

Inflow Area = 22,521 sf, 97.49% Impervious, Inflow Depth = 8.37" for Newton-100 event
Inflow = 4.44 cfs @ 12.08 hrs, Volume= 15,715 cf
Outflow = 2.45 cfs @ 12.20 hrs, Volume= 15,715 cf, Atten= 45%, Lag= 7.1 min
Discarded = 0.13 cfs @ 8.48 hrs, Volume= 10,100 cf
Primary = 2.32 cfs @ 12.20 hrs, Volume= 5,615 cf

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 4
Peak Elev= 54.00' @ 12.20 hrs Surf.Area= 2,248 sf Storage= 4,826 cf

Plug-Flow detention time= 159.6 min calculated for 15,715 cf (100% of inflow)
Center-of-Mass det. time= 159.6 min (906.5 - 746.8)

Volume	Invert	Avail.Storage	Storage Description
#1	50.54'	2,311 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 8,632 cf Overall - 2,854 cf Embedded = 5,779 cf x 40.0% Voids
#2	51.36'	2,854 cf	**Cultec R-330XLHD** x 53 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 8 rows
		5,165 cf	Total Available Storage

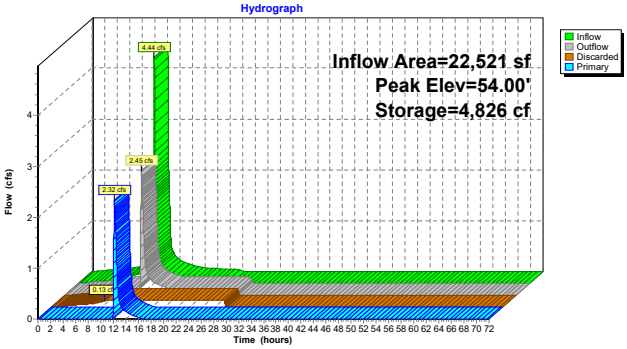
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.54	2,248	0	0
54.38	2,248	8,632	8,632

Device	Routing	Invert	Outlet Devices
#1	Discarded	50.54'	**2.410 in/hr Exfiltration over Surface area**
#2	Primary	53.00'	**8.0" Round Culvert-2** L= 22.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 53.00' / 52.69' S= 0.0141 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf
#3	Primary	52.80'	**8.0" Round Culvert-1** L= 21.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.80' / 52.69' S= 0.0052 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf

Discarded OutFlow Max=0.13 cfs @ 8.48 hrs HW=50.58' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.13 cfs)

Primary OutFlow Max=2.32 cfs @ 12.20 hrs HW=54.00' (Free Discharge)
├**2=Culvert-2** (Inlet Controls 1.09 cfs @ 3.11 fps)
└**3=Culvert-1** (Inlet Controls 1.24 cfs @ 3.54 fps)

Pond INF-2: INF-2



Hydrograph for Pond INF-2: INF-2

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	50.54	0.00	0.00	0.00
2.00	0.02	5	50.55	0.02	0.02	0.00
4.00	0.04	11	50.55	0.04	0.04	0.00
6.00	0.06	17	50.56	0.06	0.06	0.00
8.00	0.11	29	50.57	0.11	**0.11**	0.00
10.00	0.21	280	50.85	0.13	**0.13**	0.00
12.00	**2.79**	**3,242**	**52.79**	**0.13**	0.13	**0.00**
14.00	**0.23**	**3,631**	**53.04**	**0.27**	0.13	**0.14**
16.00	0.12	3,426	52.91	0.16	0.13	0.03
18.00	0.08	3,171	52.75	0.13	0.13	0.00
20.00	0.06	2,750	52.50	0.13	0.13	0.00
22.00	0.05	2,241	52.20	0.13	0.13	0.00
24.00	0.04	1,658	51.87	0.13	0.13	0.00
26.00	0.00	769	51.38	0.13	0.13	0.00
28.00	0.00	0	50.54	0.00	0.00	0.00
30.00	0.00	0	50.54	0.00	0.00	0.00
32.00	0.00	0	50.54	0.00	0.00	0.00
34.00	0.00	0	50.54	0.00	0.00	0.00
36.00	0.00	0	50.54	0.00	0.00	0.00
38.00	0.00	0	50.54	0.00	0.00	0.00
40.00	0.00	0	50.54	0.00	0.00	0.00
42.00	0.00	0	50.54	0.00	0.00	0.00
44.00	0.00	0	50.54	0.00	0.00	0.00
46.00	0.00	0	50.54	0.00	0.00	0.00
48.00	0.00	0	50.54	0.00	0.00	0.00
50.00	0.00	0	50.54	0.00	0.00	0.00
52.00	0.00	0	50.54	0.00	0.00	0.00
54.00	0.00	0	50.54	0.00	0.00	0.00
56.00	0.00	0	50.54	0.00	0.00	0.00
58.00	0.00	0	50.54	0.00	0.00	0.00
60.00	0.00	0	50.54	0.00	0.00	0.00
62.00	0.00	0	50.54	0.00	0.00	0.00
64.00	0.00	0	50.54	0.00	0.00	0.00
66.00	0.00	0	50.54	0.00	0.00	0.00
68.00	0.00	0	50.54	0.00	0.00	0.00
70.00	0.00	0	50.54	0.00	0.00	0.00
72.00	0.00	0	50.54	0.00	0.00	0.00

Summary for Pond RG-1: Rain Garden-1

Inflow Area = 64,774 sf, 7.40% Impervious, Inflow Depth = 1.94" for Newton-100 event
Inflow = 2.00 cfs @ 12.28 hrs, Volume= 10,460 cf
Outflow = 0.27 cfs @ 14.57 hrs, Volume= 10,460 cf, Atten= 87%, Lag= 137.4 min
Discarded = 0.16 cfs @ 14.57 hrs, Volume= 9,899 cf
Primary = 0.11 cfs @ 14.57 hrs, Volume= 560 cf

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 44.53' @ 14.57 hrs Surf.Area= 2,896 sf Storage= 4,993 cf

Plug-Flow detention time= 393.9 min calculated for 10,458 cf (100% of inflow)
Center-of-Mass det. time= 394.0 min (1,290.3 - 896.3)

Volume	Invert	Avail.Storage	Storage Description
#1	41.00'	6,454 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

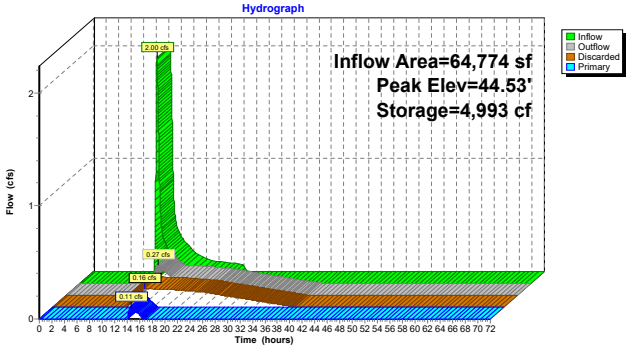
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
41.00	0	0	0
42.00	796	398	398
43.00	1,579	1,188	1,586
44.00	2,420	2,000	3,585
45.00	3,318	2,869	6,454

Device	Routing	Invert	Outlet Devices
#1	Discarded	41.00'	**2.410 in/hr Exfiltration over Surface area**
#2	Primary	44.50'	**8.0' long x 6.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50
			Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Discarded OutFlow Max=0.16 cfs @ 14.57 hrs HW=44.53' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.16 cfs)

Primary OutFlow Max=0.10 cfs @ 14.57 hrs HW=44.53' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 0.10 cfs @ 0.41 fps)

Pond RG-1: Rain Garden-1



Hydrograph for Pond RG-1: Rain Garden-1

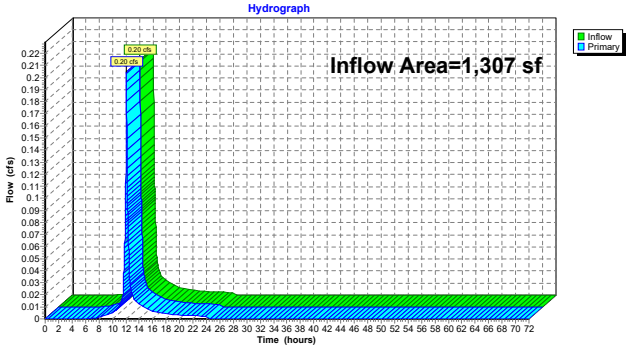
Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	41.00	0.00	0.00	0.00
2.00	0.00	0	41.00	0.00	0.00	0.00
4.00	0.00	0	41.00	0.00	0.00	0.00
6.00	0.00	0	41.00	0.00	0.00	0.00
8.00	0.00	0	41.00	0.00	0.00	0.00
10.00	0.00	0	41.00	0.00	0.00	0.00
12.00	**0.34**	108	41.52	0.02	0.02	0.00
14.00	**0.32**	**4,855**	**44.48**	**0.16**	**0.16**	**0.00**
16.00	0.18	**4,948**	**44.51**	**0.20**	**0.16**	**0.04**
18.00	0.11	4,790	44.46	0.16	0.16	0.00
20.00	0.09	4,394	44.32	0.15	0.15	0.00
22.00	0.08	3,937	44.14	0.14	0.14	0.00
24.00	0.06	3,445	43.94	0.13	0.13	0.00
26.00	0.00	2,613	43.57	0.11	0.11	0.00
28.00	0.00	1,856	43.16	0.10	0.10	0.00
30.00	0.00	1,232	42.76	0.08	0.08	0.00
32.00	0.00	736	42.36	0.06	0.06	0.00
34.00	0.00	366	41.96	0.04	0.04	0.00
36.00	0.00	124	41.56	0.02	0.02	0.00
38.00	0.00	10	41.16	0.01	0.01	0.00
40.00	0.00	0	41.00	0.00	0.00	0.00
42.00	0.00	0	41.00	0.00	0.00	0.00
44.00	0.00	0	41.00	0.00	0.00	0.00
46.00	0.00	0	41.00	0.00	0.00	0.00
48.00	0.00	0	41.00	0.00	0.00	0.00
50.00	0.00	0	41.00	0.00	0.00	0.00
52.00	0.00	0	41.00	0.00	0.00	0.00
54.00	0.00	0	41.00	0.00	0.00	0.00
56.00	0.00	0	41.00	0.00	0.00	0.00
58.00	0.00	0	41.00	0.00	0.00	0.00
60.00	0.00	0	41.00	0.00	0.00	0.00
62.00	0.00	0	41.00	0.00	0.00	0.00
64.00	0.00	0	41.00	0.00	0.00	0.00
66.00	0.00	0	41.00	0.00	0.00	0.00
68.00	0.00	0	41.00	0.00	0.00	0.00
70.00	0.00	0	41.00	0.00	0.00	0.00
72.00	0.00	0	41.00	0.00	0.00	0.00

Summary for Link POA-1: POA-1

Inflow Area = 1,307 sf, 63.33% Impervious, Inflow Depth = 5.87" for Newton-100 event
Inflow = 0.20 cfs @ 12.09 hrs, Volume= 640 cf
Primary = 0.20 cfs @ 12.09 hrs, Volume= 640 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POA-1: POA-1



Hydrograph for Link POA-1: POA-1

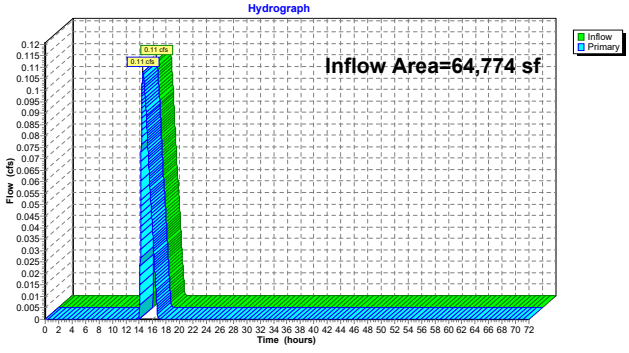
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	52.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00	55.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	56.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	57.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	58.00	0.00	0.00	0.00
7.00	0.00	0.00	0.00	59.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	60.00	0.00	0.00	0.00
9.00	0.00	0.00	0.00	61.00	0.00	0.00	0.00
10.00	0.01	0.00	0.01	62.00	0.00	0.00	0.00
11.00	0.01	0.00	0.01	63.00	0.00	0.00	0.00
12.00	**0.12**	0.00	**0.12**	64.00	0.00	0.00	0.00
13.00	**0.02**	0.00	**0.02**	65.00	0.00	0.00	0.00
14.00	0.01	0.00	0.01	66.00	0.00	0.00	0.00
15.00	0.01	0.00	0.01	67.00	0.00	0.00	0.00
16.00	0.01	0.00	0.01	68.00	0.00	0.00	0.00
17.00	0.01	0.00	0.01	69.00	0.00	0.00	0.00
18.00	0.00	0.00	0.00	70.00	0.00	0.00	0.00
19.00	0.00	0.00	0.00	71.00	0.00	0.00	0.00
20.00	0.00	0.00	0.00	72.00	0.00	0.00	0.00
21.00	0.00	0.00	0.00				
22.00	0.00	0.00	0.00				
23.00	0.00	0.00	0.00				
24.00	0.00	0.00	0.00				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.00	0.00	0.00	0.00				

Summary for Link POA-2: POA-2

Inflow Area = 64,774 sf, 7.40% Impervious, Inflow Depth = 0.10" for Newton-100 event
Inflow = 0.11 cfs @ 14.57 hrs, Volume= 560 cf
Primary = 0.11 cfs @ 14.57 hrs, Volume= 560 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POA-2: POA-2



Hydrograph for Link POA-2: POA-2

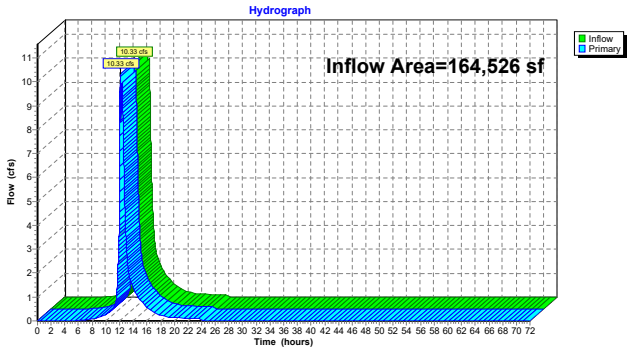
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	52.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00	55.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	56.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	57.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	58.00	0.00	0.00	0.00
7.00	0.00	0.00	0.00	59.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	60.00	0.00	0.00	0.00
9.00	0.00	0.00	0.00	61.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	62.00	0.00	0.00	0.00
11.00	0.00	0.00	0.00	63.00	0.00	0.00	0.00
12.00	0.00	0.00	0.00	64.00	0.00	0.00	0.00
13.00	0.00	0.00	0.00	65.00	0.00	0.00	0.00
14.00	**0.00**	0.00	**0.00**	66.00	0.00	0.00	0.00
15.00	**0.09**	0.00	**0.09**	67.00	0.00	0.00	0.00
16.00	0.04	0.00	0.04	68.00	0.00	0.00	0.00
17.00	0.00	0.00	0.00	69.00	0.00	0.00	0.00
18.00	0.00	0.00	0.00	70.00	0.00	0.00	0.00
19.00	0.00	0.00	0.00	71.00	0.00	0.00	0.00
20.00	0.00	0.00	0.00	72.00	0.00	0.00	0.00
21.00	0.00	0.00	0.00				
22.00	0.00	0.00	0.00				
23.00	0.00	0.00	0.00				
24.00	0.00	0.00	0.00				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.00	0.00	0.00	0.00				

Summary for Link POA-3: POA-3

Inflow Area = 164,526 sf, 62.91% Impervious, Inflow Depth = 3.86" for Newton-100 event
Inflow = 10.33 cfs @ 12.10 hrs, Volume= 52,949 cf
Primary = 10.33 cfs @ 12.10 hrs, Volume= 52,949 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POA-3: POA-3



Hydrograph for Link POA-3: POA-3

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	52.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00	55.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	56.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	57.00	0.00	0.00	0.00
6.00	0.02	0.00	0.02	58.00	0.00	0.00	0.00
7.00	0.04	0.00	0.04	59.00	0.00	0.00	0.00
8.00	0.08	0.00	0.08	60.00	0.00	0.00	0.00
9.00	0.16	0.00	0.16	61.00	0.00	0.00	0.00
10.00	0.27	0.00	0.27	62.00	0.00	0.00	0.00
11.00	0.49	0.00	0.49	63.00	0.00	0.00	0.00
12.00	**5.40**	0.00	**5.40**	64.00	0.00	0.00	0.00
13.00	**3.05**	0.00	**3.05**	65.00	0.00	0.00	0.00
14.00	1.34	0.00	1.34	66.00	0.00	0.00	0.00
15.00	0.89	0.00	0.89	67.00	0.00	0.00	0.00
16.00	0.56	0.00	0.56	68.00	0.00	0.00	0.00
17.00	0.36	0.00	0.36	69.00	0.00	0.00	0.00
18.00	0.23	0.00	0.23	70.00	0.00	0.00	0.00
19.00	0.17	0.00	0.17	71.00	0.00	0.00	0.00
20.00	0.13	0.00	0.13	72.00	0.00	0.00	0.00
21.00	0.12	0.00	0.12				
22.00	0.11	0.00	0.11				
23.00	0.10	0.00	0.10				
24.00	0.09	0.00	0.09				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.00	0.00	0.00	0.00				

APPENDIX 4:
SOIL TEST

LEGEND:

TEST PIT LOCATION

LINWOOD AVENUE (PUBLIC - 46.00' WIDE)

CALIFORNIA STREET (PUBLIC - 49.50' WIDE)

NEVADA STREET (PUBLIC - 50.00' WIDE)

RIGHT OF WAY

MASSACHUSETTS STATE PLANE COORDINATE SYSTEM (NAD83)

243 Linwood Ave N/F George F. Howard Jr. & Amy Pollack-Howard BK.59368, PG.375

9 Fair Oaks Ave. N/F Damon Mann & Lana Tran Tam BK.71399, PG.559

William J. & Joanne M. Raymond BK.21598, PG.419

BK.39688, PG.489

Lot B N/F City of Newton BK.5380, PG.49 Area = 129,198 S.F.± 2.966 Acres±

Lot A N/F City of Newton BK.30971, PG.217 Area = 101,462 S.F.± 2.329 Acres±

Horace Mann Elementary School 2 Story Brick 225 Nevada Street

Total Area = 230,660 S.F.± 5.295 ACRES±

Portable Modular Classroom 1 Story Trailer

568 California St. N/F Thomas W. & Marilyn A. Frost BK.12077, PG.232

562 California St. N/F Elaine A. Br BK.21880, l

558 Califor N/F The Virginia l BK.80384,

548 Calif N/ Barbara BK.3128

542 Califo N/ Mary A. C BK.80509

538 California St. N/F California Street Corporation BK.31919, PG.391

TP#1 TP#1 57.00 EL=57.1

TP#2 TP#2 EL=56.3

TP#3 TP#3 EL=43.8

TP#4 TP#4 EL=43.8

TP#5 TP#5 EL=55.8

TP#6 TP#6 EL=55.8

PROJECT BENCHMARK: CHISELED SQUARE ON CORNER OF CONC PAD ELEVATION=56.67

PROJECT BENCHMARK: NAIL IN UTILITY POLE ELEVATION=56.02

20 10 0

1 inch = 20feet

20 40

RDA

Raymond Design Associates, Inc.
Architects & Planners

60 Ledgewood Place
Rockland, MA 02370

samiotes

Samiotes Consultants Inc.
Civil Engineers + Land Surveyors

20 A Street
Framingham, MA 01701

T 508.877.6688
F 508.877.8349

www.samiotes.com

COMMONWEALTH OF MASSACHUSETTS
STEPHEN R. GARVIN
No. 44772
CIVIL
REGISTERED PROFESSIONAL ENGINEER

Horace Mann Elementary School
225 Nevada Street, Newton Massachusetts

TEST PIT LOCATIONS

Revisions:

No.	Date	Description

Drawing Scale: 1" = 20'

Project No.: 52034.00

Date: 03/25/2024

FOR SITE PLAN APPROVAL

TP

Commonwealth of Massachusetts
City/Town of Newton

Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

A. Facility Information

City of Newton
Owner Name

225 Nevada Street
Street Address

017NW
Map/Lot #

Newton
City

MA
State

02465
Zip Code

B. Site Information

1. (Check one) ☒ New Construction ☐ Upgrade ☐ Repair

2. Soil Survey Available? ☒ Yes ☐ No If yes: NRCS (Source) 626B (Soil Map Unit)

Merrimac-Urban land complex
Soil Name

Soil Limitations

Loamy glaciofluvial deposits
Soil Parent material

Hills
Landform

3. Surficial Geological Report Available? ☒ Yes ☐ No If yes: 2018 Stone/Cohen (Year Published/Source) Coarse Deposits (Map Unit)

Consists of gravel deposits, sand and gravel deposits, and sand deposits.
Description of Geologic Map Unit:

4. Flood Rate Insurance Map Within a regulatory floodway? ☐ Yes ☒ No

5. Within a velocity zone? ☐ Yes ☒ No

6. Within a Mapped Wetland Area? ☐ Yes ☒ No If yes, MassGIS Wetland Data Layer: N/A (Wetland Type)

7. Current Water Resource Conditions (USGS): 08/03 Dover (Month/Day/ Year) Range: ☒ Above Normal ☐ Normal ☐ Below Normal

8. Other references reviewed:

Commonwealth of Massachusetts
City/Town of Newton

Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

C. On-Site Review (*minimum of two holes required at every proposed primary and reserve disposal area)*

Deep Observation Hole Number: TP#1 (Hole #) | 08/15/23 (Date) | 2:00 pm (Time) | Rainy, 70's (Weather) | 42.36119 (Latitude) | -71.20658 (Longitude:)

1. Land Use: North Parking Lot (e.g., woodland, agricultural field, vacant lot, etc.) | None (Vegetation) | None (Surface Stones (e.g., cobbles, stones, boulders, etc.)) | 0-2% (Slope (%))

Description of Location:

2. Soil Parent Material: Glaciofluvial deposits | Hill (Landform) | SH (Position on Landscape (SU, SH, BS, FS, TS))

3. Distances from: Open Water Body 100'+ feet | Drainage Way 100'+ feet | Wetlands 100'+ feet | Property Line 10'+ feet | Drinking Water Well 100'+ feet | Other _____ feet

4. Unsuitable Materials Present: ☒ Yes ☐ No If Yes: ☐ Disturbed Soil ☒ Fill Material ☐ Weathered/Fractured Rock ☐ Bedrock

5. Groundwater Observed: ☐ Yes ☒ No If yes: _____ Depth Weeping from Pit _____ Depth Standing Water in Hole

Soil Log

Depth (in)	Soil Horizon /Layer	Soil Texture (USDA	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
				Depth	Color	Percent	Gravel	Cobbles & Stones			
0-3	HTM										Asphalt
3-44	Fill										Pavement base and dense grade
44-54	B	Sandy Loam	10YR 5/4				5%	2%	Massive	Friable	
54-120	C1	Sand	2.5Y 5/4				5%	2%	Massive	Friable	

Additional Notes:
NRCS Soil Classification: A; Depth to ESHGW = 112" (~40.90)

Commonwealth of Massachusetts
City/Town of Newton

Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

C. On-Site Review (*minimum of two holes required at every proposed primary and reserve disposal area)*

Deep Observation Hole Number: TP-2 (Hole #) | 08/15/23 (Date) | 9:30am (Time) | Rainy, 70's (Weather) | 42.33773 (Latitude) | -71.22975 (Longitude:)

1. Land Use: Parking lot (e.g., woodland, agricultural field, vacant lot, etc.) | None (Vegetation) | None (Surface Stones (e.g., cobbles, stones, boulders, etc.)) | 2-5% (Slope (%))

Description of Location: Paved parking behind modular building

2. Soil Parent Material: Glaciofluvial deposits | Hill (Landform) | SH (Position on Landscape (SU, SH, BS, FS, TS))

3. Distances from: Open Water Body 100'+ feet | Drainage Way 100'+ feet | Wetlands 100'+ feet
Property Line 10'+ feet | Drinking Water Well 100'+ feet | Other _____ feet

4. Unsuitable Materials Present: ☒ Yes ☐ No If Yes: ☐ Disturbed Soil ☒ Fill Material ☐ Weathered/Fractured Rock ☐ Bedrock

5. Groundwater Observed: ☐ Yes ☒ No If yes: _____ Depth Weeping from Pit _____ Depth Standing Water in Hole

Soil Log

Depth (in)	Soil Horizon /Layer	Soil Texture (USDA)	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
				Depth	Color	Percent	Gravel	Cobbles & Stones			
0-3	HTM										
3-48	Fill										
48-58	B	Sandy Loam	10YR 5/4				5%	2%	Massive	Friable	
58-120	C1	Sand	2.5Y 5/4				5%	2%	Massive	Friable	

Additional Notes:
NRCS Soil Classification: A; Depth to ESHGW = 112" (~40.57)

Commonwealth of Massachusetts
City/Town of Newton

Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

D. Determination of High Groundwater Elevation

1. Method Used:

	Obs. Hole # TP#1	Obs. Hole # TP#2
☐ Depth observed standing water in observation hole	120+ inches	120+ inches
☐ Depth weeping from side of observation hole	_____ inches	_____ inches
☐ Depth to soil redoximorphic features (mottles)	_____ inches	_____ inches
☒ Depth to adjusted seasonal high groundwater (S_h) (USGS methodology)	_____ inches	_____ inches

MA-WKW 2R WAYLAND, MA (Index Well Number) 08-22-23 (Reading Date)

$S_h = S_c – [S_r \times (OW_c – OW_{max})/OW_r]$

Obs. Hole/Well# TP#2 S_c 117 S_r 10 OW_c 15.3 OW_{max} 13.5 OW_r 3.7 S_h 112

2. Estimated Depth to High Groundwater: 112 inches

E. Depth of Pervious Material

1. Depth of Naturally Occurring Pervious Material

a. Does at least four feet of naturally occurring pervious material exist in all areas observed throughout the area proposed for the soil absorption system?

☒ Yes ☐ No

b. If yes, at what depth was it observed (exclude A and O Horizons)? Upper boundary: Varies inches Lower boundary: Varies inches

c. If no, at what depth was impervious material observed? Upper boundary: _____ inches Lower boundary: _____ inches

Commonwealth of Massachusetts
City/Town of Newton

Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

A. Facility Information

City of Newton
Owner Name

225 Nevada Street
Street Address

017NW
Map/Lot #

Newton
City

MA
State

02465
Zip Code

B. Site Information

1. (Check one) ☒ New Construction ☐ Upgrade ☐ Repair

2. Soil Survey Available? ☒ Yes ☐ No If yes: NRCS (Source) 626B (Soil Map Unit)

Merrimac-Urban land complex
Soil Name

Soil Limitations

Loamy glaciofluvial deposits
Soil Parent material

Hills
Landform

3. Surficial Geological Report Available? ☒ Yes ☐ No If yes: 2018 Stone/Cohen (Year Published/Source) Coarse Deposits (Map Unit)

Consists of gravel deposits, sand and gravel deposits, and sand deposits.
Description of Geologic Map Unit:

4. Flood Rate Insurance Map Within a regulatory floodway? ☐ Yes ☒ No

5. Within a velocity zone? ☐ Yes ☒ No

6. Within a Mapped Wetland Area? ☐ Yes ☒ No If yes, MassGIS Wetland Data Layer: N/A (Wetland Type)

7. Current Water Resource Conditions (USGS): 08/03 Dover (Month/Day/ Year) Range: ☒ Above Normal ☐ Normal ☐ Below Normal

8. Other references reviewed:

Commonwealth of Massachusetts
City/Town of Newton

Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

C. On-Site Review (*minimum of two holes required at every proposed primary and reserve disposal area)*

Deep Observation Hole Number: TP#3 (Hole #) | 08/15/23 (Date) | 12:00 pm (Time) | Rainy, 70's (Weather) | 42.36119 (Latitude) | -71.20658 (Longitude:)

1. Land Use: Grass north of basketball field (e.g., woodland, agricultural field, vacant lot, etc.) | Grass (Vegetation) | None (Surface Stones (e.g., cobbles, stones, boulders, etc.)) | 0-2% (Slope (%))

Description of Location:

2. Soil Parent Material: Lacustrine deposits | Hill (Landform) | TS (Position on Landscape (SU, SH, BS, FS, TS))

3. Distances from: Open Water Body 100'+ feet | Drainage Way 100'+ feet | Wetlands 100'+ feet | Property Line 10'+ feet | Drinking Water Well 100'+ feet | Other _____ feet

4. Unsuitable Materials Present: ☒ Yes ☐ No If Yes: ☐ Disturbed Soil ☒ Fill Material ☐ Weathered/Fractured Rock ☐ Bedrock

5. Groundwater Observed: ☒ Yes ☐ No If yes: 117" Depth Weeping from Pit | 117" Depth Standing Water in Hole

Soil Log

Depth (in)	Soil Horizon /Layer	Soil Texture (USDA	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
				Depth	Color	Percent	Gravel	Cobbles & Stones			
0-15	A	Loam	10YR 3/2						Granular	Friable	
15-36	Fill										
36-45	Ab	Loam	10YR 3/2						Granular	Friable	
45-72	C1	Loam	10YR 5/4				5%	2%	Massive	Friable	
72-120	C2	Sand	2.5Y 5/4				5%	2%	Massive	Friable	

Additional Notes:
NRCS Soil Classification: B; Depth to ESHGW = 112" (~28.16)

Commonwealth of Massachusetts
City/Town of Newton

Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

C. On-Site Review (*minimum of two holes required at every proposed primary and reserve disposal area)*

Deep Observation Hole Number: TP-4 (Hole #) | 08/15/23 (Date) | 11:00am (Time) | Rainy, 70's (Weather) | 42.33773 (Latitude) | -71.22975 (Longitude:)

1. Land Use: Grass north of basketball court (e.g., woodland, agricultural field, vacant lot, etc.) | Grass, Weeds (Vegetation) | None (Surface Stones (e.g., cobbles, stones, boulders, etc.)) | 0-2% (Slope (%))

Description of Location: Grass field

2. Soil Parent Material: Lacustrine deposits | Hill (Landform) | TS (Position on Landscape (SU, SH, BS, FS, TS))

3. Distances from: Open Water Body 100'+ feet | Drainage Way 100'+ feet | Wetlands 100'+ feet
Property Line 10'+ feet | Drinking Water Well 100'+ feet | Other _____ feet

4. Unsuitable Materials Present: ☒ Yes ☐ No If Yes: ☐ Disturbed Soil ☒ Fill Material ☐ Weathered/Fractured Rock ☐ Bedrock

5. Groundwater Observed: ☒ Yes ☐ No If yes: 120" Depth Weeping from Pit | 120" Depth Standing Water in Hole

Soil Log

Depth (in)	Soil Horizon /Layer	Soil Texture (USDA)	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
				Depth	Color	Percent	Gravel	Cobbles & Stones			
0-12	A	Loam	10YR 3/2						Granular	Friable	
12-36	Fill										
36-48	Ab	Loam	10YR 3/2						Granular	Friable	
48-60	Fill										
60-66	Ab	Loam	10YR 3/2						Granular	Friable	
66-96	C1	Loam	10YR 5/6				5%	2%	Massive	Friable	
96-132	C2	Sand	2.5Y 5/4				5%	2%	Massive	Friable	

Additional Notes:
NRCS Soil Classification: B; Depth to ESHGW = 112" (~28.16)

Commonwealth of Massachusetts
City/Town of Newton

Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

D. Determination of High Groundwater Elevation

1. Method Used:

	Obs. Hole # TP#3	Obs. Hole # TP#4
☐ Depth observed standing water in observation hole	117 inches	120 inches
☐ Depth weeping from side of observation hole	_____ inches	_____ inches
☐ Depth to soil redoximorphic features (mottles)	_____ inches	_____ inches
☒ Depth to adjusted seasonal high groundwater (S_h) (USGS methodology)	_____ inches	_____ inches

Index Well Number _____ Reading Date _____

$S_h = S_c – [S_r \times (OW_c – OW_{max})/OW_r]$

Obs. Hole/Well# TP#4 S_c 117 S_r 10 OW_c 15.3 OW_{max} 13.5 OW_r 3.7 S_h 112

2. Estimated Depth to High Groundwater: 112 inches

E. Depth of Pervious Material

1. Depth of Naturally Occurring Pervious Material

a. Does at least four feet of naturally occurring pervious material exist in all areas observed throughout the area proposed for the soil absorption system?

☒ Yes ☐ No

b. If yes, at what depth was it observed (exclude A and O Horizons)? Upper boundary: Varies inches Lower boundary: Varies inches

c. If no, at what depth was impervious material observed? Upper boundary: _____ inches Lower boundary: _____ inches

Commonwealth of Massachusetts
City/Town of Newton

Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

A. Facility Information

City of Newton
Owner Name

225 Nevada Street
Street Address

017NW
Map/Lot #

Newton
City

MA
State

02465
Zip Code

B. Site Information

1. (Check one) ☒ New Construction ☐ Upgrade ☐ Repair

2. Soil Survey Available? ☒ Yes ☐ No If yes: NRCS (Source) 626B (Soil Map Unit)

Merrimac-Urban land complex
Soil Name

Soil Limitations

Loamy glaciofluvial deposits
Soil Parent material

Hills
Landform

3. Surficial Geological Report Available? ☒ Yes ☐ No If yes: 2018 Stone/Cohen (Year Published/Source) Coarse Deposits (Map Unit)

Consists of gravel deposits, sand and gravel deposits, and sand deposits.
Description of Geologic Map Unit:

4. Flood Rate Insurance Map Within a regulatory floodway? ☐ Yes ☒ No

5. Within a velocity zone? ☐ Yes ☒ No

6. Within a Mapped Wetland Area? ☐ Yes ☒ No If yes, MassGIS Wetland Data Layer: N/A (Wetland Type)

7. Current Water Resource Conditions (USGS): 08/03 Dover (Month/Day/ Year) Range: ☒ Above Normal ☐ Normal ☐ Below Normal

8. Other references reviewed:

Commonwealth of Massachusetts
City/Town of Newton

Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

C. On-Site Review (*minimum of two holes required at every proposed primary and reserve disposal area)*

Deep Observation Hole Number: TP#5 (Hole #) | 08/15/23 (Date) | 3:00 pm (Time) | Rainy, 70's (Weather) | 42.36119 (Latitude) | -71.20658 (Longitude:)

1. Land Use: Paved parking lot south of school (e.g., woodland, agricultural field, vacant lot, etc.) | None (Vegetation) | None (Surface Stones (e.g., cobbles, stones, boulders, etc.)) | 0-2% (Slope (%))

Description of Location:

2. Soil Parent Material: Glaciofluvial deposits | Hill (Landform) | SU (Position on Landscape (SU, SH, BS, FS, TS))

3. Distances from: Open Water Body 100'+ feet | Drainage Way 100'+ feet | Wetlands 100'+ feet | Property Line 10'+ feet | Drinking Water Well 100'+ feet | Other _____ feet

4. Unsuitable Materials Present: ☒ Yes ☐ No If Yes: ☐ Disturbed Soil ☒ Fill Material ☐ Weathered/Fractured Rock ☐ Bedrock

5. Groundwater Observed: ☐ Yes ☒ No If yes: _____ Depth Weeping from Pit _____ Depth Standing Water in Hole

Soil Log

Depth (in)	Soil Horizon /Layer	Soil Texture (USDA	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
				Depth	Color	Percent	Gravel	Cobbles & Stones			
0-44	Fill										
44-120	C1	Loamy Sand	10YR 5/4				5%	2%	Massive	Friable	

Additional Notes:
NRCS Soil Classification: B; Depth to ESHGW = 112" (~40.16)

Commonwealth of Massachusetts
City/Town of Newton

Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

C. On-Site Review (*minimum of two holes required at every proposed primary and reserve disposal area)*

Deep Observation Hole Number: TP-6 (Hole #) | 08/15/23 (Date) | 4:00pm (Time) | Rainy, 70's (Weather) | 42.33773 (Latitude) | -71.22975 (Longitude:)

1. Land Use: Paved parking lot south of school (e.g., woodland, agricultural field, vacant lot, etc.) | None (Vegetation) | None (Surface Stones (e.g., cobbles, stones, boulders, etc.)) | 0-2% (Slope (%))

Description of Location: South of basketball court

2. Soil Parent Material: Glaciofluvial deposits | Hill (Landform) | SU (Position on Landscape (SU, SH, BS, FS, TS))

3. Distances from: Open Water Body 100'+ feet | Drainage Way 100'+ feet | Wetlands 100'+ feet | Property Line 10'+ feet | Drinking Water Well 100'+ feet | Other _____ feet

4. Unsuitable Materials Present: ☒ Yes ☐ No If Yes: ☐ Disturbed Soil ☒ Fill Material ☐ Weathered/Fractured Rock ☐ Bedrock

5. Groundwater Observed: ☐ Yes ☒ No If yes: _____ Depth Weeping from Pit _____ Depth Standing Water in Hole

Soil Log

Depth (in)	Soil Horizon /Layer	Soil Texture (USDA)	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
				Depth	Color	Percent	Gravel	Cobbles & Stones			
0-43	Fill										
43-55	Ab	Loam	10YR 3/2						Granular	Friable	
55-120	C1	Loamy Sand	10YR 5/4				5%	2%	Massive	Friable	

Additional Notes:
NRCS Soil Classification: B; Depth to ESHGW = 112"+ (~40.16)

Commonwealth of Massachusetts
City/Town of Newton

Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

D. Determination of High Groundwater Elevation

1. Method Used:

	Obs. Hole # TP#5	Obs. Hole # TP#6
☐ Depth observed standing water in observation hole	120+ inches	120" inches
☐ Depth weeping from side of observation hole	_____ inches	_____ inches
☐ Depth to soil redoximorphic features (mottles)	_____ inches	_____ inches
☒ Depth to adjusted seasonal high groundwater (S_h) (USGS methodology)	_____ inches	_____ inches

Index Well Number _____ Reading Date _____

$S_h = S_c – [S_r \times (OW_c – OW_{max})/OW_r]$

Obs. Hole/Well# TP#6 S_c 117 S_r 10 OW_c 15.3 OW_{max} 13.5 OW_r 3.7 S_h 112

2. Estimated Depth to High Groundwater: 112 inches

E. Depth of Pervious Material

1. Depth of Naturally Occurring Pervious Material

a. Does at least four feet of naturally occurring pervious material exist in all areas observed throughout the area proposed for the soil absorption system?

☒ Yes ☐ No

b. If yes, at what depth was it observed (exclude A and O Horizons)?	Upper boundary:	Varies inches	Lower boundary:	Varies inches
c. If no, at what depth was impervious material observed?	Upper boundary:	_____ inches	Lower boundary:	_____ inches

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F. Certification

I certify that I am currently approved by the Department of Environmental Protection pursuant to 310 CMR 15.017 to conduct soil evaluations and that the above analysis has been performed by me consistent with the required training, expertise and experience described in 310 CMR 15.017. I further certify that the results of my soil evaluation, as indicated in the attached Soil Evaluation Form, are accurate and in accordance with 310 CMR 15.100 through 15.107.

David Scharlacken — Signature of Soil Evaluator

08/23/23 — Date

David Scharlacken SE14279 — Typed or Printed Name of Soil Evaluator / License #

06/30/2024 — Expiration Date of License

Name of Approving Authority Witness

Approving Authority

Note: In accordance with 310 CMR 15.018(2) this form must be submitted to the approving authority within 60 days of the date of field testing, and to the designer and the property owner with Percolation Test Form 12.

Field Diagrams: Use this area for field diagrams:

APPENDIX 5:
FRIMPTER CALCULATIONS

REFERENCE WELL
MA-DVW 10R DOVER, MA 8/15/2023 30.99' at 8:00pm

$$\frac{Sc - Sh}{Sr} = \frac{OWc - OWmax}{OWr}, \text{ or} \quad (1)$$

$$Sh = Sc - \frac{Sr}{OWr}(OWc - OWmax), \quad (2)$$

where

Sc is the current groundwater level at the test site;

Sr is an estimate of the annual groundwater-level range at the test site;

OWc is the current groundwater level at an index well;

OWmax is the historical high groundwater level at an index well; and

OWr is the annual groundwater-level range at an index well.

Sc is measured at the test site, *Sr* is an estimate based on a probability distribution, *OWc* is obtained from groundwater-monitoring records, and *OWr* and *OWmax* are obtained from compiled statistics of previously measured values.

The original Frimpter method is currently [2020] used to estimate probable high groundwater levels on the mainland of Massachusetts (Massachusetts Department of Environmental Protection, 2016). A similar analysis was completed for Rhode

Frimpter 1981

TP-1 (ft)

Sc 10

is the current groundwater level at the test site

Sr 10

is the estimate of the annual groundwater level range at the test site

Owc 30.99

is the current groundwater level at the an index well https://cida.usgs.gov/ngwmn/provider/USGS/site/421438071165601/

OWMAX 28.92

is the historical high groundwater level at an index well Determining High Groundwater Levels in Massachusetts (usgs.gov)

Owr 7.85

is the annual ground water level range at an index well Determining High Groundwater Levels in Massachusetts (usgs.gov)

SH 7.36

is the probable high groundwater level at the test site (measured in feet below ground surface)

Frimpter 1981

TP-2 (ft)

Sc 10.0

is the current groundwater level at the test site

Sr 10

is the estimate of the annual groundwater level range at the test site

Owc 30.99

is the current groundwater level at the an index well https://cida.usgs.gov/ngwmn/provider/USGS/site/421438071165601/

OWMAX 28.92

is the historical high groundwater level at an index well Determining High Groundwater Levels in Massachusetts (usgs.gov)

Owr 7.85

is the annual ground water level range at an index well Determining High Groundwater Levels in Massachusetts (usgs.gov)

SH 7.36

is the probable high groundwater level at the test site (measured in feet below ground surface)

Frimpter 1981

TP-3 (ft)

Sc 9.75

is the current groundwater level at the test site

Sr 10

is the estimate of the annual groundwater level range at the test site

Owc 30.99

is the current groundwater level at the an index well https://cida.usgs.gov/ngwmn/provider/USGS/site/421438071165601/

OWMAX 28.92

is the historical high groundwater level at an index well Determining High Groundwater Levels in Massachusetts (usgs.gov)

Owr 7.85

is the annual ground water level range at an index well Determining High Groundwater Levels in Massachusetts (usgs.gov)

SH 7.11

is the probable high groundwater level at the test site (measured in feet below ground surface)

Frimpter 1981

TP-4 (ft)

Sc 10.0

is the current groundwater level at the test site

Sr 10

is the estimate of the annual groundwater level range at the test site

Owc 30.99

is the current groundwater level at the an index well https://cida.usgs.gov/ngwmn/provider/USGS/site/421438071165601/

OWMAX 28.92

is the historical high groundwater level at an index well Determining High Groundwater Levels in Massachusetts (usgs.gov)

Owr 7.85

is the annual ground water level range at an index well Determining High Groundwater Levels in Massachusetts (usgs.gov)

SH 7.36

is the probable high groundwater level at the test site (measured in feet below ground surface)

Frimpter 1981

TP-5 (ft)

Sc 10.0

is the current groundwater level at the test site

Sr 10

is the estimate of the annual groundwater level range at the test site

Owc 30.99

is the current groundwater level at the an index well https://cida.usgs.gov/ngwmn/provider/USGS/site/421438071165601/

OWMAX 28.92

is the historical high groundwater level at an index well Determining High Groundwater Levels in Massachusetts (usgs.gov)

Owr 7.85

is the annual ground water level range at an index well Determining High Groundwater Levels in Massachusetts (usgs.gov)

SH 7.36

is the probable high groundwater level at the test site (measured in feet below ground surface)

Frimpter 1981

TP-6 (ft)

Sc 10.0

is the current groundwater level at the test site

Sr 10

is the estimate of the annual groundwater level range at the test site

Owc 30.99

is the current groundwater level at the an index well https://cida.usgs.gov/ngwmn/provider/USGS/site/421438071165601/

OWMAX 28.92

is the historical high groundwater level at an index well Determining High Groundwater Levels in Massachusetts (usgs.gov)

Owr 7.85

is the annual ground water level range at an index well Determining High Groundwater Levels in Massachusetts (usgs.gov)

SH 7.36

is the probable high groundwater level at the test site (measured in feet below ground surface)